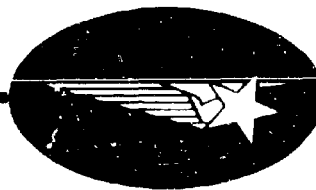


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# THERMAL RADIATION PHENOMENA

VOL. 3

TABLES OF RADIATIVE PROPERTIES OF AIR



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**THERMAL RADIATION PHENOMENA**

**Tables of Radiative Properties of Air**

**Edited by**

**Henry Aroeste and John L. Magee**

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## FOREWORD

"Thermal radiation" is electromagnetic radiation emitted by matter in a state of thermal excitation. The energy density of such radiation in an enclosure at constant temperature is given by the well known Planck formula. The importance of thermal radiation in physical problems increases as the temperature is raised; at moderate temperatures (say, thousands of degrees Kelvin) its role is primarily one of transmitting energy, whereas at high temperatures (say, millions of degrees Kelvin) the energy density of the radiation field itself becomes important as well. If thermal radiation must be considered explicitly in a problem, the radiative properties of the matter must be known. In the simplest order of approximation, it can be assumed that the matter is in thermodynamic equilibrium "locally" (a condition called local thermodynamic equilibrium, or LTE), and all of the necessary radiative properties can be defined, at least in principle. Of course whenever thermal radiation must be considered, the medium which contains it inevitably has pressure and density gradients and the treatment requires the use of hydrodynamics. Hydrodynamics with explicit consideration of thermal radiation is called "radiation hydrodynamics".

In the past twenty years or so, many radiation hydrodynamic problems involving air have been studied. In this work a great deal of effort has gone into calculations of the equilibrium properties of air. Both thermodynamic and radiative properties have been calculated. It has been generally believed that the basic theory is well enough understood that such calculations yield valid results, and the limited experimental checks which are possible seem to support this hypothesis. The advantage of having sets of tables which are entirely calculated is evident: the calculated quantities are self-consistent on the basis of some set of assumptions, and they can later be improved if calculational techniques are improved, or if better assumptions can be made.

The origin of this set of books was in the desire of a number of persons interested in the radiation hydrodynamics of air to have a good source of reliable information on basic air properties. A series of books dealing with both theoretical and practical aspects was envisaged. As the series materialized, it was thought appropriate to devote the first three volumes to the equilibrium properties of air. They are:

**The Equilibrium Thermodynamic Properties of Air,**  
by F. R. Gilmore

**The Radiative Properties of Heated Air,**  
by B. H. Armstrong and R. W. Nicholls

**Tables of Radiative Properties of Air,**  
by Lockheed Staff

The first volume contains a set of tables along with a detailed discussion of the basic models and techniques used for their computation. Because of the size of the related radiative tables and text, two volumes were considered necessary. The first contains the text, and the second the tables. It is hoped that these volumes will be widely useful, but because of the emphasis on very high temperatures it is clear that they will be most attractive to those concerned with nuclear weapons phenomenology, reentry vehicles, etc.

Our understanding of kinetic phenomena, long known to be important and at present in a state of rapid growth, is not as easy to assess as are equilibrium properties. Severe limitations had to be placed on choice of material. One volume is offered at this time:

**Excitation and Non Equilibrium Phenomena,**  
by Landshoff, et al.

It provides material on the more important processes involved in the excitation of air, criteria for the validity of LTE and special radiative effects.

A discussion of radiation hydrodynamics was felt to be necessary and another volume was planned to deal with this topic:

**Radiation Hydrodynamics of High Temperature Air,**  
by Landshoff, Hillendahl, et al.

It is not ready for publication at this time. It will review the basic theory of radiation hydrodynamics and discuss the application to fireballs in the atmosphere.

The choice of material for these last two volumes was made with an eye to the needs of the principal users of the other three volumes.

Most of the work on which these volumes are based was supported by the United States Government through various agencies of the Defense Department and the Atomic Energy Commission. The actual preparation of the volumes was largely supported by the Defense Atomic Support Agency.

We are indebted to many authors and organizations for assistance and we gratefully acknowledge their cooperation. We are particularly grateful to the RAND Corporation for permission to use works of F. R. Gilmore and H. L. Brode and to the IBM Corporation for permission to use some of the work of B. H. Armstrong. Most of the other authors are employed by the Lockheed Missiles and Space Company, in some cases as consultants.

Finally we would like to acknowledge the key role of Dr. R. E. Meyerott of LMSC in all of this effort, from the initial conception to its realization. We are particularly grateful to him for his constant advice and encouragement.

Criticism and constructive suggestions are invited from all readers of these books. We understand that much remains to be done in this field, and we hope that the efforts represented by this work will be a stimulus to its development.

The Editors

J. L. Magee

H. Aroeste

## Preface

This volume presents tables of the equilibrium radiative properties of air and its constituents for a wide range of temperatures and densities. The information contained in such tables is of necessity a combination of experimental fact and theoretical computation. Related theory is discussed by B. H. Armstrong and R. W. Nicholls in a companion volume of this series.

We have attempted to provide an up-to-date compendium which will be useful for a wide variety of scientific and engineering applications. This field is developing in both experimental technique and theoretical understanding, and any tables of radiative properties must be considered tentative. Revisions will be made from time to time.

The work is divided into five parts: Part A is a summary section designed to give an overview of the field. Some of the data are presented in semi-schematic form and should not be used for quantitative work. Part B gives basic data and references used in the preparation of the subsequent parts. Finally, parts C, D and E contain the absorption coefficients in the ranges  $1000^{\circ}\text{K}$  to  $24,000^{\circ}\text{K}$  (Part C), 1 eV to 20 eV (Part D), and above 20 eV (Part E).

We would like to thank the contributors for their cooperation in assembling the data for this volume.

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**Tables of Radiative Properties of Air**

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### A. Summary Figures

From the large amount of data on absorption coefficients of heated air which are presented in the tables, we have constructed a few representative graphs. These should help the reader to acquire a better understanding of the relative importance of the various parameters on which these results depend. The first set of curves (Fig. 1, 2, 3, 4) shows the absorption coefficient as a function of photon energy for two densities and temperatures. The low temperature curves (Fig. 1, 2) are characterized by a very steep increase with photon energy. Essentially, the air transmits every photon in the low energy part and absorbs every photon in the high energy part. At the higher temperatures (Fig. 3, 4) the low energy photons are absorbed along with the high energy photons. The next two curves (Fig. 5, 6) show the temperature dependence of  $\mu$  for two densities and various photon energies. The photon energy is given as a parameter (in eV). These graphs show the crossing over of the various curves in the vicinity of  $kT = 1$  eV. The large absorption at a photon energy of 8 eV and at the low temperature end is due to the Schumann-Runge continuum. The two topographic type representations of  $\mu$  in the temperature photon energy plane (Fig. 7, 8) permit the viewer to visualize the overall behavior. Strongly absorbing regions are heavily shaded. The crossing short lines represent a saddle point. The parallel lines at  $45^\circ$  show where the energy of the blackbody spectrum lies at a given temperature. Fig. 7 is at normal air density, and Fig. 8 is at  $10^{-3}$  normal. The variation of Planck Mean Opacity with temperature is shown in Fig. 9. All the curves show that the Planck function has a maximum at 10 eV, and the slope of the curves is very

steep, indicating the rapid change of the Planck function with temperature. The next curve (Fig. 10) shows the temperature dependence of the Rosseland Mean Opacity for five densities. The slowly changing slope of the curves around 3 to 12 eV indicates that the Rosseland function is a smoothly varying function of temperature, but at low and high temperatures the change is more abrupt.

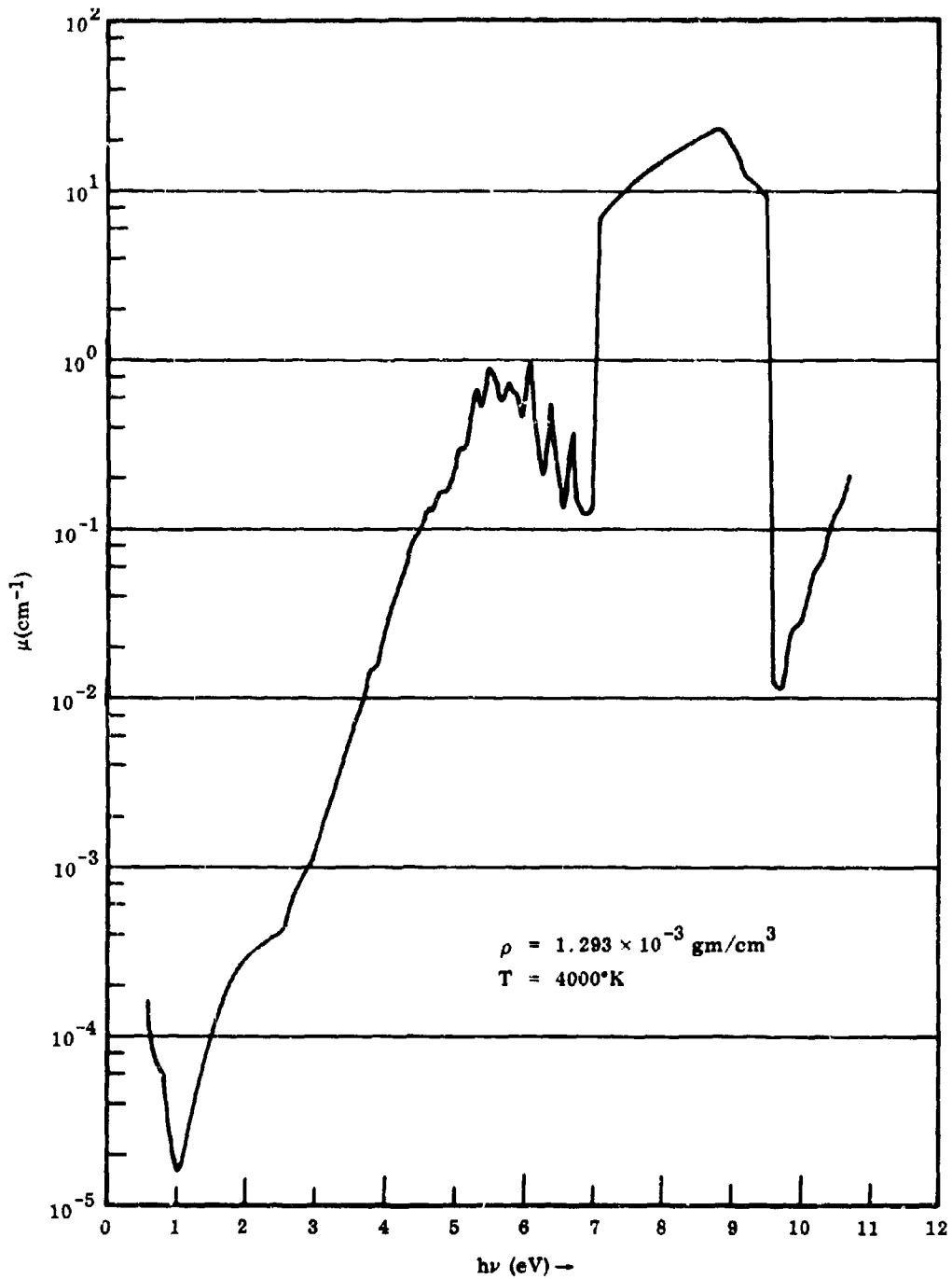


Fig. 1 Absorption Coefficient of Air as a Function of the Photon Energy: Density,  $1.293 \times 10^{-3} \text{ gm/cm}^3$ ; Temperature,  $4000^\circ\text{K}$

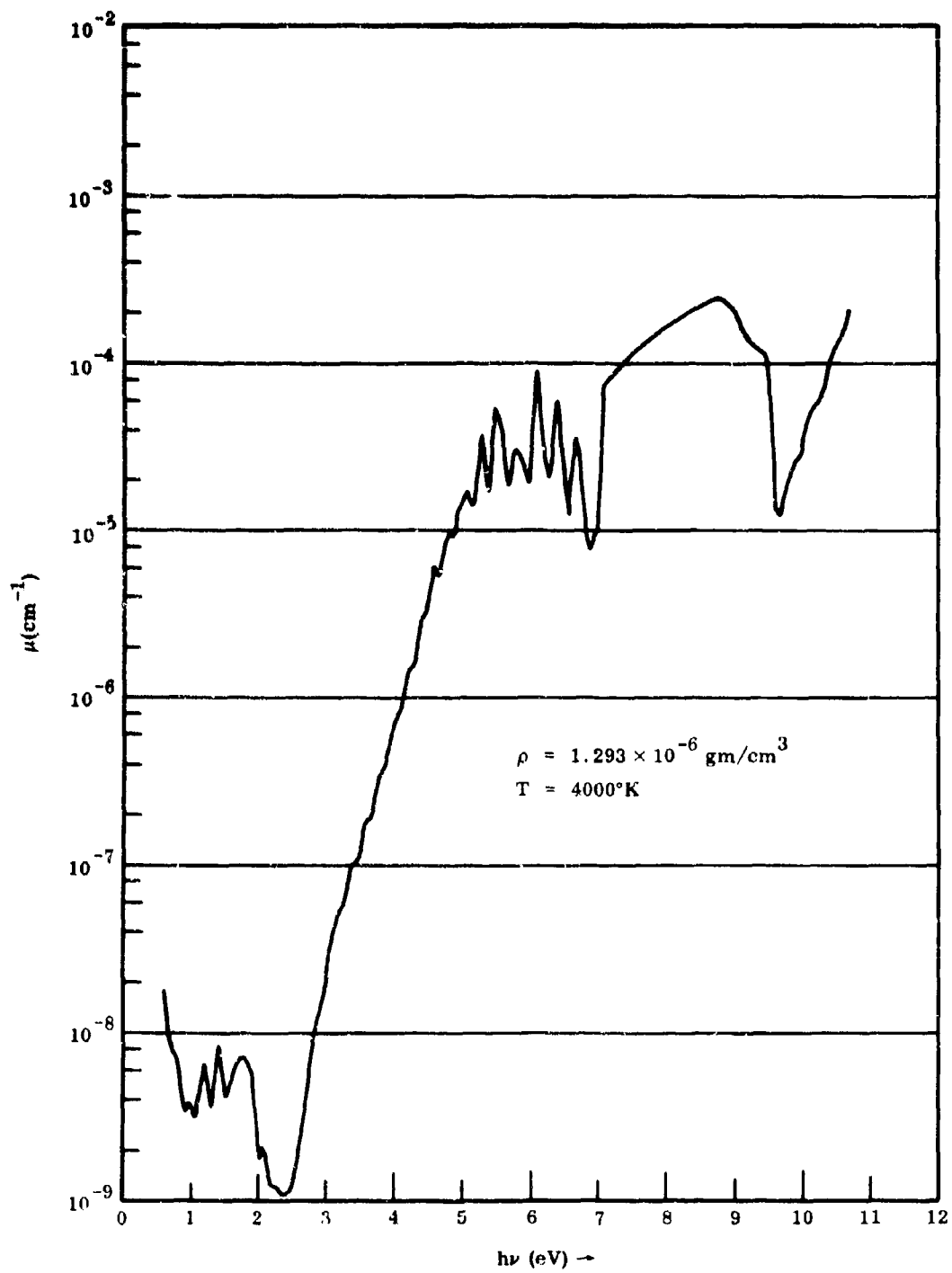


Fig. 2 Absorption Coefficient of Air as a Function of the Photon Energy: Density,  $1.293 \times 10^{-6} \text{ gm/cm}^3$ ; Temperature,  $4000^\circ\text{K}$

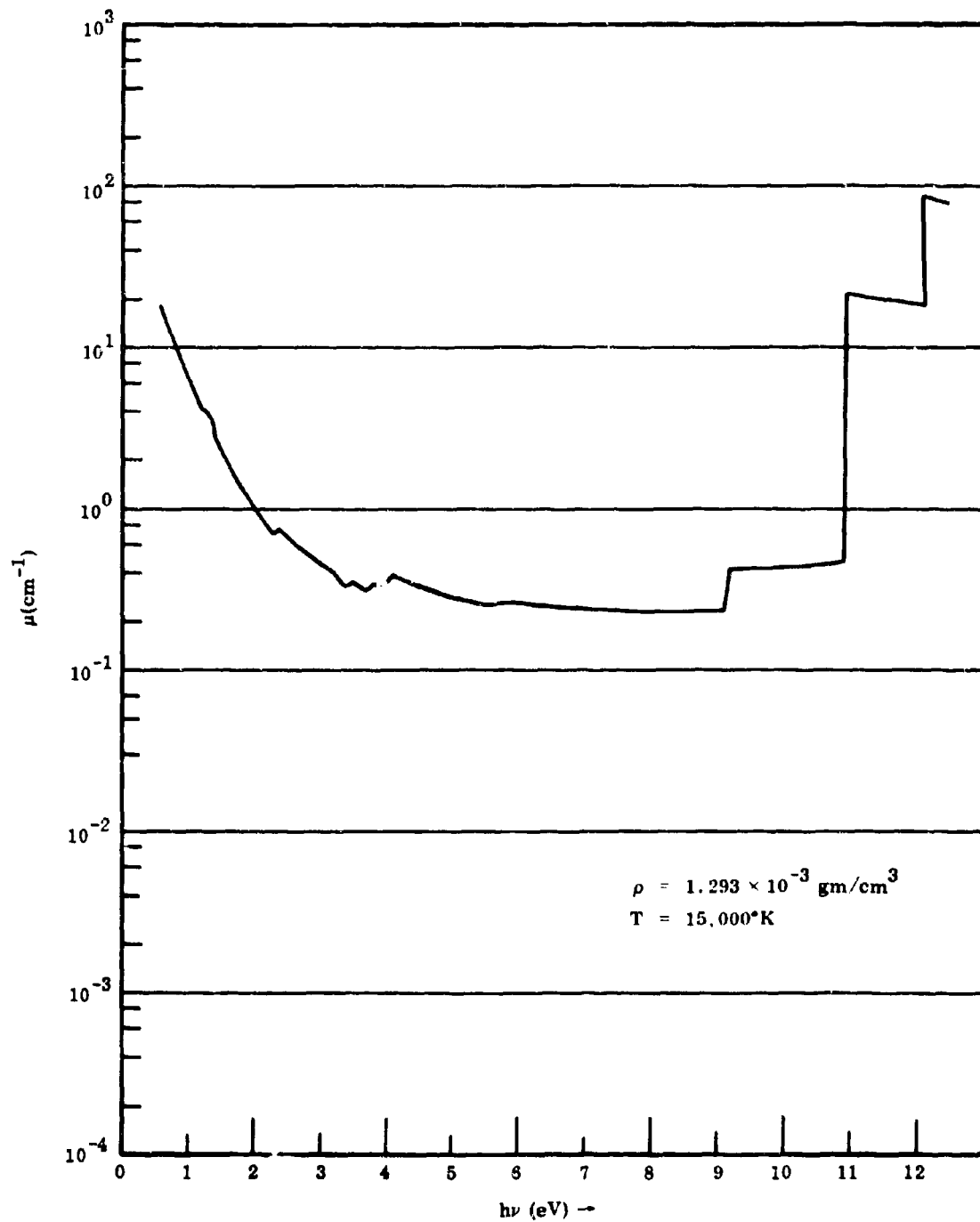


Fig. 3 Absorption Coefficient of Air as a Function of the Photon Energy: Density,  $1.293 \times 10^{-3} \text{ gm/cm}^3$ ; Temperature  $15,000^\circ\text{K}$

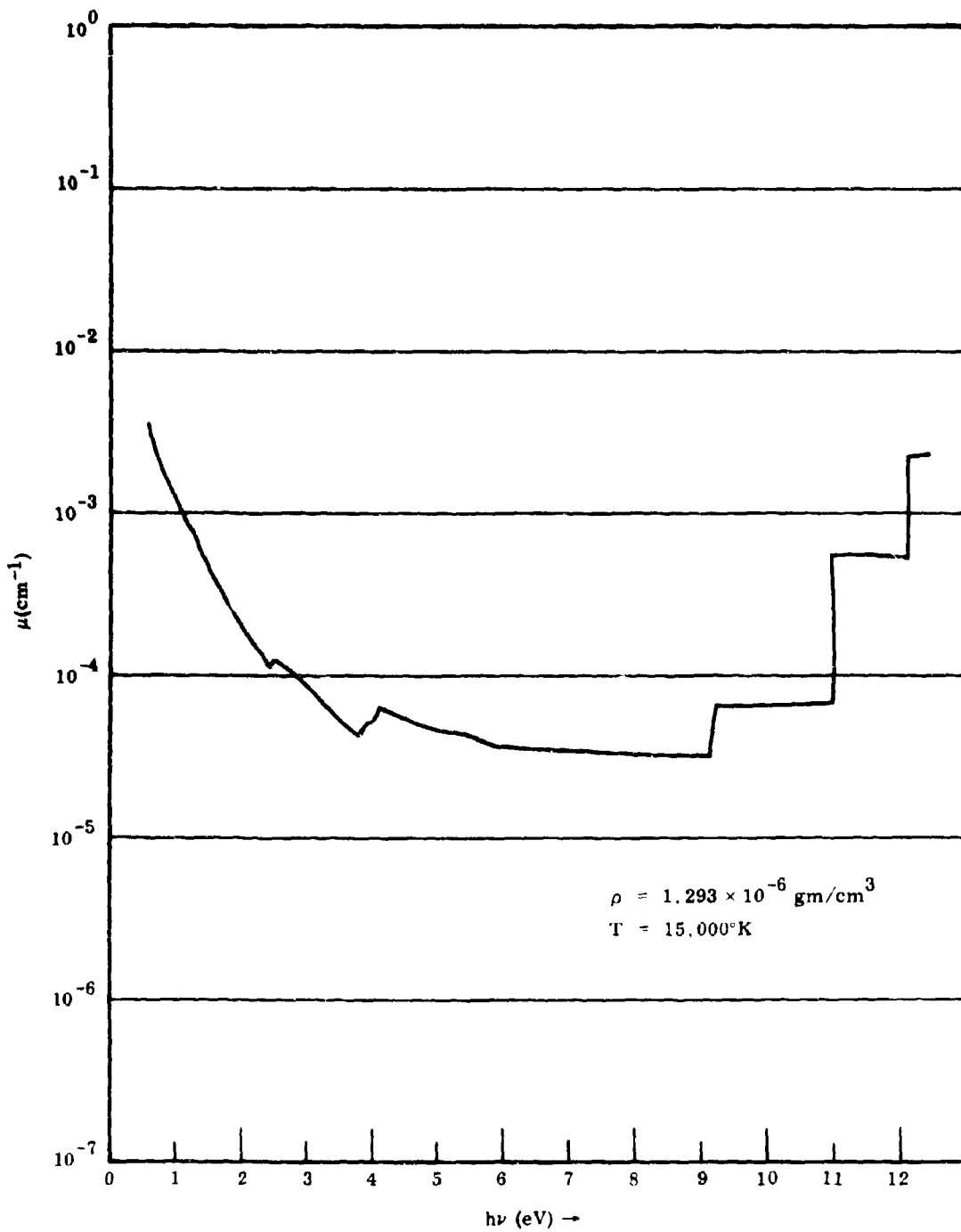


Fig. 4 Absorption Coefficient of Air as a Function of the Photon Energy: Density,  $1.293 \times 10^{-6} \text{ gm/cm}^3$ ; Temperature  $15,000^\circ\text{K}$

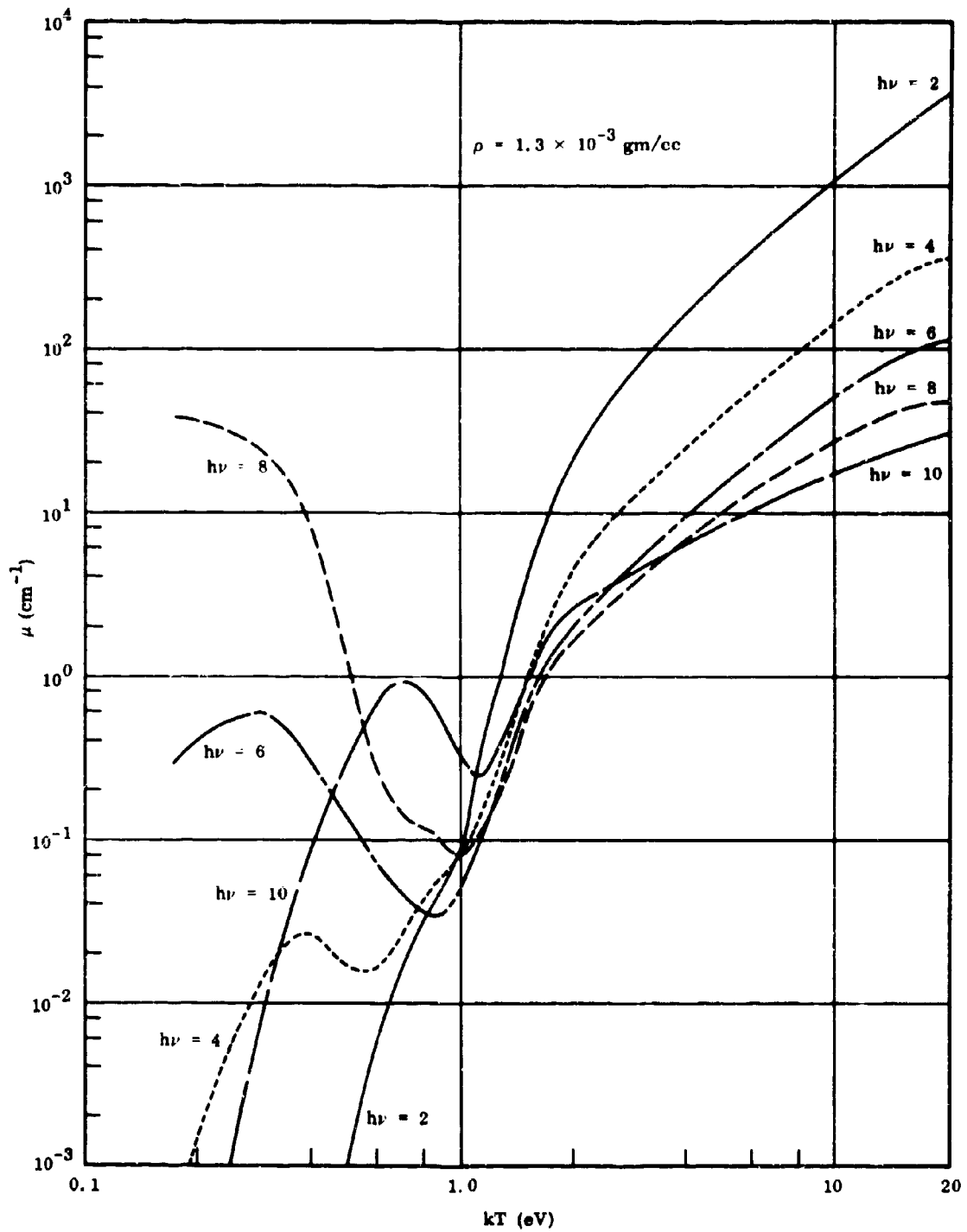


Fig. 5 Absorption Coefficient of Air at Specified Photon Energies as a Function of Temperature: Density,  $1.3 \times 10^{-3} \text{ gm/cm}^3$



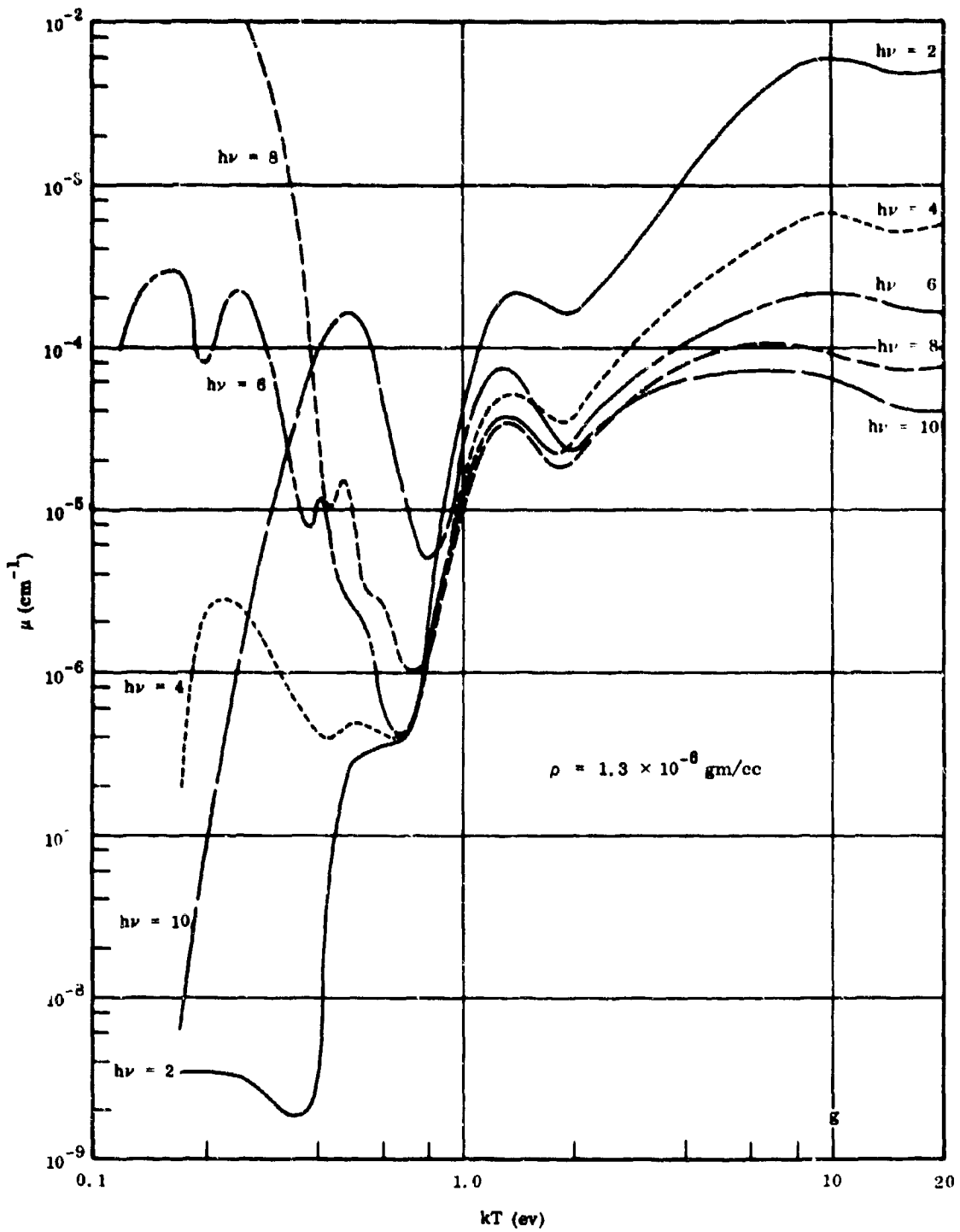


Fig. 6 Absorption Coefficient of Air at Specified Photon Energies as a Function of Temperature: Density,  $1.3 \times 10^{-6}$  gm/cm<sup>3</sup>

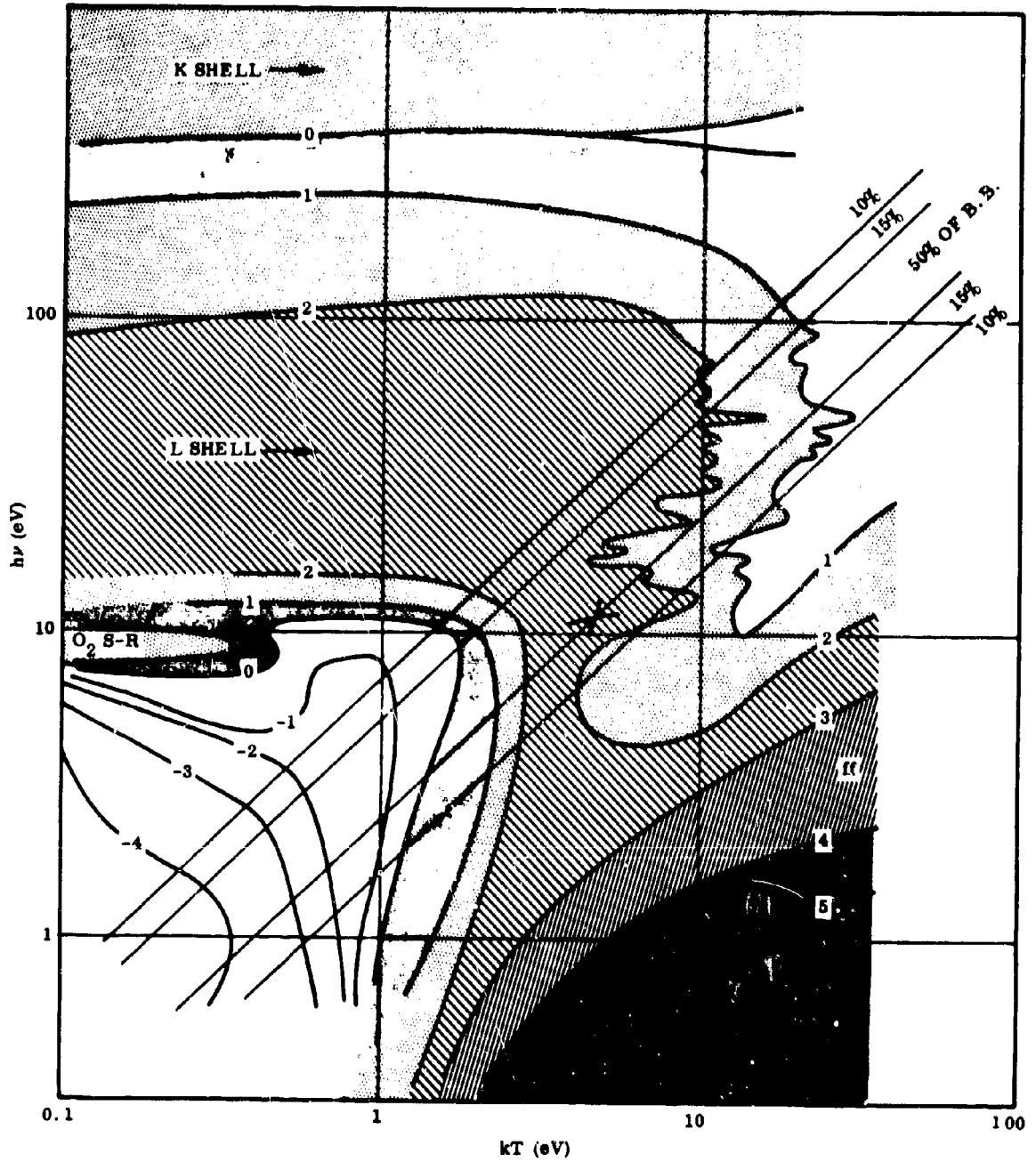


Fig. 7 Topographic Representation of Absorption Coefficient in the Temperature-Energy Plane for Normal Density Air. A number (n) on the niveau line indicates that  $\mu$  is equal to  $10^n \text{ cm}^{-1}$ .

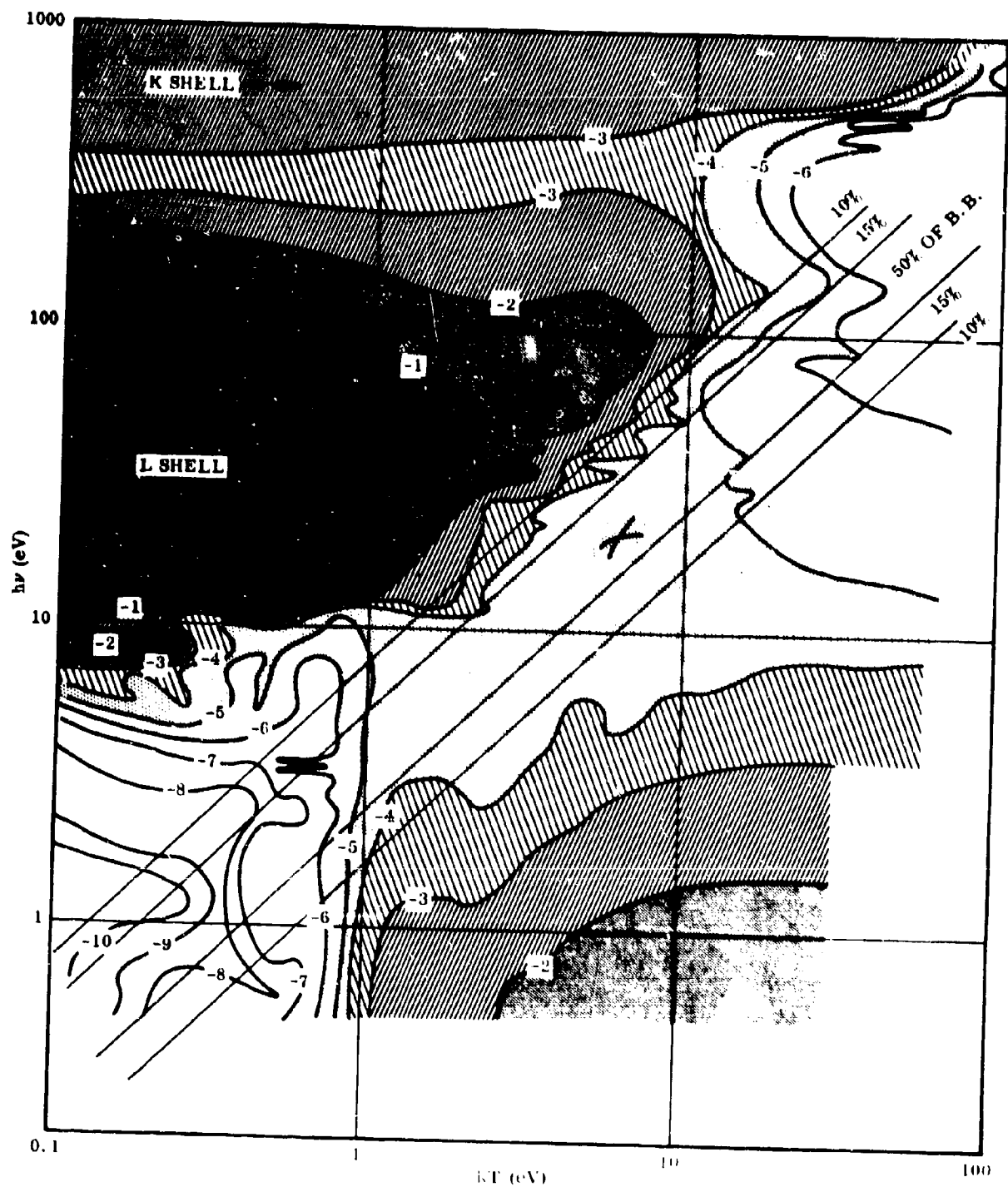


Fig. 8 Topographic Representation of Absorption Coefficient the Temperature-Energy Plane for  $10^{-3}$  Normal Density Air. A number (n) on the niveau line indicates that  $\mu$  is equal to  $10^n \text{ cm}^{-1}$ .

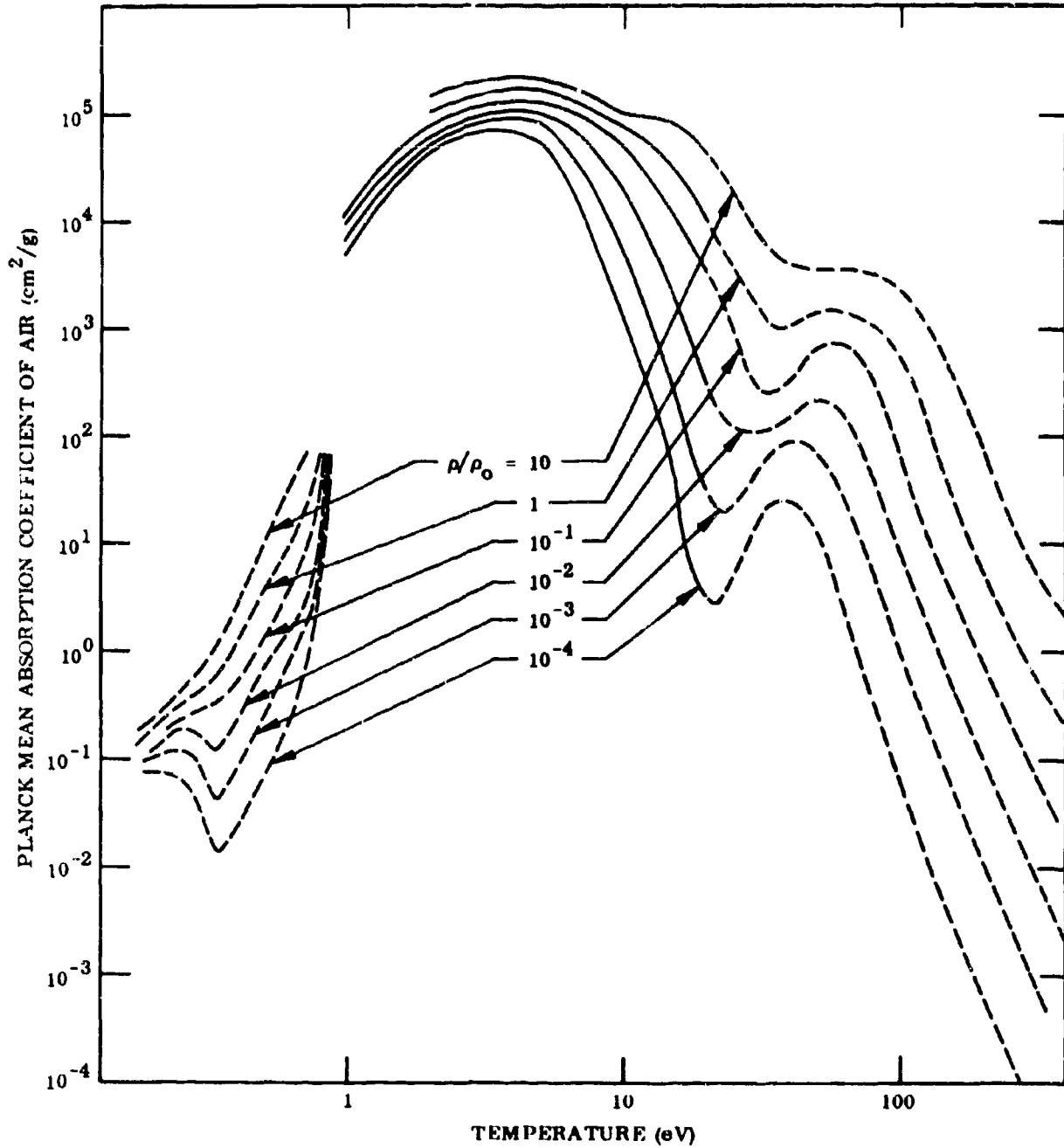


Fig. 9 Planck Mean Absorption Coefficient of Air as a Function of Temperature for Various Density Ratios. The dashed lines below 1 eV represent results obtained by Churchill (1966); the solid lines are from Armstrong, Johnston and Kelly, the dashed lines above 20 eV are from Freeman (1963). The gap at 1 eV represents a gap in our knowledge because atomic line contributions have not been included in the dashed curves.

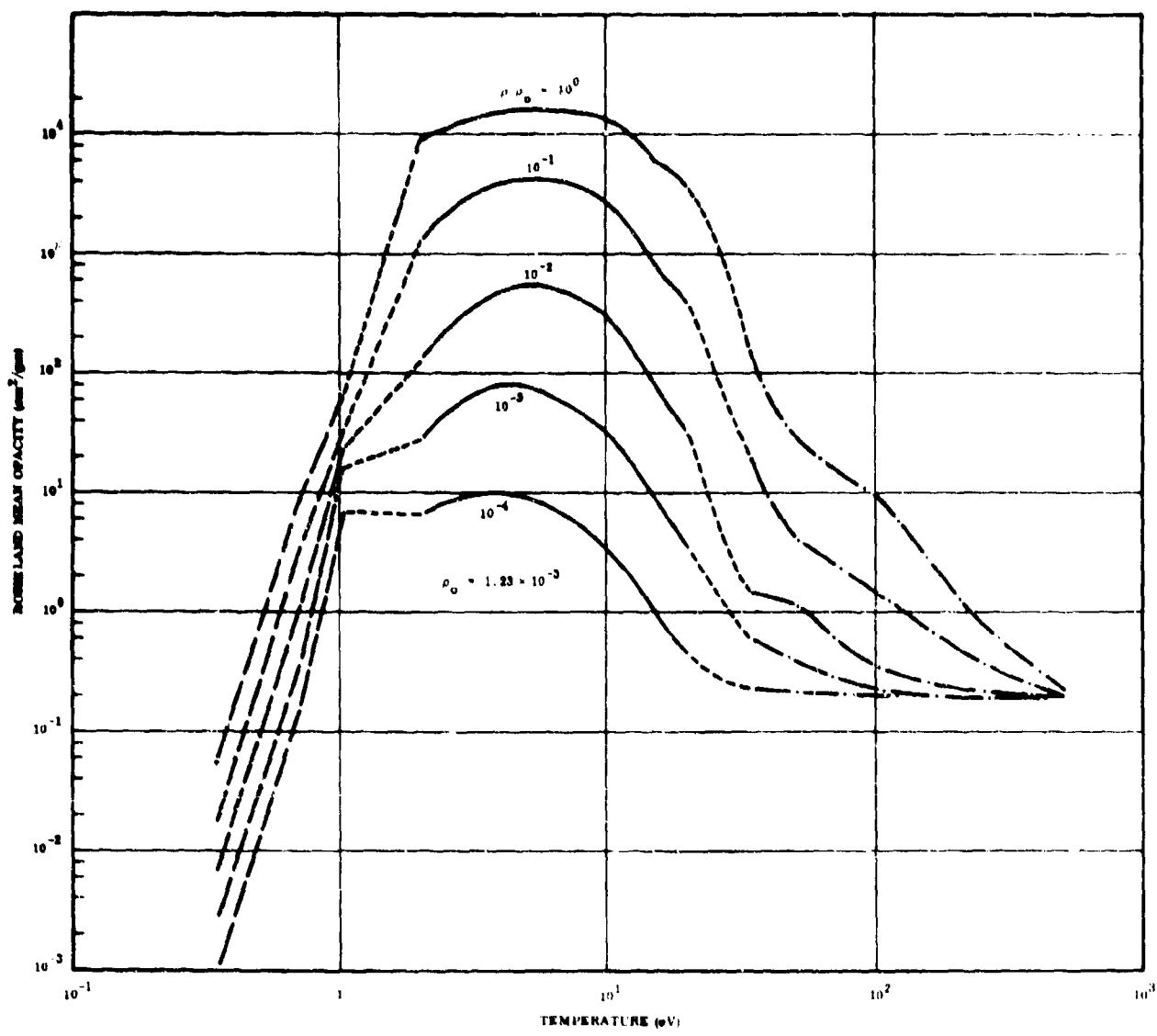


Fig. 10 Rosseland Mean Opacity of Air as a Function of Temperature for Various Density Ratios. The (— — —) Lines Represent Values Calculated by Churchill (1966); the Solid Lines are From Armstrong, Johnston, and Kelly (1965); the (— · —) Lines are From Freeman (1963); and the (---) Lines are Connecting Lines Between the Various Calculations.

### References

Armstrong, B. H., R. R. Johnston, and P. S. Kelly.  
LMSC Contract AF 29(601)-5006, Air Force Weapons  
Laboratory Report No. AFWL-TR-65-17, 1965.

Churchill, D. R., this report, Section II. C. of Tables of  
Air Properties, 1966.

Freeman, B. E., Opacity and Absorption Coefficients for Ionic  
Air, Air Force Special Weapons Center Contract  
AF29(601)-6105, GAMD-4566, 1963.

## B. Basic Data

For a discussion of references to basic atomic data and the use thereof, please see Armstrong and Nicholls (1966). The following tables of basic molecular data list spectroscopic constants for those band systems of diatomic molecules which have been included in the current calculations of heated air absorption coefficients. The values listed for these constants are those which were used in the theoretical reconstruction of the corresponding band system. Most of these were taken directly from the literature and, in general, they were obtained experimentally. In those cases where no experimental values were available they were estimated with the aid of the basic equations of spectroscopy. As a single exception to the general procedure, all the constants listed for the  $X^3\Sigma$  state of  $O_2$  in Table 3 were calculated with the aid of formulas and constants given in Herzberg (1950). This state is described extremely well by the constants so obtained.

Whenever both of the electronic states involved in a transition are singlet or display only a small amount of splitting, an indication of the energy separation of the two states may be given by a single number such as  $\nu_{00}$ , which is the transition frequency or energy between vibrationless-rotationless levels of these states. However, when the splitting is relatively large, such as in the case of a  $^2\Pi$  state with large spin-orbit coupling, such a single number is not as meaningful although it may still give a convenient estimate of an "average" separation. Table 1 gives either  $\nu_{00}$  or  $\nu_e$  (the energy separation of the potential minima of the two states) for the band systems under consideration. Succeeding tables list the vibrational term  $G(v)$  as referred either to the  $v = 0$  level or to the potential

minima as specified by the subscript attached to the  $G$ , viz.  $G_0'(v)$  or  $G_1(v)$ ,  $G_2(v)$ . Also,  $B_v$  and  $D_v$  are those constants used to generate the rotational manifold for the  $v^{\text{th}}$  vibrational level (along with the coupling constant  $Y_v$ ).

The first fourteen tables contain those constants which are necessary to compute the line frequencies for all the band systems. Tables 15 through 20 give those values of the band strength and related quantities which are required to calculate the line intensities for six of the band systems. The "band strength" is given in the column labelled  $p_{v',v}$  and is given, as noted, in atomic units. The corresponding band f-numbers and Einstein A's are also tabulated. Table 21 lists the matrix elements used to compute the intensities for the one vibration-rotation band system which was included. Since no direct intensity measurements were available for the  $N_2$  Birge-Hopfield #1 bands, the band strength was obtained from an assumed constant f-number of 0.1 and calculated Franck-Condon factors which are given in Table 22.

#### References

- Armstrong, B. and R. Nicholls, The Radiative Properties of Heated Air, Thermal Radiation Phenomena, Lockheed, Palo Alto, 1966.
- Herzberg, G., Spectra of Diatomic Molecules, Van Nostrand, Princeton, 1950.



Table 1. Molecular Band Systems Included in the Calculation of the Absorption Coefficient of Heated Air.

Molecular Species and System Name	Spectroscopic Notation	$\nu_{00}$ ( $\text{cm}^{-1}$ )	Spectral Region Spanned by Systems ( $\text{cm}^{-1}$ )	No. of Lines Included
O <sub>2</sub> Schumann-Runge	B <sup>3</sup> Σ <sub>u</sub> <sup>-</sup> - X <sup>3</sup> Σ <sub>g</sub> <sup>-</sup>	49,357.5	56,851.51 - 20,081.01	4,611
N <sub>2</sub> first positive	B <sup>3</sup> Π <sub>g</sub> - A <sup>3</sup> Σ <sub>u</sub> <sup>-</sup>	9,557.0	19,471.63 - 2,673.18	48,785
N <sub>2</sub> second positive	C <sup>3</sup> Π <sub>u</sub> - B <sup>3</sup> Π <sub>g</sub>	29,670.6	36,365.66 - 20,323.54	20,369
N <sub>2</sub> Birge-Hopfield	b <sup>1</sup> Σ <sub>u</sub> <sup>+</sup> - X <sup>1</sup> Σ <sub>g</sub> <sup>+</sup>	103,672.1	107,981.86 - 46,678.12	38,983
N <sub>2</sub> <sup>+</sup> first negative	B <sup>2</sup> Σ <sub>u</sub> <sup>+</sup> - X <sup>2</sup> Σ <sub>g</sub> <sup>+</sup>	25,566.0	31,731.58 - 19,121.38	3,216
NO β	B <sup>2</sup> Π - X <sup>2</sup> Π	45,868.7 <sup>*</sup>	51,410.52 - 19,426.22	18,518
NO γ	A <sup>2</sup> Σ - X <sup>2</sup> Π	43,905.2 <sup>†</sup>	61,615.35 - 31,534.58	31,429
NO vib.-rot.	X <sup>2</sup> Π - X <sup>2</sup> Π	--	9,131.35 - 1,036.91	25,610

\* This is an effective  $\nu_e$  for the NO beta bands.

† This is also an effective  $\nu_e$  and may be reproduced from the tables of Herzberg (1950) by subtracting the average  $T_e$  of the lower (<sup>2</sup>Π) state from the  $T_e$  of the upper (<sup>2</sup>Σ) state.

Table 2. Continuous Contributors (in the amount of about 1% or more) to the Absorption Coefficient of Heated Air at Relative Density  $\rho/\rho_0 = 10^{-3}$

System	Spectral Region of Importance eV ( $\text{cm}^{-1}$ )	Temperature Region of Importance $^{\circ}\text{K}$
$\text{O}_2$ Schumann-Runge Continuum	$\sim 7.1 - 9.5$ eV (57,000 - 77,000 $\text{cm}^{-1}$ )	1,000 - 10,000
$\text{NO}_2$	$\sim 1.1 - 5.1$ eV (9,000 - 41,000 $\text{cm}^{-1}$ )	1,000 - 5,000
$\text{O}^-$ photodetachment	$\sim 1.5 - 10.7$ eV (12,100 - 86,000 $\text{cm}^{-1}$ )	3,000 - 15,000
N photoionization	Entire Range of Calculation	$T \geq 7,000$
O photoionization	Entire Range of Calculation	$T \geq 7,000$
Free-free in presence of ions	$< \sim 0.8$ eV (6,450 $\text{cm}^{-1}$ ) at 6,000 $^{\circ}\text{K}$ ; Entire Range of Calculation at 18,000 $^{\circ}\text{K}$ .	$T \geq 6,000$

Table 3. Spectroscopic Constants for the  $X^3\Sigma_g^-$  State of  $O_2$

$v$	$G_0(v)$ ( $\text{cm}^{-1}$ )	$B_v$ ( $\text{cm}^{-1}$ )	$D_v$ ( $10^{-6}\text{cm}^{-1}$ )
0	0.0	1.438	4.913
1	1556.4	1.422	4.825
2	3089.1	1.406	4.737
3	4598.3	1.390	4.649
4	6084.4	1.375	4.561
5	7547.4	1.359	4.473
6	8987.5	1.343	4.385
7	10404.9	1.327	4.297
8	11799.7	1.311	4.209
9	13171.8	1.296	4.121
10	14521.4	1.280	4.033
11	15848.3	1.264	3.945
12	17152.7	1.248	3.857
13	18434.2	1.232	3.769
14	19693.0	1.217	3.681
15	20928.7	1.201	3.593
16	22141.2	1.185	3.505
17	23330.3	1.169	3.417
18	24495.7	1.154	3.329
19	25637.2	1.138	3.241
20	26754.4	1.122	3.153
21	27846.9	1.106	3.065
22	28914.4	1.090	2.977
23	29956.5	1.074	2.889
24	30972.6	1.059	2.801
25	31962.3	1.043	2.713
26	32925.0	1.027	2.625
27	33860.2	1.011	2.537
28	34767.3	0.9956	2.449
29	35645.7	0.9798	2.361

Ref. 1 Babcock, H.D. and L. Herzberg, *Astrophys. J.* 108, 167 (1948).

Table 4. Spectroscopic Constants for the  $B^3\Sigma_u^-$  State of  $O_2$

$v$	$G_o(v)$ ( $cm^{-1}$ )	$B_v$ ( $cm^{-1}$ )	$D_v$ ( $10^{-6} cm^{-1}$ )
0	0.0	0.8130	4.380
1	688.0	0.7980	4.380
2	1353.1	0.7850	4.380
3	1994.6	0.7700	4.380
4	2612.2	0.7540	4.380
5	3204.0	0.7350	4.380
6	3765.2	0.7190	4.380
7	4299.2	0.7020	4.380
8	4799.6	0.6710	4.380
9	5265.0	0.6510	4.380
10	5694.2	0.6330	4.380
11	6082.4	0.5930	4.380
12	6427.0	0.5625	13.000
13	6727.9	0.5247	16.800
14	6982.9	0.4836	21.200
15	7192.9	0.4399	25.700
16	7361.9	0.3953	34.300
17	7494.8	0.3470	45.000
18	7596.9	0.2960	52.000
19	7672.6	0.2580	49.000
20	7725.2	0.2070	76.000

- Ref. 1 Curry, J. and G. Herzberg, *Ann. Physik* **19**, 800 (1934)  
 2 Knauss, H.P. and H.S. Ballard, *Phys. Rev.* **48**, 796 (1935)  
 3 Babcock, H.D. and L. Herzberg, *Astrophys. J.*, **108**, 167 (1948)  
 4 Brix, P. and G. Herzberg, *Can. J. Phys.* **32**, 110 (1954)

Table 5. Spectroscopic Constants for the  $A^3\Sigma_u^-$  State of  $N_2$

$v$	$G_0(v)$ ( $\text{cm}^{-1}$ )	$B_v$ ( $\text{cm}^{-1}$ )	$D_v$ ( $10^{-6} \text{ cm}^{-1}$ )
0	0.0	1.433	5.5
1	1432.5	1.421	5.5
2	2837.0	1.408	5.5
3	4213.3	1.395	5.5
4	5561.4	1.382	5.5
5	6880.9	1.369	5.5
6	8171.9	1.356	5.5
7	9434.1	1.343	5.5
8	10667.4	1.330	5.5
9	11871.7	1.317	5.5
10	13046.7	1.304	5.5
11	14192.4	1.291	5.5

Ref. 1 Naude, S.M., Proc. Roy. Soc. London, 136, 114 (1932).

Table 6. Spectroscopic Constants for the  $B^3\Pi_g$  State of  $N_2$ .

$v$	$G_0(v)$ ( $cm^{-1}$ )	$Y_v$	$B_v$ ( $cm^{-1}$ )	$D_v$ ( $10^{-6} cm^{-1}$ )
0	0.0	25.9	1.6285	5.8
1	1705.2	26.2	1.6108	6.0
2	3381.4	26.4	1.5925	6.0
3	5028.0	26.8	1.5735	6.0
4	6646.6	27.0	1.5554	6.0
5	8236.0	27.3	1.5364	6.0
6	9796.9	27.6	1.5172	6.0
7	11328.4	27.95	1.4954	6.0
8	12831.0	28.25	1.4765	6.0
9	14304.7	28.5	1.4576	6.0
10	15749.4	28.8	1.4387	6.0

Ref. 1 Budó, A., Z. Physik 96, 219 (1935).

Table 7. Spectroscopic Constants for the  $C^3\Pi_u$  State of  $N_2$ .

$v$	$G_0(v)$ ( $cm^{-1}$ )	$Y_v$	$B_v$ ( $cm^{-1}$ )	$D_v$ ( $10^{-6} cm^{-1}$ )
0	0.0	21.5	1.9154	6.0
1	1994.2	21.5	1.7932	6.0
2	3934.4	21.4	1.7682	6.0
3	5808.1	21.1	1.7407	7.5
4	7589.8	20.3	1.7012	11.0

Ref. 1 Budó, A., Z. Physik 96, 219 (1935).

Table 8. Spectroscopic Constants for the  $X^1\Sigma_g^+$  State of  $N_2$

$v$	$G_v(v)$ ( $\text{cm}^{-1}$ )	$B_v$ ( $\text{cm}^{-1}$ )	$D_v$ ( $10^{-6} \text{ cm}^{-1}$ )
0	00.00	1.9898	6.4
1	2329.66	1.9720	5.0
2	4630.83	1.9548	5.0
3	6903.44	1.9364	5.5
4	9147.41	1.9186	5.5
5	11362.67	1.9008	5.5
6	13549.14	1.8829	5.0
7	15706.76	1.8651	5.0
8	17835.44	1.8473	5.0
9	19935.11	1.8295	5.0
10	22005.70	1.8117	5.0
11	24047.13	1.7939	5.3
12	26059.33	1.7761	5.5
13	28042.23	1.7583	5.5
14	29995.74	1.7405	6.0
15	31919.80	1.7227	6.0
16	33814.33	1.7048	6.0
17	35679.26	1.6870	6.0
18	37514.51	1.6692	6.0
19	39320.01	1.6514	6.0
20	41095.68	1.6336	6.0
21	42841.45	1.6158	6.0
22	44557.25	1.5980	6.0
23	46242.99	1.5802	6.0
24	47898.61	1.5624	6.0
25	49524.03	1.5446	6.0
26	51119.17	1.5267	6.0
27	52683.97	1.5089	6.0

Ref. 1 Lofthus, A., The Molecular Spectrum of Nitrogen,  
Spectroscopic Report Number 2, Dept. of Physics, University  
of Oslo, Blindern, Norway, Dec., 1960.

Table 9. Spectroscopic Constants for the  $b^1\Sigma_u^+$  State of  $N_2$

$v$	$G_0(v)$ ( $cm^{-1}$ )	$B_v$ ( $cm^{-1}$ )	$D_v$ ( $10^{-6} cm^{-1}$ )
0	0.0	1.1515	11.04
1	742.0	1.146	11.37
2	1474.4	1.142	11.69
3	2196.7	1.137	12.02
4	2909.8	1.132	12.34
5	3613.2	1.128	12.67
6	4307.0	1.123	12.99

Ref. 1 Lofthus, A., The Molecular Spectrum of Nitrogen,  
Spectroscopic Report Number 2, Dept. of Physics, University  
of Oslo, Blindern, Norway, Dec., 1960.



Table 10. Spectroscopic Constants for the  $X^2\Sigma_g^+$  State of  $N_2^+$

$v$	$G_0(v)$ ( $\text{cm}^{-1}$ )	$B_v$ ( $\text{cm}^{-1}$ )	$D_v$ ( $10^{-6} \text{ cm}^{-1}$ )
0	0.0	1.922	6.0
1	2174.8	1.902	6.0
2	4317.0	1.879	6.0
3	6426.4	1.861	6.0
4	8502.8	1.841	6.0
5	10545.8	1.826	6.0
6	12555.0	1.808	6.0
7	14530.7	1.781	6.0
8	16470.6	1.766	6.0
9	18377.6	1.740	6.0
10	20249.7	1.724	6.0
11	22086.5	1.703	6.0
12	23887.6	1.683	6.0
13	25652.4	1.663	6.0
14	27380.5	1.641	6.0
15	29071.6	1.620	6.0
16	30725.1	1.593	6.0
17	32340.5	1.572	6.0
18	33917.3	1.552	6.0

Ref. 1 Douglas, A.E., Can. J. Phys. 30, 302-13 (1952).

Table 11. Spectroscopic Constants for the  $B^2\Sigma_u^+$  State of  $N_2^+$

$v$	$G_0(v)$ ( $\text{cm}^{-1}$ )	$B_v$ ( $\text{cm}^{-1}$ )	$D_v$ ( $10^{-6} \text{ cm}^{-1}$ )
0	0.0	2.073	6.0
1	2371.5	2.049	6.0
2	4690.3	2.025	6.0
3	6950.7	2.002	6.0
4	9147.1	1.968	6.0
5	11269.9	1.926	6.0
6	13310.9	1.896	6.0
7	15262.0	1.852	6.0
8	17100.2	1.810	6.0
9	18827.1	1.762	6.0
10	20423.8	1.710	6.0
11	21903.3	1.653	6.0
12	23275.1	1.595	6.0
13	24551.4	1.545	6.0
14	25747.7	1.494	6.0
15	26874.3	1.452	6.0
16	27941.4	1.404	6.0
17	28956.9	1.355	6.0

Ref. 1 Douglas, A.E., Can. J. Phys. 30, 302-13 (1952).

Table 12. Spectroscopic Constants for the  $X^2\Pi$  State of NO .

$v$	$G_1(v)$ ( $\text{cm}^{-1}$ )	$G_2(v)$ ( $\text{cm}^{-1}$ )	$Y_v$	$B_v$ ( $\text{cm}^{-1}$ )	$D_v$ ( $10^{-6} \text{ cm}^{-1}$ )
0	948.52	948.34	73.24	1.6957	5.0
1	2824.61	2824.08	74.02	1.6779	5.0
2	4672.74	4671.86	74.81	1.6601	5.0
3	6492.92	6491.70	75.62	1.6423	5.0
4	8285.13	8283.56	76.46	1.6245	5.0
5	10049.37	10047.44	77.30	1.6067	5.0
6	11795.63	11783.35	78.16	1.5889	5.0
7	13493.91	13491.28	79.05	1.5711	5.0
8	15174.18	15171.20	79.95	1.5533	5.0
9	16826.46	16823.13	80.88	1.5355	5.0
10	18450.73	18447.06	81.83	1.5177	5.0
11	20047.00	20042.82	82.80	1.4999	5.0
12	21615.13	21610.53	83.80	1.4821	5.0
13	23154.94	23149.82	84.81	1.4643	5.0
14	24666.29	24660.64	85.86	1.4465	5.0
15	26148.95	26142.79	86.93	1.4287	5.0
16	27602.67	27595.91	88.02	1.4109	5.0

Ref. 1 Gillette, R.H. and E.H. Eyster, Phys. Rev. 56, 1113 (1939).

Table 13. Spectroscopic Constants for the  $A^2\Sigma^+$  State of NO.

$v$	$G_0(v)$ ( $\text{cm}^{-1}$ )	$B_v$ ( $\text{cm}^{-1}$ )	$D_v$ ( $10^{-6} \text{ cm}^{-1}$ )
0	0.0	1.9870	6.0
1	2341.4	1.9688	6.0
2	4651.4	1.9498	6.0
3	6928.2	1.9290	6.0
4	9170.7	1.9108	6.0
5	11380.4	1.8906	6.0
6	13558.8	1.8684	6.0
7	15703.1	1.8486	6.0

Ref. 1 Barrow, R.F. and E. Miescher, Proc. Phys. Soc. (London)  
A70, 219 (1957).

Ref. 2 Irén Deézsi, Acta Physica Acam. Sci. Hung, 9, 125-150 (1959).

Table 14. Spectroscopic Constants for the  $B^2\Pi$  State of NO.

$v$	$G_1(v)$ ( $\text{cm}^{-1}$ )	$G_2(v)$ ( $\text{cm}^{-1}$ )	$Y_v$	$B_v$ ( $\text{cm}^{-1}$ )	$D_v$ ( $10^{-6} \text{ cm}^{-1}$ )
0	516.58	517.30	28.6	1.118	6.0
1	1538.66	1540.8	29	1.105	6.0
2	2546.4	2550.0	31	1.093	6.0
3	3540.4	3545.4	32	1.081	6.0
4	4521.2	4527.7	29	1.068	6.0
5	5489.4	5497.3	36	1.056	6.0
6	6445.6	6455.1	38	1.041	6.0

Ref. 1 Barrow, R.F. and E. Miescher, Proc. Phys. Soc. (London)  
A70, 219 (1957).

Ref. 2 Irén Deézsi, Acta Physica Acam Sci Hung, 9, 125-150 (1959).

TABLE 15

Absolute Transition Probabilities  
for Bands of the O<sub>2</sub> Schumann-Runge System

Band	Wavelength (Å)	$P_{V'V''} (a_0^2 e^2)$	$f_{V'V''}$	$A_{V'V''} (\text{sec}^{-1})$
0,0	2030	6.66 - 9	3.31 - 10	5.38 - 1
0,7	2567	6.37 - 3	3.29 - 4	3.35 + 5
0,8	2662	2.14 - 2	8.09 - 4	7.64 + 5
0,9	2703	4.59 - 2	1.67 - 3	1.47 + 6
0,10	2871	8.36 - 2	2.04 - 3	2.39 + 6
0,11	2984	1.30 - 1	4.38 - 3	3.30 + 6
0,12	3105	1.72 - 1	5.58 - 3	3.88 + 6
0,13	3234	1.97 - 1	6.13 - 3	3.93 + 6
0,14	3372	1.95 - 1	5.81 - 3	3.42 + 6
0,15	3518	1.67 - 1	4.78 - 3	2.84 + 6
0,16	3674	1.20 - 1	3.29 - 3	1.63 + 4
0,17	3842	7.43 - 2	1.95 - 3	8.84 + 5
0,18	4022	4.0 - 2	1.0 - 3	4.14 + 5
0,19	4216	1.82 - 2	4.33 - 4	1.63 + 5
0,20	4470	7.0 - 3	1.57 - 4	5.27 + 4
1,0	1998	7.59 - 8	3.83 - 9	6.41 + 0
1,7	2522	3.73 - 2	1.49 - 3	1.56 + 6
1,8	2615	7.42 - 2	2.86 - 3	2.80 + 6
1,9	2712	1.19 - 1	4.41 - 3	4.02 + 6
1,10	2815	1.49 - 1	5.33 - 3	4.51 + 6
1,11	2924	1.42 - 1	4.87 - 3	3.82 + 6
1,12	3040	9.21 - 2	3.05 - 3	2.21 + 6
1,13	3163	3.04 - 2	9.66 - 4	6.47 + 5
1,14	3294	1.36 - 4	4.16 - 6	2.56 + 3
1,15	3433	2.28 - 2	6.60 - 4	3.80 + 5
1,16	3584	7.82 - 2	3.18 - 4	1.65 + 5
1,17	3743	1.25 - 1	3.36 - 3	1.60 + 6
1,18	3914	1.31 - 1	3.38 - 3	1.48 + 6
1,19	4096	1.03 - 1	2.54 - 3	1.01 + 6
1,20	4292	6.50 - 2	1.52 - 3	5.53 + 5
1,21	4476	3.21 - 2	7.23 - 4	2.43 + 5
2,0	1971	4.58 - 7	2.34 - 4	3.27 + 1
2,7	2481	8.18 - 2	3.32 - 3	3.61 + 6
2,8	2570	1.22 - 1	4.80 - 3	4.87 + 6
2,9	2664	1.34 - 1	5.06 - 3	4.78 + 6
2,10	2762	9.50 - 2	3.46 - 3	3.04 + 6
2,11	2868	3.14 - 2	1.1 - 3	8.98 + 6
2,12	2979	1.10 - 6	3.73 - 8	2.8 + 1
2,13	3093	3.05 - 2	9.92 - 4	6.97 + 4
2,14	3233	8.20 - 2	2.56 - 3	1.65 + 6
2,15	3358	9.05 - 2	2.71 - 3	1.61 + 6
2,16	3501	4.31 - 2	1.24 - 3	6.77 + 5
2,17	3651	2.18 - 3	6.0 - 5	3.01 + 4
2,18	3837	1.63 - 2	4.29 - 4	1.96 + 5
2,19	3988	6.87 - 2	1.74 - 3	7.3 + 5
2,20	4174	1.07 - 1	2.57 - 3	9.92 + 5
2,21	4374	1.99 - 1	4.57 - 3	1.6 + 6
3,0	1947	1.91 - 0	9.88 - 8	1.75 + 2
4,0	1924	0.18 - 6	3.24 - 7	5.87 + 2
5,0	1902	1.59 - 5	8.4 - 7	1.55 + 3
6,0	1882	3.52 - 5	1.88 - 6	3.56 + 3

TABLE 15(Cont.)

Band	Wavelength (Å)	$P_{V'V''}(a_0^2 \cdot s^2)$	$f_{V'V''}$	$\Lambda_{V'V''}(\text{sec}^{-1})$
7,0	1863	6.77 - 5	3.66 - 6	7.04 + 3
8,0	1846	1.15 - 4	6.25 - 6	1.23 + 4
9,0	1830	1.76 - 4	0.97 - 6	2.00 + 4
10,0	1816	2.58 - 4	1.43 - 5	2.9 + 4
11,0	1803	3.59 - 4	2.0 - 5	4.12 + 4
12,0	1792	4.78 - 4	2.60 - 5	5.61 + 4
13,0	1872	5.59 - 4	3.16 - 5	6.65 + 4
14,0	1774	5.88 - 4	3.33 - 5	7.10 + 4
15,0	1768	5.67 - 4	3.23 - 5	6.00 + 4
16,0	1763	5.05 - 4	2.89 - 5	6.22 + 4
17,0	1759	4.34 - 4	2.48 - 5	5.38 + 4

Ref. 1 Nicholls, R.W., *Annales de Geophysique* 20, 144 (1964).

TABLE 16

Absolute Transition Probabilities  
for Bands of the  $N_2$  First Positive System

Band	Wavelength (Å)	$P_{V'V''}(a_0^2 e^2)$	$f_{V'V''}$	$\Lambda_{V'V''}(\text{sec}^{-1})$
0,0	10,387	2.82 - 1	1.4 - 3	8.65 + 4
0,1	12,211	3.27 - 1	1.38 - 3	6.17 + 4
0,2	14,735	2.29 - 1	8.01 - 4	2.46 + 4
1,0	8851	2.62 - 1	1.521 - 3	1.29 + 5
1,1	10,200	1.6 - 3	8.08 - 6	5.18 + 2
1,2	11,800	1.00 - 1	4.30 - 4	2.10 + 4
1,3	14,043	1.95 - 1	7.51 - 4	2.54 + 4
1,4	17,102	2.01 - 1	6.03 - 4	1.36 + 4
2,0	7694	0.57 - 2	6.407 - 4	7.21 + 4
2,1	8673	1.31 - 1	7.78 - 4	6.90 + 4
2,2	9650	8.70 - 2	4.55 - 4	3.18 + 4
2,3	11,436	1.87 - 3	8.43 - 6	4.30 + 2
2,4	13,420	8.26 - 2	3.17 - 4	1.17 + 4
2,5	16,163	1.64 - 1	5.24 - 4	1.34 + 4
3,0	6824	1.70 - 1	1.28 - 4	1.83 + 4
3,1	7869	1.38 - 1	0.41 - 4	1.00 + 5
3,2	8504	2.31 - 2	1.4 - 4	1.20 + 4
3,3	9694	1.18 - 1	6.36 - 4	4.61 + 4
3,4	11,116	2.78 - 2	1.29 - 4	6.95 + 3
3,5	12,844	0.65 - 3	3.87 - 5	1.56 + 4
3,9	15,370	8.62 - 2	2.80 - 4	8.16 + 3
4,0	6396	1.37 - 3	1.12 - 5	1.88 + 3
4,1	6741	4.37 - 2	3.34 - 4	4.90 + 4
4,2	7451	1.20 - 1	8.31 - 4	0.98 + 4
4,3	8315	5.68 - 2	3.52 - 6	3.30 + 2
4,4	9368	8.02 - 2	4.41 - 4	3.35 + 4
5,1	6698	5.00 - 3	4.90 - 5	8.95 + 3
5,2	6661	6.54 - 2	5.06 - 4	7.60 + 4
5,3	7338	8.78 - 2	5.45 - 4	6.75 + 4
5,4	8200	2.52 - 2	1.58 - 4	1.57 + 4
5,5	9147	3.01 - 2	1.60 - 4	1.35 + 4
6,1	6571	3.96 - 4	3.66 - 6	7.85 + 2
6,2	6630	1.23 - 2	1.05 - 4	1.91 + 4
6,3	6583	7.73 - 2	6.05 - 4	9.31 + 4
6,4	7229	3.36 - 2	2.39 - 4	3.05 + 4
6,5	7081	5.56 - 2	3.59 - 4	3.76 + 4
7,2	5533	1.00 - 3	9.33 - 6	2.03 + 3
7,3	5985	2.06 - 2	1.77 - 4	3.28 + 4
7,4	6505	7.65 - 2	6.06 - 4	9.54 + 4
7,5	7121	7.69 - 2	5.56 - 5	7.31 + 3
7,6	7831	6.24 - 2	4.10 - 4	4.46 + 4
8,3	5196	2.15 - 3	2.01 - 5	4.44 + 3
8,4	5931	3.06 - 2	2.66 - 4	5.91 + 4
8,5	6432	6.56 - 2	5.25 - 4	8.45 + 4
9,4	5459	3.90 - 3	3.76 - 5	8.41 + 3
9,5	5879	3.64 - 2	3.19 - 4	6.16 + 4
9,6	6360	4.91 - 2	4.00 - 4	6.58 + 4
10,5	5424	5.85 - 3	5.55 - 5	1.26 + 4
10,6	5829	3.95 - 2	3.49 - 4	6.85 + 4
10,7	6291	3.25 - 2	2.66 - 4	4.48 + 4
11,6	5390	8.89 - 3	8.59 - 5	1.95 + 4
11,7	5779	4.40 - 2	3.93 - 4	7.85 + 4
11,8	6221	1.43 - 1	1.18 - 4	1.79 + 4
12,7	5352	4.18 - 2	4.02 - 4	9.63 + 4
12,8	5730	6.81 - 2	6.12 - 5	1.24 + 4

Ref. 1 Nicholls, R.W., *Annales de Geophysique* 20, 144 (1964).

TABLE 17  
 Absolute Transition Probabilities  
 for Bands of the N<sub>2</sub> Second Positive System

Band	Wavelength (Å)	$P_{V'V''} (a_0^2 e^2)$	$f_{V'V''}$	$A_{V'V''} (\text{sec}^{-1})$
0,0	3371.3	1.24 + 0	1.90 - 2	1.11 + 7
0,1	3576.9	9.65 - 1	1.40 - 2	7.27 + 6
0,2	3804.9	4.52 - 1	6.15 - 3	2.83 + 6
0,3	4059.4	1.82 - 1	2.31 - 3	9.33 + 5
0,4	4343.6	6.03 - 2	7.18 - 4	2.54 + 5
0,5	4667.3	1.5 - 2	1.67 - 4	5.11 + 4
1,0	3159.3	9.35 - 1	1.53 - 2	1.02 + 7
1,1	3339	6.03 - 2	9.34 - 4	5.59 + 5
1,2	3536.7	6.03 - 1	8.82 - 3	4.70 + 6
1,3	3755.4	6.03 - 1	8.31 - 3	3.93 + 6
1,4	3998.4	3.62 - 1	4.68 - 3	1.95 + 6
1,5	4269.7	1.55 - 1	1.83 - 3	6.08 + 5
1,6	4574.3	6.03 - 2	6.82 - 4	2.17 + 5
1,7	4916.8	3.02 - 2	3.17 - 4	8.75 + 4
2,0	2976.8	2.72 - 1	4.72 - 3	3.55 + 6
2,1	3136.0	7.53 - 1	1.24 - 2	8.43 + 6
2,2	3309	9.05 - 2	1.41 - 3	8.61 + 5
2,3	3500.5	1.82 - 1	2.67 - 3	1.45 + 6
2,4	3710.5	4.82 - 1	6.73 - 3	3.26 + 6
2,5	3943.0	4.52 - 1	5.93 - 3	2.54 + 6
2,6	4200.5	2.72 - 1	3.35 - 3	1.26 + 6
2,7	4490.2	1.21 - 1	1.39 - 3	4.60 + 5
2,8	4814.7	6.03 - 2	6.48 - 4	1.86 + 5
3,0	2819.8	3.02 - 2	5.53 - 4	4.64 + 5
3,1	2962.0	4.82 - 1	8.43 - 3	6.40 + 3
3,2	3116.7	3.92 - 2	6.51 - 3	4.47 + 6
3,3	3285.3	3.02 - 1	4.75 - 3	2.93 + 6
3,5	3671.9	2.72 - 1	3.82 - 3	1.89 + 6
3,6	3894.6	4.52 - 1	6.01 - 3	2.64 + 6
3,7	4141.8	3.32 - 1	4.14 - 3	1.61 + 6
3,8	4416.7	1.82 - 1	2.12 - 3	7.24 + 5
3,9	4723.5	9.05 - 2	9.91 - 4	2.96 + 5
4,1	2814.3	9.03 - 2	1.66 - 3	1.40 + 6
4,2	2953.2	5.43 - 1	9.51 - 3	7.27 + 6
4,3	3104.0	1.21 - 1	2.01 - 3	1.39 + 6
4,4	3268.1	3.92 - 1	6.21 - 3	3.87 + 6
4,5	3446	6.03 - 2	9.05 - 4	5.08 + 5
4,6	3641.7	9.05 - 2	1.29 - 3	6.46 + 5
4,7	3857.9	3.02 - 1	4.04 - 3	1.81 + 6
4,8	4094.8	3.62 - 1	4.57 - 3	1.82 + 6
4,9	4355.0	2.42 - 1	2.87 - 2	1.0 + 7

Ref. 1 Nicholls, R.W., Annales de Geophysique 20, 144 (1964).



TABLE 18

Absolute Transition Probabilities  
for Bands of the  $N_2^+$  First Negative System

Band	Wavelength (Å)	$P_{v'v''}(a_0^2 e^2)$	$f_{v'v''}$	$A_{v'v''}(\text{sec}^{-1})$
0,0	3914.4	3.90 - 1	1.90 - 2	1.24 + 7
0,1	4278.1	1.66 - 1	6.03 - 3	2.20 + 6
0,2	4709.2	5.06 - 2	1.67 - 3	5.01 + 5
0,3	5228.3	1.45 - 2	4.29 - 4	1.05 + 5
1,0	3582.1	1.52 - 1	6.58 - 3	3.42 + 6
1,1	3884.3	1.52 - 1	6.07 - 3	2.68 + 6
1,2	4236.5	1.95 - 1	7.15 - 3	2.66 + 6
1,3	4651.8	1.88 - 1	6.27 - 3	1.93 + 6
1,4	5148.8	3.61 - 2	1.09 - 3	2.74 + 5
2,0	3308.0	2.89 - 2	1.56 - 3	8.26 + 5
2,1	3583.9	2.09 - 1	9.13 - 3	4.79 + 6
2,2	3857.9	4.34 - 2	1.75 - 3	7.82 + 5
2,3	4199.1	1.66 - 1	6.15 - 3	2.32 + 6
2,4	4599.7	1.23 - 1	4.15 - 4	1.31 + 5
3,1	3398.7	6.50 - 2	3.03 - 3	1.88 + 6
3,2	3548.9	3.24 - 1	9.80 - 3	5.19 + 6

Ref. 1 Nicholls, R.W., *Annales de Geophysique* 20, 144 (1964).

TABLE 19

Absolute Transition Probabilities  
for Bands of the NO<sub>2</sub> System

Band	Wavelength (Å)	$P_{V'V''}(a_0^2 e^2)$	$f_{V'V''}$	$A_{V'V''}(\text{sec}^{-1})$
0,4	2621	1.73 - 3	4.97 - 5	4.84 + 4
0,5	2748	4.13 - 3	1.13 - 4	1.01 + 5
0,6	2885	7.76 - 3	2.02 - 4	1.63 + 5
0,7	3035	1.17 - 2	2.90 - 4	2.11 + 5
0,8	3198	1.44 - 2	3.39 - 4	2.22 + 5
0,9	3376	1.47 - 2	3.28 - 4	1.93 + 5
0,10	3572	1.24 - 2	2.61 - 4	1.37 + 5
0,11	3789	8.82 - 3	1.75 - 4	8.17 + 4
0,12	4028	5.22 - 3	9.75 - 5	4.03 + 4
0,13	4294	2.55 - 3	4.47 - 5	2.77 + 4
1,4	2552	4.89 - 3	1.44 - 4	1.48 + 5
1,5	2672	7.57 - 3	2.13 - 4	2.0 + 5
1,6	2803	7.99 - 3	2.15 - 4	1.84 + 5
1,7	2943	4.94 - 3	1.26 - 4	0.72 + 4
1,10	3446	4.75 - 3	1.04 - 4	5.87 + 5
1,11	3647	1.08 - 2	2.23 - 4	1.13 + 5
1,12	3868	1.42 - 2	2.76 - 4	1.23 + 5
1,13	4114	1.29 - 2	2.35 - 4	0.31 + 4
2,2	2288	1.79 - 3	5.89 - 5	7.5 + 4
2,3	2382	4.28 - 3	1.35 - 4	1.59 + 5
2,4	2488	6.25 - 3	1.89 - 4	2.04 + 5
2,5	2602	5.18 - 3	1.50 - 4	1.40 + 5
2,6	2725	1.58 - 3	4.36 - 5	3.93 + 4
2,8	3003	3.37 - 3	8.44 - 5	6.27 + 4
2,9	3159	6.73 - 3	1.60 - 4	1.07 + 5
2,10	3331	4.92 - 3	1.11 - 4	6.67 + 4
2,11	3518	6.57 - 4	1.41 - 5	7.64 + 3
2,13	3950	7.67 - 3	1.47 - 4	6.31 + 4
3,0	2063	1.40 - 4	5.10 - 6	7.97 + 3
3,1	2144	1.04 - 3	3.66 - 5	5.33 + 4
3,2	2232	3.24 - 3	1.09 - 4	1.47 + 5
3,3	2327	5.34 - 3	1.73 - 4	1.96 + 5
3,4	2428	4.35 - 3	1.35 - 4	1.53 + 5
3,5	2536	9.64 - 4	2.86 - 5	2.98 + 4
3,8	2916	4.60 - 3	1.19 - 4	9.38 + 4
4,0	2021	3.27 - 4	1.22 - 5	2.00 + 4
4,1	2100	1.92 - 3	6.88 - 5	1.07 + 5
4,4	2372	1.35 - 3	4.28 - 5	5.09 + 4
5,0	1982	6.43 - 4	2.45 - 5	4.17 + 4
5,2	2139	4.71 - 3	1.66 - 4	2.43 + 5
5,3	2230	2.49 - 3	8.43 - 5	1.14 + 5
5,4	2319	2.25 - 6	7.30 - 8	9.11 + 1
5,6	2524	3.14 - 3	0.36 - 5	9.85 + 4
6,0	1945	1.09 - 3	4.24 - 5	7.5 + 4
6,1	2018	3.81 - 3	1.42 - 4	2.34 + 5
6,2	2096	3.98 - 3	1.43 - 4	2.18 + 5
6,3	2179	6.38 - 4	2.21 - 5	3.12 + 4

Ref. 1 Nicholls, R.W., *Annales de Geophysique* 20, 144 (1964).

TABLE 20

Absolute Transition Probabilities  
for Bands of the NO $\gamma$  System

Band	Wavelength ( $\text{\AA}$ )	$P_{V'V''}(\text{a}_0^2 \text{e}^2)$	$f_{V'V''}$	$\Lambda_{V'V''}(\text{sec}^{-1})$
0,0	2262	1.26 - 2	4.14 - 4	5.42 + 5
0,1	2362	2.30 - 2	7.38 - 4	8.80 + 5
0,2	2470	2.46 - 2	7.53 - 4	8.27 + 5
0,3	2586	2.13 - 2	6.20 - 4	6.21 + 5
0,4	2712	1.79 - 2	4.98 - 4	4.54 + 5
0,5	2848	1.40 - 2	3.71 - 4	3.07 + 5
0,6	2998	9.77 - 3	2.46 - 4	1.83 + 5
0,7	3171	6.28 - 3	1.51 - 4	1.01 + 5
1,0	2148	2.26 - 3	7.94 - 4	1.15 + 6
1,1	2238	7.76 - 3	2.62 - 4	3.45 + 5
1,2	2338	6.67 - 5	2.15 - 6	2.63 + 3
1,3	2439	7.12 - 3	2.20 - 4	2.48 + 5
1,4	2550	1.67 - 2	4.95 - 4	5.11 + 5
1,5	2670	2.27 - 2	6.43 - 4	6.04 + 5
1,6	2800	2.58 - 2	6.97 - 4	5.96 + 5
1,7	2941	2.42 - 2	6.23 - 4	4.82 + 5
2,0	2047	1.84 - 2	6.81 - 4	1.09 + 6
2,1	2128	0.90 - 3	3.52 - 5	5.20 + 4
2,2	2215	1.13 - 2	3.84 - 4	5.25 + 5
2,3	2309	6.08 - 3	1.98 - 4	2.49 + 5
2,4	2410	5.20 - 5	1.63 - 6	1.88 + 3
2,5	2516	3.88 - 3	1.16 - 4	1.21 + 5
2,6	2630	1.10 - 2	3.74 - 4	3.66 + 5
2,7	2754	2.37 - 2	6.51 - 4	5.75 + 5
3,0	1956	9.55 - 3	3.54 - 4	6.19 + 5
3,1	2030	1.22 - 2	4.53 - 4	7.37 + 5
3,2	2109	3.25 - 3	1.16 - 4	1.75 + 5
3,3	2193	2.66 - 3	9.14 - 5	1.27 + 5
3,4	2283	8.84 - 3	2.93 - 4	3.76 + 5
3,5	2379	4.62 - 3	1.44 - 4	1.70 + 5
3,6	2481	6.30 - 5	1.92 - 6	2.09 + 5
3,7	2580	3.04 - 3	8.83 - 5	8.91 + 5
4,0	1878	2.98 - 3	1.20 - 4	2.28 + 5
4,1	1740	1.43 - 2	5.59 - 4	9.98 + 5
4,2	2019	2.22 - 3	8.30 - 5	1.37 + 5
4,3	2096	18.28 - 3	2.99 - 4	4.56 + 5
5,0	1803	6.76 - 4	2.84 - 5	5.86 + 4
5,1	1866	7.94 - 3	3.18 - 4	6.12 + 5
5,2	1933	1.18 - 2	4.61 - 4	8.24 + 5
5,3	2003	2.27 - 4	8.57 - 6	1.43 + 4
5,4	2078	6.72 - 3	2.45 - 4	3.80 + 5
5,5	2160	3.52 - 3	1.24 - 4	1.78 + 5
6,0	1735	1.10 - 4	4.82 - 6	1.07 + 3
6,1	1795	2.55 - 3	1.08 - 4	2.25 + 5
6,2	1855	1.16 - 2	4.72 - 4	9.19 + 5

Ref. 1 Nicholls, R.W., *Annales de Geophysique* 20, 144 (1964).

TABLE 21

The Vibrational Matrix Elements ( $M^{v''v'} \times 10^{21}$ )  
for V-R Transitions  $X^2\Pi - X^2\Pi$  in NO

$v'' \backslash v'$	1	2	3	4	5	6	7	8
0	72.619	10.138	-1.671	-0.559	-0.157	0.0	0.0	0.0
1	0.0	104.208	17.624	-3.542	-1.148	-0.360	0.0	0.0
2	0.0	0.0	129.520	24.854	-5.924	-2.057	-0.677	0.0
3	0.0	0.0	0.0	151.888	32.134	-8.848	-3.472	-1.143
4	0.0	0.0	0.0	0.0	172.710	39.550	-12.349	-5.535
5	0.0	0.0	0.0	0.0	0.0	192.602	47.124	-16.422
6	0.0	0.0	0.0	0.0	0.0	0.0	211.870	54.827
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	230.601
$v'' \backslash v'$	9	10	11	12	13	14	15	
4	-1.753	0.0	0.0	0.0	0.0	0.0	0.0	
5	-8.311	-2.455	0.0	0.0	0.0	0.0	0.0	
6	-21.008	-11.762	-3.161	0.0	0.0	0.0	0.0	
7	62.595	-26.012	-15.764	-3.755	0.0	0.0	0.0	
8	248.760	70.363	-31.321	-20.138	-4.120	0.0	0.0	
9	0.0	266.290	78.075	-36.832	-24.684	-4.152	0.0	
10	0.0	0.0	283.116	85.702	-42.454	-29.210	-3.759	
11	0.0	0.0	0.0	299.180	93.241	-48.115	-22.540	
12	0.0	0.0	0.0	0.0	314.480	100.710	-53.753	
13	0.0	0.0	0.0	0.0	0.0	329.010	108.160	
14	0.0	0.0	0.0	0.0	0.0	0.0	342.781	

Ref. 1 Churchill, D.R., B.H. Armstrong and K.G. Mueller, Absorption Coefficients of Heated Air: A Compilation to 24,000°K, LMSC 4-77-65-1, July, 1965.

TABLE 22

Franck-Condon Factors for the  $N_2$  ( $b: {}^1\Sigma_u^+ - X: {}^1\Sigma_g^+$ )  
Birge-Hopfield No. 1 System

$v'$	$v''$						
	0	1	2	3	4	5	6
0	2.1190-7	2.9921-6	2.1884-5	1.0971-4	4.2151-4	1.3171-3	3.4716-3
1	2.7849-6	3.4604-5	2.2112-4	9.5936-4	3.1524-3	8.3013-3	1.8101-2
2	1.8669-5	2.0290-4	1.1238-3	4.1742-3	1.1554-2	2.5089-2	4.3828-2
3	8.5095-5	8.0341-4	3.8204-3	1.1986-2	2.7389-2	4.7522-2	6.3144-2
4	2.9664-6	2.4137-3	9.7434-3	2.5373-2	4.6537-2	6.1416-2	5.6360-2
5	8.4338-4	8.8603-3	1.9804-2	4.1831-2	5.9053-2	5.4340-2	2.7371-2
6	2.0367-3	1.1957-2	3.3239-2	5.5152-2	5.5978-5	2.9782-2	3.0393-3
	7	8	9	10	11	12	13
0	7.9072-3	1.5831-2	2.8210-2	4.5158-2	6.5404-2	8.6174-2	1.0372-1
1	3.3321-2	5.2317-2	7.0244-2	8.0177-2	7.6375-2	5.8193-2	3.1969-2
2	6.2072-2	7.0591-2	6.2211-2	3.8661-2	1.2476-2	5.3382-5	1.5731-3
3	6.2689-2	4.2684-2	1.4943-2	1.4776-4	9.7782-3	3.3398-2	4.6879-2
4	3.1176-2	5.4214-3	2.1711-3	2.2324-2	4.0811-2	3.4640-2	1.1261-2
5	2.7340-3	5.3553-3	2.8189-2	3.8433-2	2.1321-2	1.3800-3	7.4268-3
6	5.8297-3	2.9014-2	3.4894-2	1.3957-2	1.7964-5	1.5049-2	3.2478-2
	14	15	16	17	18	19	20
0	1.1442-1	1.1595-1	1.0813-1	9.2899-2	7.3580-2	5.3735-2	3.6175-2
1	8.9762-3	2.1381-6	9.6578-3	3.3955-2	6.2614-2	8.4465-2	9.2570-2
2	3.3555-2	5.3490-2	5.3909-2	3.4531-2	1.0367-2	1.0483-5	1.2100-2
3	3.6128-2	1.2112-2	2.4528-6	1.2953-2	3.8361-2	5.1042-2	3.8781-2
4	1.1900-4	1.5406-2	3.7429-2	3.7755-2	1.5946-2	1.6971-4	1.1410-2
5	2.9736-2	3.4215-2	1.3956-2	9.4965-9	1.4218-2	3.5984-2	3.3118-2
6	2.2115-2	1.8886-3	7.0055-3	2.8850-2	2.9672-2	7.9907-3	1.4963-3
	21	22	23	24	25	26	27
0	2.2435-2	1.2804-2	6.7151-3	3.2302-3	1.4220-3	5.7133-4	2.0881-4
1	8.6338-2	7.0204-2	5.0455-2	3.2307-2	1.8514-2	9.5167-3	4.3901-3
2	4.0365-2	6.9563-2	8.6062-2	8.4950-2	7.0140-2	4.9651-2	3.0553-2
3	1.3774-2	5.5983-3	1.1550-2	4.1815-2	7.1932-2	8.5977-2	8.0219-2
4	3.7500-2	4.8499-2	3.2247-2	7.2453-3	1.2946-3	2.3401-2	5.8100-2
5	9.8604-3	6.3770-4	2.0551-2	4.4596-2	4.2193-2	1.6791-2	8.9475-5
6	2.2638-2	3.7228-2	2.1406-2	1.0002-3	1.0148-2	3.8019-2	4.5685-2

Ref. 1 Churchill, D.R. and S.A. Hagstrom, Infrared Absorption in Heated Air from Vibration-Rotation Bands of Nitric Oxide, LMSC 2-12-64-2, December, 1964.

## C. Absorption Coefficients (1000 - 24,000°K)

### 1. Spectral Absorption Coefficients

The tables of absorption coefficients of heated air were produced with the aid of the SACHA digital computer programs. Relevant theory of the molecular and atomic radiative processes which contribute to absorption in heated air as well as the averaging procedure used in constructing average absorption coefficients has been thoroughly covered in the literature (see D. R. Churchill, B. H. Armstrong, R. R. Johnston, and K. G. Müller, JQSRT 6, 371 (1966) and references cited therein).

The absorption coefficients listed have been averaged over energy intervals of 0.1 eV, with these intervals centered at the corresponding listed energy. Tables are grouped according to temperature and these groups are arranged sequentially with increasing temperature. There are 24 such groups, one for each temperature from 1,000°K to 24,000°K at 1,000°K intervals. Within each temperature block are eight tables of two pages each with a table for each density; densities are taken at integral powers of ten from ten times normal atmospheric to  $10^{-6}$  times normal. The photon-energy range covered in each table is 10.7 - 0.6 eV.

The difference in headings on the two pages of each table is a result of the large number of absorbers included in the calculation.

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 1000. DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)

PHOTON ENERGY E.V.	02 S-R CR.	02 S-R CR.	N2 S-H NO. 1	TEMPERATURE (DEGREES K)	DENSITY (GM/CC)	NO. 1 REYA	NO. 2 GAMMA	NO. 2 PHOTO-DET (IONS)	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL AIR
1	10.70	0.	1.08E-03	0.	0.	0.	0.	0.	0.	0.	0.	1.08E-03
2	10.50	0.	3.92E-09	0.	0.	0.	0.	0.	0.	0.	0.	3.92E-09
3	10.50	0.	5.09E-10	0.	0.	0.	0.	0.	0.	0.	0.	9.09E-10
4	10.50	0.	4.66E-10	0.	0.	0.	0.	0.	0.	0.	0.	4.66E-10
5	10.50	0.	1.20E-10	0.	0.	0.	0.	0.	0.	0.	0.	1.20E-10
6	10.20	0.	4.03E-11	0.	0.	0.	0.	0.	0.	0.	0.	4.03E-11
7	10.10	0.	2.33E-11	0.	0.	0.	0.	0.	0.	0.	0.	2.33E-11
8	10.00	0.	2.91E-12	0.	0.	0.	0.	0.	0.	0.	0.	2.91E-12
9	9.90	0.	2.04E-12	0.	0.	0.	0.	0.	0.	0.	0.	2.04E-12
10	9.80	0.	7.44E-13	0.	0.	0.	0.	0.	0.	0.	0.	7.44E-13
11	9.70	0.	9.89E-14	0.	0.	0.	0.	0.	0.	0.	0.	9.89E-14
12	9.60	0.	1.13E-13	0.	0.	0.	0.	0.	0.	0.	0.	1.13E-13
13	9.50	0.	3.72E 01	1.01E-14	0.	0.	0.	0.	0.	0.	0.	3.72E 01
14	9.40	0.	1.39E 02	6.32E-15	0.	0.	0.	0.	0.	0.	0.	1.39E 02
15	9.30	0.	2.39E 02	3.07E-15	0.	0.	0.	0.	0.	0.	0.	2.39E 02
16	9.20	0.	3.59E 02	1.67E-16	0.	0.	0.	0.	0.	0.	0.	3.59E 02
17	9.10	0.	4.64E 02	4.77E-17	0.	0.	0.	0.	0.	0.	0.	4.64E 02
18	9.00	0.	5.95E 02	3.43E-17	0.	0.	0.	0.	0.	0.	0.	5.95E 02
19	8.90	0.	7.26E 02	2.57E-17	0.	0.	0.	0.	0.	0.	0.	7.26E 02
20	8.80	0.	7.79E 02	6.95E-18	0.	0.	0.	0.	0.	0.	0.	7.79E 02
21	8.70	0.	7.69E 02	1.05E-18	0.	0.	0.	0.	0.	0.	0.	7.69E 02
22	8.60	0.	7.60E 02	1.21E-18	0.	0.	0.	0.	0.	0.	0.	7.60E 02
23	8.50	0.	7.35E 02	8.34E-20	0.	0.	0.	0.	0.	0.	0.	7.35E 02
24	8.40	0.	6.91E 02	1.06E-19	0.	0.	0.	0.	0.	0.	0.	6.91E 02
25	8.30	0.	6.40E 02	9.89E-21	0.	0.	0.	0.	0.	0.	0.	6.40E 02
26	8.20	0.	5.82E 02	6.51E-21	0.	0.	0.	0.	0.	0.	0.	5.82E 02
27	8.10	0.	5.21E 02	1.16E-21	0.	0.	0.	0.	0.	0.	0.	5.21E 02
28	8.00	0.	4.60E 02	4.83E-22	0.	0.	0.	0.	0.	0.	0.	4.60E 02
29	7.90	0.	3.94E 02	1.20E-22	0.	0.	0.	0.	0.	0.	0.	3.94E 02
30	7.80	0.	3.27E 02	4.74E-23	0.	0.	0.	0.	0.	0.	0.	3.27E 02
31	7.70	0.	2.69E 02	1.39E-23	0.	0.	0.	0.	0.	0.	0.	2.69E 02
32	7.60	0.	2.17E 02	3.41E-24	0.	0.	0.	0.	0.	0.	0.	2.17E 02
33	7.50	0.	1.64E 02	1.11E-24	0.	0.	0.	0.	0.	0.	0.	1.64E 02
34	7.40	0.	1.24E 02	2.47E-25	0.	0.	0.	0.	0.	0.	0.	1.24E 02
35	7.30	0.	8.95E 01	7.11E-26	0.	0.	0.	0.	0.	0.	0.	8.95E 01
36	7.20	0.	6.79E 01	1.74E-26	0.	0.	0.	0.	0.	0.	0.	6.79E 01
37	7.10	0.	4.74E 01	4.46E-27	0.	0.	0.	0.	0.	0.	0.	4.74E 01
38	7.00	0.	3.30E 00	1.21E-27	0.	0.	0.	0.	0.	0.	0.	3.30E 00
39	6.90	0.	3.30E 00	3.30E-28	0.	0.	0.	0.	0.	0.	0.	3.30E 00
40	6.80	0.	8.40E-29	8.40E-29	0.	0.	0.	0.	0.	0.	0.	8.40E-29
41	6.70	0.	2.16E-29	2.16E-29	0.	0.	0.	0.	0.	0.	0.	2.16E-29
42	6.60	0.	5.43E-30	5.43E-30	0.	0.	0.	0.	0.	0.	0.	5.43E-30
43	6.50	0.	1.21E-30	1.21E-30	0.	0.	0.	0.	0.	0.	0.	1.21E-30
44	6.40	0.	1.69E-31	1.69E-31	0.	0.	0.	0.	0.	0.	0.	1.69E-31
45	6.30	0.	2.01E-31	2.01E-31	0.	0.	0.	0.	0.	0.	0.	2.01E-31
46	6.20	0.	2.46E-34	2.46E-34	0.	0.	0.	0.	0.	0.	0.	2.46E-34
47	6.10	0.	3.03E-36	3.03E-36	0.	0.	0.	0.	0.	0.	0.	3.03E-36
48	6.00	0.	1.51E-35	1.51E-35	0.	0.	0.	0.	0.	0.	0.	1.51E-35
49	5.90	0.	9.85E-02	0.	0.	0.	0.	0.	0.	0.	0.	9.85E-02
50	5.80	0.	4.05E-02	0.	0.	0.	0.	0.	0.	0.	0.	4.05E-02
51	5.70	0.	9.50E-03	0.	0.	0.	0.	0.	0.	0.	0.	9.50E-03

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	TEMPERATURE (DEGREES K)	DENSITY (GM/CC)	1000. DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)		0-0 PHOTO-NET (IONS)	FREE-PRFE N	TOTAL AIP					
			NO	NO								
1ST POS.	2ND POS.	1ST NFG.	NO	NO	NO	P.F.						
A2	A2	RETA	GAMMA	VIB-ROT	2							
52	5.60	8.15E-03	0.	0.	6.48E-07	5.83E-05	0.	0.	0.	0.	0.	8.25E-03
53	5.90	5.01E-03	0.	0.	4.75E-06	3.74E-03	0.	0.	0.	0.	0.	8.78E-03
54	5.40	1.65E-03	0.	0.	2.69E-06	1.51E-04	0.	0.	0.	0.	0.	1.63E-03
55	5.50	8.17E-04	0.	0.	7.51E-07	2.91E-04	0.	0.	0.	0.	0.	1.08E-03
56	5.20	9.54E-05	0.	0.	4.38E-07	1.77E-04	0.	0.	0.	0.	0.	2.72E-04
57	5.10	9.14E-05	0.	0.	1.16E-07	4.60E-04	0.	0.	0.	0.	0.	5.19E-04
58	5.10	5.19E-05	0.	0.	3.65E-08	2.79E-05	0.	0.	0.	0.	0.	5.86E-04
59	4.90	3.92E-05	0.	0.	2.38E-08	1.79E-07	0.	0.	0.	0.	0.	5.13E-04
60	4.80	2.12E-05	0.	0.	3.37E-08	1.73E-07	0.	0.	0.	0.	0.	5.26E-04
61	4.70	9.60E-06	0.	0.	1.53E-08	8.39E-09	0.	0.	0.	0.	0.	5.47E-04
62	4.60	4.33E-06	0.	0.	5.09E-09	1.24E-07	0.	0.	0.	0.	0.	5.69E-04
63	4.50	1.50E-06	0.	0.	2.35E-09	4.20E-10	0.	0.	0.	0.	0.	5.94E-04
64	4.40	5.17E-07	0.	0.	6.29E-10	6.40E-09	0.	0.	0.	0.	0.	6.31E-04
65	4.30	2.04E-07	0.	0.	3.13E-10	1.46E-09	0.	0.	0.	0.	0.	6.74E-04
66	4.20	6.09E-08	0.	0.	8.63E-11	2.34E-10	0.	0.	0.	0.	0.	7.21E-04
67	4.10	3.34E-08	0.	0.	3.46E-11	2.27E-10	0.	0.	0.	0.	0.	7.79E-04
68	4.00	8.11E-09	0.	0.	1.33E-11	5.14E-12	0.	0.	0.	0.	0.	8.42E-04
69	3.90	1.82E-09	0.	0.	3.07E-12	1.53E-11	0.	0.	0.	0.	0.	9.15E-04
70	3.80	1.23E-09	0.	0.	1.91E-12	8.80E-12	0.	0.	0.	0.	0.	10.00E-04
71	3.70	2.03E-10	0.	0.	2.51E-13	0.	0.	0.	0.	0.	0.	1.10E-03
72	3.60	7.18E-11	0.	0.	2.19E-13	0.	0.	0.	0.	0.	0.	1.21E-03
73	3.50	2.87E-11	0.	0.	2.66E-14	8.80E-14	0.	0.	0.	0.	0.	1.34E-03
74	3.40	5.45E-12	0.	0.	1.96E-14	0.	0.	0.	0.	0.	0.	1.49E-03
75	3.30	1.91E-12	0.	0.	1.60E-15	0.	0.	0.	0.	0.	0.	1.65E-03
76	3.20	4.90E-13	0.	0.	1.30E-15	0.	0.	0.	0.	0.	0.	1.82E-03
77	3.10	1.12E-13	0.	0.	1.60E-16	0.	0.	0.	0.	0.	0.	2.00E-03
78	3.00	3.06E-14	0.	0.	7.92E-17	0.	0.	0.	0.	0.	0.	2.19E-03
79	2.90	6.95E-15	0.	0.	4.02E-18	0.	0.	0.	0.	0.	0.	2.39E-03
80	2.80	2.05E-15	0.	0.	1.51E-18	0.	0.	0.	0.	0.	0.	2.60E-03
81	2.70	2.50E-16	0.	0.	1.56E-20	0.	0.	0.	0.	0.	0.	2.82E-03
82	2.60	4.84E-16	0.	0.	1.49E-22	0.	0.	0.	0.	0.	0.	3.05E-03
83	2.50	4.94E-20	0.	0.	1.72E-24	0.	0.	0.	0.	0.	0.	3.29E-03
84	2.40	0.	0.	0.	1.64E-26	0.	0.	0.	0.	0.	0.	3.54E-03
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.80E-03
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.07E-03
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.35E-03
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.64E-03
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.94E-03
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.25E-03
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.57E-03
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.90E-03
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.24E-03
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.59E-03
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.95E-03
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.32E-03
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.70E-03
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.09E-03
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.49E-03
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.90E-03
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.32E-03
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.75E-03



ABSORPTION COEFFICIENTS OF HEATED AIR (IMPOSED CM.)  
 TEMPERATURE (DEGREES K) 1800. DENSITY (GM/CC) 1.293E-03 (10.0E-01 NORMAL)

PHOTON ENERGY BANDS E.V.	02 S-R CONT.	02 S-R BANDS	NO BETA	NO GAMMA	NO PHOTO-DET (IONS)	D-FREE-FREE N P.I.E.	N P.I.E.	0 P.I.E.	TOTAL AIR
1 10.70 0.	0.	1.09E-09	0.	6.	0.	0.	0.	0.	1.09E-09
2 15.60 0.	0.	3.32E-10	0.	0.	0.	0.	0.	0.	3.32E-10
3 19.30 0.	0.	9.09E-11	0.	0.	0.	0.	0.	0.	9.09E-11
4 10.40 0.	0.	4.66E-11	0.	0.	0.	0.	0.	0.	4.66E-11
5 10.30 0.	0.	1.20E-11	0.	0.	0.	0.	0.	0.	1.20E-11
6 19.20 0.	0.	4.03E-12	0.	0.	0.	0.	0.	0.	4.03E-12
7 19.10 0.	0.	2.53E-12	0.	0.	0.	0.	0.	0.	2.53E-12
8 19.00 0.	0.	2.91E-13	0.	0.	0.	0.	0.	0.	2.91E-13
9 9.90 0.	0.	2.04E-13	0.	0.	0.	0.	0.	0.	2.04E-13
10 9.80 0.	0.	7.44E-14	0.	0.	0.	0.	0.	0.	7.44E-14
11 9.70 0.	0.	9.89E-15	0.	0.	0.	0.	0.	0.	9.89E-15
12 9.50 0.	0.	1.13E-14	0.	0.	0.	0.	0.	0.	1.13E-14
13 9.50 0.	3.72E 00	1.12E-13	0.	0.	0.	0.	0.	0.	3.72E 00
14 9.45 0.	4.36E 01	6.32E-16	0.	0.	0.	0.	0.	0.	4.36E 01
15 9.35 0.	2.69E 01	3.07E-16	0.	0.	0.	0.	0.	0.	2.69E 01
16 9.25 0.	3.39E 01	1.52E-17	0.	0.	0.	0.	0.	0.	3.39E 01
17 9.10 0.	4.64E 01	4.79E-17	0.	0.	0.	0.	0.	0.	4.64E 01
18 9.00 0.	5.25E 01	3.43E-18	0.	0.	0.	0.	0.	0.	5.25E 01
19 9.90 0.	7.26E 01	2.57E-18	0.	0.	0.	0.	0.	0.	7.26E 01
20 9.90 0.	7.76E 01	6.95E-19	0.	0.	0.	0.	0.	0.	7.76E 01
21 8.70 0.	2.69E 01	1.05E-19	0.	0.	0.	0.	0.	0.	2.69E 01
22 8.60 0.	2.60E 01	1.21E-19	0.	0.	0.	0.	0.	0.	2.60E 01
23 8.50 0.	7.35E 01	8.34E-21	0.	0.	0.	0.	0.	0.	7.35E 01
24 8.40 0.	6.91E 01	7.06E-21	0.	0.	0.	0.	0.	0.	6.91E 01
25 8.30 0.	6.90E 01	6.85E-22	0.	0.	0.	0.	0.	0.	6.90E 01
26 8.20 0.	5.12E 01	6.91E-22	0.	0.	0.	0.	0.	0.	5.12E 01
27 8.10 0.	3.21E 01	1.16E-22	0.	0.	0.	0.	0.	0.	3.21E 01
28 8.00 0.	4.69E 01	4.83E-23	0.	0.	0.	0.	0.	0.	4.69E 01
29 7.90 0.	3.04E 01	1.20E-23	0.	0.	0.	0.	0.	0.	3.04E 01
30 7.80 0.	6.22E 01	4.74E-24	0.	0.	0.	0.	0.	0.	6.22E 01
31 7.70 0.	2.66E 01	1.39E-24	0.	0.	0.	0.	0.	0.	2.66E 01
32 7.60 0.	2.17E 01	3.41E-25	0.	3.54E-13	0.	0.	0.	0.	2.17E 01
33 7.50 0.	1.66E 01	1.11E-25	0.	2.49E-08	0.	0.	0.	0.	1.66E 01
34 7.40 0.	1.26E 01	2.47E-26	0.	4.87E-07	0.	0.	0.	0.	1.26E 01
35 7.30 0.	8.95E 00	7.11E-27	0.	4.24E-09	0.	0.	0.	0.	8.95E 00
36 7.20 0.	6.79E 00	1.74E-27	0.	4.99E-06	0.	0.	0.	0.	6.79E 00
37 7.10 0.	8.74E 00	4.85E-28	0.	6.82E-07	0.	0.	0.	0.	8.74E 00
38 7.00 4.06E-01 0.	1.21E-28	1.21E-28	0.	1.54E-06	0.	0.	0.	0.	1.21E-28
39 6.90 4.48E-01 0.	3.30E-29	3.30E-29	0.	3.07E-05	0.	0.	0.	0.	3.30E-29
40 6.80 2.11E-01 0.	6.40E-30	6.40E-30	0.	6.84E-08	0.	0.	0.	0.	6.40E-30
41 6.70 8.49E-02 0.	2.16E-30	2.16E-30	0.	2.21E-05	0.	0.	0.	0.	2.16E-30
42 6.60 3.64E-02 0.	5.43E-31	5.43E-31	0.	1.84E-04	0.	0.	0.	0.	5.43E-31
43 6.50 1.12E-02 0.	1.21E-31	1.21E-31	0.	5.39E-07	0.	0.	0.	0.	1.21E-31
44 6.40 1.96E-02 0.	1.69E-32	1.69E-32	1.76E-05	1.22E-04	0.	0.	0.	0.	1.69E-32
45 6.30 2.01E-02 0.	1.14E-33	1.14E-33	2.32E-05	2.34E-04	0.	0.	0.	0.	1.14E-33
46 6.20 1.74E-02 0.	2.46E-35	2.46E-35	2.13E-05	1.71E-06	0.	0.	0.	0.	2.46E-35
47 6.10 2.23E-02 0.	3.03E-37	3.03E-37	2.02E-05	5.08E-04	0.	0.	0.	0.	3.03E-37
48 6.00 1.80E-02 0.	0.	0.	5.72E-06	1.14E-04	0.	0.	0.	0.	5.72E-06
49 5.90 9.83E-03 0.	0.	0.	4.92E-06	1.35E-06	0.	0.	0.	0.	4.92E-06
50 5.80 4.03E-03 0.	0.	0.	2.94E-06	6.79E-05	0.	0.	0.	0.	2.94E-06
51 5.70 9.56E-04 0.	0.	0.	1.22E-06	7.69E-08	0.	0.	0.	0.	1.22E-06

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 1000. DENSITY (GM/CC) 1.293E-03 (10.0E-01 NORMAL)

PHOTON ENERGY BANDS	N2 1ST POS.		N2 2ND POS.		N2+ 1ST NEG.		N2+ 2ND NEG.		NO BETA	NO GAMMA	NO VIB-ROT	NO 2	D- PHOTO-DET (IONS)	FREE-FREE M P.E.	TOTAL AIR
	N2	N2	N2	N2	N2+	N2+	N2+	N2+							
52	5.60	8.15E-04	0.	0.	0.	0.	8.48E-06	9.63E-06	0.	0.	0.	0.	0.	0.	8.25E-04
53	5.50	5.01E-04	0.	0.	0.	0.	4.75E-07	3.76E-04	0.	0.	0.	0.	0.	0.	8.76E-04
54	5.40	1.63E-04	0.	0.	0.	0.	2.69E-07	1.51E-07	0.	0.	0.	0.	0.	0.	1.63E-04
55	5.30	8.17E-05	0.	0.	0.	0.	7.51E-08	2.61E-05	0.	0.	0.	0.	0.	0.	1.08E-04
56	5.20	9.54E-06	0.	0.	0.	0.	4.36E-08	1.77E-05	0.	0.	0.	0.	0.	0.	2.72E-05
57	5.10	8.14E-06	0.	0.	0.	0.	1.16E-08	4.60E-07	0.	0.	0.	0.	0.	0.	2.23E-05
58	5.00	5.19E-06	0.	0.	0.	0.	3.65E-09	2.78E-06	0.	0.	0.	0.	0.	0.	1.87E-05
59	4.90	3.92E-06	0.	0.	0.	0.	2.38E-09	1.79E-06	0.	0.	0.	0.	0.	0.	1.76E-05
60	4.80	2.12E-06	0.	0.	0.	0.	3.37E-09	1.68E-07	0.	0.	0.	0.	0.	0.	1.73E-05
61	4.70	9.58E-07	0.	0.	0.	0.	2.53E-09	8.38E-10	0.	0.	0.	0.	0.	0.	1.76E-05
62	4.60	4.33E-07	0.	0.	0.	0.	5.09E-10	1.24E-08	0.	0.	0.	0.	0.	0.	1.79E-05
63	4.50	1.50E-07	0.	0.	0.	0.	2.39E-10	4.20E-11	0.	0.	0.	0.	0.	0.	1.81E-05
64	4.40	5.17E-08	0.	0.	0.	0.	6.29E-11	6.40E-10	0.	0.	0.	0.	0.	0.	1.88E-05
65	4.30	2.04E-08	0.	0.	0.	0.	3.13E-11	1.48E-10	0.	0.	0.	0.	0.	0.	2.00E-05
66	4.20	6.09E-09	0.	0.	0.	0.	8.63E-12	2.34E-11	0.	0.	0.	0.	0.	0.	2.13E-05
67	4.10	3.34E-09	0.	0.	0.	0.	4.46E-12	2.27E-11	0.	0.	0.	0.	0.	0.	2.26E-05
68	4.00	5.11E-10	0.	0.	0.	0.	1.33E-12	5.36E-13	0.	0.	0.	0.	0.	0.	2.47E-05
69	3.90	1.82E-10	0.	0.	0.	0.	3.07E-13	1.55E-12	0.	0.	0.	0.	0.	0.	2.66E-05
70	3.80	1.27E-10	0.	0.	0.	0.	1.94E-13	0.	0.	0.	0.	0.	0.	0.	2.90E-05
71	3.70	2.03E-11	0.	0.	0.	0.	2.51E-14	0.	0.	0.	0.	0.	0.	0.	3.17E-05
72	3.60	7.18E-12	0.	0.	0.	0.	2.19E-14	0.	0.	0.	0.	0.	0.	0.	3.48E-05
73	3.50	2.87E-12	0.	0.	0.	0.	2.06E-15	0.	0.	0.	0.	0.	0.	0.	3.84E-05
74	3.40	5.45E-13	0.	0.	0.	0.	1.96E-15	0.	0.	0.	0.	0.	0.	0.	4.24E-05
75	3.30	1.93E-13	0.	0.	0.	0.	1.80E-16	0.	0.	0.	0.	0.	0.	0.	4.68E-05
76	3.20	4.90E-14	0.	0.	0.	0.	1.38E-16	0.	0.	0.	0.	0.	0.	0.	4.88E-05
77	3.10	1.12E-14	0.	0.	0.	0.	1.60E-17	0.	0.	0.	0.	0.	0.	0.	4.51E-05
78	3.00	3.06E-15	0.	0.	0.	0.	7.92E-18	0.	0.	0.	0.	0.	0.	0.	4.37E-05
79	2.90	6.95E-16	0.	0.	0.	0.	8.02E-19	0.	0.	0.	0.	0.	0.	0.	4.24E-05
80	2.80	2.05E-16	0.	0.	0.	0.	1.51E-19	0.	0.	0.	0.	0.	0.	0.	3.92E-05
81	2.70	2.50E-17	0.	0.	0.	0.	1.56E-21	0.	0.	0.	0.	0.	0.	0.	3.57E-05
82	2.60	4.84E-19	0.	0.	0.	0.	1.45E-23	0.	0.	0.	0.	0.	0.	0.	3.21E-05
83	2.50	4.94E-21	0.	0.	0.	0.	1.72E-25	0.	0.	0.	0.	0.	0.	0.	2.77E-05
84	2.40	0.	0.	0.	0.	0.	1.64E-27	0.	0.	0.	0.	0.	0.	0.	2.39E-05
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.67E-05
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.42E-05
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.04E-05
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.85E-06
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.52E-06
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.63E-06
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.47E-06
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.73E-07
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.15E-07
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.46E-10
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.21E-13
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.38E-09
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.24E-12
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.34E-09
103	0.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.06E-11

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY E.V.	02 S-R BANDS	02 S-R CNT.	N2 R-M NO. 1	TEMPERATURE (DEGREES K)	1000. DENSITY (GM/CC)	NO. RETA	NO. GAMMA	NO. 2	O- PHOTO-DET (IONS)	FREE-FREE M P.E.	O P.F.	TOTAL AIR
1	10.70	0.	1.08E-10	0.	0.	0.	0.	0.	0.	0.	0.	1.08E-10
2	10.60	0.	3.92E-11	0.	0.	0.	0.	0.	0.	0.	0.	3.92E-11
3	10.50	0.	9.09E-12	0.	0.	0.	0.	0.	0.	0.	0.	9.09E-12
4	10.40	0.	4.66E-12	0.	0.	0.	0.	0.	0.	0.	0.	4.66E-12
5	10.30	0.	1.20E-12	0.	0.	0.	0.	0.	0.	0.	0.	1.20E-12
6	10.20	0.	4.03E-13	0.	0.	0.	0.	0.	0.	0.	0.	4.03E-13
7	10.10	0.	2.33E-13	0.	0.	0.	0.	0.	0.	0.	0.	2.33E-13
8	10.00	0.	2.91E-14	0.	0.	0.	0.	0.	0.	0.	0.	2.91E-14
9	9.90	0.	2.04E-14	0.	0.	0.	0.	0.	0.	0.	0.	2.04E-14
10	9.80	0.	7.44E-15	0.	0.	0.	0.	0.	0.	0.	0.	7.44E-15
11	9.70	0.	9.89E-16	0.	0.	0.	0.	0.	0.	0.	0.	9.89E-16
12	9.60	0.	1.13E-15	0.	0.	0.	0.	0.	0.	0.	0.	1.13E-15
13	9.50	0.	3.72E-01	1.21E-14	0.	0.	0.	0.	0.	0.	0.	3.72E-01
14	9.40	0.	1.36E-00	6.34E-17	0.	0.	0.	0.	0.	0.	0.	1.36E-00
15	9.30	0.	2.38E-00	3.07E-17	0.	0.	0.	0.	0.	0.	0.	2.38E-00
16	9.20	0.	3.36E-00	1.57E-16	0.	0.	0.	0.	0.	0.	0.	3.36E-00
17	9.10	0.	4.64E-00	4.77E-16	0.	0.	0.	0.	0.	0.	0.	4.64E-00
18	9.00	0.	5.95E-00	3.43E-19	0.	0.	0.	0.	0.	0.	0.	5.95E-00
19	8.90	0.	7.24E-00	2.57E-19	0.	0.	0.	0.	0.	0.	0.	7.24E-00
20	8.80	0.	7.76E-00	6.95E-20	0.	0.	0.	0.	0.	0.	0.	7.76E-00
21	8.70	0.	7.68E-00	1.08E-20	0.	0.	0.	0.	0.	0.	0.	7.68E-00
22	8.60	0.	7.60E-00	1.21E-20	0.	0.	0.	0.	0.	0.	0.	7.60E-00
23	8.50	0.	7.35E-00	8.34E-22	0.	0.	0.	0.	0.	0.	0.	7.35E-00
24	8.40	0.	6.91E-00	1.06E-21	0.	0.	0.	0.	0.	0.	0.	6.91E-00
25	8.30	0.	6.46E-00	9.69E-23	0.	0.	0.	0.	0.	0.	0.	6.46E-00
26	8.20	0.	5.82E-00	6.51E-23	0.	0.	0.	0.	0.	0.	0.	5.82E-00
27	8.10	0.	5.21E-00	1.14E-23	0.	0.	0.	0.	0.	0.	0.	5.21E-00
28	8.00	0.	4.60E-00	4.58E-24	0.	0.	0.	0.	0.	0.	0.	4.60E-00
29	7.90	0.	3.94E-00	1.20E-24	0.	0.	0.	0.	0.	0.	0.	3.94E-00
30	7.80	0.	3.27E-00	4.74E-25	0.	0.	0.	0.	0.	0.	0.	3.27E-00
31	7.70	0.	2.68E-00	1.39E-25	0.	0.	0.	0.	0.	0.	0.	2.68E-00
32	7.60	0.	2.17E-00	3.41E-26	0.	0.	0.	0.	0.	0.	0.	2.17E-00
33	7.50	0.	1.64E-00	1.11E-26	0.	0.	0.	0.	0.	0.	0.	1.64E-00
34	7.40	0.	1.24E-00	2.47E-27	0.	0.	0.	0.	0.	0.	0.	1.24E-00
35	7.30	0.	8.94E-01	7.11E-28	0.	0.	0.	0.	0.	0.	0.	8.94E-01
36	7.20	0.	6.79E-01	1.74E-28	0.	0.	0.	0.	0.	0.	0.	6.79E-01
37	7.10	0.	4.74E-01	4.65E-29	0.	0.	0.	0.	0.	0.	0.	4.74E-01
38	7.00	0.	3.30E-01	1.21E-29	0.	0.	0.	0.	0.	0.	0.	3.30E-01
39	6.90	0.	2.49E-01	3.07E-30	0.	0.	0.	0.	0.	0.	0.	2.49E-01
40	6.80	0.	1.84E-01	8.40E-31	0.	0.	0.	0.	0.	0.	0.	1.84E-01
41	6.70	0.	1.36E-01	2.15E-31	0.	0.	0.	0.	0.	0.	0.	1.36E-01
42	6.60	0.	9.84E-02	5.43E-32	0.	0.	0.	0.	0.	0.	0.	9.84E-02
43	6.50	0.	7.21E-02	1.36E-32	0.	0.	0.	0.	0.	0.	0.	7.21E-02
44	6.40	0.	5.35E-02	3.35E-33	0.	0.	0.	0.	0.	0.	0.	5.35E-02
45	6.30	0.	3.94E-02	8.30E-34	0.	0.	0.	0.	0.	0.	0.	3.94E-02
46	6.20	0.	2.84E-02	2.02E-34	0.	0.	0.	0.	0.	0.	0.	2.84E-02
47	6.10	0.	2.02E-02	5.00E-35	0.	0.	0.	0.	0.	0.	0.	2.02E-02
48	6.00	0.	1.46E-02	1.14E-35	0.	0.	0.	0.	0.	0.	0.	1.46E-02
49	5.90	0.	1.05E-02	2.85E-36	0.	0.	0.	0.	0.	0.	0.	1.05E-02
50	5.80	0.	7.54E-03	6.79E-37	0.	0.	0.	0.	0.	0.	0.	7.54E-03
51	5.70	0.	5.45E-03	1.52E-37	0.	0.	0.	0.	0.	0.	0.	5.45E-03

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 1000. DENSITY (GM/CC) 1.293E-04 (10.0E-02 NORMAL)

PHOTON ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	N2+ 2ND NEG.	NO RETA	N.D. GAMMA	NO VIB-ROT	NO 2	Q- PHOTO-NET (ICMS)	FREE-FREE N P.I.E.	N P.I.E.	O P.I.F.	TOTAL AIR
52	5.60	8.15E-05	0.	0.	4.48E-09	9.87E-07	0.	0.	0.	0.	0.	0.	8.75E-05
53	5.50	5.01E-05	0.	0.	4.75E-08	3.74E-05	0.	0.	0.	0.	0.	0.	4.78E-05
54	5.40	1.63E-05	0.	0.	2.49E-08	1.51E-08	0.	0.	0.	0.	0.	0.	1.43E-05
55	5.30	8.17E-06	0.	0.	7.51E-09	2.61E-06	0.	0.	0.	0.	0.	0.	1.08E-05
56	5.20	9.94E-07	0.	0.	4.36E-09	1.77E-06	0.	0.	0.	0.	0.	0.	2.72E-05
57	5.10	8.14E-07	0.	0.	1.16E-09	4.66E-08	0.	4.33E-07	0.	0.	0.	0.	1.29E-05
58	5.00	5.19E-07	0.	0.	3.89E-10	2.78E-07	0.	4.50E-07	0.	0.	0.	0.	1.24E-05
59	4.90	3.92E-07	0.	0.	2.39E-10	1.79E-09	0.	4.90E-07	0.	0.	0.	0.	8.42E-07
60	4.80	2.12E-07	0.	0.	3.37E-10	1.08E-08	0.	4.90E-07	0.	0.	0.	0.	7.22E-07
61	4.70	8.60E-08	0.	0.	1.53E-10	8.39E-11	0.	5.16E-07	0.	0.	0.	0.	6.42E-07
62	4.60	4.38E-08	0.	0.	5.09E-11	1.24E-09	0.	5.42E-07	0.	0.	0.	0.	5.87E-07
63	4.50	1.50E-08	0.	0.	2.39E-11	4.28E-12	0.	5.67E-07	0.	0.	0.	0.	5.83E-07
64	4.40	5.17E-09	0.	0.	6.29E-12	6.40E-11	0.	5.94E-07	0.	0.	0.	0.	5.99E-07
65	4.30	2.04E-09	0.	0.	3.13E-12	1.48E-11	0.	6.31E-07	0.	0.	0.	0.	6.13E-07
66	4.20	6.09E-10	0.	0.	8.89E-13	2.34E-12	0.	6.74E-07	0.	0.	0.	0.	6.74E-07
67	4.10	3.34E-10	0.	0.	3.46E-13	2.27E-12	0.	7.21E-07	0.	0.	0.	0.	7.22E-07
68	4.00	8.11E-11	0.	0.	1.33E-13	5.34E-14	0.	7.79E-07	0.	0.	0.	0.	7.79E-07
69	3.90	1.82E-11	0.	0.	3.07E-14	1.53E-13	0.	8.42E-07	0.	0.	0.	0.	8.42E-07
70	3.80	1.27E-11	0.	0.	1.91E-14	0.	0.	9.18E-07	0.	0.	0.	0.	9.18E-07
71	3.70	2.03E-12	0.	0.	2.51E-15	0.	0.	1.00E-06	0.	0.	0.	0.	10.00E-07
72	3.60	7.18E-13	0.	0.	2.19E-15	0.	0.	1.10E-06	0.	0.	0.	0.	1.10E-06
73	3.50	2.67E-13	0.	0.	2.06E-16	0.	0.	1.21E-06	0.	0.	0.	0.	1.21E-06
74	3.40	5.45E-14	0.	0.	1.56E-16	0.	0.	1.34E-06	0.	0.	0.	0.	1.34E-06
75	3.30	1.93E-14	0.	0.	1.00E-17	0.	0.	1.39E-06	0.	0.	0.	0.	1.39E-06
76	3.20	4.90E-15	0.	0.	1.36E-17	0.	0.	1.42E-06	0.	0.	0.	0.	1.42E-06
77	3.10	1.12E-15	0.	0.	1.80E-18	0.	0.	1.43E-06	0.	0.	0.	0.	1.43E-06
78	3.00	3.06E-16	0.	0.	7.92E-19	0.	0.	1.38E-06	0.	0.	0.	0.	1.38E-06
79	2.90	6.95E-17	0.	0.	6.02E-20	0.	0.	1.34E-06	0.	0.	0.	0.	1.34E-06
80	2.80	2.05E-17	0.	0.	1.51E-20	0.	0.	1.24E-06	0.	0.	0.	0.	1.24E-06
81	2.70	2.50E-18	0.	0.	1.56E-22	0.	0.	1.13E-06	0.	0.	0.	0.	1.13E-06
82	2.60	4.84E-20	0.	0.	1.49E-24	0.	0.	1.01E-06	0.	0.	0.	0.	1.01E-06
83	2.50	4.94E-22	0.	0.	1.72E-26	0.	0.	8.75E-07	0.	0.	0.	0.	8.75E-07
84	2.40	0.	0.	0.	1.64E-28	0.	0.	7.56E-07	0.	0.	0.	0.	7.56E-07
85	2.30	0.	0.	0.	0.	0.	0.	5.92E-07	0.	0.	0.	0.	5.92E-07
86	2.20	0.	0.	0.	0.	0.	0.	4.49E-07	0.	0.	0.	0.	4.49E-07
87	2.10	0.	0.	0.	0.	0.	0.	3.28E-07	0.	0.	0.	0.	3.28E-07
88	2.00	0.	0.	0.	0.	0.	0.	2.17E-07	0.	0.	0.	0.	2.17E-07
89	1.90	0.	0.	0.	0.	0.	0.	1.43E-07	0.	0.	0.	0.	1.43E-07
90	1.80	0.	0.	0.	0.	0.	0.	8.32E-08	0.	0.	0.	0.	8.32E-08
91	1.70	0.	0.	0.	0.	0.	0.	4.65E-08	0.	0.	0.	0.	4.65E-08
92	1.60	0.	0.	0.	0.	0.	0.	2.44E-08	0.	0.	0.	0.	2.44E-08
93	1.50	0.	0.	0.	0.	0.	0.	9.97E-09	0.	0.	0.	0.	9.97E-09
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E.V.	O2 S-R BANDS	O2 S-R CONT.	N2 B-H NO. 1	TEMPERATURE (DEGREES K)	1000. DENSITY (GM/CC)	1.293E-05 (10.0E-03 NORMAL)	NO		D-		M		TOTAL AIR
							BETA	GAMMA	PHOTO-DET (IONS)	FREE-FRIFE P.E.	P.F.	P.F.	
1 0.70 0.		0.	1.08E-11		0.	0.	0.	0.	0.	0.	0.	0.	1.08E-11
2 10.60 0.		0.	3.92E-12		0.	0.	0.	0.	0.	0.	0.	0.	3.92E-12
3 10.50 0.		0.	9.09E-13		0.	0.	0.	0.	0.	0.	0.	0.	9.09E-13
4 10.40 0.		0.	4.66E-13		0.	0.	0.	0.	0.	0.	0.	0.	4.66E-13
5 10.30 0.		0.	1.20E-13		0.	0.	0.	0.	0.	0.	0.	0.	1.20E-13
6 10.20 0.		0.	4.03E-14		0.	0.	0.	0.	0.	0.	0.	0.	4.03E-14
7 10.10 0.		0.	2.33E-14		0.	0.	0.	0.	0.	0.	0.	0.	2.33E-14
8 10.00 0.		0.	2.91E-15		0.	0.	0.	0.	0.	0.	0.	0.	2.91E-15
9 9.90 0.		0.	2.04E-15		0.	0.	0.	0.	0.	0.	0.	0.	2.04E-15
10 9.80 0.		0.	7.44E-16		0.	0.	0.	0.	0.	0.	0.	0.	7.44E-16
11 9.70 0.		0.	9.89E-17		0.	0.	0.	0.	0.	0.	0.	0.	9.89E-17
12 9.60 0.		0.	1.13E-16		0.	0.	0.	0.	0.	0.	0.	0.	1.13E-16
13 9.50 0.		0.	1.21E-17		0.	0.	0.	0.	0.	0.	0.	0.	1.21E-17
14 9.40 0.		0.	1.36E-01	6.32E-18	0.	0.	0.	0.	0.	0.	0.	0.	1.36E-01
15 9.30 0.		0.	2.38E-01	3.07E-18	0.	0.	0.	0.	0.	0.	0.	0.	2.38E-01
16 9.20 0.		0.	3.38E-01	1.67E-19	0.	0.	0.	0.	0.	0.	0.	0.	3.38E-01
17 9.10 0.		0.	4.64E-01	4.77E-19	0.	0.	0.	0.	0.	0.	0.	0.	4.64E-01
18 9.00 0.		0.	5.95E-01	3.43E-20	0.	0.	0.	0.	0.	0.	0.	0.	5.95E-01
19 8.90 0.		0.	7.24E-01	2.57E-20	0.	0.	0.	0.	0.	0.	0.	0.	7.24E-01
20 8.80 0.		0.	7.78E-01	6.95E-21	0.	0.	0.	0.	0.	0.	0.	0.	7.78E-01
21 8.70 0.		0.	7.69E-01	1.05E-21	0.	0.	0.	0.	0.	0.	0.	0.	7.69E-01
22 8.60 0.		0.	7.60E-01	1.21E-21	0.	0.	0.	0.	0.	0.	0.	0.	7.60E-01
23 8.50 0.		0.	7.35E-01	8.34E-23	0.	0.	0.	0.	0.	0.	0.	0.	7.35E-01
24 8.40 0.		0.	6.91E-01	1.04E-22	0.	0.	0.	0.	0.	0.	0.	0.	6.91E-01
25 8.30 0.		0.	6.40E-01	9.85E-24	0.	0.	0.	0.	0.	0.	0.	0.	6.40E-01
26 8.20 0.		0.	5.67E-01	6.51E-24	0.	0.	0.	0.	0.	0.	0.	0.	5.67E-01
27 8.10 0.		0.	5.21E-01	1.16E-24	0.	0.	0.	0.	0.	0.	0.	0.	5.21E-01
28 8.00 0.		0.	4.60E-01	4.63E-25	0.	0.	0.	0.	0.	0.	0.	0.	4.60E-01
29 7.90 0.		0.	3.27E-01	4.74E-26	0.	0.	0.	0.	0.	0.	0.	0.	3.27E-01
30 7.80 0.		0.	3.94E-01	1.29E-25	0.	0.	0.	0.	0.	0.	0.	0.	3.94E-01
31 7.70 0.		0.	2.68E-01	1.39E-26	0.	0.	0.	0.	0.	0.	0.	0.	2.68E-01
32 7.60 0.		0.	2.17E-01	3.41E-27	0.	0.	0.	0.	0.	0.	0.	0.	2.17E-01
33 7.50 0.		0.	1.66E-01	1.11E-27	0.	0.	0.	0.	0.	0.	0.	0.	1.66E-01
34 7.40 0.		0.	1.26E-01	2.47E-28	0.	0.	0.	0.	0.	0.	0.	0.	1.26E-01
35 7.30 0.		0.	8.95E-02	7.11E-29	0.	0.	0.	0.	0.	0.	0.	0.	8.95E-02
36 7.20 0.		0.	6.79E-02	1.74E-29	0.	0.	0.	0.	0.	0.	0.	0.	6.79E-02
37 7.10 0.		0.	4.74E-02	4.05E-30	0.	0.	0.	0.	0.	0.	0.	0.	4.74E-02
38 7.00 0.		0.	1.21E-30		0.	0.	0.	0.	0.	0.	0.	0.	1.21E-30
39 6.90 0.		0.	3.30E-31		0.	0.	0.	0.	0.	0.	0.	0.	3.30E-31
40 6.80 0.		0.	8.40E-32		0.	0.	0.	0.	0.	0.	0.	0.	8.40E-32
41 6.70 0.		0.	2.16E-32		0.	0.	0.	0.	0.	0.	0.	0.	2.16E-32
42 6.60 0.		0.	5.43E-33		0.	0.	0.	0.	0.	0.	0.	0.	5.43E-33
43 6.50 0.		0.	1.21E-33		0.	0.	0.	0.	0.	0.	0.	0.	1.21E-33
44 6.40 0.		0.	1.69E-34		0.	0.	0.	0.	0.	0.	0.	0.	1.69E-34
45 6.30 0.		0.	1.14E-35		0.	0.	0.	0.	0.	0.	0.	0.	1.14E-35
46 6.20 0.		0.	2.46E-37		0.	0.	0.	0.	0.	0.	0.	0.	2.46E-37
47 6.10 0.		0.	3.03E-39		0.	0.	0.	0.	0.	0.	0.	0.	3.03E-39
48 6.00 0.		0.	1.80E-04		0.	0.	0.	0.	0.	0.	0.	0.	1.80E-04
49 5.90 0.		0.	9.83E-05		0.	0.	0.	0.	0.	0.	0.	0.	9.83E-05
50 5.80 0.		0.	4.05E-05		0.	0.	0.	0.	0.	0.	0.	0.	4.05E-05
51 5.70 0.		0.	9.56E-06		0.	0.	0.	0.	0.	0.	0.	0.	9.56E-06

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 1000. DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)

PHOTON Q2 S-R ENERGY RANGS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	NO GAMMA	NO VIB-ROT	NO 2	O- PHOTO-DET (IONS)	FREE-FREE P.E.	M P.F.	O P.F.	TOTAL AIR
52	5.63	8.15E-06	0.	0.	8.48E-10	9.83E-08	0.	0.	0.	0.	0.	8.25E-06
53	5.50	5.01E-06	0.	0.	4.75E-09	3.74E-06	0.	0.	0.	0.	0.	8.78E-06
54	5.40	1.63E-06	0.	0.	2.69E-09	1.51E-09	0.	0.	0.	0.	0.	1.63E-06
55	5.30	8.17E-07	0.	0.	7.51E-10	2.81E-07	0.	0.	0.	0.	0.	1.08E-06
56	5.20	9.54E-08	0.	0.	4.36E-10	1.77E-07	0.	0.	0.	0.	0.	2.72E-07
57	5.10	8.14E-08	0.	0.	1.16E-10	4.80E-09	0.	0.	0.	0.	0.	9.98E-08
58	5.00	5.19E-08	0.	0.	3.95E-11	2.78E-08	0.	0.	0.	0.	0.	9.41E-08
59	4.90	3.92E-08	0.	0.	2.38E-11	1.74E-10	0.	0.	0.	0.	0.	5.42E-08
60	4.80	2.12E-08	0.	0.	3.17E-11	1.84E-09	0.	0.	0.	0.	0.	3.87E-08
61	4.70	9.60E-09	0.	0.	1.53E-11	6.34E-12	0.	0.	0.	0.	0.	2.61E-08
62	4.60	4.33E-09	0.	0.	5.09E-12	1.24E-10	0.	0.	0.	0.	0.	2.16E-08
63	4.50	1.50E-09	0.	0.	2.59E-12	4.90E-13	0.	0.	0.	0.	0.	1.95E-08
64	4.40	5.17E-10	0.	0.	6.28E-13	6.48E-12	0.	0.	0.	0.	0.	1.82E-08
65	4.30	2.04E-10	0.	0.	3.58E-13	1.47E-12	0.	0.	0.	0.	0.	2.02E-08
66	4.20	6.09E-11	0.	0.	6.93E-14	2.34E-13	0.	0.	0.	0.	0.	2.14E-08
67	4.10	3.34E-11	0.	0.	3.46E-14	2.27E-13	0.	0.	0.	0.	0.	2.79E-08
68	4.00	8.11E-12	0.	0.	1.33E-14	5.36E-15	0.	0.	0.	0.	0.	2.47E-08
69	3.90	1.82E-12	0.	0.	3.72E-15	1.53E-14	0.	0.	0.	0.	0.	2.64E-08
70	3.80	1.27E-12	0.	0.	1.15E-15	0.	0.	0.	0.	0.	0.	2.98E-08
71	3.70	2.83E-13	0.	0.	2.51E-16	0.	0.	0.	0.	0.	0.	3.17E-08
72	3.60	7.18E-14	0.	0.	2.19E-16	0.	0.	0.	0.	0.	0.	3.48E-08
73	3.50	2.67E-14	0.	0.	2.06E-17	0.	0.	0.	0.	0.	0.	3.84E-08
74	3.40	5.45E-15	0.	0.	1.98E-17	0.	0.	0.	0.	0.	0.	4.24E-08
75	3.30	1.93E-15	0.	0.	1.90E-18	0.	0.	0.	0.	0.	0.	4.49E-08
76	3.20	4.90E-16	0.	0.	1.80E-18	0.	0.	0.	0.	0.	0.	4.49E-08
77	3.10	1.12E-16	0.	0.	1.60E-19	0.	0.	0.	0.	0.	0.	4.51E-08
78	3.00	3.06E-17	0.	0.	7.92E-20	0.	0.	0.	0.	0.	0.	4.37E-08
79	2.90	6.95E-18	0.	0.	6.02E-21	0.	0.	0.	0.	0.	0.	4.24E-08
80	2.80	2.05E-18	0.	0.	1.51E-21	0.	0.	0.	0.	0.	0.	3.92E-08
81	2.70	2.50E-19	0.	0.	1.56E-23	0.	0.	0.	0.	0.	0.	3.57E-08
82	2.60	4.84E-21	0.	0.	1.45E-25	0.	0.	0.	0.	0.	0.	3.21E-08
83	2.50	4.94E-23	0.	0.	1.22E-27	0.	0.	0.	0.	0.	0.	2.72E-08
84	2.40	0.	0.	0.	1.84E-29	0.	0.	0.	0.	0.	0.	2.39E-08
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.87E-08
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.42E-08
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.04E-08
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.85E-09
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.52E-09
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.63E-09
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.47E-09
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.73E-10
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.16E-10
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.46E-12
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.21E-15
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.38E-11
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.24E-14
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.34E-11
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.08E-13

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON Q2 S-R ENERGY BANDS E.V.	D2 S-R COMT.	N2 S-R NO. 1	TEMPERATURE (DEGREES K)	1000. DENSITY (GM/CC)	NO. 2		NO. 0	FREE-FREE (IONS)	N	TOTAL AIR
					BETA	GAMMA				
1 10.70 0.	0.	1.08E-12	1000.	1.2932E-06	0.	0.	0.	0.	0.	1.08E-12
2 10.60 0.	0.	3.92E-13	1000.	1.2932E-06	0.	0.	0.	0.	0.	3.92E-13
3 10.50 0.	0.	9.09E-14	1000.	1.2932E-06	0.	0.	0.	0.	0.	9.09E-14
4 10.40 0.	0.	4.66E-14	1000.	1.2932E-06	0.	0.	0.	0.	0.	4.66E-14
5 10.30 0.	0.	1.20E-14	1000.	1.2932E-06	0.	0.	0.	0.	0.	1.20E-14
6 10.20 0.	0.	4.03E-15	1000.	1.2932E-06	0.	0.	0.	0.	0.	4.03E-15
7 10.10 0.	0.	2.33E-15	1000.	1.2932E-06	0.	0.	0.	0.	0.	2.33E-15
8 10.00 0.	0.	2.91E-16	1000.	1.2932E-06	0.	0.	0.	0.	0.	2.91E-16
9 9.90 0.	0.	2.94E-16	1000.	1.2932E-06	0.	0.	0.	0.	0.	2.94E-16
10 9.80 0.	0.	7.44E-17	1000.	1.2932E-06	0.	0.	0.	0.	0.	7.44E-17
11 9.70 0.	0.	9.89E-18	1000.	1.2932E-06	0.	0.	0.	0.	0.	9.89E-18
12 9.60 0.	0.	1.13E-17	1000.	1.2932E-06	0.	0.	0.	0.	0.	1.13E-17
13 9.50 0.	3.72E-03	1.21E-18	1000.	1.2932E-06	0.	0.	0.	0.	0.	3.72E-03
14 9.40 0.	1.34E-02	6.32E-19	1000.	1.2932E-06	0.	0.	0.	0.	0.	1.34E-02
15 9.30 0.	2.34E-02	3.07E-19	1000.	1.2932E-06	0.	0.	0.	0.	0.	2.34E-02
16 9.20 0.	3.38E-02	1.67E-20	1000.	1.2932E-06	0.	0.	0.	0.	0.	3.38E-02
17 9.10 0.	4.64E-02	4.77E-20	1000.	1.2932E-06	0.	0.	0.	0.	0.	4.64E-02
18 9.00 0.	5.95E-02	3.43E-21	1000.	1.2932E-06	0.	0.	0.	0.	0.	5.95E-02
19 8.90 0.	7.26E-02	2.57E-21	1000.	1.2932E-06	0.	0.	0.	0.	0.	7.26E-02
20 8.80 0.	7.78E-02	6.95E-22	1000.	1.2932E-06	0.	0.	0.	0.	0.	7.78E-02
21 8.70 0.	7.69E-02	1.05E-22	1000.	1.2932E-06	0.	0.	0.	0.	0.	7.69E-02
22 8.60 0.	7.60E-02	1.21E-22	1000.	1.2932E-06	0.	0.	0.	0.	0.	7.60E-02
23 8.50 0.	7.55E-02	8.34E-24	1000.	1.2932E-06	0.	0.	0.	0.	0.	7.55E-02
24 8.40 0.	6.91E-02	1.88E-23	1000.	1.2932E-06	0.	0.	0.	0.	0.	6.91E-02
25 8.30 0.	6.40E-02	9.05E-25	1000.	1.2932E-06	0.	0.	0.	0.	0.	6.40E-02
26 8.20 0.	5.82E-02	6.51E-25	1000.	1.2932E-06	0.	0.	0.	0.	0.	5.82E-02
27 8.10 0.	5.21E-02	1.16E-25	1000.	1.2932E-06	0.	0.	0.	0.	0.	5.21E-02
28 8.00 0.	4.60E-02	4.83E-26	1000.	1.2932E-06	0.	0.	0.	0.	0.	4.60E-02
29 7.90 0.	3.94E-02	1.20E-26	1000.	1.2932E-06	0.	0.	0.	0.	0.	3.94E-02
30 7.80 0.	3.27E-02	4.74E-27	1000.	1.2932E-06	0.	0.	0.	0.	0.	3.27E-02
31 7.70 0.	2.66E-02	1.39E-27	1000.	1.2932E-06	0.	0.	0.	0.	0.	2.66E-02
32 7.60 0.	2.17E-02	3.41E-28	1000.	1.2932E-06	0.	0.	0.	0.	0.	2.17E-02
33 7.50 0.	1.66E-02	1.11E-28	1000.	1.2932E-06	0.	0.	0.	0.	0.	1.66E-02
34 7.40 0.	1.24E-02	2.47E-29	1000.	1.2932E-06	0.	0.	0.	0.	0.	1.24E-02
35 7.30 0.	8.95E-03	7.11E-30	1000.	1.2932E-06	0.	0.	0.	0.	0.	8.95E-03
36 7.20 0.	6.79E-03	1.74E-30	1000.	1.2932E-06	0.	0.	0.	0.	0.	6.79E-03
37 7.10 0.	4.74E-03	4.85E-31	1000.	1.2932E-06	0.	0.	0.	0.	0.	4.74E-03
38 7.00 0.	3.00E-04	1.21E-31	1000.	1.2932E-06	0.	0.	0.	0.	0.	3.00E-04
39 6.90 0.	4.40E-04	3.30E-32	1000.	1.2932E-06	0.	0.	0.	0.	0.	4.40E-04
40 6.80 0.	2.11E-04	6.40E-33	1000.	1.2932E-06	0.	0.	0.	0.	0.	2.11E-04
41 6.70 0.	8.49E-05	2.16E-33	1000.	1.2932E-06	0.	0.	0.	0.	0.	8.49E-05
42 6.60 0.	3.68E-05	5.43E-34	1000.	1.2932E-06	0.	0.	0.	0.	0.	3.68E-05
43 6.50 0.	1.12E-05	1.21E-34	1000.	1.2932E-06	0.	0.	0.	0.	0.	1.12E-05
44 6.40 0.	1.96E-05	1.69E-35	1000.	1.2932E-06	0.	0.	0.	0.	0.	1.96E-05
45 6.30 0.	2.01E-05	1.14E-35	1000.	1.2932E-06	0.	0.	0.	0.	0.	2.01E-05
46 6.20 0.	1.74E-05	2.46E-36	1000.	1.2932E-06	0.	0.	0.	0.	0.	1.74E-05
47 6.10 0.	2.23E-05	0.	1000.	1.2932E-06	0.	0.	0.	0.	0.	2.23E-05
48 6.00 0.	1.80E-05	0.	1000.	1.2932E-06	0.	0.	0.	0.	0.	1.80E-05
49 5.90 0.	9.83E-06	0.	1000.	1.2932E-06	0.	0.	0.	0.	0.	9.83E-06
50 5.80 0.	4.05E-06	0.	1000.	1.2932E-06	0.	0.	0.	0.	0.	4.05E-06
51 5.70 0.	9.56E-07	0.	1000.	1.2932E-06	0.	0.	0.	0.	0.	9.56E-07

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 1800. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	M2 2ND NEG.	BETA	NO GAMMA	NO VIB-RDT	NO 2	0- PHOTO-DET (IONS)	N FREE-FREE	N P.E.	0 TOTAL AIR
52	5.60	6.15E-07	0.	0.	8.48E-11	9.83E-09	0.	0.	0.	0.	0.	6.25E-07
53	5.50	5.07E-07	0.	0.	4.75E-10	3.74E-07	0.	0.	0.	0.	0.	6.78E-07
54	5.40	4.65E-07	0.	0.	2.69E-10	1.51E-10	0.	0.	0.	0.	0.	1.63E-07
55	5.30	8.17E-08	0.	0.	7.51E-11	2.61E-08	0.	0.	0.	0.	0.	1.08E-07
56	5.20	9.54E-09	0.	0.	4.36E-11	1.77E-08	0.	0.	0.	0.	0.	2.72E-08
57	5.10	6.14E-09	0.	0.	1.16E-11	4.60E-10	0.	0.	0.	0.	0.	9.05E-09
58	5.00	5.19E-09	0.	0.	4.90E-12	2.74E-09	0.	0.	0.	0.	0.	8.43E-09
59	4.90	3.92E-09	0.	0.	2.38E-12	1.79E-11	0.	0.	0.	0.	0.	4.41E-09
60	4.80	2.82E-09	0.	0.	3.37E-12	1.88E-10	0.	0.	0.	0.	0.	2.80E-09
61	4.70	9.60E-10	0.	0.	1.53E-12	8.34E-13	0.	0.	0.	0.	0.	1.48E-09
62	4.60	4.35E-10	0.	0.	2.09E-13	1.24E-11	0.	0.	0.	0.	0.	7.88E-10
63	4.50	1.50E-10	0.	0.	2.35E-13	4.20E-14	0.	0.	0.	0.	0.	7.18E-10
64	4.40	5.17E-11	0.	0.	8.29E-14	6.40E-13	0.	0.	0.	0.	0.	6.48E-10
65	4.30	2.04E-11	0.	0.	3.13E-14	1.44E-13	0.	0.	0.	0.	0.	6.51E-10
66	4.20	6.09E-12	0.	0.	8.63E-15	2.34E-14	0.	0.	0.	0.	0.	6.55E-10
67	4.10	3.34E-12	0.	0.	3.46E-15	2.27E-14	0.	0.	0.	0.	0.	7.25E-10
68	4.00	8.11E-13	0.	0.	1.33E-15	5.34E-16	0.	0.	0.	0.	0.	7.40E-10
69	3.90	1.82E-13	0.	0.	3.07E-16	1.93E-15	0.	0.	0.	0.	0.	6.42E-10
70	3.80	1.27E-13	0.	0.	1.91E-16	0.	0.	0.	0.	0.	0.	9.18E-10
71	3.70	2.03E-14	0.	0.	2.51E-17	0.	0.	0.	0.	0.	0.	10.00E-10
72	3.60	7.18E-15	0.	0.	2.19E-17	0.	0.	0.	0.	0.	0.	1.10E-09
73	3.50	2.87E-15	0.	0.	2.06E-18	0.	0.	0.	0.	0.	0.	1.21E-09
74	3.40	5.49E-16	0.	0.	1.96E-18	0.	0.	0.	0.	0.	0.	1.34E-09
75	3.30	1.93E-16	0.	0.	1.80E-19	0.	0.	0.	0.	0.	0.	1.39E-09
76	3.20	4.98E-17	0.	0.	1.38E-19	0.	0.	0.	0.	0.	0.	1.42E-09
77	3.10	1.12E-17	0.	0.	1.40E-20	0.	0.	0.	0.	0.	0.	1.43E-09
78	3.00	3.06E-18	0.	0.	7.92E-21	0.	0.	0.	0.	0.	0.	1.38E-09
79	2.90	6.95E-19	0.	0.	8.02E-22	0.	0.	0.	0.	0.	0.	1.34E-09
80	2.80	2.05E-19	0.	0.	1.51E-22	0.	0.	0.	0.	0.	0.	1.24E-09
81	2.70	2.50E-20	0.	0.	1.56E-24	0.	0.	0.	0.	0.	0.	1.13E-09
82	2.60	4.84E-22	0.	0.	1.45E-26	0.	0.	0.	0.	0.	0.	1.01E-09
83	2.50	4.94E-24	0.	0.	1.72E-28	0.	0.	0.	0.	0.	0.	8.75E-10
84	2.40	0.	0.	0.	1.54E-30	0.	0.	0.	0.	0.	0.	7.56E-10
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.92E-10
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.49E-10
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.28E-10
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.17E-10
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.43E-10
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.32E-11
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.65E-11
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.84E-11
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.97E-12
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.46E-13
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.21E-14
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.18E-12
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.24E-15
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.34E-12
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.06E-14



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CH.)

TEMPERATURE (DEGREES K) 1000. DENSITY (GM/CC) 1.293E-07 (18.0E-85 NORMAL)

PHOTON ENERGY E.V.	02 S-R HANDS	02 S-R CONT.	NO. 1 NO. 1	NO. BETA	NO. GAMMA	NO. 2	0- PHOTO-DET	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL AIR
1	10.75	0.	1.00E-13	0.	0.	0.	0.	0.	0.	0.	1.00E-13
2	10.68	0.	3.92E-14	0.	0.	0.	0.	0.	0.	0.	3.92E-14
3	10.50	0.	9.99E-15	0.	0.	0.	0.	0.	0.	0.	9.99E-15
4	10.43	0.	4.66E-15	0.	0.	0.	0.	0.	0.	0.	4.66E-15
5	10.30	0.	1.20E-15	0.	0.	0.	0.	0.	0.	0.	1.20E-15
6	10.23	0.	4.03E-16	0.	0.	0.	0.	0.	0.	0.	4.03E-16
7	10.10	0.	2.33E-16	0.	0.	0.	0.	0.	0.	0.	2.33E-16
8	10.00	0.	2.91E-17	0.	0.	0.	0.	0.	0.	0.	2.91E-17
9	9.90	0.	2.04E-17	0.	0.	0.	0.	0.	0.	0.	2.04E-17
10	9.86	0.	7.94E-18	0.	0.	0.	0.	0.	0.	0.	7.94E-18
11	9.70	0.	9.99E-19	0.	0.	0.	0.	0.	0.	0.	9.99E-19
12	9.50	0.	1.13E-18	0.	0.	0.	0.	0.	0.	0.	1.13E-18
13	9.50	0.	3.72E-04	0.	0.	0.	0.	0.	0.	0.	3.72E-04
14	9.50	0.	1.38E-03	0.	0.	0.	0.	0.	0.	0.	1.38E-03
15	9.50	0.	2.38E-03	0.	0.	0.	0.	0.	0.	0.	2.38E-03
16	9.50	0.	3.38E-03	0.	0.	0.	0.	0.	0.	0.	3.38E-03
17	9.10	0.	4.64E-03	0.	0.	0.	0.	0.	0.	0.	4.64E-03
18	9.10	0.	5.95E-03	0.	0.	0.	0.	0.	0.	0.	5.95E-03
19	8.90	0.	7.26E-03	0.	0.	0.	0.	0.	0.	0.	7.26E-03
20	8.80	0.	7.78E-03	0.	0.	0.	0.	0.	0.	0.	7.78E-03
21	8.70	0.	7.69E-03	0.	0.	0.	0.	0.	0.	0.	7.69E-03
22	8.60	0.	7.60E-03	0.	0.	0.	0.	0.	0.	0.	7.60E-03
23	8.50	0.	7.55E-03	0.	0.	0.	0.	0.	0.	0.	7.55E-03
24	8.40	0.	6.91E-03	0.	0.	0.	0.	0.	0.	0.	6.91E-03
25	8.30	0.	6.40E-03	0.	0.	0.	0.	0.	0.	0.	6.40E-03
26	8.20	0.	5.82E-03	0.	0.	0.	0.	0.	0.	0.	5.82E-03
27	8.10	0.	5.21E-03	0.	0.	0.	0.	0.	0.	0.	5.21E-03
28	8.00	0.	4.60E-03	0.	0.	0.	0.	0.	0.	0.	4.60E-03
29	7.90	0.	3.94E-02	0.	0.	0.	0.	0.	0.	0.	3.94E-02
30	7.80	0.	3.27E-03	0.	0.	0.	0.	0.	0.	0.	3.27E-03
31	7.70	0.	2.66E-03	0.	0.	0.	0.	0.	0.	0.	2.66E-03
32	7.60	0.	2.17E-03	0.	0.	0.	0.	0.	0.	0.	2.17E-03
33	7.50	0.	1.66E-03	0.	0.	0.	0.	0.	0.	0.	1.66E-03
34	7.40	0.	1.26E-03	0.	0.	0.	0.	0.	0.	0.	1.26E-03
35	7.30	0.	8.95E-04	0.	0.	0.	0.	0.	0.	0.	8.95E-04
36	7.20	0.	6.79E-04	0.	0.	0.	0.	0.	0.	0.	6.79E-04
37	7.10	0.	4.74E-04	0.	0.	0.	0.	0.	0.	0.	4.74E-04
38	7.00	4.06E-05	1.51E-32	0.	3.54E-17	0.	0.	0.	0.	0.	4.06E-05
39	6.90	4.40E-05	3.30E-33	0.	2.49E-12	0.	0.	0.	0.	0.	4.40E-05
40	6.80	2.11E-05	6.40E-34	0.	4.63E-11	0.	0.	0.	0.	0.	2.11E-05
41	6.70	8.49E-06	2.16E-34	0.	4.24E-13	0.	0.	0.	0.	0.	8.49E-06
42	6.60	3.68E-06	5.43E-35	0.	4.99E-10	0.	0.	0.	0.	0.	3.68E-06
43	6.50	1.12E-06	1.21E-35	0.	6.42E-11	0.	0.	0.	0.	0.	1.12E-06
44	6.40	1.96E-06	1.69E-36	1.76E-09	1.58E-10	0.	0.	0.	0.	0.	1.96E-06
45	6.30	2.01E-06	1.14E-37	2.32E-09	3.07E-09	0.	0.	0.	0.	0.	2.01E-06
46	6.20	1.74E-06	0.	2.13E-09	6.64E-12	0.	0.	0.	0.	0.	1.74E-06
47	6.10	2.23E-06	0.	2.02E-09	2.21E-09	0.	0.	0.	0.	0.	2.23E-06
48	6.00	1.80E-06	0.	5.72E-10	1.04E-08	0.	0.	0.	0.	0.	1.80E-06
49	5.90	9.83E-07	0.	4.82E-10	3.35E-10	0.	0.	0.	0.	0.	9.83E-07
50	5.80	4.05E-07	0.	2.94E-10	8.79E-09	0.	0.	0.	0.	0.	4.05E-07
51	5.70	9.54E-08	0.	1.22E-10	7.69E-12	0.	0.	0.	0.	0.	9.54E-08



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E.V.	02 S-R RAYS	02 S-R CONT.	TEMPERATURE (DEGREES K)	1000.	DENSITY (GM/CC)	NO. 2		O-FREE-FREE		TOTAL AIR	
						NO. 1	NO. 2	PHOTO-DEY (IONS)	N P.E.	O P.F.	P.F.
1 10.70 0.	0.	0.	1.08E-14	0.	0.	0.	0.	0.	0.	0.	1.08E-14
2 10.60 0.	0.	0.	3.92E-15	0.	0.	0.	0.	0.	0.	0.	3.92E-15
3 10.50 0.	0.	0.	9.09E-16	0.	0.	0.	0.	0.	0.	0.	9.09E-16
4 10.40 0.	0.	0.	4.66E-16	0.	0.	0.	0.	0.	0.	0.	4.66E-16
5 10.30 0.	0.	0.	1.20E-16	0.	0.	0.	0.	0.	0.	0.	1.20E-16
6 10.20 0.	0.	0.	4.03E-17	0.	0.	0.	0.	0.	0.	0.	4.03E-17
7 10.10 0.	0.	0.	2.33E-17	0.	0.	0.	0.	0.	0.	0.	2.33E-17
8 10.00 0.	0.	0.	7.91E-18	0.	0.	0.	0.	0.	0.	0.	7.91E-18
9 9.90 0.	0.	0.	2.04E-18	0.	0.	0.	0.	0.	0.	0.	2.04E-18
10 9.80 0.	0.	0.	7.44E-19	0.	0.	0.	0.	0.	0.	0.	7.44E-19
11 9.70 0.	0.	0.	9.89E-20	0.	0.	0.	0.	0.	0.	0.	9.89E-20
12 9.60 0.	0.	0.	1.35E-19	0.	0.	0.	0.	0.	0.	0.	1.35E-19
13 9.50 0.	0.	0.	1.21E-20	0.	0.	0.	0.	0.	0.	0.	1.21E-20
14 9.40 0.	0.	0.	3.77E-05	0.	0.	0.	0.	0.	0.	0.	3.77E-05
15 9.30 0.	0.	0.	1.37E-04	0.	0.	0.	0.	0.	0.	0.	1.37E-04
16 9.20 0.	0.	0.	2.39E-04	0.	0.	0.	0.	0.	0.	0.	2.39E-04
17 9.10 0.	0.	0.	3.39E-04	0.	0.	0.	0.	0.	0.	0.	3.39E-04
18 9.00 0.	0.	0.	4.64E-04	0.	0.	0.	0.	0.	0.	0.	4.64E-04
19 8.90 0.	0.	0.	5.95E-04	0.	0.	0.	0.	0.	0.	0.	5.95E-04
20 8.80 0.	0.	0.	7.26E-04	0.	0.	0.	0.	0.	0.	0.	7.26E-04
21 8.70 0.	0.	0.	7.79E-04	0.	0.	0.	0.	0.	0.	0.	7.79E-04
22 8.60 0.	0.	0.	7.69E-04	0.	0.	0.	0.	0.	0.	0.	7.69E-04
23 8.50 0.	0.	0.	7.69E-04	0.	0.	0.	0.	0.	0.	0.	7.69E-04
24 8.40 0.	0.	0.	7.35E-04	0.	0.	0.	0.	0.	0.	0.	7.35E-04
25 8.30 0.	0.	0.	6.91E-04	0.	0.	0.	0.	0.	0.	0.	6.91E-04
26 8.20 0.	0.	0.	6.40E-04	0.	0.	0.	0.	0.	0.	0.	6.40E-04
27 8.10 0.	0.	0.	5.82E-04	0.	0.	0.	0.	0.	0.	0.	5.82E-04
28 8.00 0.	0.	0.	5.21E-04	0.	0.	0.	0.	0.	0.	0.	5.21E-04
29 7.90 0.	0.	0.	4.60E-04	0.	0.	0.	0.	0.	0.	0.	4.60E-04
30 7.80 0.	0.	0.	3.94E-04	0.	0.	0.	0.	0.	0.	0.	3.94E-04
31 7.70 0.	0.	0.	3.27E-04	0.	0.	0.	0.	0.	0.	0.	3.27E-04
32 7.60 0.	0.	0.	2.68E-04	0.	0.	0.	0.	0.	0.	0.	2.68E-04
33 7.50 0.	0.	0.	2.17E-04	0.	0.	0.	0.	0.	0.	0.	2.17E-04
34 7.40 0.	0.	0.	1.66E-04	0.	0.	0.	0.	0.	0.	0.	1.66E-04
35 7.30 0.	0.	0.	1.26E-04	0.	0.	0.	0.	0.	0.	0.	1.26E-04
36 7.20 0.	0.	0.	8.95E-05	0.	0.	0.	0.	0.	0.	0.	8.95E-05
37 7.10 0.	0.	0.	6.79E-05	0.	0.	0.	0.	0.	0.	0.	6.79E-05
38 7.00 0.	0.	0.	4.74E-05	0.	0.	0.	0.	0.	0.	0.	4.74E-05
39 6.90 0.	0.	0.	1.21E-13	0.	0.	0.	0.	0.	0.	0.	1.21E-13
40 6.80 0.	0.	0.	3.37E-11	0.	0.	0.	0.	0.	0.	0.	3.37E-11
41 6.70 0.	0.	0.	3.07E-11	0.	0.	0.	0.	0.	0.	0.	3.07E-11
42 6.60 0.	0.	0.	6.84E-13	0.	0.	0.	0.	0.	0.	0.	6.84E-13
43 6.50 0.	0.	0.	2.21E-10	0.	0.	0.	0.	0.	0.	0.	2.21E-10
44 6.40 0.	0.	0.	1.04E-09	0.	0.	0.	0.	0.	0.	0.	1.04E-09
45 6.30 0.	0.	0.	5.39E-12	0.	0.	0.	0.	0.	0.	0.	5.39E-12
46 6.20 0.	0.	0.	1.76E-10	0.	0.	0.	0.	0.	0.	0.	1.76E-10
47 6.10 0.	0.	0.	2.32E-10	0.	0.	0.	0.	0.	0.	0.	2.32E-10
48 6.00 0.	0.	0.	2.13E-10	0.	0.	0.	0.	0.	0.	0.	2.13E-10
49 5.90 0.	0.	0.	2.02E-10	0.	0.	0.	0.	0.	0.	0.	2.02E-10
50 5.80 0.	0.	0.	5.72E-11	0.	0.	0.	0.	0.	0.	0.	5.72E-11
51 5.70 0.	0.	0.	4.82E-11	0.	0.	0.	0.	0.	0.	0.	4.82E-11
52 5.60 0.	0.	0.	2.94E-11	0.	0.	0.	0.	0.	0.	0.	2.94E-11
53 5.50 0.	0.	0.	1.22E-11	0.	0.	0.	0.	0.	0.	0.	1.22E-11
54 5.40 0.	0.	0.	7.69E-13	0.	0.	0.	0.	0.	0.	0.	7.69E-13

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 1000. DENSITY (GM/CC) 1.293E-08 (10.0E-06 NORMAL)

PHOTON OZ S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2 1ST NEG.	N2 2ND NEG.	BETA	AD GAMMA	MO VIB-ROT	NO 2	D- PHOTO-DET	N P.E.	0	TOTAL AIR
52	5.60	6.15E-09	0.	0.	8.48E-13	9.83E-11	0.	0.	0.	0.	0.	8.25E-09
53	5.50	5.01E-09	0.	0.	4.75E-12	3.76E-09	0.	0.	0.	0.	0.	8.78E-09
54	5.40	1.63E-09	0.	0.	7.51E-13	2.61E-10	0.	0.	0.	0.	0.	1.63E-09
55	5.30	6.17E-10	0.	0.	4.36E-13	1.77E-10	0.	0.	0.	0.	0.	1.08E-09
56	5.20	9.94E-11	0.	0.	1.16E-13	4.66E-12	0.	0.	0.	0.	0.	2.72E-10
57	5.10	8.14E-11	0.	0.	3.85E-14	2.79E-11	0.	0.	0.	0.	0.	8.46E-11
58	5.00	5.19E-11	0.	0.	2.39E-14	1.79E-13	0.	0.	0.	0.	0.	8.13E-11
59	4.90	3.92E-11	0.	0.	3.32E-14	1.89E-12	0.	0.	0.	0.	0.	3.69E-11
60	4.80	2.12E-11	0.	0.	1.53E-14	8.39E-13	0.	0.	0.	0.	0.	2.96E-11
61	4.70	9.60E-12	0.	0.	9.09E-15	1.24E-13	0.	0.	0.	0.	0.	1.71E-11
62	4.60	4.33E-12	0.	0.	2.39E-15	4.20E-16	0.	0.	0.	0.	0.	5.70E-12
63	4.50	1.50E-12	0.	0.	6.29E-16	6.46E-15	0.	0.	0.	0.	0.	2.75E-12
64	4.40	5.17E-13	0.	0.	3.13E-16	1.46E-15	0.	0.	0.	0.	0.	1.72E-12
65	4.30	2.04E-13	0.	0.	6.43E-17	2.34E-16	0.	0.	0.	0.	0.	8.16E-13
66	4.20	6.09E-14	0.	0.	3.48E-17	2.27E-16	0.	0.	0.	0.	0.	7.15E-13
67	4.10	3.74E-14	0.	0.	1.33E-17	5.36E-16	0.	0.	0.	0.	0.	7.55E-13
68	4.00	8.11E-15	0.	0.	3.07E-18	1.53E-17	0.	0.	0.	0.	0.	2.88E-13
69	3.90	1.27E-15	0.	0.	1.91E-18	0.	0.	0.	0.	0.	0.	8.44E-13
70	3.80	1.27E-15	0.	0.	2.51E-19	0.	0.	0.	0.	0.	0.	9.19E-13
71	3.70	2.03E-16	0.	0.	2.19E-19	0.	0.	0.	0.	0.	0.	10.00E-13
72	3.60	7.18E-17	0.	0.	2.06E-20	0.	0.	0.	0.	0.	0.	1.10E-12
73	3.50	2.67E-17	0.	0.	1.98E-20	0.	0.	0.	0.	0.	0.	1.21E-12
74	3.40	5.65E-18	0.	0.	1.96E-20	0.	0.	0.	0.	0.	0.	1.34E-12
75	3.30	1.93E-18	0.	0.	1.80E-21	0.	0.	0.	0.	0.	0.	1.39E-12
76	3.20	4.90E-19	0.	0.	1.60E-21	0.	0.	0.	0.	0.	0.	1.42E-12
77	3.10	1.12E-19	0.	0.	1.60E-22	0.	0.	0.	0.	0.	0.	1.43E-12
78	3.00	3.08E-20	0.	0.	1.60E-23	0.	0.	0.	0.	0.	0.	1.43E-12
79	2.90	6.95E-21	0.	0.	1.57E-24	0.	0.	0.	0.	0.	0.	1.38E-12
80	2.80	2.05E-21	0.	0.	1.57E-24	0.	0.	0.	0.	0.	0.	1.34E-12
81	2.70	2.50E-22	0.	0.	1.56E-26	0.	0.	0.	0.	0.	0.	1.24E-12
82	2.60	4.84E-24	0.	0.	1.45E-28	0.	0.	0.	0.	0.	0.	1.13E-12
83	2.50	4.94E-26	0.	0.	1.42E-30	0.	0.	0.	0.	0.	0.	1.01E-12
84	2.40	0.	0.	0.	1.64E-32	0.	0.	0.	0.	0.	0.	8.75E-13
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.56E-13
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.92E-13
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.69E-13
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.28E-13
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.17E-13
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.43E-13
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.12E-14
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.45E-14
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.44E-14
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.97E-15
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E.V.	O2 S-R CONT.	N2 O-H NO. 1	TEMPERATURE (DEGREES K) 1000.	NO		AO GAMMA	DENSITY (GM/CC) 1.293E-09 (10.0E-07 NORMAL)	NO 2	O- PHOTO-DET (IONS)	FREE-FREE N P.E.	TOTAL AIR
				NO BETA	NO GAMMA						
1 10.70 0.	0.	1.08E-15	0.	0.	0.	0.	0.	0.	0.	1.08E-15	
2 10.60 0.	0.	3.92E-16	0.	0.	0.	0.	0.	0.	0.	3.92E-16	
3 10.50 0.	0.	9.09E-17	0.	0.	0.	0.	0.	0.	0.	9.09E-17	
4 10.40 0.	0.	4.66E-17	0.	0.	0.	0.	0.	0.	0.	4.66E-17	
5 10.30 0.	0.	1.20E-17	0.	0.	0.	0.	0.	0.	0.	1.20E-17	
6 10.20 0.	0.	4.03E-18	0.	0.	0.	0.	0.	0.	0.	4.03E-18	
7 10.10 0.	0.	2.33E-18	0.	0.	0.	0.	0.	0.	0.	2.33E-18	
8 10.00 0.	0.	2.91E-19	0.	0.	0.	0.	0.	0.	0.	2.91E-19	
9 9.90 0.	0.	7.44E-20	0.	0.	0.	0.	0.	0.	0.	7.44E-20	
10 9.80 0.	0.	9.89E-21	0.	0.	0.	0.	0.	0.	0.	9.89E-21	
11 9.70 0.	0.	1.13E-20	0.	0.	0.	0.	0.	0.	0.	1.13E-20	
12 9.60 0.	0.	1.21E-21	0.	0.	0.	0.	0.	0.	0.	1.21E-21	
13 9.50 0.	3.72E-06	1.34E-05	0.	0.	0.	0.	0.	0.	0.	3.72E-06	
14 9.40 0.	1.34E-05	8.32E-22	0.	0.	0.	0.	0.	0.	0.	1.34E-05	
15 9.30 0.	2.34E-05	3.07E-22	0.	0.	0.	0.	0.	0.	0.	2.34E-05	
16 9.20 0.	3.34E-05	1.67E-23	0.	0.	0.	0.	0.	0.	0.	3.34E-05	
17 9.10 0.	4.64E-05	4.77E-23	0.	0.	0.	0.	0.	0.	0.	4.64E-05	
18 9.00 0.	5.94E-05	3.43E-24	0.	0.	0.	0.	0.	0.	0.	5.94E-05	
19 8.90 0.	7.26E-05	2.57E-24	0.	0.	0.	0.	0.	0.	0.	7.26E-05	
20 8.80 0.	7.78E-05	6.94E-25	0.	0.	0.	0.	0.	0.	0.	7.78E-05	
21 8.70 0.	7.69E-05	1.05E-25	0.	0.	0.	0.	0.	0.	0.	7.69E-05	
22 8.60 0.	7.60E-05	1.21E-25	0.	0.	0.	0.	0.	0.	0.	7.60E-05	
23 8.50 0.	7.35E-05	8.34E-27	0.	0.	0.	0.	0.	0.	0.	7.35E-05	
24 8.40 0.	6.91E-05	1.08E-26	0.	0.	0.	0.	0.	0.	0.	6.91E-05	
25 8.30 0.	6.40E-05	9.95E-28	0.	0.	0.	0.	0.	0.	0.	6.40E-05	
26 8.20 0.	5.87E-05	6.51E-28	0.	0.	0.	0.	0.	0.	0.	5.87E-05	
27 8.10 0.	5.21E-05	1.16E-28	0.	0.	0.	0.	0.	0.	0.	5.21E-05	
28 8.00 0.	4.60E-05	4.63E-29	0.	0.	0.	0.	0.	0.	0.	4.60E-05	
29 7.90 0.	3.94E-05	1.28E-29	0.	0.	0.	0.	0.	0.	0.	3.94E-05	
30 7.80 0.	3.27E-05	4.75E-30	0.	0.	0.	0.	0.	0.	0.	3.27E-05	
31 7.70 0.	2.68E-05	1.36E-30	0.	0.	0.	0.	0.	0.	0.	2.68E-05	
32 7.60 0.	2.17E-05	3.41E-31	0.	0.	0.	0.	0.	0.	0.	2.17E-05	
33 7.50 0.	1.64E-05	1.11E-31	0.	0.	0.	0.	0.	0.	0.	1.64E-05	
34 7.40 0.	1.24E-05	2.47E-32	0.	0.	0.	0.	0.	0.	0.	1.24E-05	
35 7.30 0.	8.95E-06	7.11E-33	0.	0.	0.	0.	0.	0.	0.	8.95E-06	
36 7.20 0.	6.79E-06	1.74E-33	0.	0.	0.	0.	0.	0.	0.	6.79E-06	
37 7.10 0.	4.74E-06	4.85E-34	0.	0.	0.	0.	0.	0.	0.	4.74E-06	
38 7.00 4.06E-07	0.	1.21E-34	0.	0.	0.	0.	0.	0.	0.	4.06E-07	
39 6.90 4.40E-07	0.	3.30E-35	0.	0.	0.	0.	0.	0.	0.	4.40E-07	
40 6.80 2.11E-07	0.	9.40E-36	0.	0.	0.	0.	0.	0.	0.	2.11E-07	
41 6.70 8.49E-08	0.	2.16E-36	0.	0.	0.	0.	0.	0.	0.	8.49E-08	
42 6.60 3.68E-08	0.	5.43E-37	0.	0.	0.	0.	0.	0.	0.	3.68E-08	
43 6.50 1.22E-08	0.	1.21E-37	0.	0.	0.	0.	0.	0.	0.	1.22E-08	
44 6.40 1.96E-08	0.	1.68E-38	0.	0.	0.	0.	0.	0.	0.	1.96E-08	
45 6.30 2.01E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.01E-08	
46 6.20 1.74E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.74E-08	
47 6.10 2.23E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.23E-08	
48 6.00 1.80E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.80E-08	
49 5.90 9.87E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.87E-09	
50 5.80 4.05E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.05E-09	
51 5.70 9.56E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.56E-10	

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	D2 S-R		TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		INVERSE CM.		TOTAL AIR		
	1ST POS.	2ND POS.	M2	M3	1000	1.293E-09	(10, DE-07 NORMAL)	0	P.F.	0	
			42*	BETA	NO	NO	NO	NO	NO	NO	
			1ST NEG.	GAMMA	VIB-RCT	2	PROG-DET (10NS)	FREE-FREE (10NS)	N	P.E.	
52	5.60	8.15E-10	0.	0.	8.48E-14	6.93E-12	0.	0.	0.	0.	8.05E-10
53	5.50	5.01E-10	0.	0.	4.75E-13	3.76E-10	0.	0.	0.	0.	8.78E-10
54	5.40	1.63E-10	0.	0.	2.69E-13	1.51E-13	0.	0.	0.	0.	1.43E-10
55	5.30	8.17E-11	0.	0.	7.51E-14	2.61E-11	0.	0.	0.	0.	1.08E-10
56	5.20	9.54E-12	0.	0.	4.36E-14	1.77E-11	0.	0.	0.	0.	2.72E-11
57	5.10	6.14E-12	0.	0.	1.14E-14	4.60E-13	0.	0.	0.	0.	8.43E-12
58	5.00	5.19E-12	0.	0.	3.45E-15	2.79E-12	0.	0.	0.	0.	8.06E-12
59	4.90	3.92E-12	0.	0.	2.36E-15	1.79E-14	0.	0.	0.	0.	3.68E-12
60	4.80	2.12E-12	0.	0.	3.37E-15	1.09E-13	0.	0.	0.	0.	2.73E-12
61	4.70	9.60E-13	0.	0.	1.53E-15	8.39E-16	0.	0.	0.	0.	9.79E-13
62	4.60	4.33E-13	0.	0.	5.09E-16	1.24E-14	0.	0.	0.	0.	4.43E-13
63	4.50	1.59E-13	0.	0.	2.35E-16	4.20E-17	0.	0.	0.	0.	1.86E-13
64	4.40	5.17E-14	0.	0.	6.29E-17	8.40E-16	0.	0.	0.	0.	7.22E-14
65	4.30	2.04E-14	0.	0.	3.13E-17	1.49E-16	0.	0.	0.	0.	4.95E-14
66	4.20	6.09E-15	0.	0.	8.83E-18	2.34E-17	0.	0.	0.	0.	2.74E-14
67	4.10	3.34E-15	0.	0.	3.46E-18	2.27E-17	0.	0.	0.	0.	2.42E-14
68	4.00	8.11E-16	0.	0.	1.33E-18	5.34E-19	0.	0.	0.	0.	2.55E-14
69	3.90	1.82E-16	0.	0.	3.07E-19	1.53E-18	0.	0.	0.	0.	2.89E-14
70	3.80	1.27E-16	0.	0.	1.94E-19	0.	0.	0.	0.	0.	2.22E-14
71	3.70	2.03E-17	0.	0.	2.54E-20	0.	0.	0.	0.	0.	1.86E-14
72	3.60	7.48E-18	0.	0.	2.19E-20	0.	0.	0.	0.	0.	1.48E-14
73	3.50	2.87E-18	0.	0.	2.06E-21	0.	0.	0.	0.	0.	1.44E-14
74	3.40	5.45E-19	0.	0.	1.94E-21	0.	0.	0.	0.	0.	1.44E-14
75	3.30	1.93E-19	0.	0.	1.80E-22	0.	0.	0.	0.	0.	1.43E-14
76	3.20	4.90E-20	0.	0.	1.68E-22	0.	0.	0.	0.	0.	1.42E-14
77	3.10	1.12E-20	0.	0.	1.56E-23	0.	0.	0.	0.	0.	1.41E-14
78	3.00	3.06E-21	0.	0.	1.44E-23	0.	0.	0.	0.	0.	1.40E-14
79	2.90	6.93E-22	0.	0.	1.32E-23	0.	0.	0.	0.	0.	1.39E-14
80	2.80	2.05E-22	0.	0.	1.21E-24	0.	0.	0.	0.	0.	1.38E-14
81	2.70	2.50E-23	0.	0.	1.10E-25	0.	0.	0.	0.	0.	1.37E-14
82	2.60	4.84E-25	0.	0.	1.00E-27	0.	0.	0.	0.	0.	1.36E-14
83	2.50	4.94E-27	0.	0.	9.00E-31	0.	0.	0.	0.	0.	1.35E-14
84	2.40	0.	0.	0.	8.00E-33	0.	0.	0.	0.	0.	1.34E-14
85	2.30	0.	0.	0.	7.00E-35	0.	0.	0.	0.	0.	1.33E-14
86	2.20	0.	0.	0.	6.00E-37	0.	0.	0.	0.	0.	1.32E-14
87	2.10	0.	0.	0.	5.00E-39	0.	0.	0.	0.	0.	1.31E-14
88	2.00	0.	0.	0.	4.00E-41	0.	0.	0.	0.	0.	1.30E-14
89	1.90	0.	0.	0.	3.00E-43	0.	0.	0.	0.	0.	1.29E-14
90	1.80	0.	0.	0.	2.00E-45	0.	0.	0.	0.	0.	1.28E-14
91	1.70	0.	0.	0.	1.00E-47	0.	0.	0.	0.	0.	1.27E-14
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.26E-14
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.25E-14
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.24E-14
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.23E-14
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.22E-14
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.21E-14
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.20E-14
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.19E-14
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.18E-14
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.17E-14
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.16E-14

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY E.V.	PHOTON 02 S-R BANDS	02 S-R CONT.	TEMPERATURE (DEGREES K)	2000.	DENSITY (GM/CC)	1.293E-02 (1.0E 01 NORMAL)		NO 2	NO 0- PHOTO-DET (IONS)	FREE-FREE W P.E.	D	TOTAL AIR
						NO BETA	NO GAMMA					
1	10.70 0.	0.	4.06E-03	0.	0.	0.	0.	0.	0.	0.	0.	4.06E-03
2	16.60 0.	0.	2.13E-03	0.	0.	0.	0.	0.	0.	0.	0.	2.13E-03
3	10.50 0.	0.	1.33E-03	0.	0.	0.	0.	0.	0.	0.	0.	1.33E-03
4	10.40 0.	0.	8.68E-04	0.	0.	0.	0.	0.	0.	0.	0.	8.68E-04
5	10.30 0.	0.	4.08E-04	0.	0.	0.	0.	0.	0.	0.	0.	4.08E-04
6	10.20 0.	0.	2.78E-04	0.	0.	0.	0.	0.	0.	0.	0.	2.78E-04
7	10.10 0.	0.	1.88E-04	0.	0.	0.	0.	0.	0.	0.	0.	1.88E-04
8	10.00 0.	0.	6.99E-05	0.	0.	0.	0.	0.	0.	0.	0.	6.99E-05
9	9.90 0.	0.	6.20E-05	0.	0.	0.	0.	0.	0.	0.	0.	6.20E-05
10	9.80 0.	0.	3.44E-05	0.	0.	0.	0.	0.	0.	0.	0.	3.44E-05
11	9.70 0.	0.	1.31E-05	0.	0.	0.	0.	0.	0.	0.	0.	1.31E-05
12	9.60 0.	0.	1.44E-05	0.	0.	0.	0.	0.	0.	0.	0.	1.44E-05
13	9.50 0.	3.49E 03	4.64E-06	0.	0.	0.	0.	0.	0.	0.	0.	3.49E 01
14	9.40 0.	1.27E 02	3.14E-06	0.	0.	0.	0.	0.	0.	0.	0.	1.27E 02
15	9.30 0.	2.20E 02	2.49E-06	0.	0.	0.	0.	0.	0.	0.	0.	2.20E 02
16	9.20 0.	3.13E 02	6.00E-07	0.	0.	0.	0.	0.	0.	0.	0.	3.13E 02
17	9.10 0.	4.14E 02	9.14E-07	0.	0.	0.	0.	0.	0.	0.	0.	4.14E 02
18	9.00 0.	3.16E 02	2.89E-07	0.	0.	0.	0.	0.	0.	0.	0.	3.16E 02
19	8.90 0.	6.19E 02	1.92E-07	0.	0.	0.	0.	0.	0.	0.	0.	6.19E 02
20	8.80 0.	6.49E 02	1.25E-07	0.	0.	0.	0.	0.	0.	0.	0.	6.49E 02
21	8.70 0.	6.24E 02	4.15E-08	0.	0.	0.	0.	0.	0.	0.	0.	6.24E 02
22	8.60 0.	5.99E 02	4.70E-08	0.	0.	0.	0.	0.	0.	0.	0.	5.99E 02
23	8.50 0.	5.71E 02	1.37E-08	0.	0.	0.	0.	0.	0.	0.	0.	5.71E 02
24	8.40 0.	5.36E 02	1.34E-08	0.	0.	0.	0.	0.	0.	0.	0.	5.36E 02
25	8.30 0.	4.97E 02	4.43E-09	0.	0.	0.	0.	0.	0.	0.	0.	4.97E 02
26	8.20 0.	4.60E 02	3.48E-09	0.	0.	0.	0.	0.	0.	0.	0.	4.60E 02
27	8.10 0.	4.23E 02	1.42E-09	0.	0.	0.	0.	0.	0.	0.	0.	4.23E 02
28	8.00 0.	3.87E 02	9.81E-10	0.	0.	0.	0.	0.	0.	0.	0.	3.87E 02
29	7.90 0.	3.49E 02	4.26E-10	0.	0.	0.	0.	0.	0.	0.	0.	3.49E 02
30	7.80 0.	3.09E 02	3.03E-10	0.	0.	0.	0.	0.	0.	0.	0.	3.09E 02
31	7.70 0.	2.72E 02	1.42E-10	0.	0.	0.	0.	0.	0.	0.	0.	2.72E 02
32	7.60 0.	2.35E 02	7.94E-11	0.	0.	0.	0.	0.	0.	0.	0.	2.35E 02
33	7.50 0.	1.99E 02	4.08E-11	0.	0.	0.	0.	0.	0.	0.	0.	1.99E 02
34	7.40 0.	1.65E 02	2.10E-11	0.	0.	0.	0.	0.	0.	0.	0.	1.65E 02
35	7.30 0.	1.41E 02	1.10E-11	0.	0.	0.	0.	0.	0.	0.	0.	1.41E 02
36	7.20 0.	1.16E 02	5.53E-12	0.	0.	0.	0.	0.	0.	0.	0.	1.16E 02
37	7.10 0.	9.53E 01	2.98E-12	0.	0.	0.	0.	0.	0.	0.	0.	9.53E 01
38	7.00 0.	7.77E-13	1.49E-12	0.	0.	0.	0.	0.	0.	0.	0.	7.77E-13
39	6.90 0.	6.99E-13	7.77E-13	0.	0.	0.	0.	0.	0.	0.	0.	6.99E-13
40	6.80 0.	6.24E-13	3.99E-13	0.	0.	0.	0.	0.	0.	0.	0.	6.24E-13
41	6.70 0.	5.49E-13	1.92E-13	0.	0.	0.	0.	0.	0.	0.	0.	5.49E-13
42	6.60 0.	4.74E-13	9.62E-14	0.	0.	0.	0.	0.	0.	0.	0.	4.74E-13
43	6.50 0.	3.99E-13	3.62E-14	0.	0.	0.	0.	0.	0.	0.	0.	3.99E-13
44	6.40 0.	3.24E-13	1.52E-14	0.	0.	0.	0.	0.	0.	0.	0.	3.24E-13
45	6.30 0.	2.49E-13	6.00E-15	0.	0.	0.	0.	0.	0.	0.	0.	2.49E-13
46	6.20 0.	1.74E-13	2.49E-15	0.	0.	0.	0.	0.	0.	0.	0.	1.74E-13
47	6.10 0.	1.00E-13	1.00E-15	0.	0.	0.	0.	0.	0.	0.	0.	1.00E-13
48	6.00 0.	6.24E-14	6.24E-16	0.	0.	0.	0.	0.	0.	0.	0.	6.24E-14
49	5.90 0.	4.74E-14	4.74E-16	0.	0.	0.	0.	0.	0.	0.	0.	4.74E-14
50	5.80 0.	3.24E-14	3.24E-16	0.	0.	0.	0.	0.	0.	0.	0.	3.24E-14
51	5.70 0.	1.74E-14	1.74E-16	0.	0.	0.	0.	0.	0.	0.	0.	1.74E-14

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

	PHOTON O2 S-A-R ENERGY BANDS		TEMPERATURE (DEGREES K)		2000. DENSITY (GM/CC)		1.293E-02 ( 1.0E 01 NORMAL)		TOTAL AIR	
	1ST POS.	2ND POS.	M2	M1	M2	M1	NO	NO	NO	NO
52	5.60	1.30E+00	0.	0.	5.38E-03	1.51E-01	0.	0.	0.	1.48E 00
53	5.50	9.08E-01	0.	0.	1.28E-02	6.74E-01	0.	0.	0.	1.48E 00
54	5.40	6.58E-01	0.	0.	7.79E-03	1.86E-02	0.	0.	0.	6.84E-01
55	5.30	4.50E-01	0.	0.	6.08E-03	2.22E-01	0.	0.	0.	6.78E-01
56	5.20	1.45E-01	0.	0.	4.53E-03	7.99E-02	0.	0.	0.	2.94E-01
57	5.10	1.10E-01	0.	0.	2.70E-03	3.31E-02	0.	0.	0.	1.59E-01
58	5.00	7.10E-02	0.	0.	1.43E-03	5.70E-02	0.	0.	0.	1.38E-01
59	4.90	6.00E-02	0.	0.	1.19E-03	7.15E-03	0.	0.	0.	7.45E-02
60	4.80	5.33E-02	0.	0.	1.31E-03	1.62E-02	0.	0.	0.	7.22E-02
61	4.70	3.88E-02	0.	0.	6.38E-04	1.62E-03	0.	0.	0.	4.78E-02
62	4.60	3.01E-02	0.	0.	6.11E-04	4.334E-03	0.	0.	0.	4.17E-02
63	4.50	1.87E-02	0.	0.	3.49E-04	3.93E-04	0.	0.	0.	2.43E-02
64	4.40	1.10E-02	0.	0.	2.27E-04	9.77E-04	0.	0.	0.	1.98E-02
65	4.30	6.77E-03	0.	0.	1.40E-04	1.70E-04	0.	0.	0.	1.43E-02
66	4.20	4.01E-03	0.	0.	9.09E-05	1.79E-04	0.	0.	0.	1.18E-02
67	4.10	2.88E-03	0.	0.	5.20E-05	6.55E-05	0.	0.	0.	1.04E-02
68	4.00	1.44E-03	0.	0.	3.48E-05	1.41E-05	0.	0.	0.	9.11E-03
69	3.90	6.57E-04	0.	0.	1.53E-05	1.57E-05	0.	0.	0.	6.78E-03
70	3.80	5.73E-04	0.	0.	1.41E-05	0.	0.	0.	0.	9.01E-03
71	3.70	2.20E-04	0.	0.	4.39E-06	0.	0.	0.	0.	9.01E-03
72	3.60	1.34E-04	0.	0.	5.00E-06	0.	0.	0.	0.	9.29E-03
73	3.50	8.00E-05	0.	0.	1.30E-06	0.	0.	0.	0.	9.47E-03
74	3.40	3.66E-05	0.	0.	1.49E-06	0.	0.	0.	0.	1.1E-02
75	3.30	2.03E-05	0.	0.	4.09E-07	0.	0.	0.	0.	1.4E-02
76	3.20	9.50E-06	0.	0.	3.84E-07	0.	0.	0.	0.	1.06E-02
77	3.10	4.98E-06	0.	0.	1.40E-07	0.	0.	0.	0.	1.07E-02
78	3.00	2.49E-06	0.	0.	8.08E-08	0.	0.	0.	0.	1.95E-02
79	2.90	1.07E-06	0.	0.	2.30E-08	0.	0.	0.	0.	1.22E-02
80	2.80	6.73E-07	0.	0.	6.10E-09	0.	0.	0.	0.	9.35E-03
81	2.70	1.68E-07	0.	0.	6.10E-10	0.	0.	0.	0.	9.20E-03
82	2.60	2.08E-08	0.	0.	5.65E-11	0.	0.	0.	0.	8.43E-03
83	2.50	7.45E-10	0.	0.	4.73E-12	0.	0.	0.	0.	7.22E-03
84	2.40	0.	0.	0.	2.19E-13	0.	0.	0.	0.	6.11E-03
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	5.43E-03
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	5.35E-03
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	4.93E-03
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	3.43E-03
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	2.40E-03
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	1.74E-03
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	1.11E-03
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	6.85E-04
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	2.81E-04
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	1.46E-04
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	2.43E-03
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	1.55E-02
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	8.40E-07
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	1.87E-07
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	6.80E-06
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	1.99E-06
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	3.92E-05
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	1.08E-05



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E.V.	O2 S-R BANDS	O2 S-R CONT.	N2 O-W NO. 1	TEMPERATURE (DEGREES K)		NO BETA	NO GAMMA	NO 2	O- PHOTO-DEY (IONS)	FREE-FREE P.E.	N P.E.	D P.F.	TOTAL AIR
				2000.	DENSITY (GM/CC) 1.2932-03 (10.62-01 NORMAL)								
1 10.70 0.	0.	0.	4.04E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.04E-04
2 10.60 0.	0.	0.	2.13E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.13E-04
3 10.50 0.	0.	0.	1.33E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.33E-04
4 10.40 0.	0.	0.	6.68E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.68E-05
5 10.30 0.	0.	0.	4.08E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.08E-05
6 10.20 0.	0.	0.	2.78E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.78E-05
7 10.10 0.	0.	0.	1.80E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.80E-05
8 10.00 0.	0.	0.	6.99E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.99E-06
9 9.90 0.	0.	0.	6.20E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.20E-06
10 9.80 0.	0.	0.	3.44E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.44E-06
11 9.70 0.	0.	0.	1.31E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.31E-06
12 9.60 0.	0.	0.	1.44E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.44E-06
13 9.50 0.	3.44E 00	4.84E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.44E 00
14 9.40 0.	1.27E 01	3.14E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.27E 01
15 9.30 0.	2.20E 01	2.49E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.20E 01
16 9.20 0.	3.13E 01	6.88E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.13E 01
17 9.10 0.	4.14E 01	9.14E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.14E 01
18 9.00 0.	5.16E 01	2.89E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.16E 01
19 8.90 0.	6.18E 01	1.92E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.18E 01
20 8.80 0.	6.40E 01	1.25E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.40E 01
21 8.70 0.	6.24E 01	4.15E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.24E 01
22 8.60 0.	5.99E 01	4.70E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.99E 01
23 8.50 0.	5.71E 01	1.37E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.71E 01
24 8.40 0.	5.36E 01	1.34E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.36E 01
25 8.30 0.	4.98E 01	4.43E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.98E 01
26 8.20 0.	4.60E 01	3.48E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.60E 01
27 8.10 0.	4.23E 01	1.42E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.23E 01
28 8.00 0.	3.87E 01	9.81E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.87E 01
29 7.90 0.	3.48E 01	4.26E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.48E 01
30 7.80 0.	3.09E 01	3.03E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.09E 01
31 7.70 0.	2.72E 01	1.42E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.72E 01
32 7.60 0.	2.35E 01	7.94E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.35E 01
33 7.50 0.	1.99E 01	4.08E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.99E 01
34 7.40 0.	1.69E 01	2.10E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.69E 01
35 7.30 0.	1.41E 01	1.18E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.41E 01
36 7.20 0.	1.18E 01	5.53E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.18E 01
37 7.10 0.	9.53E 00	2.90E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.53E 00
38 7.00 1.83E-01	0.	0.	1.49E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.49E-13
39 6.90 2.41E-01	0.	0.	7.77E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.77E-14
40 6.80 1.42E-01	0.	0.	3.90E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.90E-14
41 6.70 8.28E-02	0.	0.	1.96E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.96E-14
42 6.60 8.84E-02	0.	0.	9.62E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.62E-15
43 6.50 1.52E-02	0.	0.	3.82E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.82E-15
44 6.40 2.78E-02	0.	0.	9.11E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.11E-16
45 6.30 4.40E-02	0.	0.	1.54E-16	1.81E-03	5.38E-02	0.	0.	0.	0.	0.	0.	0.	1.54E-16
46 6.20 8.03E-02	0.	0.	2.65E-17	4.05E-03	6.65E-03	0.	0.	0.	0.	0.	0.	0.	2.65E-17
47 6.10 1.89E-01	0.	0.	2.65E-18	7.01E-03	1.10E-01	0.	0.	0.	0.	0.	0.	0.	2.65E-18
48 6.00 2.83E-01	0.	0.	2.88E-19	2.53E-03	1.37E-02	0.	0.	0.	0.	0.	0.	0.	2.88E-19
49 5.90 2.72E-01	0.	0.	1.60E-20	3.37E-03	7.17E-03	0.	0.	0.	0.	0.	0.	0.	1.60E-20
50 5.80 2.34E-01	0.	0.	2.98E-22	3.30E-03	2.22E-02	0.	0.	0.	0.	0.	0.	0.	2.98E-22
51 5.70 1.35E-01	0.	0.	0.	2.10E-03	1.35E-03	0.	0.	0.	0.	0.	0.	0.	2.10E-03

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	TEMPERATURE (DEGREES K)		DENSITY (GM/CC)	1.293E-03 (10.0E-01 NORMAL)		O- PHOTO-DET	NO	NC	FREE-FREE P.E.	M	O	TOTAL AIR
	1ST POS.	2ND POS.		BETA	GAMMA							
52	5.60	1.30E-01	0.	0.	5.38E-04	1.51E-02	0.	0.	0.	0.	0.	1.46E-01
53	5.50	9.98E-02	0.	0.	1.28E-03	6.74E-02	0.	0.	0.	0.	0.	1.68E-01
54	5.40	6.58E-02	0.	0.	7.75E-04	1.88E-03	0.	0.	0.	0.	0.	6.84E-02
55	5.30	4.50E-02	0.	0.	6.08E-04	2.22E-02	0.	0.	0.	0.	0.	6.78E-02
56	5.20	1.45E-02	0.	0.	4.53E-04	7.99E-03	0.	0.	0.	0.	0.	2.29E-02
57	5.10	1.18E-02	0.	0.	2.70E-04	1.31E-03	0.	0.	0.	0.	0.	1.55E-02
58	5.00	2.18E-03	0.	0.	1.43E-04	5.70E-03	0.	0.	0.	0.	0.	1.11E-02
59	4.90	6.08E-03	0.	0.	1.18E-04	1.15E-04	0.	0.	0.	0.	0.	7.03E-03
60	4.80	5.33E-03	0.	0.	1.51E-04	1.62E-03	0.	0.	0.	0.	0.	7.20E-03
61	4.70	3.86E-03	0.	0.	6.36E-05	1.62E-04	0.	0.	0.	0.	0.	4.33E-03
62	4.60	3.01E-03	0.	0.	6.11E-05	4.34E-04	0.	0.	0.	0.	0.	3.72E-03
63	4.50	1.97E-03	0.	0.	3.49E-05	3.93E-05	0.	0.	0.	0.	0.	2.16E-03
64	4.40	1.66E-03	0.	0.	2.27E-05	9.77E-05	0.	0.	0.	0.	0.	1.58E-03
65	4.30	6.77E-04	0.	0.	1.40E-05	1.70E-05	0.	0.	0.	0.	0.	9.35E-04
66	4.20	4.01E-04	0.	0.	9.09E-06	1.78E-05	0.	0.	0.	0.	0.	6.98E-04
67	4.10	2.69E-04	0.	0.	5.20E-06	6.55E-06	0.	0.	0.	0.	0.	5.20E-04
68	4.00	1.44E-04	0.	0.	3.46E-06	1.40E-06	0.	0.	0.	0.	0.	3.96E-04
69	3.90	6.57E-05	0.	0.	1.53E-06	1.57E-06	0.	0.	0.	0.	0.	3.25E-04
70	3.80	5.23E-05	0.	0.	1.41E-06	0.	0.	0.	0.	0.	0.	3.01E-04
71	3.70	2.89E-05	0.	0.	4.38E-07	0.	0.	0.	0.	0.	0.	3.03E-04
72	3.60	1.54E-05	0.	0.	9.10E-07	0.	0.	0.	0.	0.	0.	3.03E-04
73	3.50	8.00E-06	0.	0.	1.30E-07	0.	0.	0.	0.	0.	0.	3.11E-04
74	3.40	3.68E-06	0.	0.	1.49E-07	0.	0.	0.	0.	0.	0.	3.21E-04
75	3.30	2.03E-06	0.	0.	2.38E-07	0.	0.	0.	0.	0.	0.	3.29E-04
76	3.20	9.50E-07	0.	0.	3.84E-08	0.	0.	0.	0.	0.	0.	3.36E-04
77	3.10	4.94E-07	0.	0.	1.40E-08	0.	0.	0.	0.	0.	0.	3.48E-04
78	3.00	2.45E-07	0.	0.	8.68E-09	0.	0.	0.	0.	0.	0.	3.52E-04
79	2.90	1.07E-07	0.	0.	2.30E-09	0.	0.	0.	0.	0.	0.	3.52E-04
80	2.80	6.73E-08	0.	0.	6.10E-10	0.	0.	0.	0.	0.	0.	3.08E-04
81	2.70	1.68E-08	0.	0.	1.10E-11	0.	0.	0.	0.	0.	0.	2.91E-04
82	2.60	2.06E-09	0.	0.	5.65E-12	0.	0.	0.	0.	0.	0.	2.73E-04
83	2.50	7.45E-11	0.	0.	4.73E-13	0.	0.	0.	0.	0.	0.	2.50E-04
84	2.40	0.	0.	0.	2.19E-14	0.	0.	0.	0.	0.	0.	2.28E-04
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.99E-04
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.72E-04
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.43E-04
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.08E-04
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.22E-05
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.49E-05
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.51E-05
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.16E-05
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.40E-06
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.16E-06
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.43E-07
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.56E-07
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.48E-08
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.47E-08
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.48E-09
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.99E-09
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.92E-10
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.08E-10

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 2000. DENSITY (GM/CC) 1.293E-06 (10.0E-02 NORMAL)

PHOTON ENERGY BANDS E.V.	02 S-R CONT.	02 S-R NO. 1	NO BETA	NO GAMMA	NO PHOTO-DET (ICMS)	0 FREE-FREE P.G.	0 TOTAL AIR P.E.
1 10.70 0.	0.	4.06E-05	0.	0.	0.	0.	4.06E-05
2 10.60 0.	0.	2.13E-05	0.	0.	0.	0.	2.13E-05
3 10.50 0.	0.	1.33E-05	0.	0.	0.	0.	1.33E-05
4 10.40 0.	0.	8.60E-06	0.	0.	0.	0.	8.60E-06
5 10.30 0.	0.	4.96E-06	0.	0.	0.	0.	4.96E-06
6 10.20 0.	0.	2.78E-06	0.	0.	0.	0.	2.78E-06
7 10.10 0.	0.	1.60E-06	0.	0.	0.	0.	1.60E-06
8 10.00 0.	0.	8.99E-07	0.	0.	0.	0.	8.99E-07
9 9.90 0.	0.	6.20E-07	0.	0.	0.	0.	6.20E-07
10 9.80 0.	0.	3.44E-07	0.	0.	0.	0.	3.44E-07
11 9.70 0.	0.	1.93E-07	0.	0.	0.	0.	1.93E-07
12 9.60 0.	0.	1.44E-07	0.	0.	0.	0.	1.44E-07
13 9.50 0.	3.44E-01	4.04E-08	0.	0.	0.	0.	3.44E-01
14 9.40 0.	1.27E 00	3.14E-08	0.	0.	0.	0.	1.27E 00
15 9.30 0.	2.20E 00	2.49E-08	0.	0.	0.	0.	2.20E 00
16 9.20 0.	3.33E 00	6.08E-09	0.	0.	0.	0.	3.33E 00
17 9.10 0.	4.14E 00	9.14E-09	0.	0.	0.	0.	4.14E 00
18 9.00 0.	5.16E 00	2.89E-09	0.	0.	0.	0.	5.16E 00
19 8.90 0.	6.18E 00	1.02E-09	0.	0.	0.	0.	6.18E 00
20 8.80 0.	6.49E 00	1.29E-09	0.	0.	0.	0.	6.49E 00
21 8.70 0.	6.24E 00	4.15E-10	0.	0.	0.	0.	6.24E 00
22 8.60 0.	5.99E 00	4.70E-10	0.	0.	0.	0.	5.99E 00
23 8.50 0.	5.71E 00	1.37E-10	0.	0.	0.	0.	5.71E 00
24 8.40 0.	5.36E 00	1.34E-10	0.	0.	0.	0.	5.36E 00
25 8.30 0.	4.99E 00	4.43E-11	0.	0.	0.	0.	4.99E 00
26 8.20 0.	4.60E 00	3.48E-11	0.	0.	0.	0.	4.60E 00
27 8.10 0.	4.23E 00	1.42E-11	0.	0.	0.	0.	4.23E 00
28 8.00 0.	3.87E 00	9.81E-12	0.	0.	0.	0.	3.87E 00
29 7.90 0.	3.48E 00	4.24E-12	0.	0.	0.	0.	3.48E 00
30 7.80 0.	3.09E 00	3.03E-12	0.	0.	0.	0.	3.09E 00
31 7.70 0.	2.72E 00	1.42E-12	0.	0.	0.	0.	2.72E 00
32 7.60 0.	2.35E 00	7.93E-13	0.	0.	0.	0.	2.35E 00
33 7.50 0.	1.99E 00	4.08E-13	0.	4.91E-09	0.	0.	1.99E 00
34 7.40 0.	1.69E 00	2.18E-13	0.	7.66E-06	0.	0.	1.69E 00
35 7.30 0.	1.41E 00	1.18E-13	0.	4.39E-06	0.	0.	1.41E 00
36 7.20 0.	1.18E 00	5.52E-14	0.	1.67E-04	0.	0.	1.18E 00
37 7.10 0.	9.53E-01	2.90E-14	0.	1.22E-05	0.	0.	9.53E-01
38 7.00 1.83E-02 0.	0.	1.49E-14	0.	3.85E-04	0.	0.	1.87E-02
39 6.90 2.61E-02 0.	0.	7.77E-15	0.	7.79E-04	0.	0.	2.59E-02
40 6.80 1.62E-02 0.	0.	3.99E-15	0.	1.42E-04	0.	0.	1.43E-02
41 6.70 8.24E-03 0.	0.	1.96E-15	0.	2.09E-03	0.	0.	1.94E-02
42 6.60 3.84E-03 0.	0.	9.42E-16	0.	1.74E-03	0.	0.	1.58E-03
43 6.50 1.52E-03 0.	0.	3.82E-16	0.	4.38E-04	0.	0.	1.50E-03
44 6.40 2.78E-03 0.	0.	9.52E-17	1.81E-04	5.36E-03	0.	0.	6.34E-03
45 6.30 4.40E-03 0.	0.	1.54E-17	4.53E-04	3.09E-03	0.	0.	7.82E-03
46 6.20 8.02E-03 0.	0.	2.00E-18	4.05E-04	6.65E-04	0.	0.	9.10E-03
47 6.10 1.84E-02 0.	0.	2.65E-19	7.00E-04	1.19E-02	0.	0.	3.73E-02
48 6.00 2.81E-02 0.	0.	2.90E-20	5.32E-04	1.37E-03	0.	0.	2.90E-02
49 5.90 2.73E-02 0.	0.	1.68E-21	3.37E-04	7.13E-04	0.	0.	2.82E-02
50 5.80 2.33E-02 0.	0.	2.90E-23	3.30E-04	2.22E-03	0.	0.	2.59E-02
51 5.70 1.59E-02 0.	0.	0.	2.10E-04	1.30E-04	0.	0.	1.59E-02

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 2900. DENSITY (GM/CC) 1.293E-04 (18.0E-02 NORMAL)

PARTIC 02 S-R ENERGY BANDS	M2 1ST POS	M2 2ND POS	M2 1ST NEG	M2 2ND NEG	NO BETA	NC GAMMA	NO VIB-ROT	NO 2	D- PHOTO-DET	N P.I.E.	N P.I.E.	O P.I.E.	TOTAL AIR
52	5.65	1.30E-02	0.	0.	5.30E-05	1.51E-03	0.	0.	0.	0.	0.	0.	1.44E-02
53	5.57	9.98E-03	0.	0.	1.50E-04	6.72E-03	0.	0.	0.	0.	0.	0.	1.68E-02
54	5.47	6.58E-03	0.	0.	7.75E-05	1.80E-03	0.	0.	0.	0.	0.	0.	6.84E-03
55	5.37	4.50E-03	0.	0.	6.08E-05	2.22E-03	0.	0.	0.	0.	0.	0.	6.78E-03
56	5.27	3.45E-03	0.	0.	4.53E-05	1.89E-04	0.	0.	0.	0.	0.	0.	2.29E-03
57	5.17	1.17E-03	0.	0.	2.70E-05	3.31E-04	0.	0.	0.	0.	0.	0.	1.54E-03
58	5.07	7.10E-04	0.	0.	1.43E-05	5.70E-04	0.	0.	0.	0.	0.	0.	1.30E-03
59	4.97	5.99E-04	0.	0.	1.86E-05	7.15E-04	0.	0.	0.	0.	0.	0.	6.89E-04
60	4.87	5.33E-04	0.	0.	1.31E-05	1.01E-04	0.	0.	0.	0.	0.	0.	7.14E-04
61	4.77	3.80E-04	0.	0.	6.38E-06	1.82E-05	0.	0.	0.	0.	0.	0.	4.19E-04
62	4.67	3.03E-04	0.	0.	6.11E-06	4.34E-05	0.	0.	0.	0.	0.	0.	3.57E-04
63	4.57	1.67E-04	0.	0.	3.45E-06	3.93E-06	0.	0.	0.	0.	0.	0.	2.01E-04
64	4.47	1.16E-04	0.	0.	2.27E-06	9.74E-06	0.	0.	0.	0.	0.	0.	1.35E-04
65	4.37	6.76E-05	0.	0.	1.40E-06	1.70E-06	0.	0.	0.	0.	0.	0.	7.79E-05
66	4.27	4.00E-05	0.	0.	8.08E-07	1.78E-06	0.	0.	0.	0.	0.	0.	5.01E-05
67	4.17	2.69E-05	0.	0.	5.20E-07	6.95E-07	0.	0.	0.	0.	0.	0.	3.56E-05
68	4.07	1.44E-05	0.	0.	3.40E-07	1.40E-07	0.	0.	0.	0.	0.	0.	2.27E-05
69	3.97	6.57E-06	0.	0.	1.95E-07	1.97E-07	0.	0.	0.	0.	0.	0.	1.50E-05
70	3.87	5.73E-06	0.	0.	1.51E-07	0.	0.	0.	0.	0.	0.	0.	1.43E-05
71	3.77	2.20E-06	0.	0.	4.39E-08	0.	0.	0.	0.	0.	0.	0.	1.11E-05
72	3.67	1.34E-06	0.	0.	4.00E-08	0.	0.	0.	0.	0.	0.	0.	1.05E-05
73	3.57	6.00E-07	0.	0.	1.30E-08	0.	0.	0.	0.	0.	0.	0.	1.04E-05
74	3.47	3.65E-07	0.	0.	1.49E-08	0.	0.	0.	0.	0.	0.	0.	1.74E-05
75	3.37	2.93E-07	0.	0.	4.08E-09	0.	0.	0.	0.	0.	0.	0.	1.05E-05
76	3.27	9.58E-08	0.	0.	3.33E-09	0.	0.	0.	0.	0.	0.	0.	1.07E-05
77	3.17	4.94E-08	0.	0.	1.70E-09	0.	0.	0.	0.	0.	0.	0.	1.08E-05
78	3.07	2.45E-08	0.	0.	1.05E-10	0.	0.	0.	0.	0.	0.	0.	1.05E-05
79	2.97	1.07E-08	0.	0.	2.30E-10	0.	0.	0.	0.	0.	0.	0.	1.02E-05
80	2.87	6.73E-09	0.	0.	6.09E-11	0.	0.	0.	0.	0.	0.	0.	9.73E-06
81	2.77	1.68E-09	0.	0.	4.09E-12	0.	0.	0.	0.	0.	0.	0.	9.20E-06
82	2.67	2.06E-10	0.	0.	5.85E-13	0.	0.	0.	0.	0.	0.	0.	6.53E-06
83	2.57	7.48E-12	0.	0.	4.73E-14	0.	0.	0.	0.	0.	0.	0.	7.89E-06
84	2.47	0.	0.	0.	2.10E-15	0.	0.	0.	0.	0.	0.	0.	7.21E-06
85	2.37	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.50E-06
86	2.27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.43E-06
87	2.17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.52E-06
88	2.07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.43E-06
89	1.97	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.50E-06
90	1.87	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.73E-06
91	1.77	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.11E-06
92	1.67	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.94E-07
93	1.57	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.91E-07
94	1.47	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.86E-07
95	1.37	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.43E-07
96	1.27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.55E-07
97	1.17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.60E-08
98	1.07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.87E-08
99	0.97	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.58E-08
100	0.87	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.99E-08
101	0.77	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.92E-07
102	0.67	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.08E-07

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTO 02 S-M ENERG. BANDS E.V.	SP 3-R CON.	N2 B-M NO. 1	TEMPERATURE (DEGREES K)		NO BETA	NO GAMMA	DENSITY (GM/CC)		NO 2	C- PHOTO-DET (IONS)	M P.I.E.	O P.I.E.	TOTAL AIR
			2000.	1.293E-05 (13.0E-03 NORMAL)									
1 10.70 0.	0.	0.	4.06E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.06E-06
2 10.60 0.	0.	0.	2.15E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.15E-06
3 10.50 0.	0.	0.	1.35E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.35E-06
4 10.40 0.	0.	0.	8.61E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.61E-07
5 10.30 0.	0.	0.	4.08E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.08E-07
6 10.20 0.	0.	0.	2.78E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.78E-07
7 10.10 0.	0.	0.	1.88E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.88E-07
8 10.00 0.	0.	0.	6.99E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.99E-08
9 9.90 0.	0.	0.	6.26E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.26E-08
10 9.80 0.	0.	0.	3.44E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.44E-08
11 9.70 0.	0.	0.	1.31E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.31E-08
12 9.60 0.	0.	0.	1.44E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.44E-08
13 9.50 0.	0.	0.	3.44E-02	4.85E-09	0.	0.	0.	0.	0.	0.	0.	0.	3.44E-02
14 9.40 0.	0.	0.	1.27E-01	3.14E-09	0.	0.	0.	0.	0.	0.	0.	0.	1.27E-01
15 9.30 0.	0.	0.	2.20E-01	2.49E-09	0.	0.	0.	0.	0.	0.	0.	0.	2.20E-01
16 9.20 0.	0.	0.	3.13E-01	6.09E-10	0.	0.	0.	0.	0.	0.	0.	0.	3.13E-01
17 9.10 0.	0.	0.	4.14E-01	9.15E-10	0.	0.	0.	0.	0.	0.	0.	0.	4.14E-01
18 9.00 0.	0.	0.	5.16E-01	2.90E-10	0.	0.	0.	0.	0.	0.	0.	0.	5.16E-01
19 8.90 0.	0.	0.	6.17E-01	1.92E-10	0.	0.	0.	0.	0.	0.	0.	0.	6.17E-01
20 8.80 0.	0.	0.	6.49E-01	1.25E-10	0.	0.	0.	0.	0.	0.	0.	0.	6.49E-01
21 8.70 0.	0.	0.	6.24E-01	4.15E-11	0.	0.	0.	0.	0.	0.	0.	0.	6.24E-01
22 8.60 0.	0.	0.	5.99E-01	4.71E-11	0.	0.	0.	0.	0.	0.	0.	0.	5.99E-01
23 8.50 0.	0.	0.	5.71E-01	1.37E-11	0.	0.	0.	0.	0.	0.	0.	0.	5.71E-01
24 8.40 0.	0.	0.	5.35E-01	1.34E-11	0.	0.	0.	0.	0.	0.	0.	0.	5.35E-01
25 8.30 0.	0.	0.	4.98E-01	4.43E-12	0.	0.	0.	0.	0.	0.	0.	0.	4.98E-01
26 8.20 0.	0.	0.	4.60E-01	3.48E-12	0.	0.	0.	0.	0.	0.	0.	0.	4.60E-01
27 8.10 0.	0.	0.	4.23E-01	1.42E-12	0.	0.	0.	0.	0.	0.	0.	0.	4.23E-01
28 8.00 0.	0.	0.	3.87E-01	9.82E-13	0.	0.	0.	0.	0.	0.	0.	0.	3.87E-01
29 7.90 0.	0.	0.	3.46E-01	4.24E-13	0.	0.	0.	0.	0.	0.	0.	0.	3.46E-01
30 7.80 0.	0.	0.	3.08E-01	3.08E-13	0.	0.	0.	0.	0.	0.	0.	0.	3.08E-01
31 7.70 0.	0.	0.	2.72E-01	1.42E-13	0.	0.	0.	0.	0.	0.	0.	0.	2.72E-01
32 7.60 0.	0.	0.	2.35E-01	7.94E-14	0.	0.	0.	0.	0.	0.	0.	0.	2.35E-01
33 7.50 0.	0.	0.	1.99E-01	4.09E-14	0.	0.	0.	0.	0.	0.	0.	0.	1.99E-01
34 7.40 0.	0.	0.	1.69E-01	2.16E-14	0.	0.	0.	0.	0.	0.	0.	0.	1.69E-01
35 7.30 0.	0.	0.	1.41E-01	1.19E-14	0.	0.	0.	0.	0.	0.	0.	0.	1.41E-01
36 7.20 0.	0.	0.	1.16E-01	5.53E-15	0.	0.	0.	0.	0.	0.	0.	0.	1.16E-01
37 7.10 0.	0.	0.	9.53E-02	2.96E-15	0.	0.	0.	0.	0.	0.	0.	0.	9.53E-02
38 7.00 1.83E-03	0.	0.	7.77E-02	1.49E-15	0.	0.	0.	0.	0.	0.	0.	0.	7.77E-02
39 6.90 2.69E-03	0.	0.	7.77E-02	7.77E-16	0.	0.	0.	0.	0.	0.	0.	0.	7.77E-02
40 6.80 1.62E-03	0.	0.	4.00E-02	4.00E-16	0.	0.	0.	0.	0.	0.	0.	0.	4.00E-02
41 6.70 8.25E-04	0.	0.	1.96E-02	1.96E-16	0.	0.	0.	0.	0.	0.	0.	0.	1.96E-02
42 6.60 3.83E-04	0.	0.	9.62E-03	9.62E-17	0.	0.	0.	0.	0.	0.	0.	0.	9.62E-03
43 6.50 1.91E-04	0.	0.	3.82E-03	3.82E-17	0.	0.	0.	0.	0.	0.	0.	0.	3.82E-03
44 6.40 2.77E-04	0.	0.	1.81E-05	5.38E-04	0.	0.	0.	0.	0.	0.	0.	0.	1.81E-05
45 6.30 4.40E-04	0.	0.	4.33E-05	3.09E-04	0.	0.	0.	0.	0.	0.	0.	0.	4.33E-05
46 6.20 6.93E-04	0.	0.	2.00E-05	6.65E-05	0.	0.	0.	0.	0.	0.	0.	0.	2.00E-05
47 6.10 1.06E-03	0.	0.	7.00E-05	1.10E-03	0.	0.	0.	0.	0.	0.	0.	0.	7.00E-05
48 6.00 2.62E-03	0.	0.	2.66E-05	2.66E-05	0.	0.	0.	0.	0.	0.	0.	0.	2.66E-05
49 5.90 2.71E-03	0.	0.	1.61E-02	3.37E-05	0.	0.	0.	0.	0.	0.	0.	0.	1.61E-02
50 5.80 2.33E-03	0.	0.	2.96E-04	3.30E-05	0.	0.	0.	0.	0.	0.	0.	0.	2.96E-04
51 5.70 1.35E-03	0.	0.	2.10E-05	1.30E-05	0.	0.	0.	0.	0.	0.	0.	0.	2.10E-05

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 2600. DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST DEG.	M2 2ND DEG.	BETA	NO GAMMA	NO VIB-RGT	NO 2	O- PHOTO-DET	FREE-FREE IONS	M P.E.	D P.F.	TOTAL AIR
52	5.60	1.30E-03	0.	0.	3.38E-06	1.51E-04	0.	0.	0.	0.	0.	0.	1.48E-03
53	5.50	9.96E-04	0.	0.	1.26E-05	6.73E-04	0.	0.	0.	0.	0.	0.	1.60E-03
54	5.47	6.57E-04	0.	0.	7.74E-06	1.88E-05	0.	0.	0.	0.	0.	0.	6.83E-04
55	5.35	4.49E-04	0.	0.	6.08E-06	2.22E-04	0.	0.	0.	0.	0.	0.	6.77E-04
56	5.20	1.44E-04	0.	0.	4.53E-06	7.99E-05	0.	0.	0.	0.	0.	0.	2.29E-04
57	5.10	1.17E-04	0.	0.	2.70E-06	3.31E-05	0.	0.	0.	0.	0.	0.	1.53E-04
58	5.00	7.09E-05	0.	0.	1.43E-06	5.70E-05	0.	0.	0.	0.	0.	0.	1.39E-04
59	4.90	5.94E-05	0.	0.	1.18E-06	7.15E-05	0.	0.	0.	0.	0.	0.	2.89E-05
60	4.80	5.32E-05	0.	0.	1.31E-06	1.61E-05	0.	0.	0.	0.	0.	0.	4.14E-05
61	4.70	3.67E-05	0.	0.	8.36E-07	1.82E-06	0.	0.	0.	0.	0.	0.	3.52E-05
62	4.60	3.01E-05	0.	0.	6.11E-07	4.33E-06	0.	0.	0.	0.	0.	0.	1.97E-05
63	4.50	1.87E-05	0.	0.	3.95E-07	3.93E-07	0.	0.	0.	0.	0.	0.	1.30E-05
64	4.40	1.16E-05	0.	0.	2.27E-07	9.76E-07	0.	0.	0.	0.	0.	0.	7.26E-06
65	4.30	6.75E-06	0.	0.	1.40E-07	1.78E-07	0.	0.	0.	0.	0.	0.	4.50E-06
66	4.20	4.00E-06	0.	0.	9.08E-08	1.78E-07	0.	0.	0.	0.	0.	0.	3.04E-06
67	4.10	2.69E-06	0.	0.	5.20E-08	6.55E-08	0.	0.	0.	0.	0.	0.	1.73E-06
68	4.00	1.43E-06	0.	0.	2.53E-08	1.40E-08	0.	0.	0.	0.	0.	0.	9.42E-07
69	3.90	6.56E-07	0.	0.	1.33E-08	1.57E-08	0.	0.	0.	0.	0.	0.	6.52E-07
70	3.80	5.72E-07	0.	0.	1.41E-08	0.	0.	0.	0.	0.	0.	0.	5.17E-07
71	3.70	5.28E-07	0.	0.	4.38E-08	0.	0.	0.	0.	0.	0.	0.	4.27E-07
72	3.60	1.34E-07	0.	0.	4.99E-09	0.	0.	0.	0.	0.	0.	0.	3.83E-07
73	3.50	7.99E-08	0.	0.	1.50E-09	0.	0.	0.	0.	0.	0.	0.	3.53E-07
74	3.40	3.65E-08	0.	0.	1.99E-09	0.	0.	0.	0.	0.	0.	0.	3.26E-07
75	3.30	2.02E-08	0.	0.	2.33E-10	0.	0.	0.	0.	0.	0.	0.	3.47E-07
76	3.20	9.48E-09	0.	0.	8.93E-11	0.	0.	0.	0.	0.	0.	0.	3.45E-07
77	3.10	4.95E-09	0.	0.	3.12E-10	0.	0.	0.	0.	0.	0.	0.	3.43E-07
78	3.00	2.45E-09	0.	0.	1.63E-11	0.	0.	0.	0.	0.	0.	0.	3.33E-07
79	2.90	1.04E-09	0.	0.	2.30E-11	0.	0.	0.	0.	0.	0.	0.	3.25E-07
80	2.80	6.72E-10	0.	0.	6.09E-12	0.	0.	0.	0.	0.	0.	0.	3.08E-07
81	2.70	1.68E-10	0.	0.	6.09E-13	0.	0.	0.	0.	0.	0.	0.	2.98E-07
82	2.60	2.06E-11	0.	0.	5.63E-14	0.	0.	0.	0.	0.	0.	0.	2.72E-07
83	2.50	7.43E-13	0.	0.	4.73E-15	0.	0.	0.	0.	0.	0.	0.	2.49E-07
84	2.40	0.	0.	0.	2.19E-16	0.	0.	0.	0.	0.	0.	0.	2.29E-07
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.99E-07
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.71E-07
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.43E-07
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.08E-07
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.29E-08
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.46E-08
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.59E-08
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.16E-08
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.88E-09
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.85E-10
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.53E-16
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.53E-15
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.00E-10
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.87E-10
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.88E-09
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.99E-09
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.91E-08
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.08E-08

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 2000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON ENERGY E.V.	02 S-R BANDS	02 S-R CONT.	M2 9-M NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DIST (IONS)	FREE-FREE N	N P.E.	0 P.E.	TOTAL AIR
1	10.70	0.	4.06E-07	0.	0.	0.	0.	0.	0.	0.	4.06E-07
2	10.60	0.	2.13E-07	0.	0.	0.	0.	0.	0.	0.	2.13E-07
3	10.50	0.	1.38E-07	0.	0.	0.	0.	0.	0.	0.	1.38E-07
4	10.40	0.	8.60E-08	0.	0.	0.	0.	0.	0.	0.	8.60E-08
5	10.30	0.	4.00E-08	0.	0.	0.	0.	0.	0.	0.	4.00E-08
6	10.20	0.	2.70E-08	0.	0.	0.	0.	0.	0.	0.	2.70E-08
7	10.10	0.	1.80E-08	0.	0.	0.	0.	0.	0.	0.	1.80E-08
8	10.00	0.	6.90E-09	0.	0.	0.	0.	0.	0.	0.	6.90E-09
9	9.90	0.	6.20E-09	0.	0.	0.	0.	0.	0.	0.	6.20E-09
10	9.80	0.	3.44E-09	0.	0.	0.	0.	0.	0.	0.	3.44E-09
11	9.70	0.	1.31E-09	0.	0.	0.	0.	0.	0.	0.	1.31E-09
12	9.60	0.	1.44E-09	0.	0.	0.	0.	0.	0.	0.	1.44E-09
13	9.50	0.	3.43E-03	4.64E-10	0.	0.	0.	0.	0.	0.	3.43E-03
14	9.40	0.	1.24E-02	3.14E-10	0.	0.	0.	0.	0.	0.	1.24E-02
15	9.30	0.	2.10E-02	2.40E-10	0.	0.	0.	0.	0.	0.	2.10E-02
16	9.20	0.	3.10E-02	6.00E-11	0.	0.	0.	0.	0.	0.	3.10E-02
17	9.10	0.	4.10E-02	9.15E-11	0.	0.	0.	0.	0.	0.	4.10E-02
18	9.00	0.	5.11E-02	2.69E-11	0.	0.	0.	0.	0.	0.	5.11E-02
19	8.90	0.	6.12E-02	1.92E-11	0.	0.	0.	0.	0.	0.	6.12E-02
20	8.80	0.	6.43E-02	1.25E-11	0.	0.	0.	0.	0.	0.	6.43E-02
21	8.70	0.	6.15E-02	4.15E-12	0.	0.	0.	0.	0.	0.	6.15E-02
22	8.60	0.	5.93E-02	4.70E-12	0.	0.	0.	0.	0.	0.	5.93E-02
23	8.50	0.	5.65E-02	1.37E-12	0.	0.	0.	0.	0.	0.	5.65E-02
24	8.40	0.	5.31E-02	1.34E-12	0.	0.	0.	0.	0.	0.	5.31E-02
25	8.30	0.	4.93E-02	4.43E-13	0.	0.	0.	0.	0.	0.	4.93E-02
26	8.20	0.	4.56E-02	3.40E-13	0.	0.	0.	0.	0.	0.	4.56E-02
27	8.10	0.	4.19E-02	1.42E-13	0.	0.	0.	0.	0.	0.	4.19E-02
28	8.00	0.	3.83E-02	9.81E-14	0.	0.	0.	0.	0.	0.	3.83E-02
29	7.90	0.	3.49E-02	4.26E-14	0.	0.	0.	0.	0.	0.	3.49E-02
30	7.80	0.	3.06E-02	3.93E-14	0.	0.	0.	0.	0.	0.	3.06E-02
31	7.70	0.	2.69E-02	1.42E-14	0.	0.	0.	0.	0.	0.	2.69E-02
32	7.60	0.	2.33E-02	7.94E-15	0.	0.	0.	0.	0.	0.	2.33E-02
33	7.50	0.	1.97E-02	4.00E-15	0.	0.	0.	0.	0.	0.	1.97E-02
34	7.40	0.	1.67E-02	2.18E-15	0.	0.	0.	0.	0.	0.	1.67E-02
35	7.30	0.	1.40E-02	1.18E-15	0.	0.	0.	0.	0.	0.	1.40E-02
36	7.20	0.	1.17E-02	5.53E-16	0.	0.	0.	0.	0.	0.	1.17E-02
37	7.10	0.	9.44E-03	2.98E-16	0.	0.	0.	0.	0.	0.	9.44E-03
38	7.00	1.02E-04	0.	1.49E-16	0.	0.	0.	0.	0.	0.	1.49E-04
39	6.90	2.59E-04	0.	7.77E-17	0.	0.	0.	0.	0.	0.	2.59E-04
40	6.80	1.61E-04	0.	4.00E-17	0.	0.	0.	0.	0.	0.	1.61E-04
41	6.70	8.20E-05	0.	1.94E-17	0.	0.	0.	0.	0.	0.	8.20E-05
42	6.60	3.84E-05	0.	9.62E-18	0.	0.	0.	0.	0.	0.	3.84E-05
43	6.50	1.51E-05	0.	3.72E-18	0.	0.	0.	0.	0.	0.	1.51E-05
44	6.40	2.76E-05	0.	9.52E-19	1.81E-06	5.34E-05	0.	0.	0.	0.	2.76E-05
45	6.30	4.37E-05	0.	1.54E-19	4.31E-06	3.06E-05	0.	0.	0.	0.	4.37E-05
46	6.20	7.57E-05	0.	2.00E-20	4.04E-06	6.37E-06	0.	0.	0.	0.	7.57E-05
47	6.10	1.05E-04	0.	2.66E-21	6.98E-06	1.10E-04	0.	0.	0.	0.	1.05E-04
48	6.00	2.41E-04	0.	2.88E-22	3.52E-06	1.37E-05	0.	0.	0.	0.	2.41E-04
49	5.90	2.70E-04	0.	1.60E-23	3.56E-06	7.11E-06	0.	0.	0.	0.	2.70E-04
50	5.80	2.32E-04	0.	2.98E-25	3.29E-06	2.23E-05	0.	0.	0.	0.	2.32E-04
51	5.70	1.34E-04	0.	2.09E-06	1.30E-06	0.	0.	0.	0.	0.	1.34E-04

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 2000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON ENERGY BANDS	MZ 1ST POS.	MZ 2ND POS.	MZ 1ST NEG.	MZ 2ND NEG.	BETA	NO GAMMA	NO VIB-ROT	NO PHOTO-DET	0- FREE-FREE (IONS)	N P.E.	0 P.E.	TOTAL AIR
52	5.60	1.29E-04	0.	0.	5.34E-07	1.51E-05	0.	0.	0.	0.	0.	1.45E-04
53	5.30	6.71E-05	0.	0.	1.72E-05	6.71E-05	0.	0.	0.	0.	0.	1.67E-04
54	5.40	6.53E-05	0.	0.	7.72E-07	1.89E-06	0.	0.	0.	0.	0.	6.79E-05
55	5.30	4.47E-05	0.	0.	6.06E-07	2.21E-05	0.	0.	0.	0.	0.	6.75E-05
56	5.20	1.43E-05	0.	0.	4.32E-07	7.96E-06	0.	0.	0.	0.	0.	2.20E-05
57	5.10	1.17E-05	0.	0.	2.49E-07	3.30E-06	0.	0.	0.	0.	0.	1.52E-05
58	5.00	7.05E-06	0.	0.	1.32E-07	5.49E-06	0.	0.	0.	0.	0.	1.23E-05
59	4.90	5.82E-06	0.	0.	1.38E-07	7.12E-07	0.	0.	0.	0.	0.	6.70E-06
60	4.80	5.29E-06	0.	0.	1.31E-07	1.61E-06	0.	0.	0.	0.	0.	7.04E-06
61	4.70	3.65E-06	0.	0.	6.33E-08	1.67E-07	0.	0.	0.	0.	0.	4.10E-06
62	4.60	2.99E-06	0.	0.	6.09E-08	4.32E-07	0.	0.	0.	0.	0.	3.49E-06
63	4.50	1.86E-06	0.	0.	3.44E-08	3.92E-08	0.	0.	0.	0.	0.	1.94E-06
64	4.40	1.15E-06	0.	0.	2.24E-08	9.73E-08	0.	0.	0.	0.	0.	1.28E-06
65	4.30	7.1E-07	0.	0.	1.38E-08	1.70E-08	0.	0.	0.	0.	0.	7.09E-07
66	4.20	3.98E-07	0.	0.	7.96E-09	1.70E-08	0.	0.	0.	0.	0.	4.32E-07
67	4.10	2.67E-07	0.	0.	2.54E-09	6.33E-09	0.	0.	0.	0.	0.	2.84E-07
68	4.00	1.42E-07	0.	0.	3.41E-10	1.40E-09	0.	0.	0.	0.	0.	1.59E-07
69	3.90	6.52E-08	0.	0.	1.52E-09	1.57E-09	0.	0.	0.	0.	0.	7.63E-08
70	3.8E	3.69E-08	0.	0.	1.41E-09	0.	0.	0.	0.	0.	0.	6.64E-08
71	3.70	2.37E-08	0.	0.	4.1E-10	0.	0.	0.	0.	0.	0.	3.18E-08
72	3.60	1.33E-08	0.	0.	4.96E-10	0.	0.	0.	0.	0.	0.	2.29E-08
73	3.50	7.94E-09	0.	0.	1.40E-10	0.	0.	0.	0.	0.	0.	1.70E-08
74	3.40	3.63E-09	0.	0.	1.48E-10	0.	0.	0.	0.	0.	0.	1.37E-08
75	3.30	2.01E-09	0.	0.	4.08E-11	0.	0.	0.	0.	0.	0.	1.23E-08
76	3.20	9.43E-10	0.	0.	9.92E-11	0.	0.	0.	0.	0.	0.	1.15E-08
77	3.10	4.92E-10	0.	0.	1.59E-11	0.	0.	0.	0.	0.	0.	1.12E-08
78	3.00	2.43E-10	0.	0.	6.22E-12	0.	0.	0.	0.	0.	0.	1.06E-08
79	2.90	1.06E-10	0.	0.	2.39E-12	0.	0.	0.	0.	0.	0.	1.02E-08
80	2.80	6.68E-11	0.	0.	6.07E-13	0.	0.	0.	0.	0.	0.	9.72E-09
81	2.70	1.67E-11	0.	0.	2.98E-13	0.	0.	0.	0.	0.	0.	9.14E-09
82	2.60	2.04E-12	0.	0.	5.63E-15	0.	0.	0.	0.	0.	0.	8.56E-09
83	2.50	7.39E-14	0.	0.	4.72E-16	0.	0.	0.	0.	0.	0.	7.83E-09
84	2.40	0.	0.	0.	2.19E-17	0.	0.	0.	0.	0.	0.	7.10E-09
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.26E-09
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.39E-09
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.49E-09
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.48E-09
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.58E-09
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.72E-09
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.10E-09
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.79E-10
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.79E-10
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.06E-10
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.43E-11
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.59E-11
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.57E-12
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.66E-11
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.64E-10
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.94E-10
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.90E-09
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.07E-09



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E.V.	O2 S-R BANDS	O2 S-R CONT.	N2 B-W NO. 1	TEMPERATURE (DEGREES K)		NO BETA	NO GAMMA	NO 2	O- PHOTO-DET (IONS)	FREE-FREE N P.E.	TOTAL AIR P.E.
				2000.	DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)						
1 10.70 0.	0.	0.	4.06E-08	0.	0.	0.	0.	0.	0.	0.	4.06E-08
2 10.60 0.	0.	0.	2.13E-08	0.	0.	0.	0.	0.	0.	0.	2.13E-08
3 10.50 0.	0.	0.	1.33E-08	0.	0.	0.	0.	0.	0.	0.	1.33E-08
4 10.40 0.	0.	0.	0.61E-09	0.	0.	0.	0.	0.	0.	0.	0.61E-09
5 10.30 0.	0.	0.	4.06E-09	0.	0.	0.	0.	0.	0.	0.	4.06E-09
6 10.20 0.	0.	0.	2.78E-09	0.	0.	0.	0.	0.	0.	0.	2.78E-09
7 10.10 0.	0.	0.	1.00E-09	0.	0.	0.	0.	0.	0.	0.	1.00E-09
8 10.00 0.	0.	0.	6.00E-10	0.	0.	0.	0.	0.	0.	0.	6.00E-10
9 9.90 0.	0.	0.	6.20E-10	0.	0.	0.	0.	0.	0.	0.	6.20E-10
10 9.80 0.	0.	0.	3.44E-10	0.	0.	0.	0.	0.	0.	0.	3.44E-10
11 9.70 0.	0.	0.	1.31E-10	0.	0.	0.	0.	0.	0.	0.	1.31E-10
12 9.60 0.	0.	0.	1.44E-10	0.	0.	0.	0.	0.	0.	0.	1.44E-10
13 9.50 0.	0.	3.37E-04	4.05E-11	0.	0.	0.	0.	0.	0.	0.	3.37E-04
14 9.40 0.	0.	1.25E-03	3.14E-11	0.	0.	0.	0.	0.	0.	0.	1.25E-03
15 9.30 0.	0.	2.16E-03	2.40E-11	0.	0.	0.	0.	0.	0.	0.	2.16E-03
16 9.20 0.	0.	3.07E-03	6.04E-12	0.	0.	0.	0.	0.	0.	0.	3.07E-03
17 9.10 0.	0.	4.04E-03	9.18E-12	0.	0.	0.	0.	0.	0.	0.	4.04E-03
18 9.00 0.	0.	5.00E-03	2.00E-12	0.	0.	0.	0.	0.	0.	0.	5.00E-03
19 8.90 0.	0.	6.00E-03	1.22E-12	0.	0.	0.	0.	0.	0.	0.	6.00E-03
20 8.80 0.	0.	6.36E-03	1.29E-12	0.	0.	0.	0.	0.	0.	0.	6.36E-03
21 8.70 0.	0.	6.17E-03	4.15E-13	0.	0.	0.	0.	0.	0.	0.	6.17E-03
22 8.60 0.	0.	5.87E-03	4.71E-13	0.	0.	0.	0.	0.	0.	0.	5.87E-03
23 8.50 0.	0.	5.60E-03	1.37E-13	0.	0.	0.	0.	0.	0.	0.	5.60E-03
24 8.40 0.	0.	5.24E-03	1.34E-13	0.	0.	0.	0.	0.	0.	0.	5.24E-03
25 8.30 0.	0.	4.89E-03	4.33E-14	0.	0.	0.	0.	0.	0.	0.	4.89E-03
26 8.20 0.	0.	4.51E-03	3.40E-14	0.	0.	0.	0.	0.	0.	0.	4.51E-03
27 8.10 0.	0.	4.15E-03	1.42E-14	0.	0.	0.	0.	0.	0.	0.	4.15E-03
28 8.00 0.	0.	3.79E-03	9.02E-15	0.	0.	0.	0.	0.	0.	0.	3.79E-03
29 7.90 0.	0.	3.41E-03	4.26E-15	0.	0.	0.	0.	0.	0.	0.	3.41E-03
30 7.80 0.	0.	3.03E-03	3.03E-15	0.	0.	0.	0.	0.	0.	0.	3.03E-03
31 7.70 0.	0.	2.66E-03	1.92E-15	0.	0.	0.	0.	0.	0.	0.	2.66E-03
32 7.60 0.	0.	2.31E-03	1.24E-15	0.	0.	0.	0.	0.	0.	0.	2.31E-03
33 7.50 0.	0.	1.95E-03	4.09E-16	0.	0.	0.	0.	0.	0.	0.	1.95E-03
34 7.40 0.	0.	1.66E-03	2.10E-16	0.	0.	0.	0.	0.	0.	0.	1.66E-03
35 7.30 0.	0.	1.39E-03	1.18E-16	0.	0.	0.	0.	0.	0.	0.	1.39E-03
36 7.20 0.	0.	1.16E-03	5.23E-17	0.	0.	0.	0.	0.	0.	0.	1.16E-03
37 7.10 0.	0.	9.35E-04	2.90E-17	0.	0.	0.	0.	0.	0.	0.	9.35E-04
38 7.00 1.78E-05	0.	1.40E-17	1.40E-17	0.	0.	0.	0.	0.	0.	0.	1.40E-17
39 6.90 2.54E-05	0.	7.77E-18	7.77E-18	0.	0.	0.	0.	0.	0.	0.	7.77E-18
40 6.80 1.50E-05	0.	4.00E-18	4.00E-18	0.	0.	0.	0.	0.	0.	0.	4.00E-18
41 6.70 8.06E-06	0.	1.98E-18	1.98E-18	0.	0.	0.	0.	0.	0.	0.	1.98E-18
42 6.60 3.74E-06	0.	9.63E-19	9.63E-19	0.	0.	0.	0.	0.	0.	0.	9.63E-19
43 6.50 1.48E-06	0.	3.02E-19	3.02E-19	0.	0.	0.	0.	0.	0.	0.	3.02E-19
44 6.40 2.71E-06	0.	9.53E-20	9.53E-20	0.	0.	0.	0.	0.	0.	0.	9.53E-20
45 6.30 4.29E-06	0.	1.54E-20	1.54E-20	0.	0.	0.	0.	0.	0.	0.	1.54E-20
46 6.20 7.82E-06	0.	2.00E-21	2.00E-21	0.	0.	0.	0.	0.	0.	0.	2.00E-21
47 6.10 1.81E-05	0.	6.92E-07	6.92E-07	0.	0.	0.	0.	0.	0.	0.	6.92E-07
48 6.00 2.76E-05	0.	2.80E-07	2.80E-07	0.	0.	0.	0.	0.	0.	0.	2.80E-07
49 5.90 2.65E-05	0.	1.61E-24	1.61E-24	0.	0.	0.	0.	0.	0.	0.	1.61E-24
50 5.80 2.28E-05	0.	2.08E-26	2.08E-26	0.	0.	0.	0.	0.	0.	0.	2.08E-26
51 5.70 1.32E-05	0.	0.	2.00E-07	1.24E-07	0.	0.	0.	0.	0.	0.	1.32E-05

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	Q2 5-R	1ST POS.	N2	N2 2ND POS.	N2+ 1ST NEG.	NO BETA	NO GAMMA	NO VIB-ROT	NO 2	O- PHOTO-DET (IONS)	FREE-FREE M P.E.	TOTAL AIR
52	5.50	1.27E-05	0.	0.	0.	5.31E-08	1.49E-06	0.	0.	0.	0.	1.42E-05
53	5.50	0.73E-06	0.	0.	0.	1.24E-07	6.65E-06	0.	0.	0.	0.	1.65E-05
54	5.40	6.41E-04	0.	0.	0.	7.65E-08	1.66E-07	0.	0.	0.	0.	6.67E-06
55	5.30	4.39E-06	0.	0.	0.	6.01E-08	2.20E-06	0.	0.	0.	0.	6.65E-06
56	5.20	1.41E-06	0.	0.	0.	4.48E-08	7.89E-07	0.	0.	0.	0.	2.24E-06
57	5.10	1.15E-06	0.	0.	0.	2.67E-08	3.27E-07	0.	1.76E-10	0.	0.	1.58E-06
58	5.0	6.92E-07	0.	0.	0.	1.41E-08	5.63E-07	0.	1.84E-10	0.	0.	1.23E-06
59	4.90	5.04E-07	0.	0.	0.	1.17E-08	7.06E-08	0.	1.91E-10	0.	0.	6.67E-07
60	4.80	3.18E-07	0.	0.	0.	1.29E-08	1.80E-07	0.	1.98E-10	0.	0.	6.92E-07
61	4.70	3.78E-07	0.	0.	0.	8.26E-09	1.60E-08	0.	2.80E-10	0.	0.	4.03E-07
62	4.60	2.94E-07	0.	0.	0.	6.03E-09	4.28E-08	0.	2.03E-10	0.	0.	3.43E-07
63	4.50	1.83E-07	0.	1.17E-22	0.	3.41E-09	3.89E-09	0.	2.11E-10	0.	0.	1.98E-07
64	4.40	1.13E-07	0.	3.15E-21	0.	2.24E-09	9.65E-09	0.	2.15E-10	0.	0.	1.25E-07
65	4.30	6.59E-08	0.	4.35E-22	0.	1.38E-09	1.68E-09	0.	2.22E-10	0.	0.	6.92E-08
66	4.20	3.98E-08	0.	2.47E-20	0.	8.98E-10	1.76E-09	0.	2.27E-10	0.	0.	4.19E-08
67	4.10	2.62E-08	0.	2.36E-22	0.	5.14E-10	6.47E-10	0.	2.33E-10	0.	0.	2.76E-08
68	4.00	1.40E-08	0.	1.93E-20	0.	3.41E-10	1.38E-10	0.	2.41E-10	0.	0.	1.47E-08
69	3.90	6.40E-09	0.	3.41E-20	0.	1.51E-10	1.95E-10	0.	2.49E-10	0.	0.	6.96E-09
70	3.80	5.59E-09	0.	3.50E-21	0.	1.33E-10	0.	0.	2.58E-10	0.	0.	5.99E-09
71	3.70	2.23E-09	0.	5.76E-20	0.	4.33E-11	0.	0.	2.76E-10	0.	0.	2.54E-09
72	3.60	1.31E-09	0.	1.93E-21	0.	4.93E-11	8.	0.	2.82E-10	0.	0.	1.64E-09
73	3.50	7.80E-10	0.	1.46E-20	0.	1.20E-11	0.	0.	2.91E-10	0.	0.	1.09E-09
74	3.40	3.50E-10	0.	3.46E-22	0.	1.47E-11	8.	0.	3.09E-10	0.	0.	6.88E-10
75	3.30	1.98E-10	0.	2.33E-21	0.	4.04E-12	8.	0.	3.19E-10	0.	0.	5.28E-10
76	3.20	9.26E-11	0.	8.84E-23	0.	3.79E-12	8.	0.	3.27E-10	0.	0.	4.23E-10
77	3.10	4.83E-11	0.	3.12E-22	0.	1.38E-12	8.	0.	3.31E-10	0.	0.	3.41E-10
78	3.00	2.39E-11	0.	1.83E-23	0.	8.75E-13	8.	0.	3.23E-10	0.	0.	3.47E-10
79	2.90	1.04E-11	0.	3.23E-23	0.	2.27E-13	8.	0.	3.15E-10	0.	0.	3.25E-10
80	2.80	6.54E-12	0.	2.33E-24	0.	6.02E-14	8.	0.	3.06E-10	0.	0.	3.06E-10
81	2.70	1.64E-12	0.	2.98E-24	0.	8.02E-15	8.	0.	2.82E-10	0.	0.	2.85E-10
82	2.60	2.01E-13	0.	3.93E-25	0.	3.56E-16	8.	0.	2.69E-10	0.	0.	2.64E-10
83	2.50	7.28E-15	0.	1.74E-25	0.	4.68E-17	8.	0.	2.43E-10	0.	0.	2.43E-10
84	2.40	0.	2.27E-22	0.	2.17E-18	0.	0.	0.	2.22E-10	0.	0.	2.22E-10
85	2.30	0.	3.12E-20	0.	0.	0.	0.	0.	1.94E-10	0.	0.	1.94E-10
86	2.20	0.	3.42E-20	0.	0.	0.	0.	0.	1.47E-10	0.	0.	1.47E-10
87	2.10	0.	3.14E-19	0.	0.	0.	0.	0.	1.39E-10	0.	0.	1.39E-10
88	2.00	0.	3.32E-19	0.	0.	0.	0.	0.	1.09E-10	0.	0.	1.09E-10
89	1.90	0.	3.46E-18	0.	0.	0.	0.	0.	8.01E-11	0.	0.	8.01E-11
90	1.80	0.	1.46E-17	0.	0.	0.	0.	0.	5.35E-11	0.	0.	5.35E-11
91	1.70	0.	4.14E-16	0.	0.	0.	0.	0.	3.42E-11	0.	0.	3.42E-11
92	1.60	0.	9.31E-16	0.	0.	0.	0.	0.	2.11E-11	0.	0.	2.11E-11
93	1.50	0.	3.47E-16	0.	0.	0.	0.	0.	8.67E-12	0.	0.	8.67E-12
94	1.40	0.	1.86E-17	0.	0.	0.	0.	0.	1.86E-12	0.	0.	1.86E-12
95	1.30	0.	2.43E-18	0.	0.	0.	0.	0.	0.	0.	0.	2.43E-18
96	1.20	0.	1.59E-17	0.	0.	0.	0.	0.	0.98E-12	0.	0.	1.55E-17
97	1.10	0.	1.82E-18	0.	0.	0.	0.	0.	1.82E-12	0.	0.	8.58E-12
98	1.00	0.	5.11E-18	0.	0.	0.	0.	0.	1.82E-12	0.	0.	1.89E-12
99	0.90	0.	1.15E-18	0.	0.	0.	0.	0.	6.80E-11	0.	0.	6.80E-11
100	0.80	0.	6.33E-19	0.	0.	0.	0.	0.	1.97E-11	0.	0.	1.97E-11
101	0.70	0.	1.84E-19	0.	0.	0.	0.	0.	3.97E-10	0.	0.	3.97E-10
102	0.60	0.	1.19E-24	0.	0.	0.	0.	0.	1.66E-10	0.	0.	1.66E-10

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY E.V.	OZ S-R BANDS	OZ S-R CONT.	TEMPERATURE (DEGREES K)	NO. 1 M2 S-M	NO. BETA	NO. GAMMA	DENSITY (GM/CC)		NO. 2	O- PHOTO-DET (TONS)	N P.S.	O P.S.	TOTAL AIR
							1.293E-00	(10.0E-66 NORMAL)					
1	10.70 0.	0.	4.04E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.04E-09
2	10.60 0.	0.	2.13E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.13E-09
3	10.50 0.	0.	1.33E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.33E-09
4	10.40 0.	0.	8.61E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.61E-10
5	10.30 0.	0.	4.96E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.96E-10
6	10.20 0.	0.	2.70E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.70E-10
7	10.10 0.	0.	1.60E-10	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.60E-10
8	10.00 0.	0.	6.99E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.99E-11
9	9.90 0.	0.	6.20E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.20E-11
10	9.80 0.	0.	3.44E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.44E-11
11	9.70 0.	0.	1.51E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.51E-11
12	9.60 0.	0.	1.44E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.44E-11
13	9.50 0.	3.17E-05	4.85E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.17E-05
14	9.40 0.	1.17E-04	3.14E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.17E-04
15	9.30 0.	2.03E-04	2.49E-12	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.03E-04
16	9.20 0.	2.89E-04	6.09E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.89E-04
17	9.10 0.	3.61E-04	9.15E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.61E-04
18	9.00 0.	4.75E-04	2.90E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.75E-04
19	8.90 0.	5.69E-04	1.92E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.69E-04
20	8.80 0.	5.99E-04	1.25E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.99E-04
21	8.70 0.	5.74E-04	4.15E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.74E-04
22	8.60 0.	5.52E-04	4.70E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.52E-04
23	8.50 0.	5.26E-04	1.37E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.26E-04
24	8.40 0.	4.94E-04	1.34E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.94E-04
25	8.30 0.	4.54E-04	4.43E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.54E-04
26	8.20 0.	4.24E-04	3.40E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.24E-04
27	8.10 0.	3.90E-04	1.42E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.90E-04
28	8.00 0.	3.54E-04	9.82E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.54E-04
29	7.90 0.	3.21E-04	4.26E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.21E-04
30	7.80 0.	2.85E-04	3.03E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.85E-04
31	7.70 0.	2.50E-04	1.42E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.50E-04
32	7.60 0.	2.17E-04	7.94E-17	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.17E-04
33	7.50 0.	1.83E-04	4.69E-17	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.83E-04
34	7.40 0.	1.54E-04	2.10E-17	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.54E-04
35	7.30 0.	1.30E-04	1.10E-17	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.30E-04
36	7.20 0.	1.09E-04	5.53E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.09E-04
37	7.10 0.	8.74E-05	2.90E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.74E-05
38	7.00 0.	7.10E-05	1.49E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.10E-05
39	6.90 0.	2.40E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.40E-06
40	6.80 0.	1.49E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.49E-06
41	6.70 0.	7.68E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.68E-07
42	6.60 0.	3.53E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.53E-07
43	6.50 0.	1.40E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.40E-07
44	6.40 0.	2.55E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.55E-07
45	6.30 0.	4.05E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.05E-07
46	6.20 0.	7.38E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.38E-07
47	6.10 0.	1.74E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.74E-06
48	6.00 0.	2.69E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.69E-06
49	5.90 0.	2.59E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.59E-06
50	5.80 0.	2.15E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.15E-06
51	5.73 0.	1.24E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.24E-06

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	M2 2ND NEG.	TEMPERATURE (DEGREES K)	2000.				DENSITY (GM/CC) 1.293E-08 (10.0E-06 NORMAL)				TOTAL AIR
						NO BETA	NO GAMMA	NO VIB-ROT	NO PHOTO-DET (IONS)	FRSE-FREE M	P.E.	D	P.E.	
52	3.50	1.28E-06	0.	0.	0.	1.23E-09	1.45E-07	0.	0.	0.	0.	0.	0.	1.35E-04
53	5.0	9.14E-07	0.	0.	0.	1.23E-08	4.46E-07	0.	0.	0.	0.	0.	0.	1.58E-04
54	5.40	6.02E-07	0.	0.	0.	7.43E-09	1.81E-08	0.	0.	0.	0.	0.	0.	6.38E-07
55	5.30	4.14E-07	0.	0.	0.	5.83E-09	2.13E-07	0.	0.	0.	0.	0.	0.	2.14E-07
56	5.20	1.33E-07	0.	0.	0.	4.35E-09	7.67E-08	0.	0.	0.	0.	0.	0.	1.42E-07
57	5.10	1.88E-07	0.	0.	0.	2.59E-09	3.18E-08	0.	0.	0.	0.	0.	0.	1.21E-07
58	5.00	6.53E-08	0.	0.	0.	1.37E-09	5.47E-08	0.	0.	0.	0.	0.	0.	6.31E-08
59	4.90	5.51E-08	0.	0.	0.	1.13E-09	6.84E-08	0.	0.	0.	0.	0.	0.	6.57E-08
60	4.80	4.94E-08	0.	0.	0.	1.24E-09	1.95E-08	0.	0.	0.	0.	0.	0.	3.88E-08
61	4.70	3.56E-08	0.	0.	0.	8.02E-10	1.56E-09	0.	0.	0.	0.	0.	0.	3.24E-08
62	4.60	2.77E-08	0.	0.	0.	5.66E-10	4.16E-09	0.	0.	0.	0.	0.	0.	1.79E-08
63	4.50	1.72E-08	0.	0.	0.	3.31E-10	3.77E-10	0.	0.	0.	0.	0.	0.	1.16E-08
64	4.40	1.07E-08	0.	0.	0.	2.17E-10	9.37E-10	0.	0.	0.	0.	0.	0.	6.52E-09
65	4.30	6.22E-09	0.	0.	0.	1.34E-10	1.63E-10	0.	0.	0.	0.	0.	0.	3.95E-09
66	4.20	3.64E-09	0.	0.	0.	8.72E-11	1.71E-10	0.	0.	0.	0.	0.	0.	2.58E-09
67	4.10	2.47E-09	0.	0.	0.	4.98E-11	4.28E-11	0.	0.	0.	0.	0.	0.	1.37E-09
68	4.00	1.32E-09	0.	0.	0.	3.32E-11	1.34E-11	0.	0.	0.	0.	0.	0.	6.41E-10
69	3.90	6.64E-10	0.	0.	0.	1.47E-11	1.51E-11	0.	0.	0.	0.	0.	0.	5.48E-10
70	3.80	3.27E-10	0.	0.	0.	1.35E-11	0.	0.	0.	0.	0.	0.	0.	2.25E-10
71	3.70	2.10E-10	0.	0.	0.	4.21E-12	0.	0.	0.	0.	0.	0.	0.	1.36E-10
72	3.60	1.23E-10	0.	0.	0.	4.79E-12	0.	0.	0.	0.	0.	0.	0.	8.38E-11
73	3.50	7.36E-11	0.	0.	0.	1.28E-12	0.	0.	0.	0.	0.	0.	0.	4.48E-11
74	3.40	3.36E-11	0.	0.	0.	1.43E-12	0.	0.	0.	0.	0.	0.	0.	2.85E-11
75	3.30	1.86E-11	0.	0.	0.	3.92E-13	0.	0.	0.	0.	0.	0.	0.	1.89E-11
76	3.20	8.74E-12	0.	0.	0.	3.68E-13	0.	0.	0.	0.	0.	0.	0.	1.46E-11
77	3.10	4.54E-12	0.	0.	0.	1.34E-13	0.	0.	0.	0.	0.	0.	0.	1.26E-11
78	3.00	2.24E-12	0.	0.	0.	8.95E-14	0.	0.	0.	0.	0.	0.	0.	1.05E-11
79	2.90	9.01E-13	0.	0.	0.	3.20E-14	0.	0.	0.	0.	0.	0.	0.	9.37E-12
80	2.80	6.19E-13	0.	0.	0.	5.85E-15	0.	0.	0.	0.	0.	0.	0.	8.52E-12
81	2.70	1.55E-13	0.	0.	0.	5.95E-16	0.	0.	0.	0.	0.	0.	0.	7.95E-12
82	2.60	1.89E-14	0.	0.	0.	5.42E-17	0.	0.	0.	0.	0.	0.	0.	6.44E-12
83	2.50	6.85E-15	0.	0.	0.	4.54E-18	0.	0.	0.	0.	0.	0.	0.	5.89E-12
84	2.40	0.	0.	0.	0.	2.10E-19	0.	0.	0.	0.	0.	0.	0.	4.99E-12
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.16E-12
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.16E-12
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.39E-12
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.80E-12
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.32E-12
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-12
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.29E-13
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.38E-13
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.95E-13
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.86E-13
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.33E-13
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.76E-13
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.16E-13
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.70E-13
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.41E-13
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.16E-13
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.91E-13
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.68E-13



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 2000. DENSITY (GM/CC) 1.293E-09 (18.0E-07 NORMAL)

PHOTON QZ S-R ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2* 1ST NEG.	M2* 2ND NEG.	BETA	NO GAMMA	NO GAMMA	NO VIB-ROT	NO VIB-ROT	O- PHOTO-DET	O- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	O P.E.	TOTAL AIR
52	5.60	9.98E-08	0.	0.	4.71E-10	1.32E-08	0.	0.	0.	0.	0.	0.	0.	0.	1.14E-07
53	5.50	7.65E-08	0.	0.	1.12E-09	5.90E-08	0.	0.	0.	0.	0.	0.	0.	0.	1.37E-07
54	5.40	5.04E-08	0.	0.	6.79E-10	1.65E-09	0.	0.	0.	0.	0.	0.	0.	0.	5.28E-08
55	5.30	3.45E-08	0.	0.	5.33E-10	1.95E-08	0.	0.	0.	0.	0.	0.	0.	0.	5.55E-08
56	5.20	1.11E-08	0.	0.	3.97E-10	7.00E-09	0.	0.	0.	0.	0.	0.	0.	0.	1.85E-08
57	5.10	9.01E-09	0.	0.	2.37E-10	2.90E-09	0.	0.	0.	0.	0.	0.	0.	0.	1.22E-08
58	5.00	5.44E-09	0.	0.	1.25E-10	5.07E-09	0.	0.	0.	0.	0.	0.	0.	0.	1.06E-08
59	4.90	4.68E-09	0.	0.	1.04E-10	6.26E-10	0.	0.	0.	0.	0.	0.	0.	0.	5.33E-09
60	4.80	4.08E-09	0.	0.	7.15E-11	1.41E-09	0.	0.	0.	0.	0.	0.	0.	0.	5.6E-09
61	4.70	2.97E-09	0.	0.	7.33E-11	1.42E-10	0.	0.	0.	0.	0.	0.	0.	0.	3.19E-09
62	4.60	2.31E-09	0.	0.	5.35E-11	3.80E-10	0.	0.	0.	0.	0.	0.	0.	0.	2.74E-09
63	4.50	1.44E-09	0.	0.	3.02E-11	3.45E-11	0.	0.	0.	0.	0.	0.	0.	0.	1.58E-09
64	4.40	8.91E-10	0.	0.	3.33E-11	3.45E-11	0.	0.	0.	0.	0.	0.	0.	0.	9.96E-10
65	4.30	5.19E-10	0.	0.	1.22E-11	1.49E-11	0.	0.	0.	0.	0.	0.	0.	0.	5.46E-10
66	4.20	3.07E-10	0.	0.	2.47E-12	3.66E-12	0.	0.	0.	0.	0.	0.	0.	0.	3.31E-10
67	4.10	2.04E-10	0.	0.	4.54E-12	5.74E-12	0.	0.	0.	0.	0.	0.	0.	0.	2.17E-10
68	4.00	1.10E-10	0.	0.	3.03E-12	1.23E-12	0.	0.	0.	0.	0.	0.	0.	0.	1.15E-10
69	3.90	5.04E-11	0.	0.	1.34E-12	1.37E-12	0.	0.	0.	0.	0.	0.	0.	0.	5.33E-11
70	3.80	4.39E-11	0.	0.	1.24E-12	1.37E-12	0.	0.	0.	0.	0.	0.	0.	0.	4.54E-11
71	3.70	1.75E-11	0.	0.	3.84E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.61E-11
72	3.60	1.03E-11	0.	0.	4.38E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.09E-11
73	3.50	4.33E-12	0.	0.	1.14E-13	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.48E-12
74	3.40	2.18E-12	0.	0.	3.58E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.18E-12
75	3.30	1.59E-12	0.	0.	1.31E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.04E-12
76	3.20	7.28E-13	0.	0.	6.94E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-12
77	3.10	3.80E-13	0.	0.	1.22E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.53E-13
78	3.00	1.88E-13	0.	0.	7.76E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.58E-13
79	2.90	8.18E-14	0.	0.	2.01E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.31E-13
80	2.80	5.16E-14	0.	0.	5.34E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.68E-13
81	2.70	1.29E-14	0.	0.	5.34E-17	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.36E-13
82	2.60	1.50E-15	0.	0.	4.95E-18	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.11E-13
83	2.50	5.71E-17	0.	0.	4.15E-19	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.91E-13
84	2.40	0.	0.	0.	1.92E-20	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.75E-13
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.53E-13
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.32E-13
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.18E-13
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.32E-14
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.38E-14
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.21E-14
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.69E-14
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.64E-14
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.82E-15
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.86E-15
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.44E-16
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.59E-16
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.54E-17
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.64E-17
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.03E-18
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.74E-18
101	0.75	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.43E-19
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.44E-20

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 3000. DENSITY (GM/CC) 1.293E-02 ( I.O.E. IS AIRDRAUGHT)

PHOTON ENERGY E.V.	O2 S-R SANDS CONT.	O2 S-R NO. 1	M2 B-H NO. 1	NO BETA	NO GAMMA	NO 2	D- PHOTO-DET (IONS)	FREE-FREE M	0 P.E.	TOTAL AIR
1 10.70 0.	0.	2.67E-01	0.	0.	0.	0.	1.77E-00 0.	0.	0.	2.67E-01
2 10.60 0.	0.	1.69E-01	0.	0.	0.	0.	1.76E-00 0.	0.	0.	1.69E-01
3 10.50 0.	0.	1.32E-01	0.	0.	0.	0.	1.76E-00 0.	0.	0.	1.32E-01
4 10.40 0.	0.	9.57E-02	0.	0.	0.	0.	1.76E-00 0.	0.	0.	9.57E-02
5 10.30 0.	0.	5.71E-02	0.	0.	0.	0.	1.76E-00 0.	0.	0.	5.71E-02
6 10.20 0.	0.	4.04E-02	0.	0.	0.	0.	1.76E-00 0.	0.	0.	4.04E-02
7 10.10 0.	0.	3.02E-02	0.	0.	0.	0.	1.76E-00 0.	0.	0.	3.02E-02
8 10.00 0.	0.	1.82E-02	0.	0.	0.	0.	1.76E-00 0.	0.	0.	1.82E-02
9 9.90 0.	0.	1.13E-02	0.	0.	0.	0.	1.76E-00 0.	0.	0.	1.13E-02
10 9.80 0.	0.	5.99E-03	0.	0.	0.	0.	1.80E-00 0.	0.	0.	5.99E-03
11 9.70 0.	0.	6.47E-03	0.	0.	0.	0.	1.80E-00 0.	0.	0.	6.47E-03
12 9.60 0.	0.	2.77E-01	0.	0.	0.	0.	1.61E-00 0.	0.	0.	2.77E-01
13 9.50 0.	0.	1.53E-01	0.	0.	0.	0.	1.61E-00 0.	0.	0.	1.53E-01
14 9.40 0.	0.	1.28E-01	0.	0.	0.	0.	1.62E-00 0.	0.	0.	1.28E-01
15 9.30 0.	0.	2.52E-02	0.	0.	0.	0.	1.62E-00 0.	0.	0.	2.52E-02
16 9.20 0.	0.	3.24E-02	0.	0.	0.	0.	1.62E-00 0.	0.	0.	3.24E-02
17 9.10 0.	0.	3.95E-02	0.	0.	0.	0.	1.64E-00 0.	0.	0.	3.95E-02
18 9.00 0.	0.	4.65E-02	0.	0.	0.	0.	1.65E-00 0.	0.	0.	4.65E-02
19 8.90 0.	0.	4.84E-02	0.	0.	0.	0.	1.65E-00 0.	0.	0.	4.84E-02
20 8.80 0.	0.	4.61E-02	0.	0.	0.	0.	1.67E-00 0.	0.	0.	4.61E-02
21 8.70 0.	0.	4.39E-02	0.	0.	0.	0.	1.67E-00 0.	0.	0.	4.39E-02
22 8.60 0.	0.	4.16E-02	0.	0.	0.	0.	1.67E-00 0.	0.	0.	4.16E-02
23 8.50 0.	0.	3.93E-02	0.	0.	0.	0.	1.68E-00 0.	0.	0.	3.93E-02
24 8.40 0.	0.	3.72E-02	0.	0.	0.	0.	1.68E-00 0.	0.	0.	3.72E-02
25 8.30 0.	0.	3.49E-02	0.	0.	0.	0.	1.69E-00 0.	0.	0.	3.49E-02
26 8.20 0.	0.	3.24E-02	0.	0.	0.	0.	1.91E-00 5.37E-16	0.	0.	3.24E-02
27 8.10 0.	0.	3.00E-02	0.	0.	0.	0.	1.92E-00 5.57E-16	0.	0.	3.00E-02
28 8.00 0.	0.	2.77E-02	0.	0.	0.	0.	1.93E-00 5.70E-16	0.	0.	2.77E-02
29 7.90 0.	0.	2.52E-02	0.	0.	0.	0.	1.94E-00 5.81E-16	0.	0.	2.52E-02
30 7.80 0.	0.	2.32E-02	0.	0.	0.	0.	1.95E-00 6.25E-16	0.	0.	2.32E-02
31 7.70 0.	0.	2.09E-02	0.	0.	0.	0.	1.96E-00 6.50E-16	0.	0.	2.09E-02
32 7.60 0.	0.	1.85E-02	0.	0.	0.	0.	1.97E-00 6.76E-16	0.	0.	1.85E-02
33 7.50 0.	0.	1.64E-02	0.	0.	0.	0.	1.98E-00 7.04E-16	0.	0.	1.64E-02
34 7.40 0.	0.	1.47E-02	0.	0.	0.	0.	1.99E-00 7.34E-16	0.	0.	1.47E-02
35 7.30 0.	0.	1.28E-02	0.	0.	0.	0.	2.00E-00 7.65E-16	0.	0.	1.28E-02
36 7.20 0.	0.	1.08E-02	0.	0.	0.	0.	2.02E-00 7.68E-16	0.	0.	1.08E-02
37 7.10 0.	0.	1.08E-02	0.	0.	0.	0.	2.04E-00 8.32E-16	0.	0.	1.08E-02
38 7.00 0.	0.	9.49E-01	0.	0.	0.	0.	2.05E-00 8.69E-16	0.	0.	9.49E-01
39 6.90 0.	0.	6.10E-01	0.	0.	0.	0.	2.07E-00 9.08E-16	0.	0.	6.10E-01
40 6.80 0.	0.	3.79E-01	0.	0.	0.	0.	2.09E-00 9.50E-16	0.	0.	3.79E-01
41 6.70 0.	0.	2.39E-01	0.	0.	0.	0.	2.10E-00 9.93E-16	0.	0.	2.39E-01
42 6.60 0.	0.	1.65E-01	0.	0.	0.	0.	2.14E-00 1.04E-15	0.	0.	1.65E-01
43 6.50 0.	0.	1.09E-01	0.	0.	0.	0.	2.15E-00 1.09E-15	0.	0.	1.09E-01
44 6.40 0.	0.	7.39E-02	0.	0.	0.	0.	2.15E-00 1.14E-15	0.	0.	7.39E-02
45 6.30 0.	0.	5.33E-02	0.	0.	0.	0.	2.17E-00 1.20E-15	0.	0.	5.33E-02
46 6.20 0.	0.	3.81E-01	0.	0.	0.	0.	2.19E-00 1.26E-15	0.	0.	3.81E-01
47 6.10 0.	0.	2.52E-01	0.	0.	0.	0.	2.20E-00 1.32E-15	0.	0.	2.52E-01
48 6.00 0.	0.	1.65E-01	0.	0.	0.	0.	2.20E-00 1.39E-15	0.	0.	1.65E-01
49 5.90 0.	0.	1.08E-01	0.	0.	0.	0.	2.04E-00 1.54E-15	0.	0.	1.08E-01
50 5.80 0.	0.	7.39E-02	0.	0.	0.	0.	2.04E-00 1.54E-15	0.	0.	7.39E-02
51 5.70 0.	0.	5.33E-02	0.	0.	0.	0.	2.04E-00 1.54E-15	0.	0.	5.33E-02

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	M2 2ND NEG.	NO BETA	LO GAMMA	NO VIB-007	NO VIB-008	O- PHOTO-DET (10AS)	FREE-FREE P.E.	M P.E.	D P.E.	TOTAL AIR
52	5.60	4.90E-01	0.0	0.0	9.00E-02	1.37E-00	0.0	0.0	1.00E-06	1.63E-15	0.0	0.0	6.43E-00
53	5.50	4.24E-00	0.0	0.0	1.47E-01	2.69E-00	0.0	0.0	1.60E-06	1.72E-15	0.0	0.0	7.27E-00
54	5.40	3.43E-00	0.0	0.0	9.65E-02	3.42E-01	0.0	0.0	1.91E-06	1.82E-15	0.0	0.0	8.07E-00
55	5.30	2.60E-00	0.0	0.0	9.35E-02	4.51E-00	0.0	0.0	1.93E-06	1.92E-15	0.0	0.0	8.90E-00
56	5.20	1.81E-00	0.0	0.0	7.99E-02	4.95E-01	0.0	0.0	1.94E-06	2.03E-15	0.0	0.0	1.00E-00
57	5.10	1.00E-01	0.0	0.0	6.82E-02	4.86E-01	0.0	0.0	1.47E-02	1.94E-06	2.16E-15	0.0	1.56E-00
58	5.00	6.33E-01	0.0	0.0	3.91E-02	5.35E-01	0.0	0.0	1.48E-02	1.97E-06	2.29E-15	0.0	1.22E-00
59	4.90	3.28E-01	0.0	0.0	3.57E-02	1.87E-01	0.0	0.0	1.48E-02	1.99E-06	2.33E-15	0.0	7.66E-01
60	4.80	5.21E-01	0.0	0.0	3.70E-02	2.51E-01	0.0	0.0	1.49E-02	2.00E-06	2.50E-15	0.0	6.23E-01
61	4.70	4.98E-01	0.0	0.0	2.80E-02	2.20E-02	0.0	0.0	1.49E-02	2.02E-06	2.74E-15	0.0	5.37E-01
62	4.60	4.18E-01	0.0	0.0	2.35E-02	1.19E-01	0.0	0.0	1.50E-02	2.04E-06	2.94E-15	0.0	5.07E-01
63	4.50	3.14E-01	0.0	4.38E-11	1.57E-02	2.87E-02	0.0	0.0	1.51E-02	2.05E-06	3.14E-15	0.0	3.76E-01
64	4.40	2.39E-01	0.0	4.79E-10	1.28E-02	3.96E-02	0.0	0.0	1.52E-02	2.07E-06	3.36E-15	0.0	3.06E-01
65	4.30	1.64E-01	0.0	3.31E-10	8.09E-03	9.04E-03	0.0	0.0	1.53E-02	2.09E-06	3.60E-15	0.0	1.90E-01
66	4.20	1.17E-01	0.0	3.06E-09	7.34E-03	1.19E-02	0.0	0.0	1.54E-02	2.10E-06	3.84E-15	0.0	1.52E-01
67	4.10	7.2E-02	0.0	1.76E-09	5.01E-03	3.20E-03	0.0	0.0	1.54E-02	2.11E-06	4.15E-15	0.0	1.11E-01
68	4.00	5.85E-02	0.0	4.79E-09	2.81E-03	1.41E-03	0.0	0.0	1.55E-02	2.12E-06	4.47E-15	0.0	7.93E-02
69	3.90	3.40E-02	0.0	3.78E-09	5.14E-17	2.21E-03	1.05E-03	0.0	1.56E-02	2.11E-06	4.82E-15	0.0	5.29E-02
70	3.80	3.21E-02	0.0	1.23E-09	5.94E-13	2.19E-03	0.0	0.0	1.57E-02	2.10E-06	5.21E-15	0.0	5.21E-02
71	3.70	1.74E-02	0.0	7.98E-09	1.34E-14	9.81E-04	0.0	0.0	1.58E-02	2.07E-06	5.63E-15	0.0	3.42E-02
72	3.60	1.20E-02	0.0	5.18E-10	1.13E-13	1.12E-03	0.0	0.0	1.59E-02	1.94E-06	6.13E-15	0.0	2.91E-02
73	3.50	8.35E-03	0.0	2.89E-09	3.21E-14	4.43E-04	0.0	0.0	1.60E-02	1.77E-06	6.67E-15	0.0	2.40E-02
74	3.40	5.02E-03	0.0	2.48E-10	4.55E-17	5.01E-04	0.0	0.0	1.61E-02	1.62E-06	7.28E-15	0.0	2.16E-02
75	3.30	3.21E-03	0.0	7.21E-10	2.66E-16	2.11E-04	0.0	0.0	1.61E-02	1.63E-06	7.94E-15	0.0	1.92E-02
76	3.20	1.87E-03	0.0	9.44E-11	5.09E-14	2.01E-04	0.0	0.0	1.61E-02	1.63E-06	8.73E-15	0.0	1.62E-02
77	3.10	1.20E-03	0.0	1.90E-10	9.04E-17	1.11E-04	0.0	0.0	1.68E-02	1.63E-06	9.61E-15	0.0	1.74E-02
78	3.00	7.75E-04	0.0	2.83E-11	2.94E-15	7.67E-05	0.0	0.0	1.59E-02	1.63E-06	1.06E-14	0.0	1.67E-02
79	2.90	4.38E-04	0.0	2.35E-11	7.07E-15	2.97E-05	0.0	0.0	1.57E-02	1.63E-06	1.17E-14	0.0	1.62E-02
80	2.80	3.32E-04	0.0	4.94E-12	1.07E-14	1.00E-05	0.0	0.0	1.54E-02	1.63E-06	1.30E-14	0.0	1.57E-02
81	2.70	1.17E-04	0.0	3.16E-12	1.34E-15	2.05E-06	0.0	0.0	1.50E-02	1.63E-06	1.45E-14	0.0	1.51E-02
82	2.60	2.46E-05	0.0	9.76E-13	3.04E-16	3.82E-07	0.0	0.0	1.46E-02	1.63E-06	1.63E-14	0.0	1.45E-02
83	2.50	1.20E-06	0.0	2.63E-13	2.12E-17	5.23E-08	0.0	0.0	1.40E-02	1.63E-06	1.83E-14	0.0	1.40E-02
84	2.40	0.0	0.0	7.74E-11	9.73E-17	3.50E-09	0.0	0.0	1.34E-02	1.63E-06	2.07E-14	0.0	1.34E-02
85	2.30	0.0	0.0	2.43E-09	0.0	0.0	0.0	0.0	1.25E-02	1.63E-06	2.35E-14	0.0	1.25E-02
86	2.20	0.0	0.0	2.30E-09	0.0	0.0	0.0	0.0	1.16E-02	1.62E-06	2.69E-14	0.0	1.16E-02
87	2.10	0.0	0.0	1.98E-08	0.0	0.0	0.0	0.0	1.05E-02	1.62E-06	3.09E-14	0.0	1.05E-02
88	2.00	0.0	0.0	1.10E-08	0.0	0.0	0.0	0.0	9.62E-03	9.66E-07	3.50E-14	0.0	9.62E-03
89	1.90	0.0	0.0	1.01E-07	0.0	0.0	0.0	0.0	7.43E-03	9.69E-07	4.17E-14	0.0	7.43E-03
90	1.80	0.0	0.0	1.87E-07	0.0	0.0	0.0	0.0	5.41E-03	9.67E-07	4.91E-14	0.0	5.41E-03
91	1.70	0.0	0.0	1.44E-07	0.0	0.0	0.0	0.0	3.75E-03	9.59E-07	5.63E-14	0.0	3.75E-03
92	1.60	0.0	0.0	1.20E-07	0.0	0.0	0.0	0.0	2.53E-03	7.23E-07	6.99E-14	0.0	2.53E-03
93	1.50	0.0	0.0	9.67E-08	0.0	0.0	0.0	0.0	1.46E-03	3.20E-07	8.49E-14	0.0	1.46E-03
94	1.40	0.0	0.0	2.37E-07	0.0	0.0	0.0	0.0	7.77E-04	0.0	1.04E-13	0.0	7.77E-04
95	1.30	0.0	0.0	7.53E-08	0.0	0.0	0.0	0.0	3.10E-04	0.0	1.30E-13	0.0	3.10E-04
96	1.20	0.0	0.0	1.94E-07	0.0	0.0	0.0	0.0	0.0	0.0	1.66E-13	0.0	1.94E-07
97	1.10	0.0	0.0	5.50E-08	0.0	0.0	8.70E-06	0.0	0.0	0.0	2.15E-13	0.0	8.70E-06
98	1.00	0.0	0.0	6.70E-08	0.0	0.0	4.44E-06	0.0	0.0	0.0	2.94E-13	0.0	6.55E-06
99	0.90	0.0	0.0	3.41E-08	0.0	0.0	6.54E-05	0.0	0.0	0.0	3.94E-13	0.0	6.54E-05
100	0.80	0.0	0.0	1.47E-08	0.0	0.0	1.01E-04	0.0	0.0	0.0	5.62E-13	0.0	1.01E-04
101	0.70	0.0	0.0	4.43E-09	0.0	0.0	3.24E-04	0.0	0.0	0.0	8.62E-13	0.0	3.24E-04
102	0.60	0.0	0.0	1.04E-12	0.0	0.0	5.42E-04	0.0	0.0	0.0	1.32E-12	0.0	5.42E-04



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY (E.V.)	02 S-R BANDS	02 S-R CONT.	N2 B-W % 1	TEMPERATURE (DEGREES K)		NO BETA	NO GAMMA	NO 2	O- PHOTO-DET (IONS)	FREE-FREE M P.E.	TOTAL AIR P.E.
				3000.	DENSITY (GM/CC) 1.293E-03 (30.0E-01 NORMAL)						
1	10.75 0.	0.	2.67E-12	0.	0.	0.	0.	0.	2.27E-07 0.	0.	2.67E-02
2	10.60 0.	0.	1.78E-02	0.	0.	0.	0.	0.	2.27E-07 0.	0.	1.78E-02
3	10.50 0.	0.	1.32E-02	0.	0.	0.	0.	0.	2.28E-07 0.	0.	1.32E-02
4	10.40 0.	0.	9.57E-03	0.	0.	0.	0.	0.	2.28E-07 0.	0.	9.57E-03
5	10.30 0.	0.	5.71E-03	0.	0.	0.	0.	0.	2.28E-07 0.	0.	5.71E-03
6	10.20 0.	0.	4.64E-03	0.	0.	0.	0.	0.	2.28E-07 0.	0.	4.64E-03
7	10.10 0.	0.	3.48E-03	0.	0.	0.	0.	0.	2.29E-07 0.	0.	3.48E-03
8	10.00 0.	0.	1.82E-03	0.	0.	0.	0.	0.	2.29E-07 0.	0.	1.82E-03
9	9.90 0.	0.	1.71E-03	0.	0.	0.	0.	0.	2.29E-07 0.	0.	1.71E-03
10	9.80 0.	0.	1.14E-03	0.	0.	0.	0.	0.	2.30E-07 0.	0.	1.14E-03
11	9.70 0.	0.	5.99E-04	0.	0.	0.	0.	0.	2.30E-07 0.	0.	5.99E-04
12	9.60 0.	0.	6.47E-04	0.	0.	0.	0.	0.	2.31E-07 0.	0.	6.47E-04
13	9.50 0.	2.71E 00	3.17E-04	0.	0.	0.	0.	0.	2.31E-07 0.	0.	2.71E 00
14	9.40 0.	1.00E 01	2.27E-04	0.	0.	0.	0.	0.	2.32E-07 0.	0.	1.00E 01
15	9.30 0.	1.73E 01	1.64E-04	0.	0.	0.	0.	0.	2.32E-07 0.	0.	1.73E 01
16	9.20 0.	2.44E 01	8.28E-05	0.	0.	0.	0.	0.	2.34E-07 0.	0.	2.44E 01
17	9.10 0.	3.16E 01	9.94E-05	0.	0.	0.	0.	0.	2.34E-07 0.	0.	3.16E 01
18	9.00 0.	3.89E 01	5.04E-05	0.	0.	0.	0.	0.	2.35E-07 0.	0.	3.89E 01
19	8.90 0.	4.54E 01	3.98E-05	0.	0.	0.	0.	0.	2.36E-07 0.	0.	4.54E 01
20	8.80 0.	4.72E 01	2.89E-05	0.	0.	0.	0.	0.	2.37E-07 0.	0.	4.72E 01
21	8.70 0.	4.50E 01	1.34E-05	0.	0.	0.	0.	0.	2.38E-07 0.	0.	4.50E 01
22	8.60 0.	4.24E 01	1.41E-05	0.	0.	0.	0.	0.	2.39E-07 0.	0.	4.24E 01
23	8.50 0.	4.04E 01	6.59E-06	0.	0.	0.	0.	0.	2.40E-07 0.	0.	4.04E 01
24	8.40 0.	3.84E 01	4.11E-06	0.	0.	0.	0.	0.	2.41E-07 0.	0.	3.84E 01
25	8.30 0.	3.63E 01	2.97E-06	0.	0.	0.	0.	0.	2.42E-07 0.	0.	3.63E 01
26	8.20 0.	3.41E 01	2.56E-06	0.	0.	0.	0.	0.	2.43E-07 0.	0.	3.41E 01
27	8.10 0.	3.17E 01	1.57E-06	0.	0.	0.	0.	0.	2.45E-07 0.	0.	3.17E 01
28	8.00 0.	2.93E 01	1.11E-06	0.	0.	0.	0.	0.	2.46E-07 0.	0.	2.93E 01
29	7.90 0.	2.71E 01	6.12E-07	0.	0.	0.	0.	0.	2.47E-07 0.	0.	2.71E 01
30	7.80 0.	2.49E 01	5.07E-07	0.	0.	0.	0.	0.	2.48E-07 0.	0.	2.49E 01
31	7.70 0.	2.24E 01	2.98E-07	0.	0.	0.	0.	0.	2.50E-07 0.	0.	2.24E 01
32	7.60 0.	2.04E 01	2.09E-07	0.	2.19E-06	0.	0.	0.	2.51E-07 0.	0.	2.04E 01
33	7.50 0.	1.81E 01	1.50E-07	0.	1.25E-04	0.	0.	0.	2.52E-07 0.	0.	1.81E 01
34	7.40 0.	1.62E 01	8.36E-08	0.	3.17E-04	0.	0.	0.	2.54E-07 0.	0.	1.62E 01
35	7.30 0.	1.44E 01	5.51E-08	0.	8.79E-04	0.	0.	0.	2.55E-07 0.	0.	1.44E 01
36	7.20 0.	1.25E 01	3.45E-08	0.	9.63E-03	0.	0.	0.	2.56E-07 0.	0.	1.25E 01
37	7.10 0.	1.04E 01	2.34E-08	0.	2.32E-03	0.	0.	0.	2.58E-07 0.	0.	1.04E 01
38	7.00 0.	8.75E-02	0.	0.	4.17E-02	0.	0.	0.	2.61E-07 0.	0.	8.75E-02
39	6.90 0.	1.59E-01	0.	0.	1.60E-02	0.	0.	0.	2.63E-07 0.	0.	1.59E-01
40	6.80 0.	9.69E-02	0.	0.	3.21E-02	0.	0.	0.	2.65E-07 0.	0.	9.69E-02
41	6.70 0.	5.56E-02	0.	0.	1.65E-01	0.	0.	0.	2.67E-07 0.	0.	5.56E-02
42	6.60 0.	2.79E-02	0.	0.	7.40E-02	0.	0.	0.	2.69E-07 0.	0.	2.79E-02
43	6.50 0.	1.26E-02	0.	0.	7.10E-02	0.	0.	0.	2.71E-07 0.	0.	1.26E-02
44	6.40 0.	2.07E-02	0.	5.68E	5.24E-01	0.	0.	0.	2.73E-07 0.	0.	5.68E
45	6.30 0.	3.75E-02	0.	1.09E-10	1.72E-02	1.14E-01	0.	0.	2.75E-07 0.	0.	1.09E-10
46	6.20 0.	6.58E-02	0.	2.67E-11	1.77E-02	8.46E-02	0.	0.	2.77E-07 0.	0.	2.67E-11
47	6.10 0.	2.66E-01	0.	6.19E-12	3.78E-02	5.15E-01	0.	0.	2.79E-07 0.	0.	6.19E-12
48	6.00 0.	6.66E-01	0.	1.89E-02	6.19E-02	2.19E-02	0.	0.	2.82E-07 0.	0.	1.89E-02
49	5.90 0.	5.51E-01	0.	6.37E-14	2.49E-02	7.19E-02	0.	0.	2.82E-07 0.	0.	6.37E-14
50	5.80 0.	5.97E-01	0.	1.36E-15	2.77E-02	1.11E-01	0.	0.	2.77E-07 0.	0.	1.36E-15
51	5.70 0.	4.64E-01	0.	0.	2.15E-02	2.71E-02	0.	0.	2.51E-07 0.	0.	2.15E-02

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	BETA	NO GAMMA	NO VIB-ROT	NO 2	C- PHOTO-DET (10MS)	FREE-FREE M	TOTAL AIR	
											DENSITY (GM/CC) 1.293E-03 (10.0E-01 NORMAL)
53	5.50	4.05E-01	0.	0.	0.	0.	0.	2.42E-07	1.61E-16	0.	6.30E-01
54	5.50	4.35E-01	0.	0.	0.	0.	0.	2.42E-07	1.70E-16	0.	7.15E-01
55	5.50	4.65E-01	0.	0.	0.	0.	0.	2.42E-07	1.80E-16	0.	8.00E-01
56	5.50	4.95E-01	0.	0.	0.	0.	0.	2.42E-07	1.90E-16	0.	8.85E-01
57	5.50	5.25E-01	0.	0.	0.	0.	0.	2.42E-07	2.00E-16	0.	9.70E-01
58	5.50	5.55E-01	0.	0.	0.	0.	0.	2.42E-07	2.10E-16	0.	1.05E-01
59	4.50	5.85E-02	0.	0.	0.	0.	0.	2.42E-07	2.20E-16	0.	1.19E-01
60	4.50	6.15E-02	0.	0.	0.	0.	0.	2.42E-07	2.30E-16	0.	1.33E-02
61	4.50	6.45E-02	0.	0.	0.	0.	0.	2.42E-07	2.40E-16	0.	1.47E-02
62	4.50	6.75E-02	0.	0.	0.	0.	0.	2.42E-07	2.50E-16	0.	1.61E-02
63	4.50	7.05E-02	0.	0.	0.	0.	0.	2.42E-07	2.60E-16	0.	1.75E-02
64	4.50	7.35E-02	0.	0.	0.	0.	0.	2.42E-07	2.70E-16	0.	1.89E-02
65	4.50	7.65E-02	0.	0.	0.	0.	0.	2.42E-07	2.80E-16	0.	2.03E-02
66	4.50	7.95E-02	0.	0.	0.	0.	0.	2.42E-07	2.90E-16	0.	2.17E-02
67	4.50	8.25E-02	0.	0.	0.	0.	0.	2.42E-07	3.00E-16	0.	2.31E-02
68	4.50	8.55E-02	0.	0.	0.	0.	0.	2.42E-07	3.10E-16	0.	2.45E-02
69	3.50	8.85E-03	0.	0.	0.	0.	0.	2.42E-07	3.20E-16	0.	2.59E-02
70	3.50	9.15E-03	0.	0.	0.	0.	0.	2.42E-07	3.30E-16	0.	2.73E-02
71	3.50	9.45E-03	0.	0.	0.	0.	0.	2.42E-07	3.40E-16	0.	2.87E-02
72	3.50	9.75E-03	0.	0.	0.	0.	0.	2.42E-07	3.50E-16	0.	3.01E-02
73	3.50	1.00E-02	0.	0.	0.	0.	0.	2.42E-07	3.60E-16	0.	3.15E-02
74	3.50	1.03E-02	0.	0.	0.	0.	0.	2.42E-07	3.70E-16	0.	3.29E-02
75	3.50	1.06E-02	0.	0.	0.	0.	0.	2.42E-07	3.80E-16	0.	3.43E-02
76	3.50	1.09E-02	0.	0.	0.	0.	0.	2.42E-07	3.90E-16	0.	3.57E-02
77	3.50	1.12E-02	0.	0.	0.	0.	0.	2.42E-07	4.00E-16	0.	3.71E-02
78	3.50	1.15E-02	0.	0.	0.	0.	0.	2.42E-07	4.10E-16	0.	3.85E-02
79	3.50	1.18E-02	0.	0.	0.	0.	0.	2.42E-07	4.20E-16	0.	3.99E-02
80	2.50	1.21E-02	0.	0.	0.	0.	0.	2.42E-07	4.30E-16	0.	4.13E-02
81	2.50	1.24E-02	0.	0.	0.	0.	0.	2.42E-07	4.40E-16	0.	4.27E-02
82	2.50	1.27E-02	0.	0.	0.	0.	0.	2.42E-07	4.50E-16	0.	4.41E-02
83	2.50	1.30E-02	0.	0.	0.	0.	0.	2.42E-07	4.60E-16	0.	4.55E-02
84	2.50	1.33E-02	0.	0.	0.	0.	0.	2.42E-07	4.70E-16	0.	4.69E-02
85	2.50	1.36E-02	0.	0.	0.	0.	0.	2.42E-07	4.80E-16	0.	4.83E-02
86	2.50	1.39E-02	0.	0.	0.	0.	0.	2.42E-07	4.90E-16	0.	4.97E-02
87	2.50	1.42E-02	0.	0.	0.	0.	0.	2.42E-07	5.00E-16	0.	5.11E-02
88	2.50	1.45E-02	0.	0.	0.	0.	0.	2.42E-07	5.10E-16	0.	5.25E-02
89	1.50	1.48E-02	0.	0.	0.	0.	0.	2.42E-07	5.20E-16	0.	5.39E-02
90	1.50	1.51E-02	0.	0.	0.	0.	0.	2.42E-07	5.30E-16	0.	5.53E-02
91	1.50	1.54E-02	0.	0.	0.	0.	0.	2.42E-07	5.40E-16	0.	5.67E-02
92	1.50	1.57E-02	0.	0.	0.	0.	0.	2.42E-07	5.50E-16	0.	5.81E-02
93	1.50	1.60E-02	0.	0.	0.	0.	0.	2.42E-07	5.60E-16	0.	5.95E-02
94	1.50	1.63E-02	0.	0.	0.	0.	0.	2.42E-07	5.70E-16	0.	6.09E-02
95	1.50	1.66E-02	0.	0.	0.	0.	0.	2.42E-07	5.80E-16	0.	6.23E-02
96	1.50	1.69E-02	0.	0.	0.	0.	0.	2.42E-07	5.90E-16	0.	6.37E-02
97	1.50	1.72E-02	0.	0.	0.	0.	0.	2.42E-07	6.00E-16	0.	6.51E-02
98	1.50	1.75E-02	0.	0.	0.	0.	0.	2.42E-07	6.10E-16	0.	6.65E-02
99	1.50	1.78E-02	0.	0.	0.	0.	0.	2.42E-07	6.20E-16	0.	6.79E-02
100	0.50	1.81E-02	0.	0.	0.	0.	0.	2.42E-07	6.30E-16	0.	6.93E-02
101	0.50	1.84E-02	0.	0.	0.	0.	0.	2.42E-07	6.40E-16	0.	7.07E-02
102	0.50	1.87E-02	0.	0.	0.	0.	0.	2.42E-07	6.50E-16	0.	7.21E-02

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E.V.	PHOTON ENERGY BANDS CONT.	02 S-R	02 S-R CONT.	M2 B-W NO. 1	NO BETA	NO GAMMA	TEMPERATURE (DEGREES K)		NO 2	O- PHOTO-DEY (IONS)	N P.E.	O P.E.	TOTAL AIR
							3000.	DENSITY (GM/CC) 1.293E-04 (10.0E-02 NORMAL)					
1	10.70 0.	0.	0.	0.	0.	0.	0.	0.	2.20E-08 0.	0.	0.	0.	2.67E-03
2	10.60 0.	0.	0.	0.	0.	0.	0.	0.	2.27E-08 0.	0.	0.	0.	1.70E-03
3	10.50 0.	0.	0.	0.	0.	0.	0.	0.	2.27E-08 0.	0.	0.	0.	1.33E-03
4	10.40 0.	0.	0.	0.	0.	0.	0.	0.	2.27E-08 0.	0.	0.	0.	9.99E-04
5	10.30 0.	0.	0.	0.	0.	0.	0.	0.	2.28E-08 0.	0.	0.	0.	5.72E-04
6	10.20 0.	0.	0.	0.	0.	0.	0.	0.	2.28E-08 0.	0.	0.	0.	4.65E-04
7	10.10 0.	0.	0.	0.	0.	0.	0.	0.	2.28E-08 0.	0.	0.	0.	3.69E-04
8	10.00 0.	0.	0.	0.	0.	0.	0.	0.	2.29E-08 0.	0.	0.	0.	1.82E-04
9	9.90 0.	0.	0.	0.	0.	0.	0.	0.	2.29E-08 0.	0.	0.	0.	1.72E-04
10	9.80 0.	0.	0.	0.	0.	0.	0.	0.	2.29E-08 0.	0.	0.	0.	1.14E-04
11	9.70 0.	0.	0.	0.	0.	0.	0.	0.	2.30E-08 0.	0.	0.	0.	6.80E-05
12	9.60 0.	0.	0.	0.	0.	0.	0.	0.	2.30E-08 0.	0.	0.	0.	6.40E-05
13	9.50 0.	0.	0.	0.	0.	0.	0.	0.	2.31E-08 0.	0.	0.	0.	2.50E-01
14	9.40 0.	0.	0.	0.	0.	0.	0.	0.	2.31E-08 0.	0.	0.	0.	9.79E-91
15	9.30 0.	0.	0.	0.	0.	0.	0.	0.	2.32E-08 0.	0.	0.	0.	1.60E 00
16	9.20 0.	0.	0.	0.	0.	0.	0.	0.	2.33E-08 0.	0.	0.	0.	2.20E 00
17	9.10 0.	0.	0.	0.	0.	0.	0.	0.	2.34E-08 0.	0.	0.	0.	2.92E 00
18	9.00 0.	0.	0.	0.	0.	0.	0.	0.	2.35E-08 0.	0.	0.	0.	3.54E 00
19	8.90 0.	0.	0.	0.	0.	0.	0.	0.	2.36E-08 0.	0.	0.	0.	4.20E 00
20	8.80 0.	0.	0.	0.	0.	0.	0.	0.	2.36E-08 0.	0.	0.	0.	4.30E 00
21	8.70 0.	0.	0.	0.	0.	0.	0.	0.	2.37E-08 0.	0.	0.	0.	4.16E 00
22	8.60 0.	0.	0.	0.	0.	0.	0.	0.	2.38E-08 0.	0.	0.	0.	3.95E 00
23	8.50 0.	0.	0.	0.	0.	0.	0.	0.	2.39E-08 0.	0.	0.	0.	3.75E 00
24	8.40 0.	0.	0.	0.	0.	0.	0.	0.	2.40E-08 0.	0.	0.	0.	3.54E 00
25	8.30 0.	0.	0.	0.	0.	0.	0.	0.	2.41E-08 0.	0.	0.	0.	3.33E 00
26	8.20 0.	0.	0.	0.	0.	0.	0.	0.	2.42E-08 0.	0.	0.	0.	3.14E 00
27	8.10 0.	0.	0.	0.	0.	0.	0.	0.	2.43E-08 0.	0.	0.	0.	2.93E 00
28	8.00 0.	0.	0.	0.	0.	0.	0.	0.	2.44E-08 0.	0.	0.	0.	2.71E 00
29	7.90 0.	0.	0.	0.	0.	0.	0.	0.	2.45E-08 0.	0.	0.	0.	2.50E 00
30	7.80 0.	0.	0.	0.	0.	0.	0.	0.	2.46E-08 0.	0.	0.	0.	2.30E 00
31	7.70 0.	0.	0.	0.	0.	0.	0.	0.	2.47E-08 0.	0.	0.	0.	2.09E 00
32	7.60 0.	0.	0.	0.	0.	0.	0.	0.	2.48E-08 0.	0.	0.	0.	1.88E 00
33	7.50 0.	0.	0.	0.	0.	0.	0.	0.	2.49E-08 0.	0.	0.	0.	1.67E 00
34	7.40 0.	0.	0.	0.	0.	0.	0.	0.	2.50E-08 0.	0.	0.	0.	1.49E 00
35	7.30 0.	0.	0.	0.	0.	0.	0.	0.	2.51E-08 0.	0.	0.	0.	1.33E 00
36	7.20 0.	0.	0.	0.	0.	0.	0.	0.	2.52E-08 0.	0.	0.	0.	1.19E 00
37	7.10 0.	0.	0.	0.	0.	0.	0.	0.	2.53E-08 0.	0.	0.	0.	9.74E-01
38	7.00 0.	0.	0.	0.	0.	0.	0.	0.	2.54E-08 0.	0.	0.	0.	1.21E-02
39	6.90 0.	0.	0.	0.	0.	0.	0.	0.	2.55E-08 0.	0.	0.	0.	1.67E-02
40	6.80 0.	0.	0.	0.	0.	0.	0.	0.	2.56E-08 0.	0.	0.	0.	1.20E-02
41	6.70 0.	0.	0.	0.	0.	0.	0.	0.	2.57E-08 0.	0.	0.	0.	2.13E-02
42	6.60 0.	0.	0.	0.	0.	0.	0.	0.	2.58E-08 0.	0.	0.	0.	9.70E-03
43	6.50 0.	0.	0.	0.	0.	0.	0.	0.	2.59E-08 0.	0.	0.	0.	7.99E-03
44	6.40 0.	0.	0.	0.	0.	0.	0.	0.	2.60E-08 0.	0.	0.	0.	3.30E-02
45	6.30 0.	0.	0.	0.	0.	0.	0.	0.	2.61E-08 0.	0.	0.	0.	1.63E-02
46	6.20 0.	0.	0.	0.	0.	0.	0.	0.	2.62E-08 0.	0.	0.	0.	1.77E-02
47	6.10 0.	0.	0.	0.	0.	0.	0.	0.	2.63E-08 0.	0.	0.	0.	1.50E-02
48	6.00 0.	0.	0.	0.	0.	0.	0.	0.	2.64E-08 0.	0.	0.	0.	5.60E-02
49	5.90 0.	0.	0.	0.	0.	0.	0.	0.	2.65E-08 0.	0.	0.	0.	6.01E-02
50	5.80 0.	0.	0.	0.	0.	0.	0.	0.	2.66E-08 0.	0.	0.	0.	4.85E-02
51	5.70 0.	0.	0.	0.	0.	0.	0.	0.	2.67E-08 0.	0.	0.	0.	4.74E-02

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	Q2 S-R	M2 1ST POS.	M2 2ND POS.	M2+ 1ST NEG.	M2+ 2ND NEG.	BETA	NO GAMMA	NO VIB-ROT	NO 2	G° PHOTO-BET (IONS)	FREE-FREE M P.E.	TOTAL AIR
52	5.50	4.48E-02	0.	0.	0.36E-04	1.30E-02	0.	0.	0.	2.42E-08	1.55E-17	0.
53	5.50	3.08E-02	0.	0.	1.39E-03	2.74E-02	0.	0.	0.	2.03E-08	1.03E-17	0.
54	5.40	3.09E-02	0.	0.	9.17E-04	3.25E-03	0.	0.	0.	2.44E-08	1.73E-17	0.
55	5.30	2.41E-02	0.	0.	8.84E-04	1.53E-02	0.	0.	0.	2.46E-08	1.03E-17	0.
56	5.20	1.69E-02	0.	0.	7.59E-04	4.70E-03	0.	0.	0.	2.47E-08	1.93E-17	0.
57	5.10	0.90E-02	0.	0.	5.72E-04	1.64E-03	0.	0.	0.	1.33E-09	2.49E-08	2.03E-17
58	5.00	5.71E-03	0.	0.	3.72E-04	5.09E-03	0.	0.	0.	1.33E-05	2.52E-08	2.18E-17
59	4.90	4.78E-03	0.	0.	3.38E-04	1.77E-03	0.	0.	0.	1.33E-03	2.34E-08	2.31E-17
60	4.80	4.78E-03	0.	0.	3.52E-04	2.36E-03	0.	0.	0.	1.34E-05	2.56E-08	2.46E-17
61	4.70	4.04E-03	0.	0.	2.66E-04	6.84E-04	0.	0.	0.	1.35E-05	2.50E-08	2.52E-17
62	4.60	3.77E-03	0.	0.	2.27E-04	1.05E-03	0.	0.	0.	1.35E-05	2.60E-08	2.79E-17
63	4.50	2.89E-03	0.	0.	1.49E-04	2.72E-04	0.	0.	0.	1.36E-05	2.62E-08	2.90E-17
64	4.40	2.19E-03	0.	0.	1.20E-04	3.78E-04	0.	0.	0.	1.37E-05	2.64E-08	3.19E-17
65	4.30	1.49E-03	0.	0.	6.45E-05	9.37E-05	0.	0.	0.	1.38E-05	2.68E-08	3.42E-17
66	4.20	1.08E-03	0.	0.	6.97E-05	1.13E-04	0.	0.	0.	1.38E-05	2.68E-08	3.67E-17
67	4.10	7.92E-04	0.	0.	4.76E-05	3.05E-05	0.	0.	0.	1.39E-05	2.69E-08	3.94E-17
68	4.00	5.27E-04	0.	0.	3.64E-05	1.34E-05	0.	0.	0.	1.40E-05	2.70E-08	4.25E-17
69	3.90	3.04E-04	0.	0.	3.77E-11	3.03E-10	2.10E-05	1.03E-05	0.	1.41E-05	2.69E-08	4.50E-17
70	3.80	2.99E-04	0.	0.	1.3E-11	4.43E-10	2.08E-05	0.	0.	1.42E-05	2.68E-08	4.95E-17
71	3.70	1.97E-04	0.	0.	7.04E-11	1.00E-10	9.32E-06	0.	0.	1.43E-05	2.64E-08	5.37E-17
72	3.60	1.08E-04	0.	0.	5.17E-12	6.39E-11	1.07E-05	0.	0.	1.44E-05	2.47E-08	5.83E-17
73	3.50	7.59E-05	0.	0.	2.05E-11	3.40E-11	4.21E-06	0.	0.	1.44E-05	2.24E-08	6.34E-17
74	3.40	4.59E-05	0.	0.	2.47E-12	3.40E-10	4.74E-06	0.	0.	1.45E-05	1.51E-08	6.82E-17
75	3.30	2.98E-05	0.	0.	7.23E-12	2.01E-10	5.01E-06	0.	0.	1.45E-05	1.31E-08	7.57E-17
76	3.20	1.71E-05	0.	0.	9.45E-13	3.79E-11	1.91E-06	0.	0.	1.45E-05	1.31E-08	8.30E-17
77	3.10	1.14E-05	0.	0.	1.50E-12	6.79E-10	1.09E-06	0.	0.	1.44E-05	1.31E-08	9.13E-17
78	3.00	6.99E-06	0.	0.	2.63E-13	2.19E-10	7.29E-07	0.	0.	1.43E-05	1.32E-08	1.01E-16
79	2.90	3.87E-06	0.	0.	2.35E-13	5.27E-10	2.63E-07	0.	0.	1.42E-05	1.32E-08	1.11E-16
80	2.80	2.89E-06	0.	0.	4.95E-14	6.00E-10	9.52E-08	0.	0.	1.39E-05	1.32E-08	1.24E-16
81	2.70	1.03E-06	0.	0.	3.17E-14	1.01E-10	1.98E-08	0.	0.	1.38E-05	1.32E-08	1.38E-16
82	2.60	2.28E-07	0.	0.	9.59E-15	2.27E-10	3.66E-09	0.	0.	1.31E-05	1.32E-08	1.57E-16
83	2.50	1.08E-08	0.	0.	2.63E-15	1.58E-10	4.97E-10	0.	0.	1.26E-05	1.32E-08	1.74E-16
84	2.40	0.	0.	0.	7.26E-10	3.30E-11	0.	0.	0.	1.21E-05	1.32E-08	1.97E-16
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	1.13E-05	1.31E-08	2.23E-16
86	2.20	0.	0.	0.	2.36E-11	0.	0.	0.	0.	1.04E-05	1.30E-08	2.55E-16
87	2.10	0.	0.	0.	1.49E-10	0.	0.	0.	0.	9.43E-06	1.30E-08	2.94E-16
88	2.00	0.	0.	0.	1.16E-10	0.	0.	0.	0.	7.95E-06	1.24E-08	3.40E-16
89	1.90	0.	0.	0.	1.02E-09	0.	0.	0.	0.	6.70E-06	1.21E-08	3.97E-16
90	1.80	0.	0.	0.	1.07E-09	0.	0.	0.	0.	4.08E-06	1.16E-08	4.66E-16
91	1.70	0.	0.	0.	1.14E-09	0.	0.	0.	0.	3.38E-06	1.09E-08	5.46E-16
92	1.60	0.	0.	0.	1.29E-09	0.	0.	0.	0.	2.28E-06	9.22E-09	6.44E-16
93	1.50	0.	0.	0.	9.70E-10	0.	0.	0.	0.	1.31E-06	4.19E-09	7.64E-16
94	1.40	0.	0.	0.	2.42E-09	0.	0.	0.	0.	7.51E-07	0.	9.22E-16
95	1.3E-09	0.	0.	0.	7.34E-10	0.	0.	0.	0.	2.79E-07	0.	1.14E-15
96	1.2E-09	0.	0.	0.	1.07E-09	0.	0.	0.	0.	1.90E-07	0.	1.30E-15
97	1.1E-09	0.	0.	0.	5.51E-10	0.	0.	0.	0.	2.05E-07	0.	1.49E-15
98	1.0E-09	0.	0.	0.	8.01E-10	0.	0.	0.	0.	2.23E-07	0.	1.73E-15
99	0.9E-09	0.	0.	0.	3.05E-10	0.	0.	0.	0.	3.75E-07	0.	2.05E-15
100	0.80	0.	0.	0.	1.67E-10	0.	0.	0.	0.	5.61E-07	0.	2.47E-15
101	0.70	0.	0.	0.	4.44E-11	0.	0.	0.	0.	8.00E-08	0.	3.00E-15
102	0.60	0.	0.	0.	1.64E-11	0.	0.	0.	0.	1.17E-08	0.	3.75E-15

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 3000. DENSITY (GM/CC) 1.2932-05 (10.04-03 NORMAL)

PHOTON ENERGY BANDS E.V.	O2 S-R CONT.	M2 B-N NC. 1	NO BETA	NO GAMMA	F Z	0- PHOTO-MET (10MS)	FREE-FREE P.E.	N P.E.	O P.F.	TOTAL AIR
1 10.70 0.	0	2.68E-04	0.	0.	0.	1.98E-09 0.	0.	0.	0.	2.68E-04
2 10.60 0.	0.	1.70E-04	0.	0.	0.	1.91E-09 0.	0.	0.	0.	1.70E-04
3 10.50 0.	0.	1.33E-04	0.	0.	0.	1.91E-09 0.	0.	0.	0.	1.33E-04
4 10.40 0.	0.	9.62E-05	0.	0.	0.	1.91E-09 0.	0.	0.	0.	9.62E-05
5 10.30 0.	0.	5.74E-05	0.	0.	0.	1.91E-09 0.	0.	0.	0.	5.74E-05
6 10.20 0.	0.	4.47E-05	0.	0.	0.	1.92E-09 0.	0.	0.	0.	4.47E-05
7 10.10 0.	0.	3.80E-05	0.	0.	0.	1.92E-09 0.	0.	0.	0.	3.80E-05
8 10.00 0.	0.	1.83E-05	0.	0.	0.	1.92E-09 0.	0.	0.	0.	1.83E-05
9 9.90 0.	0.	1.72E-05	0.	0.	0.	1.93E-09 0.	0.	0.	0.	1.72E-05
10 9.80 0.	0.	1.14E-05	0.	0.	0.	1.93E-09 0.	0.	0.	0.	1.14E-05
11 9.70 0.	0.	6.93E-06	0.	0.	0.	1.93E-09 0.	0.	0.	0.	6.93E-06
12 9.60 0.	0.	4.50E-06	0.	0.	0.	1.94E-09 0.	0.	0.	0.	4.50E-06
13 9.50 0.	1.93E-02	3.16E-06	0.	0.	0.	1.94E-09 0.	0.	0.	0.	1.93E-02
14 9.40 0.	7.22E-02	2.28E-06	0.	0.	0.	1.95E-09 0.	0.	0.	0.	7.22E-02
15 9.30 0.	1.23E-01	2.89E-06	0.	0.	0.	1.95E-09 0.	0.	0.	0.	1.23E-01
16 9.20 0.	1.78E-01	8.24E-07	0.	0.	0.	1.96E-09 0.	0.	0.	0.	1.78E-01
17 9.10 0.	2.28E-01	9.99E-07	0.	0.	0.	1.97E-09 0.	0.	0.	0.	2.28E-01
18 9.00 0.	2.78E-01	5.86E-07	0.	0.	0.	1.98E-09 0.	0.	0.	0.	2.78E-01
19 8.90 0.	3.28E-01	3.53E-07	0.	0.	0.	1.98E-09 0.	0.	0.	0.	3.28E-01
20 8.80 0.	3.41E-01	2.82E-07	0.	0.	0.	1.99E-09 0.	0.	0.	0.	3.41E-01
21 8.70 0.	3.25E-01	1.36E-07	0.	0.	0.	2.00E-09 0.	0.	0.	0.	3.25E-01
22 8.60 0.	3.89E-01	1.42E-07	0.	0.	0.	2.00E-09 0.	0.	0.	0.	3.89E-01
23 8.50 0.	2.37E-01	6.50E-08	0.	0.	0.	2.01E-09 0.	0.	0.	0.	2.37E-01
24 8.40 0.	2.77E-01	6.12E-08	0.	0.	0.	2.02E-09 0.	0.	0.	0.	2.77E-01
25 8.30 0.	2.62E-01	2.99E-08	0.	0.	0.	2.03E-09 0.	0.	0.	0.	2.62E-01
26 8.20 0.	2.45E-01	2.57E-08	0.	0.	0.	2.04E-09 0.	0.	0.	0.	2.45E-01
27 8.10 0.	2.20E-01	1.30E-08	0.	0.	0.	2.05E-09 4.91E-19	0.	0.	0.	2.20E-01
28 8.00 0.	2.11E-01	1.13E-08	0.	0.	0.	2.04E-09 4.80E-19	0.	0.	0.	2.11E-01
29 7.90 0.	1.85E-01	6.13E-09	0.	0.	0.	2.07E-09 4.84E-19	0.	0.	0.	1.85E-01
30 7.80 0.	1.79E-01	5.69E-09	0.	0.	0.	2.06E-09 5.25E-19	0.	0.	0.	1.79E-01
31 7.70 0.	1.83E-01	2.96E-09	0.	0.	0.	2.03E-09 0.	0.	0.	0.	1.83E-01
32 7.60 0.	1.47E-01	2.86E-09	0.	0.	0.	2.04E-09 0.	0.	0.	0.	1.47E-01
33 7.50 0.	1.31E-01	1.30E-09	0.	0.	0.	2.11E-09 5.40E-19	0.	0.	0.	1.31E-01
34 7.40 0.	1.17E-01	8.49E-10	0.	0.	0.	2.12E-09 5.69E-19	0.	0.	0.	1.17E-01
35 7.30 0.	1.04E-01	5.59E-10	0.	0.	0.	2.14E-09 6.17E-19	0.	0.	0.	1.04E-01
36 7.20 0.	8.99E-02	3.47E-10	0.	0.	0.	2.15E-09 5.37E-19	0.	0.	0.	8.99E-02
37 7.10 0.	7.62E-02	2.35E-10	0.	0.	0.	2.17E-09 6.71E-19	0.	0.	0.	7.62E-02
38 7.00 6.39E-04	0.	1.40E-10	0.	0.	0.	2.19E-09 7.80E-19	0.	0.	0.	6.39E-04
39 6.90 1.89E-03	0.	9.53E-11	0.	0.	0.	2.20E-09 7.31E-19	0.	0.	0.	1.89E-03
40 6.80 6.90E-04	0.	6.22E-11	0.	0.	0.	2.22E-09 7.64E-19	0.	0.	0.	6.90E-04
41 6.70 4.01E-04	0.	3.74E-11	0.	0.	0.	2.24E-09 7.98E-19	0.	0.	0.	4.01E-04
42 6.60 2.01E-04	0.	2.31E-11	0.	0.	0.	2.26E-09 8.35E-19	0.	0.	0.	2.01E-04
43 6.50 9.85E-05	0.	1.16E-11	0.	0.	0.	2.28E-09 8.74E-19	0.	0.	0.	9.85E-05
44 6.40 1.48E-04	0.	4.88E-12	0.	0.	0.	2.29E-09 9.16E-19	0.	0.	0.	1.48E-04
45 6.30 2.78E-04	0.	1.89E-12	0.	0.	0.	2.31E-09 9.61E-19	0.	0.	0.	2.78E-04
46 6.20 6.12E-04	0.	2.60E-13	0.	0.	0.	2.33E-09 1.01E-18	0.	0.	0.	6.12E-04
47 6.10 1.77E-03	0.	6.21E-14	0.	0.	0.	2.35E-09 1.06E-18	0.	0.	0.	1.77E-03
48 6.00 3.36E-03	0.	9.92E-15	0.	0.	0.	2.36E-09 1.11E-18	0.	0.	0.	3.36E-03
49 5.90 3.97E-03	0.	6.43E-16	0.	0.	0.	2.38E-09 1.17E-18	0.	0.	0.	3.97E-03
50 5.80 4.30E-03	0.	1.36E-17	0.	0.	0.	2.33E-09 1.23E-18	0.	0.	0.	4.30E-03
51 5.70 3.34E-03	0.	1.88E-04	2.33E-04	0.	0.	2.39E-09 1.33E-18	0.	0.	0.	3.34E-03

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON 02 S-R ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	M2 2ND NEG.	TEMPERATURE (DEGREES K)	NO BETA	NO GAMMA	NO VIB-ROT	NO 2	O- PHOTO-DET (IONS)	FREE-FREE N P.E.	TOTAL AIR P.E.	
													DENSITY (GM/CC)
52	5.00	3.59E-03	0.	0.	7.39E-05	1.15E-03	0.	0.	0.	2.03E-09	1.37E-18	0.	4.72E-03
53	5.00	2.99E-03	0.	0.	1.23E-04	2.42E-03	0.	0.	0.	2.04E-09	1.44E-18	0.	5.52E-03
54	5.00	2.49E-03	0.	0.	8.11E-05	2.08E-04	0.	0.	0.	2.09E-09	1.53E-18	0.	2.78E-03
55	5.00	1.99E-03	0.	0.	7.82E-05	1.98E-03	0.	0.	0.	2.07E-09	1.42E-18	0.	3.31E-03
56	5.20	9.48E-04	0.	0.	6.71E-05	4.10E-04	0.	0.	0.	2.06E-09	1.71E-18	0.	1.33E-03
57	5.10	7.03E-04	0.	0.	5.06E-05	4.11E-04	0.	0.	0.	2.10E-09	1.61E-18	0.	1.16E-03
58	5.00	4.49E-04	0.	0.	3.29E-05	4.50E-04	0.	0.	0.	2.12E-09	1.92E-18	0.	9.28E-04
59	4.90	3.71E-04	0.	0.	3.00E-05	1.97E-04	0.	0.	0.	2.13E-09	2.64E-18	0.	5.78E-04
60	4.80	3.64E-04	0.	0.	3.11E-05	2.11E-04	0.	0.	0.	2.15E-09	2.17E-18	0.	6.08E-04
61	4.70	3.15E-04	0.	0.	2.35E-05	6.95E-05	0.	0.	0.	2.17E-09	2.32E-18	0.	3.99E-04
62	4.60	2.94E-04	0.	0.	2.01E-05	9.27E-05	0.	0.	0.	2.19E-09	2.47E-18	0.	4.07E-04
63	4.50	2.23E-04	0.	0.	1.32E-05	2.51E-05	0.	0.	0.	2.20E-09	2.64E-18	0.	2.68E-04
64	4.40	1.68E-04	0.	0.	1.06E-05	3.84E-05	0.	0.	0.	2.22E-09	2.82E-18	0.	2.12E-04
65	4.30	1.15E-04	0.	0.	7.40E-06	8.20E-06	0.	0.	0.	2.24E-09	3.03E-18	0.	1.31E-04
66	4.20	8.24E-05	0.	0.	6.17E-06	9.97E-06	0.	0.	0.	2.26E-09	3.29E-18	0.	9.89E-05
67	4.10	6.13E-05	0.	0.	4.21E-06	2.49E-06	0.	0.	0.	2.27E-09	3.74E-18	0.	6.96E-05
68	4.00	4.11E-05	0.	0.	3.22E-06	1.18E-06	0.	0.	0.	2.28E-09	4.09E-18	0.	4.98E-05
69	3.90	2.39E-05	0.	0.	1.80E-06	3.17E-07	0.	0.	0.	2.29E-09	4.38E-18	0.	2.78E-05
70	3.80	2.24E-05	0.	0.	1.23E-12	1.47E-16	1.44E-06	0.	0.	2.30E-09	4.38E-18	0.	2.30E-05
71	3.70	1.23E-05	0.	0.	7.90E-12	3.33E-17	6.24E-07	0.	0.	2.32E-09	4.75E-18	0.	1.34E-05
72	3.60	8.44E-06	0.	0.	5.10E-13	2.70E-17	9.42E-07	0.	0.	2.34E-09	5.14E-18	0.	9.74E-06
73	3.50	5.07E-06	0.	0.	2.84E-12	7.98E-16	3.73E-07	0.	0.	2.36E-09	5.61E-18	0.	6.68E-06
74	3.40	3.53E-06	0.	0.	2.47E-13	1.13E-16	4.31E-07	0.	0.	2.38E-09	6.12E-18	0.	4.31E-06
75	3.30	2.25E-06	0.	0.	1.25E-13	6.69E-17	1.37E-07	0.	0.	2.40E-09	6.70E-18	0.	2.79E-06
76	3.20	1.33E-06	0.	0.	9.48E-14	1.66E-15	1.97E-07	0.	0.	2.42E-09	7.34E-18	0.	1.84E-06
77	3.10	8.87E-07	0.	0.	1.50E-13	2.25E-16	9.31E-08	0.	0.	2.44E-09	8.07E-18	0.	1.34E-06
78	3.00	5.49E-07	0.	0.	2.64E-14	7.30E-17	6.49E-08	0.	0.	2.46E-09	8.91E-18	0.	9.63E-07
79	2.90	3.03E-07	0.	0.	2.36E-14	1.75E-16	2.90E-08	0.	0.	2.48E-09	9.86E-18	0.	6.78E-07
80	2.80	2.33E-07	0.	0.	4.97E-15	2.64E-16	6.42E-09	0.	0.	2.50E-09	1.09E-17	0.	5.85E-07
81	2.70	1.29E-08	0.	0.	3.18E-15	3.35E-17	1.75E-09	0.	0.	2.52E-09	1.22E-17	0.	4.19E-07
82	2.60	1.73E-08	0.	0.	9.60E-16	7.55E-18	3.32E-10	0.	0.	2.54E-09	1.37E-17	0.	3.43E-07
83	2.50	8.46E-10	0.	0.	2.64E-16	5.20E-19	4.40E-11	0.	0.	2.56E-09	1.54E-17	0.	3.13E-07
84	2.40	0.	0.	0.	7.62E-14	0.	2.42E-10	2.99E-12	0.	2.58E-09	1.74E-17	0.	3.80E-07
85	2.30	0.	0.	0.	2.44E-12	0.	0.	0.	0.	2.60E-09	1.96E-17	0.	2.80E-07
86	2.20	0.	0.	0.	2.31E-12	0.	0.	0.	0.	2.62E-09	2.26E-17	0.	2.99E-07
87	2.10	0.	0.	0.	1.40E-11	0.	0.	0.	0.	2.64E-09	2.66E-17	0.	2.34E-07
88	2.00	0.	0.	0.	1.11E-11	0.	0.	0.	0.	2.66E-09	3.11E-17	0.	1.97E-07
89	1.90	0.	0.	0.	1.02E-10	0.	0.	0.	0.	2.68E-09	3.61E-17	0.	1.62E-07
90	1.80	0.	0.	0.	1.68E-10	0.	0.	0.	0.	2.70E-09	4.13E-17	0.	1.22E-07
91	1.70	0.	0.	0.	1.14E-10	0.	0.	0.	0.	2.72E-09	4.70E-17	0.	8.45E-08
92	1.60	0.	0.	0.	1.29E-10	0.	0.	0.	0.	2.74E-09	5.30E-17	0.	5.73E-08
93	1.50	0.	0.	0.	9.73E-11	0.	0.	0.	0.	2.76E-09	6.00E-17	0.	3.29E-08
94	1.40	0.	0.	0.	2.43E-10	0.	0.	0.	0.	2.78E-09	6.78E-17	0.	1.74E-08
95	1.30	0.	0.	0.	7.38E-11	0.	0.	0.	0.	2.80E-09	7.74E-17	0.	9.97E-09
96	1.20	0.	0.	0.	1.97E-10	0.	0.	0.	0.	2.82E-09	8.88E-17	0.	5.97E-09
97	1.10	0.	0.	0.	5.53E-11	0.	0.	0.	0.	2.84E-09	1.01E-16	0.	3.78E-09
98	1.00	0.	0.	0.	8.83E-11	0.	0.	0.	0.	2.86E-09	1.16E-16	0.	2.50E-09
99	0.90	0.	0.	0.	3.82E-11	0.	0.	0.	0.	2.88E-09	1.34E-16	0.	1.67E-09
100	0.80	0.	0.	0.	1.48E-11	0.	0.	0.	0.	2.90E-09	1.56E-16	0.	1.10E-09
101	0.70	0.	0.	0.	4.45E-12	0.	0.	0.	0.	2.92E-09	1.82E-16	0.	7.73E-09
102	0.60	0.	0.	0.	1.85E-12	0.	0.	0.	0.	2.94E-09	2.13E-16	0.	5.27E-09

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 3000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON ENERGY E.V.	02 S-R BANDS	02 S-R CONT.	A2 B-M NO. 1	NO BETA	NO GAMMA	NO PHOTO-DET (100S)	FREE-FREE P.E.	N P.E.	G P.E.	TOTAL AIR
1	10.70	0.	2.70E-01	0.	0.	0.	1.11E-10	0.	0.	2.70E-01
2	10.60	0.	1.7E-05	0.	0.	0.	1.11E-10	0.	0.	1.7E-05
3	10.50	0.	1.1E-05	0.	0.	0.	1.11E-10	0.	0.	1.34E-05
4	10.40	0.	9.69E-06	0.	0.	0.	1.11E-10	0.	0.	9.69E-06
5	10.30	0.	5.70E-06	0.	0.	0.	1.11E-10	0.	0.	5.70E-06
6	10.20	0.	4.70E-06	0.	0.	0.	1.11E-10	0.	0.	4.70E-06
7	10.10	0.	3.52E-06	0.	0.	0.	1.12E-10	0.	0.	3.52E-06
8	10.00	0.	1.04E-06	0.	0.	0.	1.12E-10	0.	0.	1.84E-06
9	9.90	0.	1.73E-06	0.	0.	0.	1.12E-10	0.	0.	1.72E-06
10	9.80	0.	1.15E-06	0.	0.	0.	1.12E-10	0.	0.	1.19E-06
11	9.70	0.	6.07E-07	0.	0.	0.	1.12E-10	0.	0.	6.07E-07
12	9.60	0.	6.25E-07	0.	0.	0.	1.12E-10	0.	0.	6.25E-07
13	9.50	0.	9.41E-04	0.	0.	0.	1.12E-10	0.	0.	9.41E-04
14	9.40	0.	3.40E-03	0.	0.	0.	1.12E-10	0.	0.	3.40E-03
15	9.30	0.	4.03E-03	0.	0.	0.	1.14E-10	0.	0.	4.03E-03
16	9.20	0.	8.57E-03	0.	0.	0.	1.14E-10	0.	0.	8.57E-03
17	9.10	0.	1.10E-02	0.	0.	0.	1.14E-10	0.	0.	1.10E-02
18	9.00	0.	1.34E-02	0.	0.	0.	1.15E-10	0.	0.	1.34E-02
19	8.90	0.	1.50E-02	0.	0.	0.	1.15E-10	0.	0.	1.50E-02
20	8.80	0.	1.64E-02	0.	0.	0.	1.16E-10	0.	0.	1.64E-02
21	8.70	0.	1.57E-02	0.	0.	0.	1.16E-10	0.	0.	1.57E-02
22	8.60	0.	1.49E-02	0.	0.	0.	1.16E-10	0.	0.	1.49E-02
23	8.50	0.	1.41E-02	0.	0.	0.	1.16E-10	0.	0.	1.41E-02
24	8.40	0.	1.33E-02	0.	0.	0.	1.17E-10	0.	0.	1.33E-02
25	8.30	0.	1.24E-02	0.	0.	0.	1.17E-10	0.	0.	1.24E-02
26	8.20	0.	1.18E-02	0.	0.	0.	1.18E-10	0.	0.	1.18E-02
27	8.10	0.	1.10E-02	0.	0.	0.	1.19E-10	0.	0.	1.10E-02
28	8.00	0.	1.02E-02	0.	0.	0.	1.19E-10	0.	0.	1.02E-02
29	7.90	0.	9.42E-03	0.	0.	0.	1.20E-10	0.	0.	9.42E-03
30	7.80	0.	8.65E-03	0.	0.	0.	1.21E-10	0.	0.	8.65E-03
31	7.70	0.	7.87E-03	0.	0.	0.	1.21E-10	0.	0.	7.87E-03
32	7.60	0.	7.08E-03	0.	0.	0.	1.22E-10	0.	0.	7.08E-03
33	7.50	0.	6.30E-03	0.	0.	0.	1.23E-10	0.	0.	6.30E-03
34	7.40	0.	5.62E-03	0.	0.	0.	1.24E-10	0.	0.	5.62E-03
35	7.30	0.	5.00E-03	0.	0.	0.	1.24E-10	0.	0.	5.00E-03
36	7.20	0.	4.34E-03	0.	0.	0.	1.25E-10	0.	0.	4.34E-03
37	7.10	0.	3.66E-03	0.	0.	0.	1.26E-10	0.	0.	3.66E-03
38	7.00	0.	3.04E-03	0.	0.	0.	1.27E-10	0.	0.	3.04E-03
39	6.90	0.	2.48E-03	0.	0.	0.	1.27E-10	0.	0.	2.48E-03
40	6.80	0.	1.93E-03	0.	0.	0.	1.28E-10	0.	0.	1.93E-03
41	6.70	0.	1.43E-03	0.	0.	0.	1.29E-10	0.	0.	1.43E-03
42	6.60	0.	9.77E-04	0.	0.	0.	1.30E-10	0.	0.	9.77E-04
43	6.50	0.	7.46E-04	0.	0.	0.	1.31E-10	0.	0.	7.46E-04
44	6.40	0.	5.60E-04	0.	0.	0.	1.32E-10	0.	0.	5.60E-04
45	6.30	0.	4.00E-04	0.	0.	0.	1.33E-10	0.	0.	4.00E-04
46	6.20	0.	2.78E-04	0.	0.	0.	1.34E-10	0.	0.	2.78E-04
47	6.10	0.	1.93E-04	0.	0.	0.	1.35E-10	0.	0.	1.93E-04
48	6.00	0.	1.40E-04	0.	0.	0.	1.37E-10	0.	0.	1.40E-04
49	5.90	0.	1.01E-04	0.	0.	0.	1.38E-10	0.	0.	1.01E-04
50	5.80	0.	7.27E-05	0.	0.	0.	1.39E-10	0.	0.	7.27E-05
51	5.70	0.	5.41E-05	0.	0.	0.	1.27E-10	0.	0.	5.41E-05

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	TEMPERATURE (DEGREES K)			NO	GAMMA	NO	Q-PMOTC-DET (IONS)	N	P.F.	TOTAL AIR
	1ST POS.	2ND POS.	1ST NEG.							
52	5.40	1.69E-04	0.	5.35E-06	8.00E-05	0.	1.10E-10	9.53E-20	0.	2.54E-04
53	5.50	1.44E-04	0.	4.59E-06	1.69E-04	0.	1.19E-10	1.01E-19	0.	3.71E-04
54	5.40	1.10E-04	0.	5.05E-06	2.00E-05	0.	1.19E-10	1.00E-19	0.	1.42E-04
55	5.30	9.06E-05	0.	5.45E-06	9.45E-05	0.	1.20E-10	1.17E-19	0.	1.91E-04
56	5.20	4.09E-05	0.	4.68E-06	2.90E-05	0.	1.21E-10	1.19E-19	0.	7.43E-05
57	5.10	3.39E-05	0.	3.52E-06	2.64E-05	0.	1.22E-10	1.24E-19	0.	4.48E-05
58	5.00	2.14E-05	0.	2.50E-06	3.31E-05	0.	1.23E-10	1.33E-19	0.	5.50E-05
59	4.90	1.79E-05	0.	2.09E-06	1.09E-05	0.	1.24E-10	1.42E-19	0.	3.69E-05
60	4.80	1.77E-05	0.	2.17E-06	1.47E-05	0.	1.25E-10	1.51E-19	0.	3.44E-05
61	4.70	1.42E-05	0.	1.64E-06	4.21E-06	0.	1.26E-10	1.61E-19	0.	2.11E-05
62	4.60	1.41E-05	0.	1.40E-06	6.46E-06	0.	1.27E-10	1.72E-19	0.	2.20E-05
63	4.50	1.07E-05	0.	9.10E-07	1.64E-06	0.	1.28E-10	1.84E-19	0.	1.33E-05
64	4.40	1.09E-06	0.	7.59E-07	2.37E-06	0.	1.29E-10	1.97E-19	0.	1.17E-05
65	4.30	5.55E-06	0.	5.21E-07	5.77E-07	0.	1.30E-10	2.11E-19	0.	6.64E-06
66	4.20	3.97E-06	0.	4.29E-07	6.95E-07	0.	1.31E-10	2.26E-19	0.	5.10E-06
67	4.10	2.95E-06	0.	2.93E-07	1.04E-07	0.	1.32E-10	2.43E-19	0.	3.44E-06
68	4.00	1.90E-06	0.	2.24E-07	8.23E-08	0.	1.33E-10	2.62E-19	0.	2.29E-06
69	3.90	1.15E-06	0.	1.30E-07	6.36E-08	0.	1.34E-10	2.82E-19	0.	1.35E-06
70	3.80	2.09E-06	0.	1.24E-07	1.20E-07	0.	1.35E-10	3.03E-19	0.	1.22E-06
71	3.70	5.89E-07	0.	7.13E-08	5.61E-07	0.	1.36E-10	3.25E-19	0.	6.52E-07
72	3.60	4.07E-07	0.	5.23E-08	1.04E-07	0.	1.37E-10	3.50E-19	0.	4.78E-07
73	3.50	2.83E-07	0.	2.80E-08	3.03E-08	0.	1.38E-10	3.78E-19	0.	3.14E-07
74	3.40	1.70E-07	0.	2.40E-08	2.93E-08	0.	1.39E-10	4.08E-19	0.	2.05E-07
75	3.30	1.04E-07	0.	1.51E-08	2.55E-08	0.	1.40E-10	4.40E-19	0.	1.27E-07
76	3.20	6.41E-08	0.	9.54E-09	4.61E-08	0.	1.41E-10	4.74E-19	0.	8.15E-08
77	3.10	4.28E-08	0.	5.91E-09	8.40E-09	0.	1.42E-10	5.10E-19	0.	5.40E-08
78	3.00	2.62E-08	0.	2.66E-09	2.78E-09	0.	1.43E-10	5.48E-19	0.	3.62E-08
79	2.90	1.45E-08	0.	2.37E-09	6.09E-09	0.	1.44E-10	5.88E-19	0.	2.17E-08
80	2.80	1.12E-08	0.	5.00E-10	1.01E-09	0.	1.45E-10	6.30E-19	0.	1.71E-08
81	2.70	3.95E-09	0.	3.20E-10	1.28E-09	0.	1.46E-10	6.74E-19	0.	9.25E-09
82	2.60	6.33E-10	0.	9.00E-11	2.07E-09	0.	1.47E-10	7.20E-19	0.	5.69E-09
83	2.50	4.03E-11	0.	2.60E-11	3.06E-10	0.	1.48E-10	7.68E-19	0.	4.07E-09
84	2.40	0.	0.	7.00E-12	4.40E-11	0.	1.49E-10	8.18E-19	0.	2.84E-09
85	2.30	0.	0.	2.60E-13	6.20E-12	0.	1.50E-10	8.70E-19	0.	1.91E-09
86	2.20	0.	0.	2.33E-13	8.60E-13	0.	1.51E-10	9.24E-19	0.	1.31E-09
87	2.10	0.	0.	1.50E-12	0.	0.	1.52E-10	9.80E-19	0.	9.01E-10
88	2.00	0.	0.	1.11E-12	0.	0.	1.53E-10	1.04E-18	0.	6.31E-09
89	1.90	0.	0.	1.03E-11	0.	0.	1.54E-10	1.10E-18	0.	4.51E-09
90	1.80	0.	0.	1.80E-11	0.	0.	1.55E-10	1.17E-18	0.	3.21E-09
91	1.70	0.	0.	1.15E-11	0.	0.	1.56E-10	1.24E-18	0.	2.28E-09
92	1.65	0.	0.	1.30E-11	0.	0.	1.57E-10	1.31E-18	0.	1.61E-09
93	1.50	0.	0.	6.80E-12	0.	0.	1.58E-10	1.39E-18	0.	1.13E-09
94	1.40	0.	0.	2.45E-11	0.	0.	1.59E-10	1.47E-18	0.	8.01E-10
95	1.30	0.	0.	7.42E-12	0.	0.	1.60E-10	1.56E-18	0.	5.69E-10
96	1.20	0.	0.	1.59E-11	0.	0.	1.61E-10	1.65E-18	0.	4.07E-10
97	1.10	0.	0.	3.57E-12	0.	0.	1.62E-10	1.74E-18	0.	2.84E-10
98	1.00	0.	0.	8.90E-12	0.	0.	1.63E-10	1.84E-18	0.	1.91E-10
99	0.90	0.	0.	3.85E-12	0.	0.	1.64E-10	1.94E-18	0.	1.31E-10
100	0.80	0.	0.	1.40E-12	0.	0.	1.65E-10	2.04E-18	0.	9.25E-11
101	0.70	0.	0.	4.40E-13	0.	0.	1.66E-10	2.14E-18	0.	6.31E-11
102	0.60	0.	0.	1.00E-16	0.	0.	1.67E-10	2.24E-18	0.	4.31E-11



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 3000. DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)

PHOTON ENERGY BANDS E.V.	O2 S-R BANDS COMT.	O2 S-R NO. 1	M2 B-W NO. 1	NO BETA	AO GAMMA	NO	PHOTO-DET (ICMS)		FREE-FREE H	P.F.	TOTAL AIR
							2	0			
1 10.70 0	0	2.75E-06	0	0	0	0	3.36E-12	0	0	0	2.75E-06
2 10.60 0	0	1.75E-06	0	0	0	0	3.37E-12	0	0	0	1.75E-06
3 10.50 0	0	1.35E-06	0	0	0	0	3.37E-12	0	0	0	1.35E-06
4 10.40 0	0	9.78E-07	0	0	0	0	3.30E-12	0	0	0	9.78E-07
5 10.30 0	0	5.04E-07	0	0	0	0	3.30E-12	0	0	0	5.04E-07
6 10.20 0	0	4.74E-07	0	0	0	0	3.38E-12	0	0	0	4.74E-07
7 10.10 0	0	3.54E-07	0	0	0	0	3.37E-12	0	0	0	3.54E-07
8 10.00 0	0	1.85E-07	0	0	0	0	3.36E-12	0	0	0	1.85E-07
9 9.90 0	0	1.75E-07	0	0	0	0	3.46E-12	0	0	0	1.75E-07
10 9.80 0	0	1.16E-07	0	0	0	0	3.41E-12	0	0	0	1.16E-07
11 9.70 0	0	6.12E-08	0	0	0	0	3.41E-12	0	0	0	6.12E-08
12 9.60 0	0	6.41E-08	0	0	0	0	3.42E-12	0	0	0	6.41E-08
13 9.50 0	1.91E-05	3.24E-08	0	0	0	0	3.42E-12	0	0	0	3.24E-08
14 9.40 0	7.09E-05	2.32E-08	0	0	0	0	3.44E-12	0	0	0	7.09E-05
15 9.30 0	1.23E-04	2.09E-08	0	0	0	0	3.45E-12	0	0	0	1.23E-04
16 9.20 0	1.74E-04	6.38E-09	0	0	0	0	3.46E-12	0	0	0	1.74E-04
17 9.10 0	2.24E-04	1.02E-08	0	0	0	0	3.47E-12	0	0	0	2.24E-04
18 9.00 0	2.73E-04	5.19E-09	0	0	0	0	3.49E-12	0	0	0	2.73E-04
19 8.90 0	3.21E-04	3.59E-09	0	0	0	0	3.50E-12	0	0	0	3.21E-04
20 8.80 0	3.54E-04	2.88E-09	0	0	0	0	3.50E-12	0	0	0	3.54E-04
21 8.70 0	3.19E-04	1.37E-09	0	0	0	0	3.51E-12	0	0	0	3.19E-04
22 8.60 0	3.03E-04	1.44E-09	0	0	0	0	3.52E-12	0	0	0	3.03E-04
23 8.50 0	2.07E-04	6.69E-10	0	0	0	0	3.52E-12	0	0	0	2.07E-04
24 8.40 0	2.71E-04	6.24E-10	0	0	0	0	3.52E-12	0	0	0	2.71E-04
25 8.30 0	2.57E-04	3.89E-10	0	0	0	0	3.52E-12	0	0	0	2.57E-04
26 8.20 0	2.41E-04	2.61E-10	0	0	0	0	3.52E-12	0	0	0	2.41E-04
27 8.10 0	2.24E-04	1.49E-10	0	0	0	0	3.62E-12	1.42E-21	0	0	2.24E-04
28 8.00 0	2.07E-04	1.13E-10	0	0	0	0	3.64E-12	1.40E-21	0	0	2.07E-04
29 7.90 0	1.92E-04	6.26E-11	0	0	0	0	3.64E-12	1.53E-21	0	0	1.92E-04
30 7.80 0	1.74E-04	5.18E-11	0	0	0	0	3.65E-12	1.59E-21	0	0	1.74E-04
31 7.70 0	1.60E-04	3.81E-11	0	0	0	0	3.70E-12	1.64E-21	0	0	1.60E-04
32 7.60 0	1.44E-04	2.69E-11	0	0	0	0	3.72E-12	1.72E-21	0	0	1.44E-04
33 7.50 0	1.29E-04	1.38E-11	0	0	0	0	3.74E-12	1.79E-21	0	0	1.29E-04
34 7.40 0	1.14E-04	8.56E-12	0	0	0	0	3.76E-12	1.87E-21	0	0	1.14E-04
35 7.30 0	1.02E-04	5.65E-12	0	0	0	0	3.76E-12	1.95E-21	0	0	1.02E-04
36 7.20 0	8.82E-05	3.92E-12	0	0	0	0	3.80E-12	2.03E-21	0	0	8.82E-05
37 7.10 0	7.49E-05	2.39E-12	0	0	0	0	3.83E-12	2.12E-21	0	0	7.49E-05
38 7.00 6.17E-07	0	1.58E-12	0	0	0	0	3.86E-12	2.21E-21	0	0	1.58E-12
39 6.90 9.82E-07	0	9.69E-13	0	0	0	0	3.89E-12	2.31E-21	0	0	9.69E-13
40 6.80 6.83E-07	0	6.35E-13	0	0	0	0	3.92E-12	2.41E-21	0	0	6.35E-13
41 5.70 3.92E-07	0	3.85E-13	0	0	0	0	3.95E-12	2.52E-21	0	0	3.85E-13
42 6.60 1.97E-07	0	2.38E-13	0	0	0	0	3.98E-12	2.64E-21	0	0	2.38E-13
43 6.50 8.66E-08	0	1.02E-13	0	0	0	0	4.02E-12	2.76E-21	0	0	1.02E-13
44 6.40 4.46E-07	0	4.12E-14	0	0	0	0	4.05E-12	2.89E-21	0	0	4.12E-14
45 6.30 2.64E-07	0	1.11E-14	0	0	0	0	4.08E-12	3.03E-21	0	0	1.11E-14
46 6.20 5.90E-07	0	2.73E-15	0	0	0	0	4.11E-12	3.18E-21	0	0	2.73E-15
47 6.10 1.73E-06	0	6.32E-14	0	0	0	0	4.14E-12	3.34E-21	0	0	6.32E-14
48 6.00 3.29E-06	0	1.01E-16	0	0	0	0	4.17E-12	3.51E-21	0	0	1.01E-16
49 5.90 3.80E-06	0	6.59E-07	1.93E-06	0	0	0	4.17E-12	3.69E-21	0	0	6.59E-07
50 5.80 4.21E-06	0	1.39E-19	0	0	0	0	4.11E-12	3.89E-21	0	0	1.39E-19
51 5.70 3.27E-06	0	5.77E-07	7.27E-07	0	0	0	3.86E-12	4.10E-21	0	0	5.77E-07

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 3000. DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)

PHOTON OR SER ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2+ 1ST NEG.	M2+ 2ND NEG.	BETA	NO GAMMA	NO ROT	NO 2	0- PHOTO-DET (IONS)	FREE-FREE N	0 P.E.	TOTAL AIR
52	5.60	3.42E-06	0.	0.	2.33E-07	3.62E-06	0.	0.	3.59E-12	4.32E-21	0.	7.20E-04
53	5.50	2.82E-06	0.	0.	3.89E-07	7.64E-06	0.	0.	3.61E-12	4.50E-21	0.	3.98E-05
54	5.40	2.36E-06	0.	0.	2.56E-07	9.05E-07	0.	0.	3.63E-12	4.02E-21	0.	3.52E-06
55	5.30	1.84E-06	0.	0.	2.47E-07	4.26E-06	0.	0.	3.65E-12	5.30E-21	0.	6.37E-06
56	5.20	1.30E-06	0.	0.	2.12E-07	1.31E-06	0.	0.	3.70E-12	5.40E-21	0.	2.35E-06
57	5.10	6.80E-07	0.	0.	1.69E-07	1.30E-06	0.	0.	3.78E-12	5.72E-21	0.	2.14E-06
58	5.00	4.36E-07	0.	0.	1.04E-07	1.42E-06	0.	0.	3.25E-11	3.74E-12	6.07E-21	1.94E-06
59	4.90	3.33E-07	0.	0.	9.45E-08	4.97E-07	0.	0.	3.25E-11	3.77E-12	6.45E-21	9.53E-07
60	4.80	3.09E-07	0.	0.	9.89E-08	6.65E-07	0.	0.	3.27E-11	3.80E-12	6.64E-21	1.13E-06
61	4.70	3.08E-07	0.	0.	7.42E-08	1.91E-07	0.	0.	3.29E-11	3.83E-12	7.31E-21	5.73E-07
62	4.60	2.87E-07	0.	0.	6.38E-08	2.93E-07	0.	0.	3.30E-11	3.86E-12	7.89E-21	6.43E-07
63	4.50	2.17E-07	0.	0.	4.18E-08	7.60E-08	0.	0.	3.32E-11	3.89E-12	8.33E-21	3.35E-07
64	4.40	1.54E-07	0.	0.	3.35E-08	1.05E-07	0.	0.	3.34E-11	3.92E-12	8.91E-21	3.03E-07
65	4.30	1.13E-07	0.	0.	2.36E-08	2.61E-08	0.	0.	3.36E-11	3.95E-12	9.55E-21	3.63E-07
66	4.20	8.07E-08	0.	0.	1.95E-08	3.15E-08	0.	0.	3.38E-11	3.98E-12	1.02E-20	3.32E-07
67	4.10	4.08E-08	0.	0.	1.33E-08	8.50E-09	0.	0.	3.40E-11	4.00E-12	1.18E-20	8.15E-08
68	4.00	4.02E-08	0.	0.	1.02E-08	3.73E-09	0.	0.	3.42E-11	4.02E-12	1.39E-20	5.42E-08
69	3.90	2.34E-08	0.	0.	3.98E-09	2.68E-09	0.	0.	3.44E-11	4.04E-12	1.28E-20	3.22E-08
70	3.80	2.21E-08	0.	0.	1.25E-09	5.81E-09	0.	0.	3.46E-11	4.06E-12	1.38E-20	2.80E-08
71	3.70	1.80E-08	0.	0.	2.60E-09	2.60E-09	0.	0.	3.48E-11	4.08E-12	1.50E-20	1.46E-08
72	3.60	8.24E-09	0.	0.	5.28E-10	2.97E-09	0.	0.	3.50E-11	4.07E-12	1.63E-20	1.13E-08
73	3.50	5.75E-09	0.	0.	2.94E-10	1.18E-09	0.	0.	3.52E-11	4.06E-12	1.77E-20	6.94E-09
74	3.40	3.45E-09	0.	0.	2.57E-10	1.33E-09	0.	0.	3.54E-11	4.04E-12	1.51E-20	4.02E-09
75	3.30	2.21E-09	0.	0.	1.21E-10	8.49E-10	0.	0.	3.56E-11	4.02E-12	2.11E-20	2.81E-09
76	3.20	1.39E-09	0.	0.	9.48E-11	3.94E-10	0.	0.	3.58E-11	4.00E-12	2.32E-20	1.87E-09
77	3.10	8.89E-10	0.	0.	1.53E-11	4.05E-10	0.	0.	3.59E-11	4.00E-12	2.55E-20	1.20E-09
78	3.00	5.39E-10	0.	0.	2.69E-11	2.03E-10	0.	0.	3.49E-11	4.00E-12	2.81E-20	7.73E-10
79	2.90	2.96E-10	0.	0.	2.48E-11	3.14E-11	0.	0.	3.45E-11	4.00E-12	3.11E-20	4.11E-10
80	2.80	2.29E-10	0.	0.	5.89E-12	4.80E-11	0.	0.	3.38E-11	4.00E-12	3.66E-20	3.91E-10
81	2.70	1.69E-11	0.	0.	3.20E-11	1.94E-12	0.	0.	3.30E-11	4.00E-12	3.85E-20	1.21E-10
82	2.60	1.40E-11	0.	0.	3.20E-11	1.94E-12	0.	0.	3.20E-11	4.00E-12	4.25E-20	5.15E-11
83	2.50	6.22E-13	0.	0.	3.68E-11	1.94E-12	0.	0.	3.68E-11	4.00E-12	4.86E-20	3.32E-11
84	2.40	0.	0.	0.	2.95E-11	1.96E-12	0.	0.	2.95E-11	4.00E-12	5.49E-20	3.13E-11
85	2.30	0.	0.	0.	2.75E-11	1.95E-12	0.	0.	2.75E-11	4.00E-12	6.24E-20	2.95E-11
86	2.20	0.	0.	0.	2.55E-11	1.94E-12	0.	0.	2.55E-11	4.00E-12	7.13E-20	2.74E-11
87	2.10	0.	0.	0.	2.38E-11	1.93E-12	0.	0.	2.38E-11	4.00E-12	8.20E-20	2.51E-11
88	2.00	0.	0.	0.	2.24E-11	1.92E-12	0.	0.	2.24E-11	4.00E-12	9.40E-20	2.24E-11
89	1.90	0.	0.	0.	2.12E-11	1.91E-12	0.	0.	2.12E-11	4.00E-12	1.11E-19	1.92E-11
90	1.80	0.	0.	0.	2.02E-11	1.90E-12	0.	0.	2.02E-11	4.00E-12	1.35E-19	1.59E-11
91	1.70	0.	0.	0.	1.94E-11	1.89E-12	0.	0.	1.94E-11	4.00E-12	1.64E-19	1.18E-11
92	1.60	0.	0.	0.	1.87E-11	1.88E-12	0.	0.	1.87E-11	4.00E-12	2.00E-19	8.24E-12
93	1.50	0.	0.	0.	1.81E-11	1.87E-12	0.	0.	1.81E-11	4.00E-12	2.45E-19	4.82E-12
94	1.40	0.	0.	0.	1.76E-11	1.86E-12	0.	0.	1.76E-11	4.00E-12	3.00E-19	2.81E-12
95	1.30	0.	0.	0.	1.71E-11	1.85E-12	0.	0.	1.71E-11	4.00E-12	3.68E-19	1.64E-12
96	1.20	0.	0.	0.	1.67E-11	1.84E-12	0.	0.	1.67E-11	4.00E-12	4.50E-19	9.48E-13
97	1.10	0.	0.	0.	1.64E-11	1.83E-12	0.	0.	1.64E-11	4.00E-12	5.48E-19	5.20E-13
98	1.00	0.	0.	0.	1.61E-11	1.82E-12	0.	0.	1.61E-11	4.00E-12	6.64E-19	2.93E-13
99	0.90	0.	0.	0.	1.58E-11	1.81E-12	0.	0.	1.58E-11	4.00E-12	8.00E-19	1.74E-13
100	0.80	0.	0.	0.	1.56E-11	1.80E-12	0.	0.	1.56E-11	4.00E-12	9.58E-19	1.04E-13
101	0.70	0.	0.	0.	1.54E-11	1.79E-12	0.	0.	1.54E-11	4.00E-12	1.14E-18	6.48E-14
102	0.60	0.	0.	0.	1.52E-11	1.78E-12	0.	0.	1.52E-11	4.00E-12	1.38E-18	4.06E-14

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 3200. DENSITY (GM/CC) 1.2935E-08 (16.0E-06 NORMAL)

PHOTON ENERGY BANDS E.V.	02 S-R CONT.	02 S-R NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-EFF (10MS)		FRES-FREE N		TOTAL AIR
						P.E.	P.E.	P.E.	P.E.	
1 10.70 0.	0.	2.74E-07	0.	0.	0.	6.71E-14	0.	0.	0.	2.74E-07
2 10.60 0.	0.	1.74E-07	0.	0.	0.	6.72E-14	0.	0.	0.	1.74E-07
3 10.50 0.	0.	1.56E-07	0.	0.	0.	6.73E-14	0.	0.	0.	1.56E-07
4 10.40 0.	0.	9.83E-08	0.	0.	0.	6.74E-14	0.	0.	0.	9.83E-08
5 10.30 0.	0.	5.87E-08	0.	0.	0.	6.75E-14	0.	0.	0.	5.87E-08
6 10.20 0.	0.	4.77E-08	0.	0.	0.	6.75E-14	0.	0.	0.	4.77E-08
7 10.10 0.	0.	3.57E-08	0.	0.	0.	6.75E-14	0.	0.	0.	3.57E-08
8 10.00 0.	0.	1.87E-08	0.	0.	0.	6.77E-14	0.	0.	0.	1.87E-08
9 9.90 0.	0.	1.76E-08	0.	0.	0.	6.78E-14	0.	0.	0.	1.76E-08
10 9.80 0.	0.	1.17E-08	0.	0.	0.	6.80E-14	0.	0.	0.	1.17E-08
11 9.70 0.	0.	6.15E-09	0.	0.	0.	6.81E-14	0.	0.	0.	6.15E-09
12 9.60 0.	0.	6.64E-09	0.	0.	0.	6.82E-14	0.	0.	0.	6.64E-09
13 9.50 0.	0.	2.23E-07	0.	0.	0.	6.82E-14	0.	0.	0.	2.23E-07
14 9.40 0.	0.	6.27E-07	0.	0.	0.	6.84E-14	0.	0.	0.	6.27E-07
15 9.30 0.	0.	1.43E-06	0.	0.	0.	6.84E-14	0.	0.	0.	1.43E-06
16 9.20 0.	0.	2.03E-06	0.	0.	0.	6.91E-14	0.	0.	0.	2.03E-06
17 9.10 0.	0.	2.61E-06	0.	0.	0.	6.92E-14	0.	0.	0.	2.61E-06
18 9.00 0.	0.	3.18E-06	0.	0.	0.	6.94E-14	0.	0.	0.	3.18E-06
19 8.90 0.	0.	3.75E-06	0.	0.	0.	6.94E-14	0.	0.	0.	3.75E-06
20 8.80 0.	0.	3.90E-06	0.	0.	0.	7.01E-14	0.	0.	0.	3.90E-06
21 8.70 0.	0.	3.71E-06	0.	0.	0.	7.03E-14	0.	0.	0.	3.71E-06
22 8.60 0.	0.	3.33E-06	0.	0.	0.	7.04E-14	0.	0.	0.	3.33E-06
23 8.50 0.	0.	3.35E-06	0.	0.	0.	7.04E-14	0.	0.	0.	3.35E-06
24 8.40 0.	0.	3.14E-06	0.	0.	0.	7.12E-14	0.	0.	0.	3.14E-06
25 8.30 0.	0.	3.80E-06	0.	0.	0.	7.14E-14	0.	0.	0.	3.80E-06
26 8.20 0.	0.	2.81E-06	0.	0.	0.	7.19E-14	0.	0.	0.	2.81E-06
27 8.10 0.	0.	2.61E-06	0.	0.	0.	7.23E-14	0.	0.	0.	2.61E-06
28 8.00 0.	0.	2.42E-06	0.	0.	0.	7.31E-14	0.	0.	0.	2.42E-06
29 7.90 0.	0.	2.23E-06	0.	0.	0.	7.31E-14	0.	0.	0.	2.23E-06
30 7.80 0.	0.	2.05E-06	0.	0.	0.	7.34E-14	0.	0.	0.	2.05E-06
31 7.70 0.	0.	1.87E-06	0.	0.	0.	7.38E-14	0.	0.	0.	1.87E-06
32 7.60 0.	0.	1.68E-06	0.	0.	0.	7.42E-14	0.	0.	0.	1.68E-06
33 7.50 0.	0.	1.49E-06	0.	0.	0.	7.46E-14	0.	0.	0.	1.49E-06
34 7.40 0.	0.	1.33E-06	0.	0.	0.	7.50E-14	0.	0.	0.	1.33E-06
35 7.30 0.	0.	1.19E-06	0.	0.	0.	7.54E-14	0.	0.	0.	1.19E-06
36 7.20 0.	0.	1.03E-06	0.	0.	0.	7.58E-14	0.	0.	0.	1.03E-06
37 7.10 0.	0.	8.72E-07	0.	0.	0.	7.64E-14	0.	0.	0.	8.72E-07
38 7.00 0.	0.	7.19E-07	0.	0.	0.	7.70E-14	0.	0.	0.	7.19E-07
39 6.90 0.	0.	5.66E-07	0.	0.	0.	7.77E-14	0.	0.	0.	5.66E-07
40 6.80 0.	0.	4.36E-07	0.	0.	0.	7.83E-14	0.	0.	0.	4.36E-07
41 6.70 0.	0.	3.85E-07	0.	0.	0.	7.89E-14	0.	0.	0.	3.85E-07
42 6.60 0.	0.	2.36E-07	0.	0.	0.	7.95E-14	0.	0.	0.	2.36E-07
43 6.50 0.	0.	1.19E-07	0.	0.	0.	8.02E-14	0.	0.	0.	1.19E-07
44 6.40 0.	0.	4.14E-07	0.	0.	0.	8.08E-14	0.	0.	0.	4.14E-07
45 6.30 0.	0.	3.06E-07	0.	0.	0.	8.14E-14	0.	0.	0.	3.06E-07
46 6.20 0.	0.	2.74E-07	0.	0.	0.	8.20E-14	0.	0.	0.	2.74E-07
47 6.10 0.	0.	6.35E-07	0.	0.	0.	8.26E-14	0.	0.	0.	6.35E-07
48 6.00 0.	0.	6.54E-07	0.	0.	0.	8.33E-14	0.	0.	0.	6.54E-07
49 5.90 0.	0.	4.91E-07	0.	0.	0.	8.39E-14	0.	0.	0.	4.91E-07
50 5.80 0.	0.	1.39E-07	0.	0.	0.	8.45E-14	0.	0.	0.	1.39E-07
51 5.70 0.	0.	3.81E-07	0.	0.	0.	8.51E-14	0.	0.	0.	3.81E-07

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 3000. DENSITY (GM/CC) 1.293E-06 (10.05-06 NORMAL)

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 3RD POS.	NO. RETA	NO. GAMMA	NO. VIB-ROT	NO. PHOTO-DET (IONS)	O-FREE-FREE (ELECTRONS)	N	P.I.E.	O	TOTAL AIR	
52	5.60	3.99E-08	0.	0.	7.99E-09	1.24E-07	0.	7.16E-14	1.48E-22	0.	0.	1.72E-07	
53	5.50	3.40E-08	0.	0.	1.33E-08	2.41E-07	0.	7.20E-14	1.94E-22	0.	0.	3.09E-07	
54	5.40	2.75E-08	0.	0.	8.76E-09	3.11E-08	0.	7.24E-14	1.65E-22	0.	0.	6.73E-08	
55	5.30	2.15E-08	0.	0.	8.44E-09	1.46E-07	0.	7.33E-14	1.74E-22	0.	0.	1.76E-07	
56	5.20	1.68E-08	0.	0.	7.25E-09	4.49E-08	0.	7.33E-14	1.69E-22	0.	0.	6.10E-07	
57	5.10	8.62E-09	0.	0.	5.44E-09	4.43E-08	0.	1.20E-13	7.30E-14	1.96E-22	0.	5.70E-08	
58	5.00	5.08E-09	0.	0.	3.59E-09	4.63E-08	0.	1.20E-13	7.46E-14	2.00E-22	0.	5.72E-08	
59	4.90	4.23E-09	0.	0.	3.24E-09	1.69E-08	0.	1.20E-13	7.52E-14	2.31E-22	0.	3.44E-08	
60	4.80	4.18E-09	0.	0.	3.36E-09	2.20E-08	0.	1.21E-13	7.50E-14	2.35E-22	0.	3.03E-08	
61	4.70	3.60E-09	0.	0.	2.54E-09	4.53E-08	0.	1.21E-13	7.64E-14	2.74E-22	0.	1.27E-08	
62	4.60	3.35E-09	0.	0.	2.17E-09	1.80E-08	0.	1.22E-13	7.70E-14	2.67E-22	0.	1.55E-08	
63	4.50	2.54E-09	0.	0.	1.42E-09	2.40E-08	0.	1.23E-13	7.77E-14	2.69E-22	0.	6.56E-09	
64	4.40	1.92E-09	0.	0.	1.19E-09	3.61E-09	0.	1.23E-13	7.83E-14	3.05E-22	0.	6.67E-09	
65	4.30	1.32E-09	0.	0.	8.07E-10	8.94E-10	0.	1.24E-13	7.89E-14	3.26E-22	0.	3.37E-09	
66	4.20	9.40E-10	0.	0.	6.66E-10	1.02E-09	0.	1.25E-13	7.93E-14	3.50E-22	0.	2.48E-09	
67	4.10	7.00E-10	0.	0.	4.58E-10	2.91E-10	0.	1.25E-13	7.98E-14	3.76E-22	0.	1.45E-09	
68	4.00	4.69E-10	0.	0.	3.49E-10	1.28E-10	0.	1.26E-13	8.02E-14	4.05E-22	0.	9.45E-10	
69	3.90	2.78E-10	0.	0.	3.67E-10	1.28E-10	0.	1.27E-13	7.98E-14	4.30E-22	0.	5.72E-10	
70	3.80	2.58E-10	0.	0.	1.26E-13	7.95E-14	4.73E-22	0.	1.28E-13	7.95E-14	4.73E-22	0.	4.57E-10
71	3.70	1.40E-10	0.	0.	1.29E-13	7.83E-14	5.12E-22	0.	1.29E-13	7.83E-14	5.12E-22	0.	2.70E-10
72	3.60	9.63E-11	0.	0.	1.29E-13	7.33E-14	5.56E-22	0.	1.29E-13	7.33E-14	5.56E-22	0.	1.98E-10
73	3.50	6.70E-11	0.	0.	1.30E-13	6.71E-14	6.05E-22	0.	1.30E-13	6.71E-14	6.05E-22	0.	1.67E-10
74	3.40	4.03E-11	0.	0.	1.31E-13	4.55E-11	0.	1.31E-13	3.87E-14	6.05E-22	0.	6.59E-11	
75	3.30	2.58E-11	0.	0.	1.31E-13	3.88E-14	7.22E-22	0.	1.31E-13	3.88E-14	7.22E-22	0.	4.91E-11
76	3.20	1.52E-11	0.	0.	1.31E-13	3.29E-14	7.92E-22	0.	1.31E-13	3.29E-14	7.92E-22	0.	3.39E-11
77	3.10	1.07E-11	0.	0.	1.30E-13	3.69E-14	8.71E-22	0.	1.30E-13	3.69E-14	8.71E-22	0.	2.83E-11
78	3.00	6.22E-12	0.	0.	1.29E-13	3.90E-14	9.61E-22	0.	1.29E-13	3.90E-14	9.61E-22	0.	2.33E-11
79	2.90	3.45E-12	0.	0.	1.28E-13	3.91E-14	1.06E-21	0.	1.28E-13	3.91E-14	1.06E-21	0.	1.91E-11
80	2.80	2.66E-12	0.	0.	1.27E-13	3.91E-14	1.18E-21	0.	1.27E-13	3.91E-14	1.18E-21	0.	1.62E-11
81	2.70	1.93E-12	0.	0.	1.26E-13	3.91E-14	1.32E-21	0.	1.26E-13	3.91E-14	1.32E-21	0.	1.39E-11
82	2.60	1.97E-12	0.	0.	1.25E-13	3.91E-14	1.47E-21	0.	1.25E-13	3.91E-14	1.47E-21	0.	1.24E-11
83	2.50	9.56E-13	0.	0.	1.24E-13	3.91E-14	1.66E-21	0.	1.24E-13	3.91E-14	1.66E-21	0.	1.07E-11
84	2.40	0.	0.	0.	1.09E-13	3.91E-14	1.88E-21	0.	1.09E-13	3.91E-14	1.88E-21	0.	1.49E-11
85	2.30	0.	0.	0.	1.02E-13	3.88E-14	2.13E-21	0.	1.02E-13	3.88E-14	2.13E-21	0.	1.43E-11
86	2.20	0.	0.	0.	9.41E-14	3.87E-14	2.44E-21	0.	9.41E-14	3.87E-14	2.44E-21	0.	1.55E-11
87	2.10	0.	0.	0.	8.50E-14	3.85E-14	2.80E-21	0.	8.50E-14	3.85E-14	2.80E-21	0.	1.70E-11
88	2.00	0.	0.	0.	7.16E-14	3.73E-14	3.29E-21	0.	7.16E-14	3.73E-14	3.29E-21	0.	1.90E-11
89	1.90	0.	0.	0.	6.04E-14	3.59E-14	3.78E-21	0.	6.04E-14	3.59E-14	3.78E-21	0.	2.00E-11
90	1.80	0.	0.	0.	4.39E-14	3.43E-14	4.45E-21	0.	4.39E-14	3.43E-14	4.45E-21	0.	2.76E-11
91	1.70	0.	0.	0.	3.05E-14	3.23E-14	5.20E-21	0.	3.05E-14	3.23E-14	5.20E-21	0.	1.60E-11
92	1.60	0.	0.	0.	2.06E-14	2.73E-14	6.34E-21	0.	2.06E-14	2.73E-14	6.34E-21	0.	1.60E-11
93	1.50	0.	0.	0.	1.18E-14	1.24E-14	7.70E-21	0.	1.18E-14	1.24E-14	7.70E-21	0.	1.24E-11
94	1.40	0.	0.	0.	6.31E-15	0.	9.47E-21	0.	6.31E-15	0.	9.47E-21	0.	2.55E-11
95	1.30	0.	0.	0.	2.51E-15	0.	1.10E-20	0.	2.51E-15	0.	1.10E-20	0.	7.77E-11
96	1.20	0.	0.	0.	0.	0.	1.50E-20	0.	0.	0.	1.50E-20	0.	2.02E-11
97	1.10	0.	0.	0.	7.80E-13	0.	2.66E-20	0.	7.80E-13	0.	2.66E-20	0.	6.46E-11
98	1.00	0.	0.	0.	9.05E-14	0.	3.95E-12	0.	9.05E-14	0.	3.95E-12	0.	6.50E-11
99	0.90	0.	0.	0.	3.81E-14	0.	5.10E-20	0.	3.81E-14	0.	5.10E-20	0.	5.90E-12
100	0.80	0.	0.	0.	1.72E-14	0.	7.63E-20	0.	1.72E-14	0.	7.63E-20	0.	9.20E-12
101	0.70	0.	0.	0.	9.56E-15	0.	1.21E-19	0.	9.56E-15	0.	1.21E-19	0.	2.94E-11
102	0.60	0.	0.	0.	1.80E-15	0.	1.21E-19	0.	1.80E-15	0.	1.21E-19	0.	3.10E-11

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS F...	O2 S-R CONT.	N2 B-H NO. 1	TEMPERATURE (DEGREES K)		NO BETA	NO GAMMA	DENSITY (GM/CC)		O- PHOTO-DET	FREE-FREE P.E.	M	O	TOTAL AIR
			3000.	1.293E-09 (10.0E-07 NORMAL)			2	P.E.					
1 10.70 0.	0.	2.74E-08	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	2.74E-08
2 10.60 0.	0.	1.74E-08	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	1.74E-08
3 10.50 0.	0.	1.36E-08	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	1.36E-08
4 10.40 0.	0.	9.88E-09	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	9.88E-09
5 10.30 0.	0.	5.07E-09	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	5.07E-09
6 10.20 0.	0.	4.77E-09	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	4.77E-09
7 10.10 0.	0.	3.59E-09	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	3.59E-09
8 10.00 0.	0.	1.07E-09	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	1.07E-09
9 9.90 0.	0.	1.74E-09	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	1.74E-09
10 9.80 0.	0.	1.17E-09	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	1.17E-09
11 9.70 0.	0.	6.19E-10	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	6.19E-10
12 9.60 0.	0.	6.69E-10	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	6.69E-10
13 9.50 0.	0.	2.29E-09	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	2.29E-09
14 9.40 0.	0.	4.49E-09	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	4.49E-09
15 9.30 0.	0.	1.47E-08	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	1.47E-08
16 9.20 0.	0.	2.09E-08	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	2.09E-08
17 9.10 0.	0.	2.68E-08	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	2.68E-08
18 9.00 0.	0.	3.26E-08	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	3.26E-08
19 8.90 0.	0.	3.85E-08	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	3.85E-08
20 8.80 0.	0.	4.00E-08	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	4.00E-08
21 8.70 0.	0.	3.81E-08	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	3.81E-08
22 8.60 0.	0.	3.63E-08	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	3.63E-08
23 8.50 0.	0.	3.44E-08	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	3.44E-08
24 8.40 0.	0.	3.25E-08	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	3.25E-08
25 8.30 0.	0.	3.06E-08	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	3.06E-08
26 8.20 0.	0.	2.87E-08	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	2.87E-08
27 8.10 0.	0.	2.68E-08	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	2.68E-08
28 8.00 0.	0.	2.49E-08	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	2.49E-08
29 7.90 0.	0.	2.29E-08	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	2.29E-08
30 7.80 0.	0.	2.11E-08	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	2.11E-08
31 7.70 0.	0.	1.92E-08	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	1.92E-08
32 7.60 0.	0.	1.73E-08	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	1.73E-08
33 7.50 0.	0.	1.54E-08	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	1.54E-08
34 7.40 0.	0.	1.35E-08	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	1.35E-08
35 7.30 0.	0.	1.22E-08	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	1.22E-08
36 7.20 0.	0.	1.06E-08	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	1.06E-08
37 7.10 0.	0.	8.94E-09	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	8.94E-09
38 7.00 0.	0.	7.38E-09	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	7.38E-09
39 6.90 0.	0.	6.90 1.18E-10	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	6.90 1.18E-10
40 6.80 0.	0.	6.43 1.47E-11	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	6.43 1.47E-11
41 6.70 0.	0.	6.02 1.69E-11	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	6.02 1.69E-11
42 6.60 0.	0.	5.65 1.86E-11	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	5.65 1.86E-11
43 6.50 0.	0.	5.30 2.00E-11	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	5.30 2.00E-11
44 6.40 0.	0.	4.96 2.12E-11	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	4.96 2.12E-11
45 6.30 0.	0.	4.64 2.23E-11	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	4.64 2.23E-11
46 6.20 0.	0.	4.34 2.33E-11	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	4.34 2.33E-11
47 6.10 0.	0.	4.05 2.42E-11	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	4.05 2.42E-11
48 6.00 0.	0.	3.77 2.51E-11	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	3.77 2.51E-11
49 5.90 0.	0.	3.50 2.60E-11	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	3.50 2.60E-11
50 5.80 0.	0.	3.24 2.69E-11	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	3.24 2.69E-11
51 5.70 0.	0.	3.02 2.78E-11	0.	0.	0.	0.	1.22E-15 0.	0.	0.	0.	0.	0.	3.02 2.78E-11

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 3000. DENSITY (GM/CC) 1.293E-09 (10.0E-07 NORMAL)

PHOTON ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	NO GAMMA	NO VIB-ROT	NO PHOTO-DET	FREE-FREE P.E.	M P.E.	TOTAL AIR P.E.
52	5.60	4.10E-10	0.	2.56E-10	3.98E-09	0.	1.30E-19	4.74E-24	0.	6.64E-09
53	5.50	3.49E-10	0.	4.27E-10	4.38E-09	0.	1.31E-19	5.00E-24	0.	9.15E-09
54	5.40	2.82E-10	0.	2.61E-10	9.94E-10	0.	1.31E-19	5.20E-24	0.	1.16E-09
55	5.30	2.2E-10	0.	2.71E-10	4.70E-09	0.	1.32E-19	5.59E-24	0.	5.19E-09
56	5.20	9.93E-11	0.	2.32E-10	1.44E-09	0.	1.33E-19	5.92E-24	0.	1.77E-09
57	5.10	8.23E-11	0.	1.79E-10	1.42E-09	0.	3.88E-16	1.44E-19	6.27E-24	1.68E-09
58	5.00	3.21E-11	0.	1.14E-10	1.56E-09	0.	3.89E-16	1.39E-19	6.60E-24	1.72E-09
59	4.90	4.33E-11	0.	1.04E-10	5.43E-10	0.	3.90E-16	1.36E-19	7.07E-24	6.89E-10
60	4.80	4.29E-11	0.	1.08E-10	3.30E-10	0.	3.92E-16	1.37E-19	7.92E-24	0.
61	4.70	3.49E-11	0.	9.14E-11	2.69E-10	0.	3.94E-16	1.39E-19	8.61E-24	3.28E-10
62	4.60	3.44E-11	0.	6.95E-11	3.21E-10	0.	3.96E-16	1.40E-19	8.59E-24	0.
63	4.50	2.60E-11	0.	4.56E-11	4.34E-11	0.	3.98E-16	1.42E-19	9.13E-24	0.
64	4.40	1.97E-11	0.	3.67E-11	1.16E-10	0.	4.00E-16	1.42E-19	9.77E-24	0.
65	4.30	1.35E-11	0.	2.99E-11	2.67E-11	0.	4.03E-16	1.43E-19	1.05E-23	6.89E-11
66	4.20	9.65E-12	0.	2.13E-11	3.45E-11	0.	4.05E-16	1.44E-19	1.12E-23	6.59E-11
67	4.10	7.10E-12	0.	1.46E-11	3.32E-12	0.	4.08E-16	1.45E-19	1.21E-23	3.11E-11
68	4.00	4.62E-12	0.	1.12E-11	4.09E-12	0.	4.10E-16	1.45E-19	1.30E-23	2.01E-11
69	3.90	2.80E-12	0.	8.85E-12	4.96E-12	0.	4.13E-16	1.45E-19	1.40E-23	1.24E-11
70	3.80	2.68E-12	0.	1.28E-10	6.37E-12	0.	4.15E-16	1.44E-19	1.52E-23	9.02E-12
71	3.70	1.43E-12	0.	7.24E-10	1.82E-10	2.69E-12	4.16E-16	1.42E-19	1.64E-23	0.
72	3.60	9.89E-13	0.	5.38E-17	1.53E-10	3.26E-12	4.20E-16	1.33E-19	1.78E-23	0.
73	3.50	6.83E-13	0.	2.95E-16	4.34E-17	1.29E-12	4.23E-16	1.22E-19	1.94E-23	0.
74	3.40	4.13E-13	0.	2.52E-17	6.18E-20	1.46E-12	4.25E-16	7.03E-16	2.32E-23	0.
75	3.30	2.64E-13	0.	7.41E-17	3.66E-16	6.14E-13	4.24E-16	7.94E-16	2.94E-23	0.
76	3.20	1.56E-13	0.	9.69E-18	6.91E-17	5.89E-13	4.22E-16	7.06E-16	2.79E-23	0.
77	3.10	1.04E-13	0.	1.54E-17	1.23E-19	3.22E-13	4.18E-16	7.09E-16	3.41E-23	0.
78	3.00	6.30E-14	0.	2.76E-18	4.00E-18	2.23E-13	4.14E-16	7.09E-16	3.41E-23	0.
79	2.90	3.54E-14	0.	2.45E-18	9.60E-18	6.65E-14	4.04E-16	7.10E-16	3.70E-23	6.
80	2.80	2.73E-14	0.	5.08E-19	1.44E-18	2.91E-14	3.96E-16	7.10E-16	4.22E-23	0.
81	2.70	9.63E-15	0.	3.23E-19	1.84E-18	6.00E-15	3.94E-16	7.10E-16	4.22E-23	0.
82	2.60	2.05E-15	0.	9.82E-20	4.13E-19	1.12E-15	3.94E-16	7.10E-16	5.32E-23	9.
83	2.50	9.54E-17	0.	2.78E-20	2.89E-20	1.32E-16	3.94E-16	7.10E-16	6.02E-23	0.
84	2.40	0.	0.	1.32E-19	1.04E-17	0.	3.30E-16	7.04E-16	6.84E-23	0.
85	2.30	0.	0.	2.50E-16	0.	0.	3.05E-16	7.02E-16	7.81E-23	0.
86	2.20	0.	0.	2.36E-16	0.	0.	2.74E-16	6.98E-16	8.98E-23	0.
87	2.10	0.	0.	1.92E-16	0.	0.	2.33E-16	6.76E-16	9.94E-23	0.
88	2.00	0.	0.	1.13E-16	0.	0.	1.96E-16	6.50E-16	1.31E-22	0.
89	1.90	0.	0.	1.04E-16	0.	0.	1.43E-16	6.22E-16	1.43E-22	0.
90	1.80	0.	0.	1.92E-14	0.	0.	9.89E-17	5.66E-16	1.69E-22	0.
91	1.70	0.	0.	1.17E-14	0.	0.	6.68E-17	4.94E-16	2.03E-22	0.
92	1.60	0.	0.	1.35E-14	0.	0.	3.89E-17	4.23E-16	2.47E-22	0.
93	1.50	0.	0.	9.94E-15	0.	0.	2.05E-17	3.44E-16	3.44E-22	0.
94	1.40	0.	0.	2.44E-14	0.	0.	8.17E-18	0.	3.79E-22	0.
95	1.30	0.	0.	7.52E-15	0.	0.	0.	0.	4.82E-22	0.
96	1.20	0.	0.	2.02E-14	0.	0.	2.53E-14	0.	6.37E-22	0.
97	1.10	0.	0.	5.63E-15	0.	0.	0.	0.	8.35E-22	0.
98	1.00	0.	0.	9.03E-15	0.	0.	1.91E-13	0.	1.15E-21	0.
99	0.90	0.	0.	3.91E-15	0.	0.	2.94E-13	0.	1.44E-21	0.
100	0.80	0.	0.	1.78E-15	0.	0.	9.43E-13	0.	2.43E-21	0.
101	0.70	0.	0.	4.55E-16	0.	0.	9.94E-13	0.	3.80E-21	0.
102	0.60	0.	0.	1.89E-16	0.	0.	0.	0.	3.80E-21	0.

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E.V.	OZ S-R CONT.	N2 S-H NO. 1	TEMPERATURE (DEGREES K)		NO BETA	NO GAMMA	NO 2	0- PHOTO-DET (IONS)	FREE-FREE N P.E.	TOTAL AIR P.E.
			4000.	DENSITY (GM/CC) (1.0E 01 NORMAL)						
1 10.70 0.	0.	1.98E 00	0.	0.	0.	0.	0.	4.61E-04 4.86E-12 0.	0.	1.98E 00
2 10.60 0.	0.	1.40E 00	0.	0.	0.	0.	0.	4.62E-04 5.00E-12 0.	0.	1.40E 00
3 10.50 0.	0.	1.20E 00	0.	0.	0.	0.	0.	4.62E-04 5.14E-12 0.	0.	1.20E 00
4 10.40 0.	0.	0.24E-01	0.	0.	0.	0.	0.	4.63E-04 5.29E-12 0.	0.	0.24E-01
5 10.30 0.	0.	0.21E-01	0.	0.	0.	0.	0.	4.63E-04 5.43E-12 0.	0.	0.21E-01
6 10.20 0.	0.	2.44E-01	0.	0.	0.	0.	0.	4.63E-04 5.57E-12 0.	0.	2.44E-01
7 10.10 0.	0.	4.39E-01	0.	0.	0.	0.	0.	4.63E-04 5.71E-12 0.	0.	4.39E-01
8 10.00 0.	0.	2.58E-01	0.	0.	0.	0.	0.	4.63E-04 5.85E-12 0.	0.	2.58E-01
9 9.90 0.	0.	1.98E-01	0.	0.	0.	0.	0.	4.63E-04 6.00E-12 0.	0.	1.98E-01
10 9.80 0.	0.	1.98E-01	0.	0.	0.	0.	0.	4.63E-04 6.14E-12 0.	0.	1.98E-01
11 9.70 0.	0.	1.17E-01	0.	0.	0.	0.	0.	4.63E-04 6.28E-12 0.	0.	1.17E-01
12 9.60 0.	0.	1.28E-01	0.	0.	0.	0.	0.	4.63E-04 6.43E-12 0.	0.	1.28E-01
13 9.50 0.	1.21E 02	7.39E-02	0.	0.	0.	0.	0.	4.70E-04 6.57E-12 0.	0.	1.21E 02
14 9.40 0.	1.36E 02	5.63E-02	0.	0.	0.	0.	0.	4.71E-04 6.71E-12 0.	0.	1.36E 02
15 9.30 0.	1.51E 02	5.31E-02	0.	0.	0.	0.	0.	4.73E-04 6.85E-12 0.	0.	1.51E 02
16 9.20 0.	1.66E 02	2.71E-02	0.	0.	0.	0.	0.	4.74E-04 7.00E-12 0.	0.	1.66E 02
17 9.10 0.	2.05E 02	3.00E-02	0.	0.	0.	0.	0.	4.74E-04 7.14E-12 0.	0.	2.05E 02
18 9.00 0.	2.41E 02	1.80E-02	0.	0.	0.	0.	0.	4.74E-04 7.28E-12 0.	0.	2.41E 02
19 8.90 0.	3.91E 02	1.30E-02	0.	0.	0.	0.	0.	4.74E-04 7.43E-12 0.	0.	3.91E 02
20 8.80 0.	3.03E 02	1.20E-02	0.	0.	0.	0.	0.	4.82E-04 7.57E-12 0.	0.	3.03E 02
21 8.70 0.	2.89E 02	6.94E-03	0.	0.	0.	0.	0.	4.83E-04 7.71E-12 0.	0.	2.89E 02
22 8.60 0.	2.75E 02	7.80E-03	0.	0.	0.	0.	0.	4.85E-04 7.85E-12 0.	0.	2.75E 02
23 8.50 0.	2.62E 02	4.00E-03	0.	0.	0.	0.	0.	4.87E-04 8.00E-12 0.	0.	2.62E 02
24 8.40 0.	2.50E 02	3.79E-03	0.	0.	0.	0.	0.	4.89E-04 8.14E-12 0.	0.	2.50E 02
25 8.30 0.	2.38E 02	2.21E-03	0.	0.	0.	0.	0.	4.92E-04 8.28E-12 0.	0.	2.38E 02
26 8.20 0.	2.24E 02	1.99E-03	0.	0.	0.	0.	0.	4.94E-04 8.43E-12 0.	0.	2.24E 02
27 8.10 0.	2.13E 02	1.23E-03	0.	0.	0.	0.	0.	4.97E-04 8.57E-12 0.	0.	2.13E 02
28 8.00 0.	2.00E 02	1.67E-03	0.	0.	0.	0.	0.	4.99E-04 8.71E-12 0.	0.	2.00E 02
29 7.90 0.	1.87E 02	6.74E-04	0.	0.	0.	0.	0.	5.02E-04 8.85E-12 0.	0.	1.87E 02
30 7.80 0.	1.75E 02	5.98E-04	0.	0.	0.	0.	0.	5.05E-04 9.00E-12 0.	0.	1.75E 02
31 7.70 0.	1.65E 02	3.91E-04	0.	0.	0.	0.	0.	5.07E-04 9.14E-12 0.	0.	1.65E 02
32 7.60 0.	1.49E 02	3.08E-04	0.	0.	0.	0.	0.	5.10E-04 9.28E-12 0.	0.	1.49E 02
33 7.50 0.	1.36E 02	2.13E-04	0.	0.	0.	0.	0.	5.12E-04 9.43E-12 0.	0.	1.36E 02
34 7.40 0.	1.23E 02	1.52E-04	0.	0.	0.	0.	0.	5.15E-04 9.57E-12 0.	0.	1.23E 02
35 7.30 0.	1.10E 02	1.12E-04	0.	0.	0.	0.	0.	5.18E-04 9.71E-12 0.	0.	1.10E 02
36 7.20 0.	9.84E 01	7.85E-05	0.	0.	0.	0.	0.	5.21E-04 9.85E-12 0.	0.	9.84E 01
37 7.10 0.	8.47E 01	5.94E-05	0.	0.	0.	0.	0.	5.24E-04 1.00E-11 0.	0.	8.47E 01
38 7.00 0.	4.13E-01	4.20E-05	0.	0.	0.	0.	0.	5.27E-04 1.07E-11 0.	0.	4.13E-01
39 6.90 0.	6.98E-01	3.01E-05	0.	0.	0.	0.	0.	5.29E-04 1.14E-11 0.	0.	6.98E-01
40 6.80 5.16E-01 0.	2.21E-01	0.	0.	0.	0.	0.	0.	5.34E-04 1.22E-11 0.	0.	2.21E-01
41 6.70 3.17E-01 0.	1.49E-05	0.	0.	0.	0.	0.	0.	5.38E-04 1.30E-11 0.	0.	1.49E-05
42 6.60 1.67E-01 0.	1.02E-05	0.	0.	0.	0.	0.	0.	5.42E-04 1.39E-11 0.	0.	1.02E-05
43 6.50 8.07E-02 0.	5.87E-06	0.	0.	0.	0.	0.	0.	5.46E-04 1.48E-11 0.	0.	5.87E-06
44 6.40 1.29E-01 0.	2.58E-06	0.	0.	0.	0.	0.	0.	5.51E-04 1.57E-11 0.	0.	2.58E-06
45 6.30 2.35E-01 0.	6.64E-07	0.	0.	0.	0.	0.	0.	5.55E-04 1.66E-11 0.	0.	6.64E-07
46 6.20 5.99E-01 0.	2.88E-07	0.	0.	0.	0.	0.	0.	5.60E-04 1.75E-11 0.	0.	2.88E-07
47 6.10 1.94E 00 0.	8.47E-08	0.	0.	0.	0.	0.	0.	5.65E-04 1.84E-11 0.	0.	8.47E-08
48 6.00 4.12E 00 0.	1.58E-08	0.	0.	0.	0.	0.	0.	5.70E-04 1.93E-11 0.	0.	1.58E-08
49 5.90 5.42E 00 0.	1.07E-09	0.	0.	0.	0.	0.	0.	5.75E-04 2.02E-11 0.	0.	1.07E-09
50 5.80 6.61E 00 0.	2.42E-11	0.	0.	0.	0.	0.	0.	5.80E-04 2.11E-11 0.	0.	2.42E-11
51 5.70 5.95E 00 0.	5.75E-01	9.86E-01	0.	0.	0.	0.	0.	5.85E-04 2.20E-11 0.	0.	5.75E-01

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 4000. DENSITY (GM/CC) 1.293E-02 (1.0E-01 NORMAL)

PHOTON ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2 1ST NEG.	N2 2ND NEG.	BETA	KO	GAMMA	NO	VIB-ROT	NO	PHOTO-DET	D-FREE-FREE	N	P.I.E.	TOTAL AIR
52	5.60	6.57E-00	0.	0.	2.81E-01	3.19E-00	0.	0.	4.92E-04	3.41E-11	0.	0.	0.	0.	1.00E-01
53	5.50	5.98E-00	0.	0.	4.03E-01	4.71E-00	0.	0.	4.93E-04	3.60E-11	0.	0.	0.	0.	1.11E-01
54	5.40	5.39E-00	0.	0.	2.68E-01	3.13E-00	0.	0.	4.97E-04	3.61E-11	0.	0.	0.	0.	6.72E-00
55	5.30	4.44E-00	0.	0.	2.68E-01	3.39E-00	0.	0.	5.01E-04	4.03E-11	0.	0.	0.	0.	6.11E-00
56	5.20	3.66E-00	0.	0.	2.68E-01	1.11E-00	0.	0.	5.04E-04	4.27E-11	0.	0.	0.	0.	3.74E-00
57	5.10	2.01E-00	0.	0.	2.23E-01	1.46E-00	0.	0.	1.53E-02	2.08E-04	4.52E-11	0.	0.	0.	3.71E-00
58	5.00	1.32E-00	0.	0.	1.62E-01	1.37E-00	0.	0.	1.55E-02	5.12E-04	4.88E-11	0.	0.	0.	2.44E-00
59	4.90	1.12E-00	0.	0.	1.56E-01	7.44E-01	0.	0.	1.57E-02	5.17E-04	5.10E-11	0.	0.	0.	2.02E-00
60	4.80	1.12E-00	0.	0.	1.60E-01	6.04E-01	0.	0.	1.57E-02	5.21E-04	5.10E-11	0.	0.	0.	2.09E-00
61	4.70	1.04E-00	0.	0.	1.33E-01	3.79E-01	0.	0.	1.58E-02	5.29E-04	6.17E-11	0.	0.	0.	1.56E-00
62	4.60	1.06E-00	0.	0.	1.19E-01	4.59E-01	0.	0.	1.59E-02	5.29E-04	6.17E-11	0.	0.	0.	1.65E-00
63	4.50	6.89E-01	0.	0.	8.37E-02	1.87E-01	0.	0.	1.60E-02	5.34E-04	6.59E-11	0.	0.	0.	1.17E-00
64	4.40	7.49E-01	0.	0.	7.19E-02	1.98E-01	0.	0.	1.61E-02	5.38E-04	7.09E-11	0.	0.	0.	1.04E-00
65	4.30	5.56E-01	0.	0.	5.71E-02	4.64E-02	0.	0.	1.63E-02	5.43E-04	7.55E-11	0.	0.	0.	6.97E-01
66	4.20	4.33E-01	0.	0.	5.25E-02	7.30E-02	0.	0.	1.65E-02	5.48E-04	8.10E-11	0.	0.	0.	5.79E-01
67	4.10	3.43E-01	0.	0.	3.95E-02	3.79E-02	0.	0.	1.67E-02	5.49E-04	8.71E-11	0.	0.	0.	4.17E-01
68	4.00	2.53E-01	0.	0.	3.22E-02	1.06E-02	0.	0.	1.68E-02	5.51E-04	9.38E-11	0.	0.	0.	3.15E-01
69	3.90	1.63E-01	0.	0.	2.78E-02	6.64E-03	0.	0.	1.70E-02	5.49E-04	1.01E-10	0.	0.	0.	2.12E-01
70	3.80	1.04E-01	0.	0.	2.09E-02	3.17E-02	0.	0.	1.72E-02	5.68E-04	1.09E-10	0.	0.	0.	2.04E-01
71	3.70	1.04E-01	0.	0.	1.84E-02	3.07E-02	0.	0.	1.74E-02	5.70E-04	1.10E-10	0.	0.	0.	1.33E-01
72	3.60	7.70E-02	0.	0.	1.65E-02	7.16E-02	0.	0.	1.76E-02	5.64E-04	1.25E-10	0.	0.	0.	1.09E-01
73	3.50	5.86E-02	0.	0.	1.46E-02	4.55E-03	0.	0.	1.79E-02	4.61E-04	1.48E-10	0.	0.	0.	6.35E-02
74	3.40	4.08E-02	0.	0.	5.67E-02	7.29E-03	0.	0.	1.81E-02	2.66E-04	1.53E-10	0.	0.	0.	6.50E-02
75	3.30	2.70E-02	0.	0.	1.38E-02	3.72E-03	0.	0.	1.82E-02	2.66E-04	1.57E-10	0.	0.	0.	4.99E-02
76	3.20	1.93E-02	0.	0.	2.80E-02	1.30E-02	0.	0.	1.84E-02	2.67E-04	1.63E-10	0.	0.	0.	4.08E-02
77	3.10	1.37E-02	0.	0.	2.90E-02	7.49E-03	0.	0.	1.84E-02	2.67E-04	2.02E-10	0.	0.	0.	3.40E-02
78	3.00	9.39E-03	0.	0.	3.70E-02	1.49E-02	0.	0.	1.85E-02	2.68E-04	2.23E-10	0.	0.	0.	2.96E-02
79	2.90	5.89E-03	0.	0.	5.97E-02	2.27E-02	0.	0.	1.79E-02	2.68E-04	2.47E-10	0.	0.	0.	2.50E-02
80	2.80	5.09E-03	0.	0.	1.80E-02	1.07E-04	0.	0.	1.76E-02	2.69E-04	2.74E-10	0.	0.	0.	2.32E-02
81	2.70	2.11E-03	0.	0.	9.79E-02	7.16E-11	1.02E-04	0.	1.73E-02	2.69E-04	3.09E-10	0.	0.	0.	1.97E-02
82	2.60	5.74E-04	0.	0.	4.08E-02	1.12E-11	2.54E-05	0.	1.69E-02	2.69E-04	3.22E-10	0.	0.	0.	1.77E-02
83	2.50	3.10E-05	0.	0.	6.92E-10	1.92E-12	4.21E-06	0.	1.61E-02	2.69E-04	3.65E-10	0.	0.	0.	1.65E-02
84	2.40	0.	0.	0.	5.47E-12	3.34E-07	0.	0.	1.59E-02	2.69E-04	4.39E-10	0.	0.	0.	1.57E-02
85	2.30	0.	0.	0.	2.07E-06	0.	0.	0.	1.49E-02	2.67E-04	4.94E-10	0.	0.	0.	1.40E-02
86	2.20	0.	0.	0.	4.72E-06	0.	0.	0.	1.35E-02	2.66E-04	5.65E-10	0.	0.	0.	1.37E-02
87	2.10	0.	0.	0.	9.30E-06	0.	0.	0.	1.24E-02	2.65E-04	6.50E-10	0.	0.	0.	1.27E-02
88	2.00	0.	0.	0.	7.92E-06	0.	0.	0.	1.15E-02	2.64E-04	7.23E-10	0.	0.	0.	1.19E-02
89	1.90	0.	0.	0.	4.95E-05	0.	0.	0.	9.92E-03	2.40E-04	8.78E-10	0.	0.	0.	1.02E-02
90	1.80	0.	0.	0.	6.06E-05	0.	0.	0.	8.23E-03	2.36E-04	1.03E-09	0.	0.	0.	8.92E-03
91	1.70	0.	0.	0.	5.31E-05	0.	0.	0.	6.69E-03	2.22E-04	1.23E-09	0.	0.	0.	6.93E-03
92	1.60	0.	0.	0.	4.44E-05	0.	0.	0.	5.31E-03	1.88E-04	1.47E-09	0.	0.	0.	5.59E-03
93	1.50	0.	0.	0.	4.54E-05	0.	0.	0.	4.02E-03	8.54E-05	1.79E-09	0.	0.	0.	4.15E-03
94	1.40	0.	0.	0.	2.72E-05	0.	0.	0.	2.99E-03	0.	2.28E-09	0.	0.	0.	3.07E-03
95	1.30	0.	0.	0.	3.58E-05	0.	0.	0.	1.99E-03	0.	2.79E-09	0.	0.	0.	2.62E-03
96	1.20	0.	0.	0.	6.19E-05	0.	0.	0.	1.27E-03	0.	3.59E-09	0.	0.	0.	1.93E-03
97	1.10	0.	0.	0.	2.64E-05	0.	0.	0.	2.34E-03	7.62E-04	4.59E-09	0.	0.	0.	8.13E-04
98	1.00	0.	0.	0.	3.29E-05	0.	0.	0.	4.80E-03	3.86E-04	6.87E-09	0.	0.	0.	4.61E-04
99	0.90	0.	0.	0.	1.92E-05	0.	0.	0.	1.77E-04	1.89E-04	8.29E-09	0.	0.	0.	3.05E-04
100	0.80	0.	0.	0.	2.4E-06	0.	0.	0.	4.77E-04	0.	1.19E-08	0.	0.	0.	4.05E-04
101	0.70	0.	0.	0.	2.4E-06	0.	0.	0.	6.62E-04	0.	1.70E-08	0.	0.	0.	6.65E-04
102	0.60	0.	0.	0.	6.20E-06	0.	0.	0.	1.94E-03	0.	2.60E-08	0.	0.	0.	1.94E-03



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 4000. DENSITY (GM/CC) 1.293E-03 ((10.0E-01 NORMAL)

PHOTON ENERGY BANDS E.V.	PHOTON OZ S-R	OZ S-R CONT.	N2 B-M NO. 1	NO BETA	AO GAMMA	NO 2	O. PHOTO-DET (IONS)	FREE-FREE P.E.	H P.E.	O P.E.	TOTAL AIR
1 10.70 0.	0.	0.	2.00E-01	0.	0.	0.	4.55E-05	4.24E-13	0.	0.	2.00E-01
2 10.60 0.	0.	0.	1.41E-01	0.	0.	0.	4.55E-05	4.37E-13	0.	0.	1.41E-01
3 10.50 0.	0.	0.	1.21E-01	0.	0.	0.	4.55E-05	4.40E-13	0.	0.	1.21E-01
4 10.40 0.	0.	0.	9.35E-02	0.	0.	0.	4.57E-05	4.62E-13	0.	0.	9.35E-02
5 10.30 0.	0.	0.	6.26E-02	0.	0.	0.	4.57E-05	4.76E-13	0.	0.	6.26E-02
6 10.20 0.	0.	0.	5.49E-02	0.	0.	0.	4.58E-05	4.90E-13	0.	0.	5.49E-02
7 10.10 0.	0.	0.	4.38E-02	0.	0.	0.	4.58E-05	5.05E-13	0.	0.	4.38E-02
8 10.00 0.	0.	0.	2.70E-02	0.	0.	0.	4.59E-05	5.21E-13	0.	0.	2.70E-02
9 9.90 0.	0.	0.	2.61E-02	0.	0.	0.	4.60E-05	5.37E-13	0.	0.	2.61E-02
10 9.80 0.	0.	0.	1.91E-02	0.	0.	0.	4.61E-05	5.53E-13	0.	0.	1.91E-02
11 9.70 0.	0.	0.	1.80E-02	0.	0.	0.	4.61E-05	5.71E-13	0.	0.	1.80E-02
12 9.60 0.	0.	0.	1.26E-02	0.	0.	0.	4.62E-05	5.89E-13	0.	0.	1.26E-02
13 9.50 0.	9.15E-03	0.	7.31E-03	0.	0.	0.	4.63E-05	6.06E-13	0.	0.	9.15E-03
14 9.40 0.	1.03E-01	5.67E-03	5.67E-03	0.	0.	0.	4.65E-05	6.26E-13	0.	0.	1.03E-01
15 9.30 0.	1.15E-01	5.36E-03	5.36E-03	0.	0.	0.	4.67E-05	6.46E-13	0.	0.	1.15E-01
16 9.20 0.	1.24E-01	2.73E-03	2.73E-03	0.	0.	0.	4.68E-05	6.70E-13	0.	0.	1.24E-01
17 9.10 0.	1.54E-01	3.07E-03	3.07E-03	0.	0.	0.	4.70E-05	6.92E-13	0.	0.	1.54E-01
18 9.00 0.	1.86E-01	1.90E-03	1.90E-03	0.	0.	0.	4.72E-05	7.16E-13	0.	0.	1.86E-01
19 8.90 0.	2.21E-01	1.40E-03	1.40E-03	0.	0.	0.	4.73E-05	7.40E-13	0.	0.	2.21E-01
20 8.80 0.	2.30E-01	1.21E-03	1.21E-03	0.	0.	0.	4.75E-05	7.66E-13	0.	0.	2.30E-01
21 8.70 0.	2.19E-01	7.00E-04	7.00E-04	0.	0.	0.	4.77E-05	7.92E-13	0.	0.	2.19E-01
22 8.60 0.	2.09E-01	7.14E-04	7.14E-04	0.	0.	0.	4.78E-05	8.21E-13	0.	0.	2.09E-01
23 8.50 0.	1.99E-01	4.11E-04	4.11E-04	0.	0.	0.	4.80E-05	8.50E-13	0.	0.	1.99E-01
24 8.40 0.	1.90E-01	3.92E-04	3.92E-04	0.	0.	0.	4.81E-05	8.81E-13	0.	0.	1.90E-01
25 8.30 0.	1.81E-01	2.32E-04	2.32E-04	0.	0.	0.	4.82E-05	9.13E-13	0.	0.	1.81E-01
26 8.20 0.	1.71E-01	2.31E-04	2.31E-04	0.	0.	0.	4.83E-05	9.47E-13	0.	0.	1.71E-01
27 8.10 0.	1.62E-01	1.24E-04	1.24E-04	0.	0.	0.	4.84E-05	9.83E-13	0.	0.	1.62E-01
28 8.00 0.	1.52E-01	1.08E-04	1.08E-04	0.	0.	0.	4.85E-05	1.02E-12	0.	0.	1.52E-01
29 7.90 0.	1.42E-01	6.79E-05	6.79E-05	0.	0.	0.	4.85E-05	1.06E-12	0.	0.	1.42E-01
30 7.80 0.	1.33E-01	6.03E-05	6.03E-05	0.	0.	0.	4.86E-05	1.10E-12	0.	0.	1.33E-01
31 7.70 0.	1.23E-01	3.93E-05	3.93E-05	0.	0.	0.	4.86E-05	1.14E-12	0.	0.	1.23E-01
32 7.60 0.	1.13E-01	3.03E-05	3.03E-05	0.	0.	0.	4.87E-05	1.19E-12	0.	0.	1.13E-01
33 7.50 0.	1.03E-01	2.44E-05	2.44E-05	0.	0.	0.	4.87E-05	1.24E-12	0.	0.	1.03E-01
34 7.40 0.	9.32E-02	1.52E-05	1.52E-05	0.	0.	0.	4.88E-05	1.29E-12	0.	0.	9.32E-02
35 7.30 0.	8.37E-02	1.13E-05	1.13E-05	0.	0.	0.	4.88E-05	1.34E-12	0.	0.	8.37E-02
36 7.20 0.	7.47E-02	7.91E-06	7.91E-06	0.	0.	0.	4.89E-05	1.40E-12	0.	0.	7.47E-02
37 7.10 0.	6.58E-02	5.99E-06	5.99E-06	0.	0.	0.	4.89E-05	1.46E-12	0.	0.	6.58E-02
38 7.00 0.	5.70E-02	4.23E-06	4.23E-06	0.	0.	0.	4.90E-05	1.53E-12	0.	0.	5.70E-02
39 6.90 0.	5.24E-02	3.03E-06	3.03E-06	0.	0.	0.	4.90E-05	1.59E-12	0.	0.	5.24E-02
40 6.80 0.	3.90E-02	2.32E-06	2.32E-06	0.	0.	0.	4.91E-05	1.66E-12	0.	0.	3.90E-02
41 6.70 0.	2.40E-02	1.96E-06	1.96E-06	0.	0.	0.	4.91E-05	1.74E-12	0.	0.	2.40E-02
42 6.60 0.	1.27E-02	1.03E-06	1.03E-06	0.	0.	0.	4.92E-05	1.82E-12	0.	0.	1.27E-02
43 6.50 0.	6.12E-03	5.91E-07	5.91E-07	0.	0.	0.	4.92E-05	1.91E-12	0.	0.	6.12E-03
44 6.40 0.	4.45E-03	2.52E-07	2.52E-07	6.61E-03	5.51E-01	0.	4.93E-05	2.00E-12	0.	0.	4.45E-03
45 6.30 0.	1.81E-02	0.	0.91E-07	2.27E-02	1.71E-01	0.	4.93E-05	2.09E-12	0.	0.	1.81E-02
46 6.20 0.	4.54E-02	0.	2.91E-02	2.51E-02	2.11E-01	0.	4.94E-05	2.20E-12	0.	0.	4.54E-02
47 6.10 0.	1.47E-01	0.	8.54E-09	5.88E-02	2.71E-01	0.	4.94E-05	2.31E-12	0.	0.	1.47E-01
48 6.00 0.	3.12E-01	0.	1.40E-09	3.48E-02	1.15E-01	0.	4.94E-05	2.43E-12	0.	0.	3.12E-01
49 5.90 0.	4.11E-01	0.	1.08E-10	4.64E-02	1.56E-01	0.	4.94E-05	2.55E-12	0.	0.	4.11E-01
50 5.80 0.	5.01E-01	0.	2.44E-12	5.58E-02	1.79E-01	0.	4.94E-05	2.69E-12	0.	0.	5.01E-01
51 5.70 0.	4.51E-01	0.	0.	4.05E-02	8.62E-02	0.	4.94E-05	2.83E-12	0.	0.	4.51E-01

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	M2 2ND NEG.	NO BETA	NO GAMMA	NO VIB-ROT	NO 2	O- PHOTO-DET (IONS)	FREE-FREE (IONS)	M P.E.	O P.F.	TOTAL AIR
52	5.60	4.97E-01	0.	0.	2.46E-02	2.79E-01	0.	0.	4.86E-05	2.92E-12	0.	0.	0.08E-01
53	5.50	4.51E-01	0.	0.	3.52E-02	4.11E-01	0.	0.	4.08E-05	3.15E-12	0.	0.	0.98E-01
54	5.40	4.05E-01	0.	0.	4.48E-02	9.90E-02	0.	0.	4.91E-05	3.39E-12	0.	0.	5.29E-01
55	5.30	3.59E-01	0.	0.	5.52E-02	2.96E-01	0.	0.	4.94E-05	3.52E-12	0.	0.	6.57E-01
56	5.20	3.13E-01	0.	0.	6.52E-02	9.71E-02	0.	0.	4.97E-05	3.72E-12	0.	0.	2.99E-01
57	5.10	2.67E-01	0.	0.	7.42E-02	1.27E-01	0.	0.	5.01E-05	3.92E-12	0.	0.	3.08E-01
58	5.00	2.21E-01	0.	0.	8.32E-02	1.14E-01	0.	0.	5.05E-05	4.12E-12	0.	0.	2.31E-01
59	4.90	1.75E-01	0.	0.	9.22E-02	6.50E-02	0.	0.	5.10E-05	4.32E-12	0.	0.	1.63E-01
60	4.80	1.29E-01	0.	0.	1.01E-02	3.27E-02	0.	0.	3.77E-04	5.14E-05	4.74E-12	0.	1.69E-01
61	4.70	8.43E-02	0.	0.	1.10E-02	3.27E-02	0.	0.	3.80E-04	5.18E-05	5.05E-12	0.	1.29E-01
62	4.60	7.05E-02	0.	0.	1.19E-02	3.19E-02	0.	0.	3.83E-04	5.22E-05	5.30E-12	0.	1.31E-01
63	4.50	5.67E-02	0.	0.	1.28E-02	3.11E-02	0.	0.	3.86E-04	5.26E-05	5.76E-12	0.	9.13E-02
64	4.40	4.29E-02	0.	0.	1.37E-02	3.03E-02	0.	0.	3.89E-04	5.30E-05	6.30E-12	0.	0.03E-02
65	4.30	2.91E-02	0.	0.	1.46E-02	2.95E-02	0.	0.	3.92E-04	5.34E-05	6.84E-12	0.	5.34E-02
66	4.20	1.53E-02	0.	0.	1.55E-02	2.87E-02	0.	0.	3.95E-04	5.38E-05	7.38E-12	0.	0.
67	4.10	1.07E-02	0.	0.	1.64E-02	2.79E-02	0.	0.	4.02E-04	5.41E-05	7.92E-12	0.	4.42E-02
68	4.00	6.29E-03	0.	0.	1.73E-02	2.71E-02	0.	0.	4.09E-04	5.45E-05	8.46E-12	0.	2.79E-02
69	3.90	4.91E-03	0.	0.	1.82E-02	2.63E-02	0.	0.	4.16E-04	5.49E-05	9.00E-12	0.	1.95E-02
70	3.80	3.53E-03	0.	0.	1.91E-02	2.55E-02	0.	0.	4.23E-04	5.53E-05	9.54E-12	0.	1.48E-02
71	3.70	2.15E-03	0.	0.	2.00E-02	2.47E-02	0.	0.	4.30E-04	5.57E-05	1.01E-11	0.	9.35E-03
72	3.60	7.85E-04	0.	0.	2.09E-02	2.39E-02	0.	0.	4.37E-04	5.61E-05	1.07E-11	0.	7.51E-03
73	3.50	4.47E-04	0.	0.	2.18E-02	2.31E-02	0.	0.	4.44E-04	5.65E-05	1.13E-11	0.	5.49E-03
74	3.40	2.09E-04	0.	0.	2.27E-02	2.23E-02	0.	0.	4.51E-04	5.69E-05	1.19E-11	0.	4.14E-03
75	3.30	1.71E-04	0.	0.	2.36E-02	2.15E-02	0.	0.	4.58E-04	5.73E-05	1.25E-11	0.	2.89E-03
76	3.20	1.33E-04	0.	0.	2.45E-02	2.07E-02	0.	0.	4.65E-04	5.77E-05	1.31E-11	0.	2.17E-03
77	3.10	9.5E-05	0.	0.	2.54E-02	1.99E-02	0.	0.	4.72E-04	5.81E-05	1.37E-11	0.	1.72E-03
78	3.00	5.7E-05	0.	0.	2.63E-02	1.91E-02	0.	0.	4.79E-04	5.85E-05	1.43E-11	0.	1.33E-03
79	2.90	4.3E-05	0.	0.	2.72E-02	1.83E-02	0.	0.	4.86E-04	5.89E-05	1.49E-11	0.	9.88E-04
80	2.80	3.9E-05	0.	0.	2.81E-02	1.75E-02	0.	0.	4.93E-04	5.93E-05	1.55E-11	0.	8.68E-04
81	2.70	3.5E-05	0.	0.	2.90E-02	1.67E-02	0.	0.	5.00E-04	5.97E-05	1.61E-11	0.	7.71E-04
82	2.60	3.1E-05	0.	0.	2.99E-02	1.59E-02	0.	0.	5.07E-04	6.01E-05	1.67E-11	0.	6.95E-04
83	2.50	2.7E-05	0.	0.	3.08E-02	1.51E-02	0.	0.	5.14E-04	6.05E-05	1.73E-11	0.	6.38E-04
84	2.40	2.3E-05	0.	0.	3.17E-02	1.43E-02	0.	0.	5.21E-04	6.09E-05	1.79E-11	0.	5.96E-04
85	2.30	1.9E-05	0.	0.	3.26E-02	1.35E-02	0.	0.	5.28E-04	6.13E-05	1.85E-11	0.	5.61E-04
86	2.20	1.5E-05	0.	0.	3.35E-02	1.27E-02	0.	0.	5.35E-04	6.17E-05	1.91E-11	0.	5.32E-04
87	2.10	1.1E-05	0.	0.	3.44E-02	1.19E-02	0.	0.	5.42E-04	6.21E-05	1.97E-11	0.	5.08E-04
88	2.00	7.5E-06	0.	0.	3.53E-02	1.11E-02	0.	0.	5.49E-04	6.25E-05	2.03E-11	0.	4.89E-04
89	1.90	5.1E-06	0.	0.	3.62E-02	1.03E-02	0.	0.	5.56E-04	6.29E-05	2.09E-11	0.	4.74E-04
90	1.80	3.7E-06	0.	0.	3.71E-02	9.5E-03	0.	0.	5.63E-04	6.33E-05	2.15E-11	0.	4.62E-04
91	1.70	2.3E-06	0.	0.	3.80E-02	8.7E-03	0.	0.	5.70E-04	6.37E-05	2.21E-11	0.	4.52E-04
92	1.60	1.9E-06	0.	0.	3.89E-02	7.9E-03	0.	0.	5.77E-04	6.41E-05	2.27E-11	0.	4.43E-04
93	1.50	1.5E-06	0.	0.	3.98E-02	7.1E-03	0.	0.	5.84E-04	6.45E-05	2.33E-11	0.	4.35E-04
94	1.40	1.1E-06	0.	0.	4.07E-02	6.3E-03	0.	0.	5.91E-04	6.49E-05	2.39E-11	0.	4.28E-04
95	1.30	7.5E-07	0.	0.	4.16E-02	5.5E-03	0.	0.	5.98E-04	6.53E-05	2.45E-11	0.	4.22E-04
96	1.20	5.1E-07	0.	0.	4.25E-02	4.7E-03	0.	0.	6.05E-04	6.57E-05	2.51E-11	0.	4.17E-04
97	1.10	3.7E-07	0.	0.	4.34E-02	3.9E-03	0.	0.	6.12E-04	6.61E-05	2.57E-11	0.	4.13E-04
98	1.00	2.3E-07	0.	0.	4.43E-02	3.1E-03	0.	0.	6.19E-04	6.65E-05	2.63E-11	0.	4.09E-04
99	0.90	1.9E-07	0.	0.	4.52E-02	2.3E-03	0.	0.	6.26E-04	6.69E-05	2.69E-11	0.	4.05E-04
100	0.80	1.5E-07	0.	0.	4.61E-02	1.5E-03	0.	0.	6.33E-04	6.73E-05	2.75E-11	0.	4.01E-04
101	0.70	1.1E-07	0.	0.	4.70E-02	7.5E-04	0.	0.	6.40E-04	6.77E-05	2.81E-11	0.	3.97E-04
102	0.60	7.5E-08	0.	0.	4.79E-02	5.7E-04	0.	0.	6.47E-04	6.81E-05	2.87E-11	0.	3.93E-04

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 4000. DENSITY (GM/CC) 1.293E-04 (10.0E-02 NORMAL)

PHOTON ENERGY E.V.	O2 S-R BANDS	O2 S-R CONT.	M2 B-W NO. 1	TEMPERATURE (DEGREES K) 4000.	DENSITY (GM/CC) 1.293E-04 (10.0E-02 NORMAL)	NO		D-		M		O		TOTAL AIR
						BETA	GAMMA	PHOTO-DET (IONS)	FREE-FREE (IONS)	P.E.	P.E.			
1	10.70	0.	2.03E-02	0.	0.	0.	0.	2.67E-06	2.80E-14	0.	0.	0.	2.04E-02	0.
2	10.60	0.	1.44E-02	0.	0.	0.	0.	2.67E-06	2.97E-14	0.	0.	0.	1.64E-02	0.
3	10.50	0.	1.23E-02	0.	0.	0.	0.	2.67E-06	3.09E-14	0.	0.	0.	1.23E-02	0.
4	10.40	0.	9.49E-03	0.	0.	0.	0.	2.68E-06	3.14E-14	0.	0.	0.	9.49E-03	0.
5	10.30	0.	6.36E-03	0.	0.	0.	0.	2.68E-06	3.24E-14	0.	0.	0.	6.37E-03	0.
6	10.20	0.	5.58E-03	0.	0.	0.	0.	2.68E-06	3.33E-14	0.	0.	0.	5.58E-03	0.
7	10.10	0.	4.44E-03	0.	0.	0.	0.	2.69E-06	3.43E-14	0.	0.	0.	4.44E-03	0.
8	10.00	0.	2.74E-03	0.	0.	0.	0.	2.69E-06	3.54E-14	0.	0.	0.	2.75E-03	0.
9	9.90	0.	2.65E-03	0.	0.	0.	0.	2.70E-06	3.65E-14	0.	0.	0.	2.65E-03	0.
10	9.80	0.	1.94E-03	0.	0.	0.	0.	2.70E-06	3.76E-14	0.	0.	0.	1.95E-03	0.
11	9.70	0.	1.20E-03	0.	0.	0.	0.	2.71E-06	3.86E-14	0.	0.	0.	1.20E-03	0.
12	9.60	0.	1.20E-03	0.	0.	0.	0.	2.71E-06	4.00E-14	0.	0.	0.	1.20E-03	0.
13	9.50	0.	4.17E-01	0.	0.	0.	0.	2.72E-06	4.13E-14	0.	0.	0.	4.10E-01	0.
14	9.40	0.	4.70E-01	0.	0.	0.	0.	2.73E-06	4.26E-14	0.	0.	0.	4.70E-01	0.
15	9.30	0.	5.22E-01	0.	0.	0.	0.	2.74E-06	4.40E-14	0.	0.	0.	5.23E-01	0.
16	9.20	0.	5.75E-01	0.	0.	0.	0.	2.75E-06	4.55E-14	0.	0.	0.	5.75E-01	0.
17	9.10	0.	7.09E-01	0.	0.	0.	0.	2.76E-06	4.70E-14	0.	0.	0.	7.09E-01	0.
18	9.00	0.	8.56E-01	0.	0.	0.	0.	2.77E-06	4.84E-14	0.	0.	0.	8.56E-01	0.
19	8.90	0.	1.01E-01	0.	0.	0.	0.	2.78E-06	5.03E-14	0.	0.	0.	1.01E-01	0.
20	8.80	0.	1.05E-01	0.	0.	0.	0.	2.79E-06	5.24E-14	0.	0.	0.	1.05E-01	0.
21	8.70	0.	9.99E-01	0.	0.	0.	0.	2.80E-06	5.38E-14	0.	0.	0.	9.99E-01	0.
22	8.60	0.	9.51E-01	0.	0.	0.	0.	2.81E-06	5.57E-14	0.	0.	0.	9.51E-01	0.
23	8.50	0.	9.04E-01	0.	0.	0.	0.	2.82E-06	5.77E-14	0.	0.	0.	9.04E-01	0.
24	8.40	0.	8.64E-01	0.	0.	0.	0.	2.83E-06	5.99E-14	0.	0.	0.	8.64E-01	0.
25	8.30	0.	8.24E-01	0.	0.	0.	0.	2.84E-06	6.20E-14	0.	0.	0.	8.24E-01	0.
26	8.20	0.	7.83E-01	0.	0.	0.	0.	2.85E-06	6.46E-14	0.	0.	0.	7.83E-01	0.
27	8.10	0.	7.56E-01	0.	0.	0.	0.	2.86E-06	6.93E-14	0.	0.	0.	7.56E-01	0.
28	8.00	0.	6.91E-01	0.	0.	0.	0.	2.88E-06	7.20E-14	0.	0.	0.	6.91E-01	0.
29	7.90	0.	6.48E-01	0.	0.	0.	0.	2.90E-06	7.48E-14	0.	0.	0.	6.48E-01	0.
30	7.80	0.	6.04E-01	0.	0.	0.	0.	2.92E-06	7.48E-14	0.	0.	0.	6.04E-01	0.
31	7.70	0.	5.59E-01	0.	0.	0.	0.	2.93E-06	7.78E-14	0.	0.	0.	5.59E-01	0.
32	7.60	0.	5.14E-01	0.	0.	0.	0.	2.95E-06	8.09E-14	0.	0.	0.	5.14E-01	0.
33	7.50	0.	4.69E-01	0.	0.	0.	0.	2.96E-06	8.42E-14	0.	0.	0.	4.69E-01	0.
34	7.40	0.	4.25E-01	0.	0.	0.	0.	2.98E-06	8.77E-14	0.	0.	0.	4.25E-01	0.
35	7.30	0.	3.81E-01	0.	0.	0.	0.	3.00E-06	9.14E-14	0.	0.	0.	3.81E-01	0.
36	7.20	0.	3.40E-01	0.	0.	0.	0.	3.01E-06	9.52E-14	0.	0.	0.	3.41E-01	0.
37	7.10	0.	3.00E-01	0.	0.	0.	0.	3.04E-06	9.95E-14	0.	0.	0.	3.00E-01	0.
38	7.00	0.	2.62E-03	0.	0.	0.	0.	3.06E-06	1.04E-13	0.	0.	0.	2.62E-03	0.
39	6.90	0.	2.49E-03	0.	0.	0.	0.	3.09E-06	1.09E-13	0.	0.	0.	2.49E-03	0.
40	6.80	0.	2.27E-03	0.	0.	0.	0.	3.11E-06	1.13E-13	0.	0.	0.	2.27E-03	0.
41	6.70	0.	1.98E-03	0.	0.	0.	0.	3.14E-06	1.18E-13	0.	0.	0.	1.98E-03	0.
42	6.60	0.	1.59E-03	0.	0.	0.	0.	3.16E-06	1.24E-13	0.	0.	0.	1.59E-03	0.
43	6.50	0.	2.78E-04	0.	0.	0.	0.	3.19E-06	1.30E-13	0.	0.	0.	2.78E-04	0.
44	6.40	0.	2.97E-04	0.	0.	0.	0.	3.21E-06	1.36E-13	0.	0.	0.	2.97E-04	0.
45	6.30	0.	2.25E-04	0.	0.	0.	0.	3.23E-06	1.42E-13	0.	0.	0.	2.25E-04	0.
46	6.20	0.	2.06E-03	0.	0.	0.	0.	3.26E-06	1.49E-13	0.	0.	0.	2.06E-03	0.
47	6.10	0.	6.68E-03	0.	0.	0.	0.	3.28E-06	1.57E-13	0.	0.	0.	6.68E-03	0.
48	6.00	0.	1.43E-02	0.	0.	0.	0.	3.31E-06	1.65E-13	0.	0.	0.	1.43E-02	0.
49	5.90	0.	1.87E-02	0.	0.	0.	0.	3.34E-06	1.73E-13	0.	0.	0.	1.87E-02	0.
50	5.80	0.	2.27E-02	0.	0.	0.	0.	3.36E-06	1.82E-13	0.	0.	0.	2.27E-02	0.
51	5.70	0.	2.03E-02	0.	0.	0.	0.	3.39E-06	1.92E-13	0.	0.	0.	2.03E-02	0.

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON O2 S-R ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	M2 2ND NEG.	BETA	GAMMA	NO VIB-RAT	NO PHOTO-DET (TOMS)	0- FREE-FREE P.E.	M P.E.	O P.F.	TOTAL AIR
52	5.60	2.06E-02	0.	0.	1.07E-03	1.09E-02	0.	0.	2.05E-04	2.03E-13	0.	4.32E-02
53	5.50	2.05E-02	0.	0.	2.05E-03	2.05E-02	0.	0.	2.05E-04	2.1E-13	0.	5.05E-02
54	5.40	1.92E-02	0.	0.	1.08E-03	6.75E-03	0.	0.	2.05E-04	2.26E-13	0.	2.06E-02
55	5.30	1.53E-02	0.	0.	1.71E-03	2.01E-02	0.	0.	2.05E-04	2.39E-13	0.	3.75E-02
56	5.20	6.13E-03	0.	0.	1.08E-03	6.60E-03	0.	0.	2.05E-04	2.5E-13	0.	1.63E-02
57	5.10	6.93E-03	0.	0.	1.32E-03	8.66E-03	0.	0.	5.35E-06	2.6E-13	0.	1.69E-02
58	5.00	4.48E-03	0.	0.	9.63E-04	7.90E-03	0.	0.	5.30E-06	2.90E-13	0.	1.34E-02
59	4.90	3.70E-03	0.	0.	9.28E-04	4.47E-03	0.	0.	5.47E-06	3.03E-13	0.	9.14E-03
60	4.80	3.03E-03	0.	0.	9.48E-04	4.79E-03	0.	0.	5.47E-06	3.01E-13	0.	9.54E-03
61	4.70	3.58E-03	0.	0.	7.79E-04	2.22E-03	0.	0.	5.21E-06	3.04E-13	0.	6.68E-03
62	4.60	3.04E-03	0.	0.	7.07E-04	2.65E-03	0.	0.	5.21E-06	3.06E-13	0.	7.04E-03
63	4.50	3.04E-03	0.	0.	5.09E-04	1.11E-03	0.	0.	5.21E-06	3.09E-13	0.	4.67E-03
64	4.40	2.54E-03	0.	0.	4.44E-04	3.15E-03	0.	0.	5.02E-06	3.11E-13	0.	4.17E-03
65	4.30	1.91E-03	0.	0.	3.39E-04	3.95E-04	0.	0.	5.02E-06	3.11E-13	0.	4.17E-03
66	4.20	1.49E-03	0.	0.	3.05E-04	4.34E-04	0.	0.	5.76E-06	3.10E-13	0.	2.65E-03
67	4.10	1.15E-03	0.	0.	2.34E-04	1.20E-04	0.	0.	5.82E-06	3.17E-13	0.	2.24E-03
68	4.00	8.77E-04	0.	0.	1.92E-04	6.20E-05	0.	0.	5.82E-06	3.17E-13	0.	1.53E-03
69	3.90	5.73E-04	0.	0.	1.27E-04	3.97E-05	0.	0.	5.92E-06	3.17E-13	0.	1.14E-03
70	3.80	5.85E-04	0.	0.	2.10E-04	3.97E-05	0.	0.	5.92E-06	3.17E-13	0.	7.41E-04
71	3.70	3.56E-04	0.	0.	6.97E-04	3.20E-12	0.	0.	6.07E-06	3.11E-13	0.	4.33E-04
72	3.60	2.01E-04	0.	0.	1.02E-04	7.45E-12	0.	0.	6.15E-06	2.91E-13	0.	3.55E-04
73	3.50	2.01E-04	0.	0.	3.82E-04	6.83E-11	0.	0.	6.23E-06	2.67E-13	0.	2.42E-04
74	3.40	1.36E-04	0.	0.	6.02E-04	6.95E-13	0.	0.	6.31E-06	1.94E-13	0.	1.89E-04
75	3.30	9.48E-05	0.	0.	1.18E-04	1.43E-11	0.	0.	6.38E-06	1.94E-13	0.	1.25E-04
76	3.20	6.29E-05	0.	0.	2.75E-04	2.18E-05	0.	0.	6.46E-06	1.94E-13	0.	9.26E-05
77	3.10	4.70E-05	0.	0.	3.05E-04	1.05E-12	0.	0.	6.46E-06	1.94E-13	0.	6.94E-05
78	3.00	3.25E-05	0.	0.	3.92E-10	1.54E-11	0.	0.	6.33E-06	1.55E-13	0.	5.09E-05
79	2.90	2.07E-05	0.	0.	6.13E-10	2.58E-11	0.	0.	6.25E-06	1.55E-13	0.	3.32E-05
80	2.80	1.22E-05	0.	0.	1.85E-10	2.38E-11	0.	0.	6.14E-06	1.58E-13	0.	2.78E-05
81	2.70	7.25E-06	0.	0.	10.00E-11	7.44E-12	0.	0.	6.02E-06	1.58E-13	0.	1.54E-05
82	2.60	1.97E-06	0.	0.	4.18E-11	1.16E-12	0.	0.	5.87E-06	1.58E-13	0.	9.53E-06
83	2.50	1.09E-07	0.	0.	8.74E-12	2.40E-13	0.	0.	5.63E-06	1.58E-13	0.	7.33E-06
84	2.40	0.	0.	0.	6.74E-12	1.94E-09	0.	0.	5.39E-06	1.58E-13	0.	6.95E-06
85	2.30	0.	0.	0.	2.15E-10	0.	0.	0.	5.39E-06	1.58E-13	0.	6.63E-06
86	2.20	0.	0.	0.	2.44E-08	0.	0.	0.	4.78E-06	1.54E-13	0.	6.24E-06
87	2.10	0.	0.	0.	9.53E-08	0.	0.	0.	4.32E-06	1.53E-13	0.	5.95E-06
88	2.00	0.	0.	0.	6.18E-08	0.	0.	0.	3.87E-06	1.48E-13	0.	5.43E-06
89	1.90	0.	0.	0.	9.07E-07	0.	0.	0.	3.44E-06	1.22E-13	0.	5.39E-06
90	1.80	0.	0.	0.	6.31E-07	0.	0.	0.	2.87E-06	1.36E-13	0.	4.85E-06
91	1.70	0.	0.	0.	5.45E-07	0.	0.	0.	2.32E-06	1.28E-13	0.	4.15E-06
92	1.60	0.	0.	0.	4.52E-07	0.	0.	0.	1.85E-06	1.09E-13	0.	3.35E-06
93	1.50	0.	0.	0.	4.05E-07	0.	0.	0.	1.40E-06	4.94E-14	0.	2.36E-06
94	1.40	0.	0.	0.	3.97E-07	0.	0.	0.	1.04E-06	0.	0.	1.64E-06
95	1.30	0.	0.	0.	3.62E-07	0.	0.	0.	6.92E-07	0.	0.	1.05E-06
96	1.20	0.	0.	0.	6.35E-07	0.	0.	0.	4.42E-07	0.	0.	1.06E-06
97	1.10	0.	0.	0.	2.74E-07	0.	0.	0.	3.92E-07	0.	0.	6.79E-07
98	1.00	0.	0.	0.	3.37E-07	0.	0.	0.	2.90E-07	0.	0.	7.68E-07
99	0.90	0.	0.	0.	1.97E-07	0.	0.	0.	1.05E-06	6.95E-08	0.	1.31E-06
100	0.80	0.	0.	0.	8.44E-08	0.	0.	0.	4.02E-06	0.	0.	4.18E-06
101	0.70	0.	0.	0.	2.44E-08	0.	0.	0.	5.12E-06	0.	0.	1.06E-06
102	0.60	0.	0.	0.	6.36E-11	0.	0.	0.	1.13E-05	0.	0.	1.15E-05

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 4890. DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)

PHOTON ENERGY BANDS E.V.	Q2 S-R CONT.	M2 S-R NO. 1	TEMPERATURE (DEGREES K)	DENSITY (GM/CC)	NO. 2	PHOTO-DET (IONS)	FREE-FREE N P.E.	NO. 0	PHOTO-DET (IONS)	FREE-FREE N P.E.	NO. 0	TOTAL AIR
1 10.70 0.	0.	2.07E-03	0.	0.	0.	0.02E-08	1.29E-15	0.	0.	0.	0.	2.07E-03
2 10.60 0.	0.	1.46E-03	0.	0.	0.	0.03E-08	1.33E-15	0.	0.	0.	0.	1.46E-03
3 10.50 0.	0.	1.29E-03	0.	0.	0.	0.04E-08	1.37E-15	0.	0.	0.	0.	1.29E-03
4 10.40 0.	0.	0.67E-04	0.	0.	0.	0.05E-08	1.41E-15	0.	0.	0.	0.	0.67E-04
5 10.30 0.	0.	6.49E-04	0.	0.	0.	0.06E-08	1.45E-15	0.	0.	0.	0.	6.49E-04
6 10.20 0.	0.	5.69E-04	0.	0.	0.	0.07E-08	1.49E-15	0.	0.	0.	0.	5.69E-04
7 10.10 0.	0.	4.59E-04	0.	0.	0.	0.08E-08	1.54E-15	0.	0.	0.	0.	4.59E-04
8 10.00 0.	0.	2.89E-04	0.	0.	0.	0.09E-08	1.58E-15	0.	0.	0.	0.	2.89E-04
9 9.90 0.	0.	2.79E-04	0.	0.	0.	0.10E-08	1.63E-15	0.	0.	0.	0.	2.79E-04
10 9.80 0.	0.	1.98E-04	0.	0.	0.	0.12E-08	1.68E-15	0.	0.	0.	0.	1.98E-04
11 9.70 0.	0.	1.27E-04	0.	0.	0.	0.14E-08	1.74E-15	0.	0.	0.	0.	1.27E-04
12 9.60 0.	0.	1.31E-04	0.	0.	0.	0.15E-08	1.79E-15	0.	0.	0.	0.	1.31E-04
13 9.50 0.	0.	6.22E-03	7.69E-05	0.	0.	0.17E-08	1.85E-15	0.	0.	0.	0.	6.22E-03
14 9.40 0.	0.	9.29E-03	5.68E-05	0.	0.	0.20E-08	1.91E-15	0.	0.	0.	0.	9.29E-03
15 9.30 0.	0.	1.03E-02	5.95E-05	0.	0.	0.23E-08	1.97E-15	0.	0.	0.	0.	1.03E-02
16 9.20 0.	0.	1.13E-02	2.02E-05	0.	0.	0.26E-08	2.04E-15	0.	0.	0.	0.	1.13E-02
17 9.10 0.	0.	1.40E-02	3.14E-05	0.	0.	0.29E-08	2.11E-15	0.	0.	0.	0.	1.40E-02
18 9.00 0.	0.	1.69E-02	1.97E-05	0.	0.	0.32E-08	2.18E-15	0.	0.	0.	0.	1.69E-02
19 8.90 0.	0.	1.99E-02	1.43E-05	0.	0.	0.35E-08	2.25E-15	0.	0.	0.	0.	1.99E-02
20 8.80 0.	0.	2.06E-02	1.29E-05	0.	0.	0.38E-08	2.33E-15	0.	0.	0.	0.	2.06E-02
21 8.70 0.	0.	1.97E-02	7.29E-06	0.	0.	0.41E-08	2.41E-15	0.	0.	0.	0.	1.97E-02
22 8.60 0.	0.	1.87E-02	7.40E-06	0.	0.	0.44E-08	2.50E-15	0.	0.	0.	0.	1.87E-02
23 8.50 0.	0.	1.76E-02	4.26E-06	0.	0.	0.47E-08	2.58E-15	0.	0.	0.	0.	1.76E-02
24 8.40 0.	0.	1.70E-02	3.94E-06	0.	0.	0.51E-08	2.68E-15	0.	0.	0.	0.	1.70E-02
25 8.30 0.	0.	1.62E-02	2.31E-06	0.	0.	0.55E-08	2.78E-15	0.	0.	0.	0.	1.62E-02
26 8.20 0.	0.	1.54E-02	2.08E-06	0.	0.	0.60E-08	2.88E-15	0.	0.	0.	0.	1.54E-02
27 8.10 0.	0.	1.45E-02	1.29E-06	0.	0.	0.64E-08	2.99E-15	0.	0.	0.	0.	1.45E-02
28 8.00 0.	0.	1.36E-02	1.12E-06	0.	0.	0.69E-08	3.10E-15	0.	0.	0.	0.	1.36E-02
29 7.90 0.	0.	1.28E-02	7.84E-07	0.	0.	0.73E-08	3.22E-15	0.	0.	0.	0.	1.28E-02
30 7.80 0.	0.	1.19E-02	6.29E-07	0.	0.	0.78E-08	3.35E-15	0.	0.	0.	0.	1.19E-02
31 7.70 0.	0.	1.10E-02	4.09E-07	0.	0.	0.82E-08	3.48E-15	0.	0.	0.	0.	1.10E-02
32 7.60 0.	0.	1.01E-02	3.14E-07	0.	0.	0.87E-08	3.62E-15	0.	0.	0.	0.	1.01E-02
33 7.50 0.	0.	9.24E-03	2.22E-07	0.	0.	0.91E-08	3.77E-15	0.	0.	0.	0.	9.24E-03
34 7.40 0.	0.	8.37E-03	1.59E-07	0.	0.	0.96E-08	3.93E-15	0.	0.	0.	0.	8.37E-03
35 7.30 0.	0.	7.51E-03	1.17E-07	0.	0.	0.01E-08	4.09E-15	0.	0.	0.	0.	7.51E-03
36 7.20 0.	0.	6.71E-03	8.21E-08	0.	0.	0.06E-08	4.26E-15	0.	0.	0.	0.	6.71E-03
37 7.10 0.	0.	5.91E-03	6.21E-08	0.	0.	0.11E-08	4.45E-15	0.	0.	0.	0.	5.91E-03
38 7.00 0.	0.	2.08E-05	0.	0.	0.	0.21E-08	4.66E-15	0.	0.	0.	0.	2.08E-05
39 6.90 0.	0.	4.73E-05	0.	0.	0.	0.26E-08	4.89E-15	0.	0.	0.	0.	4.73E-05
40 6.80 0.	0.	3.59E-05	0.	0.	0.	0.30E-08	5.14E-15	0.	0.	0.	0.	3.59E-05
41 6.70 0.	0.	2.15E-05	0.	0.	0.	0.43E-08	5.38E-15	0.	0.	0.	0.	2.15E-05
42 6.60 0.	0.	1.13E-05	0.	0.	0.	0.51E-08	5.54E-15	0.	0.	0.	0.	1.13E-05
43 6.50 0.	0.	4.48E-06	0.	0.	0.	0.65E-08	5.80E-15	0.	0.	0.	0.	4.48E-06
44 6.40 0.	0.	4.48E-06	0.	0.	0.	0.65E-08	6.08E-15	0.	0.	0.	0.	4.48E-06
45 6.30 0.	0.	1.62E-05	0.	0.	0.	0.73E-08	6.37E-15	0.	0.	0.	0.	1.62E-05
46 6.20 0.	0.	4.04E-05	0.	0.	0.	0.86E-08	6.69E-15	0.	0.	0.	0.	4.04E-05
47 6.10 0.	0.	1.32E-04	0.	0.	0.	0.88E-08	7.02E-15	0.	0.	0.	0.	1.32E-04
48 6.00 0.	0.	2.89E-04	0.	0.	0.	0.95E-08	7.38E-15	0.	0.	0.	0.	2.89E-04
49 5.90 0.	0.	3.68E-04	0.	0.	0.	0.95E-08	7.76E-15	0.	0.	0.	0.	3.68E-04
50 5.80 0.	0.	4.48E-04	0.	0.	0.	9.00E-08	8.17E-15	0.	0.	0.	0.	4.48E-04
51 5.70 0.	0.	4.06E-04	0.	0.	0.	0.21E-08	8.61E-15	0.	0.	0.	0.	4.06E-04

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	N1 POS.	N2 POS.	N2 NEG.	TEMPERATURE (DEGREES K)	BETA	NO GAMMA	NO VIB-ROT	NO PHOTO-DET (IONS)	O-FREE-FREE	M P.E.	D P.E.	TOTAL AIR
52	5.60	4.46E-04	0.	0.	7.50E-05	0.49E-04	0.	0.	0.54E-08	9.09E-15	0.	1.37E-03
53	5.50	4.04E-04	0.	0.	7.07E-04	1.25E-03	0.	0.	0.61E-08	9.58E-15	0.	1.76E-03
54	5.40	3.59E-04	0.	0.	7.55E-05	3.02E-04	0.	0.	0.65E-08	1.01E-14	0.	7.36E-04
55	5.30	3.01E-04	0.	0.	7.67E-05	9.02E-04	0.	0.	0.71E-08	1.07E-14	0.	1.28E-03
56	5.20	1.68E-04	0.	0.	7.08E-05	2.94E-04	0.	0.	0.76E-08	1.13E-14	0.	5.27E-04
57	5.10	1.37E-04	0.	0.	5.93E-05	3.84E-04	0.	0.	3.37E-08	6.64E-08	1.20E-14	5.85E-04
58	5.00	9.03E-05	0.	0.	4.32E-05	3.94E-04	0.	0.	3.39E-08	0.91E-08	1.28E-14	4.80E-04
59	4.90	7.47E-05	0.	0.	4.16E-05	1.94E-04	0.	0.	3.47E-08	7.97E-08	1.37E-14	3.14E-04
60	4.80	7.56E-05	0.	0.	4.38E-05	2.44E-04	0.	0.	3.45E-08	0.06E-08	1.44E-14	3.32E-04
61	4.70	7.08E-05	0.	0.	3.49E-05	9.82E-05	0.	0.	3.47E-08	0.13E-08	1.54E-14	2.08E-04
62	4.60	7.18E-05	0.	0.	3.17E-05	1.20E-04	0.	0.	3.49E-08	9.21E-08	1.64E-14	2.24E-04
63	4.50	6.80E-05	0.	7.48E-11	2.28E-05	4.94E-05	0.	0.	3.51E-08	9.28E-08	1.75E-14	1.53E-04
64	4.40	6.02E-05	0.	5.41E-10	1.99E-05	5.28E-05	0.	0.	3.54E-08	9.38E-08	1.87E-14	1.23E-04
65	4.30	3.77E-05	0.	4.61E-10	1.92E-05	1.77E-05	0.	0.	3.58E-08	9.43E-08	2.01E-14	7.88E-05
66	4.20	2.94E-05	0.	4.73E-09	1.39E-05	1.97E-05	0.	0.	3.62E-08	9.51E-08	2.16E-14	6.29E-05
67	4.10	2.33E-05	0.	4.39E-10	1.05E-05	4.77E-06	0.	0.	3.67E-08	9.58E-08	2.32E-14	3.87E-05
68	4.00	1.73E-05	0.	6.01E-09	8.59E-06	2.82E-06	0.	0.	3.72E-08	9.68E-08	2.48E-14	2.98E-05
69	3.90	1.13E-05	0.	3.63E-09	2.19E-13	5.71E-06	2.78E-06	0.	3.73E-08	9.94E-08	2.69E-14	1.89E-05
70	3.80	7.03E-06	0.	2.14E-09	8.92E-12	5.78E-06	0.	0.	3.77E-08	9.51E-08	2.91E-14	1.71E-05
71	3.70	5.24E-06	0.	7.11E-09	1.52E-12	3.35E-06	0.	0.	3.82E-08	9.33E-08	3.15E-14	1.63E-05
72	3.60	5.24E-06	0.	1.08E-09	3.54E-12	3.59E-06	0.	0.	3.87E-08	9.02E-08	3.42E-14	0.94E-06
73	3.50	3.98E-06	0.	3.69E-09	4.54E-11	1.75E-06	0.	0.	3.92E-08	8.72E-08	3.75E-14	0.94E-06
74	3.40	2.73E-06	0.	6.14E-10	2.84E-13	1.94E-06	0.	0.	3.97E-08	4.63E-08	4.08E-14	4.75E-06
75	3.30	1.67E-06	0.	1.18E-09	6.79E-12	1.01E-06	0.	0.	4.00E-08	4.63E-08	4.44E-14	2.97E-06
76	3.20	1.24E-06	0.	2.80E-10	6.44E-11	9.77E-07	0.	0.	4.03E-08	4.63E-08	4.80E-14	2.38E-06
77	3.10	9.28E-07	0.	3.11E-10	5.01E-13	6.35E-07	0.	0.	4.03E-08	4.63E-08	5.34E-14	1.67E-06
78	3.00	6.37E-07	0.	9.09E-11	7.34E-12	4.83E-07	0.	0.	3.99E-08	4.60E-08	5.92E-14	1.21E-06
79	2.90	4.00E-07	0.	6.24E-11	1.12E-11	2.51E-07	0.	0.	3.95E-08	4.67E-08	6.55E-14	7.17E-07
80	2.80	3.39E-07	0.	1.98E-11	5.27E-13	9.35E-08	0.	0.	3.86E-08	4.67E-08	7.25E-14	5.18E-07
81	2.70	1.43E-07	0.	1.02E-11	3.54E-12	2.71E-08	0.	0.	3.78E-08	4.68E-08	8.12E-14	2.55E-07
82	2.60	3.89E-08	0.	4.24E-12	5.51E-13	6.75E-08	0.	0.	3.69E-08	4.68E-08	9.10E-14	1.79E-07
83	2.50	2.14E-09	0.	6.91E-13	9.49E-14	1.12E-09	0.	0.	3.54E-08	4.68E-08	1.02E-13	8.55E-08
84	2.40	0.	0.	1.38E-10	0.	8.94E-11	0.	0.	3.39E-08	4.68E-08	1.16E-13	6.10E-08
85	2.30	0.	0.	2.09E-09	0.	0.	0.	0.	3.19E-08	4.68E-08	1.31E-13	4.40E-08
86	2.20	0.	0.	2.49E-09	0.	0.	0.	0.	2.96E-08	4.68E-08	1.50E-13	3.10E-08
87	2.10	0.	0.	9.72E-09	0.	0.	0.	0.	2.72E-08	4.68E-08	1.75E-13	2.20E-08
88	2.00	0.	0.	8.34E-09	0.	0.	0.	0.	2.43E-08	4.68E-08	2.06E-13	1.50E-08
89	1.90	0.	0.	5.17E-08	0.	0.	0.	0.	2.17E-08	4.29E-08	2.33E-13	1.16E-07
90	1.80	0.	0.	6.33E-08	0.	0.	0.	0.	1.89E-08	4.10E-08	2.75E-13	1.22E-07
91	1.70	0.	0.	5.59E-08	0.	0.	0.	0.	1.46E-08	3.86E-08	3.24E-13	1.09E-07
92	1.60	0.	0.	4.64E-08	0.	0.	0.	0.	1.15E-08	3.27E-08	3.91E-13	9.67E-08
93	1.50	0.	0.	4.74E-08	0.	0.	0.	0.	8.81E-09	1.48E-08	4.75E-13	7.11E-08
94	1.40	0.	0.	8.12E-08	0.	0.	0.	0.	6.56E-09	0.	5.89E-13	5.78E-08
95	1.30	0.	0.	3.69E-08	0.	0.	0.	0.	4.36E-09	0.	7.31E-13	4.12E-08
96	1.20	0.	0.	6.47E-08	0.	0.	0.	0.	2.76E-09	0.	9.36E-13	6.75E-08
97	1.10	0.	0.	2.80E-08	0.	0.	6.23E-09	1.47E-09	1.76E-09	0.	1.21E-12	3.59E-08
98	1.00	0.	0.	3.44E-08	0.	0.	1.30E-08	8.33E-10	1.41E-10	0.	1.61E-12	4.82E-08
99	0.90	0.	0.	2.01E-08	0.	0.	4.21E-08	4.15E-10	2.22E-10	0.	2.22E-12	6.74E-08
100	0.80	0.	0.	8.61E-09	0.	0.	1.80E-08	0.	3.15E-10	0.	3.15E-12	1.89E-07
101	0.70	0.	0.	2.53E-09	0.	0.	1.30E-07	0.	0.	0.	4.74E-12	3.32E-07
102	0.60	0.	0.	6.48E-12	0.	0.	5.16E-07	0.	0.	0.	7.56E-13	5.16E-07

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E.V.	D2 S-R CONT.	M2 0-H NO. 1	TEMPERATURE (DEGREES K)	4800.	DENSITY (GM/CC)	1.293E+06 (10.0E-04 NORMAL)					TOTAL AIR
						NO BETA	NO GAMMA	NO 2	0- PHOTO-DET (IONS)	FREE-FREE N P.E.	
1 10.70 0.	0.	2.08E-04	0.	0.	0.	1.62E-09	4.95E-17	0.	0.	2.08E-04	
2 10.50 0.	0.	1.47E-04	0.	0.	0.	1.03E-09	4.90E-17	0.	0.	1.47E-04	
3 10.50 0.	0.	1.26E-04	0.	0.	0.	1.03E-09	4.72E-17	0.	0.	1.26E-04	
4 10.40 0.	0.	9.72E-05	0.	0.	0.	1.03E-09	4.95E-17	0.	0.	9.72E-05	
5 10.30 0.	0.	6.52E-05	0.	0.	0.	1.03E-09	5.08E-17	0.	0.	6.52E-05	
6 10.20 0.	0.	5.72E-05	0.	0.	0.	1.04E-09	5.18E-17	0.	0.	5.72E-05	
7 10.10 0.	0.	4.57E-05	0.	0.	0.	1.04E-09	5.30E-17	0.	0.	4.57E-05	
8 10.00 0.	0.	2.81E-05	0.	0.	0.	1.04E-09	5.44E-17	0.	0.	2.81E-05	
9 9.90 0.	0.	2.72E-05	0.	0.	0.	1.04E-09	5.83E-17	0.	0.	2.72E-05	
10 9.80 0.	0.	1.99E-05	0.	0.	0.	1.05E-09	5.91E-17	0.	0.	1.99E-05	
11 9.70 0.	0.	1.23E-05	0.	0.	0.	1.05E-09	5.99E-17	0.	0.	1.23E-05	
12 9.60 0.	0.	1.32E-05	0.	0.	0.	1.05E-09	6.10E-17	0.	0.	1.32E-05	
13 9.50 0.	0.	9.75E-06	0.	0.	0.	1.05E-09	6.30E-17	0.	0.	9.75E-06	
14 9.40 0.	0.	1.10E-05	0.	0.	0.	1.06E-09	6.59E-17	0.	0.	1.10E-05	
15 9.30 0.	0.	1.27E-05	0.	0.	0.	1.07E-09	6.80E-17	0.	0.	1.27E-05	
16 9.20 0.	0.	1.35E-05	0.	0.	0.	1.07E-09	7.03E-17	0.	0.	1.35E-05	
17 9.10 0.	0.	1.66E-05	0.	0.	0.	1.08E-09	7.26E-17	0.	0.	1.66E-05	
18 9.00 0.	0.	2.01E-05	0.	0.	0.	1.09E-09	7.51E-17	0.	0.	2.01E-05	
19 8.90 0.	0.	2.36E-05	0.	0.	0.	1.09E-09	7.77E-17	0.	0.	2.36E-05	
20 8.80 0.	0.	2.45E-05	0.	0.	0.	1.70E-09	8.03E-17	0.	0.	2.45E-05	
21 8.70 0.	0.	2.36E-05	0.	0.	0.	1.70E-09	8.32E-17	0.	0.	2.36E-05	
22 8.60 0.	0.	2.23E-05	0.	0.	0.	1.71E-09	8.61E-17	0.	0.	2.23E-05	
23 8.50 0.	0.	2.17E-05	0.	0.	0.	1.72E-09	8.92E-17	0.	0.	2.17E-05	
24 8.40 0.	0.	2.02E-05	0.	0.	0.	1.72E-09	9.24E-17	0.	0.	2.02E-05	
25 8.30 0.	0.	1.93E-05	0.	0.	0.	1.73E-09	9.58E-17	0.	0.	1.93E-05	
26 8.20 0.	0.	1.85E-05	0.	0.	0.	1.74E-09	9.94E-17	0.	0.	1.85E-05	
27 8.10 0.	0.	1.72E-05	0.	0.	0.	1.75E-09	1.03E-16	0.	0.	1.72E-05	
28 8.00 0.	0.	1.62E-05	0.	0.	0.	1.76E-09	1.07E-16	0.	0.	1.62E-05	
29 7.90 0.	0.	1.52E-05	0.	0.	0.	1.77E-09	1.11E-16	0.	0.	1.52E-05	
30 7.80 0.	0.	1.41E-05	0.	0.	0.	1.78E-09	1.16E-16	0.	0.	1.41E-05	
31 7.70 0.	0.	1.31E-05	0.	0.	0.	1.79E-09	1.21E-16	0.	0.	1.31E-05	
32 7.60 0.	0.	1.20E-05	0.	0.	0.	1.80E-09	1.25E-16	0.	0.	1.20E-05	
33 7.50 0.	0.	1.10E-05	0.	0.	0.	1.81E-09	1.30E-16	0.	0.	1.10E-05	
34 7.40 0.	0.	9.94E-06	0.	0.	0.	1.82E-09	1.35E-16	0.	0.	9.94E-06	
35 7.30 0.	0.	8.92E-06	0.	0.	0.	1.83E-09	1.41E-16	0.	0.	8.92E-06	
36 7.20 0.	0.	7.94E-06	0.	0.	0.	1.84E-09	1.47E-16	0.	0.	7.94E-06	
37 7.10 0.	0.	7.01E-06	0.	0.	0.	1.85E-09	1.53E-16	0.	0.	7.01E-06	
38 7.00 0.	0.	6.14E-06	0.	0.	0.	1.87E-09	1.59E-16	0.	0.	6.14E-06	
39 6.90 0.	0.	5.31E-06	0.	0.	0.	1.88E-09	1.67E-16	0.	0.	5.31E-06	
40 6.80 0.	0.	4.54E-06	0.	0.	0.	1.90E-09	1.75E-16	0.	0.	4.54E-06	
41 6.70 0.	0.	3.82E-06	0.	0.	0.	1.91E-09	1.83E-16	0.	0.	3.82E-06	
42 6.60 0.	0.	3.15E-06	0.	0.	0.	1.92E-09	1.91E-16	0.	0.	3.15E-06	
43 6.50 0.	0.	2.54E-06	0.	0.	0.	1.94E-09	2.00E-16	0.	0.	2.54E-06	
44 6.40 0.	0.	1.99E-06	0.	0.	0.	1.96E-09	2.10E-16	0.	0.	1.99E-06	
45 6.30 0.	0.	1.50E-06	0.	0.	0.	1.97E-09	2.20E-16	0.	0.	1.50E-06	
46 6.20 0.	0.	1.07E-06	0.	0.	0.	1.99E-09	2.31E-16	0.	0.	1.07E-06	
47 6.10 0.	0.	7.66E-07	0.	0.	0.	2.00E-09	2.42E-16	0.	0.	7.66E-07	
48 6.00 0.	0.	5.13E-07	0.	0.	0.	2.02E-09	2.52E-16	0.	0.	5.13E-07	
49 5.90 0.	0.	3.66E-07	0.	0.	0.	2.02E-09	2.62E-16	0.	0.	3.66E-07	
50 5.80 0.	0.	2.54E-07	0.	0.	0.	1.99E-09	2.72E-16	0.	0.	2.54E-07	
51 5.70 0.	0.	1.78E-07	0.	0.	0.	1.87E-09	2.82E-16	0.	0.	1.78E-07	

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 4000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	BETA	GAMMA	VIB-ROT	NO 2	PHOTO-DET (CONS)	FRE-FRFE	M P.E.	TOTAL AIR	
52	5.60	5.28E-06	0.	0.	2.99E-06	2.93E-05	0.	1.73E-09	3.13E-16	0.	3.72E-09
53	5.50	4.79E-06	0.	0.	3.77E-06	4.33E-05	0.	1.74E-09	3.31E-16	0.	5.16E-05
54	5.40	4.26E-06	0.	0.	2.63E-06	1.04E-05	0.	1.75E-09	3.49E-16	0.	1.73E-05
55	5.30	3.37E-06	0.	0.	2.65E-06	3.11E-05	0.	1.76E-09	3.69E-16	0.	3.74E-05
56	5.20	1.09E-06	0.	0.	2.44E-06	1.02E-05	0.	1.78E-09	3.91E-16	0.	1.48E-05
57	5.10	1.62E-06	0.	0.	2.05E-06	1.34E-05	0.	1.79E-09	4.15E-16	0.	1.78E-05
58	5.00	1.07E-06	0.	0.	1.49E-06	1.22E-05	0.	1.2E-10	0.1E-09	4.0E-16	0.
59	4.90	6.85E-07	0.	0.	7.44E-07	6.84E-06	0.	1.26E-10	1.82E-09	4.66E-16	0.
60	4.80	6.96E-07	0.	0.	1.47E-06	7.39E-06	0.	1.29E-10	1.94E-09	4.98E-16	0.
61	4.70	6.37E-07	0.	0.	1.21E-06	3.44E-06	0.	1.30E-10	1.95E-09	5.30E-16	0.
62	4.60	5.51E-07	0.	0.	1.09E-06	4.15E-06	0.	1.31E-10	1.87E-09	5.64E-16	0.
63	4.50	7.11E-07	0.	0.	7.87E-07	1.72E-06	0.	1.32E-10	1.86E-09	6.04E-16	0.
64	4.40	5.95E-07	0.	0.	6.87E-07	1.87E-06	0.	1.33E-10	1.90E-09	6.45E-16	0.
65	4.30	4.74E-07	0.	0.	5.25E-07	6.71E-07	0.	1.34E-10	1.91E-09	6.93E-16	0.
66	4.20	3.48E-07	0.	0.	4.79E-07	6.71E-07	0.	1.35E-10	1.93E-09	7.43E-16	0.
67	4.10	2.74E-07	0.	0.	4.41E-07	3.63E-07	0.	1.36E-10	1.93E-09	7.99E-16	0.
68	4.00	2.05E-07	0.	0.	4.04E-07	9.75E-08	0.	1.37E-10	1.94E-09	8.60E-16	0.
69	3.90	1.34E-07	0.	0.	3.68E-07	6.14E-08	0.	1.4E-10	1.95E-09	9.26E-16	0.
70	3.80	1.32E-07	0.	0.	2.35E-07	1.09E-07	0.	1.42E-10	1.95E-09	1.00E-15	0.
71	3.70	8.35E-08	0.	0.	1.35E-07	1.09E-07	0.	1.43E-10	1.90E-09	1.00E-15	0.
72	3.60	6.24E-08	0.	0.	7.13E-08	2.12E-07	0.	1.45E-10	1.74E-09	1.18E-15	0.
73	3.50	4.71E-08	0.	0.	3.67E-08	2.47E-07	0.	1.47E-10	1.42E-09	1.26E-15	0.
74	3.40	3.23E-08	0.	0.	6.17E-08	1.56E-07	0.	1.49E-10	1.42E-09	1.26E-15	0.
75	3.30	2.22E-08	0.	0.	1.16E-08	3.67E-07	0.	1.50E-10	9.39E-10	1.40E-15	0.
76	3.20	1.47E-08	0.	0.	2.92E-08	3.67E-07	0.	1.51E-10	9.41E-10	1.53E-15	0.
77	3.10	1.10E-08	0.	0.	3.35E-08	2.71E-07	0.	1.52E-10	9.41E-10	1.65E-15	0.
78	3.00	7.55E-09	0.	0.	3.44E-08	3.66E-07	0.	1.50E-10	9.45E-10	2.04E-15	0.
79	2.90	4.74E-09	0.	0.	6.28E-08	6.07E-07	0.	1.48E-10	9.47E-10	2.26E-15	0.
80	2.80	4.02E-09	0.	0.	1.99E-08	2.85E-07	0.	1.45E-10	9.48E-10	2.51E-15	0.
81	2.70	1.69E-09	0.	0.	1.03E-08	9.1E-07	0.	1.42E-10	9.48E-10	2.80E-15	0.
82	2.60	4.61E-10	0.	0.	4.26E-09	2.98E-07	0.	1.39E-10	9.45E-10	3.15E-15	0.
83	2.50	2.34E-10	0.	0.	8.95E-10	5.12E-07	0.	1.35E-10	9.48E-10	3.55E-15	0.
84	2.40	0.	0.	0.	6.95E-10	3.87E-07	0.	1.28E-10	9.48E-10	3.92E-15	0.
85	2.30	0.	0.	0.	1.48E-10	3.09E-07	0.	1.26E-10	9.41E-10	4.35E-15	0.
86	2.20	0.	0.	0.	2.50E-10	0.	0.	1.12E-10	9.37E-10	5.16E-15	0.
87	2.10	0.	0.	0.	9.77E-10	0.	0.	1.02E-10	9.33E-10	5.96E-15	0.
88	2.00	0.	0.	0.	8.24E-10	0.	0.	9.14E-11	9.04E-10	6.91E-15	0.
89	1.90	0.	0.	0.	5.20E-09	0.	0.	8.17E-11	8.69E-10	8.09E-15	0.
90	1.80	0.	0.	0.	6.34E-09	0.	0.	6.76E-11	8.31E-10	9.47E-15	0.
91	1.70	0.	0.	0.	5.88E-09	0.	0.	5.48E-11	7.92E-10	1.13E-14	0.
92	1.60	0.	0.	0.	4.64E-09	0.	0.	4.38E-11	6.82E-10	1.35E-14	0.
93	1.50	0.	0.	0.	4.77E-09	0.	0.	3.31E-11	3.01E-10	1.64E-14	0.
94	1.40	0.	0.	0.	6.17E-09	0.	0.	2.46E-11	0.	2.05E-14	0.
95	1.30	0.	0.	0.	3.71E-09	0.	0.	1.64E-11	0.	2.52E-14	0.
96	1.20	0.	0.	0.	6.31E-09	0.	0.	1.05E-11	0.	3.21E-14	0.
97	1.10	0.	0.	0.	2.81E-09	0.	0.	6.28E-12	0.	4.17E-14	0.
98	1.00	0.	0.	0.	3.46E-09	0.	0.	4.49E-12	0.	5.52E-14	0.
99	0.90	0.	0.	0.	2.02E-09	0.	0.	1.63E-12	0.	7.63E-14	0.
100	0.80	0.	0.	0.	6.85E-10	0.	0.	6.22E-13	0.	1.09E-13	0.
101	0.70	0.	0.	0.	2.55E-10	0.	0.	7.93E-14	0.	1.63E-13	0.
102	0.60	0.	0.	0.	5.42E-11	0.	0.	1.78E-14	0.	2.61E-13	0.



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY E.V.	O2 S-R BANDS	O2 S-R CONT.	N2 3-M NO. 1	TEMPERATURE (DEGREES K)	4000. DENSITY (GM/CC)	1.293E-07 (10.0E-05 NORMAL)		0. PHOTO-DET (IDMS)		FREE-FREE		TOTAL AIR	
						NO BETA	NO GAMMA	NO BETA	NO GAMMA	W P.E.	W P.E.	0 P.E.	0 P.E.
1	10.70	0.	2.05E-05	0.	0.	2.97E-11	1.43E-10	0.	0.	2.97E-11	1.43E-10	0.	2.97E-11
2	10.60	0.	1.45E-05	0.	0.	2.97E-11	1.47E-10	0.	0.	2.97E-11	1.47E-10	0.	2.97E-11
3	10.50	0.	1.24E-05	0.	0.	2.97E-11	1.51E-10	0.	0.	2.97E-11	1.51E-10	0.	2.97E-11
4	10.40	0.	9.58E-06	0.	0.	2.98E-11	1.56E-10	0.	0.	2.98E-11	1.56E-10	0.	2.98E-11
5	10.30	0.	6.43E-06	0.	0.	2.98E-11	1.60E-10	0.	0.	2.98E-11	1.60E-10	0.	2.98E-11
6	10.20	0.	5.64E-06	0.	0.	2.98E-11	1.65E-10	0.	0.	2.98E-11	1.65E-10	0.	2.98E-11
7	10.10	0.	4.50E-06	0.	0.	2.99E-11	1.70E-10	0.	0.	2.99E-11	1.70E-10	0.	2.99E-11
8	10.00	0.	2.77E-06	0.	0.	3.00E-11	1.75E-10	0.	0.	3.00E-11	1.75E-10	0.	3.00E-11
9	9.90	0.	2.68E-06	0.	0.	3.00E-11	1.80E-10	0.	0.	3.00E-11	1.80E-10	0.	3.00E-11
10	9.80	0.	1.96E-06	0.	0.	3.00E-11	1.85E-10	0.	0.	3.00E-11	1.85E-10	0.	3.00E-11
11	9.70	0.	1.21E-06	0.	0.	3.01E-11	1.92E-10	0.	0.	3.01E-11	1.92E-10	0.	3.01E-11
12	9.60	0.	1.30E-06	0.	0.	3.01E-11	1.96E-10	0.	0.	3.01E-11	1.96E-10	0.	3.01E-11
13	9.50	0.	1.01E-06	7.61E-07	0.	3.02E-11	2.04E-10	0.	0.	3.02E-11	2.04E-10	0.	3.02E-11
14	9.40	0.	1.14E-06	5.83E-07	0.	3.03E-11	2.11E-10	0.	0.	3.03E-11	2.11E-10	0.	3.03E-11
15	9.30	0.	1.27E-06	5.50E-07	0.	3.04E-11	2.16E-10	0.	0.	3.04E-11	2.16E-10	0.	3.04E-11
16	9.20	0.	1.40E-06	2.80E-07	0.	3.05E-11	2.23E-10	0.	0.	3.05E-11	2.23E-10	0.	3.05E-11
17	9.10	0.	1.72E-06	3.11E-07	0.	3.06E-11	2.30E-10	0.	0.	3.06E-11	2.30E-10	0.	3.06E-11
18	9.00	0.	1.72E-06	1.95E-07	0.	3.06E-11	2.35E-10	0.	0.	3.06E-11	2.35E-10	0.	3.06E-11
19	8.90	0.	2.09E-06	1.44E-07	0.	3.09E-11	2.41E-10	0.	0.	3.09E-11	2.41E-10	0.	3.09E-11
20	8.80	0.	2.54E-06	1.24E-07	0.	3.10E-11	2.50E-10	0.	0.	3.10E-11	2.50E-10	0.	3.10E-11
21	8.70	0.	2.43E-06	7.16E-08	0.	3.11E-11	2.57E-10	0.	0.	3.11E-11	2.57E-10	0.	3.11E-11
22	8.60	0.	2.33E-06	7.33E-08	0.	3.12E-11	2.65E-10	0.	0.	3.12E-11	2.65E-10	0.	3.12E-11
23	8.50	0.	2.20E-06	4.22E-08	0.	3.13E-11	2.74E-10	0.	0.	3.13E-11	2.74E-10	0.	3.13E-11
24	8.40	0.	2.10E-06	3.92E-08	0.	3.14E-11	2.83E-10	0.	0.	3.14E-11	2.83E-10	0.	3.14E-11
25	8.30	0.	2.00E-06	2.29E-08	0.	3.16E-11	3.07E-10	0.	0.	3.16E-11	3.07E-10	0.	3.16E-11
26	8.20	0.	1.90E-06	2.06E-08	0.	3.18E-11	3.19E-10	0.	0.	3.18E-11	3.19E-10	0.	3.18E-11
27	8.10	0.	1.79E-06	1.28E-08	0.	3.20E-11	3.31E-10	0.	0.	3.20E-11	3.31E-10	0.	3.20E-11
28	8.00	0.	1.68E-06	1.11E-08	0.	3.21E-11	3.43E-10	0.	0.	3.21E-11	3.43E-10	0.	3.21E-11
29	7.90	0.	1.57E-06	6.95E-09	0.	3.23E-11	3.56E-10	0.	0.	3.23E-11	3.56E-10	0.	3.23E-11
30	7.80	0.	1.47E-06	4.19E-09	0.	3.25E-11	3.70E-10	0.	0.	3.25E-11	3.70E-10	0.	3.25E-11
31	7.70	0.	1.38E-06	4.05E-09	0.	3.26E-11	3.85E-10	0.	0.	3.26E-11	3.85E-10	0.	3.26E-11
32	7.60	0.	1.29E-06	3.11E-09	0.	3.49E-11	4.01E-10	0.	0.	3.29E-11	4.01E-10	0.	3.29E-11
33	7.50	0.	1.14E-06	2.20E-09	0.	6.22E-10	4.17E-10	0.	0.	3.29E-11	4.17E-10	0.	3.29E-11
34	7.40	0.	1.03E-06	1.58E-09	0.	1.77E-09	4.34E-10	0.	0.	3.31E-11	4.34E-10	0.	3.31E-11
35	7.30	0.	9.27E-07	1.16E-09	0.	6.29E-09	4.52E-10	0.	0.	3.33E-11	4.52E-10	0.	3.33E-11
36	7.20	0.	8.26E-07	8.13E-10	0.	5.53E-09	4.72E-10	0.	0.	3.35E-11	4.72E-10	0.	3.35E-11
37	7.10	0.	7.29E-07	6.15E-10	0.	3.37E-08	4.92E-10	0.	0.	3.38E-11	4.92E-10	0.	3.38E-11
38	7.00	0.	6.35E-07	4.35E-10	0.	3.20E-07	5.13E-10	0.	0.	3.40E-11	5.13E-10	0.	3.40E-11
39	6.90	0.	5.82E-07	3.12E-10	0.	2.32E-07	5.36E-10	0.	0.	3.43E-11	5.36E-10	0.	3.43E-11
40	6.80	0.	4.30E-07	2.29E-10	0.	3.61E-07	5.60E-10	0.	0.	3.46E-11	5.60E-10	0.	3.46E-11
41	6.70	0.	2.64E-07	1.54E-10	0.	1.11E-06	5.86E-10	0.	0.	3.49E-11	5.86E-10	0.	3.49E-11
42	6.60	0.	1.40E-07	1.08E-10	0.	4.04E-07	6.13E-10	0.	0.	3.51E-11	6.13E-10	0.	3.51E-11
43	6.50	0.	5.74E-08	6.07E-11	0.	6.70E-07	6.42E-10	0.	0.	3.54E-11	6.42E-10	0.	3.54E-11
44	6.40	0.	1.04E-07	2.59E-11	0.	2.22E-08	6.72E-10	0.	0.	3.57E-11	6.72E-10	0.	3.57E-11
45	6.30	0.	2.00E-07	9.15E-12	0.	7.64E-08	7.05E-10	0.	0.	3.60E-11	7.05E-10	0.	3.60E-11
46	6.20	0.	5.00E-07	8.48E-08	0.	8.48E-08	7.41E-10	0.	0.	3.63E-11	7.41E-10	0.	3.63E-11
47	6.10	0.	1.62E-08	1.98E-07	2.59E-06	1.98E-07	7.80E-10	0.	0.	3.65E-11	7.80E-10	0.	3.65E-11
48	6.00	0.	3.44E-08	1.17E-07	3.94E-07	1.17E-07	8.16E-10	0.	0.	3.68E-11	8.16E-10	0.	3.68E-11
49	5.90	0.	4.53E-08	1.11E-14	1.56E-07	1.56E-07	8.56E-10	0.	0.	3.68E-11	8.56E-10	0.	3.68E-11
50	5.80	0.	5.52E-08	1.88E-07	6.01E-07	1.88E-07	9.03E-10	0.	0.	3.62E-11	9.03E-10	0.	3.62E-11
51	5.70	0.	4.97E-08	1.63E-07	2.90E-07	1.63E-07	9.52E-10	0.	0.	3.40E-11	9.52E-10	0.	3.40E-11

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)

PHOTON ENERGY BANDS	TEMPERATURE (DEGREES K)	4000.	NO. 1ST REG.	NO. 2ND POS.	NO. 42	NO. 1ST REG.	BETA	NO. GAMMA	NO. VIB-RPT	NO. 2	0- PHOTO-DET (IONS)	0- FREE-FREE (IONS)	M P.E.	0 P.F.	TOTAL AIR
52	5.60	5.40E-08	0.	0.	0.	0.20E-07	9.37E-07	0.	0.	0.	3.17E-11	10.00E-18	0.	0.	1.07E-06
53	5.50	4.97E-08	0.	0.	0.	1.19E-07	1.30E-06	0.	0.	0.	3.18E-11	1.04E-17	0.	0.	1.55E-06
54	5.40	4.62E-08	0.	0.	0.	8.33E-08	3.35E-07	0.	0.	0.	3.20E-11	1.32E-17	0.	0.	4.06E-07
55	5.30	3.71E-08	0.	0.	0.	8.87E-08	9.66E-07	0.	0.	0.	3.22E-11	1.40E-17	0.	0.	1.12E-06
56	5.20	1.97E-08	0.	0.	0.	7.02E-08	3.27E-07	0.	0.	0.	3.24E-11	1.25E-17	0.	0.	4.25E-07
57	5.10	1.68E-08	0.	0.	0.	6.95E-08	4.29E-07	0.	0.	0.	4.13E-13	3.27E-11	1.53E-17	0.	5.11E-07
58	5.00	1.11E-08	0.	0.	0.	4.77E-08	3.91E-07	0.	0.	0.	4.16E-13	3.29E-11	1.41E-17	0.	4.56E-07
59	4.90	9.20E-09	0.	0.	0.	4.59E-08	2.19E-07	0.	0.	0.	4.19E-13	3.32E-11	1.50E-17	0.	2.74E-07
60	4.80	9.30E-09	0.	0.	0.	4.70E-08	2.36E-07	0.	0.	0.	4.22E-13	3.35E-11	1.59E-17	0.	2.93E-07
61	4.70	8.69E-09	0.	0.	0.	3.66E-08	1.80E-07	0.	0.	0.	4.25E-13	3.38E-11	1.70E-17	0.	1.57E-07
62	4.60	8.84E-09	0.	0.	0.	3.50E-08	1.83E-07	0.	0.	0.	4.28E-13	3.40E-11	1.81E-17	0.	1.77E-07
63	4.50	7.39E-09	0.	0.	0.	2.52E-08	5.50E-06	0.	0.	0.	4.31E-13	3.43E-11	1.94E-17	0.	8.78E-08
64	4.40	6.18E-09	0.	0.	0.	2.20E-08	5.83E-06	0.	0.	0.	4.34E-13	3.46E-11	2.07E-17	0.	6.65E-08
65	4.30	4.64E-09	0.	0.	0.	1.68E-08	1.95E-06	0.	0.	0.	4.37E-13	3.49E-11	2.22E-17	0.	4.10E-08
66	4.20	3.62E-09	0.	0.	0.	1.53E-08	2.15E-06	0.	0.	0.	4.40E-13	3.51E-11	2.38E-17	0.	4.05E-08
67	4.10	2.65E-09	0.	0.	0.	1.16E-08	5.27E-09	0.	0.	0.	4.43E-13	3.53E-11	2.56E-17	0.	1.98E-08
68	4.00	2.13E-09	0.	0.	0.	9.48E-09	3.11E-09	0.	0.	0.	4.46E-13	3.56E-11	2.76E-17	0.	1.48E-08
69	3.90	1.39E-09	0.	0.	0.	8.50E-09	1.94E-09	0.	0.	0.	4.49E-13	3.58E-11	2.98E-17	0.	9.73E-09
70	3.80	1.37E-09	0.	0.	0.	2.12E-11	2.65E-12	1.08E-09	0.	0.	4.52E-13	3.61E-11	3.25E-17	0.	7.91E-09
71	3.70	8.69E-10	0.	0.	0.	7.04E-11	4.52E-13	3.47E-09	0.	0.	4.55E-13	3.64E-11	3.49E-17	0.	4.44E-09
72	3.60	6.40E-10	0.	0.	0.	1.07E-11	1.05E-12	3.91E-09	0.	0.	4.58E-13	3.67E-11	3.78E-17	0.	4.51E-09
73	3.50	4.89E-10	0.	0.	0.	3.62E-11	1.36E-11	1.93E-09	0.	0.	4.61E-13	3.70E-11	4.12E-17	0.	2.59E-09
74	3.40	3.34E-10	0.	0.	0.	6.08E-12	6.56E-14	2.14E-09	0.	0.	4.64E-13	3.73E-11	4.49E-17	0.	2.90E-09
75	3.30	2.38E-10	0.	0.	0.	1.17E-11	2.02E-12	1.12E-09	0.	0.	4.67E-13	3.76E-11	4.91E-17	0.	1.76E-09
76	3.20	1.53E-10	0.	0.	0.	2.78E-12	1.92E-11	1.08E-09	0.	0.	4.70E-13	3.79E-11	5.39E-17	0.	1.27E-09
77	3.10	1.14E-10	0.	0.	0.	3.08E-12	1.49E-13	7.21E-10	0.	0.	4.73E-13	3.82E-11	5.93E-17	0.	6.56E-10
78	3.00	7.84E-11	0.	0.	0.	9.01E-13	2.18E-12	5.34E-10	0.	0.	4.76E-13	3.85E-11	6.54E-17	0.	6.33E-10
79	2.90	4.92E-11	0.	0.	0.	6.10E-13	3.34E-12	2.55E-10	0.	0.	4.79E-13	3.88E-11	7.25E-17	0.	3.26E-10
80	2.80	4.10E-11	0.	0.	0.	1.94E-13	1.57E-13	1.03E-10	0.	0.	4.82E-13	3.91E-11	8.05E-17	0.	1.63E-10
81	2.70	1.74E-11	0.	0.	0.	1.03E-13	1.05E-12	2.99E-11	0.	0.	4.85E-13	3.94E-11	8.96E-17	0.	6.64E-11
82	2.60	4.78E-12	0.	0.	0.	4.20E-14	1.64E-13	7.44E-12	0.	0.	4.88E-13	3.97E-11	1.01E-16	0.	3.02E-11
83	2.50	2.64E-13	0.	0.	0.	8.62E-15	2.82E-14	1.24E-12	0.	0.	4.91E-13	4.00E-11	1.13E-16	0.	1.93E-11
84	2.40	0.	0.	0.	0.	1.34E-12	8.05E-14	9.67E-14	0.	0.	4.94E-13	4.03E-11	1.28E-16	0.	1.02E-11
85	2.30	0.	0.	0.	0.	2.07E-11	0.	0.	0.	0.	4.97E-13	4.06E-11	1.45E-16	0.	3.62E-11
86	2.20	0.	0.	0.	0.	2.47E-11	0.	0.	0.	0.	4.99E-13	4.09E-11	1.65E-16	0.	4.21E-11
87	2.10	0.	0.	0.	0.	9.67E-11	0.	0.	0.	0.	5.02E-13	4.12E-11	1.89E-16	0.	1.14E-10
88	2.00	0.	0.	0.	0.	8.26E-11	0.	0.	0.	0.	5.04E-13	4.15E-11	2.17E-16	0.	9.94E-11
89	1.90	0.	0.	0.	0.	5.12E-10	0.	0.	0.	0.	5.07E-13	4.18E-11	2.50E-16	0.	5.29E-10
90	1.80	0.	0.	0.	0.	6.27E-10	0.	0.	0.	0.	5.09E-13	4.21E-11	2.89E-16	0.	4.48E-10
91	1.70	0.	0.	0.	0.	5.50E-10	0.	0.	0.	0.	5.11E-13	4.24E-11	3.34E-16	0.	5.65E-10
92	1.60	0.	0.	0.	0.	4.59E-10	0.	0.	0.	0.	5.13E-13	4.27E-11	3.87E-16	0.	4.72E-10
93	1.50	0.	0.	0.	0.	4.70E-10	0.	0.	0.	0.	5.15E-13	4.30E-11	4.49E-16	0.	4.75E-10
94	1.40	0.	0.	0.	0.	6.05E-10	0.	0.	0.	0.	5.17E-13	4.33E-11	5.26E-16	0.	6.05E-10
95	1.30	0.	0.	0.	0.	3.65E-10	0.	0.	0.	0.	5.19E-13	4.36E-11	6.17E-16	0.	6.05E-10
96	1.20	0.	0.	0.	0.	6.41E-10	0.	0.	0.	0.	5.21E-13	4.39E-11	7.25E-16	0.	3.65E-10
97	1.10	0.	0.	0.	0.	2.77E-10	0.	0.	0.	0.	5.23E-13	4.42E-11	8.61E-16	0.	6.41E-10
98	1.00	0.	0.	0.	0.	3.41E-10	0.	0.	0.	0.	5.25E-13	4.45E-11	1.03E-15	0.	2.86E-10
99	0.90	0.	0.	0.	0.	1.99E-10	0.	0.	0.	0.	5.27E-13	4.48E-11	1.24E-15	0.	3.59E-10
100	0.80	0.	0.	0.	0.	6.53E-11	0.	0.	0.	0.	5.29E-13	4.51E-11	1.50E-15	0.	2.84E-10
101	0.70	0.	0.	0.	0.	2.51E-11	0.	0.	0.	0.	5.31E-13	4.54E-11	1.82E-15	0.	2.79E-10
102	0.60	0.	0.	0.	0.	6.42E-14	0.	0.	0.	0.	5.33E-13	4.57E-11	2.21E-15	0.	5.70E-10

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 4800. DENSITY (GM/CC) 1.293E-06 (10.0E-06 NORMAL)

PHOTON ENERGY BANDS E.V.	O2 S-R BANDS COMT.	M2 B-H NO. 1	NO RETA	NO GAMMA	NO 2	O- PHOTO-DET (IONS)	N FREE-FREE P.E.	N P.E.	O TOTAL AIR P.E.
1 10.70 0.	0.	1.94E-06	0.	0.	0.	5.25E-13 4.43E-20 0.	0.	0.	1.96E-06
2 10.60 0.	0.	1.37E-06	0.	0.	0.	5.26E-13 4.55E-20 0.	0.	0.	1.37E-06
3 10.50 0.	0.	1.17E-06	0.	0.	0.	5.26E-13 4.4E-20 0.	0.	0.	1.17E-06
4 10.40 0.	0.	9.07E-07	0.	0.	0.	5.27E-13 4.4E-20 0.	0.	0.	9.07E-07
5 10.30 0.	0.	6.98E-07	0.	0.	0.	5.28E-13 4.77E-20 0.	0.	0.	6.98E-07
6 10.20 0.	0.	5.34E-07	0.	0.	0.	5.28E-13 5.11E-20 0.	0.	0.	5.34E-07
7 10.10 0.	0.	4.26E-07	0.	0.	0.	5.29E-13 5.27E-20 0.	0.	0.	4.26E-07
8 10.00 0.	0.	2.62E-07	0.	0.	0.	5.30E-13 5.43E-20 0.	0.	0.	2.62E-07
9 9.90 0.	0.	2.54E-07	0.	0.	0.	5.31E-13 5.60E-20 0.	0.	0.	2.54E-07
10 9.80 0.	0.	1.94E-07	0.	0.	0.	5.32E-13 5.77E-20 0.	0.	0.	1.94E-07
11 9.70 0.	0.	1.35E-07	0.	0.	0.	5.33E-13 5.95E-20 0.	0.	0.	1.35E-07
12 9.60 0.	0.	1.33E-07	0.	0.	0.	5.34E-13 6.14E-20 0.	0.	0.	1.33E-07
13 9.50 0.	1.02E-08	7.31E-09	0.	0.	0.	5.35E-13 6.34E-20 0.	0.	0.	6.23E-08
14 9.40 0.	1.15E-08	5.52E-08	0.	0.	0.	5.37E-13 6.55E-20 0.	0.	0.	6.67E-08
15 9.30 0.	1.26E-08	5.21E-08	0.	0.	0.	5.39E-13 6.76E-20 0.	0.	0.	6.49E-08
16 9.20 0.	1.41E-08	2.48E-08	0.	0.	0.	5.40E-13 6.98E-20 0.	0.	0.	4.97E-08
17 9.10 0.	1.74E-08	2.94E-08	0.	0.	0.	5.42E-13 7.22E-20 0.	0.	0.	4.88E-08
18 9.00 0.	2.11E-08	1.95E-08	0.	0.	0.	5.44E-13 7.46E-20 0.	0.	0.	3.95E-08
19 8.90 0.	2.47E-08	1.56E-08	0.	0.	0.	5.46E-13 7.72E-20 0.	0.	0.	3.83E-08
20 8.80 0.	2.57E-08	1.17E-08	0.	0.	0.	5.48E-13 7.98E-20 0.	0.	0.	3.74E-08
21 8.70 0.	2.45E-08	6.80E-09	0.	0.	0.	5.50E-13 8.26E-20 0.	0.	0.	3.13E-08
22 8.60 0.	2.34E-08	6.94E-09	0.	0.	0.	5.52E-13 8.56E-20 0.	0.	0.	3.03E-08
23 8.50 0.	2.22E-08	4.88E-09	0.	0.	0.	5.54E-13 8.86E-20 0.	0.	0.	2.42E-08
24 8.40 0.	2.12E-08	3.71E-09	0.	0.	0.	5.57E-13 9.18E-20 0.	0.	0.	2.48E-08
25 8.30 0.	2.02E-08	2.17E-09	0.	0.	0.	5.60E-13 9.52E-20 0.	0.	0.	2.24E-08
26 8.20 0.	1.92E-08	1.99E-09	0.	0.	0.	5.63E-13 9.88E-20 0.	0.	0.	2.11E-08
27 8.10 0.	1.81E-08	1.21E-09	0.	0.	0.	5.66E-13 1.02E-19 0.	0.	0.	1.93E-08
28 8.00 0.	1.70E-08	1.05E-09	0.	0.	0.	5.69E-13 1.06E-19 0.	0.	0.	1.80E-08
29 7.90 0.	1.59E-08	6.41E-10	0.	0.	0.	5.72E-13 1.10E-19 0.	0.	0.	1.66E-08
30 7.80 0.	1.48E-08	5.83E-10	0.	0.	0.	5.75E-13 1.15E-19 0.	0.	0.	1.54E-08
31 7.70 0.	1.37E-08	3.84E-10	0.	0.	0.	5.77E-13 1.19E-19 0.	0.	0.	1.4E-08
32 7.60 0.	1.26E-08	2.94E-10	0.	1.00E-12	0.	5.80E-13 1.24E-19 0.	0.	0.	1.29E-08
33 7.50 0.	1.15E-08	2.98E-10	0.	2.54E-11	0.	5.83E-13 1.29E-19 0.	0.	0.	1.18E-08
34 7.40 0.	1.04E-08	1.49E-10	0.	2.87E-11	0.	5.87E-13 1.35E-19 0.	0.	0.	1.06E-08
35 7.30 0.	9.36E-09	1.0E-10	0.	2.87E-11	0.	5.90E-13 1.40E-19 0.	0.	0.	9.74E-09
36 7.20 0.	8.34E-09	7.79E-11	0.	1.71E-09	0.	5.93E-13 1.46E-19 0.	0.	0.	1.01E-08
37 7.10 0.	7.34E-09	5.92E-11	0.	1.0E-09	0.	5.96E-13 1.52E-19 0.	0.	0.	8.46E-09
38 7.00 3.48E-11	0.	4.1E-11	0.	0.91E-08	0.	6.03E-13 1.59E-19 0.	0.	0.	9.98E-09
39 6.90 5.89E-11	0.	2.99E-11	0.	7.18E-09	0.	6.08E-13 1.66E-19 0.	0.	0.	7.27E-09
40 6.80 4.39E-11	0.	2.17E-11	0.	1.12E-08	0.	6.12E-13 1.74E-19 0.	0.	0.	1.12E-08
41 6.70 2.97E-11	0.	1.46E-11	0.	3.44E-08	0.	6.17E-13 1.82E-19 0.	0.	0.	3.45E-08
42 6.60 1.41E-11	0.	1.08E-11	0.	1.25E-08	0.	6.22E-13 1.90E-19 0.	0.	0.	1.25E-08
43 6.50 6.01E-12	0.	7.5E-12	0.	2.07E-08	0.	6.27E-13 1.99E-19 0.	0.	0.	2.07E-08
44 6.40 1.05E-11	0.	2.45E-12	6.88E-10	5.72E-08	0.	6.32E-13 2.08E-19 0.	0.	0.	5.84E-08
45 6.30 2.02E-11	0.	6.66E-13	2.38E-09	1.74E-08	0.	6.37E-13 2.18E-19 0.	0.	0.	2.02E-08
46 6.20 5.05E-11	0.	2.82E-13	2.62E-09	2.20E-08	0.	6.42E-13 2.29E-19 0.	0.	0.	2.47E-08
47 6.10 1.44E-10	0.	8.31E-14	6.12E-09	8.05E-08	0.	6.46E-13 2.41E-19 0.	0.	0.	8.05E-08
48 6.00 3.48E-10	0.	1.95E-14	3.63E-09	1.25E-08	0.	6.51E-13 2.53E-19 0.	0.	0.	1.62E-08
49 5.90 4.58E-10	0.	1.05E-15	4.83E-09	1.65E-08	0.	6.51E-13 2.66E-19 0.	0.	0.	2.17E-08
50 5.80 5.54E-10	0.	2.37E-17	5.81E-09	1.85E-08	0.	6.42E-13 2.80E-19 0.	0.	0.	2.50E-08
51 5.73 5.02E-10	0.	0.	5.03E-09	8.47E-08	0.	6.03E-13 2.95E-19 0.	0.	0.	1.45E-08

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 4000. DENSITY (GM/CC) 1.293E-06 (10.0E-06 NORMAL)

PHOTON ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2 3RD POS.	N2 4TH POS.	BETA	GAMMA	VIB-ROT	NO 1	NO 2	NO 3	PHOTO-DET (COMS)	FREE-FREE N	P.E.	NO 4	TOTAL AIR
52	5.45	5.54E-10	0.	0.	2.56E-09	2.92E-08	0.	0.	5.02E-13	3.12E-19	0.	0.	0.	4.22E-08	
53	5.50	5.03E-10	0.	0.	3.07E-09	4.24E-08	0.	0.	5.62E-13	3.22E-19	0.	0.	0.	4.70E-08	
54	5.40	4.47E-10	0.	0.	2.98E-09	1.02E-08	0.	0.	5.66E-13	3.27E-19	0.	0.	0.	4.73E-08	
55	5.30	3.75E-10	0.	0.	2.62E-09	3.04E-08	0.	0.	5.70E-13	3.67E-19	0.	0.	0.	5.33E-08	
56	5.20	1.99E-10	0.	0.	2.42E-09	1.01E-08	0.	0.	5.74E-13	3.69E-19	0.	0.	0.	1.27E-08	
57	5.10	1.70E-10	0.	0.	2.03E-09	1.33E-08	0.	0.	1.29E-15	5.72E-13	4.12E-19	0.	0.	1.59E-08	
58	5.00	1.12E-10	0.	0.	1.48E-09	1.31E-08	0.	0.	1.30E-15	5.83E-13	4.12E-19	0.	0.	1.32E-08	
59	4.90	9.29E-11	0.	0.	1.42E-09	6.72E-09	0.	0.	1.32E-15	5.88E-13	4.62E-19	0.	0.	9.29E-09	
60	4.80	9.49E-11	0.	0.	1.45E-09	7.31E-09	0.	0.	1.31E-15	5.93E-13	4.94E-19	0.	0.	4.94E-09	
61	4.70	8.79E-11	0.	0.	1.19E-09	3.41E-09	0.	0.	1.32E-15	5.98E-13	5.27E-19	0.	0.	4.49E-09	
62	4.60	8.93E-11	0.	0.	1.08E-09	4.11E-09	0.	0.	1.33E-15	6.03E-13	5.62E-19	0.	0.	5.28E-09	
63	4.50	7.47E-11	0.	7.02E-14	7.79E-10	1.70E-09	0.	0.	1.34E-15	6.08E-13	6.07E-19	0.	0.	2.56E-09	
64	4.40	6.24E-11	0.	5.07E-13	6.80E-10	1.80E-09	0.	0.	1.35E-15	6.12E-13	6.42E-19	0.	0.	2.55E-09	
65	4.30	4.69E-11	0.	4.51E-13	5.70E-10	1.90E-09	0.	0.	1.36E-15	6.17E-13	6.87E-19	0.	0.	1.17E-09	
66	4.20	3.68E-11	0.	4.44E-12	4.74E-10	6.94E-10	0.	0.	1.38E-15	6.22E-13	7.32E-19	0.	0.	1.18E-09	
67	4.10	2.89E-11	0.	4.11E-12	3.99E-10	1.61E-10	0.	0.	1.40E-15	6.25E-13	7.94E-19	0.	0.	5.52E-10	
68	4.00	2.15E-11	0.	5.64E-12	2.93E-10	9.42E-11	0.	0.	1.41E-15	6.27E-13	8.56E-19	0.	0.	4.17E-10	
69	3.90	1.41E-11	0.	3.40E-12	1.95E-10	6.08E-11	0.	0.	1.42E-15	6.29E-13	9.22E-19	0.	0.	2.74E-10	
70	3.80	1.39E-11	0.	2.01E-12	1.43E-10	1.97E-10	0.	0.	1.44E-15	6.22E-13	9.97E-19	0.	0.	2.15E-10	
71	3.70	8.74E-12	0.	6.67E-12	2.47E-11	1.97E-10	0.	0.	1.42E-15	6.12E-13	1.02E-18	0.	0.	1.24E-10	
72	3.60	6.54E-12	0.	1.01E-12	5.66E-13	1.21E-10	0.	0.	1.49E-15	5.28E-13	1.28E-18	0.	0.	1.39E-10	
73	3.50	4.94E-12	0.	3.42E-12	7.32E-12	5.96E-11	0.	0.	1.49E-15	5.28E-13	1.28E-18	0.	0.	7.58E-11	
74	3.40	3.39E-12	0.	5.76E-13	4.60E-14	6.93E-11	0.	0.	1.51E-15	3.03E-13	1.39E-18	0.	0.	7.06E-11	
75	3.30	2.33E-12	0.	1.11E-12	1.09E-12	3.46E-11	0.	0.	1.52E-15	3.03E-13	1.39E-18	0.	0.	3.95E-11	
76	3.20	1.54E-12	0.	2.92E-13	1.03E-11	3.34E-11	0.	0.	1.53E-15	3.04E-13	1.47E-18	0.	0.	4.52E-11	
77	3.10	1.15E-12	0.	2.92E-13	8.02E-14	2.32E-11	0.	0.	1.54E-15	3.02E-13	1.87E-18	0.	0.	2.41E-11	
78	3.00	7.92E-13	0.	6.53E-14	1.17E-12	1.85E-11	0.	0.	1.52E-15	3.05E-13	2.03E-18	0.	0.	1.89E-11	
79	2.90	4.97E-13	0.	5.84E-14	1.00E-12	7.88E-12	0.	0.	1.50E-15	3.06E-13	2.23E-18	0.	0.	1.05E-11	
80	2.80	4.22E-13	0.	1.85E-14	8.43E-14	3.19E-12	0.	0.	1.47E-15	3.06E-13	2.50E-18	0.	0.	4.02E-12	
81	2.70	1.78E-13	0.	9.60E-15	5.66E-13	9.24E-13	0.	0.	1.44E-15	3.06E-13	2.78E-18	0.	0.	1.99E-12	
82	2.60	8.94E-14	0.	3.98E-15	8.00E-14	2.31E-13	0.	0.	1.41E-15	3.06E-13	3.12E-18	0.	0.	6.79E-13	
83	2.50	2.67E-15	0.	6.35E-16	1.52E-14	3.05E-14	0.	0.	1.35E-15	3.06E-13	3.51E-18	0.	0.	3.64E-13	
84	2.40	0.	0.	1.29E-13	0.	3.05E-15	0.	0.	1.39E-15	3.08E-13	3.91E-18	0.	0.	4.83E-13	
85	2.30	0.	0.	1.94E-12	0.	0.	0.	0.	1.31E-15	3.08E-13	4.32E-18	0.	0.	2.28E-12	
86	2.20	0.	0.	2.33E-12	0.	0.	0.	0.	1.33E-15	3.08E-13	4.73E-18	0.	0.	2.84E-12	
87	2.10	0.	0.	9.11E-12	0.	0.	0.	0.	1.35E-15	3.08E-13	5.13E-18	0.	0.	2.84E-12	
88	2.00	0.	0.	7.82E-12	0.	0.	0.	0.	1.33E-15	3.08E-13	5.13E-18	0.	0.	2.84E-12	
89	1.90	0.	0.	4.85E-11	0.	0.	0.	0.	1.04E-15	3.01E-13	5.92E-18	0.	0.	9.42E-12	
90	1.80	0.	0.	5.94E-11	0.	0.	0.	0.	9.27E-16	2.92E-13	6.80E-18	0.	0.	8.11E-12	
91	1.70	0.	0.	5.94E-11	0.	0.	0.	0.	8.29E-16	2.80E-13	8.01E-18	0.	0.	4.80E-11	
92	1.60	0.	0.	2.21E-11	0.	0.	0.	0.	6.88E-16	2.46E-13	9.41E-18	0.	0.	5.97E-11	
93	1.50	0.	0.	4.35E-11	0.	0.	0.	0.	5.56E-16	2.53E-13	1.12E-17	0.	0.	5.23E-11	
94	1.40	0.	0.	4.99E-11	0.	0.	0.	0.	4.44E-16	2.14E-13	1.34E-17	0.	0.	4.37E-11	
95	1.30	0.	0.	7.62E-11	0.	0.	0.	0.	3.30E-16	9.72E-14	1.63E-17	0.	0.	4.48E-11	
96	1.20	0.	0.	3.46E-11	0.	0.	0.	0.	2.90E-16	0.	2.09E-17	0.	0.	2.62E-12	
97	1.10	0.	0.	6.07E-11	0.	0.	0.	0.	1.46E-16	0.	2.31E-17	0.	0.	3.40E-11	
98	1.00	0.	0.	2.62E-11	0.	0.	0.	0.	1.06E-16	0.	3.19E-17	0.	0.	4.07E-11	
99	0.90	0.	0.	3.23E-11	0.	0.	0.	0.	2.13E-13	6.37E-17	4.13E-17	0.	0.	3.27E-11	
100	0.80	0.	0.	1.86E-11	0.	0.	0.	0.	4.44E-13	3.17E-17	5.23E-17	0.	0.	3.27E-11	
101	0.70	0.	0.	9.07E-12	0.	0.	0.	0.	1.81E-12	1.50E-17	7.61E-17	0.	0.	2.02E-11	
102	0.60	0.	0.	2.34E-12	0.	0.	0.	0.	6.16E-12	0.	1.08E-16	0.	0.	1.42E-11	
103	0.50	0.	0.	6.08E-15	0.	0.	0.	0.	7.85E-12	0.	1.08E-16	0.	0.	1.02E-11	
104	0.40	0.	0.	0.	0.	0.	0.	0.	1.76E-11	0.	2.39E-16	0.	0.	1.76E-11	

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E.V.	O2 S-R CONT.	N2 B-H NO. 1	TEMPERATURE (DEGREES K)		NO BETA	NO GAMMA	DENSITY (GM/CC) 1.293E-09 (10.0E-07 NORMAL)		NO PHOTO-DET (IONS)	O-FREE-FREE P.E.	Y P.E.	O P.E.	TOTAL AIR
			4000.	(GM/CC)									
1 10.70 0.	0.	1.63E-07	0.	0.	0.	0.	0.01E-15	1.30E-21	0.	0.	0.	1.63E-07	
2 10.60 0.	0.	1.15E-07	0.	0.	0.	0.	0.02E-15	1.34E-21	0.	0.	0.	1.15E-07	
3 10.50 0.	0.	9.83E-08	0.	0.	0.	0.	0.03E-15	1.37E-21	0.	0.	0.	9.83E-08	
4 10.40 0.	0.	7.60E-08	0.	0.	0.	0.	0.04E-15	1.41E-21	0.	0.	0.	7.60E-08	
5 10.30 0.	0.	5.10E-08	0.	0.	0.	0.	0.05E-15	1.46E-21	0.	0.	0.	5.10E-08	
6 10.20 0.	0.	4.37E-08	0.	0.	0.	0.	0.06E-15	1.50E-21	0.	0.	0.	4.37E-08	
7 10.10 0.	0.	3.57E-08	0.	0.	0.	0.	0.08E-15	1.55E-21	0.	0.	0.	3.57E-08	
8 10.00 0.	0.	2.20E-08	0.	0.	0.	0.	0.09E-15	1.59E-21	0.	0.	0.	2.20E-08	
9 9.90 0.	0.	2.12E-08	0.	0.	0.	0.	0.11E-15	1.64E-21	0.	0.	0.	2.12E-08	
10 9.80 0.	0.	1.56E-08	0.	0.	0.	0.	0.12E-15	1.69E-21	0.	0.	0.	1.56E-08	
11 9.70 0.	0.	9.60E-09	0.	0.	0.	0.	0.14E-15	1.75E-21	0.	0.	0.	9.60E-09	
12 9.60 0.	0.	1.08E-08	0.	0.	0.	0.	0.16E-15	1.80E-21	0.	0.	0.	1.08E-08	
13 9.50 0.	1.03E-10	6.04E-09	0.	0.	0.	0.	0.17E-15	1.84E-21	0.	0.	0.	6.14E-09	
14 9.40 0.	1.14E-10	4.62E-09	0.	0.	0.	0.	0.21E-15	1.92E-21	0.	0.	0.	4.74E-09	
15 9.30 0.	1.20E-10	4.36E-09	0.	0.	0.	0.	0.24E-15	1.99E-21	0.	0.	0.	1.49E-09	
16 9.20 0.	1.42E-10	2.22E-09	0.	0.	0.	0.	0.27E-15	2.09E-21	0.	0.	0.	2.37E-09	
17 9.10 0.	1.75E-10	2.47E-09	0.	0.	0.	0.	0.31E-15	2.12E-21	0.	0.	0.	2.64E-09	
18 9.00 0.	2.11E-10	1.53E-09	0.	0.	0.	0.	0.34E-15	2.19E-21	0.	0.	0.	1.74E-09	
19 8.90 0.	2.44E-10	1.14E-09	0.	0.	0.	0.	0.37E-15	2.26E-21	0.	0.	0.	1.39E-09	
20 8.80 0.	2.59E-10	9.64E-10	0.	0.	0.	0.	0.41E-15	2.34E-21	0.	0.	0.	1.74E-09	
21 8.70 0.	2.44E-10	5.70E-10	0.	0.	0.	0.	0.44E-15	2.42E-21	0.	0.	0.	8.16E-10	
22 8.60 0.	2.34E-10	5.61E-10	0.	0.	0.	0.	0.47E-15	2.51E-21	0.	0.	0.	8.16E-10	
23 8.50 0.	2.23E-10	3.35E-10	0.	0.	0.	0.	0.51E-15	2.60E-21	0.	0.	0.	3.90E-10	
24 8.40 0.	2.13E-10	3.11E-10	0.	0.	0.	0.	0.54E-15	2.69E-21	0.	0.	0.	3.24E-10	
25 8.30 0.	2.03E-10	1.81E-10	0.	0.	0.	0.	0.61E-15	2.79E-21	0.	0.	0.	3.85E-10	
26 8.20 0.	1.92E-10	1.64E-10	0.	0.	0.	0.	0.64E-15	2.90E-21	0.	0.	0.	3.56E-10	
27 8.10 0.	1.81E-10	1.01E-10	0.	0.	0.	0.	0.71E-15	3.01E-21	0.	0.	0.	2.03E-10	
28 8.00 0.	1.70E-10	6.73E-11	0.	0.	0.	0.	0.74E-15	3.12E-21	0.	0.	0.	2.59E-10	
29 7.90 0.	1.60E-10	5.32E-11	0.	0.	0.	0.	0.81E-15	3.24E-21	0.	0.	0.	2.13E-10	
30 7.80 0.	1.49E-10	4.91E-11	0.	0.	0.	0.	0.86E-15	3.37E-21	0.	0.	0.	3.98E-10	
31 7.70 0.	1.39E-10	3.21E-11	0.	0.	0.	0.	0.91E-15	3.53E-21	0.	0.	0.	3.78E-10	
32 7.60 0.	1.27E-10	2.47E-11	0.	0.	0.	3.17E-14	0.96E-15	3.64E-21	0.	0.	0.	1.91E-10	
33 7.50 0.	1.14E-10	1.79E-11	0.	0.	0.	7.37E-13	0.00E-15	3.79E-21	0.	0.	0.	1.34E-10	
34 7.40 0.	1.05E-10	1.25E-11	0.	0.	0.	1.59E-12	1.01E-15	3.95E-21	0.	0.	0.	1.19E-10	
35 7.30 0.	9.39E-11	9.22E-12	0.	0.	0.	6.32E-12	1.01E-15	4.11E-21	0.	0.	0.	1.12E-10	
36 7.20 0.	8.39E-11	6.43E-12	0.	0.	0.	4.92E-11	1.02E-15	4.29E-21	0.	0.	0.	1.40E-10	
37 7.10 0.	7.39E-11	4.88E-12	0.	0.	0.	3.02E-11	1.03E-15	4.47E-21	0.	0.	0.	1.09E-10	
38 7.00 3.49E-13	0.	3.49E-12	0.	0.	0.	2.87E-10	1.03E-15	4.67E-21	0.	0.	0.	2.91E-10	
39 6.90 5.90E-13	0.	2.47E-12	0.	0.	0.	2.06E-10	1.04E-15	4.88E-21	0.	0.	0.	2.11E-10	
40 6.80 4.36E-13	0.	1.82E-12	0.	0.	0.	3.24E-10	1.05E-15	5.09E-21	0.	0.	0.	3.76E-10	
41 6.70 2.68E-13	0.	1.29E-12	0.	0.	0.	9.94E-10	1.06E-15	5.33E-21	0.	0.	0.	9.99E-10	
42 6.60 1.41E-13	0.	8.41E-13	0.	0.	0.	3.62E-10	1.07E-15	5.57E-21	0.	0.	0.	3.63E-10	
43 6.50 6.83E-14	0.	4.82E-13	0.	0.	0.	6.00E-10	1.08E-15	5.84E-21	0.	0.	0.	6.01E-10	
44 6.40 1.06E-13	0.	2.05E-13	0.	0.	0.	1.69E-11	1.08E-15	6.11E-21	0.	0.	0.	1.69E-09	
45 6.30 2.02E-13	0.	7.26E-14	0.	0.	0.	6.85E-11	1.09E-15	6.41E-21	0.	0.	0.	5.86E-10	
46 6.20 5.07E-13	0.	2.36E-14	0.	0.	0.	7.59E-11	1.10E-15	6.73E-21	0.	0.	0.	7.13E-10	
47 6.10 1.64E-12	0.	6.94E-15	0.	0.	0.	1.78E-10	1.11E-15	7.06E-21	0.	0.	0.	2.58E-09	
48 6.00 3.49E-12	0.	1.50E-15	0.	0.	0.	1.05E-10	1.12E-15	7.42E-21	0.	0.	0.	4.63E-10	
49 5.90 4.59E-12	0.	3.08E-17	0.	0.	0.	1.40E-10	1.12E-15	7.81E-21	0.	0.	0.	6.29E-10	
50 5.80 5.59E-12	0.	1.99E-18	0.	0.	0.	1.48E-10	1.12E-15	8.22E-21	0.	0.	0.	7.13E-10	
51 5.70 5.03E-12	0.	0.	0.	0.	0.	1.46E-10	1.13E-15	8.66E-21	0.	0.	0.	4.11E-10	

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	M2 2ND NEG.	NO GAMMA	NO VIB-RGT	NO PHOTO-DET	D- FREE-FREE	N P.E.	O P.F.	TOTAL AIR	
												TEMPERATURE (DEGREES K)
52	5.60	5.58E-12	0.	0.	7.42E-11	8.40E-10	0.	0.	0.61E-15	9.13E-21	0.	9.21E-10
53	5.50	5.04E-12	0.	0.	1.06E-10	1.24E-09	0.	0.	9.66E-15	9.64E-21	0.	1.36E-09
54	5.40	4.48E-12	0.	0.	7.47E-11	2.99E-10	0.	0.	9.71E-15	1.02E-20	0.	3.77E-10
55	5.30	3.76E-12	0.	0.	7.59E-11	6.93E-10	0.	0.	9.78E-15	1.08E-20	0.	9.73E-10
56	5.20	2.90E-12	0.	0.	7.01E-11	2.93E-10	0.	0.	9.84E-15	1.14E-20	0.	3.65E-10
57	5.10	1.70E-12	0.	0.	5.88E-11	3.64E-10	0.	0.	3.72E-18	9.92E-15	1.28E-20	4.45E-10
58	5.00	1.13E-12	0.	0.	4.28E-11	3.51E-10	0.	0.	3.75E-18	9.00E-15	1.28E-20	3.95E-10
59	4.90	9.32E-13	0.	0.	4.12E-11	1.96E-10	0.	0.	3.78E-18	1.01E-14	1.36E-20	2.38E-10
60	4.80	9.43E-13	0.	0.	4.21E-11	2.12E-10	0.	0.	3.61E-18	1.02E-14	1.45E-20	2.55E-10
61	4.70	8.61E-13	0.	0.	3.46E-11	9.86E-11	0.	0.	3.03E-18	1.03E-14	1.95E-20	1.54E-10
62	4.60	8.96E-13	0.	0.	3.14E-11	1.19E-10	0.	0.	3.86E-18	1.03E-14	1.65E-20	1.51E-10
63	4.50	7.49E-13	0.	0.	2.26E-11	4.93E-11	0.	0.	3.89E-18	1.04E-14	1.74E-20	7.27E-11
64	4.40	6.24E-13	0.	0.	1.97E-11	5.23E-11	0.	0.	3.92E-18	1.05E-14	1.88E-20	7.27E-11
65	4.30	4.70E-13	0.	0.	1.51E-11	1.75E-11	0.	0.	3.96E-18	1.05E-14	2.02E-20	3.31E-11
66	4.20	3.67E-13	0.	0.	1.37E-11	1.93E-11	0.	0.	4.01E-18	1.07E-14	2.17E-20	3.37E-11
67	4.10	2.90E-13	0.	0.	1.04E-11	4.73E-12	0.	0.	4.06E-18	1.07E-14	2.33E-20	1.55E-11
68	4.00	2.16E-13	0.	0.	6.50E-12	2.79E-12	0.	0.	4.09E-18	1.08E-14	2.51E-20	1.20E-11
69	3.90	1.41E-13	0.	0.	2.85E-13	1.71E-12	0.	0.	4.12E-18	1.07E-14	2.71E-20	7.86E-12
70	3.80	1.39E-13	0.	0.	1.68E-13	6.98E-13	0.	0.	4.17E-18	1.07E-14	2.93E-20	6.74E-12
71	3.70	8.77E-14	0.	0.	5.59E-13	1.19E-13	0.	0.	4.23E-18	1.05E-14	3.17E-20	3.86E-12
72	3.60	6.56E-14	0.	0.	2.67E-13	3.58E-12	1.73E-12	0.	4.28E-18	9.84E-15	3.54E-20	3.95E-12
73	3.50	4.98E-14	0.	0.	2.67E-13	3.58E-12	1.73E-12	0.	4.34E-18	9.84E-15	3.75E-20	5.65E-12
74	3.40	3.49E-14	0.	0.	4.82E-14	2.25E-14	1.92E-12	0.	4.39E-18	5.19E-15	4.09E-20	2.03E-12
75	3.30	2.33E-14	0.	0.	9.20E-14	5.31E-13	1.00E-12	0.	4.43E-18	5.20E-15	4.47E-20	1.66E-12
76	3.20	1.59E-14	0.	0.	2.20E-14	5.04E-12	6.67E-13	0.	4.45E-18	5.21E-15	4.90E-20	6.05E-12
77	3.10	1.16E-14	0.	0.	2.44E-14	3.92E-14	6.46E-13	0.	4.46E-18	5.22E-15	5.39E-20	7.37E-13
78	3.00	7.94E-15	0.	0.	7.14E-15	5.74E-13	4.78E-13	0.	4.40E-18	5.24E-15	5.95E-20	1.07E-12
79	2.90	4.98E-15	0.	0.	4.90E-15	8.79E-13	2.28E-13	0.	4.35E-18	5.24E-15	6.59E-20	1.12E-12
80	2.80	4.23E-15	0.	0.	1.59E-15	4.12E-14	9.24E-14	0.	4.27E-18	5.23E-15	7.32E-20	1.45E-13
81	2.70	1.78E-15	0.	0.	6.04E-16	2.77E-13	2.68E-14	0.	4.19E-18	5.23E-15	8.17E-20	3.11E-13
82	2.60	4.86E-16	0.	0.	3.33E-16	4.31E-14	6.69E-15	0.	4.09E-18	5.23E-15	9.15E-20	5.51E-14
83	2.50	2.67E-17	0.	0.	7.03E-17	7.42E-15	1.11E-15	0.	3.92E-18	5.23E-15	1.03E-19	1.39E-14
84	2.40	0.	0.	0.	2.12E-14	8.65E-17	0.	0.	3.76E-18	5.23E-15	1.16E-19	3.73E-14
85	2.30	0.	0.	0.	1.64E-13	0.	0.	0.	3.52E-18	5.21E-15	1.32E-19	1.19E-13
86	2.20	0.	0.	0.	1.65E-13	0.	0.	0.	3.27E-18	5.19E-15	1.51E-19	2.01E-13
87	2.10	0.	0.	0.	7.63E-13	0.	0.	0.	3.01E-18	5.17E-15	1.74E-19	7.69E-13
88	2.00	0.	0.	0.	6.59E-13	0.	0.	0.	2.92E-18	5.00E-15	2.01E-19	6.69E-13
89	1.90	0.	0.	0.	4.06E-12	0.	0.	0.	2.51E-18	4.81E-15	2.39E-19	4.07E-12
90	1.80	0.	0.	0.	4.97E-12	0.	0.	0.	2.00E-18	4.60E-15	2.76E-19	4.98E-12
91	1.70	0.	0.	0.	4.36E-12	0.	0.	0.	1.61E-18	4.34E-15	3.28E-19	4.37E-12
92	1.60	0.	0.	0.	3.64E-12	0.	0.	0.	1.29E-18	3.67E-15	3.94E-19	3.65E-12
93	1.50	0.	0.	0.	3.72E-12	0.	0.	0.	9.75E-19	1.67E-15	4.74E-19	3.35E-12
94	1.40	0.	0.	0.	6.58E-12	0.	0.	0.	7.24E-19	0.	5.88E-19	4.58E-12
95	1.30	0.	0.	0.	2.90E-12	0.	0.	0.	4.82E-19	0.	7.35E-19	2.80E-12
96	1.20	0.	0.	0.	5.09E-12	0.	0.	0.	3.08E-19	0.	9.36E-19	5.04E-12
97	1.10	0.	0.	0.	2.20E-12	0.	0.	0.	6.17E-19	1.85E-19	1.22E-18	2.28E-12
98	1.00	0.	0.	0.	2.70E-12	0.	0.	0.	1.29E-19	9.21E-20	0.	2.72E-12
99	0.90	0.	0.	0.	1.58E-12	0.	0.	0.	4.67E-19	4.59E-20	0.	1.62E-12
100	0.80	0.	0.	0.	6.74E-13	0.	0.	0.	1.78E-19	0.	3.18E-18	6.58E-13
101	0.70	0.	0.	0.	1.99E-13	0.	0.	0.	2.27E-19	0.	4.77E-18	4.26E-13
102	0.60	0.	0.	0.	5.09E-16	0.	0.	0.	5.11E-19	0.	7.61E-18	5.11E-13

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 9000. DENSITY (MG/CC) 1.293E-02 ( 1.0E 01 NORMAL)

PHOTON ENERGY BANDS E.V.	O2 S-R BANDS COM.	M2 0-H NO. 1	NO BETA	NO GAMMA	NO 2	D- PHOTO-DET (10MS)	FRES-FREE P.E.	N P.E.	TOTAL AIR P.E.
1 10.70 0.	0.	6.28E 00	0.	0.	0.	0.84E-03	1.62E-09 0.	0.	6.28E 00
2 10.60 0.	0.	4.71E 00	0.	0.	0.	0.50E-03	1.04E-09 0.	0.	4.71E 00
3 10.50 0.	0.	4.23E 00	0.	0.	0.	0.47E-03	1.71E-09 0.	0.	4.23E 00
4 10.40 0.	0.	3.42E 00	0.	0.	0.	0.96E-03	1.76E-09 0.	0.	3.42E 00
5 10.30 0.	0.	2.46E 00	0.	0.	0.	0.99E-03	1.01E-09 0.	0.	2.47E 00
6 10.20 0.	0.	2.28E 00	0.	0.	0.	0.80E-03	1.07E-09 0.	0.	2.28E 00
7 10.10 0.	0.	1.87E 00	0.	0.	0.	0.82E-03	1.92E-09 0.	0.	1.87E 00
8 10.00 0.	0.	1.27E 00	0.	0.	0.	0.83E-03	1.98E-09 0.	0.	1.27E 00
9 9.90 0.	0.	1.29E 00	0.	0.	0.	0.84E-03	2.04E-09 0.	0.	1.29E 00
10 9.80 0.	0.	9.72E-01	0.	0.	0.	0.86E-03	2.11E-09 0.	0.	9.81E-01
11 9.70 0.	0.	6.57E-01	0.	0.	0.	0.88E-03	2.17E-09 0.	0.	6.64E-01
12 9.60 0.	0.	7.02E-01	0.	0.	0.	0.89E-03	2.24E-09 0.	0.	7.11E-01
13 9.50 0.	5.98E 01	4.57E-01	0.	0.	0.	0.11E-03	2.32E-09 0.	0.	6.03E 01
14 9.40 0.	6.56E 01	3.64E-01	0.	0.	0.	0.14E-03	2.39E-09 0.	0.	6.80E 01
15 9.30 0.	7.14E 01	3.55E-01	0.	0.	0.	0.18E-03	2.47E-09 0.	0.	7.18E 01
16 9.20 0.	7.72E 01	2.07E-01	0.	0.	0.	0.21E-03	2.55E-09 0.	0.	7.74E 01
17 9.10 0.	9.53E 01	2.21E-01	0.	0.	0.	0.24E-03	2.64E-09 0.	0.	9.59E 01
18 9.00 0.	1.16E 02	1.55E-01	0.	0.	0.	0.26E-03	2.73E-09 0.	0.	1.16E 02
19 8.90 0.	1.34E 02	1.20E-01	0.	0.	0.	0.31E-03	2.82E-09 0.	0.	1.34E 02
20 8.80 0.	1.42E 02	1.08E-01	0.	0.	0.	0.34E-03	2.92E-09 0.	0.	1.42E 02
21 8.70 0.	1.55E 02	6.88E-02	0.	0.	0.	0.38E-03	3.02E-09 0.	0.	1.55E 02
22 8.60 0.	1.29E 02	7.03E-02	0.	0.	0.	0.41E-03	3.13E-09 0.	0.	1.29E 02
23 8.50 0.	1.23E 02	4.50E-02	0.	0.	0.	0.44E-03	3.24E-09 0.	0.	1.23E 02
24 8.40 0.	1.18E 02	4.27E-02	0.	0.	0.	0.49E-03	3.36E-09 0.	0.	1.18E 02
25 8.30 0.	1.13E 02	2.77E-02	0.	0.	0.	0.54E-03	3.48E-09 0.	0.	1.13E 02
26 8.20 0.	1.08E 02	2.57E-02	0.	0.	0.	0.59E-03	3.61E-09 0.	0.	1.08E 02
27 8.10 0.	1.03E 02	1.73E-02	0.	0.	0.	0.64E-03	3.75E-09 0.	0.	1.03E 02
28 8.00 0.	0.84E 01	1.87E-02	0.	0.	0.	0.69E-03	3.89E-09 0.	0.	0.84E 01
29 7.90 0.	9.30E 01	1.07E-02	0.	0.	0.	0.74E-03	4.04E-09 0.	0.	9.38E 01
30 7.80 0.	8.75E 01	9.08E-03	0.	0.	0.	0.79E-03	4.20E-09 0.	0.	8.75E 01
31 7.70 0.	8.20E 01	6.97E-03	0.	0.	0.	0.84E-03	4.36E-09 0.	0.	8.20E 01
32 7.60 0.	7.64E 01	5.66E-03	2.43E-04	0.	0.	0.89E-03	4.54E-09 0.	0.	7.64E 01
33 7.50 0.	7.09E 01	4.29E-03	3.40E-03	0.	0.	0.94E-03	4.72E-09 0.	0.	7.09E 01
34 7.40 0.	6.51E 01	3.24E-03	8.04E-03	0.	0.	0.99E-03	4.92E-09 0.	0.	6.51E 01
35 7.30 0.	5.93E 01	2.57E-03	5.10E-02	0.	0.	1.04E-03	5.12E-09 0.	0.	5.93E 01
36 7.20 0.	5.38E 01	1.92E-03	2.15E-01	0.	0.	1.09E-03	5.34E-09 0.	0.	5.38E 01
37 7.10 0.	4.85E 01	1.35E-03	2.30E-01	0.	0.	1.09E-03	5.57E-09 0.	0.	4.85E 01
38 7.00 1.52E-01 0.	1.17E-03	0.	1.44E 00	0.	0.	1.03E-02	5.81E-09 0.	0.	1.68E 00
39 6.90 2.66E-01 0.	0.97E-04	0.	9.91E-01	0.	0.	1.03E-02	6.07E-09 0.	0.	1.27E 00
40 6.80 2.04E-01 0.	7.08E-04	0.	2.04E 00	0.	0.	1.04E-02	6.34E-09 0.	0.	2.29E 00
41 6.70 1.31E-01 0.	5.09E-04	0.	4.57E 00	0.	0.	1.05E-02	6.63E-09 0.	0.	4.71E 00
42 6.60 7.15E-02 0.	3.78E-04	0.	1.69E 00	0.	0.	1.06E-02	6.93E-09 0.	0.	4.77E 00
43 6.50 3.61E-02 0.	2.53E-04	0.	3.89E 00	0.	0.	1.07E-02	7.26E-09 0.	0.	3.43E 00
44 6.40 5.36E-02 0.	1.13E-04	6.49E-02	6.98E 00	0.	0.	1.08E-02	7.61E-09 0.	0.	7.11E 00
45 6.30 1.06E-01 0.	4.67E-05	2.41E-01	2.84E 00	0.	0.	1.08E-02	7.98E-09 0.	0.	2.60E 00
46 6.20 2.81E-01 0.	1.78E-05	6.20E-01	3.36E 00	5.	0.	1.09E-02	8.37E-09 0.	0.	3.94E 00
47 6.10 9.76E-01 0.	5.96E-06	6.96E-01	3.07E 00	0.	0.	1.10E-02	8.79E-09 0.	0.	1.08E 01
48 6.00 2.22E 00 0.	1.22E-06	4.64E-01	1.79E 00	0.	0.	1.11E-02	9.24E-09 0.	0.	4.48E 00
49 5.90 3.12E 00 0.	8.40E-08	6.55E-01	2.33E 00	0.	0.	1.12E-02	9.72E-09 0.	0.	6.03E 00
50 5.80 4.08E 00 0.	1.66E-09	7.79E-01	2.31E 00	0.	0.	1.09E-02	1.02E-08 0.	0.	7.18E 00
51 5.70 4.91E 00 0.	0.	7.27E-01	1.59E 00	0.	0.	1.03E-02	1.08E-08 0.	0.	6.33E 00

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON 02 S-R ENERGY BANDS	TEMPERATURE (DEGREES K)		DENSITY GM/CC 1.233E-02 ( 1.0E 01 NORMAL)		NO		O- FREE-FREE M		O		
	1ST POS.	2ND POS.	BETA	NO	NO	PHOTO-DET	PHOTO-DET	P.E.	P.E.	TOTAL AIR	
52	5.60	4.58E-01	0.0	4.23E-01	3.97E-00	0.0	0.0	9.55E-03	1.14E-08	0.0	8.98E-00
53	5.50	4.33E-01	0.0	5.63E-01	4.85E-00	0.0	0.0	9.60E-03	1.20E-08	0.0	9.76E-00
54	5.40	4.07E-01	0.0	4.17E-01	1.74E-00	0.0	0.0	9.65E-03	1.27E-08	0.0	6.23E-00
55	5.30	3.57E-01	0.0	4.29E-01	3.98E-00	0.0	0.0	9.71E-03	1.34E-08	0.0	7.99E-00
56	5.20	2.10E-01	0.0	4.13E-01	1.49E-00	0.0	0.0	9.77E-03	1.42E-08	0.0	4.01E-00
57	5.10	1.01E-01	0.0	3.67E-01	2.12E-00	0.0	0.0	1.02E-02	9.66E-03	1.51E-08	4.33E-00
58	5.00	1.28E-01	0.0	2.86E-01	1.82E-00	0.0	0.0	1.02E-02	9.94E-03	1.60E-08	3.35E-00
59	4.90	1.03E-01	0.0	2.82E-01	1.27E-00	0.0	0.0	1.02E-02	1.00E-03	1.70E-08	2.37E-00
60	4.80	1.03E-01	0.0	2.92E-01	1.62E-00	0.0	0.0	1.02E-02	1.01E-02	1.81E-08	2.63E-00
61	4.70	1.03E-01	0.0	2.92E-01	1.60E-01	0.0	0.0	1.02E-02	1.02E-02	1.92E-08	2.06E-00
62	4.60	1.10E-01	0.0	2.36E-01	8.17E-01	0.0	0.0	1.02E-02	1.03E-02	2.05E-08	2.17E-00
63	4.50	9.74E-01	0.0	1.80E-01	4.29E-01	0.0	0.0	1.02E-02	1.03E-02	2.19E-08	1.40E-00
64	4.40	8.66E-01	0.0	1.64E-01	3.95E-01	0.0	0.0	1.02E-02	1.04E-02	2.35E-08	1.44E-00
65	4.30	6.89E-01	0.0	1.32E-01	1.88E-01	0.0	0.0	1.02E-02	1.05E-02	2.51E-08	1.02E-00
66	4.20	5.64E-01	0.0	1.22E-01	1.60E-01	0.0	0.0	1.02E-02	1.06E-02	2.70E-08	8.72E-01
67	4.10	4.69E-01	0.0	1.03E-01	3.89E-02	0.0	0.0	1.02E-02	1.06E-02	2.90E-08	6.27E-01
68	4.00	3.67E-01	0.0	9.74E-02	2.60E-02	0.0	0.0	1.02E-02	1.07E-02	3.13E-08	5.01E-01
69	3.90	2.57E-01	0.0	1.97E-04	4.29E-09	6.33E-02	1.45E-02	1.02E-02	1.06E-02	3.37E-08	3.56E-01
70	3.80	2.60E-01	0.0	1.64E-04	9.47E-08	6.49E-02	0.0	1.02E-02	1.06E-02	3.65E-08	3.94E-01
71	3.70	1.98E-01	0.0	3.91E-04	1.44E-08	3.97E-02	0.0	1.02E-02	1.07E-02	3.93E-08	2.40E-01
72	3.60	1.41E-01	0.0	9.19E-05	5.89E-08	4.43E-02	0.0	1.02E-02	9.77E-03	4.29E-08	2.05E-01
73	3.50	1.12E-01	0.0	2.33E-04	4.71E-07	2.48E-02	0.0	1.02E-02	8.94E-03	4.67E-08	1.58E-01
74	3.40	8.32E-02	0.0	5.79E-05	7.01E-09	2.74E-02	0.0	1.02E-02	5.16E-03	5.09E-08	1.26E-01
75	3.30	5.94E-02	0.0	8.95E-05	9.80E-08	1.62E-02	0.0	1.02E-02	5.17E-03	5.57E-08	9.11E-02
76	3.20	4.23E-02	0.0	2.93E-05	6.09E-07	1.57E-02	0.0	1.02E-02	5.18E-03	6.11E-08	7.35E-02
77	3.10	3.38E-02	0.0	2.72E-05	1.16E-08	1.12E-02	0.0	1.02E-02	5.19E-03	6.72E-08	6.18E-02
78	3.00	2.48E-02	0.0	1.04E-05	1.05E-07	9.13E-03	0.0	1.02E-02	5.20E-03	7.42E-08	4.94E-02
79	2.90	1.88E-02	0.0	6.49E-06	1.21E-07	4.95E-03	0.0	1.02E-02	5.21E-03	8.21E-08	3.72E-02
80	2.80	1.51E-02	0.0	2.47E-06	1.14E-08	2.28E-03	0.0	1.02E-02	5.22E-03	9.13E-08	3.20E-02
81	2.70	7.15E-03	0.0	1.40E-06	5.15E-08	2.93E-04	0.0	1.02E-02	5.22E-03	1.02E-07	2.33E-02
82	2.60	2.24E-03	0.0	5.59E-07	6.41E-09	2.37E-04	0.0	1.02E-02	5.22E-03	1.14E-07	1.79E-02
83	2.50	1.32E-04	0.0	9.87E-08	1.91E-09	4.37E-05	0.0	1.02E-02	5.22E-03	1.28E-07	1.54E-02
84	2.40	0.0	0.0	1.07E-05	0.0	3.74E-06	0.0	1.02E-02	5.22E-03	1.49E-07	1.34E-02
85	2.30	0.0	0.0	1.86E-04	0.0	0.0	0.0	1.02E-02	5.18E-03	1.65E-07	1.15E-02
86	2.20	0.0	0.0	4.19E-04	0.0	0.0	0.0	1.02E-02	5.16E-03	1.89E-07	1.05E-02
87	2.10	0.0	0.0	4.30E-04	0.0	0.0	0.0	1.02E-02	5.13E-03	2.17E-07	1.07E-02
88	2.00	0.0	0.0	4.30E-04	0.0	0.0	0.0	1.02E-02	4.97E-03	2.51E-07	1.06E-02
89	1.90	0.0	0.0	1.89E-03	0.0	0.0	0.0	1.02E-02	4.78E-03	2.93E-07	1.09E-02
90	1.80	0.0	0.0	1.89E-03	0.0	0.0	0.0	1.02E-02	4.57E-03	3.45E-07	1.08E-02
91	1.70	0.0	0.0	1.94E-03	0.0	0.0	0.0	1.02E-02	4.31E-03	4.10E-07	1.05E-02
92	1.60	0.0	0.0	1.44E-03	0.0	0.0	0.0	1.02E-02	3.64E-03	4.92E-07	1.05E-02
93	1.50	0.0	0.0	1.69E-03	0.0	0.0	0.0	1.02E-02	3.66E-03	5.97E-07	1.05E-02
94	1.40	0.0	0.0	2.37E-03	0.0	0.0	0.0	1.02E-02	3.66E-03	7.36E-07	1.05E-02
95	1.30	0.0	0.0	1.33E-03	0.0	0.0	0.0	1.02E-02	3.66E-03	9.21E-07	1.05E-02
96	1.20	0.0	0.0	1.85E-03	0.0	0.0	0.0	1.02E-02	3.66E-03	1.17E-06	1.05E-02
97	1.10	0.0	0.0	1.03E-03	0.0	0.0	0.0	1.02E-02	3.66E-03	1.53E-06	1.05E-02
98	1.00	0.0	0.0	1.11E-03	0.0	0.0	0.0	1.02E-02	3.66E-03	2.00E-06	1.05E-02
99	0.90	0.0	0.0	7.49E-04	0.0	0.0	0.0	1.02E-02	3.66E-03	2.80E-06	1.05E-02
100	0.80	0.0	0.0	3.27E-04	0.0	0.0	0.0	1.02E-02	3.66E-03	4.00E-06	1.05E-02
101	0.70	0.0	0.0	9.67E-05	0.0	0.0	0.0	1.02E-02	3.66E-03	5.99E-06	1.05E-02
102	0.60	0.0	0.0	7.45E-07	0.0	0.0	0.0	1.02E-02	3.66E-03	9.54E-06	1.05E-02



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM<sup>-1</sup>)  
 TEMPERATURE (DEGREES K) 5000. DENSITY (GM/CC) 1.2932-03 (10.06-01 NORMAL)

PHOTON ENERGY E.V.	02 S-R BANDS	02 S-R CONT.	M2 9-M NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DET (IONS)	M FREE-FREE	N P.E.	O P.E.	TOTAL AIR
1 10.70 0.			6.42E-01	0.	0.	0.	5.23E-04	1.02E-10	0.	0.	6.42E-01
2 10.60 0.			4.64E-01	0.	0.	0.	5.24E-04	1.05E-10	0.	0.	4.64E-01
3 10.50 0.			4.34E-01	0.	0.	0.	5.24E-04	1.08E-10	0.	0.	4.34E-01
4 10.40 0.			3.52E-01	0.	0.	0.	5.25E-04	1.11E-10	0.	0.	3.52E-01
5 10.30 0.			2.58E-01	0.	0.	0.	5.26E-04	1.14E-10	0.	0.	2.58E-01
6 10.20 0.			2.31E-01	0.	0.	0.	5.26E-04	1.18E-10	0.	0.	2.31E-01
7 10.10 0.			1.93E-01	0.	0.	0.	5.27E-04	1.21E-10	0.	0.	1.93E-01
8 10.00 0.			1.30E-01	0.	0.	0.	5.28E-04	1.25E-10	0.	0.	1.30E-01
9 9.90 0.			1.28E-01	0.	0.	0.	5.29E-04	1.29E-10	0.	0.	1.28E-01
10 9.80 0.			9.90E-02	0.	0.	0.	5.30E-04	1.33E-10	0.	0.	9.90E-02
11 9.70 0.			6.79E-02	0.	0.	0.	5.31E-04	1.37E-10	0.	0.	6.79E-02
12 9.60 0.			7.21E-02	0.	0.	0.	5.32E-04	1.42E-10	0.	0.	7.21E-02
13 9.50 0.			2.32E 00	4.70E-02	0.	0.	5.33E-04	1.46E-10	0.	0.	2.37E 00
14 9.40 0.			2.55E 00	3.74E-02	0.	0.	5.35E-04	1.51E-10	0.	0.	2.59E 00
15 9.30 0.			2.78E 00	3.64E-02	0.	0.	5.37E-04	1.56E-10	0.	0.	2.81E 00
16 9.20 0.			3.00E 00	2.13E-02	0.	0.	5.39E-04	1.61E-10	0.	0.	3.02E 00
17 9.10 0.			3.70E 00	2.27E-02	0.	0.	5.40E-04	1.66E-10	0.	0.	3.73E 00
18 9.00 0.			4.50E 00	1.60E-02	0.	0.	5.42E-04	1.72E-10	0.	0.	4.51E 00
19 8.90 0.			5.29E 00	1.23E-02	0.	0.	5.44E-04	1.78E-10	0.	0.	5.30E 00
20 8.80 0.			5.50E 00	1.11E-02	0.	0.	5.46E-04	1.84E-10	0.	0.	5.52E 00
21 8.70 0.			5.24E 00	7.17E-03	0.	0.	5.48E-04	1.91E-10	0.	0.	5.27E 00
22 8.60 0.			5.01E 00	7.23E-03	0.	0.	5.50E-04	1.97E-10	0.	0.	5.02E 00
23 8.50 0.			4.79E 00	4.70E-03	0.	0.	5.52E-04	2.04E-10	0.	0.	4.80E 00
24 8.40 0.			4.59E 00	4.39E-03	0.	0.	5.53E-04	2.12E-10	0.	0.	4.68E 00
25 8.30 0.			4.43E 00	2.84E-03	0.	0.	5.56E-04	2.20E-10	0.	0.	4.48E 00
26 8.20 0.			4.21E 00	2.64E-03	0.	0.	5.61E-04	2.28E-10	0.	0.	4.31E 00
27 8.10 0.			4.02E 00	1.78E-03	0.	0.	5.64E-04	2.36E-10	0.	0.	4.02E 00
28 8.00 0.			3.85E 00	1.61E-03	0.	0.	5.67E-04	2.45E-10	0.	0.	3.85E 00
29 7.90 0.			3.61E 00	1.10E-03	0.	0.	5.78E-04	2.55E-10	0.	0.	3.62E 00
30 7.80 0.			3.40E 00	1.01E-03	0.	0.	5.72E-04	2.65E-10	0.	0.	3.40E 00
31 7.70 0.			3.19E 00	7.16E-04	0.	0.	5.75E-04	2.75E-10	0.	0.	3.19E 00
32 7.60 0.			2.97E 00	5.81E-04	0.	1.54E-05	5.78E-04	2.84E-10	0.	0.	2.97E 00
33 7.50 0.			2.75E 00	4.49E-04	0.	2.15E-04	5.81E-04	2.98E-10	0.	0.	2.76E 00
34 7.40 0.			2.53E 00	3.35E-04	0.	3.08E-04	5.84E-04	3.10E-10	0.	0.	2.53E 00
35 7.30 0.			2.30E 00	2.64E-04	0.	3.22E-03	5.88E-04	3.23E-10	0.	0.	2.31E 00
36 7.20 0.			2.09E 00	1.97E-04	0.	1.36E-02	5.91E-04	3.37E-10	0.	0.	2.11E 00
37 7.10 0.			1.88E 00	1.59E-04	0.	1.46E-02	5.96E-04	3.51E-10	0.	0.	1.98E 00
38 7.00 0.			1.67E-03	1.21E-04	0.	9.11E-02	6.01E-04	3.67E-10	0.	0.	1.67E-03
39 6.90 0.			1.46E-03	9.22E-05	0.	6.26E-02	6.05E-04	3.83E-10	0.	0.	1.46E-03
40 6.80 0.			1.25E-03	7.27E-05	0.	1.29E-01	6.10E-04	4.00E-10	0.	0.	1.25E-03
41 6.70 0.			1.04E-03	5.28E-05	0.	2.69E-01	6.15E-04	4.18E-10	0.	0.	1.04E-03
42 6.60 0.			8.09E-04	3.09E-05	0.	1.07E-01	6.20E-04	4.38E-10	0.	0.	8.09E-04
43 6.50 0.			6.50E-04	2.40E-05	0.	2.14E-01	6.25E-04	4.58E-10	0.	0.	6.50E-04
44 6.40 0.			5.16E-04	1.16E-05	0.	4.10E-03	6.30E-04	4.80E-10	0.	0.	5.16E-04
45 6.30 0.			4.06E-04	1.52E-05	0.	1.52E-02	6.34E-04	5.03E-10	0.	0.	4.06E-04
46 6.20 0.			3.03E-04	1.78E-05	0.	2.13E-01	6.39E-04	5.28E-10	0.	0.	3.03E-04
47 6.10 0.			2.13E-04	1.33E-05	0.	4.40E-02	6.44E-04	5.55E-10	0.	0.	2.13E-04
48 6.00 0.			1.29E-04	8.6E-06	0.	2.93E-02	6.49E-04	5.83E-10	0.	0.	1.29E-04
49 5.90 0.			6.63E-05	5.95E-06	0.	1.47E-01	6.49E-04	6.13E-10	0.	0.	6.63E-05
50 5.80 0.			2.01E-05	4.93E-06	0.	1.46E-01	6.39E-04	6.46E-10	0.	0.	2.01E-05
51 5.70 0.			1.53E-05	4.60E-06	0.	1.00E-01	6.01E-04	6.80E-10	0.	0.	1.53E-05

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2+ 1ST NEG.	M2+ 2ND NEG.	BETA	NO GAMMA	NO VIS-ROT	NO 2	WT PHOTO-DET (IONS)	FREE-FREE N	O P.F.	TOTAL AIR	
													TEMPERATURE (DEGREES K)
52	3.60	1.78E-01	0.	0.	2.67E-02	2.51E-01	0.	0.	5.56E-04	7.18E-10	0.	4.56E-01	
53	5.50	1.69E-01	0.	0.	3.58E-02	3.07E-01	0.	0.	5.61E-04	7.58E-10	0.	5.12E-01	
54	5.40	1.59E-01	0.	0.	2.64E-02	1.10E-01	0.	0.	5.64E-04	6.01E-10	0.	2.95E-01	
55	5.30	1.39E-01	0.	0.	2.71E-02	2.52E-01	0.	0.	5.68E-04	8.47E-10	0.	4.18E-01	
56	5.20	8.15E-02	0.	0.	2.61E-02	9.43E-02	0.	0.	5.71E-04	8.97E-10	0.	2.03E-01	
57	5.10	7.11E-02	0.	0.	2.35E-02	1.34E-01	0.	0.	1.27E-04	5.76E-04	9.51E-10	0.	2.28E-01
58	5.00	4.05E-02	0.	0.	1.84E-02	1.15E-01	0.	0.	1.27E-04	5.31E-04	1.01E-09	0.	1.82E-01
59	4.90	4.01E-02	0.	0.	1.80E-02	8.16E-02	0.	0.	1.27E-04	5.86E-04	1.07E-09	0.	1.41E-01
60	4.80	4.07E-02	0.	0.	1.89E-02	8.00E-02	0.	0.	1.27E-04	5.91E-04	1.14E-09	0.	1.48E-01
61	4.70	3.99E-02	0.	0.	1.59E-02	4.61E-02	0.	0.	1.27E-04	5.96E-04	1.21E-09	0.	1.05E-01
62	4.60	4.27E-02	0.	0.	1.49E-02	5.14E-02	0.	0.	1.27E-04	6.01E-04	1.30E-09	0.	1.10E-01
63	4.50	3.79E-02	0.	0.	1.14E-02	2.71E-02	0.	0.	1.27E-04	6.05E-04	1.38E-09	0.	7.21E-02
64	4.40	3.37E-02	0.	0.	1.04E-02	2.48E-02	0.	0.	1.27E-04	6.10E-04	1.48E-09	0.	6.96E-02
65	4.30	2.68E-02	0.	0.	4.13E-06	0.	0.	0.	1.27E-04	6.15E-04	1.59E-09	0.	4.68E-02
66	4.20	2.19E-02	0.	0.	2.98E-05	0.	0.	0.	1.27E-04	6.20E-04	1.70E-09	0.	4.08E-02
67	4.10	1.81E-02	0.	0.	4.22E-06	0.	0.	0.	1.27E-04	6.22E-04	1.83E-09	0.	2.77E-02
68	4.00	1.43E-02	0.	0.	3.92E-05	0.	0.	0.	1.27E-04	6.25E-04	1.97E-09	0.	2.22E-02
69	3.90	9.99E-03	0.	0.	2.03E-05	1.49E-02	0.	0.	1.27E-04	6.22E-04	2.13E-09	0.	1.57E-02
70	3.80	1.01E-02	0.	0.	1.46E-05	1.28E-02	0.	0.	1.27E-04	6.20E-04	2.30E-09	0.	1.58E-02
71	3.70	6.98E-03	0.	0.	4.02E-05	2.75E-02	0.	0.	1.27E-04	6.18E-04	2.49E-09	0.	1.03E-02
72	3.60	5.49E-03	0.	0.	9.48E-06	2.04E-02	0.	0.	1.27E-04	6.17E-04	2.71E-09	0.	6.99E-03
73	3.50	4.37E-03	0.	0.	2.38E-05	1.63E-02	0.	0.	1.27E-04	6.23E-04	2.95E-09	0.	6.01E-03
74	3.40	3.23E-03	0.	0.	3.95E-06	2.44E-02	0.	0.	1.27E-04	6.02E-04	3.21E-09	0.	5.40E-03
75	3.30	2.31E-03	0.	0.	9.09E-06	3.42E-02	0.	0.	1.27E-04	6.02E-04	3.52E-09	0.	3.77E-03
76	3.20	1.59E-03	0.	0.	3.01E-06	2.11E-02	0.	0.	1.27E-04	6.03E-04	3.86E-09	0.	3.08E-03
77	3.10	1.32E-03	0.	0.	2.86E-06	4.03E-02	0.	0.	1.27E-04	6.03E-04	4.24E-09	0.	2.88E-03
78	3.00	9.62E-04	0.	0.	1.02E-06	3.84E-02	0.	0.	1.27E-04	6.04E-04	4.68E-09	0.	2.98E-03
79	2.90	6.54E-04	0.	0.	6.88E-07	4.19E-02	0.	0.	1.27E-04	6.05E-04	5.18E-09	0.	1.98E-03
80	2.80	5.87E-04	0.	0.	2.54E-07	3.94E-02	0.	0.	1.27E-04	6.05E-04	5.76E-09	0.	1.48E-03
81	2.70	2.78E-04	0.	0.	1.21E-07	1.79E-02	0.	0.	1.27E-04	6.05E-04	6.43E-09	0.	1.16E-03
82	2.60	6.72E-05	0.	0.	3.71E-08	2.23E-02	0.	0.	1.27E-04	6.05E-04	7.20E-09	0.	7.58E-04
83	2.50	5.15E-06	0.	0.	1.01E-08	6.61E-03	0.	0.	1.27E-04	6.05E-04	8.10E-09	0.	5.34E-04
84	2.40	0.	0.	0.	1.48E-09	2.38E-07	0.	0.	1.27E-04	6.05E-04	9.16E-09	0.	4.40E-04
85	2.30	0.	0.	0.	1.02E-09	0.	0.	0.	1.27E-04	6.05E-04	1.04E-08	0.	4.33E-04
86	2.20	0.	0.	0.	1.56E-09	0.	0.	0.	1.27E-04	6.05E-04	1.19E-08	0.	4.48E-04
87	2.10	0.	0.	0.	4.30E-09	0.	0.	0.	1.27E-04	6.05E-04	1.37E-08	0.	4.44E-04
88	2.00	0.	0.	0.	4.51E-09	0.	0.	0.	1.27E-04	6.00E-04	1.59E-08	0.	4.70E-04
89	1.90	0.	0.	0.	1.29E-04	0.	0.	0.	1.27E-04	2.91E-04	1.59E-08	0.	4.62E-04
90	1.80	0.	0.	0.	1.29E-04	0.	0.	0.	1.27E-04	2.67E-04	2.18E-08	0.	5.88E-04
91	1.70	0.	0.	0.	2.03E-04	0.	0.	0.	1.27E-04	2.52E-04	2.59E-08	0.	5.82E-04
92	1.60	0.	0.	0.	1.50E-04	0.	0.	0.	1.27E-04	2.13E-04	3.10E-08	0.	4.89E-04
93	1.50	0.	0.	0.	2.43E-04	0.	0.	0.	1.27E-04	2.13E-04	3.77E-08	0.	3.98E-04
94	1.40	0.	0.	0.	1.37E-04	0.	0.	0.	1.27E-04	0.	5.64E-08	0.	3.70E-04
95	1.30	0.	0.	0.	1.98E-04	0.	0.	0.	1.27E-04	0.	7.40E-08	0.	2.63E-04
96	1.20	0.	0.	0.	1.05E-04	0.	0.	0.	1.27E-04	0.	9.63E-08	0.	2.39E-04
97	1.10	0.	0.	0.	1.48E-04	0.	0.	0.	2.03E-06	1.27E-04	1.28E-07	0.	2.47E-04
98	1.00	0.	0.	0.	1.60E-05	1.27E-04	0.	0.	6.83E-06	1.27E-04	1.76E-07	0.	2.20E-04
99	0.90	0.	0.	0.	1.27E-04	1.27E-04	0.	0.	1.60E-05	1.27E-04	2.52E-07	0.	2.67E-04
100	0.80	0.	0.	0.	9.94E-06	0.	0.	0.	8.64E-05	1.27E-04	3.78E-07	0.	2.23E-04
101	0.70	0.	0.	0.	7.63E-06	0.	0.	0.	2.69E-04	1.27E-04	6.04E-07	0.	2.16E-04
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

ABSORPTION COEFFICIENTS OF HEATED AIR ((INVERSE CM.))  
 TEMPERATURE (DEGREES K) 5800. DENSITY (GM/CC) 1.293E-04 (10.0E-02 NORMAL)

PHOTON ENERGY BANDS E.V.	02 S-R BANDS CONT.	N2 0-M NO. 1	MO BETA	AD GAMMA	MO 2	O-FREE-FREE		TOTAL AIR
						PHOTO-DET (IONS)	M P.E.	
1 10.70 0.	6.	6.59E-02	0.	0.	0.	1.49E-05	4.33E-12 0.	6.59E-02
2 10.60 0.	0.	4.94E-02	0.	0.	0.	1.49E-05	4.49E-12 0.	4.94E-02
3 10.50 0.	0.	4.43E-02	0.	0.	0.	1.49E-05	4.50E-12 0.	4.43E-02
4 10.40 0.	0.	3.59E-02	0.	0.	0.	1.49E-05	4.72E-12 0.	3.59E-02
5 10.30 0.	0.	2.50E-02	0.	0.	0.	1.50E-05	4.86E-12 0.	2.50E-02
6 10.20 0.	0.	2.36E-02	0.	0.	0.	1.50E-05	5.09E-12 0.	2.36E-02
7 10.10 0.	0.	1.96E-02	0.	0.	0.	1.50E-05	5.15E-12 0.	1.97E-02
8 10.00 0.	0.	1.33E-02	0.	0.	0.	1.50E-05	5.31E-12 0.	1.33E-02
9 9.90 0.	0.	1.30E-02	0.	0.	0.	1.50E-05	5.47E-12 0.	1.31E-02
10 9.80 0.	0.	1.02E-02	0.	0.	0.	1.51E-05	5.65E-12 0.	1.02E-02
11 9.70 0.	0.	6.80E-03	0.	0.	0.	1.51E-05	5.87E-12 0.	6.80E-03
12 9.60 0.	0.	7.39E-03	0.	0.	0.	1.52E-05	6.01E-12 0.	7.37E-03
13 9.50 0.	0.	4.13E-02	4.13E-02	0.	0.	1.52E-05	6.20E-12 0.	4.61E-02
14 9.40 0.	0.	4.53E-02	3.84E-03	0.	0.	1.52E-05	6.40E-12 0.	4.91E-02
15 9.30 0.	0.	4.93E-02	3.72E-03	0.	0.	1.53E-05	6.61E-12 0.	5.30E-02
16 9.20 0.	0.	5.33E-02	2.17E-03	0.	0.	1.53E-05	6.83E-12 0.	5.55E-02
17 9.10 0.	0.	6.58E-02	2.31E-03	0.	0.	1.54E-05	7.06E-12 0.	6.01E-02
18 9.00 0.	0.	7.99E-02	1.63E-03	0.	0.	1.54E-05	7.30E-12 0.	6.45E-02
19 8.90 0.	0.	9.40E-02	1.26E-03	0.	0.	1.55E-05	7.55E-12 0.	6.93E-02
20 8.80 0.	0.	9.78E-02	1.13E-03	0.	0.	1.55E-05	7.81E-12 0.	7.42E-02
21 8.70 0.	0.	9.34E-02	7.31E-04	0.	0.	1.56E-05	8.09E-12 0.	7.92E-02
22 8.60 0.	0.	8.90E-02	7.37E-04	0.	0.	1.56E-05	8.37E-12 0.	8.40E-02
23 8.50 0.	0.	8.51E-02	4.80E-04	0.	0.	1.57E-05	8.67E-12 0.	8.86E-02
24 8.40 0.	0.	8.16E-02	4.48E-04	0.	0.	1.58E-05	8.99E-12 0.	9.31E-02
25 8.30 0.	0.	7.82E-02	2.98E-04	0.	0.	1.59E-05	9.32E-12 0.	9.76E-02
26 8.20 0.	0.	7.48E-02	2.69E-04	0.	0.	1.60E-05	9.67E-12 0.	1.02E-02
27 8.10 0.	0.	7.14E-02	1.82E-04	0.	0.	1.60E-05	1.00E-11 0.	1.06E-02
28 8.00 0.	0.	6.80E-02	1.64E-04	0.	0.	1.61E-05	1.04E-11 0.	1.10E-02
29 7.90 0.	0.	6.42E-02	1.13E-04	0.	0.	1.62E-05	1.08E-11 0.	1.14E-02
30 7.80 0.	0.	6.04E-02	1.04E-04	0.	0.	1.63E-05	1.12E-11 0.	1.18E-02
31 7.70 0.	0.	5.66E-02	7.36E-05	0.	0.	1.64E-05	1.17E-11 0.	1.22E-02
32 7.60 0.	0.	5.28E-02	5.93E-05	0.	0.	1.64E-05	1.21E-11 0.	1.26E-02
33 7.50 0.	0.	4.89E-02	4.46E-05	0.	0.	1.65E-05	1.26E-11 0.	1.30E-02
34 7.40 0.	0.	4.50E-02	3.42E-05	0.	0.	1.66E-05	1.32E-11 0.	1.34E-02
35 7.30 0.	0.	4.09E-02	2.69E-05	0.	0.	1.67E-05	1.37E-11 0.	1.38E-02
36 7.20 0.	0.	3.72E-02	2.01E-05	0.	0.	1.68E-05	1.43E-11 0.	1.42E-02
37 7.10 0.	0.	3.38E-02	1.62E-05	0.	0.	1.69E-05	1.49E-11 0.	1.46E-02
38 7.00 0.	0.	3.07E-02	1.23E-05	0.	0.	1.71E-05	1.56E-11 0.	1.50E-02
39 6.90 0.	0.	2.79E-02	9.40E-06	0.	0.	1.72E-05	1.62E-11 0.	1.54E-02
40 6.80 0.	0.	2.53E-02	7.43E-06	0.	0.	1.74E-05	1.70E-11 0.	1.58E-02
41 6.70 0.	0.	2.29E-02	5.34E-06	0.	0.	1.75E-05	1.77E-11 0.	1.62E-02
42 6.60 0.	0.	2.07E-02	4.19E-06	0.	0.	1.76E-05	1.86E-11 0.	1.66E-02
43 6.50 0.	0.	1.87E-02	3.04E-06	0.	0.	1.78E-05	1.96E-11 0.	1.70E-02
44 6.40 0.	0.	1.69E-02	2.44E-06	0.	0.	1.79E-05	2.04E-11 0.	1.74E-02
45 6.30 0.	0.	1.53E-02	1.87E-06	0.	0.	1.80E-05	2.14E-11 0.	1.78E-02
46 6.20 0.	0.	1.39E-02	1.36E-06	0.	0.	1.82E-05	2.24E-11 0.	1.82E-02
47 6.10 0.	0.	1.25E-02	8.25E-07	0.	0.	1.83E-05	2.35E-11 0.	1.86E-02
48 6.00 0.	0.	1.12E-02	4.80E-07	0.	0.	1.85E-05	2.47E-11 0.	1.90E-02
49 5.90 0.	0.	1.00E-02	3.26E-07	0.	0.	1.85E-05	2.60E-11 0.	1.94E-02
50 5.80 0.	0.	8.80E-03	2.09E-07	0.	0.	1.82E-05	2.74E-11 0.	1.98E-02
51 5.70 0.	0.	7.74E-03	1.39E-07	0.	0.	1.71E-05	2.89E-11 0.	2.02E-02

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	M2 2ND NEG.	NO BETA	NO GAMMA	NO VIB-ROT	NO 2	D- PHOTO-DET (TONS)	FREE-FREE N	M P.E.	O P.E.	TOTAL AIR
52	2.60	3.19E-03	0.	0.	1.12E-03	1.07E-02	0.	0.	1.29E-05	3.04E-11	0.	0.	1.50E-02
53	5.50	3.19E-03	0.	0.	1.51E-03	1.30E-02	0.	0.	1.60E-05	3.21E-11	0.	0.	1.76E-02
54	5.60	2.90E-03	0.	0.	1.12E-03	4.65E-03	0.	0.	1.60E-05	3.40E-11	0.	0.	6.60E-03
55	5.30	2.90E-03	0.	0.	1.12E-03	3.07E-02	0.	0.	1.62E-05	3.59E-11	0.	0.	1.44E-02
56	8.20	1.44E-03	0.	0.	1.12E-03	3.00E-03	0.	0.	1.63E-05	3.80E-11	0.	0.	6.57E-03
57	5.10	1.24E-03	0.	0.	9.86E-04	5.62E-03	0.	0.	1.64E-05	4.03E-11	0.	0.	7.94E-03
58	5.00	6.58E-04	0.	0.	7.68E-04	4.84E-03	0.	0.	1.65E-05	4.28E-11	0.	0.	6.48E-03
59	4.90	7.08E-04	0.	0.	7.64E-04	3.46E-03	0.	0.	1.65E-05	4.55E-11	0.	0.	4.96E-03
60	4.80	7.19E-04	0.	0.	7.64E-04	3.40E-03	0.	0.	1.65E-05	4.84E-11	0.	0.	4.92E-03
61	4.70	7.04E-04	0.	0.	6.75E-04	2.05E-03	0.	0.	1.65E-05	5.15E-11	0.	0.	3.44E-03
62	4.60	7.35E-04	0.	0.	6.38E-04	2.19E-03	0.	0.	1.65E-05	5.50E-11	0.	0.	3.60E-03
63	4.50	6.70E-04	0.	5.92E-08	4.84E-04	1.19E-03	0.	0.	1.65E-05	5.87E-11	0.	0.	2.32E-03
64	4.40	5.96E-04	0.	3.32E-07	4.40E-04	1.09E-03	0.	0.	1.65E-05	6.28E-11	0.	0.	2.11E-03
65	4.30	4.74E-04	0.	4.23E-07	3.95E-04	4.29E-04	0.	0.	1.65E-05	6.73E-11	0.	0.	1.28E-03
66	4.20	3.98E-04	0.	3.04E-05	3.41E-04	4.29E-04	0.	0.	1.65E-05	7.23E-11	0.	0.	1.18E-03
67	4.10	3.19E-04	0.	4.31E-07	2.75E-04	1.03E-04	0.	0.	1.65E-05	7.77E-11	0.	0.	7.17E-04
68	4.05	2.32E-04	0.	4.06E-06	2.35E-04	0.92E-05	0.	0.	1.65E-05	8.37E-11	0.	0.	5.79E-04
69	3.90	1.77E-04	0.	2.07E-06	1.70E-04	3.89E-05	0.	0.	1.65E-05	9.03E-11	0.	0.	4.06E-04
70	3.80	1.79E-04	0.	1.72E-06	1.74E-04	0.	0.	0.	1.65E-05	9.76E-11	0.	0.	3.73E-04
71	3.70	1.23E-04	0.	4.15E-06	2.37E-04	1.07E-04	0.	0.	1.65E-05	1.06E-10	0.	0.	2.52E-04
72	3.60	9.70E-05	0.	9.59E-07	9.72E-04	1.19E-04	0.	0.	1.65E-05	1.15E-10	0.	0.	2.34E-04
73	3.50	7.22E-05	0.	2.44E-06	7.75E-04	4.75E-05	0.	0.	1.65E-05	1.25E-10	0.	0.	1.62E-04
74	3.40	5.27E-05	0.	6.07E-07	1.15E-04	7.35E-05	0.	0.	1.65E-05	1.36E-10	0.	0.	1.41E-04
75	3.30	4.07E-05	0.	9.27E-07	1.63E-04	4.38E-05	0.	0.	1.65E-05	1.48E-10	0.	0.	9.46E-05
76	3.20	2.91E-05	0.	2.89E-07	1.91E-04	3.13E-05	0.	0.	1.65E-05	1.64E-10	0.	0.	8.13E-05
77	3.10	2.33E-05	0.	2.89E-07	1.91E-04	3.13E-05	0.	0.	1.65E-05	1.80E-10	0.	0.	6.44E-05
78	3.00	1.71E-05	0.	1.09E-07	1.73E-04	2.46E-05	0.	0.	1.65E-05	1.99E-10	0.	0.	5.12E-05
79	2.90	1.16E-05	0.	6.74E-08	1.99E-04	1.33E-05	0.	0.	1.65E-05	2.20E-10	0.	0.	3.43E-05
80	2.80	1.06E-05	0.	2.56E-08	1.75E-04	6.11E-06	0.	0.	1.65E-05	2.44E-10	0.	0.	2.59E-05
81	2.70	4.88E-06	0.	1.23E-08	1.50E-04	2.13E-06	0.	0.	1.65E-05	2.73E-10	0.	0.	1.64E-05
82	2.60	1.54E-06	0.	5.82E-09	1.06E-04	6.26E-07	0.	0.	1.65E-05	3.05E-10	0.	0.	1.16E-05
83	2.50	9.10E-07	0.	1.03E-09	3.16E-05	1.35E-07	0.	0.	1.65E-05	3.44E-10	0.	0.	9.52E-06
84	2.40	0.	0.	6.67E-10	1.00E-09	0.	0.	0.	1.65E-05	3.89E-10	0.	0.	6.61E-06
85	2.30	0.	0.	1.11E-06	0.	0.	0.	0.	1.65E-05	4.42E-10	0.	0.	1.04E-05
86	2.20	0.	0.	1.59E-06	0.	0.	0.	0.	1.65E-05	5.05E-10	0.	0.	1.09E-05
87	2.10	0.	0.	4.50E-06	0.	0.	0.	0.	1.65E-05	5.81E-10	0.	0.	1.36E-05
88	2.00	0.	0.	4.80E-06	0.	0.	0.	0.	1.65E-05	6.73E-10	0.	0.	1.36E-05
89	1.90	0.	0.	1.99E-05	0.	0.	0.	0.	1.65E-05	7.89E-10	0.	0.	2.96E-05
90	1.80	0.	0.	1.86E-05	0.	0.	0.	0.	1.65E-05	9.24E-10	0.	0.	2.91E-05
91	1.70	0.	0.	2.07E-05	0.	0.	0.	0.	1.65E-05	1.10E-09	0.	0.	2.96E-05
92	1.60	0.	0.	1.53E-05	0.	0.	0.	0.	1.65E-05	1.32E-09	0.	0.	2.20E-05
93	1.50	0.	0.	1.77E-05	0.	0.	0.	0.	1.65E-05	1.60E-09	0.	0.	2.12E-05
94	1.40	0.	0.	2.68E-05	0.	0.	0.	0.	1.65E-05	1.97E-09	0.	0.	2.55E-05
95	1.30	0.	0.	1.39E-05	0.	0.	0.	0.	1.65E-05	2.46E-09	0.	0.	1.46E-05
96	1.20	0.	0.	1.94E-05	0.	0.	0.	0.	1.65E-05	3.14E-09	0.	0.	2.01E-05
97	1.10	0.	0.	1.07E-05	0.	0.	0.	0.	1.65E-05	4.06E-09	0.	0.	1.55E-05
98	1.00	0.	0.	1.14E-05	0.	0.	0.	0.	1.65E-05	5.45E-09	0.	0.	1.26E-05
99	0.90	0.	0.	7.88E-06	0.	0.	0.	0.	1.65E-05	7.49E-09	0.	0.	9.23E-06
100	0.80	0.	0.	3.43E-06	0.	0.	0.	0.	1.65E-05	1.07E-08	0.	0.	8.69E-06
101	0.70	0.	0.	1.01E-06	0.	0.	0.	0.	1.65E-05	1.60E-08	0.	0.	5.41E-06
102	0.60	0.	0.	7.78E-09	0.	0.	0.	0.	1.65E-05	2.51E-08	0.	0.	1.30E-05

ADJUSTMENT COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 3000. DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)

PHOTON ENERGY E.V.	O2 S-R CONT.	N2 S-R NO. 1	NO BETA	NO GAMMA	NO 2	O- PHOTO-DET (IONS)	FREE-FREE M	P.E.	TOTAL AIR P.E.
5	10.70 0.	6.45E-03	0.	0.	0.	2.98E-07	1.47E-13	0.	6.45E-03
10	10.60 0.	4.06E-03	0.	0.	0.	2.99E-07	1.51E-13	0.	4.06E-03
15	10.50 0.	4.34E-03	0.	0.	0.	2.99E-07	1.56E-13	0.	4.34E-03
20	10.40 0.	3.53E-03	0.	0.	0.	2.99E-07	1.60E-13	0.	3.53E-03
25	10.30 0.	2.54E-03	0.	0.	0.	3.00E-07	1.65E-13	0.	2.54E-03
30	10.20 0.	2.32E-03	0.	0.	0.	3.00E-07	1.70E-13	0.	2.32E-03
35	10.10 0.	1.93E-03	0.	0.	0.	3.01E-07	1.75E-13	0.	1.93E-03
40	10.00 0.	1.31E-03	0.	0.	0.	3.01E-07	1.81E-13	0.	1.31E-03
45	9.90 0.	1.28E-03	0.	0.	0.	3.02E-07	1.84E-13	0.	1.28E-03
50	9.80 0.	1.00E-04	0.	0.	0.	3.02E-07	1.92E-13	0.	1.00E-04
55	9.70 0.	6.77E-04	0.	0.	0.	3.03E-07	1.98E-13	0.	6.77E-04
60	9.60 0.	7.44E-04	0.	0.	0.	3.03E-07	2.04E-13	0.	7.44E-04
65	9.50 0.	4.03E-04	0.	0.	0.	3.04E-07	2.11E-13	0.	4.03E-04
70	9.40 0.	5.30E-04	0.	0.	0.	3.05E-07	2.18E-13	0.	5.30E-04
75	9.30 0.	5.77E-04	0.	0.	0.	3.06E-07	2.25E-13	0.	5.77E-04
80	9.20 0.	6.24E-04	0.	0.	0.	3.07E-07	2.32E-13	0.	6.24E-04
85	9.10 0.	7.70E-04	0.	0.	0.	3.08E-07	2.40E-13	0.	7.70E-04
90	9.00 0.	9.35E-04	0.	0.	0.	3.08E-07	2.48E-13	0.	9.35E-04
95	8.90 0.	1.10E-03	0.	0.	0.	3.10E-07	2.57E-13	0.	1.10E-03
100	8.80 0.	1.14E-03	0.	0.	0.	3.12E-07	2.66E-13	0.	1.14E-03
105	8.70 0.	1.09E-03	0.	0.	0.	3.13E-07	2.75E-13	0.	1.09E-03
110	8.60 0.	1.04E-03	0.	0.	0.	3.14E-07	2.85E-13	0.	1.04E-03
115	8.50 0.	9.96E-04	0.	0.	0.	3.15E-07	2.95E-13	0.	9.96E-04
120	8.40 0.	9.55E-04	0.	0.	0.	3.17E-07	3.04E-13	0.	9.55E-04
125	8.30 0.	9.15E-04	0.	0.	0.	3.18E-07	3.17E-13	0.	9.15E-04
130	8.20 0.	8.75E-04	0.	0.	0.	3.20E-07	3.29E-13	0.	8.75E-04
135	8.10 0.	8.35E-04	0.	0.	0.	3.22E-07	3.41E-13	0.	8.35E-04
140	8.00 0.	7.96E-04	0.	0.	0.	3.23E-07	3.54E-13	0.	7.96E-04
145	7.90 0.	7.57E-04	0.	0.	0.	3.25E-07	3.68E-13	0.	7.57E-04
150	7.80 0.	7.07E-04	0.	0.	0.	3.26E-07	3.82E-13	0.	7.07E-04
155	7.70 0.	6.63E-04	0.	0.	0.	3.28E-07	3.97E-13	0.	6.63E-04
160	7.60 0.	6.18E-04	0.	0.	0.	3.30E-07	4.13E-13	0.	6.18E-04
165	7.50 0.	5.73E-04	0.	0.	0.	3.31E-07	4.30E-13	0.	5.73E-04
170	7.40 0.	5.28E-04	0.	0.	0.	3.33E-07	4.48E-13	0.	5.28E-04
175	7.30 0.	4.79E-04	0.	0.	0.	3.35E-07	4.66E-13	0.	4.79E-04
180	7.20 0.	4.35E-04	0.	0.	0.	3.37E-07	4.86E-13	0.	4.35E-04
185	7.10 0.	3.92E-04	0.	0.	0.	3.40E-07	5.07E-13	0.	3.92E-04
190	7.00 0.	3.51E-04	0.	0.	0.	3.43E-07	5.29E-13	0.	3.51E-04
195	6.90 0.	3.25E-04	0.	0.	0.	3.45E-07	5.52E-13	0.	3.25E-04
200	6.80 0.	2.98E-04	0.	0.	0.	3.48E-07	5.77E-13	0.	2.98E-04
205	6.70 0.	2.73E-04	0.	0.	0.	3.51E-07	6.03E-13	0.	2.73E-04
210	6.60 0.	2.50E-04	0.	0.	0.	3.54E-07	6.31E-13	0.	2.50E-04
215	6.50 0.	2.30E-04	0.	0.	0.	3.56E-07	6.61E-13	0.	2.30E-04
220	6.40 0.	2.14E-04	0.	0.	0.	3.59E-07	6.93E-13	0.	2.14E-04
225	6.30 0.	2.02E-04	0.	0.	0.	3.62E-07	7.26E-13	0.	2.02E-04
230	6.20 0.	1.93E-04	0.	0.	0.	3.65E-07	7.62E-13	0.	1.93E-04
235	6.10 0.	1.87E-04	0.	0.	0.	3.67E-07	8.00E-13	0.	1.87E-04
240	6.00 0.	1.82E-04	0.	0.	0.	3.70E-07	8.41E-13	0.	1.82E-04
245	5.90 0.	1.78E-04	0.	0.	0.	3.70E-07	8.85E-13	0.	1.78E-04
250	5.80 0.	1.74E-04	0.	0.	0.	3.65E-07	9.31E-13	0.	1.74E-04
255	5.70 0.	1.72E-04	0.	0.	0.	3.43E-07	9.82E-13	0.	1.72E-04

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		1.293E-05 (10.0E-03 NORMAL)		0		TOTAL AIR
	1ST POS.	2ND POS.	1ST NEG.	2ND NEG.	PHOTO-DET (IONS)	FREE-FREE (IONS)	M	P.E.	
52	5.60	3.69E-05	0.	0.	3.85E-05	3.61E-04	0.	0.	4.37E-04
53	5.50	3.48E-05	0.	0.	5.15E-05	4.45E-04	0.	0.	5.29E-04
54	5.42	3.27E-05	0.	0.	3.80E-05	3.52E-04	0.	0.	4.29E-04
55	5.30	2.87E-05	0.	0.	3.91E-05	3.65E-04	0.	0.	4.31E-04
56	5.20	1.47E-05	0.	0.	3.76E-05	3.56E-04	0.	0.	4.19E-04
57	5.10	1.47E-05	0.	0.	3.94E-05	3.97E-04	0.	0.	4.41E-04
58	5.07	1.00E-05	0.	0.	2.61E-05	1.64E-04	0.	0.	2.01E-04
59	4.90	8.20E-06	0.	0.	2.61E-05	1.16E-04	0.	0.	1.52E-04
60	4.70	8.26E-06	0.	0.	2.69E-05	1.15E-04	0.	0.	1.50E-04
61	4.70	8.26E-06	0.	0.	2.28E-05	6.92E-05	0.	0.	1.05E-04
62	4.60	8.83E-06	0.	0.	2.15E-05	6.44E-05	0.	0.	1.05E-04
63	4.50	7.83E-06	0.	0.	1.64E-05	3.90E-05	0.	0.	4.36E-05
64	4.40	6.97E-06	0.	0.	1.49E-05	3.57E-05	0.	0.	5.60E-05
65	4.30	5.54E-06	0.	0.	1.20E-05	1.46E-05	0.	0.	3.25E-05
66	4.20	4.54E-06	0.	0.	1.16E-05	1.46E-05	0.	0.	3.13E-05
67	4.10	3.74E-06	0.	0.	9.36E-06	3.51E-06	0.	0.	1.70E-05
68	4.00	2.95E-06	0.	0.	7.92E-06	2.37E-06	0.	0.	1.40E-05
69	3.90	2.07E-06	0.	0.	5.78E-06	1.35E-06	0.	0.	9.71E-06
70	3.80	2.07E-06	0.	0.	1.69E-07	5.91E-06	0.	0.	8.54E-06
71	3.70	1.45E-06	0.	0.	4.04E-07	1.20E-06	0.	0.	5.82E-06
72	3.60	1.13E-06	0.	0.	9.43E-08	4.04E-06	0.	0.	5.60E-06
73	3.50	9.03E-07	0.	0.	2.40E-07	4.13E-06	0.	0.	3.75E-06
74	3.40	6.49E-07	0.	0.	5.97E-08	6.17E-06	0.	0.	3.40E-06
75	3.30	4.78E-07	0.	0.	9.12E-08	6.42E-06	0.	0.	2.23E-06
76	3.20	3.49E-07	0.	0.	3.02E-08	5.34E-06	0.	0.	2.04E-06
77	3.10	2.72E-07	0.	0.	2.81E-08	1.01E-06	0.	0.	1.55E-06
78	3.00	2.09E-07	0.	0.	1.07E-08	9.99E-07	0.	0.	1.23E-06
79	2.90	1.35E-07	0.	0.	6.66E-09	1.06E-06	0.	0.	7.80E-07
80	2.80	1.25E-07	0.	0.	2.95E-09	9.95E-07	0.	0.	5.09E-07
81	2.70	5.71E-08	0.	0.	1.21E-09	4.51E-07	0.	0.	3.12E-07
82	2.60	1.00E-08	0.	0.	5.73E-10	5.82E-07	0.	0.	2.17E-07
83	2.50	1.00E-09	0.	0.	1.02E-10	1.06E-08	0.	0.	1.88E-07
84	2.40	0.	0.	0.	3.54E-10	3.41E-10	0.	0.	2.64E-07
85	2.30	0.	0.	0.	1.09E-07	0.	0.	0.	3.31E-07
86	2.20	0.	0.	0.	1.57E-07	0.	0.	0.	6.06E-07
87	2.10	0.	0.	0.	4.32E-07	0.	0.	0.	3.11E-07
88	2.00	0.	0.	0.	4.32E-07	0.	0.	0.	6.06E-07
89	1.90	0.	0.	0.	1.96E-06	0.	0.	0.	6.21E-07
90	1.80	0.	0.	0.	1.95E-06	0.	0.	0.	2.12E-06
91	1.70	0.	0.	0.	2.04E-06	0.	0.	0.	2.19E-06
92	1.60	0.	0.	0.	1.50E-06	0.	0.	0.	1.63E-06
93	1.50	0.	0.	0.	1.75E-06	0.	0.	0.	1.80E-06
94	1.40	0.	0.	0.	2.44E-06	0.	0.	0.	2.44E-06
95	1.30	0.	0.	0.	1.37E-06	0.	0.	0.	1.37E-06
96	1.20	0.	0.	0.	1.91E-06	0.	0.	0.	1.91E-06
97	1.10	0.	0.	0.	1.04E-06	0.	0.	0.	1.06E-06
98	1.00	0.	0.	0.	1.14E-06	0.	0.	0.	1.15E-06
99	0.90	0.	0.	0.	7.75E-07	0.	0.	0.	7.98E-07
100	0.80	0.	0.	0.	3.37E-07	0.	0.	0.	3.94E-07
101	0.70	0.	0.	0.	9.97E-08	0.	0.	0.	2.27E-07
102	0.60	0.	0.	0.	7.46E-10	0.	0.	0.	4.21E-07

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E.V.	02 S-R CONT.	TEMPERATURE (DEGREES F)	NO PETA	NO SARMA	DENSITY (GM/CC)	1.2935-04 (10.0E-04 NORMAL)		TOTAL AIR
						NO 2 PHOTO-DET (IONS)	0- FREE-FREE P.E.	
1 1.0-2.0	0.	5.80E-04	0.	0.	0.	0.	5.30E-04	5.00E-04
2 1.0-5.0	0.	4.45E-04	0.	0.	0.	0.	4.90E-04	4.45E-04
3 1.0-10.0	0.	3.99E-04	0.	0.	0.	0.	4.00E-04	3.99E-04
4 1.0-20.0	0.	3.23E-04	0.	0.	0.	0.	3.42E-04	3.23E-04
5 1.0-30.0	0.	2.52E-04	0.	0.	0.	0.	2.72E-04	2.52E-04
6 1.0-40.0	0.	2.12E-04	0.	0.	0.	0.	2.32E-04	2.12E-04
7 1.0-50.0	0.	1.77E-04	0.	0.	0.	0.	1.97E-04	1.77E-04
8 1.0-60.0	0.	1.28E-04	0.	0.	0.	0.	1.48E-04	1.28E-04
9 1.0-70.0	0.	1.17E-04	0.	0.	0.	0.	1.27E-04	1.17E-04
10 1.0-80.0	0.	1.16E-04	0.	0.	0.	0.	1.16E-04	1.16E-04
11 1.0-90.0	0.	6.19E-05	0.	0.	0.	0.	6.19E-05	6.19E-05
12 1.0-100.0	0.	6.62E-05	0.	0.	0.	0.	6.62E-05	6.62E-05
13 1.0-110.0	0.	5.03E-05	0.	0.	0.	0.	5.03E-05	4.82E-05
14 1.0-120.0	0.	5.52E-05	0.	0.	0.	0.	5.52E-05	4.81E-05
15 1.0-130.0	0.	4.01E-05	0.	0.	0.	0.	4.01E-05	3.94E-05
16 1.0-140.0	0.	6.50E-06	0.	0.	0.	0.	6.50E-06	2.60E-05
17 1.0-150.0	0.	8.02E-06	0.	0.	0.	0.	8.02E-06	2.80E-05
18 1.0-160.0	0.	2.74E-06	0.	0.	0.	0.	2.74E-06	2.44E-05
19 1.0-170.0	0.	2.15E-05	0.	0.	0.	0.	2.15E-05	2.28E-05
20 1.0-180.0	0.	1.14E-05	0.	0.	0.	0.	1.14E-05	2.21E-05
21 1.0-190.0	0.	1.44E-05	0.	0.	0.	0.	1.44E-05	1.60E-05
22 1.0-200.0	0.	1.69E-05	0.	0.	0.	0.	1.69E-05	1.75E-05
23 1.0-210.0	0.	1.04E-05	0.	0.	0.	0.	1.04E-05	1.47E-05
24 1.0-220.0	0.	1.95E-06	0.	0.	0.	0.	1.95E-06	1.43E-05
25 1.0-230.0	0.	9.33E-06	0.	0.	0.	0.	9.33E-06	1.15E-05
26 1.0-240.0	0.	9.31E-06	0.	0.	0.	0.	9.31E-06	1.15E-05
27 1.0-250.0	0.	2.70E-06	0.	0.	0.	0.	2.70E-06	9.77E-06
28 1.0-260.0	0.	5.25E-06	0.	0.	0.	0.	5.25E-06	8.04E-06
29 1.0-270.0	0.	7.82E-06	0.	0.	0.	0.	7.82E-06	8.30E-06
30 1.0-280.0	0.	2.36E-06	0.	0.	0.	0.	2.36E-06	7.96E-06
31 1.0-290.0	0.	6.90E-07	0.	0.	0.	0.	6.90E-07	6.97E-06
32 1.0-300.0	0.	6.43E-06	0.	0.	0.	0.	6.43E-06	6.38E-06
33 1.0-310.0	0.	5.94E-06	0.	0.	0.	0.	5.94E-06	5.81E-06
34 1.0-320.0	0.	5.46E-06	0.	0.	0.	0.	5.46E-06	5.38E-06
35 1.0-330.0	0.	4.99E-06	0.	0.	0.	0.	4.99E-06	5.32E-06
36 1.0-340.0	0.	4.53E-06	0.	0.	0.	0.	4.53E-06	4.88E-06
37 1.0-350.0	0.	4.08E-06	0.	0.	0.	0.	4.08E-06	4.18E-06
38 1.0-360.0	0.	3.63E-06	0.	0.	0.	0.	3.63E-06	2.90E-06
39 1.0-370.0	0.	3.18E-06	0.	0.	0.	0.	3.18E-06	5.82E-06
40 1.0-380.0	0.	2.73E-06	0.	0.	0.	0.	2.73E-06	1.29E-05
41 1.0-390.0	0.	2.28E-06	0.	0.	0.	0.	2.28E-06	4.66E-06
42 1.0-400.0	0.	1.83E-06	0.	0.	0.	0.	1.83E-06	9.55E-06
43 1.0-410.0	0.	1.38E-06	0.	0.	0.	0.	1.38E-06	1.90E-05
44 1.0-420.0	0.	9.3E-07	0.	0.	0.	0.	9.3E-07	5.99E-06
45 1.0-430.0	0.	4.8E-07	0.	0.	0.	0.	4.8E-07	1.03E-05
46 1.0-440.0	0.	1.66E-09	0.	0.	0.	0.	1.66E-09	2.76E-05
47 1.0-450.0	0.	5.42E-10	0.	0.	0.	0.	5.42E-10	6.53E-06
48 1.0-460.0	0.	1.15E-10	0.	0.	0.	0.	1.15E-10	6.50E-06
49 1.0-470.0	0.	7.92E-12	0.	0.	0.	0.	7.92E-12	9.03E-06
50 1.0-480.0	0.	1.64E-13	0.	0.	0.	0.	1.64E-13	6.45E-06
51 1.0-490.0	0.	3.56E-07	0.	0.	0.	0.	3.56E-07	6.45E-06

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON OR S-R ENERGY BANDS	TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		1.293E-06 (10.0E-04 NORMAL)		NO	NO	D	FREE-FREE (IONS)	M	P.E.	TOTAL AIR
	1ST POS.	2ND POS.	N2	N2+	BETA	GAMMA							
52	3.45	3.84E-07	0.	0.	1.19E-06	1.12E-05	0.	0.	5.75E-09	3.24E-14	0.	0.	1.28E-05
53	3.50	3.68E-07	0.	0.	1.58E-06	1.37E-05	0.	0.	5.78E-09	3.45E-14	0.	0.	1.56E-05
54	3.40	3.41E-07	0.	0.	1.17E-06	4.88E-06	0.	0.	5.81E-09	3.61E-14	0.	0.	6.40E-06
55	3.30	2.99E-07	0.	0.	1.21E-06	1.12E-05	0.	0.	5.85E-09	3.82E-14	0.	0.	1.27E-05
56	3.20	1.76E-07	0.	0.	1.15E-06	4.19E-06	0.	0.	5.89E-09	4.05E-14	0.	0.	5.54E-06
57	3.10	1.23E-07	0.	0.	1.03E-06	3.95E-06	0.	0.	5.92E-09	4.28E-14	0.	0.	7.14E-06
58	3.00	1.03E-07	0.	0.	9.04E-07	3.67E-06	0.	0.	5.95E-09	4.53E-14	0.	0.	5.96E-06
59	2.90	0.68E-08	0.	0.	8.28E-07	3.43E-06	0.	0.	5.98E-09	4.83E-14	0.	0.	4.53E-06
60	2.80	0.77E-08	0.	0.	7.08E-07	3.54E-06	0.	0.	6.01E-09	5.14E-14	0.	0.	4.47E-06
61	2.70	0.66E-08	0.	0.	6.03E-07	2.14E-06	0.	0.	6.04E-09	5.45E-14	0.	0.	2.93E-06
62	2.60	0.20E-08	0.	0.	5.07E-07	2.30E-06	0.	0.	6.07E-09	5.84E-14	0.	0.	3.06E-06
63	2.50	0.16E-08	0.	0.	4.51E-07	1.26E-06	0.	0.	6.10E-09	6.26E-14	0.	0.	1.80E-06
64	2.40	7.26E-08	0.	0.	3.74E-07	1.11E-06	0.	0.	6.13E-09	6.72E-14	0.	0.	1.65E-06
65	2.30	5.78E-08	0.	0.	3.17E-07	4.44E-07	0.	0.	6.16E-09	7.19E-14	0.	0.	8.89E-07
66	2.20	4.73E-08	0.	0.	2.79E-07	4.50E-07	0.	0.	6.19E-09	7.68E-14	0.	0.	8.98E-07
67	2.10	3.89E-08	0.	0.	2.49E-07	3.06E-07	0.	0.	6.22E-09	8.18E-14	0.	0.	4.46E-07
68	2.00	3.07E-08	0.	0.	2.24E-07	2.35E-07	0.	0.	6.25E-09	8.69E-14	0.	0.	3.92E-07
69	1.90	2.15E-08	0.	0.	1.99E-07	1.73E-07	0.	0.	6.28E-09	9.21E-14	0.	0.	2.65E-07
70	1.80	2.15E-08	0.	0.	1.74E-07	1.07E-07	0.	0.	6.31E-09	9.75E-14	0.	0.	2.30E-07
71	1.70	1.50E-08	0.	0.	1.52E-07	7.42E-07	0.	0.	6.34E-09	1.02E-13	0.	0.	1.71E-07
72	1.60	1.10E-08	0.	0.	1.32E-07	5.12E-07	0.	0.	6.37E-09	1.07E-13	0.	0.	1.54E-07
73	1.50	9.41E-09	0.	0.	1.14E-07	4.69E-07	0.	0.	6.40E-09	1.12E-13	0.	0.	1.28E-07
74	1.40	6.97E-09	0.	0.	9.98E-08	4.24E-07	0.	0.	6.43E-09	1.17E-13	0.	0.	9.30E-08
75	1.30	4.98E-09	0.	0.	8.74E-08	3.77E-07	0.	0.	6.46E-09	1.22E-13	0.	0.	6.65E-08
76	1.20	3.53E-09	0.	0.	7.63E-08	3.28E-07	0.	0.	6.49E-09	1.27E-13	0.	0.	6.15E-08
77	1.10	2.85E-09	0.	0.	6.62E-08	2.77E-07	0.	0.	6.52E-09	1.32E-13	0.	0.	4.21E-08
78	1.00	2.08E-09	0.	0.	5.70E-08	2.24E-07	0.	0.	6.55E-09	1.37E-13	0.	0.	3.67E-08
79	0.90	1.41E-09	0.	0.	4.86E-08	1.70E-07	0.	0.	6.58E-09	1.42E-13	0.	0.	2.68E-08
80	0.80	1.26E-09	0.	0.	4.10E-08	1.16E-07	0.	0.	6.61E-09	1.47E-13	0.	0.	1.16E-08
81	0.70	5.99E-10	0.	0.	3.41E-08	6.40E-08	0.	0.	6.64E-09	1.52E-13	0.	0.	6.42E-09
82	0.60	1.88E-10	0.	0.	2.79E-08	2.23E-08	0.	0.	6.67E-09	1.57E-13	0.	0.	4.34E-09
83	0.50	1.11E-11	0.	0.	2.24E-08	6.58E-10	0.	0.	6.70E-09	1.62E-13	0.	0.	3.38E-09
84	0.40	0.	0.	0.	1.83E-10	1.21E-10	0.	0.	6.73E-09	1.67E-13	0.	0.	4.35E-09
85	0.30	0.	0.	0.	1.52E-10	1.05E-11	0.	0.	6.76E-09	1.72E-13	0.	0.	1.31E-09
86	0.20	0.	0.	0.	1.27E-10	7.42E-11	0.	0.	6.79E-09	1.77E-13	0.	0.	1.74E-08
87	0.10	0.	0.	0.	1.07E-10	5.12E-11	0.	0.	6.82E-09	1.82E-13	0.	0.	4.26E-08
88	0.00	0.	0.	0.	8.74E-11	3.77E-11	0.	0.	6.85E-09	1.87E-13	0.	0.	4.44E-08
89	1.90	0.	0.	0.	7.63E-11	3.28E-11	0.	0.	6.88E-09	1.92E-13	0.	0.	1.82E-07
90	1.80	0.	0.	0.	6.62E-11	2.77E-11	0.	0.	6.91E-09	1.97E-13	0.	0.	1.81E-07
91	1.70	0.	0.	0.	5.70E-11	2.24E-11	0.	0.	6.94E-09	2.02E-13	0.	0.	1.89E-07
92	1.60	0.	0.	0.	4.86E-11	1.70E-11	0.	0.	6.97E-09	2.07E-13	0.	0.	1.39E-07
93	1.50	0.	0.	0.	4.10E-11	1.16E-11	0.	0.	6.99E-09	2.12E-13	0.	0.	1.61E-07
94	1.40	0.	0.	0.	3.41E-11	6.40E-12	0.	0.	7.02E-09	2.17E-13	0.	0.	1.23E-07
95	1.30	0.	0.	0.	2.79E-11	2.23E-12	0.	0.	7.04E-09	2.22E-13	0.	0.	1.25E-07
96	1.20	0.	0.	0.	2.24E-11	6.58E-13	0.	0.	7.07E-09	2.27E-13	0.	0.	1.75E-07
97	1.10	0.	0.	0.	1.83E-11	1.21E-13	0.	0.	7.09E-09	2.32E-13	0.	0.	9.67E-08
98	1.00	0.	0.	0.	1.52E-11	1.07E-14	0.	0.	7.11E-09	2.37E-13	0.	0.	1.85E-07
99	0.90	0.	0.	0.	1.27E-11	7.42E-14	0.	0.	7.13E-09	2.42E-13	0.	0.	1.05E-07
100	0.80	0.	0.	0.	1.07E-11	5.12E-14	0.	0.	7.15E-09	2.47E-13	0.	0.	7.14E-08
101	0.70	0.	0.	0.	8.74E-12	3.77E-14	0.	0.	7.17E-09	2.52E-13	0.	0.	3.56E-08
102	0.60	0.	0.	0.	7.63E-12	3.28E-14	0.	0.	7.19E-09	2.57E-13	0.	0.	1.30E-08
103	0.50	0.	0.	0.	6.62E-12	2.77E-14	0.	0.	7.21E-09	2.62E-13	0.	0.	1.35E-08



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY E.V.	OZ S-R BANDS	OZ S-R CONT.	N2 O-W NO. 1	TEMPERATURE (DEGREES K)	5000.	DENSITY (GM/CC)	1.293E-07 (10.0E-05 NORMAL)	NO 2	O- PHOTO-RET (10RS)	W P.E.	O P.E.	TOTAL AIR
1	10.70	0.	4.48E-05	0.	0.	0.	0.	9.25E-11	1.34E-16	0.	0.	4.48E-05
2	10.60	0.	3.32E-05	0.	0.	0.	0.	9.27E-11	1.39E-16	0.	0.	3.32E-05
3	10.50	0.	2.98E-05	0.	0.	0.	0.	9.26E-11	1.42E-16	0.	0.	2.98E-05
4	10.40	0.	2.41E-05	0.	0.	0.	0.	9.28E-11	1.46E-16	0.	0.	2.41E-05
5	10.30	0.	1.73E-05	0.	0.	0.	0.	9.38E-11	1.58E-16	0.	0.	1.73E-05
6	10.20	0.	1.59E-05	0.	0.	0.	0.	9.32E-11	1.52E-16	0.	0.	1.59E-05
7	10.10	0.	1.32E-05	0.	0.	0.	0.	9.53E-11	1.61E-16	0.	0.	1.32E-05
8	10.00	0.	8.95E-06	0.	0.	0.	0.	9.34E-11	1.64E-16	0.	0.	8.95E-06
9	9.90	0.	7.78E-06	0.	0.	0.	0.	9.34E-11	1.70E-16	0.	0.	7.78E-06
10	9.80	0.	6.84E-06	0.	0.	0.	0.	9.37E-11	1.75E-16	0.	0.	6.84E-06
11	9.70	0.	4.92E-06	0.	0.	0.	0.	9.39E-11	1.80E-16	0.	0.	4.92E-06
12	9.60	0.	4.94E-06	0.	0.	0.	0.	9.41E-11	1.85E-16	0.	0.	4.94E-06
13	9.50	0.	5.09E-06	0.	0.	0.	0.	9.43E-11	1.92E-16	0.	0.	5.09E-06
14	9.40	0.	5.59E-06	0.	0.	0.	0.	9.46E-11	1.98E-16	0.	0.	5.59E-06
15	9.30	0.	6.06E-06	0.	0.	0.	0.	9.49E-11	2.05E-16	0.	0.	6.06E-06
16	9.20	0.	6.58E-06	0.	0.	0.	0.	9.53E-11	2.12E-16	0.	0.	6.58E-06
17	9.10	0.	6.12E-06	0.	0.	0.	0.	9.56E-11	2.19E-16	0.	0.	6.12E-06
18	9.00	0.	9.84E-06	0.	0.	0.	0.	9.60E-11	2.26E-16	0.	0.	9.84E-06
19	8.90	0.	1.16E-07	8.44E-07	0.	0.	0.	9.63E-11	2.34E-16	0.	0.	9.84E-06
20	8.80	0.	1.21E-07	7.58E-07	0.	0.	0.	9.67E-11	2.42E-16	0.	0.	9.84E-07
21	8.70	0.	1.15E-07	4.91E-07	0.	0.	0.	9.70E-11	2.50E-16	0.	0.	6.06E-07
22	8.60	0.	1.05E-07	4.95E-07	0.	0.	0.	9.73E-11	2.59E-16	0.	0.	6.05E-07
23	8.50	0.	1.05E-07	3.23E-07	0.	0.	0.	9.77E-11	2.69E-16	0.	0.	4.27E-07
24	8.40	0.	1.01E-07	3.01E-07	0.	0.	0.	9.82E-11	2.78E-16	0.	0.	4.62E-07
25	8.30	0.	9.64E-08	1.95E-07	0.	0.	0.	9.87E-11	2.89E-16	0.	0.	2.91E-07
26	8.20	0.	9.22E-08	1.81E-07	0.	0.	0.	9.92E-11	2.99E-16	0.	0.	2.73E-07
27	8.10	0.	8.80E-08	1.22E-07	0.	0.	0.	1.00E-10	3.11E-16	0.	0.	2.10E-07
28	8.00	0.	8.36E-08	1.10E-07	0.	0.	0.	1.01E-10	3.25E-16	0.	0.	1.94E-07
29	7.90	0.	7.92E-08	7.58E-08	0.	0.	0.	1.01E-10	3.40E-16	0.	0.	1.75E-07
30	7.80	0.	7.45E-08	6.91E-08	0.	0.	0.	1.02E-10	3.62E-16	0.	0.	1.59E-07
31	7.70	0.	6.94E-08	4.91E-08	0.	0.	0.	1.03E-10	3.74E-16	0.	0.	1.05E-07
32	7.60	0.	6.51E-08	3.94E-08	0.	0.	0.	1.03E-10	3.92E-16	0.	0.	9.09E-08
33	7.50	0.	6.03E-08	3.02E-08	0.	0.	0.	1.03E-10	4.08E-16	0.	0.	7.91E-08
34	7.40	0.	5.54E-08	2.38E-08	0.	0.	0.	1.04E-10	4.25E-16	0.	0.	7.26E-08
35	7.30	0.	5.05E-08	1.81E-08	0.	0.	0.	1.05E-10	4.43E-16	0.	0.	7.61E-08
36	7.20	0.	4.59E-08	1.34E-08	0.	0.	0.	1.05E-10	4.62E-16	0.	0.	7.01E-08
37	7.10	0.	4.13E-08	1.09E-08	0.	0.	0.	1.05E-10	4.82E-16	0.	0.	1.20E-07
38	7.00	0.	3.66E-09	8.24E-09	0.	0.	0.	1.06E-10	5.03E-16	0.	0.	8.32E-08
39	6.90	0.	3.24E-09	6.32E-09	0.	0.	0.	1.07E-10	5.26E-16	0.	0.	1.63E-07
40	6.80	0.	2.86E-09	4.98E-09	0.	0.	0.	1.08E-10	5.50E-16	0.	0.	3.57E-07
41	6.70	0.	2.51E-09	3.59E-09	0.	0.	0.	1.09E-10	5.75E-16	0.	0.	1.53E-07
42	6.60	0.	2.18E-09	2.64E-09	0.	0.	0.	1.11E-10	6.02E-16	0.	0.	2.63E-07
43	6.50	0.	1.86E-09	1.64E-09	0.	0.	0.	1.11E-10	6.31E-16	0.	0.	5.46E-07
44	6.40	0.	1.56E-09	1.10E-09	0.	0.	0.	1.12E-10	6.61E-16	0.	0.	5.62E-07
45	6.30	0.	1.29E-09	7.99E-10	0.	0.	0.	1.13E-10	6.94E-16	0.	0.	2.82E-07
46	6.20	0.	1.05E-09	5.30E-10	0.	0.	0.	1.14E-10	7.29E-16	0.	0.	7.96E-07
47	6.10	0.	8.28E-10	3.20E-10	0.	0.	0.	1.15E-10	7.66E-16	0.	0.	1.76E-07
48	6.00	0.	6.00E-10	1.88E-09	0.	0.	0.	1.15E-10	8.06E-16	0.	0.	2.32E-07
49	5.90	0.	4.59E-09	5.91E-10	0.	0.	0.	1.15E-10	8.48E-16	0.	0.	2.42E-07
50	5.80	0.	3.46E-09	1.36E-09	0.	0.	0.	1.15E-10	8.94E-16	0.	0.	1.42E-07
51	5.70	0.	3.40E-09	0.	0.	0.	0.	1.06E-10	8.94E-16	0.	0.	1.42E-07

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	O2 S-R	1ST POS.	N2	N2+ 1ST NEG.	NO	NO	AD	GAMMA	NO	VIB-ROT	NO	2	PHOTO-DET (IONS)	FREE-FREE (IONS)	N	P.F.	TOTAL AIR
52	5.60	3.69E-09	0.	0.	3.27E-08	3.07E-07	0.	0.	0.	0.	0.	0.	9.60E-11	9.43E-16	0.	0.	3.43E-07
53	5.50	3.68E-09	0.	0.	4.35E-08	3.77E-07	0.	0.	0.	0.	0.	0.	9.93E-11	9.95E-16	0.	0.	4.23E-07
54	5.45	3.40E-09	0.	0.	3.22E-08	3.04E-07	0.	0.	0.	0.	0.	0.	10.00E-11	1.11E-15	0.	0.	3.44E-07
55	5.30	3.03E-09	0.	0.	3.32E-08	3.04E-07	0.	0.	0.	0.	0.	0.	1.01E-10	1.11E-15	0.	0.	3.44E-07
56	5.20	3.03E-09	0.	0.	3.19E-08	1.15E-07	0.	0.	0.	0.	0.	0.	1.01E-10	1.11E-15	0.	0.	1.94E-07
57	5.10	3.59E-09	0.	0.	2.84E-08	1.64E-07	0.	0.	0.	0.	0.	0.	2.29E-14	1.02E-10	1.25E-15	0.	1.63E-07
58	5.00	3.06E-09	0.	0.	2.21E-08	1.39E-07	0.	0.	0.	0.	0.	0.	2.29E-14	1.03E-10	1.32E-15	0.	1.22E-07
59	4.90	8.79E-10	0.	0.	2.21E-08	9.97E-08	0.	0.	0.	0.	0.	0.	2.29E-14	1.04E-10	1.41E-15	0.	1.21E-07
60	4.80	8.80E-10	0.	0.	2.28E-08	9.78E-08	0.	0.	0.	0.	0.	0.	2.29E-14	1.05E-10	1.50E-15	0.	1.21E-07
61	4.70	8.71E-10	0.	0.	1.92E-08	9.84E-08	0.	0.	0.	0.	0.	0.	2.29E-14	1.05E-10	1.60E-15	0.	1.92E-08
62	4.60	9.31E-10	0.	0.	1.82E-08	6.31E-08	0.	0.	0.	0.	0.	0.	2.29E-14	1.06E-10	1.70E-15	0.	8.24E-08
63	4.50	8.26E-10	0.	3.98E-11	1.39E-08	3.31E-08	0.	0.	0.	0.	0.	0.	2.29E-14	1.07E-10	1.82E-15	0.	4.50E-08
64	4.40	7.35E-10	0.	2.29E-10	1.27E-08	3.07E-08	0.	0.	0.	0.	0.	0.	2.29E-14	1.08E-10	1.95E-15	0.	4.41E-08
65	4.35	5.85E-10	0.	2.64E-10	1.02E-08	1.24E-08	0.	0.	0.	0.	0.	0.	2.29E-14	1.09E-10	2.08E-15	0.	2.35E-09
66	4.20	4.79E-10	0.	2.04E-09	9.81E-09	1.24E-08	0.	0.	0.	0.	0.	0.	2.29E-14	1.10E-10	2.24E-15	0.	2.48E-08
67	4.10	3.04E-10	0.	2.89E-10	7.94E-09	2.97E-08	0.	0.	0.	0.	0.	0.	2.29E-14	1.10E-10	2.41E-15	0.	1.17E-09
68	4.00	3.11E-10	0.	2.69E-09	6.78E-09	2.01E-09	0.	0.	0.	0.	0.	0.	2.29E-14	1.11E-10	2.59E-15	0.	1.19E-09
69	3.90	2.16E-10	0.	1.39E-09	4.89E-09	1.17E-09	0.	0.	0.	0.	0.	0.	2.29E-14	1.10E-10	2.80E-15	0.	7.61E-09
70	3.80	2.21E-10	0.	1.16E-09	5.01E-09	0.	0.	0.	0.	0.	0.	0.	2.29E-14	1.10E-10	3.02E-15	0.	8.18E-09
71	3.70	1.59E-10	0.	2.79E-09	2.95E-10	3.07E-09	0.	0.	0.	0.	0.	0.	2.29E-14	1.08E-10	3.28E-15	0.	6.37E-09
72	3.60	1.20E-10	0.	6.48E-10	1.17E-09	3.47E-09	0.	0.	0.	0.	0.	0.	2.29E-14	1.01E-10	3.56E-15	0.	5.46E-09
73	3.50	7.53E-11	0.	1.68E-09	3.3E-09	1.92E-09	0.	0.	0.	0.	0.	0.	2.29E-14	9.25E-11	3.87E-15	0.	1.71E-08
74	3.40	7.08E-11	0.	4.06E-10	1.35E-10	2.12E-09	0.	0.	0.	0.	0.	0.	2.29E-14	9.34E-11	4.22E-15	0.	2.78E-09
75	3.30	5.04E-11	0.	6.23E-10	1.95E-09	1.28E-09	0.	0.	0.	0.	0.	0.	2.29E-14	9.39E-11	4.62E-15	0.	3.93E-09
76	3.20	3.59E-11	0.	7.06E-10	1.21E-08	1.22E-09	0.	0.	0.	0.	0.	0.	2.29E-14	2.39E-11	2.157E-15	0.	1.36E-06
77	3.10	2.87E-11	0.	1.92E-10	2.29E-10	9.08E-10	0.	0.	0.	0.	0.	0.	2.29E-14	9.37E-11	5.57E-15	0.	1.41E-09
78	3.00	2.11E-11	0.	7.54E-11	2.09E-09	7.07E-10	0.	0.	0.	0.	0.	0.	2.29E-14	9.30E-11	6.15E-15	0.	2.93E-09
79	2.90	1.43E-11	0.	4.94E-11	2.39E-09	3.83E-10	0.	0.	0.	0.	0.	0.	2.29E-14	9.39E-11	6.81E-15	0.	2.89E-09
80	2.80	1.28E-11	0.	1.74E-11	2.29E-10	1.79E-10	0.	0.	0.	0.	0.	0.	2.29E-14	9.40E-11	7.57E-15	0.	4.85E-10
81	2.70	6.05E-12	0.	8.29E-12	1.02E-09	6.15E-11	0.	0.	0.	0.	0.	0.	2.29E-14	9.40E-11	8.44E-15	0.	1.52E-09
82	2.60	1.90E-12	0.	3.91E-12	1.27E-10	3.84E-11	0.	0.	0.	0.	0.	0.	2.29E-14	9.40E-11	9.46E-15	0.	2.05E-10
83	2.50	1.12E-13	0.	6.92E-13	3.79E-11	3.32E-12	0.	0.	0.	0.	0.	0.	2.29E-14	9.40E-11	1.06E-14	0.	9.61E-11
84	2.40	0.	0.	7.92E-11	8.01E-11	2.69E-13	0.	0.	0.	0.	0.	0.	2.29E-14	9.40E-11	1.20E-14	0.	2.10E-10
85	2.30	0.	0.	7.45E-10	0.	0.	0.	0.	0.	0.	0.	0.	2.29E-14	9.36E-11	1.37E-14	0.	7.98E-10
86	2.20	0.	0.	1.07E-09	0.	0.	0.	0.	0.	0.	0.	0.	2.29E-14	9.33E-11	1.56E-14	0.	1.12E-09
87	2.10	0.	0.	2.95E-09	0.	0.	0.	0.	0.	0.	0.	0.	2.29E-14	9.31E-11	1.80E-14	0.	3.00E-09
88	2.00	0.	0.	3.0E-09	0.	0.	0.	0.	0.	0.	0.	0.	2.29E-14	9.14E-11	2.08E-14	0.	3.14E-09
89	1.90	0.	0.	1.35E-08	0.	0.	0.	0.	0.	0.	0.	0.	2.29E-14	4.95E-11	2.43E-14	0.	3.34E-08
90	1.80	0.	0.	1.35E-08	0.	0.	0.	0.	0.	0.	0.	0.	2.29E-14	4.73E-11	2.86E-14	0.	1.33E-08
91	1.70	0.	0.	1.35E-08	0.	0.	0.	0.	0.	0.	0.	0.	2.29E-14	4.46E-11	3.40E-14	0.	1.40E-08
92	1.60	0.	0.	1.02E-08	0.	0.	0.	0.	0.	0.	0.	0.	2.29E-14	3.77E-11	4.09E-14	0.	1.63E-08
93	1.50	0.	0.	1.19E-08	0.	0.	0.	0.	0.	0.	0.	0.	2.29E-14	3.17E-11	4.95E-14	0.	1.19E-08
94	1.40	0.	0.	1.27E-08	0.	0.	0.	0.	0.	0.	0.	0.	2.29E-14	2.71E-11	6.10E-14	0.	1.67E-08
95	1.30	0.	0.	9.35E-09	0.	0.	0.	0.	0.	0.	0.	0.	2.29E-14	2.40E-11	7.46E-14	0.	9.35E-09
96	1.20	0.	0.	1.30E-08	0.	0.	0.	0.	0.	0.	0.	0.	2.29E-14	2.10E-11	9.73E-14	0.	1.30E-08
97	1.10	0.	0.	7.21E-09	0.	0.	0.	0.	0.	0.	0.	0.	2.29E-14	1.82E-11	1.26E-13	0.	7.22E-09
98	1.00	0.	0.	7.74E-09	0.	0.	0.	0.	0.	0.	0.	0.	2.29E-14	1.69E-11	1.69E-13	0.	7.79E-09
99	0.90	0.	0.	5.27E-09	0.	0.	0.	0.	0.	0.	0.	0.	1.95E-12	2.29E-14	0.	0.	5.29E-09
100	0.80	0.	0.	2.30E-09	0.	0.	0.	0.	0.	0.	0.	0.	1.31E-10	2.29E-14	0.	0.	2.43E-09
101	0.70	0.	0.	2.80E-10	0.	0.	0.	0.	0.	0.	0.	0.	1.06E-10	2.29E-14	0.	0.	2.87E-10
102	0.60	0.	0.	5.23E-12	0.	0.	0.	0.	0.	0.	0.	0.	3.53E-10	2.29E-14	0.	0.	3.59E-10

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 5000. DENSITY (GM/CC) 1.293E-08 (10.0E-06 NORMAL)

PHOTON ENERGY E.V.	O2 S-R BANDS	O2 S-R CONT.	N2 D-H NO. 1	TEMPERATURE (DEGREES K)	DENSITY (GM/CC)	NO BETA	NO GAMMA	NO Z	O- PHOTO-DET (IONS)	FREE-FREE P.E.	M P.E.	O P.F.	TOTAL AIR
1	10.70 0.	0.	1.67E-06	0.	0.	0.	0.	0.	1.60E-12	3.99E-18	0.	0.	1.67E-06
2	19.60 0.	0.	1.41E-06	0.	0.	0.	0.	0.	1.60E-12	4.10E-18	0.	0.	1.41E-06
3	10.50 0.	0.	1.27E-06	0.	0.	0.	0.	0.	1.60E-12	4.22E-18	0.	0.	1.27E-06
4	10.40 0.	0.	1.63E-06	0.	0.	0.	0.	0.	1.60E-12	4.34E-18	0.	0.	1.63E-06
5	10.30 0.	0.	7.38E-07	0.	0.	0.	0.	0.	1.61E-12	4.47E-18	0.	0.	7.38E-07
6	10.20 0.	0.	6.75E-07	0.	0.	0.	0.	0.	1.61E-12	4.61E-18	0.	0.	6.75E-07
7	10.10 0.	0.	5.62E-07	0.	0.	0.	0.	0.	1.61E-12	4.74E-18	0.	0.	5.62E-07
8	10.00 0.	0.	3.61E-07	0.	0.	0.	0.	0.	1.61E-12	4.89E-18	0.	0.	3.61E-07
9	9.90 0.	0.	3.73E-07	0.	0.	0.	0.	0.	1.62E-12	5.04E-18	0.	0.	3.73E-07
10	9.80 0.	0.	2.91E-07	0.	0.	0.	0.	0.	1.62E-12	5.20E-18	0.	0.	2.91E-07
11	9.70 0.	0.	1.97E-07	0.	0.	0.	0.	0.	1.62E-12	5.36E-18	0.	0.	1.97E-07
12	9.60 0.	0.	2.10E-07	0.	0.	0.	0.	0.	1.63E-12	5.53E-18	0.	0.	2.10E-07
13	9.50 0.	5.12E-10	1.37E-07	0.	0.	0.	0.	0.	1.63E-12	5.71E-18	0.	0.	1.30E-07
14	9.40 0.	5.62E-10	1.10E-07	0.	0.	0.	0.	0.	1.63E-12	5.89E-18	0.	0.	1.10E-07
15	9.30 0.	6.12E-10	1.06E-07	0.	0.	0.	0.	0.	1.64E-12	6.09E-18	0.	0.	1.07E-07
16	9.20 0.	6.62E-10	6.21E-08	0.	0.	0.	0.	0.	1.65E-12	6.29E-18	0.	0.	6.20E-08
17	9.10 0.	8.17E-10	6.61E-08	0.	0.	0.	0.	0.	1.65E-12	6.50E-18	0.	0.	6.69E-08
18	9.00 0.	9.91E-10	4.65E-08	0.	0.	0.	0.	0.	1.66E-12	6.72E-18	0.	0.	4.75E-08
19	8.90 0.	1.17E-09	3.60E-08	0.	0.	0.	0.	0.	1.66E-12	6.95E-18	0.	0.	3.71E-08
20	8.80 0.	1.21E-09	3.23E-08	0.	0.	0.	0.	0.	1.67E-12	7.19E-18	0.	0.	3.35E-08
21	8.70 0.	1.14E-09	2.09E-08	0.	0.	0.	0.	0.	1.68E-12	7.44E-18	0.	0.	2.22E-08
22	8.60 0.	1.10E-09	2.11E-08	0.	0.	0.	0.	0.	1.68E-12	7.71E-18	0.	0.	2.22E-08
23	8.50 0.	1.06E-09	1.37E-08	0.	0.	0.	0.	0.	1.69E-12	7.99E-18	0.	0.	1.48E-08
24	8.40 0.	1.01E-09	1.20E-08	0.	0.	0.	0.	0.	1.70E-12	8.28E-18	0.	0.	1.34E-08
25	8.30 0.	9.70E-10	6.30E-09	0.	0.	0.	0.	0.	1.71E-12	8.58E-18	0.	0.	9.27E-09
26	8.20 0.	9.28E-10	7.71E-09	0.	0.	0.	0.	0.	1.72E-12	8.90E-18	0.	0.	8.64E-09
27	8.10 0.	8.66E-10	5.20E-09	0.	0.	0.	0.	0.	1.73E-12	9.24E-18	0.	0.	6.80E-09
28	8.00 0.	8.45E-10	4.70E-09	0.	0.	0.	0.	0.	1.73E-12	9.59E-18	0.	0.	5.54E-09
29	7.90 0.	7.75E-10	3.21E-09	0.	0.	0.	0.	0.	1.74E-12	9.96E-18	0.	0.	4.08E-09
30	7.80 0.	7.50E-10	2.96E-09	0.	0.	0.	0.	0.	1.75E-12	1.03E-17	0.	0.	3.71E-09
31	7.70 0.	7.02E-10	2.09E-09	0.	0.	0.	0.	0.	1.76E-12	1.08E-17	0.	0.	2.79E-09
32	7.60 0.	6.54E-10	1.70E-09	0.	0.	0.	0.	0.	1.77E-12	1.12E-17	0.	0.	2.35E-09
33	7.50 0.	6.07E-10	1.28E-09	0.	0.	0.	0.	0.	1.78E-12	1.16E-17	0.	0.	1.98E-09
34	7.40 0.	5.59E-10	9.78E-10	0.	0.	0.	0.	0.	1.79E-12	1.21E-17	0.	0.	1.58E-09
35	7.30 0.	5.09E-10	7.71E-10	0.	0.	0.	0.	0.	1.80E-12	1.26E-17	0.	0.	1.34E-09
36	7.20 0.	4.61E-10	5.74E-10	0.	0.	0.	0.	0.	1.81E-12	1.32E-17	0.	0.	1.33E-09
37	7.10 0.	4.15E-10	4.65E-10	0.	0.	0.	0.	0.	1.82E-12	1.37E-17	0.	0.	1.29E-09
38	7.00 0.	3.70E-10	3.52E-10	0.	0.	0.	0.	0.	1.84E-12	1.43E-17	0.	0.	1.26E-09
39	6.90 0.	3.27E-10	2.69E-10	0.	0.	0.	0.	0.	1.85E-12	1.50E-17	0.	0.	1.86E-09
40	6.80 0.	2.82E-10	2.12E-10	0.	0.	0.	0.	0.	1.87E-12	1.56E-17	0.	0.	3.47E-09
41	6.70 0.	2.39E-10	1.53E-10	0.	0.	0.	0.	0.	1.88E-12	1.63E-17	0.	0.	7.46E-09
42	6.60 0.	1.98E-10	1.12E-10	0.	0.	0.	0.	0.	1.89E-12	1.71E-17	0.	0.	2.52E-09
43	6.50 0.	1.60E-10	6.99E-11	0.	0.	0.	0.	0.	1.91E-12	1.79E-17	0.	0.	5.48E-09
44	6.40 0.	1.25E-10	3.38E-11	0.	0.	0.	0.	0.	1.92E-12	1.87E-17	0.	0.	1.13E-08
45	6.30 0.	9.08E-11	3.89E-11	0.	0.	0.	0.	0.	1.94E-12	1.97E-17	0.	0.	3.98E-09
46	6.20 0.	6.39E-11	4.50E-11	0.	0.	0.	0.	0.	1.95E-12	2.06E-17	0.	0.	5.06E-09
47	6.10 0.	4.82E-11	3.11E-11	0.	0.	0.	0.	0.	1.97E-12	2.17E-17	0.	0.	1.56E-08
48	6.00 0.	3.65E-11	2.42E-11	0.	0.	0.	0.	0.	1.98E-12	2.28E-17	0.	0.	3.62E-08
49	5.90 0.	2.66E-11	1.82E-11	0.	0.	0.	0.	0.	1.98E-12	2.39E-17	0.	0.	4.76E-09
50	5.80 0.	1.92E-11	1.25E-11	0.	0.	0.	0.	0.	1.95E-12	2.52E-17	0.	0.	4.97E-09
51	5.70 0.	1.41E-11	8.16E-12	0.	0.	0.	0.	0.	1.84E-12	2.66E-17	0.	0.	3.73E-09

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 5000. DENSITY (GR/CC) 1.293E-08 (10.0E-06 NORM44L)

PHOTON ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	BETA	AD GAMMA	NG VIB-ROT	ND	NO	D- PHOTO-DET	FREE-FREE (IONS)	N P.I.E.	O P.I.E.	TOTAL AIR
52	5.60	3.94E-11	0.	6.74E-10	6.35E-09	0.	0.	0.	1.71E-12	2.00E-17	0.	0.	7.04E-09
53	5.50	3.09E-11	0.	9.10E-10	7.74E-09	0.	0.	0.	1.72E-12	2.98E-17	0.	0.	8.71E-09
54	5.40	3.47E-11	0.	6.67E-10	6.37E-09	0.	0.	0.	1.72E-12	3.13E-17	0.	0.	3.47E-09
55	5.30	3.04E-11	0.	6.67E-10	6.37E-09	0.	0.	0.	1.74E-12	3.31E-17	0.	0.	7.00E-09
56	5.20	1.79E-11	0.	6.64E-10	2.38E-09	0.	0.	0.	1.75E-12	3.50E-17	0.	0.	3.07E-09
57	5.10	1.56E-11	0.	5.87E-10	3.38E-09	0.	0.	0.	4.74E-17	1.76E-12	3.14E-17	0.	3.35E-09
58	5.00	1.06E-11	0.	4.57E-10	2.68E-09	0.	0.	0.	4.74E-17	1.76E-12	3.94E-17	0.	3.35E-09
59	4.90	8.79E-12	0.	4.54E-10	2.04E-09	6.	0.	0.	4.74E-17	1.76E-12	4.19E-17	0.	2.53E-09
60	4.80	8.91E-12	0.	4.52E-10	2.02E-09	0.	0.	0.	4.74E-17	1.81E-12	4.45E-17	0.	2.50E-09
61	4.70	8.74E-12	0.	4.08E-10	1.22E-09	0.	0.	0.	4.74E-17	1.82E-12	4.74E-17	0.	1.53E-09
62	4.60	9.39E-12	0.	3.77E-10	1.31E-09	0.	0.	0.	4.74E-17	1.84E-12	5.06E-17	0.	1.49E-09
63	4.50	9.29E-12	0.	2.28E-10	6.84E-10	0.	0.	0.	4.74E-17	1.89E-12	5.41E-17	0.	9.85E-10
64	4.40	7.39E-12	0.	1.69E-10	6.24E-10	0.	0.	0.	4.74E-17	1.87E-12	5.70E-17	0.	9.09E-10
65	4.30	5.87E-12	0.	1.21E-10	2.54E-10	0.	0.	0.	4.74E-17	1.89E-12	6.05E-17	0.	4.87E-10
66	4.20	4.40E-12	0.	8.69E-11	0.	0.	0.	0.	4.74E-17	1.89E-12	6.45E-17	0.	5.52E-10
67	4.10	3.96E-12	0.	1.23E-10	0.	0.	0.	0.	4.74E-17	1.90E-12	7.13E-17	0.	2.44E-10
68	4.00	3.18E-12	0.	1.64E-10	6.15E-11	0.	0.	0.	4.74E-17	1.91E-12	7.70E-17	0.	3.01E-10
69	3.90	2.19E-12	0.	1.44E-10	4.15E-11	0.	0.	0.	4.74E-17	1.90E-12	8.31E-17	0.	2.09E-10
70	3.80	2.22E-12	0.	4.93E-11	4.64E-10	0.	0.	0.	4.74E-17	1.89E-12	8.99E-17	0.	6.21E-10
71	3.70	1.53E-12	0.	1.17E-10	7.04E-11	0.	0.	0.	4.74E-17	1.75E-12	9.74E-17	0.	2.55E-10
72	3.60	1.20E-12	0.	1.74E-11	2.69E-10	7.00E-11	0.	0.	4.74E-17	1.75E-12	1.06E-16	0.	3.98E-11
73	3.50	9.50E-13	0.	6.98E-11	2.31E-09	3.95E-11	0.	0.	4.74E-17	1.60E-12	1.15E-16	0.	2.42E-10
74	3.40	7.08E-13	0.	1.74E-11	5.44E-11	4.33E-11	0.	0.	4.74E-17	9.22E-13	1.28E-16	0.	3.73E-11
75	3.30	5.08E-13	0.	2.68E-11	4.83E-11	4.33E-11	0.	0.	4.74E-17	9.24E-13	1.28E-16	0.	5.37E-11
76	3.20	2.89E-13	0.	9.79E-12	2.94E-09	2.53E-11	0.	0.	4.74E-17	9.25E-13	1.31E-16	0.	3.02E-09
77	3.10	2.89E-13	0.	9.16E-12	5.68E-11	1.88E-11	0.	0.	4.74E-17	9.28E-13	1.31E-16	0.	6.48E-11
78	3.00	2.14E-13	0.	3.13E-12	5.14E-10	1.48E-11	0.	0.	4.74E-17	9.30E-13	1.63E-16	0.	5.32E-10
79	2.90	1.49E-13	0.	1.94E-12	5.91E-10	7.92E-12	0.	0.	4.74E-17	9.31E-13	1.02E-16	0.	6.02E-10
80	2.80	1.26E-13	0.	2.45E-13	5.56E-11	3.65E-12	0.	0.	4.74E-17	9.33E-13	2.25E-16	0.	8.10E-11
81	2.70	6.08E-14	0.	3.53E-13	2.52E-10	1.27E-12	0.	0.	4.74E-17	9.33E-13	2.51E-16	0.	2.53E-10
82	2.60	1.94E-14	0.	1.66E-13	3.14E-11	5.73E-13	0.	0.	4.74E-17	9.33E-13	3.16E-16	0.	3.29E-11
83	2.50	1.13E-15	0.	2.96E-14	9.37E-12	6.88E-14	0.	0.	4.74E-17	9.33E-13	3.58E-16	0.	1.04E-11
84	2.40	0.	0.	1.98E-11	5.98E-15	0.	0.	0.	4.74E-17	9.33E-13	3.58E-16	0.	2.39E-11
85	2.30	0.	0.	3.20E-12	0.	0.	0.	0.	4.74E-17	9.23E-13	4.07E-16	0.	3.26E-11
86	2.20	0.	0.	4.51E-11	0.	0.	0.	0.	4.74E-17	9.22E-13	4.65E-16	0.	4.65E-11
87	2.10	0.	0.	1.29E-10	0.	0.	0.	0.	4.74E-17	9.14E-13	5.35E-16	0.	1.26E-10
88	2.00	0.	0.	1.72E-10	0.	0.	0.	0.	4.74E-17	8.88E-13	6.19E-16	0.	1.52E-10
89	1.90	0.	0.	5.76E-10	0.	0.	0.	0.	4.74E-17	8.54E-13	7.23E-16	0.	5.71E-10
90	1.80	0.	0.	5.68E-10	0.	0.	0.	0.	4.74E-17	8.17E-13	8.51E-16	0.	5.67E-10
91	1.70	0.	0.	5.94E-10	0.	0.	0.	0.	4.74E-17	7.70E-13	1.01E-15	0.	5.94E-10
92	1.60	0.	0.	4.36E-10	0.	0.	0.	0.	4.74E-17	6.51E-13	1.21E-15	0.	4.37E-10
93	1.50	0.	0.	5.06E-10	0.	0.	0.	0.	4.74E-17	2.96E-13	1.47E-15	0.	5.08E-10
94	1.40	0.	0.	7.09E-10	0.	0.	0.	0.	4.74E-17	0.	1.81E-15	0.	7.09E-10
95	1.30	0.	0.	3.99E-10	0.	0.	0.	0.	4.74E-17	0.	2.27E-15	0.	3.99E-10
96	1.20	0.	0.	5.58E-10	0.	0.	0.	0.	4.74E-17	0.	2.89E-15	0.	5.58E-10
97	1.10	0.	0.	3.07E-10	0.	0.	0.	0.	4.74E-17	0.	3.76E-15	0.	3.07E-10
98	1.00	0.	0.	3.31E-10	0.	0.	0.	0.	4.74E-17	0.	5.01E-15	0.	3.32E-10
99	0.90	0.	0.	2.24E-10	0.	0.	0.	0.	4.04E-13	4.74E-17	6.89E-15	0.	2.25E-10
100	0.80	0.	0.	9.81E-11	0.	0.	0.	0.	2.70E-12	4.74E-17	9.85E-15	0.	1.01E-10
101	0.70	0.	0.	2.96E-11	0.	0.	0.	0.	2.14E-12	4.74E-17	1.46E-14	0.	3.12E-11
102	0.60	0.	0.	2.22E-11	0.	0.	0.	0.	7.33E-12	4.74E-17	2.33E-14	0.	7.56E-12

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY E.V.	O2 S-R BANDS	O2 S-R CNT.	P2 P-W NO. 1	TEMPERATURE (DEGREES K)	5000. DENSITY (GM/CC) 1.293E-09 (10.0E-07 NORMAL)	NO BETA	NO GAMMA	NO 2	D- PHOTO-MET (IONS)	FREE-FREE N P.E.	TOTAL AIR P.E.	
												NO BETA
1	10.70	0.	3.25E-08	0.	0.	0.	0.	0.	3.60E-14	2.92E-19	0.	3.25E-08
2	10.60	0.	2.45E-08	0.	0.	0.	0.	0.	3.41E-14	2.85E-19	0.	2.45E-08
3	10.50	0.	2.20E-08	0.	0.	0.	0.	0.	3.64E-14	2.14E-19	0.	2.20E-08
4	10.40	0.	1.78E-08	0.	0.	0.	0.	0.	3.62E-14	2.27E-19	0.	1.78E-08
5	10.30	0.	1.28E-08	0.	0.	0.	0.	0.	3.62E-14	2.27E-19	0.	1.28E-08
6	10.20	0.	1.17E-08	0.	0.	0.	0.	0.	3.62E-14	2.33E-19	0.	1.17E-08
7	10.10	0.	9.73E-09	0.	0.	0.	0.	0.	3.63E-14	2.40E-19	0.	9.73E-09
8	10.00	0.	6.59E-09	0.	0.	0.	0.	0.	3.64E-14	2.48E-19	0.	6.59E-09
9	9.90	0.	6.44E-09	0.	0.	0.	0.	0.	3.64E-14	2.55E-19	0.	6.44E-09
10	9.80	0.	5.05E-09	0.	0.	0.	0.	0.	3.65E-14	2.63E-19	0.	5.05E-09
11	9.70	0.	3.81E-09	0.	0.	0.	0.	0.	3.65E-14	2.72E-19	0.	3.81E-09
12	9.60	0.	3.64E-09	0.	0.	0.	0.	0.	3.66E-14	2.80E-19	0.	3.64E-09
13	9.50	0.	5.12E-12	2.38E-09	0.	0.	0.	0.	3.67E-14	2.89E-19	0.	5.12E-12
14	9.40	0.	6.12E-12	1.90E-09	0.	0.	0.	0.	3.68E-14	2.99E-19	0.	6.12E-12
15	9.30	0.	6.12E-12	1.84E-09	0.	0.	0.	0.	3.70E-14	3.09E-19	0.	6.12E-12
16	9.20	0.	6.62E-12	1.08E-09	0.	0.	0.	0.	3.71E-14	3.19E-19	0.	6.62E-12
17	9.10	0.	6.17E-12	1.14E-09	0.	0.	0.	0.	3.72E-14	3.29E-19	0.	6.17E-12
18	9.00	0.	9.91E-12	8.06E-10	0.	0.	0.	0.	3.73E-14	3.41E-19	0.	9.91E-12
19	8.90	0.	1.17E-11	6.23E-10	0.	0.	0.	0.	3.75E-14	3.52E-19	0.	1.17E-11
20	8.80	0.	1.16E-11	5.98E-10	0.	0.	0.	0.	3.77E-14	3.65E-19	0.	1.16E-11
21	8.70	0.	1.10E-11	5.65E-10	0.	0.	0.	0.	3.79E-14	3.91E-19	0.	1.10E-11
22	8.60	0.	1.04E-11	5.38E-10	0.	0.	0.	0.	3.80E-14	4.05E-19	0.	1.04E-11
23	8.50	0.	1.01E-11	5.22E-10	0.	0.	0.	0.	3.82E-14	4.19E-19	0.	1.01E-11
24	8.40	0.	9.70E-12	4.48E-10	0.	0.	0.	0.	3.84E-14	4.35E-19	0.	9.70E-12
25	8.30	0.	9.28E-12	4.33E-10	0.	0.	0.	0.	3.86E-14	4.51E-19	0.	9.28E-12
26	8.20	0.	8.66E-12	4.00E-10	0.	0.	0.	0.	3.88E-14	4.68E-19	0.	8.66E-12
27	8.10	0.	8.43E-12	3.81E-10	0.	0.	0.	0.	3.90E-14	4.86E-19	0.	8.43E-12
28	8.00	0.	7.97E-12	3.55E-10	0.	0.	0.	0.	3.92E-14	5.05E-19	0.	7.97E-12
29	7.90	0.	7.50E-12	3.32E-10	0.	0.	0.	0.	3.94E-14	5.24E-19	0.	7.50E-12
30	7.80	0.	7.02E-12	3.12E-10	0.	0.	0.	0.	3.96E-14	5.45E-19	0.	7.02E-12
31	7.70	0.	6.55E-12	2.94E-10	0.	0.	0.	0.	3.98E-14	5.67E-19	0.	6.55E-12
32	7.60	0.	6.07E-12	2.78E-10	0.	0.	0.	0.	4.00E-14	5.90E-19	0.	6.07E-12
33	7.50	0.	5.59E-12	2.63E-10	0.	0.	0.	0.	4.02E-14	6.14E-19	0.	5.59E-12
34	7.40	0.	5.10E-12	2.49E-10	0.	0.	0.	0.	4.05E-14	6.40E-19	0.	5.10E-12
35	7.30	0.	4.61E-12	2.34E-10	0.	0.	0.	0.	4.07E-14	6.67E-19	0.	4.61E-12
36	7.20	0.	4.15E-12	2.18E-10	0.	0.	0.	0.	4.10E-14	6.96E-19	0.	4.15E-12
37	7.10	0.	3.70E-12	2.05E-10	0.	0.	0.	0.	4.13E-14	7.26E-19	0.	3.70E-12
38	7.00	0.	3.26E-12	1.94E-10	0.	0.	0.	0.	4.17E-14	7.58E-19	0.	3.26E-12
39	6.90	0.	2.84E-12	1.84E-10	0.	0.	0.	0.	4.20E-14	7.92E-19	0.	2.84E-12
40	6.80	0.	2.45E-12	1.74E-10	0.	0.	0.	0.	4.23E-14	8.28E-19	0.	2.45E-12
41	6.70	0.	2.09E-12	1.65E-10	0.	0.	0.	0.	4.27E-14	8.66E-19	0.	2.09E-12
42	6.60	0.	1.76E-12	1.57E-10	0.	0.	0.	0.	4.30E-14	9.07E-19	0.	1.76E-12
43	6.50	0.	1.45E-12	1.49E-10	0.	0.	0.	0.	4.33E-14	9.50E-19	0.	1.45E-12
44	6.40	0.	1.17E-12	1.42E-10	0.	0.	0.	0.	4.37E-14	9.97E-19	0.	1.17E-12
45	6.30	0.	9.43E-13	1.36E-10	0.	0.	0.	0.	4.40E-14	1.05E-18	0.	9.43E-13
46	6.20	0.	7.84E-13	1.30E-10	0.	0.	0.	0.	4.44E-14	1.10E-18	0.	7.84E-13
47	6.10	0.	6.38E-13	1.24E-10	0.	0.	0.	0.	4.48E-14	1.15E-18	0.	6.38E-13
48	6.00	0.	5.06E-13	1.18E-10	0.	0.	0.	0.	4.52E-14	1.21E-18	0.	5.06E-13
49	5.90	0.	3.86E-13	1.13E-10	0.	0.	0.	0.	4.56E-14	1.26E-18	0.	3.86E-13
50	5.80	0.	2.76E-13	1.08E-10	0.	0.	0.	0.	4.60E-14	1.32E-18	0.	2.76E-13
51	5.70	0.	1.76E-13	1.03E-10	0.	0.	0.	0.	4.64E-14	1.38E-18	0.	1.76E-13

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 5000. DENSITY (GM/CC) 1.293E-09 (10.0E-07 NORMAL)

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	BETA	NO GAMMA	NO VIB-ROT	NO PHOTO-DET (IONS)	FREQ-FREE W P.E.	D P.E.	TOTAL AIR
52	5.60	3.91E-13	0.	0.	6.90E-12	6.35E-11	0.	3.85E-14	1.42E-15	9.29E-11
53	5.50	3.69E-13	0.	0.	1.19E-11	1.02E-10	0.	3.86E-14	1.50E-10	1.14E-10
54	5.40	3.47E-13	0.	0.	6.78E-12	3.65E-11	0.	3.88E-14	1.58E-10	4.57E-11
55	5.30	3.04E-13	0.	0.	9.04E-12	8.34E-11	0.	3.91E-14	1.64E-10	9.12E-11
56	5.20	1.79E-13	0.	0.	4.70E-12	3.14E-11	0.	3.94E-14	1.77E-10	4.03E-11
57	5.10	1.56E-13	0.	0.	7.72E-12	4.45E-11	0.	6.35E-20	3.88E-10	5.28E-11
58	5.00	1.98E-13	0.	0.	6.02E-12	3.74E-11	0.	6.35E-20	4.06E-10	3.44E-11
59	4.90	8.78E-14	0.	0.	6.01E-12	2.72E-11	0.	6.35E-20	4.93E-14	3.33E-11
60	4.80	8.92E-14	0.	0.	6.15E-12	2.64E-11	0.	6.35E-20	4.07E-14	5.29E-11
61	4.70	8.75E-14	0.	0.	5.30E-12	1.60E-11	0.	6.35E-20	4.10E-14	2.40E-11
62	4.60	9.36E-14	0.	0.	4.97E-12	1.72E-11	0.	6.35E-20	4.13E-14	2.23E-11
63	4.50	8.30E-14	0.	0.	3.80E-12	2.01E-12	0.	6.35E-20	4.17E-14	1.30E-11
64	4.40	7.39E-14	0.	0.	3.85E-12	2.64E-12	0.	6.35E-20	4.20E-14	1.20E-11
65	4.30	5.68E-14	0.	0.	2.78E-12	3.36E-12	0.	6.35E-20	4.23E-14	6.46E-12
66	4.20	4.81E-14	0.	0.	2.67E-12	3.37E-12	0.	6.35E-20	4.27E-14	7.64E-12
67	4.10	3.96E-14	0.	0.	2.16E-12	2.10E-13	0.	6.35E-20	4.30E-14	3.27E-12
68	4.00	3.13E-14	0.	0.	1.84E-12	5.47E-13	0.	6.35E-20	4.34E-14	4.44E-12
69	3.90	2.22E-14	0.	0.	1.33E-12	3.05E-13	0.	6.35E-20	4.37E-14	4.74E-12
70	3.80	2.22E-14	0.	0.	8.53E-13	3.57E-13	0.	6.35E-20	4.40E-14	3.98E-11
71	3.70	1.53E-14	0.	0.	2.03E-12	5.41E-13	0.	6.35E-20	4.43E-14	4.34E-12
72	3.60	1.20E-14	0.	0.	4.75E-13	2.22E-11	0.	6.35E-20	3.94E-14	2.36E-11
73	3.50	9.57E-15	0.	0.	1.21E-12	1.78E-10	0.	6.35E-20	3.60E-14	1.79E-11
74	3.40	7.09E-15	0.	0.	3.01E-13	2.65E-12	0.	6.35E-20	2.88E-14	6.35E-10
75	3.30	5.07E-15	0.	0.	4.59E-13	3.71E-11	0.	6.35E-20	2.68E-14	6.96E-10
76	3.20	3.07E-15	0.	0.	1.92E-13	2.29E-10	0.	6.35E-20	2.08E-14	7.66E-10
77	3.10	2.89E-15	0.	0.	1.41E-13	4.35E-12	0.	6.35E-20	2.09E-14	8.49E-10
78	3.00	2.12E-15	0.	0.	3.41E-14	3.95E-13	0.	6.35E-20	2.09E-14	8.49E-10
79	2.90	1.43E-15	0.	0.	3.35E-14	4.53E-13	0.	6.35E-20	2.09E-14	9.27E-10
80	2.80	1.29E-15	0.	0.	1.26E-14	4.29E-13	0.	6.35E-20	2.10E-14	1.03E-10
81	2.70	6.06E-16	0.	0.	6.12E-15	1.94E-11	0.	6.35E-20	2.10E-14	1.27E-10
82	2.60	1.91E-16	0.	0.	2.40E-15	2.41E-12	0.	6.35E-20	2.10E-14	1.43E-10
83	2.50	1.13E-17	0.	0.	5.13E-16	7.21E-13	0.	6.35E-20	2.10E-14	1.86E-10
84	2.40	0.	0.	0.	1.52E-16	7.87E-13	0.	6.35E-20	2.10E-14	1.86E-10
85	2.30	0.	0.	0.	5.40E-16	0.	0.	6.35E-20	2.08E-14	2.06E-10
86	2.20	0.	0.	0.	7.66E-16	0.	0.	6.35E-20	2.06E-14	2.36E-10
87	2.10	0.	0.	0.	2.17E-16	0.	0.	6.35E-20	2.07E-14	2.71E-10
88	2.00	0.	0.	0.	2.28E-16	0.	0.	6.35E-20	2.07E-14	3.14E-10
89	1.90	0.	0.	0.	9.87E-16	0.	0.	6.35E-20	1.92E-14	3.66E-10
90	1.80	0.	0.	0.	9.81E-16	0.	0.	6.35E-20	1.84E-14	4.31E-10
91	1.70	0.	0.	0.	1.03E-16	0.	0.	6.35E-20	1.84E-14	5.12E-10
92	1.60	0.	0.	0.	7.56E-16	0.	0.	6.35E-20	1.73E-14	5.12E-10
93	1.50	0.	0.	0.	8.79E-16	0.	0.	6.35E-20	1.47E-14	6.15E-10
94	1.40	0.	0.	0.	1.27E-16	0.	0.	6.35E-20	6.67E-15	7.47E-10
95	1.30	0.	0.	0.	6.90E-16	0.	0.	6.35E-20	9.19E-15	9.19E-10
96	1.20	0.	0.	0.	9.32E-16	0.	0.	6.35E-20	0.	1.05E-10
97	1.10	0.	0.	0.	5.32E-16	0.	0.	6.35E-20	0.	1.46E-10
98	1.00	0.	0.	0.	5.74E-16	0.	0.	6.35E-20	0.	1.92E-10
99	0.90	0.	0.	0.	3.69E-16	0.	0.	6.35E-20	0.	2.54E-10
100	0.80	0.	0.	0.	1.70E-16	0.	0.	6.35E-20	0.	3.49E-10
101	0.70	0.	0.	0.	5.07E-16	0.	0.	6.35E-20	0.	4.99E-10
102	0.60	0.	0.	0.	3.84E-16	0.	0.	6.35E-20	0.	7.49E-10
103	0.50	0.	0.	0.	0.	0.	0.	6.35E-20	0.	1.19E-10
104	0.40	0.	0.	0.	0.	0.	0.	6.35E-20	0.	1.19E-10

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E.V.	02 S-R BANDS CONT.	02 S-R NO. 1	TEMPERATURE (DEGREES K)	6000.	DENSITY (GM/CC)	NO. 2	0-0 PHOTO-DET (IONS)	FREE-FREE N P.E.	0 TOTAL AIR																																									
										NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7	NO. 8	NO. 9	NO. 10	NO. 11	NO. 12	NO. 13	NO. 14	NO. 15	NO. 16	NO. 17	NO. 18	NO. 19	NO. 20	NO. 21	NO. 22	NO. 23	NO. 24	NO. 25	NO. 26	NO. 27	NO. 28	NO. 29	NO. 30	NO. 31	NO. 32	NO. 33	NO. 34	NO. 35	NO. 36	NO. 37	NO. 38	NO. 39	NO. 40	NO. 41
1 10.70 0.	0.	1.30E 01	0.	0.	0.	0.	4.19E-02	6.30E-08	1.31E-07	2.92E-06	1.30E 01																																							
2 10.60 0.	0.	1.02E 01	0.	0.	0.	0.	4.50E-02	6.57E-08	1.01E-07	2.92E-06	1.03E 01																																							
3 10.50 0.	0.	9.45F 00	0.	0.	0.	0.	4.51E-02	6.76E-08	1.02E-07	2.93E-06	9.51E 00																																							
4 10.40 0.	0.	7.91E 00	0.	0.	0.	0.	4.31E-02	6.99E-08	1.02E-07	2.94E-06	7.96E 00																																							
5 10.30 0.	0.	5.95E 00	0.	0.	0.	0.	4.82E-02	7.16E-08	1.02E-07	2.94E-06	6.08E 00																																							
6 10.20 0.	0.	5.60E 00	0.	0.	0.	0.	4.52E-02	7.38E-08	1.32E-07	2.95E-06	5.03E 00																																							
7 10.10 0.	0.	4.60E 00	0.	0.	0.	0.	4.53E-02	7.60E-08	1.03E-07	2.95E-06	4.04E 00																																							
8 10.00 0.	0.	3.46E 00	0.	0.	0.	0.	4.54E-02	7.83E-08	1.03E-07	2.96E-06	3.50E 00																																							
9 9.90 0.	0.	3.43E 00	0.	0.	0.	0.	4.94E-02	8.07E-08	1.03E-07	2.97E-06	3.47E 00																																							
10 9.80 0.	0.	2.79E 00	0.	0.	0.	0.	4.55E-02	8.32E-08	1.03E-07	2.97E-06	2.84E 00																																							
11 9.70 0.	0.	2.00E 00	0.	0.	0.	0.	4.56E-02	8.50E-08	1.04E-07	2.98E-06	2.05E 00																																							
12 9.60 0.	0.	2.14E 00	0.	0.	0.	0.	4.57E-02	8.86E-08	1.04E-07	2.99E-06	2.10E 00																																							
13 9.50 0.	2.20E 01	1.49E 00	0.	0.	0.	0.	4.58E-02	9.14E-08	1.04E-07	2.99E-06	2.35E 01																																							
14 9.40 0.	2.42E 01	1.24E 00	0.	0.	0.	0.	4.59E-02	9.44E-08	1.04E-07	2.99E-06	2.54E 01																																							
15 9.30 0.	2.63E 01	1.21E 00	0.	0.	0.	0.	4.61E-02	9.74E-08	1.05E-07	3.00E-06	2.76E 01																																							
16 9.20 0.	2.85E 01	7.74E-01	0.	0.	0.	0.	4.63E-02	1.01E-07	2.74E-06	3.01E-06	2.94E 01																																							
17 9.10 0.	3.50E 01	6.07E-01	0.	0.	0.	0.	4.64E-02	1.04E-07	2.72E-06	3.01E-06	3.59E 01																																							
18 9.00 0.	4.23E 01	6.10E-01	0.	0.	0.	0.	4.66E-02	1.06E-07	2.71E-06	3.02E-06	4.29E 01																																							
19 8.90 0.	4.95E 01	4.69E-01	0.	0.	0.	0.	4.68E-02	1.11E-07	2.70E-06	3.02E-06	5.01E 01																																							
20 8.80 0.	5.15E 01	4.48E-01	0.	0.	0.	0.	4.69E-02	1.15E-07	2.69E-06	3.03E-06	5.20E 01																																							
21 8.70 0.	4.92E 01	3.13E-01	0.	0.	0.	0.	4.71E-02	1.19E-07	2.67E-06	3.04E-06	4.96E 01																																							
22 8.60 0.	4.70E 01	3.14E-01	0.	0.	0.	0.	4.73E-02	1.23E-07	2.66E-06	3.04E-06	4.74E 01																																							
23 8.50 0.	4.53E 01	2.21E-01	0.	0.	0.	0.	4.74E-02	1.29E-07	2.65E-06	3.05E-06	4.55E 01																																							
24 8.40 0.	4.37E 01	2.08E-01	0.	0.	0.	0.	4.77E-02	1.32E-07	2.64E-06	3.05E-06	4.46E 01																																							
25 8.30 0.	4.16E 01	1.44E-01	0.	0.	0.	0.	4.79E-02	1.37E-07	2.62E-06	3.07E-06	4.28E 01																																							
26 8.20 0.	4.00E 01	1.36E-01	0.	0.	0.	0.	4.82E-02	1.42E-07	2.61E-06	3.12E-06	4.02E 01																																							
27 8.10 0.	3.84E 01	9.74E-02	0.	0.	0.	0.	4.84E-02	1.48E-07	2.59E-06	3.16E-06	3.86E 01																																							
28 8.00 0.	3.68E 01	9.04E-02	0.	0.	0.	0.	4.87E-02	1.53E-07	2.57E-06	3.20E-06	3.69E 01																																							
29 7.90 0.	3.49E 01	6.51E-02	0.	0.	0.	0.	4.90E-02	1.59E-07	2.55E-06	3.24E-06	3.52E 01																																							
30 7.80 0.	3.31E 01	6.18E-02	0.	0.	0.	0.	4.92E-02	1.63E-07	2.54E-06	3.29E-06	3.32E 01																																							
31 7.70 0.	3.12E 01	4.58E-02	0.	0.	0.	0.	4.94E-02	1.72E-07	2.50E-06	3.33E-06	3.13E 01																																							
32 7.60 0.	2.93E 01	3.86E-02	0.	0.	0.	0.	4.97E-02	1.79E-07	2.50E-06	3.37E-06	2.94E 01																																							
33 7.50 0.	2.74E 01	3.06E-02	0.	0.	0.	0.	4.99E-02	1.86E-07	2.48E-06	3.42E-06	2.74E 01																																							
34 7.40 0.	2.54E 01	2.42E-02	0.	0.	0.	0.	5.02E-02	1.94E-07	2.46E-06	3.46E-06	2.55E 01																																							
35 7.30 0.	2.35E 01	2.00E-02	0.	0.	0.	0.	5.05E-02	2.02E-07	2.45E-06	3.50E-06	2.37E 01																																							
36 7.20 0.	2.16E 01	1.56E-02	0.	0.	0.	0.	5.08E-02	2.10E-07	2.44E-06	3.54E-06	2.20E 01																																							
37 7.10 0.	2.01E 01	1.31E-02	0.	0.	0.	0.	5.12E-02	2.20E-07	2.41E-06	3.59E-06	2.04E 01																																							
38 7.00 4.53E-02	0.	1.04E-02	0.	0.	0.	0.	5.16E-02	2.29E-07	2.39E-06	3.63E-06	1.87E 00																																							
39 6.50 3.13E-02	0.	8.30E-03	0.	0.	0.	0.	5.20E-02	2.39E-07	2.38E-06	3.67E-06	1.79E 00																																							
40 6.80 6.41E-02	0.	6.86E-03	0.	0.	0.	0.	5.24E-02	2.50E-07	2.36E-06	3.72E-06	1.72E 00																																							
41 6.70 4.22E-02	0.	5.17E-03	0.	0.	0.	0.	5.28E-02	2.61E-07	2.34E-06	3.76E-06	1.66E 00																																							
42 6.60 2.36E-02	0.	3.98E-03	0.	0.	0.	0.	5.33E-02	2.74E-07	2.33E-06	3.81E-06	1.60E 00																																							
43 6.50 1.23E-02	0.	2.62E-03	0.	0.	0.	0.	5.37E-02	2.86E-07	2.32E-06	3.85E-06	1.57E 00																																							
44 6.40 1.70E-02	0.	1.38E-03	0.	0.	0.	0.	5.41E-02	3.00E-07	2.31E-06	3.89E-06	1.53E 00																																							
45 6.30 3.58E-02	0.	6.73E-04	0.	0.	0.	0.	5.45E-02	3.15E-07	2.29E-06	3.95E-06	1.49E 00																																							
46 6.20 9.85E-02	0.	2.65E-04	0.	0.	0.	0.	5.49E-02	3.30E-07	2.28E-06	4.04E-06	1.45E 00																																							
47 6.10 3.50E-01	0.	9.67E-05	0.	0.	0.	0.	5.53E-02	3.47E-07	2.29E-06	4.12E-06	1.42E 00																																							
48 6.00 8.52E-01	0.	2.08E-05	0.	0.	0.	0.	5.58E-02	3.64E-07	2.30E-06	4.21E-06	1.38E 00																																							
49 5.90 1.25E 00	0.	1.46E-06	0.	0.	0.	0.	5.58E-02	3.83E-07	2.30E-06	4.30E-06	1.35E 00																																							
50 5.80 1.72E 00	0.	6.66E-01	1.91E 00	0.	0.	0.	5.49E-02	4.03E-07	2.31E-06	4.38E-06	1.40E 00																																							
51 5.70 1.79E 00	0.	5.53E-01	1.64E 00	0.	0.	0.	5.16E-02	4.25E-07	2.31E-06	4.47E-06	1.43E 00																																							

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 4700. DENSITY (GM/CC) 1.233E-07 ( 1.0E 01 NORMAL)

PHOTON ENERGY BANDS	N2 POS.	N2 PRD POS.	N2 1ST NEG.	M2	BETA	NO GAMMA	NO VIB-RPT	NO 2	PHOTO-DET (IONS)	FREE-FREE		TOTAL AIR	
										M	P.E.	M	P.E.
52	5.60	2.10E 00 0.	0.	0.	4.15E-01	3.44E 00 0.	0.	0.	4.80E-02	4.48E-07	2.32E-08	4.55E-04	6.03E 00
53	5.50	2.04E 00 0.	0.	0.	5.35E-01	3.01E 00 0.	0.	0.	4.82E-02	4.73E-07	2.32E-08	4.64E-04	6.43E 00
54	5.40	1.99E 00 0.	0.	0.	4.11E-01	1.74E 00 0.	0.	0.	4.80E-02	5.05E-07	2.33E-08	4.73E-04	4.18E 00
55	5.30	1.90E 00 0.	0.	0.	4.74E-01	3.37E 00 0.	0.	0.	4.80E-02	5.26E-07	2.33E-08	4.81E-04	5.64E 00
56	5.20	1.83E 00 0.	0.	0.	4.76E-01	3.45E 00 0.	0.	0.	4.91E-02	5.60E-07	2.35E-08	4.95E-04	3.03E 00
57	5.10	1.80E 00 0.	0.	0.	3.95E-01	1.64E 00 0.	0.	0.	4.44E-03	4.98E-07	2.44E-08	5.08E-04	3.50E 00
58	5.00	1.00E-01 0.	0.	0.	3.14E-01	1.72E 00 0.	0.	0.	4.44E-03	4.98E-07	2.44E-08	5.21E-04	2.79E 00
59	4.90	5.78E-01 0.	0.	0.	3.21E-01	1.42E 00 0.	0.	0.	4.44E-03	5.08E-07	2.44E-08	5.33E-04	2.37E 00
60	4.80	5.86E-01 0.	0.	0.	3.30E-01	1.33E 00 0.	0.	0.	4.44E-03	5.08E-07	2.44E-08	5.46E-04	2.31E 00
61	4.70	5.94E-01 0.	0.	0.	2.94E-01	9.24E-01 0.	0.	0.	4.44E-03	5.12E-07	2.45E-08	5.60E-04	1.97E 00
62	4.60	6.56E-01 0.	0.	0.	2.81E-01	9.57E-01 0.	0.	0.	4.44E-03	5.16E-07	2.45E-08	5.73E-04	1.93E 00
63	4.50	6.05E-01 0.	0.	0.	2.84E-01	5.57E-01 0.	0.	0.	4.44E-03	5.20E-07	2.45E-08	5.86E-04	1.44E 00
64	4.40	5.62E-01 0.	0.	0.	2.09E-01	4.84E-01 0.	0.	0.	4.44E-03	5.24E-07	2.45E-08	6.00E-04	1.30E 00
65	4.30	4.64E-01 0.	0.	0.	1.75E-01	2.61E-01 0.	0.	0.	4.44E-03	5.28E-07	2.45E-08	6.13E-04	9.13E-01
66	4.20	3.92E-01 0.	0.	0.	1.73E-01	2.07E-01 0.	0.	0.	4.44E-03	5.33E-07	2.45E-08	6.27E-04	6.26E-01
67	4.10	3.33E-01 0.	0.	0.	1.46E-01	4.87E-02 0.	0.	0.	4.44E-03	5.38E-07	2.45E-08	6.41E-04	5.66E-01
68	4.00	2.73E-01 0.	0.	0.	1.28E-01	3.51E-02 0.	0.	0.	4.44E-03	5.38E-07	2.45E-08	6.55E-04	5.60E-01
69	3.90	2.00E-01 0.	0.	0.	9.02E-02	1.79E-02 0.	0.	0.	4.44E-03	5.38E-07	2.45E-08	6.69E-04	3.77E-01
70	3.80	2.06E-01 0.	0.	0.	2.93E-03	6.60E-06 1.01E-01 0.	0.	0.	4.44E-03	5.38E-07	2.45E-08	6.83E-04	3.50E-01
71	3.70	1.51E-01 0.	0.	0.	5.61E-03	1.01E-06 6.73E-02 0.	0.	0.	4.44E-03	4.91E-07	1.95E-06 3.35E-08 3.13E-07 2.81E-01	7.01E-04	2.52E-01
72	3.60	1.23E-01 0.	0.	0.	1.74E-03	5.54E-06 7.44E-02 0.	0.	0.	4.44E-03	4.91E-07	1.95E-06 3.00E-09 3.65E-07 4.18E-07 2.60E-01	7.15E-04	2.60E-01
73	3.50	1.01E-01 0.	0.	0.	3.70E-03	3.21E-05 4.54E-02 0.	0.	0.	4.44E-03	4.49E-07	1.84E-06 4.09E-08 4.75E-07 4.75E-07 1.60E-01	7.29E-04	1.60E-01
74	3.40	7.88E-02 0.	0.	0.	1.18E-03	8.40E-07 5.05E-02 0.	0.	0.	4.44E-03	2.50E-07	2.01E-06 1.09E-08 4.75E-07 4.75E-07 1.60E-01	7.43E-04	1.60E-01
75	3.30	5.79E-02 0.	0.	0.	1.57E-03	8.46E-08 3.70E-02 0.	0.	0.	4.44E-03	2.60E-07	2.25E-06 1.35E-08 5.25E-07 1.22E-01	7.57E-04	1.22E-01
76	3.20	4.52E-02 0.	0.	0.	6.40E-04	3.90E-05 3.50E-02 0.	0.	0.	4.44E-03	2.60E-07	2.45E-06 4.45E-09 5.85E-07 1.00E-01	7.71E-04	1.00E-01
77	3.10	3.61E-02 0.	0.	0.	5.41E-04	3.34E-06 2.65E-02 0.	0.	0.	4.44E-03	2.61E-07	2.69E-06 1.52E-09 6.42E-07 6.22E-02	7.85E-04	6.22E-02
78	3.00	2.78E-02 0.	0.	0.	2.42E-04	8.66E-06 2.03E-02 0.	0.	0.	4.44E-03	2.61E-07	2.91E-06 1.77E-08 6.98E-07 7.98E-02	7.99E-04	7.98E-02
79	2.90	1.98E-02 0.	0.	0.	1.44E-04	8.40E-06 1.19E-02 0.	0.	0.	4.44E-03	2.62E-07	3.24E-06 1.92E-08 7.54E-07 5.25E-02	8.13E-04	5.25E-02
80	2.80	1.84E-02 0.	0.	0.	6.07E-05	1.24E-06 6.30E-03 0.	0.	0.	4.44E-03	2.62E-07	3.61E-06 2.07E-08 8.12E-07 5.51E-02	8.27E-04	5.51E-02
81	2.70	1.70E-02 0.	0.	0.	2.81E-05	4.37E-06 2.38E-03 0.	0.	0.	4.44E-03	2.62E-07	4.02E-06 2.25E-08 8.75E-07 4.23E-02	8.41E-04	4.23E-02
82	2.60	1.55E-02 0.	0.	0.	1.40E-05	4.75E-07 7.85E-04 0.	0.	0.	4.44E-03	2.62E-07	4.43E-06 2.43E-08 9.22E-07 3.47E-02	8.55E-04	3.47E-02
83	2.50	1.49E-04 0.	0.	0.	2.22E-06	2.07E-07 1.51E-04 0.	0.	0.	4.44E-03	2.62E-07	5.07E-06 2.62E-08 1.62E-07 3.10E-02	8.69E-04	3.10E-02
84	2.40	0.	0.	0.	3.47E-07	1.78E-05 0.	0.	0.	4.44E-03	2.62E-07	5.74E-06 4.95E-09 2.00E-07 3.09E-02	8.83E-04	3.09E-02
85	2.30	0.	0.	0.	4.44E-03	0.	0.	0.	4.44E-03	2.60E-07	6.58E-06 1.09E-08 2.38E-07 3.19E-02	8.97E-04	3.19E-02
86	2.20	0.	0.	0.	2.34E-03	0.	0.	0.	4.44E-03	2.59E-07	7.46E-06 1.29E-08 2.66E-07 3.27E-02	9.11E-04	3.27E-02
87	2.10	0.	0.	0.	5.12E-03	0.	0.	0.	4.44E-03	2.59E-07	8.59E-06 1.49E-08 3.04E-07 3.54E-02	9.25E-04	3.54E-02
88	2.00	0.	0.	0.	6.28E-03	0.	0.	0.	4.44E-03	2.58E-07	9.91E-06 1.70E-08 3.50E-07 3.82E-02	9.39E-04	3.82E-02
89	1.90	0.	0.	0.	2.08E-02	0.	0.	0.	4.44E-03	2.48E-07	1.16E-05 1.91E-08 4.30E-07 4.92E-02	9.53E-04	4.92E-02
90	1.80	0.	0.	0.	1.86E-02	0.	0.	0.	4.44E-03	2.39E-07	1.36E-05 2.20E-08 4.98E-07 4.60E-02	9.67E-04	4.60E-02
91	1.70	0.	0.	0.	2.12E-02	0.	0.	0.	4.44E-03	2.18E-07	1.62E-05 2.55E-08 5.83E-07 4.73E-02	9.81E-04	4.73E-02
92	1.60	0.	0.	0.	1.44E-02	0.	0.	0.	4.44E-03	1.83E-07	1.93E-05 2.99E-08 6.67E-07 3.70E-02	9.95E-04	3.70E-02
93	1.50	0.	0.	0.	1.62E-02	0.	0.	0.	4.44E-03	1.63E-07	2.37E-05 3.43E-08 7.66E-07 3.09E-02	1.009E-03	3.09E-02
94	1.40	0.	0.	0.	2.85E-02	0.	0.	0.	4.44E-03	1.42E-07	2.87E-05 3.95E-08 8.33E-07 2.70E-02	1.023E-03	2.70E-02
95	1.30	0.	0.	0.	1.43E-02	0.	0.	0.	4.44E-03	1.21E-07	3.38E-05 4.56E-08 9.33E-07 2.39E-02	1.037E-03	2.39E-02
96	1.20	0.	0.	0.	1.74E-02	0.	0.	0.	4.44E-03	1.00E-07	3.89E-05 5.08E-08 9.70E-07 1.98E-02	1.051E-03	1.98E-02
97	1.10	0.	0.	0.	1.17E-02	0.	0.	0.	4.44E-03	8.85E-08	4.40E-05 5.60E-08 9.01E-07 1.57E-02	1.065E-03	1.57E-02
98	1.00	0.	0.	0.	3.13E-02	0.	0.	0.	4.44E-03	6.07E-05	5.19E-05 6.19E-08 9.17E-07 1.53E-02	1.079E-03	1.53E-02
99	0.90	0.	0.	0.	8.29E-03	0.	0.	0.	4.44E-03	4.19E-06	4.80E-06 6.80E-08 7.06E-07 1.31E-02	1.093E-03	1.31E-02
100	0.80	0.	0.	0.	3.70E-03	0.	0.	0.	4.44E-03	1.55E-06	5.35E-06 7.55E-08 1.23E-06 1.07E-02	1.107E-03	1.07E-02
101	0.70	0.	0.	0.	1.07E-03	0.	0.	0.	4.44E-03	2.36E-06	6.26E-06 8.36E-08 1.38E-06 7.35E-03	1.121E-03	7.35E-03
102	0.60	0.	0.	0.	1.73E-05	0.	0.	0.	4.44E-03	6.38E-06	4.99E-08 1.07E-06 1.12E-02	1.135E-03	1.12E-02



TEMPERATURE (DEGREES K) 6000. DENSITY (GM/CC) 1.293E-03 (10.5E-01 NORMAL) ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E.V.	O2 S-R BANDS	O2 S-R CONT.	N2 R-H NO. 1	NO BETA	NO GAMMA	DENSITY (GM/CC)	NO 2	0- PHOTO-DET (TOKS)	N FREE-FRFT P.E.	O P.E.	TOTAL AIR	
1 10.70 0.	0.	0.	1.32E-09	0.	0.	1.293E-03	0.	1.61E-03	2.98E-09	3.22E-08	4.26E-07	1.33E-00
2 10.60 0.	0.	0.	1.04E-00	0.	0.	1.293E-03	0.	1.61E-03	3.07E-09	3.23E-08	4.27E-07	1.05E-00
3 10.50 0.	0.	0.	9.64E-01	0.	0.	1.293E-03	0.	1.61E-03	3.15E-09	3.25E-08	4.28E-07	9.64E-01
4 10.40 0.	0.	0.	6.07E-01	0.	0.	1.293E-03	0.	1.61E-03	3.26E-09	3.28E-08	4.29E-07	6.09E-01
5 10.30 0.	0.	0.	5.10E-01	0.	0.	1.293E-03	0.	1.62E-03	3.34E-09	3.27E-08	4.30E-07	5.10E-01
6 10.20 0.	0.	0.	4.89E-01	0.	0.	1.293E-03	0.	1.62E-03	3.44E-09	3.27E-08	4.31E-07	5.23E-01
7 10.10 0.	0.	0.	4.89E-01	0.	0.	1.293E-03	0.	1.62E-03	3.59E-09	3.28E-08	4.32E-07	4.91E-01
8 10.00 0.	0.	0.	3.93E-01	0.	0.	1.293E-03	0.	1.62E-03	3.68E-09	3.29E-08	4.33E-07	3.94E-01
9 9.90 0.	0.	0.	3.48E-01	0.	0.	1.293E-03	0.	1.63E-03	3.77E-09	3.30E-08	4.33E-07	3.51E-01
10 9.80 0.	0.	0.	2.89E-01	0.	0.	1.293E-03	0.	1.63E-03	3.86E-09	3.30E-08	4.34E-07	2.89E-01
11 9.70 0.	0.	0.	2.64E-01	0.	0.	1.293E-03	0.	1.63E-03	4.01E-09	3.31E-08	4.35E-07	2.64E-01
12 9.60 0.	0.	0.	2.18E-01	0.	0.	1.293E-03	0.	1.63E-03	4.15E-09	3.32E-08	4.36E-07	2.20E-01
13 9.50 0.	4.72E-01	1.52E-01	1.92E-01	0.	0.	1.293E-03	0.	1.64E-03	4.27E-09	3.33E-08	4.37E-07	5.25E-01
14 9.40 0.	5.19E-01	1.24E-01	1.24E-01	0.	0.	1.293E-03	0.	1.64E-03	4.40E-09	3.33E-08	4.38E-07	6.37E-01
15 9.30 0.	5.66E-01	1.24E-01	1.24E-01	0.	0.	1.293E-03	0.	1.65E-03	4.53E-09	3.34E-08	4.39E-07	6.92E-01
16 9.20 0.	6.13E-01	1.06E-01	8.28E-02	0.	0.	1.293E-03	0.	1.65E-03	4.70E-09	3.34E-08	4.40E-07	6.94E-01
17 9.10 0.	7.52E-01	8.28E-02	7.52E-01	0.	0.	1.293E-03	0.	1.66E-03	4.86E-09	3.35E-08	4.40E-07	8.56E-01
18 9.00 0.	9.06E-01	6.28E-02	9.06E-01	0.	0.	1.293E-03	0.	1.67E-03	5.02E-09	3.35E-08	4.42E-07	9.28E-01
19 8.90 0.	1.11E-00	4.97E-02	1.11E-00	0.	0.	1.293E-03	0.	1.68E-03	5.17E-09	3.36E-08	4.42E-07	1.12E-00
20 8.80 0.	1.04E-00	3.19E-02	1.04E-00	0.	0.	1.293E-03	0.	1.68E-03	5.37E-09	3.36E-08	4.43E-07	1.15E-00
21 8.70 0.	1.04E-00	3.19E-02	1.04E-00	0.	0.	1.293E-03	0.	1.69E-03	5.56E-09	3.37E-08	4.43E-07	1.09E-00
22 8.60 0.	1.04E-00	3.21E-02	1.04E-00	0.	0.	1.293E-03	0.	1.69E-03	5.74E-09	3.37E-08	4.45E-07	1.04E-00
23 8.50 0.	9.72E-01	2.25E-02	9.72E-01	0.	0.	1.293E-03	0.	1.70E-03	5.96E-09	3.37E-08	4.46E-07	9.97E-01
24 8.40 0.	9.40E-01	2.12E-02	9.40E-01	0.	0.	1.293E-03	0.	1.71E-03	6.18E-09	3.38E-08	4.47E-07	9.53E-01
25 8.30 0.	8.98E-01	1.47E-02	8.98E-01	0.	0.	1.293E-03	0.	1.72E-03	6.44E-09	3.38E-08	4.49E-07	9.14E-01
26 8.20 0.	8.24E-01	9.94E-03	8.24E-01	0.	0.	1.293E-03	0.	1.73E-03	6.64E-09	3.39E-08	4.55E-07	8.76E-01
27 8.10 0.	7.91E-01	9.21E-03	7.91E-01	0.	0.	1.293E-03	0.	1.74E-03	6.89E-09	3.39E-08	4.62E-07	8.37E-01
28 8.00 0.	7.51E-01	6.64E-03	7.51E-01	0.	0.	1.293E-03	0.	1.75E-03	7.15E-09	3.39E-08	4.74E-07	7.99E-01
29 7.90 0.	7.11E-01	6.30E-03	7.11E-01	0.	0.	1.293E-03	0.	1.76E-03	7.42E-09	3.39E-08	4.81E-07	7.79E-01
30 7.80 0.	6.70E-01	4.68E-03	6.70E-01	0.	0.	1.293E-03	0.	1.77E-03	7.72E-09	3.39E-08	4.87E-07	7.75E-01
31 7.70 0.	6.29E-01	3.94E-03	6.29E-01	0.	0.	1.293E-03	0.	1.78E-03	8.05E-09	3.39E-08	4.93E-07	7.65E-01
32 7.60 0.	5.86E-01	3.12E-03	5.86E-01	0.	0.	1.293E-03	0.	1.79E-03	8.49E-09	3.39E-08	4.99E-07	7.53E-01
33 7.50 0.	5.47E-01	2.47E-03	5.47E-01	0.	0.	1.293E-03	0.	1.80E-03	8.95E-09	3.39E-08	5.06E-07	7.51E-01
34 7.40 0.	5.06E-01	2.04E-03	5.06E-01	0.	0.	1.293E-03	0.	1.81E-03	9.43E-09	3.39E-08	5.12E-07	7.42E-01
35 7.30 0.	4.64E-01	1.59E-03	4.64E-01	0.	0.	1.293E-03	0.	1.82E-03	9.83E-09	3.39E-08	5.18E-07	7.40E-01
36 7.20 0.	4.31E-01	1.34E-03	4.31E-01	0.	0.	1.293E-03	0.	1.83E-03	1.02E-08	3.39E-08	5.25E-07	7.47E-01
37 7.10 0.	3.97E-01	9.67E-04	3.97E-01	0.	0.	1.293E-03	0.	1.84E-03	1.07E-08	3.39E-08	5.31E-07	7.48E-01
38 7.00 0.	3.69E-01	7.4E-04	3.69E-01	0.	0.	1.293E-03	0.	1.85E-03	1.12E-08	3.39E-08	5.37E-07	7.48E-01
39 6.90 0.	3.47E-03	0.	8.47E-04	0.	0.	1.293E-03	0.	1.86E-03	1.17E-08	3.39E-08	5.43E-07	7.48E-01
40 6.80 0.	3.20E-03	0.	7.00E-04	0.	0.	1.293E-03	0.	1.87E-03	1.22E-08	3.39E-08	5.50E-07	7.45E-01
41 6.70 0.	2.92E-04	0.	5.27E-04	0.	0.	1.293E-03	0.	1.88E-03	1.28E-08	3.39E-08	5.56E-07	7.47E-01
42 6.60 0.	2.63E-04	0.	4.09E-04	0.	0.	1.293E-03	0.	1.89E-03	1.34E-08	3.39E-08	5.62E-07	7.56E-01
43 6.50 0.	2.33E-04	0.	2.67E-04	0.	0.	1.293E-03	0.	1.90E-03	1.40E-08	3.39E-08	5.69E-07	7.65E-01
44 6.40 0.	2.03E-04	0.	1.41E-04	2.02E-03	2.60E-01	1.293E-03	0.	1.91E-03	1.46E-08	3.39E-08	5.76E-07	7.65E-01
45 6.30 0.	1.74E-04	0.	6.46E-05	1.72E-03	9.14E-02	1.293E-03	0.	1.92E-03	1.52E-08	3.39E-08	5.83E-07	7.65E-01
46 6.20 0.	1.45E-04	0.	2.70E-05	1.45E-03	3.47E-01	1.293E-03	0.	1.93E-03	1.54E-08	3.39E-08	5.90E-07	7.65E-01
47 6.10 0.	1.16E-04	0.	9.66E-06	1.16E-03	2.44E-01	1.293E-03	0.	1.94E-03	1.54E-08	3.39E-08	6.03E-07	7.65E-01
48 6.00 0.	8.8E-05	0.	3.12E-06	8.8E-04	1.78E-02	1.293E-03	0.	1.95E-03	1.54E-08	3.39E-08	6.15E-07	7.65E-01
49 5.90 0.	6.0E-05	0.	2.12E-06	6.0E-04	1.78E-02	1.293E-03	0.	1.96E-03	1.54E-08	3.39E-08	6.28E-07	7.65E-01
50 5.80 0.	3.67E-02	0.	1.48E-07	3.11E-02	9.14E-02	1.293E-03	0.	1.97E-03	1.54E-08	3.39E-08	6.40E-07	7.65E-01
51 5.70 0.	3.81E-02	0.	0.	3.04E-02	1.64E-02	1.293E-03	0.	1.98E-03	1.54E-08	3.39E-08	6.53E-07	7.65E-01

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	M2 2ND NEG.	BETA	GAMMA	NO VIB-RDT	NO	NO	D- PHOTO-DET (ICNS)	FREE-FREE		TOTAL AIR	
											P.E.	N	P.E.	N
52	5.60	4.49E-02	0.	0.	1.94E-02	1.62E-02	0.	0.	0.	1.72E-03	2.09E-04	7.40E-09	5.66E-07	2.28E-01
53	5.10	4.30E-02	0.	0.	2.9E-02	1.78E-01	0.	0.	0.	1.73E-03	2.21E-04	4.3E-09	6.78E-07	2.49E-01
54	5.0	4.25E-02	0.	0.	1.8E-02	8.10E-02	0.	0.	0.	1.45E-03	2.33E-04	1.45E-09	6.91E-07	1.45E-01
55	5.30	3.88E-02	0.	0.	1.58E-02	1.97E-01	0.	0.	0.	1.75E-03	2.47E-04	7.48E-09	7.05E-07	2.17E-01
56	5.20	3.43E-02	0.	0.	1.98E-02	6.70E-02	0.	0.	0.	1.76E-03	2.62E-04	7.93E-09	7.24E-07	1.18E-01
57	5.10	2.14E-02	0.	0.	1.60E-02	9.60E-02	0.	0.	0.	1.77E-03	2.77E-04	7.70E-09	7.37E-07	1.37E-01
58	5.00	1.49E-02	0.	0.	1.48E-02	6.07E-02	0.	0.	0.	1.03E-05	1.13E-04	6.08E-09	7.61E-07	1.12E-01
59	4.80	1.29E-02	0.	0.	1.50E-02	6.40E-02	0.	0.	0.	1.02E-05	1.13E-04	6.08E-09	7.62E-07	1.12E-01
60	4.80	1.29E-02	0.	0.	1.50E-02	6.40E-02	0.	0.	0.	1.02E-05	1.13E-04	6.08E-09	7.62E-07	1.12E-01
61	4.72	1.27E-02	0.	0.	1.37E-02	4.31E-02	0.	0.	0.	1.03E-05	1.13E-04	6.08E-09	7.62E-07	1.12E-01
62	4.60	1.40E-02	0.	0.	1.31E-02	4.31E-02	0.	0.	0.	1.03E-05	1.13E-04	6.08E-09	7.62E-07	1.12E-01
63	4.50	1.29E-02	0.	0.	1.05E-02	2.60E-02	0.	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
64	4.40	1.20E-02	0.	0.	4.86E-05	0.	0.	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
65	4.30	9.92E-03	0.	0.	7.74E-05	0.	0.	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
66	4.20	8.38E-03	0.	0.	4.54E-04	0.	0.	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
67	4.10	7.10E-03	0.	0.	8.07E-03	9.37E-03	0.	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
68	4.00	5.88E-03	0.	0.	6.95E-03	2.27E-03	0.	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
69	3.90	4.27E-03	0.	0.	5.98E-03	1.64E-03	0.	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
70	3.80	4.48E-03	0.	0.	2.91E-04	1.86E-07	4.74E-03	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
71	3.70	3.23E-03	0.	0.	2.99E-04	2.75E-06	4.74E-03	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
72	3.60	2.62E-03	0.	0.	5.72E-04	4.22E-07	3.14E-03	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
73	3.50	2.16E-03	0.	0.	1.78E-04	2.31E-06	3.47E-03	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
74	3.40	1.68E-03	0.	0.	3.77E-04	1.34E-05	2.12E-03	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
75	3.35	1.28E-03	0.	0.	1.21E-04	3.50E-07	2.35E-03	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
76	3.20	9.22E-04	0.	0.	1.60E-04	3.52E-06	1.49E-03	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
77	3.10	7.71E-04	0.	0.	6.52E-05	1.62E-05	1.47E-03	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
78	3.00	5.93E-04	0.	0.	5.52E-05	3.59E-07	1.17E-03	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
79	2.95	4.29E-04	0.	0.	1.47E-05	3.69E-06	9.45E-04	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
80	2.80	3.92E-04	0.	0.	6.19E-06	5.28E-07	2.80E-04	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
81	2.70	1.92E-04	0.	0.	2.86E-06	1.62E-06	1.09E-04	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
82	2.60	5.91E-05	0.	0.	1.49E-06	1.94E-07	3.57E-05	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
83	2.50	4.26E-05	0.	0.	2.26E-07	8.44E-08	7.02E-06	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
84	2.40	0.	0.	0.	1.45E-07	6.44E-07	0.	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	3.03E-05	1.46E-03	3.76E-08	8.16E-07	7.25E-02

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 6000. DENSITY (GM/CC) 1.293E-04 (10-DE-02 NORMAL)

PHOTON ENERGY BANDS E.V.	NO. 2 S-R CONT.	NO. 1	NO. 2 H-N	NO. 1 REYA	NO. 2 GAMMA	NO. 1	NO. 2	0- PHOTO-DET (IONS)	FREE-FREE N P.E.	0 TOTAL AIR P.E.		
1 10.70 0.	0.	0.	1.27E-01	0.	0.	0.	0.	3.49E-03	1.09E-10	9.97E-09	4.02E-03	1.27E-01
2 10.60 0.	0.	0.	1.00E-01	0.	0.	0.	0.	3.49E-03	1.09E-10	1.01E-09	4.03E-03	1.00E-01
3 10.50 0.	0.	0.	9.27E-02	0.	0.	0.	0.	3.50E-03	1.11E-10	1.01E-09	4.04E-03	9.27E-02
4 10.40 0.	0.	0.	7.76E-02	0.	0.	0.	0.	3.50E-03	1.12E-10	1.01E-09	4.05E-03	7.76E-02
5 10.30 0.	0.	0.	5.84E-02	0.	0.	0.	0.	3.51E-03	1.12E-10	1.01E-09	4.06E-03	5.84E-02
6 10.20 0.	0.	0.	5.49E-02	0.	0.	0.	0.	3.51E-03	1.12E-10	1.02E-09	4.07E-03	5.49E-02
7 10.10 0.	0.	0.	4.71E-02	0.	0.	0.	0.	3.52E-03	1.12E-10	1.02E-09	4.08E-03	4.71E-02
8 10.00 0.	0.	0.	3.59E-02	0.	0.	0.	0.	3.52E-03	1.12E-10	1.02E-09	4.09E-03	3.59E-02
9 9.90 0.	0.	0.	3.36E-02	0.	0.	0.	0.	3.53E-03	1.12E-10	1.02E-09	4.10E-03	3.36E-02
10 9.80 0.	0.	0.	2.74E-02	0.	0.	0.	0.	3.54E-03	1.12E-10	1.02E-09	4.11E-03	2.74E-02
11 9.70 0.	0.	0.	1.94E-02	0.	0.	0.	0.	3.54E-03	1.12E-10	1.03E-09	4.12E-03	1.94E-02
12 9.60 0.	0.	0.	1.19E-02	0.	0.	0.	0.	3.55E-03	1.12E-10	1.03E-09	4.13E-03	1.19E-02
13 9.50 0.	0.	0.	6.02E-03	0.	0.	0.	0.	3.55E-03	1.12E-10	1.03E-09	4.14E-03	6.02E-03
14 9.45 0.	0.	0.	6.03E-03	0.	0.	0.	0.	3.57E-03	1.12E-10	1.03E-09	4.15E-03	6.03E-03
15 9.40 0.	0.	0.	7.23E-03	0.	0.	0.	0.	3.58E-03	1.12E-10	1.03E-09	4.16E-03	7.23E-03
16 9.30 0.	0.	0.	7.03E-03	0.	0.	0.	0.	3.59E-03	1.12E-10	1.03E-09	4.17E-03	7.03E-03
17 9.20 0.	0.	0.	9.80E-03	0.	0.	0.	0.	3.61E-03	1.12E-10	1.03E-09	4.18E-03	9.80E-03
18 9.10 0.	0.	0.	1.14E-02	0.	0.	0.	0.	3.62E-03	1.12E-10	1.03E-09	4.19E-03	1.14E-02
19 8.90 0.	0.	0.	1.36E-02	0.	0.	0.	0.	3.63E-03	1.12E-10	1.03E-09	4.20E-03	1.36E-02
20 8.80 0.	0.	0.	1.41E-02	0.	0.	0.	0.	3.64E-03	1.12E-10	1.03E-09	4.21E-03	1.41E-02
21 8.70 0.	0.	0.	1.35E-02	0.	0.	0.	0.	3.66E-03	1.12E-10	1.03E-09	4.22E-03	1.35E-02
22 8.60 0.	0.	0.	1.29E-02	0.	0.	0.	0.	3.67E-03	1.12E-10	1.03E-09	4.23E-03	1.29E-02
23 8.50 0.	0.	0.	1.24E-02	0.	0.	0.	0.	3.68E-03	1.12E-10	1.03E-09	4.24E-03	1.24E-02
24 8.40 0.	0.	0.	1.20E-02	0.	0.	0.	0.	3.70E-03	1.12E-10	1.03E-09	4.25E-03	1.20E-02
25 8.30 0.	0.	0.	1.15E-02	0.	0.	0.	0.	3.72E-03	1.12E-10	1.03E-09	4.26E-03	1.15E-02
26 8.20 0.	0.	0.	1.10E-02	0.	0.	0.	0.	3.74E-03	1.12E-10	1.03E-09	4.27E-03	1.10E-02
27 8.10 0.	0.	0.	1.05E-02	0.	0.	0.	0.	3.76E-03	1.12E-10	1.03E-09	4.28E-03	1.05E-02
28 8.00 0.	0.	0.	1.01E-02	0.	0.	0.	0.	3.78E-03	1.12E-10	1.03E-09	4.29E-03	1.01E-02
29 7.90 0.	0.	0.	9.59E-03	0.	0.	0.	0.	3.80E-03	1.12E-10	1.03E-09	4.30E-03	9.59E-03
30 7.80 0.	0.	0.	9.07E-03	0.	0.	0.	0.	3.82E-03	1.12E-10	1.03E-09	4.31E-03	9.07E-03
31 7.70 0.	0.	0.	8.55E-03	0.	0.	0.	0.	3.84E-03	1.12E-10	1.03E-09	4.32E-03	8.55E-03
32 7.60 0.	0.	0.	8.03E-03	0.	0.	0.	0.	3.86E-03	1.12E-10	1.03E-09	4.33E-03	8.03E-03
33 7.50 0.	0.	0.	7.51E-03	0.	0.	0.	0.	3.88E-03	1.12E-10	1.03E-09	4.34E-03	7.51E-03
34 7.40 0.	0.	0.	6.99E-03	0.	0.	0.	0.	3.90E-03	1.12E-10	1.03E-09	4.35E-03	6.99E-03
35 7.30 0.	0.	0.	6.46E-03	0.	0.	0.	0.	3.92E-03	1.12E-10	1.03E-09	4.36E-03	6.46E-03
36 7.20 0.	0.	0.	5.94E-03	0.	0.	0.	0.	3.94E-03	1.12E-10	1.03E-09	4.37E-03	5.94E-03
37 7.10 0.	0.	0.	5.51E-03	0.	0.	0.	0.	3.97E-03	1.12E-10	1.03E-09	4.38E-03	5.51E-03
38 7.00 1.23E-05	0.	0.	5.02E-03	0.	0.	0.	0.	4.01E-03	1.12E-10	1.03E-09	4.39E-03	5.02E-03
39 6.90 2.22E-05	0.	0.	4.54E-03	0.	0.	0.	0.	4.05E-03	1.12E-10	1.03E-09	4.40E-03	4.54E-03
40 6.80 1.75E-05	0.	0.	4.06E-03	0.	0.	0.	0.	4.09E-03	1.12E-10	1.03E-09	4.41E-03	4.06E-03
41 6.70 1.15E-05	0.	0.	3.57E-03	0.	0.	0.	0.	4.13E-03	1.12E-10	1.03E-09	4.42E-03	3.57E-03
42 6.60 6.44E-06	0.	0.	3.09E-03	0.	0.	0.	0.	4.17E-03	1.12E-10	1.03E-09	4.43E-03	3.09E-03
43 6.50 3.35E-06	0.	0.	2.57E-03	0.	0.	0.	0.	4.21E-03	1.12E-10	1.03E-09	4.44E-03	2.57E-03
44 6.40 4.05E-06	0.	0.	1.95E-03	0.	0.	0.	0.	4.25E-03	1.12E-10	1.03E-09	4.45E-03	1.95E-03
45 6.30 9.75E-06	0.	0.	6.21E-04	0.	0.	0.	0.	4.29E-03	1.12E-10	1.03E-09	4.46E-03	6.21E-04
46 6.20 2.69E-05	0.	0.	3.08E-04	0.	0.	0.	0.	4.33E-03	1.12E-10	1.03E-09	4.47E-03	3.08E-04
47 6.10 3.77E-05	0.	0.	9.48E-07	0.	0.	0.	0.	4.37E-03	1.12E-10	1.03E-09	4.48E-03	9.48E-07
48 6.00 2.52E-04	0.	0.	2.04E-07	0.	0.	0.	0.	4.41E-03	1.12E-10	1.03E-09	4.49E-03	2.04E-07
49 5.90 3.42E-04	0.	0.	1.43E-08	0.	0.	0.	0.	4.45E-03	1.12E-10	1.03E-09	4.50E-03	1.43E-08
50 5.80 4.68E-04	0.	0.	3.39E-10	0.	0.	0.	0.	4.49E-03	1.12E-10	1.03E-09	4.51E-03	3.39E-10
51 5.70 4.58E-04	0.	0.	0.	0.	0.	0.	0.	4.53E-03	1.12E-10	1.03E-09	4.52E-03	0.

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON OR S-R ENERGY BANDS	TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		PHOTO-DET (TOMS)		FREE-FREE		TOTAL AIR				
	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	M2 2ND NEG.	BETA	GAMMA	VIB-ROT	NO	NO	P.F.			
52	5.50	5.73E-04	0.	0.	6.79E-04	5.66E-03	0.	0.	3.73E-05	7.49E-10	2.73E-09	7.52E-08	6.95E-03
53	5.50	5.57E-04	0.	0.	6.71E-04	6.24E-03	0.	0.	3.78E-05	7.81E-10	2.73E-09	7.66E-08	7.70E-03
54	5.40	5.43E-04	0.	0.	6.72E-04	2.84E-03	0.	0.	3.78E-05	8.26E-10	2.73E-09	7.81E-08	4.09E-03
55	5.30	4.98E-04	0.	0.	6.94E-04	5.90E-03	0.	0.	3.79E-05	8.77E-10	2.73E-09	7.97E-08	6.73E-03
56	5.20	3.07E-04	0.	0.	6.86E-04	2.35E-03	0.	0.	3.81E-05	9.29E-10	2.73E-09	8.16E-08	3.36E-03
57	5.10	2.73E-04	0.	0.	6.80E-04	3.34E-03	0.	0.	1.20E-07	3.89E-09	2.73E-09	8.39E-08	4.30E-03
58	5.00	1.91E-04	0.	0.	5.13E-04	2.81E-03	0.	0.	1.20E-07	3.89E-09	2.73E-09	8.16E-08	3.54E-03
59	4.90	1.58E-04	0.	0.	3.82E-04	2.31E-03	0.	0.	1.20E-07	3.89E-09	2.73E-09	8.16E-08	3.03E-03
60	4.80	1.62E-04	0.	0.	3.90E-04	2.34E-03	0.	0.	1.20E-07	3.94E-09	2.73E-09	8.16E-08	2.92E-03
61	4.70	1.62E-04	0.	0.	4.81E-04	1.51E-03	0.	0.	1.20E-07	3.94E-09	2.73E-09	8.16E-08	2.19E-03
62	4.60	1.79E-04	0.	0.	4.80E-04	1.52E-03	0.	0.	1.20E-07	4.01E-09	2.73E-09	8.16E-08	2.20E-03
63	4.50	1.65E-04	0.	0.	3.68E-04	9.40E-04	0.	0.	1.20E-07	4.04E-09	2.73E-09	8.16E-08	1.48E-03
64	4.40	1.53E-04	0.	0.	3.42E-04	7.40E-04	0.	0.	1.20E-07	4.07E-09	2.73E-09	8.16E-08	1.31E-03
65	4.30	1.27E-04	0.	0.	2.66E-04	3.57E-04	0.	0.	1.20E-07	4.14E-09	2.73E-09	8.16E-08	1.01E-03
66	4.20	1.07E-04	0.	0.	2.58E-04	3.27E-04	0.	0.	1.20E-07	4.14E-09	2.73E-09	8.16E-08	8.04E-04
67	4.10	9.07E-05	0.	0.	2.39E-04	2.96E-04	0.	0.	1.20E-07	4.15E-09	2.73E-09	8.16E-08	4.99E-04
68	4.00	7.44E-05	0.	0.	2.09E-04	2.73E-04	0.	0.	1.20E-07	4.17E-09	2.73E-09	8.16E-08	4.42E-04
69	3.90	5.46E-05	0.	0.	2.80E-05	9.31E-04	0.	0.	1.20E-07	4.19E-09	2.73E-09	8.16E-08	3.14E-04
70	3.80	5.63E-05	0.	0.	2.07E-05	1.37E-04	0.	0.	1.20E-07	4.19E-09	2.73E-09	8.16E-08	2.94E-04
71	3.70	4.12E-05	0.	0.	5.80E-05	2.11E-04	0.	0.	1.20E-07	4.19E-09	2.73E-09	8.16E-08	2.47E-04
72	3.60	3.74E-05	0.	0.	1.21E-05	1.85E-05	0.	0.	1.20E-07	4.19E-09	2.73E-09	8.16E-08	2.12E-04
73	3.50	2.76E-05	0.	0.	3.62E-05	6.89E-05	0.	0.	1.20E-07	4.19E-09	2.73E-09	8.16E-08	1.80E-04
74	3.40	2.15E-05	0.	0.	1.16E-05	1.75E-07	0.	0.	1.20E-07	4.19E-09	2.73E-09	8.16E-08	1.35E-04
75	3.30	1.58E-05	0.	0.	6.27E-06	8.12E-06	0.	0.	1.20E-07	4.19E-09	2.73E-09	8.16E-08	1.06E-04
76	3.20	1.10E-05	0.	0.	5.31E-06	5.15E-05	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	9.61E-05
77	3.10	9.84E-06	0.	0.	5.31E-06	2.80E-07	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	7.67E-05
78	3.00	7.57E-06	0.	0.	2.38E-06	1.85E-04	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	6.54E-05
79	2.90	5.39E-06	0.	0.	4.41E-06	1.75E-04	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	4.65E-05
80	2.80	5.01E-06	0.	0.	3.95E-07	2.83E-07	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	3.62E-05
81	2.70	2.94E-06	0.	0.	2.79E-07	9.17E-07	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	2.61E-05
82	2.60	8.92E-07	0.	0.	1.37E-07	9.91E-08	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	2.29E-05
83	2.50	5.44E-08	0.	0.	2.17E-08	4.22E-08	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	2.09E-05
84	2.40	0.	0.	0.	1.89E-06	0.	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	2.25E-05
85	2.30	0.	0.	0.	1.41E-05	0.	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	3.44E-05
86	2.20	0.	0.	0.	2.31E-05	0.	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	4.34E-05
87	2.10	0.	0.	0.	5.03E-05	0.	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	7.04E-05
88	2.00	0.	0.	0.	6.16E-05	0.	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	8.32E-05
89	1.90	0.	0.	0.	2.04E-04	0.	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	2.23E-04
90	1.80	0.	0.	0.	1.82E-04	0.	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	2.08E-04
91	1.70	0.	0.	0.	2.04E-04	0.	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	2.25E-04
92	1.60	0.	0.	0.	1.45E-04	0.	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	1.60E-04
93	1.50	0.	0.	0.	1.74E-04	0.	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	1.65E-04
94	1.40	0.	0.	0.	2.21E-04	0.	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	2.21E-04
95	1.30	0.	0.	0.	1.40E-04	0.	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	1.48E-04
96	1.20	0.	0.	0.	1.70E-04	0.	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	1.71E-04
97	1.10	0.	0.	0.	1.10E-04	0.	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	1.10E-04
98	1.00	0.	0.	0.	1.11E-04	0.	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	1.11E-04
99	0.90	0.	0.	0.	8.13E-05	0.	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	8.20E-05
100	0.80	0.	0.	0.	3.63E-05	0.	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	4.06E-05
101	0.70	0.	0.	0.	1.85E-05	0.	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	1.49E-05
102	0.60	0.	0.	0.	1.64E-05	0.	0.	0.	1.20E-07	4.20E-09	2.73E-09	8.16E-08	1.14E-05

TEMPERATURE (DEGREES K) 6000. DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)

PHOTON O2 S-R BANDS E.V.	O2 S-R CONT.	N2 O-W NO. 1	NO BETA	NO GAMMA	NO PHOTO-DRY (IONS)	FREE-FREE N P.E.	TOTAL AIR P.E.
1 10.79 0.	0.	1.04E-02	0.	0.	0.	6.44E-07 3.33E-12 2.87E-09 4.99E-09 1.04E-02	0.
2 10.03 0.	0.	8.34E-03	0.	0.	0.	6.44E-07 3.42E-12 2.89E-09 5.00E-09 1.04E-02	0.
3 10.58 0.	0.	7.78E-03	0.	0.	0.	6.45E-07 3.52E-12 2.91E-09 5.01E-09 1.04E-02	0.
4 10.40 0.	0.	6.49E-03	0.	0.	0.	6.46E-07 3.63E-12 2.93E-09 5.02E-09 1.04E-02	0.
5 10.30 0.	0.	4.85E-03	0.	0.	0.	6.47E-07 3.73E-12 2.95E-09 5.03E-09 1.04E-02	0.
6 10.20 0.	0.	4.56E-03	0.	0.	0.	6.48E-07 3.84E-12 2.97E-09 5.04E-09 1.04E-02	0.
7 10.10 0.	0.	3.91E-03	0.	0.	0.	6.49E-07 3.94E-12 2.99E-09 5.05E-09 1.04E-02	0.
8 10.00 0.	0.	2.82E-03	0.	0.	0.	6.50E-07 4.05E-12 3.01E-09 5.06E-09 1.04E-02	0.
9 9.90 0.	0.	2.79E-03	0.	0.	0.	6.51E-07 4.15E-12 3.03E-09 5.07E-09 1.04E-02	0.
10 9.80 0.	0.	2.27E-03	0.	0.	0.	6.52E-07 4.25E-12 3.05E-09 5.08E-09 1.04E-02	0.
11 9.70 0.	0.	1.63E-03	0.	0.	0.	6.53E-07 4.35E-12 3.07E-09 5.09E-09 1.04E-02	0.
12 9.60 0.	0.	1.74E-03	0.	0.	0.	6.54E-07 4.45E-12 3.09E-09 5.10E-09 1.04E-02	0.
13 9.50 0.	6.47E-05	1.21E-03	0.	0.	0.	6.55E-07 4.55E-12 3.11E-09 5.11E-09 1.04E-02	0.
14 9.40 0.	7.12E-05	1.01E-03	0.	0.	0.	6.56E-07 4.65E-12 3.13E-09 5.12E-09 1.04E-02	0.
15 9.30 0.	7.74E-05	9.08E-04	0.	0.	0.	6.57E-07 4.75E-12 3.15E-09 5.13E-09 1.04E-02	0.
16 9.20 0.	6.41E-05	6.31E-04	0.	0.	0.	6.58E-07 4.85E-12 3.17E-09 5.14E-09 1.04E-02	0.
17 9.10 0.	1.03E-04	4.59E-04	0.	0.	0.	6.59E-07 4.95E-12 3.19E-09 5.15E-09 1.04E-02	0.
18 9.00 0.	1.25E-04	4.97E-04	0.	0.	0.	6.60E-07 5.05E-12 3.21E-09 5.16E-09 1.04E-02	0.
19 8.90 0.	1.46E-04	3.98E-04	0.	0.	0.	6.61E-07 5.15E-12 3.23E-09 5.17E-09 1.04E-02	0.
20 8.80 0.	1.52E-04	3.69E-04	0.	0.	0.	6.62E-07 5.25E-12 3.25E-09 5.18E-09 1.04E-02	0.
21 8.70 0.	1.45E-04	2.59E-04	0.	0.	0.	6.63E-07 5.35E-12 3.27E-09 5.19E-09 1.04E-02	0.
22 8.60 0.	1.39E-04	2.58E-04	0.	0.	0.	6.64E-07 5.45E-12 3.29E-09 5.20E-09 1.04E-02	0.
23 8.50 0.	1.35E-04	1.88E-04	0.	0.	0.	6.65E-07 5.55E-12 3.31E-09 5.21E-09 1.04E-02	0.
24 8.40 0.	1.23E-04	1.68E-04	0.	0.	0.	6.66E-07 5.65E-12 3.33E-09 5.22E-09 1.04E-02	0.
25 8.30 0.	1.23E-04	1.17E-04	0.	0.	0.	6.67E-07 5.75E-12 3.35E-09 5.23E-09 1.04E-02	0.
26 8.20 0.	1.16E-04	1.11E-04	0.	0.	0.	6.68E-07 5.85E-12 3.37E-09 5.24E-09 1.04E-02	0.
27 8.10 0.	1.13E-04	7.94E-05	0.	0.	0.	6.69E-07 5.95E-12 3.39E-09 5.25E-09 1.04E-02	0.
28 8.00 0.	1.06E-04	7.36E-05	0.	0.	0.	6.70E-07 6.05E-12 3.41E-09 5.26E-09 1.04E-02	0.
29 7.90 0.	1.03E-04	5.31E-05	0.	0.	0.	6.71E-07 6.15E-12 3.43E-09 5.27E-09 1.04E-02	0.
30 7.80 0.	9.74E-05	5.05E-05	0.	0.	0.	6.72E-07 6.25E-12 3.45E-09 5.28E-09 1.04E-02	0.
31 7.70 0.	9.19E-05	3.74E-05	0.	0.	0.	6.73E-07 6.35E-12 3.47E-09 5.29E-09 1.04E-02	0.
32 7.60 0.	8.62E-05	3.19E-05	0.	0.	0.	6.74E-07 6.45E-12 3.49E-09 5.30E-09 1.04E-02	0.
33 7.50 0.	8.04E-05	2.59E-05	0.	0.	0.	6.75E-07 6.55E-12 3.51E-09 5.31E-09 1.04E-02	0.
34 7.40 0.	7.50E-05	1.97E-05	0.	0.	0.	6.76E-07 6.65E-12 3.53E-09 5.32E-09 1.04E-02	0.
35 7.30 0.	6.94E-05	1.63E-05	0.	0.	0.	6.77E-07 6.75E-12 3.55E-09 5.33E-09 1.04E-02	0.
36 7.20 0.	6.42E-05	1.27E-05	0.	0.	0.	6.78E-07 6.85E-12 3.57E-09 5.34E-09 1.04E-02	0.
37 7.10 0.	5.91E-05	1.07E-05	0.	0.	0.	6.79E-07 6.95E-12 3.59E-09 5.35E-09 1.04E-02	0.
38 7.00 1.32E-07 0.	0.	8.48E-06	0.	0.	0.	6.80E-07 7.05E-12 3.61E-09 5.36E-09 1.04E-02	0.
39 6.90 2.38E-07 0.	0.	6.72E-06	0.	0.	0.	6.81E-07 7.15E-12 3.63E-09 5.37E-09 1.04E-02	0.
40 6.80 1.87E-07 0.	0.	5.98E-06	0.	0.	0.	6.82E-07 7.25E-12 3.65E-09 5.38E-09 1.04E-02	0.
41 6.70 1.24E-07 0.	0.	4.21E-06	0.	0.	0.	6.83E-07 7.35E-12 3.67E-09 5.39E-09 1.04E-02	0.
42 6.50 6.91E-08 0.	0.	3.24E-06	0.	0.	0.	6.84E-07 7.45E-12 3.69E-09 5.40E-09 1.04E-02	0.
43 6.50 3.60E-08 0.	0.	2.13E-06	0.	0.	0.	6.85E-07 7.55E-12 3.71E-09 5.41E-09 1.04E-02	0.
44 6.40 5.29E-08 0.	0.	1.12E-06	2.11E-06	2.72E-04	0.	6.86E-07 7.65E-12 3.73E-09 5.42E-09 1.04E-02	0.
45 6.50 1.08E-07 0.	0.	2.16E-07	8.28E-06	9.60E-05	0.	6.87E-07 7.75E-12 3.75E-09 5.43E-09 1.04E-02	0.
46 6.20 2.80E-07 0.	0.	2.16E-07	1.01E-06	1.54E-04	0.	6.88E-07 7.85E-12 3.77E-09 5.44E-09 1.04E-02	0.
47 6.10 1.05E-06 0.	0.	2.58E-08	2.58E-05	3.41E-04	0.	6.89E-07 7.95E-12 3.79E-09 5.45E-09 1.04E-02	0.
48 6.00 2.49E-06 0.	0.	1.70E-08	1.84E-05	2.49E-04	0.	6.90E-07 8.05E-12 3.81E-09 5.46E-09 1.04E-02	0.
49 5.90 3.66E-06 0.	0.	1.19E-09	2.54E-05	1.07E-04	0.	6.91E-07 8.15E-12 3.83E-09 5.47E-09 1.04E-02	0.
50 5.80 5.02E-06 0.	0.	2.82E-11	3.25E-05	9.54E-05	0.	6.92E-07 8.25E-12 3.85E-09 5.48E-09 1.04E-02	0.
51 5.70 5.23E-06 0.	0.	3.18E-05	3.18E-05	7.19E-05	0.	6.93E-07 8.35E-12 3.87E-09 5.49E-09 1.04E-02	0.

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	TEMPERATURE (DEGREES K)		NO. 2+	NO. 1ST NEG.	NO. BETA	NO. GAMMA	NO. Y18-ROT	NO. 2	NO. 0-	FREE-FREE P.E.	N	P.E.	TOTAL AIR
	M2	M1											
52	5.50	6.14E-06	0.	0.	2.03E-05	1.68E-04	0.	0.	6.87E-07	2.34E-11	6.62E-10	7.79E-09	1.94E-04
53	5.50	5.98E-06	0.	0.	2.60E-05	1.84E-04	0.	0.	6.91E-07	2.47E-11	6.63E-10	7.93E-09	2.19E-04
54	5.50	5.82E-06	0.	0.	2.01E-05	1.47E-04	0.	0.	6.94E-07	2.61E-11	6.66E-10	8.03E-09	1.11E-04
55	5.50	5.26E-06	0.	0.	2.07E-05	1.64E-04	0.	0.	7.03E-07	2.76E-11	6.73E-10	8.25E-09	1.91E-04
56	5.50	3.36E-06	0.	0.	2.03E-05	7.00E-05	0.	0.	7.03E-07	2.76E-11	6.73E-10	8.47E-09	9.45E-05
57	5.50	2.93E-06	0.	0.	1.69E-05	1.00E-05	0.	0.	7.09E-07	3.10E-11	6.86E-10	8.69E-09	1.23E-04
58	5.00	2.93E-06	0.	0.	1.53E-05	8.39E-05	0.	0.	7.15E-07	3.49E-11	7.02E-10	8.91E-09	1.62E-04
59	4.50	1.68E-06	0.	0.	1.57E-05	4.55E-05	0.	0.	7.21E-07	3.88E-11	7.22E-10	9.12E-09	1.92E-05
60	4.50	1.71E-06	0.	0.	1.61E-05	6.46E-05	0.	0.	7.27E-07	4.27E-11	7.37E-10	9.34E-09	6.35E-05
61	4.70	1.74E-06	0.	0.	1.44E-05	4.51E-05	0.	0.	7.33E-07	4.66E-11	7.52E-10	9.57E-09	6.19E-05
62	4.60	1.92E-06	0.	0.	1.37E-05	4.59E-05	0.	0.	7.39E-07	5.05E-11	7.67E-10	9.80E-09	6.19E-05
63	4.50	1.77E-06	0.	0.	1.09E-05	2.72E-05	0.	0.	7.45E-07	5.44E-11	7.82E-10	1.01E-08	4.97E-05
64	4.40	1.64E-06	0.	0.	1.02E-05	2.29E-05	0.	0.	7.51E-07	5.83E-11	8.07E-10	1.03E-08	3.58E-05
65	4.30	1.38E-06	0.	0.	8.74E-06	1.65E-05	0.	0.	7.57E-07	6.22E-11	8.32E-10	1.05E-08	2.18E-05
66	4.20	1.13E-06	0.	0.	8.44E-06	1.60E-06	0.	0.	7.63E-07	6.61E-11	8.57E-10	1.07E-08	2.38E-05
67	4.10	9.72E-07	0.	0.	7.14E-06	2.38E-06	0.	0.	7.69E-07	7.00E-11	8.82E-10	1.09E-08	1.19E-05
68	4.00	7.97E-07	0.	0.	6.23E-06	1.71E-06	0.	0.	7.75E-07	7.39E-11	9.07E-10	1.11E-08	1.44E-05
69	3.90	5.89E-07	0.	0.	5.32E-06	1.11E-06	0.	0.	7.81E-07	7.78E-11	9.32E-10	1.13E-08	1.69E-05
70	3.80	6.03E-07	0.	0.	4.41E-06	8.74E-07	0.	0.	7.87E-07	8.17E-11	9.57E-10	1.15E-08	1.94E-05
71	3.70	4.48E-07	0.	0.	3.50E-06	6.18E-07	0.	0.	7.93E-07	8.56E-11	9.82E-10	1.17E-08	2.19E-05
72	3.60	3.98E-07	0.	0.	2.59E-06	3.62E-06	0.	0.	7.99E-07	8.95E-11	1.01E-09	1.19E-08	2.44E-05
73	3.50	3.48E-07	0.	0.	1.68E-06	2.06E-06	0.	0.	8.05E-07	9.34E-11	1.04E-09	1.21E-08	2.69E-05
74	3.40	2.98E-07	0.	0.	9.61E-07	1.17E-06	0.	0.	8.11E-07	9.73E-11	1.07E-09	1.23E-08	2.94E-05
75	3.30	1.69E-07	0.	0.	1.26E-06	8.23E-07	0.	0.	8.17E-07	1.01E-10	1.10E-09	1.25E-08	3.19E-05
76	3.20	1.26E-07	0.	0.	5.21E-07	3.79E-06	0.	0.	8.23E-07	1.05E-10	1.13E-09	1.27E-08	3.44E-05
77	3.10	1.06E-07	0.	0.	4.41E-07	1.23E-06	0.	0.	8.29E-07	1.09E-10	1.16E-09	1.29E-08	3.69E-05
78	3.00	8.18E-08	0.	0.	1.92E-07	6.62E-07	0.	0.	8.35E-07	1.13E-10	1.19E-09	1.31E-08	3.94E-05
79	2.90	5.78E-08	0.	0.	1.18E-07	4.10E-07	0.	0.	8.41E-07	1.17E-10	1.22E-09	1.33E-08	4.19E-05
80	2.80	5.37E-08	0.	0.	4.95E-08	1.23E-07	0.	0.	8.47E-07	1.21E-10	1.25E-09	1.35E-08	4.44E-05
81	2.70	7.74E-08	0.	0.	2.29E-08	4.25E-07	0.	0.	8.53E-07	1.25E-10	1.28E-09	1.37E-08	4.69E-05
82	2.60	9.44E-09	0.	0.	1.14E-08	4.67E-08	0.	0.	8.59E-07	1.29E-10	1.31E-09	1.39E-08	4.94E-05
83	2.50	5.83E-09	0.	0.	1.81E-09	1.97E-08	0.	0.	8.65E-07	1.33E-10	1.34E-09	1.41E-08	5.19E-05
84	2.40	0.	0.	0.	3.38E-09	6.73E-09	0.	0.	8.71E-07	1.37E-10	1.37E-09	1.43E-08	5.44E-05
85	2.30	0.	0.	0.	1.12E-09	0.	0.	0.	8.77E-07	1.41E-10	1.40E-09	1.45E-08	5.69E-05
86	2.20	0.	0.	0.	1.92E-09	0.	0.	0.	8.83E-07	1.45E-10	1.43E-09	1.47E-08	5.94E-05
87	2.10	0.	0.	0.	4.17E-09	0.	0.	0.	8.89E-07	1.49E-10	1.46E-09	1.49E-08	6.19E-05
88	2.00	0.	0.	0.	5.12E-09	0.	0.	0.	8.95E-07	1.53E-10	1.49E-09	1.51E-08	6.44E-05
89	1.90	0.	0.	0.	1.69E-09	0.	0.	0.	9.01E-07	1.57E-10	1.52E-09	1.53E-08	6.69E-05
90	1.80	0.	0.	0.	1.51E-09	0.	0.	0.	9.07E-07	1.61E-10	1.55E-09	1.55E-08	6.94E-05
91	1.70	0.	0.	0.	1.23E-09	0.	0.	0.	9.13E-07	1.65E-10	1.58E-09	1.57E-08	7.19E-05
92	1.60	0.	0.	0.	1.21E-09	0.	0.	0.	9.19E-07	1.69E-10	1.61E-09	1.59E-08	7.44E-05
93	1.50	0.	0.	0.	1.46E-09	0.	0.	0.	9.25E-07	1.73E-10	1.64E-09	1.61E-08	7.69E-05
94	1.40	0.	0.	0.	1.84E-09	0.	0.	0.	9.31E-07	1.77E-10	1.67E-09	1.63E-08	7.94E-05
95	1.30	0.	0.	0.	1.14E-09	0.	0.	0.	9.37E-07	1.81E-10	1.70E-09	1.65E-08	8.19E-05
96	1.20	0.	0.	0.	1.42E-09	0.	0.	0.	9.43E-07	1.85E-10	1.73E-09	1.67E-08	8.44E-05
97	1.10	0.	0.	0.	9.14E-09	0.	0.	0.	9.49E-07	1.89E-10	1.76E-09	1.69E-08	8.69E-05
98	1.00	0.	0.	0.	9.19E-09	0.	0.	0.	9.55E-07	1.93E-10	1.79E-09	1.71E-08	8.94E-05
99	0.90	0.	0.	0.	6.75E-09	0.	0.	0.	9.61E-07	1.97E-10	1.82E-09	1.73E-08	9.19E-05
100	0.80	0.	0.	0.	3.31E-09	0.	0.	0.	9.67E-07	2.01E-10	1.85E-09	1.75E-08	9.44E-05
101	0.70	0.	0.	0.	8.76E-09	0.	0.	0.	9.73E-07	2.05E-10	1.88E-09	1.77E-08	9.69E-05
102	0.60	0.	0.	0.	1.35E-09	0.	0.	0.	9.79E-07	2.09E-10	1.91E-09	1.79E-08	9.94E-05

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 6000. DENSITY (GM/CC) 1.297E-06 (10.5E-84 NORMAL)

PHOTON O2 S-W ENERGY BANDS E.V.	O2 J-R COMT.	N2 B-W NO. 1	NO BETA	NO GAMMA	O- PHOTO-DET (TOMS)	O- FREE-FREE H P.E.	TOTAL AIR P.E.				
								NO 2	O	O	
1 10.70 0.	0.	5.89E-04	0.	0.	0.	1.18E-08	1.09E-13	6.74E-10	5.04E-10	5.04E-10	
2 10.60 0.	0.	6.44E-04	0.	0.	0.	1.18E-08	1.12E-13	6.82E-10	5.09E-10	5.04E-10	
3 10.50 0.	0.	4.29E-04	0.	0.	0.	1.18E-08	1.19E-13	6.89E-10	5.07E-10	5.04E-10	
4 10.40 0.	0.	3.59E-04	0.	0.	0.	1.18E-08	1.19E-13	6.87E-10	5.07E-10	5.04E-10	
5 10.30 0.	0.	2.74E-04	0.	0.	0.	1.18E-08	1.27E-13	6.99E-10	5.00E-10	5.04E-10	
6 10.20 0.	0.	2.54E-04	0.	0.	0.	1.18E-08	1.24E-13	6.90E-10	5.00E-10	5.04E-10	
7 10.10 0.	0.	2.19E-04	0.	0.	0.	1.18E-08	1.30E-13	6.92E-10	5.10E-10	5.04E-10	
8 10.00 0.	0.	1.59E-04	0.	0.	0.	1.18E-08	1.34E-13	6.94E-10	5.11E-10	5.04E-10	
9 9.90 0.	0.	1.59E-04	0.	0.	0.	1.18E-08	1.34E-13	6.94E-10	5.11E-10	5.04E-10	
10 9.80 0.	0.	1.79E-04	0.	0.	0.	1.18E-08	1.47E-13	6.97E-10	5.13E-10	5.04E-10	
11 9.70 0.	0.	9.69E-05	0.	0.	0.	1.18E-08	1.47E-13	6.97E-10	5.13E-10	5.04E-10	
12 9.60 0.	0.	6.60E-05	0.	0.	0.	1.20E-08	1.54E-13	7.00E-10	5.16E-10	5.04E-10	
13 9.50 0.	6.60E-07	6.74E-05	0.	0.	0.	1.20E-08	1.54E-13	7.01E-10	5.17E-10	6.03E-05	
14 9.40 0.	7.24E-07	5.49E-05	0.	0.	0.	1.20E-08	1.61E-13	7.04E-10	5.19E-10	5.68E-05	
15 9.30 0.	7.24E-07	5.58E-05	0.	0.	0.	1.21E-08	1.64E-13	7.05E-10	5.19E-10	5.58E-05	
16 9.20 0.	8.59E-07	3.51E-05	0.	0.	0.	1.21E-08	1.72E-13	7.04E-10	5.20E-10	3.68E-05	
17 9.10 0.	1.03E-06	3.68E-05	0.	0.	0.	1.22E-08	1.79E-13	7.04E-10	5.21E-10	3.77E-05	
18 9.00 0.	1.27E-06	2.74E-05	0.	0.	0.	1.22E-08	1.84E-13	7.04E-10	5.22E-10	2.69E-05	
19 8.90 0.	1.49E-06	2.25E-05	0.	0.	0.	1.22E-08	1.84E-13	7.04E-10	5.22E-10	2.69E-05	
20 8.80 0.	1.59E-06	2.83E-05	0.	0.	0.	1.23E-08	1.97E-13	7.01E-10	5.24E-10	2.19E-05	
21 8.70 0.	1.48E-06	1.43E-05	0.	0.	0.	1.23E-08	2.05E-13	7.00E-10	5.25E-10	1.57E-05	
22 8.60 0.	1.48E-06	1.43E-05	0.	0.	0.	1.24E-08	2.11E-13	7.00E-10	5.26E-10	1.57E-05	
23 8.50 0.	1.36E-06	1.08E-05	0.	0.	0.	1.24E-08	2.18E-13	7.00E-10	5.27E-10	1.14E-05	
24 8.40 0.	1.37E-06	9.49E-06	0.	0.	0.	1.25E-08	2.24E-13	7.00E-10	5.28E-10	1.08E-05	
25 8.30 0.	1.26E-06	6.53E-06	0.	0.	0.	1.26E-08	2.34E-13	7.00E-10	5.31E-10	7.80E-06	
26 8.20 0.	1.20E-06	6.18E-06	0.	0.	0.	1.26E-08	2.43E-13	7.00E-10	5.38E-10	7.39E-06	
27 8.10 0.	1.15E-06	4.49E-06	0.	0.	0.	1.27E-08	2.52E-13	7.00E-10	5.46E-10	5.59E-06	
28 8.00 0.	1.11E-06	4.18E-06	0.	0.	0.	1.28E-08	2.62E-13	7.00E-10	5.53E-10	5.22E-06	
29 7.90 0.	1.05E-06	2.98E-06	0.	0.	0.	1.28E-08	2.72E-13	7.00E-10	5.61E-10	4.02E-06	
30 7.80 0.	9.94E-07	2.89E-06	0.	0.	0.	1.29E-08	2.83E-13	7.00E-10	5.69E-10	3.61E-06	
31 7.70 0.	9.37E-07	2.08E-06	0.	0.	0.	1.29E-08	2.94E-13	7.00E-10	5.79E-10	3.03E-06	
32 7.60 0.	8.80E-07	1.78E-06	0.	0.	0.	1.30E-08	3.06E-13	7.00E-10	5.83E-10	2.64E-06	
33 7.50 0.	8.22E-07	1.39E-06	0.	3.42E-10	0.	1.31E-08	3.19E-13	7.00E-10	5.90E-10	2.23E-06	
34 7.40 0.	7.65E-07	1.18E-06	0.	3.40E-09	0.	1.32E-08	3.31E-13	7.00E-10	5.90E-10	1.89E-06	
35 7.30 0.	7.08E-07	9.08E-07	0.	3.01E-09	0.	1.32E-08	3.42E-13	7.00E-10	5.90E-10	1.69E-06	
36 7.20 0.	6.51E-07	7.06E-07	0.	6.14E-08	0.	1.33E-08	3.54E-13	7.00E-10	6.03E-10	1.59E-06	
37 7.10 0.	6.03E-07	5.94E-07	0.	2.11E-07	0.	1.33E-08	3.66E-13	7.00E-10	6.13E-10	1.59E-06	
38 7.00 1.39E-09	0.	4.79E-07	0.	3.22E-07	0.	1.34E-08	3.79E-13	7.00E-10	6.26E-10	1.53E-06	
39 6.90 2.43E-09	0.	3.4E-07	0.	1.57E-06	0.	1.35E-08	3.92E-13	7.00E-10	6.41E-10	2.01E-06	
40 6.80 1.91E-09	0.	3.1E-07	0.	1.10E-06	0.	1.36E-08	4.05E-13	7.00E-10	6.56E-10	1.49E-06	
41 6.70 1.24E-09	0.	2.35E-07	0.	2.49E-06	0.	1.37E-08	4.27E-13	7.00E-10	6.72E-10	2.02E-06	
42 6.60 7.09E-10	0.	1.89E-07	0.	4.52E-06	0.	1.38E-08	4.47E-13	7.00E-10	6.90E-10	4.77E-06	
43 6.50 3.67E-10	0.	1.62E-07	0.	1.64E-06	0.	1.39E-08	4.65E-13	7.00E-10	7.10E-10	2.04E-06	
44 6.40 5.51E-10	0.	1.29E-07	0.	3.64E-06	0.	1.41E-08	4.91E-13	7.00E-10	7.36E-10	3.97E-06	
45 6.30 1.07E-09	0.	5.29E-08	5.04E-08	6.94E-06	0.	1.42E-08	5.16E-13	7.00E-10	7.63E-10	6.43E-06	
46 6.20 2.94E-09	0.	1.29E-08	1.97E-07	2.29E-06	0.	1.43E-08	5.38E-13	7.00E-10	7.95E-10	2.53E-06	
47 6.10 1.07E-08	0.	4.39E-09	2.40E-07	3.67E-06	0.	1.44E-08	5.64E-13	7.00E-10	8.34E-10	3.94E-06	
48 6.00 2.54E-08	0.	9.44E-09	6.14E-07	6.12E-06	0.	1.45E-08	5.92E-13	7.00E-10	8.74E-10	6.74E-06	
49 5.90 3.74E-08	0.	6.68E-11	4.44E-07	1.97E-06	0.	1.46E-08	6.23E-13	7.00E-10	9.15E-10	2.46E-06	
50 5.80 5.12E-08	0.	1.57E-12	7.75E-07	2.28E-06	0.	1.44E-08	6.89E-13	7.00E-10	1.00E-09	3.09E-06	
51 5.70 5.34E-08	0.	0.	7.59E-07	1.90E-06	0.	1.59E-08	7.26E-13	7.00E-10	1.56E-10	7.72E-10	2.73E-06

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 6000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	BEA	NO GAMMA	NO VIB-ROT	NO 2	Q- PHOTO-DET	N FREE-FREFE	N P.E.	O TOTAL AIR	
52	5.50	6.27E-08	0.	4.83E-07	4.03E-06	0.	0.	1.25E-08	7.66E-13	1.56E-10	7.87E-10	4.58E-06
53	5.50	6.15E-08	0.	6.20E-07	4.44E-06	0.	0.	1.26E-08	8.09E-13	1.57E-10	8.02E-10	5.13E-06
54	5.40	5.94E-08	0.	4.78E-07	2.02E-06	0.	0.	1.27E-08	8.55E-13	1.57E-10	8.17E-10	2.57E-06
55	5.30	5.36E-08	0.	4.94E-07	1.92E-06	0.	0.	1.28E-08	9.04E-13	1.58E-10	8.34E-10	4.47E-06
56	5.20	3.96E-08	0.	4.68E-07	1.67E-06	0.	0.	1.29E-08	9.57E-13	1.59E-10	8.56E-10	2.20E-06
57	5.10	2.99E-08	0.	4.48E-07	1.39E-06	0.	0.	1.30E-08	1.01E-12	1.62E-10	8.78E-10	2.48E-06
58	5.00	2.09E-08	0.	3.65E-07	2.00E-06	0.	0.	8.92E-13	1.11E-08	1.65E-12	1.66E-10	9.00E-10
59	4.90	1.78E-08	0.	3.73E-07	1.65E-06	0.	0.	8.92E-13	1.12E-08	1.65E-12	1.78E-10	9.22E-10
60	4.80	1.77E-08	0.	3.84E-07	1.55E-06	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.74E-10	9.44E-10
61	4.70	1.77E-08	0.	3.42E-07	1.07E-06	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
62	4.60	1.96E-08	0.	3.27E-07	1.08E-06	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
63	4.50	1.81E-08	0.	2.61E-07	6.47E-07	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
64	4.40	1.48E-08	0.	2.43E-07	5.45E-07	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
65	4.30	1.39E-08	0.	2.04E-07	2.15E-07	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
66	4.20	1.17E-08	0.	3.77E-07	2.34E-07	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
67	4.10	9.92E-09	0.	1.79E-07	5.64E-08	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
68	4.00	6.14E-09	0.	1.49E-07	4.08E-08	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
69	3.90	5.97E-09	0.	1.29E-07	1.33E-08	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
70	3.80	6.16E-09	0.	1.33E-07	2.09E-08	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
71	3.70	5.21E-09	0.	2.52E-07	1.63E-08	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
72	3.60	3.68E-09	0.	3.91E-07	1.66E-08	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
73	3.50	3.02E-09	0.	1.68E-07	9.59E-07	5.28E-08	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
74	3.40	2.33E-09	0.	5.34E-08	2.51E-08	5.62E-08	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
75	3.30	1.73E-09	0.	7.13E-08	2.51E-07	3.72E-08	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
76	3.20	1.29E-09	0.	2.96E-08	1.14E-04	3.47E-08	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
77	3.10	1.06E-09	0.	2.45E-08	4.01E-04	2.91E-08	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
78	3.00	8.28E-10	0.	1.85E-08	2.85E-07	2.36E-08	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
79	2.90	5.98E-10	0.	9.54E-09	2.51E-07	1.39E-08	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
80	2.80	5.48E-10	0.	1.74E-09	3.77E-04	6.98E-09	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
81	2.70	2.78E-10	0.	2.27E-09	1.31E-07	2.73E-09	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
82	2.60	9.65E-11	0.	6.33E-13	1.43E-04	6.89E-13	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
83	2.50	5.95E-12	0.	10.08E-11	6.05E-08	1.75E-10	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
84	2.40	0.	0.	0.72E-09	0.	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
85	2.30	0.	0.	6.32E-09	0.	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
86	2.20	0.	0.	1.07E-07	0.	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
87	2.10	0.	0.	2.32E-07	0.	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
88	2.00	0.	0.	2.85E-07	0.	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
89	1.90	0.	0.	9.42E-07	0.	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
90	1.80	0.	0.	8.41E-07	0.	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
91	1.70	0.	0.	9.61E-07	0.	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
92	1.60	0.	0.	6.72E-07	0.	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
93	1.50	0.	0.	8.23E-07	0.	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
94	1.40	0.	0.	1.02E-06	0.	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
95	1.30	0.	0.	6.48E-06	0.	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
96	1.20	0.	0.	7.88E-07	0.	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
97	1.10	0.	0.	5.08E-07	0.	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
98	1.00	0.	0.	5.11E-07	0.	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
99	0.90	0.	0.	3.74E-07	0.	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
100	0.80	0.	0.	1.64E-07	0.	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
101	0.70	0.	0.	4.84E-08	0.	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10
102	0.60	0.	0.	7.74E-10	0.	0.	0.	8.92E-13	1.13E-08	1.62E-12	1.77E-10	9.87E-10



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 6000. DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)

PHOTON ENERGY BANDS E.V.	Q2 S-R CONT.	N2 B-W NO. 1	NO RETA	NO GAMMA	NO 2	D- PHOTO-DET (IRMS)	FREE-FREE N P.E.	O P.F.	TOTAL AIR
1 10.70 0.	0.	1.41E-05	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
2 10.60 0.	0.	1.11E-05	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
3 10.50 0.	0.	1.03E-05	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
4 10.40 0.	0.	8.58E-06	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
5 10.30 0.	0.	6.40E-06	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
6 10.20 0.	0.	6.08E-06	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
7 10.10 0.	0.	5.28E-06	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
8 10.00 0.	0.	3.75E-06	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
9 9.90 0.	0.	3.72E-06	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
10 9.80 0.	0.	3.03E-06	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
11 9.70 0.	0.	2.17E-06	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
12 9.60 0.	0.	2.32E-06	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
13 9.50 0.	0.	1.62E-06	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
14 9.40 0.	0.	7.30E-07	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
15 9.30 0.	0.	7.97E-07	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
16 9.20 0.	0.	6.63E-07	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
17 9.10 0.	0.	1.06E-06	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
18 9.00 0.	0.	1.26E-06	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
19 8.90 0.	0.	1.50E-06	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
20 8.80 0.	0.	1.56E-06	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
21 8.70 0.	0.	1.42E-06	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
22 8.60 0.	0.	1.37E-06	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
23 8.50 0.	0.	1.32E-06	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
24 8.40 0.	0.	1.26E-06	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
25 8.30 0.	0.	1.21E-06	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
26 8.20 0.	0.	1.16E-06	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
27 8.10 0.	0.	1.11E-06	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
28 8.00 0.	0.	1.06E-06	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
29 7.90 0.	0.	1.01E-06	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
30 7.80 0.	0.	1.00E-06	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
31 7.70 0.	0.	9.43E-07	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
32 7.60 0.	0.	8.95E-07	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
33 7.50 0.	0.	8.27E-07	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
34 7.40 0.	0.	7.69E-07	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
35 7.30 0.	0.	7.12E-07	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
36 7.20 0.	0.	6.59E-07	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
37 7.10 0.	0.	6.07E-07	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
38 7.00 0.	0.	5.56E-07	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
39 6.90 0.	0.	5.01E-07	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
40 6.80 0.	0.	4.44E-07	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
41 6.70 0.	0.	3.87E-07	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
42 6.60 0.	0.	3.31E-07	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
43 6.50 0.	0.	2.84E-07	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
44 6.40 0.	0.	2.45E-07	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
45 6.30 0.	0.	2.12E-07	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
46 6.20 0.	0.	1.85E-07	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
47 6.10 0.	0.	1.63E-07	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
48 6.00 0.	0.	1.45E-07	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
49 5.90 0.	0.	1.31E-07	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
50 5.80 0.	0.	1.20E-07	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11
51 5.70 0.	0.	1.10E-07	0.	0.	0.	2.72E-10	5.79E-15	1.09E-10	5.89E-11

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 6000. DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)

PHOTON ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2 3RD POS.	RETA	NO	NO	GAMMA	NC	NC	NO	NO	2	2	PHOTON-DET (IONS)	FREE-FREE	N	P.F.	TOTAL AIR
52	5.40	6.30E-10	0.	0.	7.40E-09	6.24E-08	0.	0.	0.	2.90E-10	4.07E-14	2.41E-11	7.09E-11	7.09E-11	7.09E-11	7.09E-11	7.09E-11	7.09E-11
53	5.50	6.19E-10	0.	0.	9.60E-09	6.07E-08	0.	0.	0.	2.92E-10	4.29E-14	2.42E-11	8.09E-11	8.09E-11	8.09E-11	8.09E-11	8.09E-11	8.09E-11
54	5.40	5.97E-10	0.	0.	7.41E-09	3.13E-08	0.	0.	0.	2.97E-10	4.50E-14	2.44E-11	8.16E-11	8.16E-11	8.16E-11	8.16E-11	8.16E-11	8.16E-11
55	5.30	5.39E-10	0.	0.	7.65E-09	4.07E-08	0.	0.	0.	2.98E-10	4.00E-14	2.44E-11	8.16E-11	8.16E-11	8.16E-11	8.16E-11	8.16E-11	8.16E-11
56	5.20	3.38E-10	0.	0.	7.86E-09	2.59E-08	0.	0.	0.	3.07E-10	5.00E-14	2.45E-11	8.58E-11	8.58E-11	8.58E-11	8.58E-11	8.58E-11	8.58E-11
57	5.10	3.08E-10	0.	0.	6.99E-09	3.71E-08	0.	0.	0.	3.08E-10	5.30E-14	2.45E-11	8.88E-11	8.88E-11	8.88E-11	8.88E-11	8.88E-11	8.88E-11
58	5.00	2.10E-10	0.	0.	5.66E-09	2.10E-08	0.	0.	0.	3.02E-10	5.32E-14	2.51E-11	9.33E-11	9.33E-11	9.33E-11	9.33E-11	9.33E-11	9.33E-11
59	4.90	1.74E-10	0.	0.	5.78E-09	2.95E-08	0.	0.	0.	3.07E-10	6.07E-14	2.44E-11	9.24E-11	9.24E-11	9.24E-11	9.24E-11	9.24E-11	9.24E-11
60	4.80	1.78E-10	0.	0.	5.95E-09	2.40E-08	0.	0.	0.	3.07E-10	6.09E-14	2.65E-11	9.46E-11	9.46E-11	9.46E-11	9.46E-11	9.46E-11	9.46E-11
61	4.70	1.78E-10	0.	0.	5.30E-09	1.67E-08	0.	0.	0.	3.07E-10	6.99E-14	2.74E-11	9.93E-11	9.93E-11	9.93E-11	9.93E-11	9.93E-11	9.93E-11
62	4.60	1.92E-10	0.	0.	5.07E-09	1.62E-08	0.	0.	0.	3.07E-10	7.99E-14	2.80E-11	1.00E-10	1.00E-10	1.00E-10	1.00E-10	1.00E-10	1.00E-10
63	4.50	1.88E-10	0.	0.	4.04E-09	1.00E-08	0.	0.	0.	3.07E-10	7.00E-14	2.80E-11	1.00E-10	1.00E-10	1.00E-10	1.00E-10	1.00E-10	1.00E-10
64	4.40	1.68E-10	0.	0.	3.77E-09	8.44E-09	0.	0.	0.	3.07E-10	7.41E-14	3.02E-11	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10
65	4.30	1.39E-10	0.	0.	3.15E-09	3.89E-09	0.	0.	0.	3.07E-10	6.01E-14	3.02E-11	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10
66	4.20	1.02E-10	0.	0.	3.12E-09	3.67E-09	0.	0.	0.	3.07E-10	9.07E-14	3.09E-11	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10
67	4.10	9.99E-11	0.	0.	2.44E-09	2.77E-10	0.	0.	0.	3.07E-10	1.07E-13	3.07E-11	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10
68	4.00	8.19E-11	0.	0.	2.31E-09	4.32E-10	0.	0.	0.	3.07E-10	1.12E-13	3.07E-11	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10
69	3.90	6.02E-11	0.	0.	1.77E-09	3.27E-10	0.	0.	0.	3.07E-10	1.35E-13	3.07E-11	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10
70	3.80	6.18E-11	0.	0.	1.63E-09	3.27E-10	0.	0.	0.	3.07E-10	1.35E-13	3.07E-11	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10
71	3.70	4.58E-11	0.	0.	1.63E-09	3.27E-10	0.	0.	0.	3.07E-10	1.35E-13	3.07E-11	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10
72	3.60	3.68E-11	0.	0.	1.63E-09	3.27E-10	0.	0.	0.	3.07E-10	1.35E-13	3.07E-11	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10
73	3.50	3.09E-11	0.	0.	1.69E-09	9.95E-08	6.19E-10	0.	0.	3.07E-10	2.72E-13	3.07E-11	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10
74	3.40	3.36E-11	0.	0.	1.28E-09	2.60E-09	9.02E-10	0.	0.	3.07E-10	1.97E-13	3.07E-11	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10
75	3.30	1.74E-11	0.	0.	1.71E-09	2.63E-09	5.77E-10	0.	0.	3.07E-10	1.97E-13	3.07E-11	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10
76	3.20	1.39E-11	0.	0.	6.94E-10	1.21E-07	5.68E-10	0.	0.	3.07E-10	1.97E-13	3.07E-11	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10
77	3.10	1.05E-11	0.	0.	5.87E-10	4.16E-08	4.51E-10	0.	0.	3.07E-10	1.97E-13	3.07E-11	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10
78	3.00	8.35E-12	0.	0.	2.63E-10	2.75E-08	3.65E-10	0.	0.	3.07E-10	1.97E-13	3.07E-11	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10
79	2.90	5.93E-12	0.	0.	1.36E-10	2.60E-08	2.15E-10	0.	0.	3.07E-10	2.66E-13	3.07E-11	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10
80	2.80	5.51E-12	0.	0.	3.58E-11	3.92E-09	1.08E-10	0.	0.	3.07E-10	3.27E-13	3.07E-11	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10
81	2.70	2.79E-12	0.	0.	3.04E-11	1.36E-08	4.23E-11	0.	0.	3.07E-10	3.85E-13	3.07E-11	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10
82	2.60	9.79E-13	0.	0.	1.52E-11	1.47E-09	1.38E-11	0.	0.	3.07E-10	4.09E-13	4.22E-12	2.42E-11	2.42E-11	2.42E-11	2.42E-11	2.42E-11	2.42E-11
83	2.50	5.98E-14	0.	0.	2.40E-12	6.28E-10	2.71E-12	0.	0.	3.07E-10	5.21E-13	9.31E-12	3.44E-11	3.44E-11	3.44E-11	3.44E-11	3.44E-11	3.44E-11
84	2.40	0.	0.	0.	2.09E-10	1.09E-07	2.49E-13	0.	0.	3.07E-10	5.92E-13	9.31E-12	3.44E-11	3.44E-11	3.44E-11	3.44E-11	3.44E-11	3.44E-11
85	2.30	0.	0.	0.	1.58E-09	0.	0.	0.	0.	3.07E-10	6.78E-13	1.01E-11	4.18E-11	4.18E-11	4.18E-11	4.18E-11	4.18E-11	4.18E-11
86	2.20	0.	0.	0.	1.58E-09	0.	0.	0.	0.	3.07E-10	6.78E-13	1.01E-11	4.18E-11	4.18E-11	4.18E-11	4.18E-11	4.18E-11	4.18E-11
87	2.10	0.	0.	0.	5.54E-09	0.	0.	0.	0.	3.07E-10	7.78E-13	1.38E-11	5.78E-11	5.78E-11	5.78E-11	5.78E-11	5.78E-11	5.78E-11
88	2.00	0.	0.	0.	6.05E-09	0.	0.	0.	0.	3.07E-10	9.03E-13	1.71E-11	6.91E-11	6.91E-11	6.91E-11	6.91E-11	6.91E-11	6.91E-11
89	1.90	0.	0.	0.	2.29E-08	0.	0.	0.	0.	3.07E-10	1.45E-12	2.09E-11	7.45E-11	7.45E-11	7.45E-11	7.45E-11	7.45E-11	7.45E-11
90	1.80	0.	0.	0.	2.01E-08	0.	0.	0.	0.	3.07E-10	1.24E-12	2.30E-11	8.05E-11	8.05E-11	8.05E-11	8.05E-11	8.05E-11	8.05E-11
91	1.70	0.	0.	0.	2.33E-08	0.	0.	0.	0.	3.07E-10	1.31E-12	2.42E-11	9.06E-11	9.06E-11	9.06E-11	9.06E-11	9.06E-11	9.06E-11
92	1.60	0.	0.	0.	1.61E-08	0.	0.	0.	0.	3.07E-10	1.72E-12	2.42E-11	1.00E-10	1.00E-10	1.00E-10	1.00E-10	1.00E-10	1.00E-10
93	1.50	0.	0.	0.	1.99E-08	0.	0.	0.	0.	3.07E-10	1.72E-12	2.42E-11	1.00E-10	1.00E-10	1.00E-10	1.00E-10	1.00E-10	1.00E-10
94	1.40	0.	0.	0.	2.49E-08	0.	0.	0.	0.	3.07E-10	2.45E-12	3.38E-11	1.30E-10	1.30E-10	1.30E-10	1.30E-10	1.30E-10	1.30E-10
95	1.30	0.	0.	0.	1.55E-08	0.	0.	0.	0.	3.07E-10	3.31E-12	3.38E-11	1.30E-10	1.30E-10	1.30E-10	1.30E-10	1.30E-10	1.30E-10
96	1.20	0.	0.	0.	1.09E-08	0.	0.	0.	0.	3.07E-10	3.31E-12	3.38E-11	1.30E-10	1.30E-10	1.30E-10	1.30E-10	1.30E-10	1.30E-10
97	1.10	0.	0.	0.	1.29E-08	0.	0.	0.	0.	3.07E-10	4.32E-12	3.49E-11	1.49E-10	1.49E-10	1.49E-10	1.49E-10	1.49E-10	1.49E-10
98	1.00	0.	0.	0.	1.29E-08	0.	0.	0.	0.	3.07E-10	4.32E-12	3.49E-11	1.49E-10	1.49E-10	1.49E-10	1.49E-10	1.49E-10	1.49E-10
99	0.90	0.	0.	0.	4.01E-09	0.	0.	0.	0.	3.07E-10	1.01E-11	5.08E-11	1.88E-10	1.88E-10	1.88E-10	1.88E-10	1.88E-10	1.88E-10
100	0.80	0.	0.	0.	4.01E-09	0.	0.	0.	0.	3.07E-10	1.01E-11	5.08E-11	1.88E-10	1.88E-10	1.88E-10	1.88E-10	1.88E-10	1.88E-10
101	0.70	0.	0.	0.	1.14E-09	0.	0.	0.	0.	3.07E-10	1.14E-11	4.66E-11	1.56E-10	1.56E-10	1.56E-10	1.56E-10	1.56E-10	1.56E-10
102	0.60	0.	0.	0.	1.84E-11	0.	0.	0.	0.	3.07E-10	1.84E-11	5.24E-11	1.74E-10	1.74E-10	1.74E-10	1.74E-10	1.74E-10	1.74E-10

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY E.V.	O2 S-R BANDS	O2 S-R CONT.	M2 B-H NO. 1	TEMPERATURE (DEGREES K)	6000.	DENSITY (GM/CC)	1.293E-08 (10.0E-06 NORMAL)		0		TOTAL AIR	
							NO BETA	AO GAMMA	NO PHOTO-DET (IONS)	FREE-FREE M	NO P.E.	P.E.
1	10.70 0.	0.	1.09E-07	0.	0.	0.	0.02E-12	5.95E-16	1.19E-11	5.95E-12	1.60E-07	
2	19.60 0.	0.	1.33E-07	0.	0.	0.	0.04E-12	5.20E-16	1.10E-11	5.96E-12	1.33E-07	
3	10.50 0.	0.	1.23E-07	0.	0.	0.	0.05E-12	5.10E-16	1.10E-11	5.97E-12	1.23E-07	
4	10.40 0.	0.	1.03E-07	0.	0.	0.	0.06E-12	5.50E-16	1.16E-11	5.00E-12	1.03E-07	
5	10.30 0.	0.	7.74E-08	0.	0.	0.	0.07E-12	5.17E-16	1.17E-11	5.09E-12	7.74E-08	
6	10.20 0.	0.	7.98E-08	0.	0.	0.	0.08E-12	5.94E-16	1.17E-11	5.18E-12	7.98E-08	
7	10.10 0.	0.	6.25E-08	0.	0.	0.	0.09E-12	6.91E-16	1.17E-11	5.11E-12	6.25E-08	
8	9.00 0.	0.	4.51E-08	0.	0.	0.	0.10E-12	6.80E-16	1.10E-11	5.15E-12	4.51E-08	
9	9.90 0.	0.	4.46E-08	0.	0.	0.	0.11E-12	6.59E-16	1.10E-11	5.13E-12	4.46E-08	
10	2.80 0.	0.	3.64E-08	0.	0.	0.	0.13E-12	6.59E-16	1.10E-11	5.14E-12	3.64E-08	
11	9.70 0.	0.	2.61E-08	0.	0.	0.	0.14E-12	6.79E-16	1.10E-11	5.15E-12	2.61E-08	
12	9.60 0.	0.	2.90E-08	0.	0.	0.	0.16E-12	7.01E-16	1.19E-11	5.15E-12	2.90E-08	
13	9.50 0.	0.	6.03E-11	0.	0.	0.	0.17E-12	7.33E-16	1.19E-11	5.17E-12	1.95E-08	
14	9.40 0.	0.	7.29E-11	1.61E-08	0.	0.	0.20E-12	7.47E-16	3.16E-12	5.18E-12	1.62E-08	
15	9.30 0.	0.	7.95E-11	1.50E-08	0.	0.	0.23E-12	7.71E-16	3.14E-12	5.19E-12	1.59E-08	
16	9.20 0.	0.	8.67E-11	1.01E-08	0.	0.	0.26E-12	7.97E-16	3.13E-12	5.20E-12	1.02E-08	
17	9.10 0.	0.	1.04E-10	1.05E-08	0.	0.	0.29E-12	8.25E-16	3.11E-12	5.21E-12	1.04E-08	
18	9.00 0.	0.	1.20E-10	7.95E-09	0.	0.	0.32E-12	8.51E-16	3.10E-12	5.22E-12	8.02E-09	
19	8.90 0.	0.	1.49E-10	6.37E-09	0.	0.	0.35E-12	8.80E-16	3.08E-12	5.23E-12	6.54E-09	
20	8.80 0.	0.	1.55E-10	5.84E-09	0.	0.	0.38E-12	9.12E-16	3.07E-12	5.24E-12	6.82E-09	
21	8.70 0.	0.	1.49E-10	4.00E-09	0.	0.	0.41E-12	9.47E-16	3.05E-12	5.26E-12	6.24E-09	
22	8.60 0.	0.	1.42E-10	4.10E-09	0.	0.	0.44E-12	9.76E-16	3.04E-12	5.27E-12	4.24E-09	
23	8.50 0.	0.	1.37E-10	2.80E-09	0.	0.	0.47E-12	1.01E-15	3.03E-12	5.28E-12	3.63E-09	
24	8.40 0.	0.	1.57E-10	2.71E-09	0.	0.	0.51E-12	1.05E-15	3.01E-12	5.29E-12	2.84E-09	
25	8.30 0.	0.	1.26E-10	1.60E-09	0.	0.	0.54E-12	1.09E-15	3.00E-12	5.30E-12	2.02E-09	
26	8.20 0.	0.	1.21E-10	1.78E-09	0.	0.	0.68E-12	1.35E-15	2.98E-12	5.32E-12	1.95E-09	
27	8.10 0.	0.	1.14E-10	1.77E-09	0.	0.	0.65E-12	1.37E-15	2.96E-12	5.42E-12	1.40E-09	
28	8.00 0.	0.	1.11E-10	1.18E-09	0.	0.	0.69E-12	1.41E-15	2.94E-12	5.54E-12	1.31E-09	
29	7.90 0.	0.	1.05E-10	8.40E-10	0.	0.	0.74E-12	1.46E-15	2.91E-12	5.61E-12	9.71E-10	
30	7.80 0.	0.	9.94E-11	8.95E-10	0.	0.	0.78E-12	1.51E-15	2.89E-12	5.69E-12	9.22E-10	
31	7.70 0.	0.	9.41E-11	5.97E-10	0.	0.	0.83E-12	1.56E-15	2.87E-12	5.76E-12	7.05E-10	
32	7.60 0.	0.	6.83E-11	5.02E-10	0.	0.	0.87E-12	1.42E-15	2.85E-12	5.84E-12	6.02E-10	
33	7.50 0.	0.	8.25E-11	3.99E-10	0.	0.	0.82E-12	1.47E-15	2.83E-12	5.91E-12	5.40E-10	
34	7.40 0.	0.	7.64E-11	3.16E-10	0.	0.	0.97E-12	1.53E-15	2.81E-12	5.98E-12	4.22E-10	
35	7.30 0.	0.	7.11E-11	2.00E-10	0.	0.	0.92E-12	1.40E-15	2.79E-12	6.06E-12	3.60E-10	
36	7.20 0.	0.	6.50E-11	1.74E-10	0.	0.	0.96E-12	1.47E-15	2.77E-12	6.13E-12	3.23E-10	
37	7.10 0.	0.	6.05E-11	1.36E-10	0.	0.	9.14E-12	1.74E-15	2.75E-12	6.21E-12	3.05E-10	
38	7.00 1.34E-13	0.	1.36E-10	0.	0.	0.	9.21E-12	1.61E-15	2.73E-12	6.28E-12	4.12E-10	
39	6.90 2.43E-13	0.	1.08E-10	0.	0.	0.	9.20E-12	1.61E-15	2.71E-12	6.36E-12	3.13E-10	
40	6.80 1.52E-13	0.	8.94E-11	0.	0.	0.	9.58E-12	1.88E-15	2.69E-12	6.45E-12	2.30E-10	
41	6.70 1.26E-13	0.	6.73E-11	0.	0.	0.	9.44E-12	2.07E-15	2.67E-12	6.54E-12	1.61E-10	
42	6.60 7.07E-14	0.	5.18E-11	0.	0.	0.	9.58E-12	2.46E-15	2.66E-12	6.59E-12	6.54E-10	
43	6.50 3.66E-14	0.	3.41E-11	0.	0.	0.	9.60E-12	2.77E-15	2.65E-12	6.66E-12	7.04E-10	
44	6.40 5.32E-14	0.	1.60E-11	0.	0.	0.	9.66E-12	3.08E-15	2.63E-12	6.74E-12	1.15E-09	
45	6.30 1.07E-13	0.	8.25E-12	0.	0.	0.	9.73E-12	2.49E-15	2.62E-12	6.84E-12	4.49E-10	
46	6.20 2.95E-13	0.	3.66E-12	0.	0.	0.	9.81E-12	2.41E-15	2.61E-12	6.90E-12	4.47E-10	
47	6.10 1.07E-12	0.	1.68E-12	0.	0.	0.	9.88E-12	2.74E-15	2.61E-12	7.14E-12	1.50E-09	
48	6.00 2.55E-12	0.	2.71E-13	0.	0.	0.	9.96E-12	2.88E-15	2.60E-12	7.28E-12	4.33E-10	
49	5.90 3.75E-12	0.	1.90E-14	0.	0.	0.	9.98E-12	3.03E-15	2.63E-12	7.43E-12	5.33E-10	
50	5.80 5.14E-12	0.	1.32E-10	3.87E-10	0.	0.	9.81E-12	3.56E-15	2.64E-12	7.56E-12	5.44E-10	
51	5.70 5.36E-12	0.	1.29E-10	3.22E-10	0.	0.	9.21E-12	3.36E-15	2.64E-12	7.73E-12	4.77E-10	

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 6000. DENSITY (GM/CC) 1.293E-08 (10.0E-08 NORMAL)

PHOTON O2 S-R ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 3RD POS.	NO. 1ST REG.	BETA	NO. GAMMA	NO. VIB-ROT	NO. 2	D- PHOTO-DET	U FREE-FREE (ICONS)	U P.E.	0 P.F.	TOTAL AIR	
52	5.60	6.29E-12	0.	0.	0.	0.20E-11	6.84E-10	0.	0.	0.57E-12	1.55E-15	2.45E-12	7.89E-12	
53	5.50	6.12E-12	0.	0.	0.	1.05E-11	7.53E-10	0.	0.	0.61E-12	3.74E-15	2.65E-12	8.03E-12	
54	5.40	5.96E-12	0.	0.	0.	8.12E-11	3.43E-10	0.	0.	0.66E-12	3.96E-15	2.80E-12	8.18E-12	
55	5.30	5.80E-12	0.	0.	0.	8.30E-11	6.05E-10	0.	0.	0.71E-12	4.19E-15	2.97E-12	8.35E-12	
56	5.20	5.63E-12	0.	0.	0.	6.20E-11	2.83E-10	0.	0.	0.77E-12	4.43E-15	3.15E-12	8.52E-12	
57	5.10	5.46E-12	0.	0.	0.	7.61E-11	4.04E-10	0.	0.	1.26E-10	8.04E-12	2.75E-12	8.70E-12	
58	5.00	5.29E-12	0.	0.	0.	6.70E-11	3.40E-10	0.	0.	1.52E-10	9.28E-12	2.92E-12	8.91E-12	
59	4.90	5.13E-12	0.	0.	0.	6.33E-11	2.79E-10	0.	0.	1.87E-10	9.86E-12	3.10E-12	9.14E-12	
60	4.80	4.96E-12	0.	0.	0.	6.92E-11	2.63E-10	0.	0.	1.2E-10	9.66E-12	2.85E-12	8.95E-12	
61	4.70	4.79E-12	0.	0.	0.	5.91E-11	1.87E-10	0.	0.	1.2E-10	9.14E-12	2.61E-12	8.68E-12	
62	4.60	4.62E-12	0.	0.	0.	5.56E-11	1.84E-10	0.	0.	1.2E-10	9.21E-12	2.61E-12	8.68E-12	
63	4.50	4.45E-12	0.	0.	0.	4.42E-11	1.10E-10	0.	0.	1.2E-10	9.29E-12	2.61E-12	8.68E-12	
64	4.40	4.28E-12	0.	0.	0.	4.13E-11	9.25E-11	0.	0.	1.2E-10	9.36E-12	2.61E-12	8.68E-12	
65	4.30	4.11E-12	0.	0.	0.	3.44E-11	4.27E-11	0.	0.	1.2E-10	9.44E-12	2.61E-12	8.68E-12	
66	4.20	3.94E-12	0.	0.	0.	3.42E-11	3.97E-11	0.	0.	1.2E-10	9.51E-12	2.61E-12	8.68E-12	
67	4.10	3.77E-12	0.	0.	0.	2.89E-11	6.61E-12	0.	0.	1.2E-10	9.59E-12	2.61E-12	8.68E-12	
68	4.00	3.60E-12	0.	0.	0.	2.53E-11	6.92E-12	0.	0.	1.2E-10	9.66E-12	2.61E-12	8.68E-12	
69	3.90	3.43E-12	0.	0.	0.	3.72E-11	5.64E-11	0.	0.	1.2E-10	9.74E-12	2.61E-12	8.68E-12	
70	3.80	3.26E-12	0.	0.	0.	3.82E-11	6.33E-10	0.	0.	1.2E-10	9.81E-12	2.61E-12	8.68E-12	
71	3.70	3.09E-12	0.	0.	0.	1.28E-10	1.33E-11	0.	0.	1.2E-10	9.89E-12	2.61E-12	8.68E-12	
72	3.60	2.92E-12	0.	0.	0.	2.27E-11	6.99E-10	0.	0.	1.2E-10	9.96E-12	2.61E-12	8.68E-12	
73	3.50	2.75E-12	0.	0.	0.	4.82E-11	4.05E-09	6.97E-12	0.	0.	1.2E-10	1.00E-12	2.61E-12	8.68E-12
74	3.40	2.58E-12	0.	0.	0.	1.54E-11	1.06E-10	9.80E-12	0.	0.	1.2E-10	1.01E-12	2.61E-12	8.68E-12
75	3.30	2.41E-12	0.	0.	0.	2.59E-11	1.07E-09	6.32E-12	0.	0.	1.2E-10	1.02E-12	2.61E-12	8.68E-12
76	3.20	2.24E-12	0.	0.	0.	6.34E-12	4.92E-09	6.23E-12	0.	0.	1.2E-10	1.03E-12	2.61E-12	8.68E-12
77	3.10	2.07E-12	0.	0.	0.	7.05E-12	1.69E-10	4.94E-12	0.	0.	1.2E-10	1.04E-12	2.61E-12	8.68E-12
78	3.00	1.90E-12	0.	0.	0.	3.16E-12	1.12E-09	4.00E-12	0.	0.	1.2E-10	1.05E-12	2.61E-12	8.68E-12
79	2.90	1.73E-12	0.	0.	0.	1.88E-12	1.06E-09	2.35E-12	0.	0.	1.2E-10	1.06E-12	2.61E-12	8.68E-12
80	2.80	1.56E-12	0.	0.	0.	7.91E-13	1.59E-10	1.19E-12	0.	0.	1.2E-10	1.07E-12	2.61E-12	8.68E-12
81	2.70	1.39E-12	0.	0.	0.	3.66E-13	5.52E-10	4.63E-13	0.	0.	1.2E-10	1.08E-12	2.61E-12	8.68E-12
82	2.60	1.22E-12	0.	0.	0.	1.82E-13	6.00E-11	1.51E-13	0.	0.	1.2E-10	1.09E-12	2.61E-12	8.68E-12
83	2.50	1.05E-12	0.	0.	0.	2.69E-14	2.56E-11	2.97E-14	0.	0.	1.2E-10	1.10E-12	2.61E-12	8.68E-12
84	2.40	0.88E-12	0.	0.	0.	4.38E-14	4.38E-11	2.73E-15	0.	0.	1.2E-10	1.11E-12	2.61E-12	8.68E-12
85	2.30	0.71E-12	0.	0.	0.	1.07E-13	0.	0.	0.	0.	1.2E-10	1.12E-12	2.61E-12	8.68E-12
86	2.20	0.54E-12	0.	0.	0.	3.08E-13	0.	0.	0.	0.	1.2E-10	1.13E-12	2.61E-12	8.68E-12
87	2.10	0.37E-12	0.	0.	0.	6.66E-13	0.	0.	0.	0.	1.2E-10	1.14E-12	2.61E-12	8.68E-12
88	2.00	0.20E-12	0.	0.	0.	9.19E-13	0.	0.	0.	0.	1.2E-10	1.15E-12	2.61E-12	8.68E-12
89	1.90	0.03E-12	0.	0.	0.	2.71E-13	0.	0.	0.	0.	1.2E-10	1.16E-12	2.61E-12	8.68E-12
90	1.80	0.00E-12	0.	0.	0.	2.42E-13	0.	0.	0.	0.	1.2E-10	1.17E-12	2.61E-12	8.68E-12
91	1.70	0.00E-12	0.	0.	0.	2.75E-13	0.	0.	0.	0.	1.2E-10	1.18E-12	2.61E-12	8.68E-12
92	1.60	0.00E-12	0.	0.	0.	1.93E-13	0.	0.	0.	0.	1.2E-10	1.19E-12	2.61E-12	8.68E-12
93	1.50	0.00E-12	0.	0.	0.	2.37E-13	0.	0.	0.	0.	1.2E-10	1.20E-12	2.61E-12	8.68E-12
94	1.40	0.00E-12	0.	0.	0.	2.94E-13	0.	0.	0.	0.	1.2E-10	1.21E-12	2.61E-12	8.68E-12
95	1.30	0.00E-12	0.	0.	0.	1.84E-13	0.	0.	0.	0.	1.2E-10	1.22E-12	2.61E-12	8.68E-12
96	1.20	0.00E-12	0.	0.	0.	2.27E-13	0.	0.	0.	0.	1.2E-10	1.23E-12	2.61E-12	8.68E-12
97	1.10	0.00E-12	0.	0.	0.	1.44E-13	0.	0.	0.	0.	1.2E-10	1.24E-12	2.61E-12	8.68E-12
98	1.00	0.00E-12	0.	0.	0.	1.47E-13	0.	0.	0.	0.	1.2E-10	1.25E-12	2.61E-12	8.68E-12
99	0.90	0.00E-12	0.	0.	0.	1.08E-13	0.	0.	0.	0.	1.2E-10	1.26E-12	2.61E-12	8.68E-12
100	0.80	0.00E-12	0.	0.	0.	4.62E-13	0.	0.	0.	0.	1.2E-10	1.27E-12	2.61E-12	8.68E-12
101	0.70	0.00E-12	0.	0.	0.	1.39E-13	0.	0.	0.	0.	1.2E-10	1.28E-12	2.61E-12	8.68E-12
102	0.60	0.00E-12	0.	0.	0.	2.23E-13	0.	0.	0.	0.	1.2E-10	1.29E-12	2.61E-12	8.68E-12

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E.V.	02 S-R CONT.	M2 B-M NO. 1	TEMPERATURE (DEGREES K)		NO BETA	NO GAMMA	NO 2	DENSITY (G/CC) 1.293E-09 (10.0E-07 NORMAL)		O-FREE-FREE N P.E.	TOTAL AIR P.E.	
			6000.	6800.				PHOTO-DET. (TONS)	N			
1 10.76 0.	0.	1.71E-09	0.	0.	0.	0.	0.	2.49E-13	9.91E-17	1.12E-12	9.82E-13	1.71E-09
2 10.60 0.	0.	1.35E-09	0.	0.	0.	0.	0.	2.49E-13	9.89E-17	1.14E-12	9.89E-13	1.35E-09
3 10.53 0.	0.	1.25E-09	0.	0.	0.	0.	0.	2.50E-13	9.86E-17	1.17E-12	9.86E-13	1.25E-09
4 10.40 0.	0.	1.04E-09	0.	0.	0.	0.	0.	2.50E-13	9.89E-17	1.17E-12	9.89E-13	1.04E-09
5 10.30 0.	0.	7.89E-10	0.	0.	0.	0.	0.	2.50E-13	9.84E-17	1.17E-12	9.84E-13	7.89E-10
6 10.20 0.	0.	7.39E-10	0.	0.	0.	0.	0.	2.51E-13	9.89E-17	1.18E-12	9.87E-13	7.47E-10
7 10.10 0.	0.	6.33E-10	0.	0.	0.	0.	0.	2.51E-13	9.89E-17	1.18E-12	9.87E-13	6.33E-10
8 10.00 0.	0.	4.54E-10	0.	0.	0.	0.	0.	2.51E-13	9.89E-17	1.18E-12	9.89E-13	4.54E-10
9 9.90 0.	0.	4.12E-10	0.	0.	0.	0.	0.	2.52E-13	9.84E-17	1.19E-12	9.84E-13	4.12E-10
10 9.80 0.	0.	3.46E-10	0.	0.	0.	0.	0.	2.52E-13	9.84E-17	1.19E-12	9.84E-13	3.46E-10
11 9.70 0.	0.	2.64E-10	0.	0.	0.	0.	0.	2.53E-13	9.81E-17	1.19E-12	9.81E-13	2.64E-10
12 9.60 0.	0.	2.02E-10	0.	0.	0.	0.	0.	2.53E-13	9.81E-17	1.19E-12	9.81E-13	2.02E-10
13 9.50 0.	0.	1.65E-10	0.	0.	0.	0.	0.	2.54E-13	9.81E-17	1.20E-12	9.81E-13	1.65E-10
14 9.40 0.	0.	1.30E-10	0.	0.	0.	0.	0.	2.54E-13	9.81E-17	1.20E-12	9.81E-13	1.30E-10
15 9.30 0.	0.	7.84E-11	0.	0.	0.	0.	0.	2.55E-13	9.81E-17	1.20E-12	9.81E-13	7.84E-11
16 9.20 0.	0.	6.51E-11	0.	0.	0.	0.	0.	2.56E-13	9.81E-17	1.20E-12	9.81E-13	6.51E-11
17 9.10 0.	0.	1.04E-11	0.	0.	0.	0.	0.	2.57E-13	9.81E-17	1.20E-12	9.81E-13	1.04E-11
18 9.00 0.	0.	1.24E-12	0.	0.	0.	0.	0.	2.58E-13	9.81E-17	1.20E-12	9.81E-13	1.24E-12
19 8.90 0.	0.	1.44E-12	0.	0.	0.	0.	0.	2.59E-13	9.81E-17	1.20E-12	9.81E-13	1.44E-12
20 8.80 0.	0.	1.53E-12	0.	0.	0.	0.	0.	2.61E-13	9.81E-17	1.20E-12	9.81E-13	1.53E-12
21 8.70 0.	0.	1.47E-12	0.	0.	0.	0.	0.	2.62E-13	9.81E-17	1.20E-12	9.81E-13	1.47E-12
22 8.60 0.	0.	1.48E-12	0.	0.	0.	0.	0.	2.63E-13	9.81E-17	1.20E-12	9.81E-13	1.48E-12
23 8.50 0.	0.	1.35E-12	0.	0.	0.	0.	0.	2.63E-13	9.81E-17	1.20E-12	9.81E-13	1.35E-12
24 8.40 0.	0.	1.30E-12	0.	0.	0.	0.	0.	2.64E-13	9.81E-17	1.20E-12	9.81E-13	1.30E-12
25 8.30 0.	0.	1.25E-12	0.	0.	0.	0.	0.	2.65E-13	9.81E-17	1.20E-12	9.81E-13	1.25E-12
26 8.20 0.	0.	1.19E-12	0.	0.	0.	0.	0.	2.67E-13	9.81E-17	1.20E-12	9.81E-13	1.19E-12
27 8.10 0.	0.	1.15E-12	0.	0.	0.	0.	0.	2.68E-13	9.81E-17	1.20E-12	9.81E-13	1.15E-12
28 8.00 0.	0.	1.10E-12	0.	0.	0.	0.	0.	2.70E-13	9.81E-17	1.20E-12	9.81E-13	1.10E-12
29 7.90 0.	0.	1.06E-12	0.	0.	0.	0.	0.	2.71E-13	9.81E-17	1.20E-12	9.81E-13	1.06E-12
30 7.80 0.	0.	9.86E-13	0.	0.	0.	0.	0.	2.72E-13	9.81E-17	1.20E-12	9.81E-13	9.86E-13
31 7.70 0.	0.	9.30E-13	0.	0.	0.	0.	0.	2.74E-13	9.81E-17	1.20E-12	9.81E-13	9.30E-13
32 7.60 0.	0.	8.73E-13	0.	0.	0.	0.	0.	2.77E-13	9.81E-17	1.20E-12	9.81E-13	8.73E-13
33 7.50 0.	0.	8.16E-13	0.	0.	0.	0.	0.	2.77E-13	9.81E-17	1.20E-12	9.81E-13	8.16E-13
34 7.40 0.	0.	7.59E-13	0.	0.	0.	0.	0.	2.78E-13	9.81E-17	1.20E-12	9.81E-13	7.59E-13
35 7.30 0.	0.	7.02E-13	0.	0.	0.	0.	0.	2.80E-13	9.81E-17	1.20E-12	9.81E-13	7.02E-13
36 7.20 0.	0.	6.50E-13	0.	0.	0.	0.	0.	2.81E-13	9.81E-17	1.20E-12	9.81E-13	6.50E-13
37 7.10 0.	0.	5.98E-13	0.	0.	0.	0.	0.	2.82E-13	9.81E-17	1.20E-12	9.81E-13	5.98E-13
38 7.00 1.34E-15 0.	0.	1.10E-12	0.	0.	0.	0.	0.	2.83E-13	9.81E-17	1.20E-12	9.81E-13	1.10E-12
39 6.90 2.41E-15 0.	0.	1.00E-12	0.	0.	0.	0.	0.	2.84E-13	9.81E-17	1.20E-12	9.81E-13	1.00E-12
40 6.80 1.90E-15 0.	0.	9.09E-13	0.	0.	0.	0.	0.	2.86E-13	9.81E-17	1.20E-12	9.81E-13	9.09E-13
41 6.70 1.25E-15 0.	0.	6.61E-13	0.	0.	0.	0.	0.	2.87E-13	9.81E-17	1.20E-12	9.81E-13	6.61E-13
42 6.60 6.99E-16 0.	0.	5.24E-13	0.	0.	0.	0.	0.	2.89E-13	9.81E-17	1.20E-12	9.81E-13	5.24E-13
43 6.50 3.64E-16 0.	0.	3.45E-13	0.	0.	0.	0.	0.	2.90E-13	9.81E-17	1.20E-12	9.81E-13	3.45E-13
44 6.40 3.06E-16 0.	0.	1.82E-13	0.	0.	0.	0.	0.	2.91E-13	9.81E-17	1.20E-12	9.81E-13	1.82E-13
45 6.30 1.06E-15 0.	0.	8.35E-14	0.	0.	0.	0.	0.	2.92E-13	9.81E-17	1.20E-12	9.81E-13	8.35E-14
46 6.20 2.92E-15 0.	0.	3.50E-14	0.	0.	0.	0.	0.	2.93E-13	9.81E-17	1.20E-12	9.81E-13	3.50E-14
47 6.10 1.04E-14 0.	0.	1.20E-14	0.	0.	0.	0.	0.	2.94E-13	9.81E-17	1.20E-12	9.81E-13	1.20E-14
48 6.00 2.52E-14 0.	0.	2.75E-13	0.	0.	0.	0.	0.	2.95E-13	9.81E-17	1.20E-12	9.81E-13	2.75E-13
49 5.90 3.71E-14 0.	0.	1.92E-16	0.	0.	0.	0.	0.	2.96E-13	9.81E-17	1.20E-12	9.81E-13	1.92E-16
50 5.80 5.08E-14 0.	0.	4.56E-16	0.	0.	0.	0.	0.	2.97E-13	9.81E-17	1.20E-12	9.81E-13	4.56E-16
51 5.70 5.30E-14 0.	0.	1.29E-12	0.	0.	0.	0.	0.	2.98E-13	9.81E-17	1.20E-12	9.81E-13	1.29E-12

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 DENSITY (GM/CC) 1.293E-09 (10.0E-07 NORMAL)

PHOTON QZ 5-R ENERGY BANDS	1ST POS.	2ND POS.	M2 1ST NEG.	M2 2ND NEG.	NO 9ETA	AD GAMMA	NO VIB-RNT	NO VIB-RNT	NO 2	G- PHOTO-DET (IONS)	FREE-FREE M	TOTAL AIR P.F.		
													NO P.F.	
52	5.60	6.22E-14	0.	0.	6.20E-13	6.04E-12	0.	0.	2.66E-13	3.45E-16	2.66E-13	7.83E-13	9.04E-12	
53	5.50	5.05E-14	0.	0.	1.05E-12	7.53E-12	0.	0.	2.67E-13	3.04E-16	2.67E-13	7.90E-13	9.08E-12	
54	5.40	5.89E-14	0.	0.	8.12E-13	3.43E-12	0.	0.	2.68E-13	3.85E-16	2.68E-13	8.13E-13	5.85E-12	
55	5.30	5.52E-14	0.	0.	6.38E-13	6.05E-12	0.	0.	2.72E-13	4.31E-16	2.72E-13	8.52E-13	5.09E-12	
56	5.20	3.33E-14	0.	0.	8.28E-13	2.84E-12	0.	0.	2.78E-13	4.31E-16	2.78E-13	8.74E-13	6.28E-12	
57	5.10	2.96E-14	0.	0.	7.62E-13	4.07E-12	0.	0.	1.51E-21	2.77E-13	4.05E-16	2.77E-13	6.74E-13	5.50E-12
58	5.00	2.96E-14	0.	0.	6.34E-13	3.40E-12	0.	0.	1.51E-21	2.79E-13	5.16E-16	2.91E-13	4.94E-12	
59	4.90	1.71E-14	0.	0.	6.52E-13	2.63E-12	0.	0.	1.51E-21	2.81E-13	5.49E-16	2.97E-13	4.81E-12	
60	4.80	1.78E-14	0.	0.	5.81E-13	1.82E-12	0.	0.	1.51E-21	2.87E-13	5.85E-16	3.02E-13	4.81E-12	
61	4.70	1.78E-14	0.	0.	5.56E-13	1.84E-12	0.	0.	1.51E-21	2.86E-13	6.74E-16	3.06E-13	4.00E-12	
62	4.60	1.94E-14	0.	0.	4.43E-13	1.10E-12	0.	0.	1.51E-21	2.88E-13	6.66E-16	3.17E-13	1.01E-12	3.07E-12
63	4.50	1.79E-14	0.	0.	6.29E-14	0.	0.	0.	1.51E-21	2.90E-13	7.13E-16	3.25E-13	1.03E-12	3.07E-12
64	4.40	1.66E-14	0.	0.	3.46E-13	4.27E-13	0.	0.	1.51E-21	2.93E-13	7.64E-16	3.32E-13	3.97E-14	1.55E-12
65	4.30	1.37E-14	0.	0.	5.87E-13	0.	0.	0.	1.51E-21	2.95E-13	8.20E-16	1.81E-13	4.10E-14	1.86E-12
66	4.20	1.16E-14	0.	0.	1.10E-13	0.	0.	0.	1.51E-21	2.96E-13	8.20E-16	1.84E-13	4.23E-14	1.93E-12
67	4.10	9.84E-15	0.	0.	2.89E-13	9.61E-14	0.	0.	1.51E-21	2.97E-13	9.50E-16	1.52E-13	4.49E-14	1.61E-12
68	4.00	8.07E-15	0.	0.	3.77E-13	6.93E-14	0.	0.	1.51E-21	2.98E-13	1.02E-15	1.52E-13	4.49E-14	1.61E-12
69	3.90	5.92E-15	0.	0.	1.91E-13	1.83E-12	0.	0.	1.51E-21	2.99E-13	1.11E-15	1.52E-13	4.62E-14	2.60E-12
70	3.80	6.10E-15	0.	0.	7.40E-13	4.11E-12	0.	0.	1.51E-21	2.99E-13	1.30E-15	9.22E-14	5.39E-14	5.47E-12
71	3.70	4.47E-15	0.	0.	4.87E-13	1.47E-13	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
72	3.60	3.63E-15	0.	0.	2.30E-13	2.27E-11	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
73	3.50	2.98E-15	0.	0.	1.56E-13	3.31E-10	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
74	3.40	2.33E-15	0.	0.	1.56E-13	3.44E-12	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
75	3.30	1.71E-15	0.	0.	2.07E-13	3.47E-11	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
76	3.20	1.28E-15	0.	0.	8.44E-14	5.50E-12	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
77	3.10	1.07E-15	0.	0.	3.19E-14	3.63E-11	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
78	3.00	8.21E-16	0.	0.	1.90E-14	3.44E-11	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
79	2.90	5.83E-16	0.	0.	8.01E-15	5.17E-12	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
80	2.80	5.43E-16	0.	0.	3.70E-15	1.79E-12	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
81	2.70	2.79E-16	0.	0.	1.84E-15	1.99E-12	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
82	2.60	9.57E-17	0.	0.	2.92E-16	6.30E-13	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
83	2.50	5.90E-18	0.	0.	1.42E-12	2.73E-17	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
84	2.40	0.	0.	0.	0.	0.	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
85	2.30	0.	0.	0.	0.	0.	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
86	2.20	0.	0.	0.	0.	0.	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
87	2.10	0.	0.	0.	0.	0.	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
88	2.00	0.	0.	0.	0.	0.	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
89	1.90	0.	0.	0.	0.	0.	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
90	1.80	0.	0.	0.	0.	0.	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
91	1.70	0.	0.	0.	0.	0.	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
92	1.60	0.	0.	0.	0.	0.	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
93	1.50	0.	0.	0.	0.	0.	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
94	1.40	0.	0.	0.	0.	0.	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
95	1.30	0.	0.	0.	0.	0.	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
96	1.20	0.	0.	0.	0.	0.	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
97	1.10	0.	0.	0.	0.	0.	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
98	1.00	0.	0.	0.	0.	0.	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
99	0.90	0.	0.	0.	0.	0.	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
100	0.80	0.	0.	0.	0.	0.	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
101	0.70	0.	0.	0.	0.	0.	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11
102	0.60	0.	0.	0.	0.	0.	0.	0.	1.51E-21	2.99E-13	1.30E-15	1.03E-13	6.28E-14	2.15E-11

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 7000. DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)

PHOTON ENERGY E.V.	02 S-R BANDS	02 S-R CONT.	M2 B-M NO. 1	NO BETA	NO GAMMA	NO PHOTO-DET (10MS)	0 FINE-FREE M	0 TOTAL AIR P.E.		
1 10.70 0	0	0	2.09E 01	0	0	1.16E-01	0.21E-07	4.63E-01	5.00E-05	2.14E 01
2 10.60 0	0	0	1.70E 01	0	0	1.16E-01	0.48E-07	7.71E-06	5.00E-05	1.71E 01
3 10.50 0	0	0	1.09E 01	0	0	1.16E-01	0.72E-07	7.71E-06	5.00E-05	1.61E 01
4 10.40 0	0	0	1.37E 01	0	0	1.16E-01	0.90E-07	7.70E-06	5.11E-05	1.30E 01
5 10.30 0	0	0	1.07E 01	0	0	1.16E-01	9.24E-07	7.00E-06	5.11E-05	1.00E 01
6 10.20 0	0	0	1.02E 01	0	0	1.16E-01	9.52E-07	7.02E-06	5.11E-05	1.04E 01
7 10.10 0	0	0	0.95E 00	0	0	1.16E-01	9.81E-07	7.04E-06	5.11E-05	9.67E 00
8 10.00 0	0	0	0.74E 00	0	0	1.17E-01	1.01E-06	7.05E-06	5.13E-05	8.84E 00
9 9.90 0	0	0	6.72E 00	0	0	1.17E-01	1.08E-06	7.07E-06	5.14E-05	8.04E 00
10 9.80 0	0	0	5.65E 00	0	0	1.17E-01	1.07E-06	7.06E-06	5.14E-05	8.04E 00
11 9.70 0	0	0	4.28E 00	0	0	1.17E-01	1.11E-06	7.08E-06	5.14E-05	8.04E 00
12 9.60 0	0	0	4.52E 00	0	0	1.17E-01	1.14E-06	7.09E-06	5.14E-05	8.04E 00
13 9.50 0	0	7.32E 00	3.30E 00	0	0	1.18E-01	1.18E-06	7.09E-06	5.14E-05	8.04E 00
14 9.40 0	0	0.22E 00	2.61E 00	0	0	1.18E-01	1.22E-06	7.07E-06	5.17E-05	1.11E 01
15 9.30 0	0	9.12E 00	2.78E 00	0	0	1.19E-01	1.24E-06	7.09E-06	5.16E-05	1.20E 01
16 9.20 0	0	1.00E 01	1.09E 00	0	0	1.19E-01	1.30E-06	7.09E-06	5.16E-05	1.20E 01
17 9.10 0	0	1.22E 01	1.95E 00	0	0	1.19E-01	1.34E-06	7.09E-06	5.16E-05	1.20E 01
18 9.00 0	0	1.46E 01	1.54E 00	0	0	1.20E-01	1.33E-06	7.08E-06	5.16E-05	1.20E 01
19 8.90 0	0	1.70E 01	1.27E 00	0	0	1.20E-01	1.33E-06	7.08E-06	5.16E-05	1.20E 01
20 8.80 0	0	1.76E 01	1.18E 00	0	0	1.21E-01	1.40E-06	7.02E-06	5.21E-05	1.69E 01
21 8.70 0	0	1.69E 01	6.69E-01	0	0	1.21E-01	1.54E-06	7.02E-06	5.22E-05	1.79E 01
22 8.60 0	0	1.63E 01	8.74E-01	0	0	1.22E-01	1.59E-06	7.01E-06	5.22E-05	1.72E 01
23 8.50 0	0	1.57E 01	6.47E-01	0	0	1.22E-01	1.65E-06	7.00E-06	5.23E-05	1.65E 01
24 8.40 0	0	1.53E 01	6.14E-01	0	0	1.23E-01	1.71E-06	6.99E-06	5.24E-05	1.64E 01
25 8.30 0	0	1.47E 01	4.45E-01	0	0	1.23E-01	1.77E-06	6.98E-06	5.24E-05	1.64E 01
26 8.20 0	0	1.42E 01	4.27E-01	0	0	1.24E-01	1.84E-06	6.98E-06	5.24E-05	1.64E 01
27 8.10 0	0	1.37E 01	3.18E-01	0	0	1.25E-01	1.91E-06	6.98E-06	5.40E-05	1.41E 01
28 8.00 0	0	1.32E 01	3.01E-01	0	0	1.25E-01	1.98E-06	6.95E-06	5.40E-05	1.36E 01
29 7.90 0	0	1.26E 01	2.25E-01	0	0	1.26E-01	2.06E-06	6.94E-06	5.53E-05	1.29E 01
30 7.80 0	0	1.20E 01	2.18E-01	0	0	1.26E-01	2.14E-06	6.93E-06	5.60E-05	1.23E 01
31 7.70 0	0	1.13E 01	1.68E-01	0	0	1.27E-01	2.22E-06	6.92E-06	5.65E-05	1.14E 01
32 7.60 0	0	1.04E 01	1.45E-01	0	0	1.28E-01	2.31E-06	6.91E-06	5.73E-05	1.09E 01
33 7.50 0	0	9.90E 00	1.19E-01	0	0	1.28E-01	2.40E-06	6.90E-06	5.80E-05	1.01E 01
34 7.40 0	0	9.32E 00	9.67E-02	0	0	1.29E-01	2.50E-06	6.89E-06	5.86E-05	9.55E 00
35 7.30 0	0	8.80E 00	6.22E-02	0	0	1.30E-01	2.61E-06	6.88E-06	5.93E-05	9.05E 00
36 7.20 0	0	8.16E 00	6.63E-02	0	0	1.31E-01	2.72E-06	6.87E-06	6.00E-05	8.49E 00
37 7.10 0	0	7.52E 00	5.75E-02	0	0	1.32E-01	2.83E-06	6.86E-06	6.06E-05	7.94E 00
38 7.00 1.34E-02 0	0	4.70E-02	0	0	1.33E-01	2.94E-06	6.85E-06	6.13E-05	7.38E 00	
39 6.90 2.44E-02 0	0	3.07E-02	0	0	1.34E-01	3.06E-06	6.84E-06	6.20E-05	6.81E 00	
40 6.80 1.95E-02 0	0	3.51E-02	0	0	1.35E-01	3.18E-06	6.83E-06	6.28E-05	6.26E-01	
41 6.70 3.32E-02 0	0	2.57E-02	0	0	1.36E-01	3.31E-06	6.82E-06	6.33E-05	5.79E 00	
42 6.60 7.52E-03 0	0	2.04E-02	0	0	1.37E-01	3.43E-06	6.81E-06	6.41E-05	5.19E 00	
43 6.50 4.00E-03 0	0	1.40E-02	0	0	1.38E-01	3.56E-06	6.80E-06	6.48E-05	4.70E 00	
44 6.40 5.68E-03 0	0	7.65E-03	2.61E-02	0	0	1.39E-01	3.70E-06	6.79E-06	6.54E-05	4.03E 00
45 6.30 1.95E-02 0	0	3.67E-03	1.06E-01	1.51E 00	0	1.40E-01	4.04E-06	6.78E-06	6.59E-05	4.03E 00
46 6.20 3.27E-02 0	0	1.73E-03	1.33E-01	2.45E 00	0	1.41E-01	4.20E-06	6.77E-06	6.70E-05	2.70E 00
47 6.10 1.23E-01 0	0	6.60E-04	3.09E-01	4.72E 00	0	1.42E-01	4.47E-06	6.76E-06	6.76E-05	2.70E 00
48 6.00 3.08E-01 0	0	1.40E-04	2.68E-01	1.34E 00	0	1.43E-01	4.70E-06	6.75E-06	6.91E-05	5.34E 00
49 5.90 4.50E-01 0	0	1.05E-05	3.70E-01	1.57E 00	0	1.43E-01	4.95E-06	6.74E-06	7.05E-05	2.05E 00
50 5.80 6.50E-01 0	0	2.53E-07	4.61E-01	1.49E 00	0	1.41E-01	5.21E-06	6.73E-06	7.33E-05	2.73E 00
51 5.70 7.06E-01 0	0	0	4.89E-01	1.34E 00	0	1.33E-01	5.49E-06	6.72E-06	7.46E-05	2.69E 00

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	NO. 1ST POS.	NO. 2ND POS.	NO. 3RD POS.	NO. 1ST NEG.	NO. 2ND NEG.	NO. 3RD NEG.	NO. GAMMA	NO. VIB-RCY	NO. 2	O- PHOTO-DET (IONS)	FREE-FREE P.E.	M	D	TOTAL AIR P.F.
52	5.60	0.45E-01	0	0	0	0	3.32E-01	2.56E 00	0	1.23E-01	5.79E-06	1.85E-04	7.60E-05	3.80E 00
53	5.50	0.40E-01	0	0	0	0	4.17E-01	2.45E 00	0	1.24E-01	6.11E-06	1.86E-04	7.74E-05	4.03E 00
54	5.40	0.34E-01	0	0	0	0	3.32E-01	2.45E 00	0	1.25E-01	6.40E-06	1.89E-04	8.06E-05	2.71E 00
55	5.30	0.27E-01	0	0	0	0	3.43E-01	2.45E 00	0	1.25E-01	6.89E-06	1.89E-04	8.06E-05	3.69E 00
56	5.20	5.08E-01	0	0	0	0	3.95E-01	1.16E 00	0	1.26E-01	7.24E-06	1.91E-04	8.25E-05	2.15E 00
57	5.10	4.58E-01	0	0	0	0	3.95E-01	1.16E 00	0	1.27E-01	7.67E-06	1.95E-04	8.45E-05	2.57E 00
58	5.00	3.27E-01	0	0	0	0	2.73E-01	1.34E 00	0	1.28E-01	8.14E-06	2.00E-04	8.65E-05	2.11E 00
59	4.90	2.78E-01	0	0	0	0	2.73E-01	1.34E 00	0	1.29E-01	8.62E-06	2.05E-04	8.85E-05	1.94E 00
60	4.80	2.73E-01	0	0	0	0	2.73E-01	1.34E 00	0	1.30E-01	9.10E-06	2.10E-04	9.05E-05	1.64E 00
61	4.70	2.68E-01	0	0	0	0	2.68E-01	1.34E 00	0	1.31E-01	9.58E-06	2.15E-04	9.30E-05	1.53E 00
62	4.60	3.19E-01	0	0	0	0	2.60E-01	1.44E-01	0	1.32E-01	1.00E-05	2.19E-04	9.52E-05	1.54E 00
63	4.50	3.83E-01	0	0	0	0	2.33E-01	1.45E-01	0	1.33E-01	1.05E-05	2.19E-04	9.52E-05	1.54E 00
64	4.40	2.90E-01	0	0	0	0	3.12E-03	1.44E-01	0	1.34E-01	1.10E-05	2.24E-04	9.75E-05	1.24E 00
65	4.30	2.47E-01	0	0	0	0	5.83E-03	1.44E-01	0	1.35E-01	1.15E-05	2.24E-04	9.75E-05	1.07E 00
66	4.20	2.13E-01	0	0	0	0	2.95E-02	1.44E-01	0	1.36E-01	1.20E-05	2.24E-04	9.75E-05	1.07E 00
67	4.10	1.84E-01	0	0	0	0	6.73E-03	1.44E-01	0	1.37E-01	1.25E-05	2.24E-04	9.75E-05	1.07E 00
68	4.00	1.55E-01	0	0	0	0	4.97E-02	1.44E-01	0	1.38E-01	1.30E-05	2.24E-04	9.75E-05	1.07E 00
69	3.90	1.18E-01	0	0	0	0	1.84E-02	1.44E-01	0	1.39E-01	1.35E-05	2.24E-04	9.75E-05	1.07E 00
70	3.80	9.59E-02	0	0	0	0	2.18E-02	1.50E-04	1.14E-01	1.40E-01	1.40E-05	2.24E-04	9.75E-05	1.07E 00
71	3.70	9.59E-02	0	0	0	0	3.59E-02	2.52E-05	7.97E-02	1.41E-01	1.41E-05	2.24E-04	9.75E-05	1.07E 00
72	3.60	7.08E-02	0	0	0	0	1.34E-02	1.54E-04	6.74E-02	1.42E-01	1.42E-05	2.24E-04	9.75E-05	1.07E 00
73	3.50	6.68E-02	0	0	0	0	2.54E-02	1.75E-04	5.68E-02	1.43E-01	1.43E-05	2.24E-04	9.75E-05	1.07E 00
74	3.40	5.34E-02	0	0	0	0	9.68E-03	2.78E-05	6.25E-02	1.44E-01	1.44E-05	2.24E-04	9.75E-05	1.07E 00
75	3.30	3.99E-02	0	0	0	0	1.18E-02	2.24E-04	4.22E-02	1.45E-01	1.45E-05	2.24E-04	9.75E-05	1.07E 00
76	3.20	3.08E-02	0	0	0	0	5.48E-03	3.30E-04	4.22E-02	1.46E-01	1.46E-05	2.24E-04	9.75E-05	1.07E 00
77	3.10	2.64E-02	0	0	0	0	4.41E-03	4.38E-05	3.48E-02	1.47E-01	1.47E-05	2.24E-04	9.75E-05	1.07E 00
78	3.00	2.11E-02	0	0	0	0	2.17E-02	2.31E-04	2.90E-02	1.48E-01	1.48E-05	2.24E-04	9.75E-05	1.07E 00
79	2.90	1.54E-02	0	0	0	0	1.20E-03	1.90E-04	1.81E-02	1.49E-01	1.49E-05	2.24E-04	9.75E-05	1.07E 00
80	2.80	1.45E-02	0	0	0	0	5.67E-04	4.00E-05	9.76E-03	1.50E-01	1.50E-05	2.24E-04	9.75E-05	1.07E 00
81	2.70	7.93E-03	0	0	0	0	2.59E-04	1.14E-05	4.12E-03	1.51E-01	1.51E-05	2.24E-04	9.75E-05	1.07E 00
82	2.60	2.99E-03	0	0	0	0	1.33E-04	1.14E-05	1.44E-03	1.52E-01	1.52E-05	2.24E-04	9.75E-05	1.07E 00
83	2.50	1.87E-04	0	0	0	0	1.93E-05	6.18E-06	2.97E-04	1.53E-01	1.53E-05	2.24E-04	9.75E-05	1.07E 00
84	2.40	0	0	0	0	0	1.44E-03	0	0	1.54E-01	1.54E-05	2.24E-04	9.75E-05	1.07E 00
85	2.30	0	0	0	0	0	8.83E-03	0	0	1.55E-01	1.55E-05	2.24E-04	9.75E-05	1.07E 00
86	2.20	0	0	0	0	0	1.60E-02	0	0	1.56E-01	1.56E-05	2.24E-04	9.75E-05	1.07E 00
87	2.10	0	0	0	0	0	2.93E-02	0	0	1.57E-01	1.57E-05	2.24E-04	9.75E-05	1.07E 00
88	2.00	0	0	0	0	0	4.03E-02	0	0	1.58E-01	1.58E-05	2.24E-04	9.75E-05	1.07E 00
89	1.90	0	0	0	0	0	1.09E-01	0	0	1.59E-01	1.59E-05	2.24E-04	9.75E-05	1.07E 00
90	1.80	0	0	0	0	0	9.27E-02	0	0	1.60E-01	1.60E-05	2.24E-04	9.75E-05	1.07E 00
91	1.70	0	0	0	0	0	1.10E-01	0	0	1.61E-01	1.61E-05	2.24E-04	9.75E-05	1.07E 00
92	1.60	0	0	0	0	0	7.55E-02	0	0	1.62E-01	1.62E-05	2.24E-04	9.75E-05	1.07E 00
93	1.50	0	0	0	0	0	9.39E-02	0	0	1.63E-01	1.63E-05	2.24E-04	9.75E-05	1.07E 00
94	1.40	0	0	0	0	0	1.09E-01	0	0	1.64E-01	1.64E-05	2.24E-04	9.75E-05	1.07E 00
95	1.30	0	0	0	0	0	1.89E-01	0	0	1.65E-01	1.65E-05	2.24E-04	9.75E-05	1.07E 00
96	1.20	0	0	0	0	0	6.27E-02	0	0	1.66E-01	1.66E-05	2.24E-04	9.75E-05	1.07E 00
97	1.10	0	0	0	0	0	5.91E-02	0	0	1.67E-01	1.67E-05	2.24E-04	9.75E-05	1.07E 00
98	1.00	0	0	0	0	0	5.72E-02	0	0	1.68E-01	1.68E-05	2.24E-04	9.75E-05	1.07E 00
99	0.90	0	0	0	0	0	4.39E-02	0	0	1.69E-01	1.69E-05	2.24E-04	9.75E-05	1.07E 00
100	0.80	0	0	0	0	0	1.99E-02	0	0	1.70E-01	1.70E-05	2.24E-04	9.75E-05	1.07E 00
101	0.70	0	0	0	0	0	5.60E-03	0	0	1.71E-01	1.71E-05	2.24E-04	9.75E-05	1.07E 00
102	0.60	0	0	0	0	0	1.52E-04	0	0	1.72E-01	1.72E-05	2.24E-04	9.75E-05	1.07E 00



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 7900. DENSITY (GM/CC) 1.293E-03 (19.76-P1 NORMAL)

PHOTON ENERGY BANDS	NO 02 S-R	NO 02 S-R CONT.	NO 2 B-W	NO BETA	NO GAMMA	NO 2	C- PHOTO-DET (IONS)	F- FREE-FREE	W P.F.	O P.F.	TOTAL AIR
1 10.70 0.	0.	0.	2.08E 00	0.	0.	0.	5.14E-03	3.26E-08	2.30E-06	6.37E-06	2.81E 00
2 10.60 0.	0.	0.	1.63E 00	0.	0.	0.	3.19E-03	3.24E-08	2.30E-06	6.30E-06	1.63E 00
3 10.50 0.	0.	0.	1.54E 00	0.	0.	0.	3.15E-03	3.16E-08	2.41E-06	6.30E-06	1.54E 00
4 10.40 0.	0.	0.	1.52E 00	0.	0.	0.	3.14E-03	3.16E-08	2.41E-06	6.30E-06	1.52E 00
5 10.30 0.	0.	0.	1.03E 00	0.	0.	0.	3.14E-03	3.16E-08	2.42E-06	6.40E-06	1.03E 00
6 10.20 0.	0.	0.	6.64E-01	0.	0.	0.	3.17E-03	3.17E-08	2.42E-06	6.41E-06	6.64E-01
7 10.10 0.	0.	0.	6.68E-01	0.	0.	0.	3.17E-03	3.16E-08	2.42E-06	6.42E-06	6.68E-01
8 10.00 0.	0.	0.	6.46E-01	0.	0.	0.	3.17E-03	3.16E-08	2.44E-06	6.43E-06	6.46E-01
9 9.90 0.	0.	0.	6.46E-01	0.	0.	0.	3.18E-03	3.15E-08	2.44E-06	6.44E-06	6.46E-01
10 9.80 0.	0.	0.	5.43E-01	0.	0.	0.	3.19E-03	3.25E-08	2.45E-06	6.44E-06	5.43E-01
11 9.70 0.	0.	0.	4.04E-01	0.	0.	0.	3.19E-03	3.29E-08	2.45E-06	6.45E-06	4.04E-01
12 9.60 0.	0.	0.	4.34E-01	0.	0.	0.	3.20E-03	3.43E-08	2.46E-06	6.46E-06	4.34E-01
13 9.50 0.	1.17E-01	1.17E-01	3.17E-01	0.	0.	0.	3.20E-03	3.47E-08	2.47E-06	6.47E-06	4.36E-01
14 9.40 0.	1.37E-01	1.37E-01	2.70E-01	0.	0.	0.	3.21E-03	3.47E-08	2.47E-06	6.48E-06	4.36E-01
15 9.30 0.	1.46E-01	1.46E-01	2.67E-01	0.	0.	0.	3.23E-03	3.49E-08	2.48E-06	6.49E-06	4.17E-01
16 9.20 0.	1.66E-01	1.66E-01	1.81E-01	0.	0.	0.	3.24E-03	3.14E-08	2.48E-06	6.49E-06	3.45E-01
17 9.10 0.	1.95E-01	1.95E-01	1.47E-01	0.	0.	0.	3.25E-03	3.32E-08	2.48E-06	6.50E-06	3.05E-01
18 9.00 0.	2.33E-01	2.33E-01	1.40E-01	0.	0.	0.	3.24E-03	3.50E-08	2.48E-06	6.51E-06	3.04E-01
19 8.90 0.	2.71E-01	2.71E-01	1.22E-01	0.	0.	0.	3.27E-03	3.60E-08	2.48E-06	6.52E-06	3.07E-01
20 8.80 0.	2.87E-01	2.87E-01	1.14E-01	0.	0.	0.	3.28E-03	3.60E-08	2.48E-06	6.52E-06	3.09E-01
21 8.70 0.	2.71E-01	2.71E-01	8.35E-02	0.	0.	0.	3.30E-03	3.69E-08	2.49E-06	6.54E-06	3.08E-01
22 8.60 0.	2.60E-01	2.60E-01	6.22E-02	0.	0.	0.	3.31E-03	3.30E-08	2.49E-06	6.55E-06	3.47E-01
23 8.50 0.	2.52E-01	2.52E-01	6.22E-02	0.	0.	0.	3.32E-03	3.53E-08	2.48E-06	6.55E-06	3.17E-01
24 8.40 0.	2.45E-01	2.45E-01	5.98E-02	0.	0.	0.	3.34E-03	3.77E-08	2.48E-06	6.56E-06	3.07E-01
25 8.30 0.	2.35E-01	2.35E-01	4.20E-02	0.	0.	0.	3.35E-03	3.72E-08	2.48E-06	6.56E-06	2.82E-01
26 8.20 0.	2.22E-01	2.22E-01	4.11E-02	0.	0.	0.	3.37E-03	3.72E-08	2.48E-06	6.56E-06	2.71E-01
27 8.10 0.	2.19E-01	2.19E-01	3.66E-02	0.	0.	0.	3.39E-03	3.55E-08	2.48E-06	6.56E-06	2.53E-01
28 8.00 0.	2.11E-01	2.11E-01	2.89E-02	0.	0.	0.	3.41E-03	3.64E-08	2.48E-06	6.56E-06	2.43E-01
29 7.90 0.	2.01E-01	2.01E-01	2.17E-02	0.	0.	0.	3.42E-03	3.14E-08	2.48E-06	6.56E-06	2.26E-01
30 7.80 0.	1.92E-01	1.92E-01	2.09E-02	0.	0.	0.	3.44E-03	3.46E-08	2.48E-06	6.56E-06	2.16E-01
31 7.70 0.	1.61E-01	1.61E-01	1.61E-02	0.	0.	0.	3.46E-03	3.60E-08	2.48E-06	6.56E-06	2.05E-01
32 7.60 0.	1.70E-01	1.70E-01	1.30E-02	0.	0.	0.	3.48E-03	3.15E-08	2.48E-06	6.56E-06	1.87E-01
33 7.50 0.	1.58E-01	1.58E-01	1.14E-02	0.	0.	0.	3.49E-03	3.52E-08	2.48E-06	6.56E-06	1.73E-01
34 7.40 0.	1.49E-01	1.49E-01	9.30E-03	0.	0.	0.	3.51E-03	3.92E-08	2.48E-06	6.56E-06	1.62E-01
35 7.30 0.	1.41E-01	1.41E-01	7.90E-03	0.	0.	0.	3.53E-03	3.83E-08	2.48E-06	6.56E-06	1.50E-01
36 7.20 0.	1.33E-01	1.33E-01	6.37E-03	0.	0.	0.	3.55E-03	3.18E-08	2.48E-06	6.56E-06	1.39E-01
37 7.10 0.	1.20E-01	1.20E-01	5.52E-03	0.	0.	0.	3.58E-03	3.12E-08	2.48E-06	6.56E-06	1.30E-01
38 7.00 2.10E-04	0.	0.	4.52E-03	0.	0.	0.	3.61E-03	3.17E-08	2.48E-06	6.56E-06	1.24E-02
39 6.90 3.64E-04	0.	0.	3.72E-03	0.	0.	0.	3.64E-03	3.22E-08	2.48E-06	6.56E-06	1.19E-02
40 6.80 3.08E-04	0.	0.	3.18E-03	0.	0.	0.	3.67E-03	3.20E-08	2.48E-06	6.56E-06	1.15E-02
41 6.70 2.08E-04	0.	0.	1.96E-03	0.	0.	0.	3.70E-03	3.13E-08	2.48E-06	6.56E-06	1.10E-02
42 6.62 1.38E-04	0.	0.	1.96E-03	0.	0.	0.	3.73E-03	3.14E-08	2.48E-06	6.56E-06	1.06E-02
43 6.52 6.29E-05	0.	0.	1.39E-03	0.	0.	0.	3.76E-03	3.14E-08	2.48E-06	6.56E-06	1.02E-02
44 6.40 8.93E-05	0.	0.	7.54E-04	0.	0.	0.	3.79E-03	3.13E-08	2.48E-06	6.56E-06	9.80E-03
45 6.33 1.82E-04	0.	0.	3.72E-04	0.	0.	0.	3.81E-03	3.16E-08	2.48E-06	6.56E-06	9.40E-03
46 6.20 5.14E-04	0.	0.	1.66E-04	0.	0.	0.	3.84E-03	3.16E-08	2.48E-06	6.56E-06	8.99E-03
47 6.11 1.93E-03	0.	0.	6.42E-05	0.	0.	0.	3.87E-03	3.17E-08	2.48E-06	6.56E-06	8.60E-03
48 6.01 4.74E-03	0.	0.	1.44E-05	0.	0.	0.	3.90E-03	3.16E-08	2.48E-06	6.56E-06	8.22E-03
49 5.90 7.20E-03	0.	0.	1.01E-06	0.	0.	0.	3.93E-03	3.16E-08	2.48E-06	6.56E-06	7.85E-03
50 5.80 1.02E-02	0.	0.	2.48E-08	0.	0.	0.	3.96E-03	3.16E-08	2.48E-06	6.56E-06	7.48E-03
51 5.70 1.11E-02	0.	0.	0.	0.	0.	0.	3.99E-03	3.16E-08	2.48E-06	6.56E-06	7.11E-03

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 7000. DENSITY (GM/CC) 1.233E-03 (10.0E-01 NORMAL)

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	BETA	GAMMA	NO VIB-ROT	NO PHOTO-DET (IONS)	C-FREE-FREE	M P.E.	O P.F.	TOTAL AIR	
52	5.60 1.33E-02 0	0	0	1.29E-02	5.95E-02	0	0	3.34E-03	2.20E-07	5.74E-07	9.53E-06	1.29E-01
53	5.50 1.32E-02 0	0	0	1.82E-02	1.02E-01	0	0	3.37E-03	2.42E-07	5.77E-07	9.76E-06	1.34E-01
54	5.40 1.32E-02 0	0	0	1.29E-02	5.45E-02	0	0	3.39E-03	2.56E-07	5.82E-07	9.88E-06	1.44E-01
55	5.30 1.22E-02 0	0	0	1.33E-02	5.51E-02	0	0	3.41E-03	2.71E-07	5.86E-07	1.00E-05	1.24E-01
56	5.20 7.99E-03 0	0	0	1.34E-02	5.45E-02	0	0	3.44E-03	2.87E-07	5.92E-07	1.04E-05	7.61E-02
57	5.10 7.20E-03 0	0	0	1.24E-02	6.45E-02	0	0	3.46E-03	3.04E-07	6.00E-07	1.08E-05	8.75E-02
58	5.00 5.13E-03 0	0	0	1.08E-02	4.91E-02	0	0	3.48E-03	3.23E-07	6.21E-07	1.09E-05	7.39E-02
59	4.90 4.28E-03 0	0	0	1.14E-02	4.45E-02	0	0	3.52E-03	3.43E-07	6.36E-07	1.11E-05	6.65E-02
60	4.80 4.29E-03 0	0	0	1.14E-02	4.45E-02	0	0	3.55E-03	3.65E-07	6.59E-07	1.14E-05	6.37E-02
61	4.70 4.44E-03 0	0	0	1.01E-02	3.21E-02	0	0	3.58E-03	3.88E-07	6.84E-07	1.17E-05	5.71E-02
62	4.60 5.02E-03 0	0	0	1.01E-02	3.21E-02	0	0	3.61E-03	4.14E-07	7.10E-07	1.19E-05	5.15E-02
63	4.50 4.76E-03 0	6.92E-05	0	7.09E-03	2.15E-02	0	0	3.64E-03	4.43E-07	7.39E-07	1.22E-05	3.79E-02
64	4.40 4.59E-03 0	3.08E-04	0	7.09E-03	2.15E-02	0	0	3.67E-03	4.74E-07	7.75E-07	1.25E-05	3.33E-02
65	4.30 3.68E-03 0	5.08E-04	0	6.76E-03	1.45E-03	0	0	3.70E-03	5.07E-07	8.10E-07	1.28E-05	2.34E-02
66	4.20 3.35E-03 0	2.84E-04	0	6.81E-03	7.45E-03	0	0	3.73E-03	5.45E-07	8.52E-07	1.31E-05	2.42E-02
67	4.10 2.90E-03 0	6.08E-04	0	5.92E-03	1.05E-03	0	0	3.76E-03	5.86E-07	9.00E-07	1.34E-05	1.51E-02
68	4.00 2.44E-03 0	3.18E-03	0	5.21E-03	1.38E-03	0	0	3.79E-03	6.31E-07	9.52E-07	1.37E-05	1.68E-02
69	3.90 1.69E-03 0	1.78E-03	5.98E-06	4.24E-03	3.55E-04	0	0	3.82E-03	6.81E-07	1.00E-06	1.40E-05	1.23E-02
70	3.80 1.93E-03 0	2.09E-03	6.64E-05	4.24E-03	3.55E-04	0	0	3.85E-03	7.36E-07	1.05E-06	1.43E-05	1.22E-02
71	3.70 1.40E-03 0	3.49E-03	1.12E-05	3.16E-03	0	0	0	3.88E-03	7.95E-07	1.10E-06	1.47E-05	1.17E-02
72	3.60 1.23E-03 0	1.31E-03	6.92E-05	3.46E-03	0	0	0	3.91E-03	8.58E-07	1.15E-06	1.51E-05	9.45E-03
73	3.50 1.64E-03 0	2.48E-03	3.17E-04	2.21E-03	0	0	0	3.94E-03	9.25E-07	1.20E-06	1.55E-05	9.14E-03
74	3.40 8.59E-04 0	9.28E-04	1.23E-05	2.42E-03	0	0	0	3.97E-03	9.95E-07	1.25E-06	1.59E-05	8.03E-03
75	3.30 6.27E-04 0	1.38E-03	9.50E-05	1.64E-03	0	0	0	4.00E-03	1.07E-06	1.30E-06	1.63E-05	6.53E-03
76	3.20 4.62E-04 0	5.27E-04	3.07E-04	1.69E-03	0	0	0	4.03E-03	1.15E-06	1.35E-06	1.67E-05	5.59E-03
77	3.10 4.17E-04 0	4.20E-04	1.94E-05	1.59E-03	0	0	0	4.06E-03	1.24E-06	1.40E-06	1.71E-05	4.86E-03
78	3.00 3.32E-04 0	2.09E-04	1.82E-04	1.15E-03	0	0	0	4.09E-03	1.34E-06	1.45E-06	1.75E-05	4.31E-03
79	2.90 2.95E-04 0	1.23E-04	8.42E-05	7.02E-04	0	0	0	4.12E-03	1.45E-06	1.50E-06	1.79E-05	3.80E-03
80	2.80 2.33E-04 0	3.48E-05	1.77E-05	3.79E-04	0	0	0	4.15E-03	1.57E-06	1.55E-06	1.83E-05	3.43E-03
81	2.70 1.25E-04 0	2.49E-05	5.04E-05	1.68E-04	0	0	0	4.18E-03	1.70E-06	1.60E-06	1.87E-05	3.18E-03
82	2.60 8.64E-05 0	1.77E-05	5.35E-06	3.82E-05	0	0	0	4.21E-03	1.84E-06	1.65E-06	1.91E-05	2.97E-03
83	2.50 2.95E-06 0	1.89E-06	2.74E-06	1.19E-05	0	0	0	4.24E-03	2.00E-06	1.70E-06	1.95E-05	2.79E-03
84	2.40 0	1.30E-04	4.07E-06	1.10E-06	0	0	0	4.27E-03	2.17E-06	1.75E-06	1.99E-05	2.64E-03
85	2.30 0	0.49E-04	0	0	0	0	0	4.30E-03	2.36E-06	1.80E-06	2.03E-05	2.50E-03
86	2.20 0	1.54E-03	0	0	0	0	0	4.33E-03	2.56E-06	1.85E-06	2.07E-05	2.36E-03
87	2.10 0	2.82E-03	0	0	0	0	0	4.36E-03	2.78E-06	1.90E-06	2.11E-05	2.24E-03
88	2.00 0	3.80E-03	0	0	0	0	0	4.39E-03	3.02E-06	1.95E-06	2.15E-05	2.13E-03
89	1.90 0	4.85E-02	0	0	0	0	0	4.42E-03	3.28E-06	2.00E-06	2.19E-05	2.03E-03
90	1.80 0	6.00E-03	0	0	0	0	0	4.45E-03	3.56E-06	2.05E-06	2.23E-05	1.94E-03
91	1.70 0	7.24E-02	0	0	0	0	0	4.48E-03	3.86E-06	2.10E-06	2.27E-05	1.85E-03
92	1.60 0	8.56E-03	0	0	0	0	0	4.51E-03	4.18E-06	2.15E-06	2.31E-05	1.77E-03
93	1.50 0	9.93E-03	0	0	0	0	0	4.54E-03	4.52E-06	2.20E-06	2.35E-05	1.69E-03
94	1.40 0	1.14E-02	0	0	0	0	0	4.57E-03	4.88E-06	2.25E-06	2.39E-05	1.62E-03
95	1.30 0	1.30E-03	0	0	0	0	0	4.60E-03	5.26E-06	2.30E-06	2.43E-05	1.55E-03
96	1.20 0	1.49E-03	0	0	0	0	0	4.63E-03	5.66E-06	2.35E-06	2.47E-05	1.48E-03
97	1.10 0	1.70E-03	0	0	0	0	0	4.66E-03	6.08E-06	2.40E-06	2.51E-05	1.42E-03
98	1.00 0	1.92E-03	0	0	0	0	0	4.69E-03	6.52E-06	2.45E-06	2.55E-05	1.36E-03
99	0.90 0	2.16E-03	0	0	0	0	0	4.72E-03	7.00E-06	2.50E-06	2.59E-05	1.30E-03
100	0.80 0	2.42E-03	0	0	0	0	0	4.75E-03	7.50E-06	2.55E-06	2.63E-05	1.24E-03
101	0.70 0	2.69E-03	0	0	0	0	0	4.78E-03	8.02E-06	2.60E-06	2.67E-05	1.18E-03
102	0.60 0	2.97E-03	0	0	0	0	0	4.81E-03	8.56E-06	2.65E-06	2.71E-05	1.12E-03

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E...	O2 S-R	O2 S-M	O2 R-M	TEMPERATURE (DEGREE K)	7000.	DENSITY (GM/CC)	110.66-W2 NORMAL	NO	BETA	NO	GAMMA	NO	2	PHOTONS-SEC (10MS)	D-FREE-FREE	N	P.E.	O	TOTAL AIR
1 1L-70 0.	0.	1.01E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2 10-60 0.	0.	1.31E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3 10-50 0.	0.	1.28E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4 10-40 0.	0.	1.04E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5 10-30 0.	0.	8.2E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6 10-20 0.	0.	7.09E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7 10-10 0.	0.	6.90E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8 10-00 0.	0.	5.19E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9 9-90 0.	0.	5.18E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10 9-80 0.	0.	4.58E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11 9-70 0.	0.	3.80E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12 9-60 0.	0.	3.40E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13 9-50 0.	0.	2.54E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14 9-40 0.	0.	1.51E-03	2.14E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15 9-30 0.	0.	1.67E-03	2.14E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16 9-20 0.	0.	1.64E-03	1.45E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17 9-10 0.	0.	2.24E-03	1.98E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18 9-00 0.	0.	2.68E-03	1.91E-02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19 8-90 0.	0.	3.11E-03	9.79E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20 8-80 0.	0.	3.24E-03	9.12E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21 8-70 0.	0.	3.11E-03	6.87E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22 8-60 0.	0.	2.99E-03	6.73E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23 8-50 0.	0.	2.89E-03	4.98E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24 8-40 0.	0.	2.81E-03	4.73E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25 8-30 0.	0.	2.70E-03	3.43E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26 8-20 0.	0.	2.61E-03	3.20E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27 8-10 0.	0.	2.51E-03	2.95E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28 8-00 0.	0.	2.42E-03	2.32E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29 7-90 0.	0.	2.31E-03	1.74E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30 7-80 0.	0.	2.20E-03	1.40E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31 7-70 0.	0.	2.08E-03	1.29E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32 7-60 0.	0.	1.99E-03	1.12E-03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33 7-50 0.	0.	1.87E-03	9.16E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34 7-40 0.	0.	1.71E-03	7.45E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35 7-30 0.	0.	1.62E-03	6.34E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36 7-20 0.	0.	1.50E-03	5.11E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37 7-10 0.	0.	1.38E-03	4.43E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38 7-00 0.	0.	1.29E-03	3.62E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39 6-90 0.	0.	2.49E-04	2.98E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40 6-80 0.	0.	2.59E-04	2.55E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41 6-70 0.	0.	2.39E-04	1.98E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42 6-60 0.	0.	2.34E-04	1.57E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43 6-50 0.	0.	2.23E-04	1.08E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44 6-40 0.	0.	2.09E-04	6.05E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45 6-30 0.	0.	2.07E-04	2.98E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46 6-20 0.	0.	5.91E-06	1.38E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47 6-10 0.	0.	2.23E-05	5.15E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48 6-00 0.	0.	5.45E-05	1.15E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49 5-90 0.	0.	6.23E-05	6.10E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50 5-80 0.	0.	1.17E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51 5-70 0.	0.	1.26E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 7000. DENSITY (GM/CC) 1.293E-04 (19.0E-02 NORMAL)

PHOTON ENERGY BANDS	M2	M2 POS.	M2 NEG.	BETA	NO	GAMMA	VIB-ROT	NO	NO	PHOTO-DET	FRES-FREE	M	P.E.	TOTAL AIR
53	2.60	1.53E-04	0.	0.	3.92E-04	3.02E-03	0.	0.	6.71E-05	7.74E-09	1.02E-07	1.02E-07	1.02E-06	3.03E-03
54	5.50	1.52E-04	0.	0.	4.92E-04	3.17E-03	0.	0.	6.75E-05	8.22E-09	1.03E-07	1.03E-07	1.04E-06	3.04E-03
55	5.40	1.52E-04	0.	0.	3.92E-04	1.97E-03	0.	0.	4.78E-05	8.49E-09	1.03E-07	1.03E-07	1.04E-06	2.98E-03
56	5.30	1.48E-04	0.	0.	4.05E-04	2.09E-03	0.	0.	4.83E-05	9.19E-09	1.04E-07	1.04E-07	1.05E-06	3.05E-03
57	5.20	9.10E-05	0.	0.	4.07E-04	1.57E-03	0.	0.	4.97E-05	9.74E-09	1.05E-07	1.05E-07	1.06E-06	3.06E-03
58	5.10	8.28E-05	0.	0.	3.83E-04	1.95E-03	0.	0.	4.87E-05	1.03E-08	1.05E-07	1.05E-07	1.06E-06	2.48E-03
59	5.00	5.98E-05	0.	0.	3.21E-04	1.82E-03	0.	0.	4.59E-05	1.03E-08	1.06E-07	1.06E-07	1.06E-06	2.07E-03
60	4.90	4.98E-05	0.	0.	3.94E-04	1.46E-03	0.	0.	4.07E-05	1.40E-08	1.06E-07	1.06E-07	1.06E-06	1.91E-03
61	4.70	5.11E-05	0.	0.	3.16E-04	1.35E-03	0.	0.	2.87E-05	1.24E-08	1.06E-07	1.06E-07	1.06E-06	1.92E-03
62	4.60	5.77E-05	0.	0.	3.16E-04	1.02E-03	0.	0.	2.87E-05	1.32E-08	1.06E-07	1.06E-07	1.06E-06	1.43E-03
63	4.50	5.40E-05	0.	5.98E-05	2.52E-04	9.94E-04	0.	0.	2.87E-05	1.30E-08	1.06E-07	1.06E-07	1.06E-06	1.43E-03
64	4.40	5.24E-05	0.	2.48E-05	2.03E-04	5.72E-04	0.	0.	2.87E-05	1.30E-08	1.06E-07	1.06E-07	1.06E-06	1.02E-04
65	4.30	4.46E-05	0.	4.46E-05	2.03E-04	2.36E-04	0.	0.	2.87E-05	1.30E-08	1.06E-07	1.06E-07	1.06E-06	1.02E-04
66	4.20	3.69E-05	0.	2.29E-04	2.07E-04	2.25E-04	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	1.77E-04
67	4.10	3.33E-05	0.	5.18E-05	1.91E-04	5.94E-05	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	1.97E-04
68	4.00	2.61E-05	0.	3.13E-04	1.81E-04	4.37E-05	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	1.97E-04
69	3.90	2.13E-05	0.	1.43E-04	2.58E-05	1.99E-04	1.99E-05	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.97E-04
70	3.80	2.22E-05	0.	1.68E-04	2.65E-05	1.34E-04	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
71	3.70	1.70E-05	0.	2.77E-04	4.80E-06	9.8E-05	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
72	3.60	1.41E-05	0.	1.05E-04	2.97E-05	1.92E-04	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
73	3.50	1.19E-05	0.	1.98E-04	1.36E-04	6.78E-05	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
74	3.40	9.69E-06	0.	7.44E-05	5.28E-06	7.38E-05	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
75	3.30	7.57E-06	0.	9.09E-05	4.25E-05	4.97E-05	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
76	3.20	5.22E-06	0.	4.22E-05	1.59E-04	4.95E-05	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
77	3.10	4.08E-06	0.	3.48E-05	8.33E-06	4.15E-05	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
78	3.00	3.02E-06	0.	1.67E-05	4.39E-05	3.43E-05	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
79	2.90	2.32E-06	0.	9.66E-06	3.62E-05	2.14E-05	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
80	2.80	2.68E-06	0.	4.37E-06	7.61E-06	1.35E-05	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
81	2.70	1.43E-06	0.	2.90E-06	2.16E-05	4.96E-06	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
82	2.60	5.33E-07	0.	1.02E-06	2.17E-06	1.70E-06	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
83	2.50	3.39E-08	0.	1.48E-07	1.14E-06	3.50E-07	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
84	2.40	0.	0.	1.11E-05	0.	3.33E-06	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
85	2.30	0.	0.	6.80E-05	0.	0.	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
86	2.20	0.	0.	1.23E-04	0.	0.	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
87	2.10	0.	0.	2.24E-04	0.	0.	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
88	2.00	0.	0.	3.11E-04	0.	0.	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
89	1.90	0.	0.	6.39E-04	0.	0.	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
90	1.80	0.	0.	7.10E-04	0.	0.	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
91	1.70	0.	0.	6.44E-04	0.	0.	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
92	1.60	0.	0.	5.87E-04	0.	0.	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
93	1.50	0.	0.	7.24E-04	0.	0.	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
94	1.40	0.	0.	6.37E-04	0.	0.	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
95	1.30	0.	0.	5.69E-04	0.	0.	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
96	1.20	0.	0.	6.37E-04	0.	0.	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
97	1.10	0.	0.	4.95E-04	0.	0.	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
98	1.00	0.	0.	4.69E-04	0.	0.	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
99	0.90	0.	0.	3.39E-04	0.	0.	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
100	0.80	0.	0.	1.54E-04	0.	0.	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
101	0.70	0.	0.	4.31E-05	0.	0.	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04
102	0.60	0.	0.	1.17E-06	0.	0.	0.	0.	2.87E-05	1.49E-08	1.06E-07	1.06E-07	1.06E-06	4.28E-04

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E.V.	02 S-R COMT.	02 5-R COMT.	N2 B-M NO. 1	TEMPERATURE (DEGREES K)	7000	NO BETA	NO GAMMA	NO 2	DENSITY (GM/CC)		0-2 PHOTO-DET (IONS)	N P.E.	0 TOTAL AIR P.E.
									1.233E-09	(10.6E-03 NORMAL)			
1 10.70 0.	0.	0.	7.97E-03	0.	0.	0.	0.	0.	1.29E-04	4.42E-11	1.50E-07	6.91E-08	7.97E-03
2 10.60 0.	0.	0.	6.48E-03	0.	0.	0.	0.	0.	1.29E-04	4.50E-11	1.50E-07	6.90E-08	6.48E-03
3 10.50 0.	0.	0.	4.11E-03	0.	0.	0.	0.	0.	1.29E-04	4.71E-11	1.51E-07	6.90E-08	4.11E-03
4 10.40 0.	0.	0.	5.24E-03	0.	0.	0.	0.	0.	1.29E-04	4.92E-11	1.52E-07	7.00E-08	5.24E-03
5 10.30 0.	0.	0.	4.08E-03	0.	0.	0.	0.	0.	1.29E-04	4.90E-11	1.52E-07	7.00E-08	4.08E-03
6 10.20 0.	0.	0.	3.91E-03	0.	0.	0.	0.	0.	1.29E-04	5.12E-11	1.53E-07	7.11E-08	3.91E-03
7 10.10 0.	0.	0.	3.42E-03	0.	0.	0.	0.	0.	1.29E-04	5.29E-11	1.53E-07	7.07E-08	3.42E-03
8 10.00 0.	0.	0.	2.57E-03	0.	0.	0.	0.	0.	1.30E-04	5.42E-11	1.54E-07	7.03E-08	2.57E-03
9 9.90 0.	0.	0.	2.57E-03	0.	0.	0.	0.	0.	1.30E-04	5.42E-11	1.54E-07	7.03E-08	2.57E-03
10 9.80 0.	0.	0.	2.16E-03	0.	0.	0.	0.	0.	1.30E-04	5.04E-11	1.54E-07	7.00E-08	2.16E-03
11 9.70 0.	0.	0.	1.61E-03	0.	0.	0.	0.	0.	1.31E-04	5.09E-11	1.55E-07	7.04E-08	1.61E-03
12 9.60 0.	0.	0.	1.72E-03	0.	0.	0.	0.	0.	1.31E-04	6.12E-11	1.55E-07	7.12E-08	1.72E-03
13 9.50 0.	0.	0.	1.26E-03	0.	0.	0.	0.	0.	1.31E-04	6.37E-11	1.55E-07	7.00E-08	1.26E-03
14 9.40 0.	0.	0.	1.59E-03	0.	0.	0.	0.	0.	1.32E-04	6.57E-11	1.56E-07	7.00E-08	1.59E-03
15 9.30 0.	0.	0.	1.76E-03	0.	0.	0.	0.	0.	1.32E-04	6.79E-11	1.56E-07	7.10E-08	1.76E-03
16 9.20 0.	0.	0.	1.93E-03	0.	0.	0.	0.	0.	1.33E-04	7.01E-11	1.56E-07	7.11E-08	1.93E-03
17 9.10 0.	0.	0.	2.34E-03	0.	0.	0.	0.	0.	1.33E-04	7.29E-11	1.56E-07	7.12E-08	2.34E-03
18 9.00 0.	0.	0.	2.80E-03	0.	0.	0.	0.	0.	1.34E-04	7.49E-11	1.56E-07	7.12E-08	2.80E-03
19 8.90 0.	0.	0.	3.27E-03	0.	0.	0.	0.	0.	1.34E-04	7.78E-11	1.57E-07	7.12E-08	3.27E-03
20 8.80 0.	0.	0.	3.59E-03	0.	0.	0.	0.	0.	1.34E-04	8.02E-11	1.57E-07	7.14E-08	3.59E-03
21 8.70 0.	0.	0.	3.24E-03	0.	0.	0.	0.	0.	1.35E-04	8.02E-11	1.57E-07	7.14E-08	3.24E-03
22 8.60 0.	0.	0.	3.13E-03	0.	0.	0.	0.	0.	1.35E-04	8.59E-11	1.57E-07	7.15E-08	3.13E-03
23 8.50 0.	0.	0.	3.03E-03	0.	0.	0.	0.	0.	1.36E-04	8.91E-11	1.57E-07	7.16E-08	3.03E-03
24 8.40 0.	0.	0.	2.94E-03	0.	0.	0.	0.	0.	1.37E-04	9.22E-11	1.57E-07	7.16E-08	2.94E-03
25 8.30 0.	0.	0.	2.83E-03	0.	0.	0.	0.	0.	1.37E-04	9.54E-11	1.57E-07	7.22E-08	2.83E-03
26 8.20 0.	0.	0.	2.73E-03	0.	0.	0.	0.	0.	1.38E-04	9.92E-11	1.57E-07	7.31E-08	2.73E-03
27 8.10 0.	0.	0.	2.63E-03	0.	0.	0.	0.	0.	1.38E-04	1.02E-10	1.57E-07	7.31E-08	2.63E-03
28 8.00 0.	0.	0.	2.54E-03	0.	0.	0.	0.	0.	1.39E-04	1.05E-10	1.57E-07	7.40E-08	2.54E-03
29 7.90 0.	0.	0.	2.47E-03	0.	0.	0.	0.	0.	1.40E-04	1.11E-10	1.57E-07	7.50E-08	2.47E-03
30 7.80 0.	0.	0.	2.31E-03	0.	0.	0.	0.	0.	1.41E-04	1.15E-10	1.57E-07	7.60E-08	2.31E-03
31 7.70 0.	0.	0.	2.18E-03	0.	0.	0.	0.	0.	1.42E-04	1.21E-10	1.57E-07	7.77E-08	2.18E-03
32 7.60 0.	0.	0.	2.04E-03	0.	0.	0.	0.	0.	1.42E-04	1.29E-10	1.57E-07	7.86E-08	2.04E-03
33 7.50 0.	0.	0.	1.91E-03	0.	0.	0.	0.	0.	1.43E-04	1.36E-10	1.57E-07	7.95E-08	1.91E-03
34 7.40 0.	0.	0.	1.79E-03	0.	0.	0.	0.	0.	1.44E-04	1.38E-10	1.57E-07	8.04E-08	1.79E-03
35 7.30 0.	0.	0.	1.69E-03	0.	0.	0.	0.	0.	1.45E-04	1.42E-10	1.57E-07	8.13E-08	1.69E-03
36 7.20 0.	0.	0.	1.57E-03	0.	0.	0.	0.	0.	1.45E-04	1.47E-10	1.57E-07	8.22E-08	1.57E-03
37 7.10 0.	0.	0.	1.45E-03	0.	0.	0.	0.	0.	1.46E-04	1.51E-10	1.57E-07	8.32E-08	1.45E-03
38 7.00 0.	0.	0.	1.80E-03	0.	0.	0.	0.	0.	1.48E-04	1.52E-10	1.57E-07	8.42E-08	1.80E-03
39 6.90 0.	0.	0.	1.60E-03	0.	0.	0.	0.	0.	1.48E-04	1.52E-10	1.57E-07	8.42E-08	1.60E-03
40 6.80 0.	0.	0.	1.24E-03	0.	0.	0.	0.	0.	1.48E-04	1.52E-10	1.57E-07	8.42E-08	1.24E-03
41 6.70 0.	0.	0.	9.62E-04	0.	0.	0.	0.	0.	1.49E-04	1.74E-10	1.57E-07	8.59E-08	9.62E-04
42 6.60 0.	0.	0.	7.81E-04	0.	0.	0.	0.	0.	1.51E-04	1.72E-10	1.57E-07	8.69E-08	7.81E-04
43 6.50 0.	0.	0.	5.36E-04	0.	0.	0.	0.	0.	1.52E-04	1.91E-10	1.57E-07	8.79E-08	5.36E-04
44 6.40 0.	0.	0.	3.00E-04	0.	0.	0.	0.	0.	1.54E-04	2.09E-10	1.57E-07	8.89E-08	3.00E-04
45 6.30 0.	0.	0.	1.48E-04	0.	0.	0.	0.	0.	1.56E-04	2.28E-10	1.57E-07	9.10E-08	1.48E-04
46 6.20 0.	0.	0.	6.61E-04	0.	0.	0.	0.	0.	1.57E-04	2.30E-10	1.57E-07	9.20E-08	6.61E-04
47 6.10 0.	0.	0.	2.95E-04	0.	0.	0.	0.	0.	1.59E-04	2.45E-10	1.57E-07	9.40E-08	2.95E-04
48 6.00 0.	0.	0.	5.71E-04	0.	0.	0.	0.	0.	1.60E-04	2.52E-10	1.57E-07	9.42E-08	5.71E-04
49 5.90 0.	0.	0.	4.02E-04	0.	0.	0.	0.	0.	1.60E-04	2.61E-10	1.57E-07	9.42E-08	4.02E-04
50 5.80 0.	0.	0.	9.67E-04	0.	0.	0.	0.	0.	1.59E-04	2.81E-10	1.57E-07	9.42E-08	9.67E-04
51 5.70 0.	0.	0.	1.33E-04	0.	0.	0.	0.	0.	1.48E-04	2.96E-10	1.57E-07	1.02E-07	1.33E-04

PHOTON 02 S-R ENERGY BANDS 1ST POS. M2 2ND POS. M2 M22 BE A NO GAMMA NO VIB-RN7 NO 2 NO 3- FREE-FREE M 0 TOTAL AIR

TEMPERATURE (DEGREES K) 7000. DENSITY (GM/CC) 1.293E-05 (18.0E-03 NORMAL)

PHOTON 02 S-R ENERGY BANDS	1ST POS. M2	2ND POS. M2	M22	BE A	NO	GAMMA	NO	VIB-RN7	NO	2	NO	3-	FREE-FREE	M	0	TOTAL AIR
52	5.60	1.59E-06	0.	0.	0.	0.90E-06	6.87E-05	0.	0.	1.37E-06	3.11E-10	3.62E-06	1.04E-07	6.07E-05	0.	6.07E-05
53	5.50	1.58E-06	0.	0.	0.	1.12E-05	7.12E-05	0.	0.	1.38E-06	3.10E-10	3.64E-06	1.06E-07	6.15E-05	0.	6.15E-05
54	5.40	1.58E-06	0.	0.	0.	9.92E-06	6.37E-05	0.	0.	1.39E-06	3.09E-10	3.67E-06	1.08E-07	6.28E-05	0.	6.28E-05
55	5.30	1.44E-06	0.	0.	0.	9.50E-06	6.37E-05	0.	0.	1.40E-06	3.08E-10	3.69E-06	1.10E-07	6.41E-05	0.	6.41E-05
56	5.20	1.57E-07	0.	0.	0.	9.48E-06	6.37E-05	0.	0.	1.41E-06	3.07E-10	3.72E-06	1.12E-07	6.54E-05	0.	6.54E-05
57	5.10	1.63E-07	0.	0.	0.	8.74E-06	4.93E-05	0.	0.	1.42E-06	3.06E-10	3.75E-06	1.14E-07	6.67E-05	0.	6.67E-05
58	5.00	1.14E-07	0.	0.	0.	7.30E-06	3.71E-05	0.	0.	1.43E-06	3.05E-10	3.78E-06	1.16E-07	6.80E-05	0.	6.80E-05
59	4.90	3.09E-07	0.	0.	0.	7.00E-06	3.71E-05	0.	0.	1.44E-06	3.04E-10	3.81E-06	1.18E-07	6.93E-05	0.	6.93E-05
60	4.80	5.14E-07	0.	0.	0.	7.07E-06	3.71E-05	0.	0.	1.45E-06	3.03E-10	3.84E-06	1.20E-07	7.06E-05	0.	7.06E-05
61	4.70	5.32E-07	0.	0.	0.	7.18E-06	3.71E-05	0.	0.	1.46E-06	3.02E-10	3.87E-06	1.22E-07	7.19E-05	0.	7.19E-05
62	4.60	6.01E-07	0.	0.	0.	6.87E-06	2.84E-05	0.	0.	1.47E-06	3.01E-10	3.90E-06	1.24E-07	7.32E-05	0.	7.32E-05
63	4.50	5.71E-07	0.	0.	0.	2.79E-07	0.	0.	1.48E-06	3.00E-10	3.93E-06	1.26E-07	7.45E-05	0.	7.45E-05	
64	4.40	4.64E-07	0.	0.	0.	1.19E-06	0.	0.	1.49E-06	2.99E-10	3.96E-06	1.28E-07	7.58E-05	0.	7.58E-05	
65	4.30	4.46E-07	0.	0.	0.	5.42E-06	1.14E-05	0.	0.	1.50E-06	2.98E-10	4.00E-06	1.30E-07	7.71E-05	0.	7.71E-05
66	4.20	4.01E-07	0.	0.	0.	2.73E-06	0.	0.	1.51E-06	2.97E-10	4.03E-06	1.32E-07	7.84E-05	0.	7.84E-05	
67	4.10	3.47E-07	0.	0.	0.	1.4E-05	0.	0.	1.52E-06	2.96E-10	4.06E-06	1.34E-07	7.97E-05	0.	7.97E-05	
68	4.00	2.92E-07	0.	0.	0.	2.97E-06	0.	0.	1.53E-06	2.95E-10	4.09E-06	1.36E-07	8.10E-05	0.	8.10E-05	
69	3.90	2.21E-07	0.	0.	0.	1.59E-05	0.	0.	1.54E-06	2.94E-10	4.12E-06	1.38E-07	8.23E-05	0.	8.23E-05	
70	3.80	2.31E-07	0.	0.	0.	7.09E-06	6.33E-07	0.	0.	1.55E-06	2.93E-10	4.15E-06	1.40E-07	8.36E-05	0.	8.36E-05
71	3.70	1.77E-07	0.	0.	0.	6.32E-06	7.06E-06	0.	0.	1.56E-06	2.92E-10	4.18E-06	1.42E-07	8.49E-05	0.	8.49E-05
72	3.60	1.47E-07	0.	0.	0.	1.37E-05	1.19E-06	0.	0.	1.57E-06	2.91E-10	4.21E-06	1.44E-07	8.62E-05	0.	8.62E-05
73	3.50	1.24E-07	0.	0.	0.	5.19E-06	7.35E-06	0.	0.	1.58E-06	2.90E-10	4.24E-06	1.46E-07	8.75E-05	0.	8.75E-05
74	3.40	1.00E-07	0.	0.	0.	9.72E-06	3.37E-05	1.92E-06	0.	1.59E-06	2.89E-10	4.27E-06	1.48E-07	8.88E-05	0.	8.88E-05
75	3.30	7.51E-08	0.	0.	0.	3.69E-06	1.31E-06	1.68E-06	0.	1.60E-06	2.88E-10	4.30E-06	1.50E-07	9.01E-05	0.	9.01E-05
76	3.20	5.68E-08	0.	0.	0.	4.81E-06	1.65E-06	1.31E-06	0.	1.61E-06	2.87E-10	4.33E-06	1.52E-07	9.14E-05	0.	9.14E-05
77	3.10	5.00E-08	0.	0.	0.	2.09E-06	3.90E-06	1.13E-06	0.	1.62E-06	2.86E-10	4.36E-06	1.54E-07	9.27E-05	0.	9.27E-05
78	3.00	3.97E-08	0.	0.	0.	1.69E-06	2.06E-06	9.34E-07	0.	1.63E-06	2.85E-10	4.39E-06	1.56E-07	9.40E-05	0.	9.40E-05
79	2.90	2.93E-08	0.	0.	0.	8.30E-07	1.08E-05	7.79E-07	0.	1.64E-06	2.84E-10	4.42E-06	1.58E-07	9.53E-05	0.	9.53E-05
80	2.80	2.79E-08	0.	0.	0.	4.89E-07	6.95E-06	4.66E-07	0.	1.65E-06	2.83E-10	4.45E-06	1.60E-07	9.66E-05	0.	9.66E-05
81	2.70	1.49E-08	0.	0.	0.	2.17E-07	1.80E-06	2.62E-07	0.	1.66E-06	2.82E-10	4.48E-06	1.62E-07	9.79E-05	0.	9.79E-05
82	2.60	5.54E-09	0.	0.	0.	9.98E-08	5.35E-06	1.11E-07	0.	1.67E-06	2.81E-10	4.51E-06	1.64E-07	9.92E-05	0.	9.92E-05
83	2.50	3.53E-10	0.	0.	0.	5.04E-08	5.37E-07	3.84E-08	0.	1.68E-06	2.80E-10	4.54E-06	1.66E-07	1.00E-04	0.	1.00E-04
84	2.40	0.	0.	0.	0.	7.35E-09	2.91E-07	7.84E-08	0.	1.69E-06	2.79E-10	4.57E-06	1.68E-07	1.01E-04	0.	1.01E-04
85	2.30	0.	0.	0.	0.	4.27E-07	7.57E-10	0.	0.	1.70E-06	2.78E-10	4.60E-06	1.70E-07	1.02E-04	0.	1.02E-04
86	2.20	0.	0.	0.	0.	3.37E-06	0.	0.	0.	1.71E-06	2.77E-10	4.63E-06	1.72E-07	1.03E-04	0.	1.03E-04
87	2.10	0.	0.	0.	0.	6.11E-06	0.	0.	0.	1.72E-06	2.76E-10	4.66E-06	1.74E-07	1.04E-04	0.	1.04E-04
88	2.00	0.	0.	0.	0.	1.12E-05	0.	0.	0.	1.73E-06	2.75E-10	4.69E-06	1.76E-07	1.05E-04	0.	1.05E-04
89	1.90	0.	0.	0.	0.	1.54E-05	0.	0.	0.	1.74E-06	2.74E-10	4.72E-06	1.78E-07	1.06E-04	0.	1.06E-04
90	1.80	0.	0.	0.	0.	4.4E-05	0.	0.	0.	1.75E-06	2.73E-10	4.75E-06	1.80E-07	1.07E-04	0.	1.07E-04
91	1.70	0.	0.	0.	0.	3.52E-05	0.	0.	0.	1.76E-06	2.72E-10	4.78E-06	1.82E-07	1.08E-04	0.	1.08E-04
92	1.60	0.	0.	0.	0.	4.19E-05	0.	0.	0.	1.77E-06	2.71E-10	4.81E-06	1.84E-07	1.09E-04	0.	1.09E-04
93	1.50	0.	0.	0.	0.	2.89E-05	0.	0.	0.	1.78E-06	2.70E-10	4.84E-06	1.86E-07	1.10E-04	0.	1.10E-04
94	1.40	0.	0.	0.	0.	4.15E-05	0.	0.	0.	1.79E-06	2.69E-10	4.87E-06	1.88E-07	1.11E-04	0.	1.11E-04
95	1.30	0.	0.	0.	0.	2.82E-05	0.	0.	0.	1.80E-06	2.68E-10	4.90E-06	1.90E-07	1.12E-04	0.	1.12E-04
96	1.20	0.	0.	0.	0.	3.16E-05	0.	0.	0.	1.81E-06	2.67E-10	4.93E-06	1.92E-07	1.13E-04	0.	1.13E-04
97	1.10	0.	0.	0.	0.	2.26E-05	0.	0.	0.	1.82E-06	2.66E-10	4.96E-06	1.94E-07	1.14E-04	0.	1.14E-04
98	1.00	0.	0.	0.	0.	2.16E-05	0.	0.	0.	1.83E-06	2.65E-10	4.99E-06	1.96E-07	1.15E-04	0.	1.15E-04
99	0.90	0.	0.	0.	0.	1.66E-05	0.	0.	0.	1.84E-06	2.64E-10	5.02E-06	1.98E-07	1.16E-04	0.	1.16E-04
100	0.80	0.	0.	0.	0.	7.62E-06	0.	0.	0.	1.85E-06	2.63E-10	5.05E-06	2.00E-07	1.17E-04	0.	1.17E-04
101	0.70	0.	0.	0.	0.	2.14E-06	0.	0.	0.	1.86E-06	2.62E-10	5.08E-06	2.02E-07	1.18E-04	0.	1.18E-04
102	0.60	0.	0.	0.	0.	5.60E-06	0.	0.	0.	1.87E-06	2.61E-10	5.11E-06	2.04E-07	1.19E-04	0.	1.19E-04

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 7000. DENSITY (GM/CC) 1.2932E-06 (10.0E-04 NORMAL)

PHOTON ENERGY E.V.	O2 S-R BANDS	O2 S-R CONT.	N2 B-W NO. 1	NO BETA	O GAMMA	NO 2	O PHOTO-DET (IONS)	O FRSE-FREE	O M	O P.E.	TOTAL AIR	
												NO 1
1 10.70 0.												
2 10.60 0.												
3 10.50 0.												
4 10.40 0.												
5 10.30 0.												
6 10.20 0.												
7 10.10 0.												
8 10.00 0.												
9 9.90 0.												
10 9.80 0.												
11 9.70 0.												
12 9.60 0.												
13 9.50 0.												
14 9.40 0.												
15 9.30 0.												
16 9.20 0.												
17 9.10 0.												
18 9.00 0.												
19 8.90 0.												
20 8.80 0.												
21 8.70 0.												
22 8.60 0.												
23 8.50 0.												
24 8.40 0.												
25 8.30 0.												
26 8.20 0.												
27 8.10 0.												
28 8.00 0.												
29 7.90 0.												
30 7.80 0.												
31 7.70 0.												
32 7.60 0.												
33 7.50 0.												
34 7.40 0.												
35 7.30 0.												
36 7.20 0.												
37 7.10 0.												
38 7.00 0.												
39 6.90 0.												
40 6.80 0.												
41 6.70 0.												
42 6.60 0.												
43 6.50 0.												
44 6.40 0.												
45 6.30 0.												
46 6.20 0.												
47 6.10 0.												
48 6.00 0.												
49 5.90 0.												
50 5.80 0.												
51 5.70 0.												

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 7000. DENSITY (GM/CC) 1.293E-06 (17.05-04 NORMAL)

PHOTON ENERGY BANDS	2 5-R	N2 1ST POS.	N2 2ND POS.	N2 1ST NEG.	N2 2ND NEG.	NO BETA	NO GAMMA	NO VIB-ROT	NO 2	O- PHOTO-DET (IONS)	M FREE-FREE	M P.E.	O TOTAL AIR
52	3.60	1.61E+08	0.	0.	0.	1.27E-07	9.84E-07	0.	0.	3.66E-08	2.22E-11	5.16E-09	1.95E-08
53	5.50	1.60E+08	0.	0.	0.	1.60E-07	1.07E-06	0.	0.	3.70E-08	2.34E-11	5.19E-09	1.87E-08
54	5.40	1.59E+08	0.	0.	0.	1.26E-07	9.47E-07	0.	0.	3.72E-08	2.48E-11	5.23E-09	1.99E-08
55	5.30	1.47E+08	0.	0.	0.	1.37E-07	9.49E-07	0.	0.	3.74E-08	2.62E-11	5.27E-09	1.11E-08
56	5.20	9.66E+08	0.	0.	0.	1.33E-07	4.47E-07	0.	0.	3.77E-08	2.78E-11	5.32E-09	1.34E-08
57	5.10	6.71E+09	0.	0.	0.	1.29E-07	6.39E-07	0.	9.58E-14	3.80E-08	2.94E-11	5.48E-09	1.46E-08
58	5.00	6.20E+09	0.	0.	0.	1.09E-07	5.32E-07	0.	9.58E-14	3.83E-08	3.12E-11	5.58E-09	1.39E-08
59	4.90	5.13E+09	0.	0.	0.	1.09E-07	4.74E-07	0.	9.58E-14	3.86E-08	3.32E-11	5.72E-09	1.22E-08
60	4.80	5.37E+09	0.	0.	0.	1.03E-07	4.40E-07	0.	9.58E-14	3.89E-08	3.53E-11	5.84E-09	1.25E-08
61	4.70	6.07E+09	0.	0.	0.	9.08E-08	3.37E-07	0.	9.58E-14	3.93E-08	3.74E-11	5.97E-09	1.29E-08
62	4.60	6.07E+09	0.	0.	0.	9.08E-08	3.24E-07	0.	9.58E-14	3.96E-08	4.01E-11	6.12E-09	1.31E-08
63	4.50	5.76E+09	0.	5.59E-09	0.	6.39E-08	2.09E-07	0.	9.58E-14	3.99E-08	4.29E-11	6.29E-09	1.34E-08
64	4.40	5.53E+09	0.	2.42E-08	0.	7.77E-08	1.67E-07	0.	9.58E-14	4.02E-08	4.59E-11	6.48E-09	1.37E-08
65	4.30	4.69E+09	0.	4.53E-08	0.	6.99E-08	8.39E-08	0.	9.58E-14	4.05E-08	4.91E-11	6.63E-09	1.39E-08
66	4.20	4.09E+09	0.	2.31E-07	0.	6.73E-08	7.34E-08	0.	9.58E-14	4.09E-08	5.27E-11	6.81E-09	1.46E-08
67	4.10	3.50E+09	0.	5.23E-08	0.	5.95E-08	7.81E-08	0.	9.58E-14	4.10E-08	6.67E-11	7.07E-09	1.49E-08
68	4.00	2.95E+09	0.	3.14E-07	0.	5.26E-08	1.34E-08	0.	9.58E-14	4.12E-08	6.11E-11	7.35E-09	1.52E-08
69	3.90	2.24E+09	0.	1.44E-07	4.83E-08	4.50E-08	6.47E-09	0.	9.58E-14	4.10E-08	6.59E-11	7.62E-09	1.55E-08
70	3.80	2.34E+09	0.	1.69E-07	5.38E-07	4.37E-08	0.	0.	9.58E-14	4.09E-08	7.13E-11	7.88E-09	1.58E-08
71	3.70	1.78E+09	0.	2.79E-07	9.05E-08	3.06E-08	0.	0.	9.58E-14	4.02E-08	7.73E-11	8.15E-09	1.61E-08
72	3.60	1.48E+09	0.	1.66E-07	5.61E-07	3.37E-08	0.	0.	9.58E-14	3.77E-08	8.39E-11	8.43E-09	1.64E-08
73	3.50	1.21E+09	0.	1.90E-07	2.57E-06	2.48E-08	0.	0.	9.58E-14	3.45E-08	9.13E-11	8.75E-09	1.67E-08
74	3.40	1.01E+09	0.	7.50E-08	9.66E-08	2.40E-08	0.	0.	9.58E-14	1.99E-08	1.09E-10	9.15E-09	1.75E-08
75	3.30	7.59E+10	0.	9.14E-08	8.02E-07	1.42E-08	0.	0.	9.58E-14	1.99E-08	1.09E-10	9.15E-09	1.75E-08
76	3.20	5.85E+10	0.	4.24E-08	2.98E-06	1.41E-08	0.	0.	9.58E-14	1.99E-08	1.20E-10	9.49E-09	1.78E-08
77	3.10	5.09E+10	0.	3.43E-08	1.57E-07	1.34E-08	0.	0.	9.58E-14	2.00E-08	1.32E-10	9.84E-09	1.81E-08
78	3.00	4.31E+10	0.	1.69E-08	8.27E-07	1.32E-08	0.	0.	9.58E-14	2.00E-08	1.45E-10	1.02E-09	1.84E-08
79	2.90	2.94E+10	0.	9.94E-09	6.03E-07	6.96E-09	0.	0.	9.58E-14	2.01E-08	1.61E-10	5.96E-09	1.87E-08
80	2.80	2.09E+10	0.	4.40E-09	1.44E-07	3.75E-09	0.	0.	9.58E-14	2.01E-08	1.79E-10	6.44E-09	1.92E-08
81	2.70	1.51E+10	0.	2.01E-09	4.08E-07	1.58E-09	0.	0.	9.58E-14	2.01E-08	2.00E-10	6.93E-09	1.97E-08
82	2.60	5.61E+11	0.	1.02E-09	4.10E-05	5.54E-10	0.	0.	9.58E-14	2.01E-08	2.24E-10	7.38E-09	2.02E-08
83	2.50	3.55E+12	0.	1.50E-10	2.22E-08	1.44E-10	0.	0.	9.58E-14	2.01E-08	2.52E-10	7.84E-09	2.07E-08
84	2.40	0.	1.12E+18	0.	3.26E-08	1.08E-11	0.	0.	9.58E-14	2.01E-08	2.85E-10	8.36E-09	2.12E-08
85	2.30	0.	6.66E-08	0.	0.	0.	0.	0.	9.58E-14	1.99E-08	3.24E-10	8.92E-09	2.17E-08
86	2.20	0.	1.24E-07	0.	0.	0.	0.	0.	9.58E-14	1.99E-08	3.70E-10	9.58E-09	2.22E-08
87	2.10	0.	2.28E-07	0.	0.	0.	0.	0.	9.58E-14	1.99E-08	4.26E-10	1.03E-09	2.27E-08
88	2.00	0.	3.33E-07	0.	0.	0.	0.	0.	9.58E-14	1.98E-08	4.93E-10	1.12E-09	2.32E-08
89	1.90	0.	8.46E-07	0.	0.	0.	0.	0.	9.58E-14	1.92E-08	5.74E-10	1.22E-09	2.37E-08
90	1.80	0.	7.16E-07	0.	0.	0.	0.	0.	9.58E-14	1.84E-08	6.78E-10	1.33E-09	2.42E-08
91	1.70	0.	6.51E-07	0.	0.	0.	0.	0.	9.58E-14	1.76E-08	8.06E-10	1.45E-09	2.47E-08
92	1.60	0.	5.87E-07	0.	0.	0.	0.	0.	9.58E-14	1.68E-08	9.69E-10	1.64E-09	2.52E-08
93	1.50	0.	7.30E-07	0.	0.	0.	0.	0.	9.58E-14	1.40E-08	1.18E-09	1.27E-09	2.57E-08
94	1.40	0.	6.44E-07	0.	0.	0.	0.	0.	9.58E-14	1.18E-08	1.43E-09	8.08E-09	2.62E-08
95	1.30	0.	5.74E-07	0.	0.	0.	0.	0.	9.58E-14	1.01E-09	1.61E-09	5.08E-09	2.67E-08
96	1.20	0.	6.43E-07	0.	0.	0.	0.	0.	9.58E-14	0.	1.81E-09	1.12E-09	2.72E-08
97	1.10	0.	4.98E-07	0.	0.	0.	0.	0.	9.58E-14	0.	2.31E-09	1.48E-09	2.77E-08
98	1.00	0.	4.44E-07	0.	0.	0.	0.	0.	9.58E-14	0.	3.01E-09	1.73E-09	2.82E-08
99	0.90	0.	3.41E-07	0.	0.	0.	0.	0.	9.58E-14	0.	4.02E-09	2.09E-09	2.87E-08
100	0.80	0.	1.55E-07	0.	0.	0.	0.	0.	9.58E-14	0.	5.92E-09	2.41E-09	2.92E-08
101	0.70	0.	4.35E-08	0.	0.	0.	0.	0.	9.58E-14	0.	7.92E-09	2.80E-09	2.97E-08
102	0.60	0.	1.18E-09	0.	0.	0.	0.	0.	9.58E-14	0.	1.19E-08	2.29E-09	3.02E-08
103	0.50	0.	0.	0.	0.	0.	0.	0.	9.58E-14	0.	1.60E-08	2.97E-09	3.07E-08



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E.V.	O2 S-R CONT.	O2 S-R BANDS	TEMPERATURE (DEGREES K)	7000.	NO BETA	NO G:MA	NO 2	0- PHOTO-DET (IONS)	M P.E.	O P.E.	TOTAL AIR	
												NO B-M NO. 1
1 10.70 0.	0.	1.03E-06	0.	0.	0.	0.	0.	1.94E-09	2.99E-13	2.27E-09	6.90E-10	1.04E-06
2 10.60 0.	0.	1.49E-06	0.	0.	0.	0.	0.	1.04E-09	3.00E-13	2.29E-09	6.99E-10	1.49E-06
3 10.50 0.	0.	1.40E-06	0.	0.	0.	0.	0.	1.84E-09	3.17E-13	2.46E-09	7.00E-10	1.41E-06
4 10.40 0.	0.	1.21E-06	0.	0.	0.	0.	0.	1.04E-09	3.24E-13	2.31E-09	7.01E-10	1.21E-06
5 10.30 0.	0.	6.37E-07	0.	0.	0.	0.	0.	1.04E-09	3.34E-13	2.31E-09	7.02E-10	9.41E-07
6 10.20 0.	0.	6.99E-07	0.	0.	0.	0.	0.	1.04E-09	3.44E-13	2.32E-09	7.03E-10	9.82E-07
7 10.10 0.	0.	7.80E-07	0.	0.	0.	0.	0.	1.07E-09	3.56E-13	2.32E-09	7.04E-10	7.98E-07
8 10.00 0.	0.	5.92E-07	0.	0.	0.	0.	0.	1.07E-09	3.67E-13	2.33E-09	7.05E-10	5.94E-07
9 9.90 0.	0.	5.91E-07	0.	0.	0.	0.	0.	1.07E-09	3.78E-13	2.33E-09	7.06E-10	5.95E-07
10 9.80 0.	0.	4.97E-07	0.	0.	0.	0.	0.	1.07E-09	3.89E-13	2.34E-09	7.07E-10	5.01E-07
11 9.70 0.	0.	3.71E-07	0.	0.	0.	0.	0.	1.07E-09	4.02E-13	2.35E-09	7.08E-10	3.75E-07
12 9.60 0.	0.	3.97E-07	0.	0.	0.	0.	0.	1.08E-09	4.13E-13	2.35E-09	7.09E-10	4.01E-07
13 9.50 0.	1.42E-09	2.90E-07	0.	0.	0.	0.	0.	1.08E-09	4.26E-13	2.36E-09	7.09E-10	2.90E-07
14 9.40 0.	1.40E-09	2.47E-07	0.	0.	0.	0.	0.	1.08E-09	4.42E-13	2.36E-09	7.10E-10	2.47E-07
15 9.30 0.	1.77E-09	2.45E-07	0.	0.	0.	0.	0.	1.08E-09	4.57E-13	2.36E-09	7.11E-10	2.45E-07
16 9.20 0.	1.94E-09	1.64E-07	0.	0.	0.	0.	0.	1.09E-09	4.72E-13	2.36E-09	7.12E-10	1.76E-07
17 9.10 0.	2.36E-09	1.71E-07	0.	0.	0.	0.	0.	1.09E-09	4.88E-13	2.36E-09	7.13E-10	1.76E-07
18 9.00 0.	2.83E-09	1.39E-07	0.	0.	0.	0.	0.	1.10E-09	5.04E-13	2.36E-09	7.14E-10	1.39E-07
19 8.90 0.	3.29E-09	1.12E-07	0.	0.	0.	0.	0.	1.10E-09	5.21E-13	2.36E-09	7.15E-10	1.12E-07
20 8.80 0.	3.42E-09	1.04E-07	0.	0.	0.	0.	0.	1.10E-09	5.39E-13	2.36E-09	7.16E-10	1.04E-07
21 8.70 0.	3.29E-09	7.63E-08	0.	0.	0.	0.	0.	1.11E-09	5.58E-13	2.36E-09	7.17E-10	7.63E-08
22 8.60 0.	3.15E-09	7.63E-08	0.	0.	0.	0.	0.	1.11E-09	5.78E-13	2.36E-09	7.18E-10	6.23E-08
23 8.50 0.	3.05E-09	5.68E-08	0.	0.	0.	0.	0.	1.12E-09	5.99E-13	2.36E-09	7.19E-10	5.68E-08
24 8.40 0.	2.97E-09	5.39E-08	0.	0.	0.	0.	0.	1.12E-09	6.21E-13	2.36E-09	7.20E-10	5.39E-08
25 8.30 0.	2.86E-09	3.91E-08	0.	0.	0.	0.	0.	1.13E-09	6.44E-13	2.36E-09	7.21E-10	4.44E-08
26 8.20 0.	2.75E-09	3.79E-08	0.	0.	0.	0.	0.	1.13E-09	6.67E-13	2.36E-09	7.22E-10	3.79E-08
27 8.10 0.	2.64E-09	2.80E-08	0.	0.	0.	0.	0.	1.14E-09	6.93E-13	2.36E-09	7.23E-10	2.80E-08
28 8.00 0.	2.56E-09	2.64E-08	0.	0.	0.	0.	0.	1.15E-09	7.19E-13	2.36E-09	7.24E-10	2.64E-08
29 7.90 0.	2.44E-09	1.90E-08	0.	0.	0.	0.	0.	1.15E-09	7.47E-13	2.36E-09	7.25E-10	1.90E-08
30 7.80 0.	2.32E-09	1.91E-08	0.	0.	0.	0.	0.	1.16E-09	7.76E-13	2.36E-09	7.26E-10	1.91E-08
31 7.70 0.	2.20E-09	1.47E-08	0.	0.	0.	0.	0.	1.16E-09	8.07E-13	2.36E-09	7.27E-10	1.47E-08
32 7.60 0.	2.04E-09	1.27E-08	0.	0.	0.	0.	0.	1.17E-09	8.39E-13	2.36E-09	7.28E-10	1.27E-08
33 7.50 0.	1.82E-09	1.04E-08	0.	0.	0.	0.	0.	1.18E-09	8.73E-13	2.36E-09	7.29E-10	1.04E-08
34 7.40 0.	1.81E-09	6.90E-09	0.	0.	0.	0.	0.	1.18E-09	9.09E-13	2.36E-09	7.30E-10	6.90E-09
35 7.30 0.	1.71E-09	7.23E-09	0.	0.	0.	0.	0.	1.19E-09	9.47E-13	2.36E-09	7.31E-10	6.15E-09
36 7.20 0.	1.56E-09	5.03E-09	0.	0.	0.	0.	0.	1.19E-09	9.88E-13	2.36E-09	7.32E-10	5.44E-09
37 7.10 0.	1.44E-09	3.03E-09	0.	0.	0.	0.	0.	1.20E-09	1.03E-12	2.36E-09	7.33E-10	4.71E-09
38 7.00 0.	1.31E-09	3.13E-09	0.	0.	0.	0.	0.	1.21E-09	1.07E-12	2.36E-09	7.34E-10	4.07E-09
39 6.90 0.	4.62E-12	0.	0.	0.	0.	0.	0.	1.22E-09	1.12E-12	2.36E-09	7.35E-10	3.42E-09
40 6.80 0.	2.90E-09	0.	0.	0.	0.	0.	0.	1.23E-09	1.17E-12	2.36E-09	7.36E-10	2.90E-09
41 6.70 0.	2.26E-09	0.	0.	0.	0.	0.	0.	1.24E-09	1.23E-12	2.36E-09	7.37E-10	2.26E-09
42 6.60 0.	1.80E-09	0.	0.	0.	0.	0.	0.	1.25E-09	1.28E-12	2.36E-09	7.38E-10	1.80E-09
43 6.50 0.	1.42E-09	0.	0.	0.	0.	0.	0.	1.26E-09	1.34E-12	2.36E-09	7.39E-10	1.42E-09
44 6.40 0.	1.07E-09	0.	0.	0.	0.	0.	0.	1.27E-09	1.41E-12	2.36E-09	7.40E-10	1.07E-09
45 6.30 0.	2.10E-12	0.	0.	0.	0.	0.	0.	1.28E-09	1.48E-12	2.36E-09	7.41E-10	9.00E-10
46 6.20 0.	6.18E-12	0.	0.	0.	0.	0.	0.	1.29E-09	1.55E-12	2.36E-09	7.42E-10	6.18E-12
47 6.10 0.	2.32E-11	0.	0.	0.	0.	0.	0.	1.30E-09	1.63E-12	2.36E-09	7.43E-10	2.32E-11
48 6.00 0.	5.70E-11	0.	0.	0.	0.	0.	0.	1.31E-09	1.71E-12	2.36E-09	7.44E-10	5.70E-11
49 5.90 0.	6.66E-11	0.	0.	0.	0.	0.	0.	1.31E-09	1.80E-12	2.36E-09	7.45E-10	6.66E-11
50 5.80 0.	1.23E-10	0.	0.	0.	0.	0.	0.	1.32E-09	1.89E-12	2.36E-09	7.46E-10	1.23E-10
51 5.70 0.	1.33E-10	0.	0.	0.	0.	0.	0.	1.32E-09	1.99E-12	2.36E-09	7.47E-10	1.33E-10

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 7000. DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)

PHOTON ENERGY BANDS	Q2 5-R	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	M2 2ND NEG.	BETA	NO GAMMA	NO VIB-ROT	NO 2	D- PHOTO-DET (IONS)	FREE-FREE N	P.E.	TOTAL AIR
52	5.60 1.68E-10 0.	0.	0.	1.35E-09 1.04E-08 0.	0.	0.	0.	0.	0.	1.13E-09 2.10E-12 5.48E-10 1.04E-09 1.47E-08	0.	0.	
53	5.50 1.59E-10 0.	0.	0.	1.70E-09 1.46E-08 0.	0.	0.	0.	0.	0.	1.14E-09 2.22E-12 5.52E-10 1.06E-09 1.55E-08	0.	0.	
54	5.40 1.50E-10 0.	0.	0.	1.35E-09 1.75E-09 0.	0.	0.	0.	0.	0.	1.14E-09 2.35E-12 5.56E-10 1.08E-09 1.40E-08	0.	0.	
55	5.30 1.48E-10 0.	0.	0.	1.40E-09 9.67E-09 0.	0.	0.	0.	0.	0.	1.15E-09 2.48E-12 5.60E-10 1.11E-09 1.43E-08	0.	0.	
56	5.20 9.68E-11 0.	0.	0.	1.45E-09 4.75E-09 0.	0.	0.	0.	0.	0.	1.16E-09 2.63E-12 5.65E-10 1.15E-09 9.11E-09	0.	0.	
57	5.10 6.68E-11 0.	0.	0.	1.32E-09 6.73E-09 0.	0.	0.	0.	0.	0.	1.17E-09 2.79E-12 5.70E-10 1.19E-09 1.11E-08	0.	0.	
58	5.00 2.16E-11 0.	0.	0.	1.11E-09 5.64E-09 0.	0.	0.	0.	0.	0.	1.18E-09 2.96E-12 5.75E-10 1.23E-09 9.77E-09	0.	0.	
59	4.90 5.11E-11 0.	0.	0.	1.15E-09 5.05E-09 0.	0.	0.	0.	0.	0.	1.18E-09 3.14E-12 5.80E-10 1.27E-09 9.27E-09	0.	0.	
60	4.80 5.16E-11 0.	0.	0.	1.20E-09 4.66E-09 0.	0.	0.	0.	0.	0.	1.19E-09 3.34E-12 5.85E-10 1.29E-09 8.90E-09	0.	0.	
61	4.70 5.34E-11 0.	0.	0.	1.09E-09 3.53E-09 0.	0.	0.	0.	0.	0.	1.01E-10 1.20E-09 3.56E-12 6.34E-10 1.26E-09 7.79E-09	0.	0.	
62	4.60 6.03E-11 0.	0.	0.	1.06E-09 3.44E-09 0.	0.	0.	0.	0.	0.	1.01E-10 1.21E-09 3.60E-12 6.50E-10 1.31E-09 7.74E-09	0.	0.	
63	4.50 5.73E-11 0.	0.	0.	0.98E-10 2.22E-09 0.	0.	0.	0.	0.	0.	1.01E-10 1.22E-09 4.04E-12 6.89E-10 1.35E-09 6.42E-09	0.	0.	
64	4.40 5.49E-11 0.	0.	0.	0.24E-10 1.77E-09 0.	0.	0.	0.	0.	0.	1.01E-10 1.23E-09 4.34E-12 6.97E-10 1.37E-09 6.22E-09	0.	0.	
65	4.30 4.66E-11 0.	0.	0.	7.09E-10 8.66E-10 0.	0.	0.	0.	0.	0.	1.01E-10 1.24E-09 4.65E-12 7.05E-10 1.39E-09 5.50E-09	0.	0.	
66	4.20 4.03E-11 0.	0.	0.	7.14E-10 7.78E-10 0.	0.	0.	0.	0.	0.	1.01E-10 1.25E-09 5.00E-12 7.24E-10 1.41E-11 6.22E-09	0.	0.	
67	4.10 3.74E-11 0.	0.	0.	5.91E-10 0.	0.	0.	0.	0.	0.	1.01E-10 1.26E-09 5.37E-12 7.45E-10 9.41E-11 3.26E-09	0.	0.	
68	4.00 2.93E-11 0.	0.	0.	5.37E-10 1.43E-10 0.	0.	0.	0.	0.	0.	1.01E-10 1.26E-09 5.78E-12 3.67E-10 9.69E-11 6.05E-09	0.	0.	
69	3.90 2.28E-11 0.	0.	0.	4.83E-10 6.85E-11 0.	0.	0.	0.	0.	0.	1.01E-10 1.26E-09 6.24E-12 3.74E-10 9.97E-11 5.68E-09	0.	0.	
70	3.80 2.32E-11 0.	0.	0.	1.91E-09 1.99E-08 4.63E-10 0.	0.	0.	0.	0.	1.01E-10 1.27E-09 6.75E-12 2.51E-10 1.03E-10 2.30E-09	0.	0.		
71	3.70 1.77E-11 0.	0.	0.	3.15E-09 3.32E-09 3.25E-10 0.	0.	0.	0.	0.	1.01E-10 1.28E-09 7.32E-12 2.71E-10 1.10E-10 8.45E-09	0.	0.		
72	3.60 1.47E-11 0.	0.	0.	1.19E-09 2.04E-09 3.57E-10 0.	0.	0.	0.	0.	1.01E-10 1.16E-09 7.95E-12 3.02E-10 1.36E-10 2.30E-08	0.	0.		
73	3.50 1.25E-11 0.	0.	0.	2.33E-09 9.45E-09 2.31E-10 0.	0.	0.	0.	0.	1.01E-10 1.06E-09 8.65E-12 3.45E-10 1.55E-10 9.86E-08	0.	0.		
74	3.40 1.01E-11 0.	0.	0.	6.48E-10 3.68E-09 7.95E-10 0.	0.	0.	0.	0.	1.01E-10 6.10E-10 9.44E-12 3.83E-10 1.75E-10 5.95E-08	0.	0.		
75	3.30 7.94E-12 0.	0.	0.	1.04E-09 2.93E-09 1.72E-10 0.	0.	0.	0.	0.	1.01E-10 6.11E-10 1.03E-11 4.83E-10 1.94E-10 3.19E-08	0.	0.		
76	3.20 5.83E-12 0.	0.	0.	4.91E-10 3.09E-09 1.71E-10 0.	0.	0.	0.	0.	1.01E-10 6.12E-10 1.13E-11 4.80E-10 2.13E-10 1.11E-07	0.	0.		
77	3.10 5.02E-12 0.	0.	0.	3.08E-10 5.79E-09 1.42E-10 0.	0.	0.	0.	0.	1.01E-10 6.14E-10 1.25E-11 5.36E-10 2.35E-10 7.71E-09	0.	0.		
78	3.00 3.99E-12 0.	0.	0.	1.91E-10 3.04E-09 1.18E-10 0.	0.	0.	0.	0.	1.01E-10 6.15E-10 1.38E-11 5.95E-10 2.59E-10 3.22E-08	0.	0.		
79	2.90 2.94E-12 0.	0.	0.	1.12E-10 2.51E-09 7.35E-11 0.	0.	0.	0.	0.	1.01E-10 6.16E-10 1.52E-11 6.37E-10 2.79E-10 2.68E-08	0.	0.		
80	2.80 2.81E-12 0.	0.	0.	4.90E-11 5.27E-09 3.98E-11 0.	0.	0.	0.	0.	1.01E-10 6.17E-10 1.69E-11 6.84E-10 2.93E-10 6.98E-09	0.	0.		
81	2.70 1.50E-13 0.	0.	0.	2.80E-11 1.50E-08 1.68E-11 0.	0.	0.	0.	0.	1.01E-10 6.17E-10 1.89E-11 7.37E-10 4.8E-11 1.65E-09	0.	0.		
82	2.60 5.50E-13 0.	0.	0.	1.16E-11 1.51E-09 9.88E-12 0.	0.	0.	0.	0.	1.01E-10 6.17E-10 2.12E-11 7.53E-10 6.99E-11 2.48E-09	0.	0.		
83	2.50 3.54E-14 0.	0.	0.	1.69E-12 8.15E-10 1.21E-13 0.	0.	0.	0.	0.	1.01E-10 6.17E-10 2.79E-11 3.62E-10 9.02E-11 1.64E-09	0.	0.		
84	2.40 0.	0.	0.	1.26E-10 0.	0.	0.	0.	0.	0.	1.01E-10 6.17E-10 2.79E-11 3.79E-10 9.02E-11 2.44E-09	0.	0.	
85	2.30 0.	0.	0.	7.74E-10 0.	0.	0.	0.	0.	0.	1.01E-10 6.12E-10 3.04E-11 4.59E-10 1.15E-10 2.08E-09	0.	0.	
86	2.20 0.	0.	0.	1.40E-09 0.	0.	0.	0.	0.	0.	1.01E-10 6.10E-10 3.50E-11 5.42E-10 1.42E-10 2.73E-09	0.	0.	
87	2.10 0.	0.	0.	2.59E-09 0.	0.	0.	0.	0.	0.	1.01E-10 6.07E-10 4.03E-11 6.37E-10 1.66E-10 4.02E-09	0.	0.	
88	2.00 0.	0.	0.	3.54E-09 0.	0.	0.	0.	0.	0.	1.01E-10 5.80E-10 4.67E-11 7.20E-10 1.90E-10 5.09E-09	0.	0.	
89	1.90 0.	0.	0.	9.57E-09 0.	0.	0.	0.	0.	0.	1.01E-10 5.65E-10 5.46E-11 8.19E-10 2.15E-10 1.12E-08	0.	0.	
90	1.80 0.	0.	0.	6.10E-09 0.	0.	0.	0.	0.	0.	1.01E-10 5.41E-10 6.43E-11 9.41E-10 2.51E-10 5.68E-09	0.	0.	
91	1.70 0.	0.	0.	9.63E-09 0.	0.	0.	0.	0.	0.	1.01E-10 5.09E-10 7.94E-11 1.10E-09 2.86E-10 1.18E-08	0.	0.	
92	1.60 0.	0.	0.	6.63E-09 0.	0.	0.	0.	0.	0.	1.01E-10 4.31E-10 9.18E-11 1.10E-09 3.12E-10 6.57E-09	0.	0.	
93	1.50 0.	0.	0.	6.29E-09 0.	0.	0.	0.	0.	0.	1.01E-10 3.11E-10 6.44E-10 6.44E-10 3.60E-10 9.57E-09	0.	0.	
94	1.40 0.	0.	0.	9.54E-09 0.	0.	0.	0.	0.	0.	1.01E-10 8.	1.72E-10 1.19E-09 3.39E-10 6.08E-10 1.08E-08	0.	0.
95	1.30 0.	0.	0.	6.49E-09 0.	0.	0.	0.	0.	0.	1.01E-10 0.	2.19E-10 1.59E-09 3.75E-10 6.19E-09	0.	0.
96	1.20 0.	0.	0.	5.19E-09 0.	0.	0.	0.	0.	0.	0.	2.85E-10 1.94E-09 4.72E-10 7.79E-09	0.	0.
97	1.10 0.	0.	0.	5.02E-09 0.	0.	0.	0.	0.	0.	0.	3.61E-10 2.22E-09 5.70E-10 6.19E-09	0.	0.
98	1.00 0.	0.	0.	3.86E-09 0.	0.	0.	0.	0.	0.	0.	5.24E-10 2.57E-09 6.65E-10 7.62E-09	0.	0.
99	0.90 0.	0.	0.	1.75E-09 0.	0.	0.	0.	0.	0.	0.	7.50E-10 2.13E-09 9.02E-10 5.15E-09	0.	0.
100	0.80 0.	0.	0.	4.42E-10 0.	0.	0.	0.	0.	0.	0.	1.13E-09 2.43E-09 5.04E-10 4.64E-09	0.	0.
101	0.70 0.	0.	0.	1.53E-11 0.	0.	0.	0.	0.	0.	0.	1.00E-09 2.73E-09 6.56E-10 5.23E-09	0.	0.
102	0.60 0.	0.	0.	1.53E-11 0.	0.	0.	0.	0.	0.	0.	1.00E-09 2.73E-09 6.56E-10 5.23E-09	0.	0.

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CH.)

PHOTON ENERGY BANDS E.V.	O2 S-R CONT.	N2 B-W NO. 1	TEMPERATURE (DEGREES K)	7000.	DENSITY (GM/CC)	1.203E-00 (10.0E-06 NORMAL)		TOTAL AIR		
						NO BETA	NO GAMMA		0-2 PHOTO-DET (IONS)	FREE-FREE P.E.
1 10.70 0.	0.	1.81E-00	0.	0.	0.	3.27E-11	2.30E-14	2.30E-16	6.90E-11	1.84E-00
2 10.60 0.	0.	1.47E-00	0.	0.	0.	3.27E-11	3.02E-14	2.77E-16	6.90E-11	1.51E-00
3 10.50 0.	0.	1.39E-00	0.	0.	0.	3.20E-11	3.19E-14	2.20E-16	6.91E-11	1.42E-00
4 10.40 0.	0.	1.19E-00	0.	0.	0.	3.20E-11	3.19E-14	2.20E-16	6.92E-11	1.27E-00
5 10.30 0.	0.	0.24E-00	0.	0.	0.	3.20E-11	3.20E-14	2.20E-16	6.93E-11	9.59E-00
6 10.20 0.	0.	0.89E-00	0.	0.	0.	3.27E-11	3.10E-14	2.10E-16	6.94E-11	9.23E-00
7 10.10 0.	0.	7.77E-00	0.	0.	0.	3.30E-11	3.49E-14	2.31E-16	6.95E-11	6.10E-00
8 10.00 0.	0.	5.89E-00	0.	0.	0.	3.31E-11	3.59E-14	2.31E-16	6.96E-11	6.10E-00
9 9.90 0.	0.	5.84E-00	0.	0.	0.	3.31E-11	3.71E-14	2.32E-16	6.97E-11	6.17E-00
10 9.80 0.	0.	4.91E-00	0.	0.	0.	3.31E-11	3.02E-14	2.10E-16	6.98E-11	5.24E-00
11 9.70 0.	0.	3.97E-00	0.	0.	0.	3.32E-11	3.04E-14	2.10E-16	6.99E-11	4.81E-00
12 9.60 0.	0.	3.92E-00	0.	0.	0.	3.32E-11	4.04E-14	2.34E-16	7.00E-11	4.20E-00
13 9.50 0.	1.36E-11	2.98E-00	0.	0.	0.	3.33E-11	4.29E-14	2.34E-16	7.01E-11	3.22E-00
14 9.40 0.	1.55E-11	2.44E-00	0.	0.	0.	3.34E-11	4.33E-14	2.34E-16	7.01E-11	2.62E-00
15 9.30 0.	1.72E-11	2.42E-00	0.	0.	0.	3.35E-11	4.47E-14	2.34E-16	7.02E-11	2.60E-00
16 9.20 0.	1.80E-11	1.64E-00	0.	0.	0.	3.37E-11	4.42E-14	2.34E-16	7.03E-11	1.83E-00
17 9.10 0.	2.20E-11	1.80E-00	0.	0.	0.	3.39E-11	4.70E-14	2.34E-16	7.04E-11	1.80E-00
18 9.00 0.	2.74E-11	1.54E-00	0.	0.	0.	3.39E-11	4.94E-14	2.34E-16	7.05E-11	1.33E-00
19 8.90 0.	3.19E-11	1.10E-00	0.	0.	0.	3.40E-11	5.11E-14	2.34E-16	7.06E-11	1.30E-00
20 8.80 0.	3.32E-11	1.03E-00	0.	0.	0.	3.41E-11	5.20E-14	2.34E-16	7.07E-11	1.23E-00
21 8.70 0.	3.19E-11	7.54E-10	0.	0.	0.	3.43E-11	5.47E-14	2.34E-16	7.08E-11	9.51E-10
22 8.60 0.	3.04E-11	7.50E-10	0.	0.	0.	3.44E-11	5.64E-14	2.34E-16	7.09E-11	9.52E-10
23 8.50 0.	2.94E-11	5.92E-10	0.	0.	0.	3.45E-11	5.87E-14	2.34E-16	7.10E-11	7.54E-10
24 8.40 0.	2.69E-11	5.33E-10	0.	0.	0.	3.47E-11	6.09E-14	2.34E-16	7.11E-11	7.20E-10
25 8.30 0.	2.77E-11	3.96E-10	0.	0.	0.	3.49E-11	6.30E-14	2.34E-16	7.12E-11	5.79E-10
26 8.20 0.	2.67E-11	3.71E-10	0.	0.	0.	3.51E-11	6.59E-14	2.34E-16	7.13E-11	5.63E-10
27 8.10 0.	2.57E-11	2.76E-10	0.	0.	0.	3.52E-11	6.70E-14	2.34E-16	7.14E-11	4.60E-10
28 8.00 0.	2.48E-11	2.61E-10	0.	0.	0.	3.54E-11	7.04E-14	2.34E-16	7.15E-11	4.52E-10
29 7.90 0.	2.37E-11	1.98E-10	0.	0.	0.	3.56E-11	7.31E-14	2.34E-16	7.16E-11	3.87E-10
30 7.80 0.	2.25E-11	1.89E-10	0.	0.	0.	3.58E-11	7.30E-14	2.34E-16	7.16E-11	3.80E-10
31 7.70 0.	2.13E-11	1.48E-10	0.	0.	0.	3.60E-11	7.80E-14	2.34E-16	7.17E-11	3.36E-10
32 7.60 0.	2.00E-11	1.20E-10	0.	0.	0.	3.61E-11	8.22E-14	2.34E-16	7.18E-11	3.16E-10
33 7.50 0.	1.86E-11	1.03E-10	0.	0.	0.	3.63E-11	8.55E-14	2.34E-16	7.19E-11	2.93E-10
34 7.40 0.	1.75E-11	8.08E-11	0.	0.	0.	3.65E-11	8.91E-14	2.34E-16	7.20E-11	2.74E-10
35 7.30 0.	1.66E-11	7.46E-11	0.	0.	0.	3.67E-11	9.20E-14	2.34E-16	7.21E-11	2.62E-10
36 7.20 0.	1.54E-11	5.76E-11	0.	0.	0.	3.69E-11	9.47E-14	2.34E-16	7.22E-11	2.52E-10
37 7.10 0.	1.41E-11	4.99E-11	0.	0.	0.	3.72E-11	1.01E-13	2.34E-16	7.23E-11	2.49E-10
38 7.00 2.48E-14	0.	4.08E-11	0.	0.	0.	3.75E-11	1.05E-13	2.34E-16	7.24E-11	2.45E-10
39 6.90 4.50E-14	0.	3.38E-11	0.	0.	0.	3.78E-11	1.10E-13	2.34E-16	7.25E-11	2.41E-10
40 6.80 3.62E-14	0.	2.87E-11	0.	0.	0.	3.81E-11	1.15E-13	2.34E-16	7.26E-11	2.38E-10
41 6.70 2.43E-14	0.	2.29E-11	0.	0.	0.	3.84E-11	1.20E-13	2.34E-16	7.27E-11	2.34E-10
42 6.60 1.39E-14	0.	1.72E-11	0.	0.	0.	3.87E-11	1.26E-13	2.34E-16	7.28E-11	2.30E-10
43 6.50 7.37E-15	0.	1.20E-11	0.	0.	0.	3.90E-11	1.31E-13	2.34E-16	7.29E-11	2.27E-10
44 6.40 1.05E-14	0.	6.94E-12	0.	0.	0.	3.94E-11	1.36E-13	2.34E-16	7.30E-11	2.24E-10
45 6.30 2.13E-14	0.	3.56E-12	0.	0.	0.	3.97E-11	1.41E-13	2.34E-16	7.31E-11	2.21E-10
46 6.20 6.02E-14	0.	1.50E-12	0.	0.	0.	4.00E-11	1.47E-13	2.34E-16	7.32E-11	2.19E-10
47 6.10 2.20E-13	0.	5.80E-13	0.	0.	0.	4.03E-11	1.52E-13	2.34E-16	7.33E-11	2.16E-10
48 6.00 5.54E-13	0.	1.30E-13	0.	0.	0.	4.06E-11	1.57E-13	2.34E-16	7.34E-11	2.13E-10
49 5.90 6.44E-13	0.	9.13E-14	0.	0.	0.	4.09E-11	1.62E-13	2.34E-16	7.35E-11	2.10E-10
50 5.80 1.20E-12	0.	2.80E-14	0.	0.	0.	4.02E-11	1.67E-13	2.34E-16	7.36E-11	2.07E-10
51 5.70 1.30E-12	0.	1.90E-11	5.43E-11	0.	0.	3.75E-11	1.95E-13	5.43E-11	1.07E-10	2.68E-12

ASSUMPTION COEFFICIENTS OF HEATED AIR (INVERSE CH.)

TEMPERATURE (DEGREES M) 7000. DENSITY (GM/CC) 1.2932-00 (10.00-00 NORMAL)

PHOTON OR S-R ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	BETA	NO GAMMA	NO VIB-ROT	NO 2	PHOTO-DET (IONS)	D. FREE-FREE	M P.E.	TOTAL AIR P.E.
52	5.50	1.34E-12	0.	1.33E-11	1.07E-10	0.	0.	3.49E-11	2.06E-13	5.45E-11	1.03E-10
53	5.50	1.34E-12	0.	1.33E-11	1.07E-10	0.	0.	3.51E-11	2.17E-13	5.48E-11	1.03E-10
54	5.40	1.39E-12	0.	1.33E-11	1.04E-10	0.	0.	3.53E-11	2.30E-13	5.53E-11	1.07E-10
55	5.30	1.43E-12	0.	1.37E-11	9.78E-11	0.	0.	3.55E-11	2.43E-13	5.57E-11	1.09E-10
56	5.20	1.47E-12	0.	1.39E-11	9.44E-11	0.	0.	3.57E-11	2.57E-13	5.62E-11	1.12E-10
57	5.10	1.51E-12	0.	1.40E-11	9.11E-11	0.	0.	3.60E-11	2.73E-13	5.75E-11	1.15E-10
58	5.00	1.55E-12	0.	1.40E-11	8.78E-11	0.	0.	3.62E-11	2.90E-13	5.88E-11	1.18E-10
59	4.90	1.59E-12	0.	1.41E-11	8.45E-11	0.	0.	3.65E-11	3.08E-13	6.04E-11	1.20E-10
60	4.80	1.63E-12	0.	1.41E-11	8.12E-11	0.	0.	3.68E-11	3.27E-13	6.18E-11	1.23E-10
61	4.70	1.67E-12	0.	1.42E-11	7.79E-11	0.	0.	3.72E-11	3.48E-13	6.38E-11	1.26E-10
62	4.60	1.71E-12	0.	1.42E-11	7.46E-11	0.	0.	3.75E-11	3.70E-13	6.60E-11	1.29E-10
63	4.50	1.75E-12	0.	1.42E-11	7.13E-11	0.	0.	3.78E-11	3.93E-13	6.85E-11	1.32E-10
64	4.40	1.79E-12	0.	1.42E-11	6.80E-11	0.	0.	3.82E-11	4.18E-13	7.15E-11	1.35E-10
65	4.30	1.83E-12	0.	1.42E-11	6.47E-11	0.	0.	3.85E-11	4.45E-13	7.51E-11	1.39E-10
66	4.20	1.87E-12	0.	1.42E-11	6.14E-11	0.	0.	3.88E-11	4.74E-13	7.92E-11	1.44E-10
67	4.10	1.91E-12	0.	1.42E-11	5.81E-11	0.	0.	3.92E-11	5.05E-13	8.38E-11	1.49E-10
68	4.00	1.95E-12	0.	1.42E-11	5.48E-11	0.	0.	3.95E-11	5.39E-13	8.90E-11	1.55E-10
69	3.90	1.99E-12	0.	1.42E-11	5.15E-11	0.	0.	3.98E-11	5.75E-13	9.48E-11	1.62E-10
70	3.80	2.03E-12	0.	1.42E-11	4.82E-11	0.	0.	4.02E-11	6.14E-13	1.01E-10	1.70E-10
71	3.70	2.07E-12	0.	1.42E-11	4.49E-11	0.	0.	4.05E-11	6.56E-13	1.09E-10	1.79E-10
72	3.60	2.11E-12	0.	1.42E-11	4.16E-11	0.	0.	4.08E-11	7.01E-13	1.18E-10	1.89E-10
73	3.50	2.15E-12	0.	1.42E-11	3.83E-11	0.	0.	4.12E-11	7.49E-13	1.28E-10	2.00E-10
74	3.40	2.19E-12	0.	1.42E-11	3.50E-11	0.	0.	4.15E-11	8.00E-13	1.39E-10	2.12E-10
75	3.30	2.23E-12	0.	1.42E-11	3.17E-11	0.	0.	4.18E-11	8.54E-13	1.51E-10	2.26E-10
76	3.20	2.27E-12	0.	1.42E-11	2.84E-11	0.	0.	4.22E-11	9.11E-13	1.65E-10	2.42E-10
77	3.10	2.31E-12	0.	1.42E-11	2.51E-11	0.	0.	4.25E-11	9.72E-13	1.81E-10	2.60E-10
78	3.00	2.35E-12	0.	1.42E-11	2.18E-11	0.	0.	4.28E-11	1.03E-12	1.99E-10	2.80E-10
79	2.90	2.39E-12	0.	1.42E-11	1.85E-11	0.	0.	4.32E-11	1.15E-12	2.21E-10	3.03E-10
80	2.80	2.43E-12	0.	1.42E-11	1.52E-11	0.	0.	4.35E-11	1.28E-12	2.47E-10	3.30E-10
81	2.70	2.47E-12	0.	1.42E-11	1.19E-11	0.	0.	4.38E-11	1.42E-12	2.78E-10	3.63E-10
82	2.60	2.51E-12	0.	1.42E-11	8.6E-12	0.	0.	4.42E-11	1.58E-12	3.15E-10	4.04E-10
83	2.50	2.55E-12	0.	1.42E-11	5.2E-12	0.	0.	4.45E-11	1.75E-12	3.59E-10	4.55E-10
84	2.40	2.59E-12	0.	1.42E-11	1.8E-12	0.	0.	4.48E-11	1.94E-12	4.12E-10	5.18E-10
85	2.30	2.63E-12	0.	1.42E-11	0.0E-12	0.	0.	4.52E-11	2.15E-12	4.84E-10	5.96E-10
86	2.20	2.67E-12	0.	1.42E-11	0.0E-12	0.	0.	4.55E-11	2.39E-12	5.74E-10	6.92E-10
87	2.10	2.71E-12	0.	1.42E-11	0.0E-12	0.	0.	4.58E-11	2.66E-12	6.85E-10	8.11E-10
88	2.00	2.75E-12	0.	1.42E-11	0.0E-12	0.	0.	4.62E-11	2.97E-12	8.21E-10	9.58E-10
89	1.90	2.79E-12	0.	1.42E-11	0.0E-12	0.	0.	4.65E-11	3.32E-12	9.87E-10	1.138E-09
90	1.80	2.83E-12	0.	1.42E-11	0.0E-12	0.	0.	4.68E-11	3.71E-12	1.185E-09	1.365E-09
91	1.70	2.87E-12	0.	1.42E-11	0.0E-12	0.	0.	4.72E-11	4.14E-12	1.465E-09	1.645E-09
92	1.60	2.91E-12	0.	1.42E-11	0.0E-12	0.	0.	4.75E-11	4.61E-12	1.795E-09	2.005E-09
93	1.50	2.95E-12	0.	1.42E-11	0.0E-12	0.	0.	4.78E-11	5.13E-12	2.195E-09	2.475E-09
94	1.40	2.99E-12	0.	1.42E-11	0.0E-12	0.	0.	4.82E-11	5.70E-12	2.685E-09	3.085E-09
95	1.30	3.03E-12	0.	1.42E-11	0.0E-12	0.	0.	4.85E-11	6.33E-12	3.285E-09	3.865E-09
96	1.20	3.07E-12	0.	1.42E-11	0.0E-12	0.	0.	4.88E-11	7.02E-12	4.025E-09	4.845E-09
97	1.10	3.11E-12	0.	1.42E-11	0.0E-12	0.	0.	4.92E-11	7.77E-12	4.945E-09	6.065E-09
98	1.00	3.15E-12	0.	1.42E-11	0.0E-12	0.	0.	4.95E-11	8.59E-12	6.105E-09	7.565E-09
99	0.90	3.19E-12	0.	1.42E-11	0.0E-12	0.	0.	4.98E-11	9.48E-12	7.565E-09	9.385E-09
100	0.80	3.23E-12	0.	1.42E-11	0.0E-12	0.	0.	5.02E-11	1.045E-11	9.385E-09	1.168E-08
101	0.70	3.27E-12	0.	1.42E-11	0.0E-12	0.	0.	5.05E-11	1.158E-11	1.168E-08	1.458E-08
102	0.60	3.31E-12	0.	1.42E-11	0.0E-12	0.	0.	5.08E-11	1.288E-11	1.458E-08	1.828E-08

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E.V.	TEMPERATURE NO. 1	TEMPERATURE NO. 2	NO. OF FREE-ELECTRONS PER C.C.	DENSITY (GM/CC)	NO. OF PHOTO-ELECTRONS PER C.C.	NO. OF TOTAL AIR	ESR'S K		1.203E-09 (10.0E-07 NORMAL)			
							NO. OF BETA	NO. OF GAMMA	P.F.	P.F.		
1 10.70 0.	0.	1.07E-10	0.	0.	0.	0.	0.	4.76E-13	2.00E-15	2.17E-11	0.02E-12	1.90E-10
2 10.60 0.	0.	1.39E-10	0.	0.	0.	0.	0.	9.71E-13	2.69E-15	2.80E-11	0.42E-12	1.49E-10
3 10.50 0.	0.	1.20E-10	0.	0.	0.	0.	0.	9.72E-13	2.97E-15	2.96E-11	0.43E-12	1.57E-10
4 10.40 0.	0.	1.06E-10	0.	0.	0.	0.	0.	9.74E-13	3.09E-15	2.98E-11	0.44E-12	1.39E-10
5 10.30 0.	0.	0.92E-10	0.	0.	0.	0.	0.	9.75E-13	3.24E-15	2.99E-11	0.45E-12	1.19E-10
6 10.20 0.	0.	0.78E-10	0.	0.	0.	0.	0.	9.76E-13	3.41E-15	2.99E-11	0.45E-12	1.01E-10
7 10.10 0.	0.	7.19E-11	0.	0.	0.	0.	0.	9.77E-13	3.59E-15	2.99E-11	0.46E-12	8.37E-11
8 10.00 0.	0.	5.39E-11	0.	0.	0.	0.	0.	9.81E-13	3.78E-15	2.98E-11	0.46E-12	7.16E-11
9 9.90 0.	0.	4.51E-11	0.	0.	0.	0.	0.	9.83E-13	3.98E-15	2.98E-11	0.46E-12	6.34E-11
10 9.80 0.	0.	3.68E-11	0.	0.	0.	0.	0.	9.84E-13	4.19E-15	2.98E-11	0.46E-12	5.52E-11
11 9.75 0.	0.	2.86E-11	0.	0.	0.	0.	0.	9.86E-13	4.41E-15	2.98E-11	0.46E-12	4.70E-11
12 9.65 0.	0.	2.04E-11	0.	0.	0.	0.	0.	9.88E-13	4.64E-15	2.98E-11	0.46E-12	3.88E-11
13 9.50 0.	0.	1.27E-11	0.	0.	0.	0.	0.	9.90E-13	4.88E-15	2.98E-11	0.46E-12	3.06E-11
14 9.40 0.	0.	1.42E-11	0.	0.	0.	0.	0.	9.91E-13	4.44E-15	2.98E-11	0.46E-12	3.42E-11
15 9.30 0.	0.	1.59E-11	0.	0.	0.	0.	0.	9.92E-13	4.26E-15	2.98E-11	0.46E-12	3.60E-11
16 9.20 0.	0.	1.74E-11	0.	0.	0.	0.	0.	9.93E-13	4.22E-15	2.98E-11	0.46E-12	3.80E-11
17 9.10 0.	0.	2.11E-11	0.	0.	0.	0.	0.	1.00E-12	4.37E-15	2.98E-11	0.46E-12	4.00E-11
18 9.00 0.	0.	2.52E-11	0.	0.	0.	0.	0.	1.01E-12	4.52E-15	2.98E-11	0.46E-12	4.20E-11
19 8.90 0.	0.	2.94E-11	0.	0.	0.	0.	0.	1.01E-12	4.67E-15	2.98E-11	0.46E-12	4.40E-11
20 8.80 0.	0.	3.05E-11	0.	0.	0.	0.	0.	1.01E-12	4.82E-15	2.98E-11	0.46E-12	4.60E-11
21 8.70 0.	0.	2.94E-11	0.	0.	0.	0.	0.	1.02E-12	5.01E-15	2.98E-11	0.46E-12	4.80E-11
22 8.60 0.	0.	2.82E-11	0.	0.	0.	0.	0.	1.02E-12	5.21E-15	2.98E-11	0.46E-12	5.00E-11
23 8.50 0.	0.	2.71E-11	0.	0.	0.	0.	0.	1.02E-12	5.41E-15	2.98E-11	0.46E-12	5.20E-11
24 8.40 0.	0.	2.59E-11	0.	0.	0.	0.	0.	1.02E-12	5.61E-15	2.98E-11	0.46E-12	5.40E-11
25 8.30 0.	0.	2.46E-11	0.	0.	0.	0.	0.	1.02E-12	5.81E-15	2.98E-11	0.46E-12	5.60E-11
26 8.20 0.	0.	2.37E-11	0.	0.	0.	0.	0.	1.04E-12	6.01E-15	2.98E-11	0.46E-12	5.80E-11
27 8.10 0.	0.	2.26E-11	0.	0.	0.	0.	0.	1.04E-12	6.21E-15	2.98E-11	0.46E-12	6.00E-11
28 8.00 0.	0.	2.20E-11	0.	0.	0.	0.	0.	1.04E-12	6.41E-15	2.98E-11	0.46E-12	6.20E-11
29 7.90 0.	0.	2.16E-11	0.	0.	0.	0.	0.	1.04E-12	6.61E-15	2.98E-11	0.46E-12	6.40E-11
30 7.80 0.	0.	2.08E-11	0.	0.	0.	0.	0.	1.04E-12	6.81E-15	2.98E-11	0.46E-12	6.60E-11
31 7.70 0.	0.	1.96E-11	0.	0.	0.	0.	0.	1.04E-12	7.01E-15	2.98E-11	0.46E-12	6.80E-11
32 7.60 0.	0.	1.84E-11	0.	0.	0.	0.	0.	1.07E-12	7.21E-15	2.98E-11	0.46E-12	7.00E-11
33 7.50 0.	0.	1.72E-11	0.	0.	0.	0.	0.	1.07E-12	7.41E-15	2.98E-11	0.46E-12	7.20E-11
34 7.40 0.	0.	1.62E-11	0.	0.	0.	0.	0.	1.08E-12	7.61E-15	2.98E-11	0.46E-12	7.40E-11
35 7.30 0.	0.	1.53E-11	0.	0.	0.	0.	0.	1.08E-12	7.81E-15	2.98E-11	0.46E-12	7.60E-11
36 7.20 0.	0.	1.45E-11	0.	0.	0.	0.	0.	1.09E-12	8.01E-15	2.98E-11	0.46E-12	7.80E-11
37 7.10 0.	0.	1.36E-11	0.	0.	0.	0.	0.	1.10E-12	8.21E-15	2.98E-11	0.46E-12	8.00E-11
38 7.00 0.	0.	1.30E-11	0.	0.	0.	0.	0.	1.10E-12	8.41E-15	2.98E-11	0.46E-12	8.20E-11
39 6.90 0.	0.	1.27E-11	0.	0.	0.	0.	0.	1.11E-12	8.61E-15	2.98E-11	0.46E-12	8.40E-11
40 6.80 0.	0.	1.20E-11	0.	0.	0.	0.	0.	1.11E-12	8.81E-15	2.98E-11	0.46E-12	8.60E-11
41 6.70 0.	0.	1.14E-11	0.	0.	0.	0.	0.	1.12E-12	9.01E-15	2.98E-11	0.46E-12	8.80E-11
42 6.60 0.	0.	1.08E-11	0.	0.	0.	0.	0.	1.12E-12	9.21E-15	2.98E-11	0.46E-12	9.00E-11
43 6.50 0.	0.	1.02E-11	0.	0.	0.	0.	0.	1.13E-12	9.41E-15	2.98E-11	0.46E-12	9.20E-11
44 6.40 0.	0.	9.61E-12	0.	0.	0.	0.	0.	1.13E-12	9.61E-15	2.98E-11	0.46E-12	9.40E-11
45 6.30 0.	0.	9.01E-12	0.	0.	0.	0.	0.	1.13E-12	9.81E-15	2.98E-11	0.46E-12	9.60E-11
46 6.20 0.	0.	8.41E-12	0.	0.	0.	0.	0.	1.13E-12	1.00E-14	2.98E-11	0.46E-12	9.80E-11
47 6.10 0.	0.	7.81E-12	0.	0.	0.	0.	0.	1.14E-12	1.02E-14	2.98E-11	0.46E-12	1.00E-10
48 6.00 0.	0.	7.21E-12	0.	0.	0.	0.	0.	1.14E-12	1.04E-14	2.98E-11	0.46E-12	1.02E-10
49 5.90 0.	0.	6.61E-12	0.	0.	0.	0.	0.	1.15E-12	1.06E-14	2.98E-11	0.46E-12	1.04E-10
50 5.80 0.	0.	6.01E-12	0.	0.	0.	0.	0.	1.15E-12	1.08E-14	2.98E-11	0.46E-12	1.06E-10
51 5.70 0.	0.	5.41E-12	0.	0.	0.	0.	0.	1.15E-12	1.10E-14	2.98E-11	0.46E-12	1.08E-10

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 7000. DENSITY (GM/CC) 1.293E-09 (16.8E-97 NORMAL)

PHOTON ENERGY BANDS	Q2 3-R	M2	1ST POS.	2ND POS.	M2	NO NEG.	BETA	NO GANNA	VIB-ROT	NO 2	OF FINE-FREE P.E.	R P.E.	O P.E.	TOTAL AIR
52	5.68	1.43E-14	0.	0.	1.27E-13	9.43E-13	0.	1.04E-22	1.97E-14	5.23E-12	0.90E-12	1.72E-11		
53	5.50	1.43E-14	0.	0.	1.54E-13	9.77E-13	0.	1.04E-22	2.89E-14	5.26E-12	1.01E-11	1.75E-11		
54	5.40	1.42E-14	0.	0.	1.22E-13	9.20E-13	0.	1.04E-22	2.29E-14	5.36E-12	1.03E-11	1.73E-11		
55	5.30	1.31E-14	0.	0.	1.29E-13	9.81E-13	0.	1.04E-22	2.32E-14	5.34E-12	1.05E-11	1.74E-11		
56	5.20	8.62E-15	0.	0.	1.27E-13	4.29E-13	0.	1.04E-22	2.46E-14	5.79E-12	1.07E-11	1.76E-11		
57	5.10	2.77E-15	0.	0.	1.19E-13	6.08E-13	0.	3.67E-23	1.97E-14	5.32E-12	1.06E-11	1.80E-11		
58	5.00	4.50E-15	0.	0.	10.50E-14	5.10E-13	0.	8.67E-23	1.09E-14	2.77E-12	1.15E-11	1.87E-11		
59	4.90	4.50E-15	0.	0.	1.04E-13	4.56E-13	0.	8.67E-23	1.19E-14	5.74E-12	1.15E-11	1.92E-11		
60	4.80	4.63E-15	0.	0.	1.00E-13	4.21E-13	0.	8.67E-23	1.19E-14	5.92E-12	1.16E-11	1.94E-11		
61	4.70	4.79E-15	0.	0.	9.95E-14	5.19E-13	0.	8.67E-23	1.19E-14	6.07E-12	1.16E-11	1.97E-11		
62	4.60	5.42E-15	0.	0.	9.57E-14	5.11E-13	0.	8.67E-23	1.15E-14	6.20E-12	1.24E-11	2.02E-11		
63	4.50	5.14E-15	0.	0.	7.95E-14	2.61E-13	0.	8.67E-23	1.12E-14	6.30E-12	1.27E-11	2.05E-11		
64	4.40	4.92E-15	0.	0.	7.44E-14	1.60E-13	0.	8.67E-23	1.12E-14	6.47E-12	1.30E-11	2.10E-11		
65	4.30	4.19E-15	0.	0.	6.66E-14	8.00E-14	0.	8.67E-23	1.12E-14	6.54E-12	1.30E-11	2.10E-11		
66	4.20	3.61E-15	0.	0.	6.43E-14	7.03E-14	0.	8.67E-23	1.12E-14	6.60E-12	1.30E-11	2.10E-11		
67	4.10	3.13E-15	0.	0.	5.64E-14	1.73E-14	0.	8.67E-23	1.12E-14	6.83E-12	1.30E-11	2.10E-11		
68	4.00	2.63E-15	0.	0.	5.04E-14	1.29E-14	0.	8.67E-23	1.10E-14	7.04E-12	1.30E-11	2.10E-11		
69	3.90	2.00E-15	0.	0.	4.02E-14	6.19E-15	0.	8.67E-23	1.10E-14	7.44E-12	1.30E-11	2.10E-11		
70	3.80	2.09E-15	0.	0.	3.78E-14	4.18E-15	0.	8.67E-23	1.10E-14	7.82E-12	1.30E-11	2.10E-11		
71	3.70	1.59E-15	0.	0.	2.97E-13	3.15E-14	0.	8.67E-23	1.10E-14	8.35E-12	1.30E-11	2.10E-11		
72	3.60	1.33E-15	0.	0.	1.89E-13	1.94E-14	0.	8.67E-23	1.08E-14	9.00E-12	1.30E-11	2.10E-11		
73	3.50	1.12E-15	0.	0.	2.03E-13	8.89E-14	0.	8.67E-23	1.08E-14	9.79E-12	1.30E-11	2.10E-11		
74	3.40	9.04E-16	0.	0.	7.71E-14	3.43E-14	0.	8.67E-23	1.08E-14	1.08E-12	1.30E-11	2.10E-11		
75	3.30	6.23E-16	0.	0.	9.42E-14	2.77E-14	0.	8.67E-23	1.08E-14	1.20E-12	1.30E-11	2.10E-11		
76	3.20	5.23E-16	0.	0.	4.38E-14	1.03E-14	0.	8.67E-23	1.08E-14	1.34E-12	1.30E-11	2.10E-11		
77	3.10	4.51E-16	0.	0.	3.53E-14	5.43E-14	0.	8.67E-23	1.08E-14	1.51E-12	1.30E-11	2.10E-11		
78	3.00	3.58E-16	0.	0.	1.74E-14	2.86E-14	0.	8.67E-23	1.08E-14	1.70E-12	1.30E-11	2.10E-11		
79	2.90	2.64E-16	0.	0.	1.02E-14	2.36E-14	0.	8.67E-23	1.08E-14	1.93E-12	1.30E-11	2.10E-11		
80	2.80	2.52E-16	0.	0.	4.53E-15	4.96E-15	0.	8.67E-23	1.08E-14	2.21E-12	1.30E-11	2.10E-11		
81	2.70	1.39E-16	0.	0.	6.07E-15	1.41E-14	0.	8.67E-23	1.08E-14	2.50E-12	1.30E-11	2.10E-11		
82	2.60	5.01E-17	0.	0.	1.08E-15	1.41E-14	0.	8.67E-23	1.08E-14	2.80E-12	1.30E-11	2.10E-11		
83	2.50	3.16E-18	0.	0.	1.54E-16	7.66E-15	0.	8.67E-23	1.08E-14	3.10E-12	1.30E-11	2.10E-11		
84	2.40	0.	0.	0.	1.15E-14	0.	0.	8.67E-23	1.08E-14	3.40E-12	1.30E-11	2.10E-11		
85	2.30	0.	0.	0.	7.06E-14	0.	0.	8.67E-23	1.08E-14	3.70E-12	1.30E-11	2.10E-11		
86	2.20	0.	0.	0.	1.26E-13	0.	0.	8.67E-23	1.08E-14	4.00E-12	1.30E-11	2.10E-11		
87	2.10	0.	0.	0.	2.34E-13	0.	0.	8.67E-23	1.08E-14	4.30E-12	1.30E-11	2.10E-11		
88	2.00	0.	0.	0.	3.22E-13	0.	0.	8.67E-23	1.08E-14	4.60E-12	1.30E-11	2.10E-11		
89	1.90	0.	0.	0.	8.70E-13	0.	0.	8.67E-23	1.08E-14	4.90E-12	1.30E-11	2.10E-11		
90	1.80	0.	0.	0.	7.36E-13	0.	0.	8.67E-23	1.08E-14	5.20E-12	1.30E-11	2.10E-11		
91	1.70	0.	0.	0.	6.75E-13	0.	0.	8.67E-23	1.08E-14	5.50E-12	1.30E-11	2.10E-11		
92	1.60	0.	0.	0.	6.03E-13	0.	0.	8.67E-23	1.08E-14	5.80E-12	1.30E-11	2.10E-11		
93	1.50	0.	0.	0.	7.50E-13	0.	0.	8.67E-23	1.08E-14	6.10E-12	1.30E-11	2.10E-11		
94	1.40	0.	0.	0.	8.68E-13	0.	0.	8.67E-23	1.08E-14	6.40E-12	1.30E-11	2.10E-11		
95	1.30	0.	0.	0.	5.90E-13	0.	0.	8.67E-23	1.08E-14	6.70E-12	1.30E-11	2.10E-11		
96	1.20	0.	0.	0.	6.61E-13	0.	0.	8.67E-23	1.08E-14	7.00E-12	1.30E-11	2.10E-11		
97	1.10	0.	0.	0.	4.72E-13	0.	0.	8.67E-23	1.08E-14	7.30E-12	1.30E-11	2.10E-11		
98	1.00	0.	0.	0.	4.57E-13	0.	0.	8.67E-23	1.08E-14	7.60E-12	1.30E-11	2.10E-11		
99	0.90	0.	0.	0.	3.51E-13	0.	0.	8.67E-23	1.08E-14	7.90E-12	1.30E-11	2.10E-11		
100	0.80	0.	0.	0.	1.59E-13	0.	0.	8.67E-23	1.08E-14	8.20E-12	1.30E-11	2.10E-11		
101	0.70	0.	0.	0.	4.47E-14	0.	0.	8.67E-23	1.08E-14	8.50E-12	1.30E-11	2.10E-11		
102	0.60	0.	0.	0.	1.21E-15	0.	0.	8.67E-23	1.08E-14	8.80E-12	1.30E-11	2.10E-11		

ABSORPTION COEFFICIENTS OF HEATED AIR (LIMBOS CH.)

TEMPERATURE (DEGREES K) 0000. DENSITY (GM/CC) 1.2000-02 (1.00 GM NORMAL)

PHOTON ENERGY BANDS E.V.	02 S-R CONT.	N2 B-W NO. 1	TEMPERATURE (DEGREES K) 0000.	DENSITY (GM/CC) 1.2000-02 (1.00 GM NORMAL)	NO BETA	NO GAMMA	NO PHOTO-SET (1000)	0-1 P.M.E. (1000)	N P.E.	0 TOTAL AIR P.E.	
											02 S-R BANDS
1 10.70 0.	0.	2.77E 01	0.	0.	0.	0.	2.04E-01	3.23E-04	2.79E 00	4.11E-04	1.07E 01
2 10.60 0.	0.	2.38E 01	0.	0.	0.	0.	2.04E-01	3.23E-04	1.97E-04	4.19E-04	2.20E 01
3 10.50 0.	0.	2.21E 01	0.	0.	0.	0.	2.04E-01	3.23E-04	1.94E-04	4.20E-04	2.20E 01
4 10.40 0.	0.	1.93E 01	0.	0.	0.	0.	2.04E-01	3.23E-04	1.97E-04	4.20E-04	1.97E 01
5 10.30 0.	0.	1.54E 01	0.	0.	0.	0.	2.07E-01	3.04E-04	1.97E-04	4.20E-04	1.54E 01
6 10.20 0.	0.	1.50E 01	0.	0.	0.	0.	2.07E-01	3.04E-04	1.97E-04	4.20E-04	1.50E 01
7 10.10 0.	0.	1.33E 01	0.	0.	0.	0.	2.07E-01	3.04E-04	1.97E-04	4.20E-04	1.33E 01
8 10.00 0.	0.	1.03E 01	0.	0.	0.	0.	2.07E-01	3.04E-04	1.97E-04	4.21E-04	1.03E 01
9 9.90 0.	0.	1.04E 01	0.	0.	0.	0.	2.00E-01	3.07E-04	2.00E-04	4.21E-04	1.04E 01
10 9.80 0.	0.	8.92E 00	0.	0.	0.	0.	2.09E-01	2.89E-04	2.00E-04	4.21E-04	9.13E 00
11 9.70 0.	0.	6.80E 00	0.	0.	0.	0.	2.09E-01	2.89E-04	2.00E-04	4.21E-04	7.09E 00
12 9.60 0.	0.	7.34E 00	0.	0.	0.	0.	2.09E-01	2.89E-04	2.00E-04	4.21E-04	7.37E 00
13 9.50 0.	2.63E 00	5.57E 00	0.	0.	0.	0.	2.09E-01	2.89E-04	2.00E-04	4.22E-04	6.60E 00
14 9.40 0.	3.2E 00	4.93E 00	0.	0.	0.	0.	2.10E-01	2.79E-04	2.00E-04	4.22E-04	6.37E 00
15 9.30 0.	3.75E 00	4.93E 00	0.	0.	0.	0.	2.11E-01	2.79E-04	2.00E-04	4.22E-04	6.37E 00
16 9.20 0.	4.18E 00	3.42E 00	0.	0.	0.	0.	2.12E-01	2.79E-04	2.00E-04	4.23E-04	7.01E 00
17 9.10 0.	5.05E 00	3.51E 00	0.	0.	0.	0.	2.12E-01	2.79E-04	2.00E-04	4.23E-04	6.77E 00
18 9.00 0.	6.06E 00	2.67E 00	0.	0.	0.	0.	2.13E-01	2.81E-04	2.00E-04	4.23E-04	6.68E 00
19 8.90 0.	6.95E 00	2.42E 00	0.	0.	0.	0.	2.14E-01	2.81E-04	2.00E-04	4.23E-04	6.59E 00
20 8.80 0.	7.23E 00	2.28E 00	0.	0.	0.	0.	2.15E-01	2.81E-04	2.00E-04	4.23E-04	6.59E 00
21 8.70 0.	6.97E 00	1.74E 00	0.	0.	0.	0.	2.15E-01	2.81E-04	2.00E-04	4.24E-04	6.92E 00
22 8.60 0.	6.71E 00	1.75E 00	0.	0.	0.	0.	2.17E-01	2.81E-04	2.00E-04	4.24E-04	6.68E 00
23 8.50 0.	6.51E 00	1.39E 00	0.	0.	0.	0.	2.18E-01	2.81E-04	2.00E-04	4.24E-04	6.97E 00
24 8.40 0.	6.36E 00	9.69E-01	0.	0.	0.	0.	2.19E-01	2.81E-04	2.00E-04	4.24E-04	7.49E 00
25 8.30 0.	6.21E 00	9.69E-01	0.	0.	0.	0.	2.20E-01	2.81E-04	2.00E-04	4.24E-04	7.39E 00
26 8.20 0.	6.02E 00	9.34E-01	0.	0.	0.	0.	2.22E-01	2.81E-04	2.00E-04	4.24E-04	6.75E 00
27 8.10 0.	5.81E 00	7.19E-01	0.	0.	0.	0.	2.23E-01	2.81E-04	2.00E-04	4.24E-04	6.75E 00
28 8.00 0.	5.60E 00	6.90E-01	0.	0.	0.	0.	2.24E-01	2.81E-04	2.00E-04	4.24E-04	6.51E 00
29 7.90 0.	5.38E 00	5.31E-01	0.	0.	0.	0.	2.24E-01	2.81E-04	2.00E-04	4.24E-04	6.11E 00
30 7.80 0.	5.11E 00	5.21E-01	0.	0.	0.	0.	2.25E-01	2.81E-04	2.00E-04	4.24E-04	5.86E 00
31 7.70 0.	4.87E 00	4.12E-01	0.	0.	0.	0.	2.26E-01	2.81E-04	2.00E-04	4.24E-04	5.51E 00
32 7.60 0.	4.63E 00	3.63E-01	0.	0.	0.	0.	2.27E-01	2.81E-04	2.00E-04	4.24E-04	5.22E 00
33 7.50 0.	4.39E 00	3.04E-01	0.	0.	0.	0.	2.28E-01	2.81E-04	2.00E-04	4.24E-04	4.92E 00
34 7.40 0.	4.1E 00	2.54E-01	0.	0.	0.	0.	2.30E-01	2.81E-04	2.00E-04	4.24E-04	4.63E 00
35 7.30 0.	3.88E 00	2.21E-01	0.	0.	0.	0.	2.31E-01	2.81E-04	2.00E-04	4.24E-04	4.38E 00
36 7.20 0.	3.64E 00	1.82E-01	0.	0.	0.	0.	2.32E-01	2.81E-04	2.00E-04	4.24E-04	4.15E 00
37 7.10 0.	3.39E 00	1.62E-01	0.	0.	0.	0.	2.34E-01	2.81E-04	2.00E-04	4.24E-04	4.08E 00
38 7.00 0.	3.15E 00	1.39E-01	0.	0.	0.	0.	2.36E-01	2.81E-04	2.00E-04	4.24E-04	3.11E 00
39 6.90 0.	2.91E 00	1.14E-01	0.	0.	0.	0.	2.36E-01	2.81E-04	2.00E-04	4.24E-04	2.87E-01
40 6.80 0.	2.69E 00	9.98E-02	0.	0.	0.	0.	2.40E-01	2.81E-04	2.00E-04	4.24E-04	1.74E 00
41 6.70 0.	2.47E 00	7.95E-02	0.	0.	0.	0.	2.40E-01	2.81E-04	2.00E-04	4.24E-04	1.74E 00
42 6.60 0.	2.24E 00	6.48E-02	0.	0.	0.	0.	2.42E-01	2.81E-04	2.00E-04	4.24E-04	2.33E 00
43 6.50 0.	2.02E 00	4.48E-02	0.	0.	0.	0.	2.44E-01	2.81E-04	2.00E-04	4.24E-04	1.32E 00
44 6.40 0.	1.80E 00	2.59E-02	0.	0.	0.	0.	2.46E-01	2.81E-04	2.00E-04	4.24E-04	2.26E 00
45 6.30 0.	1.58E 00	1.60E-02	1.60E-02	2.64E 00	0.	0.	2.47E-01	2.81E-04	2.00E-04	4.24E-04	2.94E 00
46 6.20 0.	1.36E 00	1.15E 00	0.	0.	0.	0.	2.49E-01	2.81E-04	2.00E-04	4.24E-04	1.48E 00
47 6.10 0.	1.23E-02	0.63E-02	1.15E 00	0.	0.	0.	2.51E-01	2.81E-04	2.00E-04	4.24E-04	2.19E 00
48 6.00 0.	1.09E-01	2.30E-01	3.20E 00	0.	0.	0.	2.53E-01	2.81E-04	2.00E-04	4.24E-04	3.74E 00
49 5.90 0.	1.85E-01	1.85E-01	1.07E 00	0.	0.	0.	2.55E-01	2.81E-04	2.00E-04	4.24E-04	1.58E 00
50 5.80 0.	2.89E-01	2.58E-01	1.15E 00	0.	0.	0.	2.55E-01	2.81E-04	2.00E-04	4.24E-04	1.84E 00
51 5.70 0.	3.02E-01	3.40E-01	1.07E 00	0.	0.	0.	2.51E-01	2.81E-04	2.00E-04	4.24E-04	1.93E 00
							2.36E-01	3.49E-05	4.90E-05	5.87E-04	1.96E 00

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	TEMPERATURE (DEGREES C)		NO. 1ST POS.	NO. 2ND POS.	M2	M2+ 1ST NEG.	NO. 2ND NEG.	NO. GAMMA	NO. VIB-RDT	NO. 2	O- PHOTO-DET (IONS)	FREE-ELECTRONS	M P.E.	D P.E.	TOTAL I/R	
	8000.	DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)														
52	5.60	3.64E-01	0	0	0	2.53E-01	1.05E 00 0	0	0	0	2.19E-01	3.08E-05	5.00E-05	5.00E-04	2.67E 00	
53	5.50	3.78E-01	0	0	0	3.14E-01	1.05E 00 0	0	0	0	2.21E-01	3.08E-05	5.05E-05	6.08E-04	2.75E 00	
54	5.40	3.77E-01	0	0	0	2.57E-01	1.04E 00 0	0	0	0	2.22E-01	4.10E-05	5.10E-05	6.10E-04	2.82E 00	
55	5.30	3.54E-01	0	0	0	2.65E-01	1.75E 00 0	0	0	0	2.23E-01	4.24E-05	5.16E-05	6.31E-04	2.90E 00	
56	5.20	2.40E-01	0	0	0	2.76E-01	9.12E-01 0	0	0	0	2.25E-01	4.90E-05	5.22E-05	6.47E-04	3.00E 00	
57	5.10	2.38E-01	0	0	0	2.58E-01	1.27E 00 0	0	0	0	2.45E-04	4.07E-05	5.35E-05	6.53E-04	3.08E 00	
58	5.00	1.38E-01	0	0	0	2.21E-01	1.00E 00 0	0	0	0	7.45E-04	2.28E-01	5.17E-05	5.49E-05	6.78E-04	3.16E 00
59	4.90	1.31E-01	0	0	0	2.33E-01	1.02E 00 0	0	0	0	7.45E-04	2.30E-01	5.09E-05	5.03E-05	6.44E-04	3.22E 00
60	4.80	1.32E-01	0	0	0	2.43E-01	9.34E-01 0	0	0	0	7.45E-04	2.32E-01	5.04E-05	5.76E-05	7.10E-04	3.28E 00
61	4.70	1.30E-01	0	0	0	2.25E-01	7.49E-01 0	0	0	0	7.45E-04	2.34E-01	6.22E-05	5.00E-05	7.27E-04	3.34E 00
62	4.60	1.30E-01	0	0	0	2.21E-01	7.14E-01 0	0	0	0	7.45E-04	2.36E-01	6.04E-05	6.04E-05	7.45E-04	3.40E 00
63	4.50	1.35E-01	0	0	0	1.86E-01	4.84E-01 0	0	0	0	7.45E-04	2.38E-01	7.89E-05	6.25E-05	7.63E-04	3.46E 00
64	4.40	1.32E-01	0	0	0	1.78E-01	3.71E-01 0	0	0	0	7.45E-04	2.40E-01	7.09E-05	6.44E-05	7.80E-04	3.52E 00
65	4.30	1.32E-01	0	0	0	1.57E-01	1.97E-01 0	0	0	0	7.45E-04	2.42E-01	6.14E-05	6.03E-05	7.98E-04	3.58E 00
66	4.20	1.36E-01	0	0	0	1.60E-01	1.69E-01 0	0	0	0	7.45E-04	2.44E-01	6.01E-05	6.03E-05	8.16E-04	3.64E 00
67	4.10	1.02E-01	0	0	0	1.43E-01	4.14E-02 0	0	0	0	7.45E-04	2.46E-01	6.39E-05	7.02E-05	8.33E-04	3.70E 00
68	4.00	0.74E-02	0	0	0	1.30E-01	3.11E-02 0	0	0	0	7.45E-04	2.48E-01	1.01E-04	7.22E-05	8.50E-04	3.76E 00
69	3.90	0.79E-02	0	0	0	7.89E-02	1.64E-04 0	0	0	0	7.45E-04	2.45E-01	1.09E-04	5.21E-05	8.68E-04	3.82E 00
70	3.80	1.16E-02	0	0	0	9.10E-02	1.17E-01 0	0	0	0	7.45E-04	2.44E-01	1.10E-04	5.33E-05	8.85E-04	3.88E 00
71	3.70	5.85E-02	0	0	0	1.35E-01	2.08E-04 0	0	0	0	7.45E-04	2.42E-01	1.20E-04	4.12E-05	9.02E-04	3.94E 00
72	3.60	4.77E-02	0	0	0	5.80E-02	1.81E-03 0	0	0	0	7.45E-04	2.29E-01	1.39E-04	4.44E-05	1.13E-04	4.23E-01
73	3.50	4.32E-02	0	0	0	1.81E-01	6.97E-03 0	0	0	0	7.45E-04	2.66E-01	1.51E-04	4.99E-05	1.27E-04	4.40E-01
74	3.40	3.25E-02	0	0	0	4.32E-02	3.61E-04 0	0	0	0	7.45E-04	2.19E-01	1.65E-04	4.33E-05	1.33E-04	4.64E-01
75	3.30	2.00E-02	0	0	0	5.00E-02	2.47E-03 0	0	0	0	7.45E-04	1.19E-01	1.61E-04	5.06E-05	1.59E-04	4.95E-01
76	3.20	2.00E-02	0	0	0	2.54E-02	4.69E-02 0	0	0	0	7.45E-04	1.19E-01	1.70E-04	5.08E-05	1.75E-04	5.21E-01
77	3.10	1.91E-02	0	0	0	1.99E-02	5.45E-04 0	0	0	0	7.45E-04	1.19E-01	2.10E-04	6.15E-05	1.91E-04	5.49E-01
78	3.00	1.40E-02	0	0	0	1.04E-02	2.51E-03 0	0	0	0	7.45E-04	1.20E-01	2.45E-04	6.70E-05	2.08E-04	5.78E-01
79	2.95	1.25E-02	0	0	0	6.15E-03	1.07E-03 0	0	0	0	7.45E-04	1.20E-01	2.67E-04	7.25E-05	2.26E-04	6.06E-01
80	2.80	1.09E-02	0	0	0	2.81E-03	5.05E-04 0	0	0	0	7.45E-04	1.20E-01	2.90E-04	7.44E-05	2.41E-04	6.34E-01
81	2.70	0.84E-03	0	0	0	1.20E-03	1.24E-03 0	0	0	0	7.45E-04	1.20E-01	3.31E-04	8.40E-05	2.59E-04	6.62E-01
82	2.60	2.36E-03	0	0	0	6.50E-04	2.09E-03 0	0	0	0	7.45E-04	1.20E-01	3.71E-04	9.12E-05	2.78E-04	6.90E-01
83	2.50	1.33E-04	0	0	0	9.00E-05	7.57E-05 0	0	0	0	7.45E-04	1.20E-01	4.17E-04	1.01E-04	3.01E-04	7.18E-01
84	2.40	0	0	0	0	6.03E-03	0	0	0	0	7.45E-04	1.20E-01	4.72E-04	1.15E-04	3.27E-04	7.46E-01
85	2.30	0	0	0	0	3.20E-02	0	0	0	0	7.45E-04	1.19E-01	5.30E-04	1.32E-04	3.54E-04	7.74E-01
86	2.20	0	0	0	0	6.24E-02	0	0	0	0	7.45E-04	1.18E-01	6.14E-04	1.52E-04	3.82E-04	8.02E-01
87	2.10	0	0	0	0	1.81E-01	0	0	0	0	7.45E-04	1.18E-01	7.07E-04	1.74E-04	4.10E-04	8.30E-01
88	2.00	0	0	0	0	1.31E-01	0	0	0	0	7.45E-04	1.18E-01	8.19E-04	2.00E-04	4.38E-04	8.58E-01
89	1.90	0	0	0	0	3.20E-01	0	0	0	0	7.45E-04	1.14E-01	9.57E-04	2.30E-04	4.66E-04	8.86E-01
90	1.80	0	0	0	0	2.89E-01	0	0	0	0	7.45E-04	1.10E-01	1.13E-03	2.60E-04	4.94E-04	9.14E-01
91	1.70	0	0	0	0	3.49E-01	0	0	0	0	7.45E-04	9.98E-02	1.34E-03	2.90E-04	5.22E-04	9.42E-01
92	1.60	0	0	0	0	2.40E-01	0	0	0	0	7.45E-04	9.30E-02	1.61E-03	3.20E-04	5.50E-04	9.70E-01
93	1.50	0	0	0	0	2.99E-01	0	0	0	0	7.45E-04	8.61E-02	1.95E-03	3.50E-04	5.78E-04	9.98E-01
94	1.40	0	0	0	0	3.31E-01	0	0	0	0	7.45E-04	8.00E-02	2.41E-03	3.80E-04	6.06E-04	1.026E-01
95	1.30	0	0	0	0	2.39E-01	0	0	0	0	7.45E-04	7.45E-02	3.02E-03	4.10E-04	6.34E-04	1.054E-01
96	1.20	0	0	0	0	2.50E-01	0	0	0	0	7.45E-04	7.00E-02	3.65E-03	4.40E-04	6.62E-04	1.082E-01
97	1.10	0	0	0	0	1.91E-01	0	0	0	0	7.45E-04	6.50E-02	4.38E-03	4.70E-04	6.90E-04	1.110E-01
98	1.00	0	0	0	0	1.81E-01	0	0	0	0	7.45E-04	6.00E-02	5.21E-03	5.00E-04	7.18E-04	1.138E-01
99	0.90	0	0	0	0	1.43E-01	0	0	0	0	7.45E-04	5.50E-02	6.14E-03	5.30E-04	7.46E-04	1.166E-01
100	0.80	0	0	0	0	6.56E-02	0	0	0	0	7.45E-04	5.00E-02	7.28E-03	5.60E-04	7.74E-04	1.194E-01
101	0.70	0	0	0	0	1.29E-02	0	0	0	0	7.45E-04	4.50E-02	8.56E-03	5.90E-04	8.02E-04	1.222E-01
102	0.60	0	0	0	0	7.21E-04	0	0	0	0	7.45E-04	4.00E-02	1.00E-02	6.20E-04	8.30E-04	1.250E-01



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E.V.	PHOTON NO. 2	TEMPERATURE (DEGREES K)	DENSITY (GM/CC)	NO. 1		NO. 2		NO. 3		TOTAL AIR	
				NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1	NO. 2
1 10.70 0.	0.	2.32E 00	0.	0.	5.00E-03	2.01E-07	5.01E-09	4.90E-09	4.90E-09	2.32E 00	0.
2 10.60 0.	0.	1.93E 00	0.	0.	5.00E-03	2.07E-07	5.04E-09	4.90E-09	4.90E-09	1.93E 00	0.
3 10.50 0.	0.	1.62E 00	0.	0.	5.01E-03	2.13E-07	5.07E-09	4.90E-09	4.90E-09	1.62E 00	0.
4 10.40 0.	0.	1.42E 00	0.	0.	5.02E-03	2.19E-07	5.09E-09	4.91E-09	4.91E-09	1.42E 00	0.
5 10.30 0.	0.	1.29E 00	0.	0.	5.03E-03	2.25E-07	5.10E-09	4.91E-09	4.91E-09	1.29E 00	0.
6 10.20 0.	0.	1.23E 00	0.	0.	5.04E-03	2.32E-07	5.12E-09	4.91E-09	4.91E-09	1.23E 00	0.
7 10.10 0.	0.	1.11E 00	0.	0.	5.04E-03	2.39E-07	5.13E-09	4.91E-09	4.91E-09	1.11E 00	0.
8 10.00 0.	0.	1.00E 00	0.	0.	5.05E-03	2.46E-07	5.14E-09	4.92E-09	4.92E-09	1.00E 00	0.
9 9.90 0.	0.	8.68E-01	0.	0.	5.06E-03	2.54E-07	5.15E-09	4.92E-09	4.92E-09	8.68E-01	0.
10 9.80 0.	0.	7.47E-01	0.	0.	5.07E-03	2.62E-07	5.16E-09	4.92E-09	4.92E-09	7.47E-01	0.
11 9.70 0.	0.	6.76E-01	0.	0.	5.08E-03	2.70E-07	5.17E-09	4.92E-09	4.92E-09	6.76E-01	0.
12 9.60 0.	0.	6.16E-01	0.	0.	5.09E-03	2.79E-07	5.18E-09	4.92E-09	4.92E-09	6.16E-01	0.
13 9.50 0.	0.	5.65E-01	0.	0.	5.10E-03	2.88E-07	5.19E-09	4.92E-09	4.92E-09	5.65E-01	0.
14 9.40 0.	0.	5.04E-01	0.	0.	5.11E-03	2.97E-07	5.20E-09	4.93E-09	4.93E-09	5.04E-01	0.
15 9.30 0.	0.	4.45E-01	0.	0.	5.12E-03	3.07E-07	5.21E-09	4.93E-09	4.93E-09	4.45E-01	0.
16 9.20 0.	0.	3.89E-01	0.	0.	5.14E-03	3.17E-07	5.22E-09	4.94E-09	4.94E-09	3.89E-01	0.
17 9.10 0.	0.	3.36E-01	0.	0.	5.16E-03	3.27E-07	5.23E-09	4.94E-09	4.94E-09	3.36E-01	0.
18 9.00 0.	0.	2.94E-01	0.	0.	5.18E-03	3.38E-07	5.24E-09	4.94E-09	4.94E-09	2.94E-01	0.
19 8.90 0.	0.	2.61E-01	0.	0.	5.20E-03	3.50E-07	5.25E-09	4.95E-09	4.95E-09	2.61E-01	0.
20 8.80 0.	0.	2.38E-01	0.	0.	5.22E-03	3.62E-07	5.26E-09	4.95E-09	4.95E-09	2.38E-01	0.
21 8.70 0.	0.	2.19E-01	0.	0.	5.24E-03	3.75E-07	5.27E-09	4.95E-09	4.95E-09	2.19E-01	0.
22 8.60 0.	0.	1.99E-01	0.	0.	5.26E-03	3.88E-07	5.28E-09	4.96E-09	4.96E-09	1.99E-01	0.
23 8.50 0.	0.	1.84E-01	0.	0.	5.27E-03	4.02E-07	5.29E-09	4.96E-09	4.96E-09	1.84E-01	0.
24 8.40 0.	0.	1.73E-01	0.	0.	5.29E-03	4.17E-07	5.30E-09	4.96E-09	4.96E-09	1.73E-01	0.
25 8.30 0.	0.	1.65E-01	0.	0.	5.31E-03	4.32E-07	5.31E-09	4.96E-09	4.96E-09	1.65E-01	0.
26 8.20 0.	0.	1.60E-01	0.	0.	5.34E-03	4.48E-07	5.32E-09	4.96E-09	4.96E-09	1.60E-01	0.
27 8.10 0.	0.	1.57E-01	0.	0.	5.36E-03	4.65E-07	5.33E-09	4.96E-09	4.96E-09	1.57E-01	0.
28 8.00 0.	0.	1.56E-01	0.	0.	5.39E-03	4.83E-07	5.34E-09	4.96E-09	4.96E-09	1.56E-01	0.
29 7.90 0.	0.	1.57E-01	0.	0.	5.41E-03	5.01E-07	5.35E-09	4.96E-09	4.96E-09	1.57E-01	0.
30 7.80 0.	0.	1.59E-01	0.	0.	5.44E-03	5.21E-07	5.36E-09	4.96E-09	4.96E-09	1.59E-01	0.
31 7.70 0.	0.	1.63E-01	0.	0.	5.47E-03	5.41E-07	5.37E-09	4.96E-09	4.96E-09	1.63E-01	0.
32 7.60 0.	0.	1.68E-01	0.	0.	5.52E-03	5.63E-07	5.38E-09	4.96E-09	4.96E-09	1.68E-01	0.
33 7.50 0.	0.	1.75E-01	0.	0.	5.58E-03	5.87E-07	5.39E-09	4.96E-09	4.96E-09	1.75E-01	0.
34 7.40 0.	0.	1.84E-01	0.	0.	5.65E-03	6.14E-07	5.40E-09	4.96E-09	4.96E-09	1.84E-01	0.
35 7.30 0.	0.	1.95E-01	0.	0.	5.74E-03	6.44E-07	5.41E-09	4.96E-09	4.96E-09	1.95E-01	0.
36 7.20 0.	0.	2.09E-01	0.	0.	5.85E-03	6.78E-07	5.42E-09	4.96E-09	4.96E-09	2.09E-01	0.
37 7.10 0.	0.	2.27E-01	0.	0.	5.98E-03	7.17E-07	5.43E-09	4.96E-09	4.96E-09	2.27E-01	0.
38 7.00 0.	0.	2.49E-01	0.	0.	6.14E-03	7.61E-07	5.44E-09	4.96E-09	4.96E-09	2.49E-01	0.
39 6.90 0.	0.	2.76E-01	0.	0.	6.34E-03	8.11E-07	5.45E-09	4.96E-09	4.96E-09	2.76E-01	0.
40 6.80 0.	0.	3.09E-01	0.	0.	6.58E-03	8.68E-07	5.46E-09	4.96E-09	4.96E-09	3.09E-01	0.
41 6.70 0.	0.	3.49E-01	0.	0.	6.87E-03	9.34E-07	5.47E-09	4.96E-09	4.96E-09	3.49E-01	0.
42 6.60 0.	0.	3.97E-01	0.	0.	7.21E-03	1.01E-06	5.48E-09	4.96E-09	4.96E-09	3.97E-01	0.
43 6.50 0.	0.	4.54E-01	0.	0.	7.61E-03	1.10E-06	5.49E-09	4.96E-09	4.96E-09	4.54E-01	0.
44 6.40 0.	0.	5.21E-01	0.	0.	8.08E-03	1.21E-06	5.50E-09	4.96E-09	4.96E-09	5.21E-01	0.
45 6.30 0.	0.	6.00E-01	0.	0.	8.63E-03	1.34E-06	5.51E-09	4.96E-09	4.96E-09	6.00E-01	0.
46 6.20 0.	0.	6.94E-01	0.	0.	9.26E-03	1.49E-06	5.52E-09	4.96E-09	4.96E-09	6.94E-01	0.
47 6.10 0.	0.	8.08E-01	0.	0.	1.00E-02	1.66E-06	5.53E-09	4.96E-09	4.96E-09	8.08E-01	0.
48 6.00 0.	0.	9.47E-01	0.	0.	1.07E-02	1.86E-06	5.54E-09	4.96E-09	4.96E-09	9.47E-01	0.
49 5.90 0.	0.	1.12E-01	0.	0.	1.15E-02	2.09E-06	5.55E-09	4.96E-09	4.96E-09	1.12E-01	0.
50 5.80 0.	0.	1.30E-01	0.	0.	1.24E-02	2.36E-06	5.56E-09	4.96E-09	4.96E-09	1.30E-01	0.
51 5.70 0.	0.	1.52E-01	0.	0.	1.34E-02	2.68E-06	5.57E-09	4.96E-09	4.96E-09	1.52E-01	0.

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 8000. DENSITY (GM/CC) 1.293E-03 (10.0E-01 NORMAL)

PHOTON 02 S-R ENERGY BANDS	1ST POS.	P2	2ND POS.	M2	1ST NEG.	BETA	NO	GAMMA	NO	VIB-RNT	NO	D- PHOTO-DET (IONS)	N	O	TOTAL AIR	
52	5.60	3.00E-03	0.	0.	0.	0.54E-03	6.24E-02	0.	0.	0.	0.	5.33E-03	1.41E-04	1.45E-05	6.99E-05	0.15E-02
53	5.50	3.06E-03	0.	0.	0.	1.06E-02	4.24E-02	0.	0.	0.	0.	3.34E-03	1.49E-06	1.11E-05	7.11E-05	6.34E-02
54	5.40	3.13E-03	0.	0.	0.	6.68E-03	3.70E-02	0.	0.	0.	0.	3.36E-03	1.58E-06	1.40E-05	7.23E-05	5.62E-02
55	5.30	3.20E-03	0.	0.	0.	6.95E-03	3.92E-02	0.	0.	0.	0.	5.42E-03	1.67E-06	1.49E-05	7.30E-05	7.65E-02
56	5.20	3.28E-03	0.	0.	0.	9.13E-03	3.08E-02	0.	0.	0.	0.	5.46E-03	1.76E-06	1.51E-05	7.56E-05	4.68E-02
57	5.10	3.36E-03	0.	0.	0.	7.1E-03	4.31E-02	0.	0.	0.	0.	2.94E-06	5.71E-06	1.55E-05	7.74E-05	6.04E-02
58	5.00	3.44E-03	0.	0.	0.	7.46E-03	3.65E-02	0.	0.	0.	0.	2.94E-06	5.58E-06	1.59E-05	7.93E-05	5.18E-02
59	4.90	3.52E-03	0.	0.	0.	7.87E-03	3.45E-02	0.	0.	0.	0.	2.94E-06	5.46E-06	1.63E-05	8.11E-05	4.98E-02
60	4.80	3.60E-03	0.	0.	0.	8.20E-03	3.25E-02	0.	0.	0.	0.	2.94E-06	5.34E-06	1.67E-05	8.29E-05	4.74E-02
61	4.70	3.68E-03	0.	0.	0.	7.62E-03	2.53E-02	0.	0.	0.	0.	2.94E-06	5.22E-06	1.70E-05	8.50E-05	4.07E-02
62	4.60	3.76E-03	0.	0.	0.	7.48E-03	2.41E-02	0.	0.	0.	0.	2.94E-06	5.10E-06	1.75E-05	8.70E-05	3.96E-02
63	4.50	3.84E-03	0.	0.	0.	6.28E-03	1.63E-02	0.	0.	0.	0.	2.94E-06	5.78E-06	1.81E-05	8.91E-05	3.49E-02
64	4.40	3.92E-03	0.	0.	0.	6.05E-03	1.24E-02	0.	0.	0.	0.	2.94E-06	5.88E-06	1.86E-05	9.12E-05	2.76E-02
65	4.30	4.00E-03	0.	0.	0.	5.30E-03	6.04E-03	0.	0.	0.	0.	2.94E-06	5.88E-06	1.92E-05	9.33E-05	2.10E-02
66	4.20	4.08E-03	0.	0.	0.	5.90E-03	5.59E-03	0.	0.	0.	0.	2.94E-06	5.92E-06	1.97E-05	9.53E-05	2.42E-02
67	4.10	4.16E-03	0.	0.	0.	4.84E-03	1.40E-03	0.	0.	0.	0.	2.94E-06	5.95E-06	2.03E-05	9.75E-05	1.62E-02
68	4.00	4.24E-03	0.	0.	0.	4.39E-03	1.04E-03	0.	0.	0.	0.	2.94E-06	5.97E-06	2.09E-05	9.97E-05	1.25E-02
69	3.90	4.32E-03	0.	0.	0.	5.94E-03	3.61E-03	4.86E-04	0.	0.	0.	2.94E-06	5.99E-06	2.15E-05	1.01E-05	1.49E-02
70	3.80	4.40E-03	0.	0.	0.	7.61E-03	5.96E-04	3.76E-03	0.	0.	0.	2.94E-06	5.92E-06	2.21E-05	1.19E-05	2.00E-02
71	3.70	4.48E-03	0.	0.	0.	1.13E-02	1.13E-04	2.76E-03	0.	0.	0.	2.94E-06	5.83E-06	2.27E-05	1.37E-05	2.40E-02
72	3.60	4.56E-03	0.	0.	0.	4.92E-03	7.30E-04	3.02E-03	0.	0.	0.	2.94E-06	5.48E-06	2.33E-05	1.55E-05	1.40E-02
73	3.50	4.64E-03	0.	0.	0.	6.44E-03	2.81E-03	3.05E-03	0.	0.	0.	2.94E-06	5.00E-06	2.39E-05	1.73E-05	1.89E-02
74	3.40	4.72E-03	0.	0.	0.	3.62E-03	1.45E-04	2.66E-03	0.	0.	0.	2.94E-06	2.88E-06	2.45E-05	1.91E-05	1.40E-02
75	3.30	4.80E-03	0.	0.	0.	4.12E-03	9.93E-04	1.58E-03	0.	0.	0.	2.94E-06	2.88E-06	2.51E-05	2.09E-05	1.00E-02
76	3.20	4.88E-03	0.	0.	0.	2.13E-03	3.13E-03	1.59E-03	0.	0.	0.	2.94E-06	2.88E-06	2.57E-05	2.27E-05	6.45E-03
77	3.10	4.96E-03	0.	0.	0.	1.47E-03	2.27E-04	1.36E-03	0.	0.	0.	2.94E-06	2.91E-06	2.63E-05	2.45E-05	6.21E-03
78	3.00	5.04E-03	0.	0.	0.	8.78E-04	1.01E-03	1.16E-03	0.	0.	0.	2.94E-06	2.91E-06	2.69E-05	2.63E-05	5.15E-03
79	2.90	5.12E-03	0.	0.	0.	5.15E-04	7.54E-04	4.29E-04	0.	0.	0.	2.94E-06	2.91E-06	2.75E-05	2.81E-05	4.00E-03
80	2.80	5.20E-03	0.	0.	0.	3.35E-04	2.03E-04	4.29E-04	0.	0.	0.	2.94E-06	2.91E-06	2.81E-05	2.99E-05	3.00E-03
81	2.70	5.28E-03	0.	0.	0.	1.61E-04	4.97E-04	1.92E-04	0.	0.	0.	2.94E-06	2.91E-06	2.87E-05	3.17E-05	2.00E-03
82	2.60	5.36E-03	0.	0.	0.	5.46E-05	4.77E-05	7.08E-05	0.	0.	0.	2.94E-06	2.91E-06	2.93E-05	3.35E-05	3.20E-03
83	2.50	5.44E-03	0.	0.	0.	7.53E-06	3.04E-05	1.50E-05	0.	0.	0.	2.94E-06	2.91E-06	2.99E-05	3.53E-05	2.20E-03
84	2.40	5.52E-03	0.	0.	0.	5.05E-04	3.97E-05	1.46E-06	0.	0.	0.	2.94E-06	2.91E-06	3.05E-05	3.71E-05	1.10E-03
85	2.30	5.60E-03	0.	0.	0.	2.36E-03	0.	0.	0.	0.	0.	2.94E-06	2.91E-06	3.11E-05	3.89E-05	5.63E-03
86	2.20	5.68E-03	0.	0.	0.	5.23E-03	0.	0.	0.	0.	0.	2.94E-06	2.91E-06	3.17E-05	4.07E-05	8.17E-03
87	2.10	5.76E-03	0.	0.	0.	6.45E-03	0.	0.	0.	0.	0.	2.94E-06	2.91E-06	3.23E-05	4.25E-05	1.14E-02
88	2.00	5.84E-03	0.	0.	0.	1.25E-02	0.	0.	0.	0.	0.	2.94E-06	2.91E-06	3.29E-05	4.43E-05	1.55E-02
89	1.90	5.92E-03	0.	0.	0.	2.95E-02	0.	0.	0.	0.	0.	2.94E-06	2.91E-06	3.35E-05	4.61E-05	2.25E-02
90	1.80	6.00E-03	0.	0.	0.	2.42E-02	0.	0.	0.	0.	0.	2.94E-06	2.91E-06	3.41E-05	4.79E-05	3.21E-02
91	1.70	6.08E-03	0.	0.	0.	2.01E-02	0.	0.	0.	0.	0.	2.94E-06	2.91E-06	3.47E-05	4.97E-05	4.68E-02
92	1.60	6.16E-03	0.	0.	0.	2.01E-02	0.	0.	0.	0.	0.	2.94E-06	2.91E-06	3.53E-05	5.15E-05	6.42E-02
93	1.50	6.24E-03	0.	0.	0.	2.51E-02	0.	0.	0.	0.	0.	2.94E-06	2.91E-06	3.59E-05	5.33E-05	8.65E-02
94	1.40	6.32E-03	0.	0.	0.	2.77E-02	0.	0.	0.	0.	0.	2.94E-06	2.91E-06	3.65E-05	5.51E-05	1.17E-02
95	1.30	6.40E-03	0.	0.	0.	2.96E-02	0.	0.	0.	0.	0.	2.94E-06	2.91E-06	3.71E-05	5.69E-05	1.69E-02
96	1.20	6.48E-03	0.	0.	0.	2.06E-02	0.	0.	0.	0.	0.	2.94E-06	2.91E-06	3.77E-05	5.87E-05	2.12E-02
97	1.10	6.56E-03	0.	0.	0.	1.60E-02	0.	0.	0.	0.	0.	2.94E-06	2.91E-06	3.83E-05	6.05E-05	2.64E-02
98	1.00	6.64E-03	0.	0.	0.	1.51E-02	0.	0.	0.	0.	0.	2.94E-06	2.91E-06	3.89E-05	6.23E-05	3.16E-02
99	0.90	6.72E-03	0.	0.	0.	3.19E-02	0.	0.	0.	0.	0.	2.94E-06	2.91E-06	3.95E-05	6.41E-05	3.78E-02
100	0.80	6.80E-03	0.	0.	0.	5.48E-03	0.	0.	0.	0.	0.	2.94E-06	2.91E-06	4.01E-05	6.59E-05	4.50E-02
101	0.70	6.88E-03	0.	0.	0.	1.20E-02	0.	0.	0.	0.	0.	2.94E-06	2.91E-06	4.07E-05	6.77E-05	5.32E-02
102	0.60	6.96E-03	0.	0.	0.	2.04E-02	0.	0.	0.	0.	0.	2.94E-06	2.91E-06	4.13E-05	6.95E-05	6.24E-02
103	0.50	7.04E-03	0.	0.	0.	2.54E-02	0.	0.	0.	0.	0.	2.94E-06	2.91E-06	4.19E-05	7.13E-05	7.26E-02

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY E.V.	G2 S-R BANDS	02 S-R CONT.	N2 B-W NO. 1	TEMPERATURE (DEGREES K)	8000.	DENSITY (GM/CC)	1.293E-04	110.0E-02 NORMAL		O	TOTAL AIR	
								NO BETA	NO GAMMA			
								PHOTO-DET (IONS)	FREE-FREE (IONS)	M	P.F.	
1	10.70	0.	0.	1.25E-01	0.	0.	0.	1.18E-04	8.95E-09	1.30E-05	5.13E-06	1.29E-01
2	10.60	0.	0.	1.04E-01	0.	0.	0.	1.12E-04	9.21E-09	1.31E-05	5.14E-06	1.04E-01
3	10.50	0.	0.	9.96E-02	0.	0.	0.	1.12E-04	9.40E-09	1.32E-05	5.14E-06	9.97E-02
4	10.40	0.	0.	8.71E-02	0.	0.	0.	1.12E-04	9.75E-09	1.32E-05	5.14E-06	8.73E-02
5	10.30	0.	0.	6.94E-02	0.	0.	0.	1.12E-04	1.00E-09	1.32E-05	5.15E-06	6.95E-02
6	10.20	0.	0.	6.76E-02	0.	0.	0.	1.12E-04	1.03E-09	1.33E-05	5.15E-06	6.77E-02
7	10.10	0.	0.	6.00E-02	0.	0.	0.	1.12E-04	1.06E-09	1.33E-05	5.15E-06	6.01E-02
8	10.00	0.	0.	4.63E-02	0.	0.	0.	1.12E-04	1.10E-09	1.33E-05	5.16E-06	4.64E-02
9	9.90	0.	0.	4.68E-02	0.	0.	0.	1.13E-04	1.13E-09	1.34E-05	5.16E-06	4.70E-02
10	9.80	0.	0.	4.03E-02	0.	0.	0.	1.13E-04	1.17E-09	1.34E-05	5.16E-06	4.04E-02
11	9.70	0.	0.	3.11E-02	0.	0.	0.	1.13E-04	1.20E-09	1.34E-05	5.17E-06	3.12E-02
12	9.60	0.	0.	3.32E-02	0.	0.	0.	1.13E-04	1.24E-09	1.35E-05	5.17E-06	3.34E-02
13	9.50	0.	0.	2.51E-02	0.	0.	0.	1.13E-04	1.28E-09	1.35E-05	5.17E-06	2.52E-02
14	9.40	0.	0.	4.91E-04	0.	0.	0.	1.14E-04	1.32E-09	1.35E-05	5.17E-06	2.44E-02
15	9.30	0.	0.	5.59E-04	0.	0.	0.	1.14E-04	1.37E-09	1.36E-05	5.18E-06	2.52E-02
16	9.20	0.	0.	6.24E-04	0.	0.	0.	1.14E-04	1.41E-09	1.36E-05	5.18E-06	1.62E-02
17	9.10	0.	0.	7.56E-04	0.	0.	0.	1.15E-04	1.46E-09	1.37E-05	5.18E-06	1.67E-02
18	9.00	0.	0.	8.92E-04	0.	0.	0.	1.15E-04	1.51E-09	1.37E-05	5.18E-06	1.48E-02
19	8.90	0.	0.	1.04E-03	0.	0.	0.	1.16E-04	1.56E-09	1.38E-05	5.19E-06	1.21E-02
20	8.80	0.	0.	1.09E-03	0.	0.	0.	1.16E-04	1.61E-09	1.38E-05	5.19E-06	1.13E-02
21	8.70	0.	0.	1.04E-03	0.	0.	0.	1.17E-04	1.67E-09	1.39E-05	5.19E-06	9.01E-03
22	8.60	0.	0.	10.00E-04	0.	0.	0.	1.17E-04	1.73E-09	1.39E-05	5.20E-06	9.03E-03
23	8.50	0.	0.	9.74E-04	0.	0.	0.	1.18E-04	1.79E-09	1.39E-05	5.20E-06	7.17E-03
24	8.40	0.	0.	9.51E-04	0.	0.	0.	1.18E-04	1.85E-09	1.40E-05	5.20E-06	6.80E-03
25	8.30	0.	0.	9.29E-04	0.	0.	0.	1.19E-04	1.92E-09	1.43E-05	5.22E-06	5.41E-03
26	8.20	0.	0.	9.01E-04	0.	0.	0.	1.19E-04	2.00E-09	1.41E-05	5.20E-06	5.25E-03
27	8.10	0.	0.	8.66E-04	0.	0.	0.	1.20E-04	2.07E-09	1.40E-05	5.24E-06	4.25E-03
28	8.00	0.	0.	8.38E-04	0.	0.	0.	1.21E-04	2.15E-09	1.39E-05	5.40E-06	4.08E-03
29	7.90	0.	0.	8.02E-04	0.	0.	0.	1.21E-04	2.23E-09	1.37E-05	5.46E-06	3.33E-03
30	7.80	0.	0.	7.65E-04	0.	0.	0.	1.22E-04	2.32E-09	1.36E-05	5.52E-06	3.25E-03
31	7.70	0.	0.	7.29E-04	0.	0.	0.	1.23E-04	2.41E-09	1.34E-05	5.58E-06	2.72E-03
32	7.60	0.	0.	6.92E-04	0.	0.	0.	1.23E-04	2.51E-09	1.33E-05	5.64E-06	2.47E-03
33	7.50	0.	0.	6.54E-04	0.	0.	0.	1.24E-04	2.61E-09	1.32E-05	5.70E-06	2.17E-03
34	7.40	0.	0.	6.19E-04	0.	0.	0.	1.24E-04	2.72E-09	1.31E-05	5.75E-06	1.90E-03
35	7.30	0.	0.	5.83E-04	0.	0.	0.	1.25E-04	2.83E-09	1.30E-05	5.81E-06	1.74E-03
36	7.20	0.	0.	5.44E-04	0.	0.	0.	1.26E-04	2.95E-09	1.29E-05	5.87E-06	1.58E-03
37	7.10	0.	0.	5.04E-04	0.	0.	0.	1.27E-04	3.08E-09	1.27E-05	5.93E-06	1.55E-03
38	7.00	0.	0.	4.63E-04	0.	0.	0.	1.28E-04	3.21E-09	1.25E-05	5.99E-06	1.35E-03
39	6.90	0.	0.	5.15E-04	0.	0.	0.	1.29E-04	3.36E-09	1.23E-05	6.05E-06	1.17E-03
40	6.80	0.	0.	4.51E-04	0.	0.	0.	1.30E-04	3.51E-09	1.24E-05	6.11E-06	1.74E-03
41	6.70	0.	0.	3.59E-04	0.	0.	0.	1.31E-04	3.67E-09	1.23E-05	6.17E-06	1.57E-03
42	6.60	0.	0.	2.93E-04	0.	0.	0.	1.32E-04	3.84E-09	1.23E-05	6.23E-06	1.37E-03
43	6.50	0.	0.	2.07E-04	0.	0.	0.	1.33E-04	4.02E-09	1.23E-05	6.30E-06	1.98E-03
44	6.40	0.	0.	1.21E-04	0.	0.	0.	1.34E-04	4.21E-09	1.23E-05	6.36E-06	2.46E-03
45	6.30	0.	0.	2.99E-05	0.	0.	0.	1.35E-04	4.41E-09	1.23E-05	6.44E-06	1.21E-03
46	6.20	0.	0.	2.95E-05	0.	0.	0.	1.35E-04	4.62E-09	1.23E-05	6.52E-06	1.17E-03
47	6.10	0.	0.	1.16E-05	0.	0.	0.	1.37E-04	4.83E-09	1.23E-05	6.60E-06	1.74E-03
48	6.00	0.	0.	1.52E-06	0.	0.	0.	1.37E-04	5.05E-09	1.23E-05	6.68E-06	2.99E-03
49	5.90	0.	0.	2.78E-05	0.	0.	0.	1.38E-04	5.28E-09	1.23E-05	6.76E-06	1.17E-03
50	5.80	0.	0.	4.04E-05	0.	0.	0.	1.36E-04	5.69E-09	1.23E-05	6.84E-06	1.35E-03
51	5.70	0.	0.	4.53E-05	0.	0.	0.	1.28E-04	5.99E-09	1.23E-05	7.20E-06	1.36E-03

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	M2 2ND NEG.	NO BETA	NO GAMMA	NO VIB-ROT	NO 2	0- FREE-FREE (IONS)		N P.E.		TOTAL AIR P.E.
									PHOTO-DET	PHOTO-DET	N P.E.	P.E.	
52	3.50	5.50E-05	0.	0.	2.08E-04	1.52E-03	0.	0.	1.19E-04	4.23E-06	3.38E-06	7.33E-06	1.92E-03
53	3.50	5.50E-05	0.	0.	2.50E-04	1.92E-03	0.	0.	1.20E-04	6.64E-08	3.39E-06	7.45E-06	1.97E-03
54	3.40	5.66E-05	0.	0.	2.11E-04	9.00E-04	0.	0.	1.20E-04	7.05E-08	3.49E-06	7.50E-06	1.98E-03
55	3.30	5.31E-05	0.	0.	2.10E-04	7.41E-04	0.	0.	1.25E-04	7.43E-08	3.47E-06	7.73E-06	1.94E-03
56	3.20	5.41E-05	0.	0.	2.25E-04	7.51E-04	0.	0.	1.25E-04	7.80E-08	3.51E-06	7.93E-06	1.95E-03
57	3.10	3.29E-05	0.	0.	2.15E-04	1.05E-03	0.	0.	1.25E-04	8.15E-08	3.59E-06	8.15E-06	1.43E-03
58	3.00	2.38E-05	0.	0.	1.82E-04	8.89E-04	0.	0.	1.25E-04	8.95E-08	3.68E-06	8.31E-06	1.23E-03
59	4.90	1.97E-05	0.	0.	1.82E-04	4.08E-04	0.	0.	1.25E-04	4.40E-08	3.78E-06	4.50E-06	1.11E-03
60	4.80	1.99E-05	0.	0.	2.00E-04	6.71E-04	0.	0.	1.25E-04	4.01E-08	3.87E-06	4.70E-06	1.12E-03
61	4.70	2.09E-05	0.	0.	1.86E-04	6.17E-04	0.	0.	1.25E-04	4.07E-08	3.96E-06	4.91E-06	9.64E-04
62	4.60	2.40E-05	0.	0.	1.82E-04	5.80E-04	0.	0.	1.25E-04	4.14E-08	4.05E-06	5.13E-06	9.34E-04
63	4.50	2.33E-05	0.	0.	1.53E-04	3.90E-04	0.	0.	1.25E-04	4.21E-08	4.20E-06	5.35E-06	7.30E-04
64	4.40	2.28E-05	0.	0.	1.47E-04	3.05E-04	0.	0.	1.25E-04	4.36E-08	4.35E-06	5.56E-06	6.73E-04
65	4.30	1.98E-05	0.	0.	1.28E-04	1.62E-04	0.	0.	1.25E-04	4.51E-08	4.45E-06	5.78E-06	6.19E-04
66	4.20	1.74E-05	0.	0.	1.33E-04	1.30E-04	0.	0.	1.25E-04	4.59E-08	4.59E-06	6.00E-06	5.90E-04
67	4.10	1.73E-05	0.	0.	1.16E-04	2.41E-05	0.	0.	1.25E-04	4.61E-08	4.72E-06	6.23E-06	4.48E-04
68	4.00	1.31E-05	0.	0.	1.07E-04	2.51E-05	0.	0.	1.25E-04	4.73E-08	4.74E-06	6.46E-06	4.00E-04
69	3.90	1.02E-05	0.	0.	3.20E-04	1.67E-05	0.	0.	1.25E-04	4.76E-08	4.76E-06	6.69E-06	3.63E-04
70	3.80	1.08E-05	0.	0.	4.11E-04	9.20E-05	0.	0.	1.25E-04	4.79E-08	4.79E-06	6.92E-06	3.26E-04
71	3.70	8.48E-06	0.	0.	6.07E-04	2.66E-05	0.	0.	1.25E-04	4.82E-08	4.82E-06	7.15E-06	2.89E-04
72	3.60	7.46E-06	0.	0.	4.95E-04	1.82E-04	0.	0.	1.25E-04	4.85E-08	4.85E-06	7.38E-06	2.52E-04
73	3.50	6.59E-06	0.	0.	4.55E-04	7.12E-04	0.	0.	1.25E-04	4.88E-08	4.88E-06	7.61E-06	2.15E-04
74	3.40	5.14E-06	0.	0.	1.95E-04	3.68E-05	0.	0.	1.25E-04	4.91E-08	4.91E-06	7.84E-06	1.78E-04
75	3.30	3.98E-06	0.	0.	2.24E-04	2.52E-04	0.	0.	1.25E-04	4.94E-08	4.94E-06	8.07E-06	1.41E-04
76	3.20	3.02E-06	0.	0.	1.19E-04	7.94E-04	0.	0.	1.25E-04	4.97E-08	4.97E-06	8.30E-06	1.04E-04
77	3.10	2.72E-06	0.	0.	9.02E-05	5.72E-05	0.	0.	1.25E-04	4.99E-08	4.99E-06	8.53E-06	6.7E-05
78	3.00	2.22E-06	0.	0.	4.72E-05	2.56E-04	0.	0.	1.25E-04	5.02E-08	5.02E-06	8.76E-06	3.0E-05
79	2.90	1.68E-06	0.	0.	2.78E-05	1.91E-04	0.	0.	1.25E-04	5.05E-08	5.05E-06	8.99E-06	1.3E-05
80	2.80	1.63E-06	0.	0.	1.27E-05	5.16E-05	0.	0.	1.25E-04	5.08E-08	5.08E-06	9.22E-06	6.5E-06
81	2.70	9.07E-07	0.	0.	5.78E-06	1.24E-04	0.	0.	1.25E-04	5.11E-08	5.11E-06	9.45E-06	2.9E-06
82	2.60	3.58E-07	0.	0.	2.94E-06	1.21E-05	0.	0.	1.25E-04	5.14E-08	5.14E-06	9.68E-06	1.3E-06
83	2.50	2.30E-08	0.	0.	4.05E-07	7.73E-06	0.	0.	1.25E-04	5.17E-08	5.17E-06	9.91E-06	5.7E-07
84	2.40	0.	0.	0.	1.01E-05	3.55E-06	0.	0.	1.25E-04	5.20E-08	5.20E-06	1.01E-05	2.6E-07
85	2.30	0.	0.	0.	1.45E-04	0.	0.	0.	1.25E-04	5.23E-08	5.23E-06	1.03E-05	1.1E-07
86	2.20	0.	0.	0.	2.87E-04	0.	0.	0.	1.25E-04	5.26E-08	5.26E-06	1.05E-05	4.5E-08
87	2.10	0.	0.	0.	4.64E-04	0.	0.	0.	1.25E-04	5.29E-08	5.29E-06	1.07E-05	1.7E-08
88	2.00	0.	0.	0.	6.83E-04	0.	0.	0.	1.25E-04	5.32E-08	5.32E-06	1.09E-05	6.3E-09
89	1.90	0.	0.	0.	1.30E-03	0.	0.	0.	1.25E-04	5.35E-08	5.35E-06	1.11E-05	2.3E-09
90	1.80	0.	0.	0.	1.30E-03	0.	0.	0.	1.25E-04	5.38E-08	5.38E-06	1.13E-05	8.4E-10
91	1.70	0.	0.	0.	1.58E-03	0.	0.	0.	1.25E-04	5.41E-08	5.41E-06	1.15E-05	3.0E-10
92	1.60	0.	0.	0.	1.89E-03	0.	0.	0.	1.25E-04	5.44E-08	5.44E-06	1.17E-05	1.1E-10
93	1.50	0.	0.	0.	1.33E-03	0.	0.	0.	1.25E-04	5.47E-08	5.47E-06	1.19E-05	4.0E-11
94	1.40	0.	0.	0.	1.49E-03	0.	0.	0.	1.25E-04	5.50E-08	5.50E-06	1.21E-05	1.4E-11
95	1.30	0.	0.	0.	1.68E-03	0.	0.	0.	1.25E-04	5.53E-08	5.53E-06	1.23E-05	5.0E-12
96	1.20	0.	0.	0.	1.13E-03	0.	0.	0.	1.25E-04	5.56E-08	5.56E-06	1.25E-05	1.8E-12
97	1.10	0.	0.	0.	8.65E-04	0.	0.	0.	1.25E-04	5.59E-08	5.59E-06	1.27E-05	6.6E-13
98	1.00	0.	0.	0.	8.16E-04	0.	0.	0.	1.25E-04	5.62E-08	5.62E-06	1.29E-05	2.4E-13
99	0.90	0.	0.	0.	6.44E-04	0.	0.	0.	1.25E-04	5.65E-08	5.65E-06	1.31E-05	8.9E-14
100	0.80	0.	0.	0.	2.84E-04	0.	0.	0.	1.25E-04	5.68E-08	5.68E-06	1.33E-05	3.2E-14
101	0.70	0.	0.	0.	8.09E-05	0.	0.	0.	1.25E-04	5.71E-08	5.71E-06	1.35E-05	1.1E-14
102	0.60	0.	0.	0.	3.24E-06	0.	0.	0.	1.25E-04	5.74E-08	5.74E-06	1.37E-05	4.0E-15

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 8080. DENSITY (GM/CM<sup>3</sup>) 1.293E-05 (10.0E-05 NORMAL)

PHOTON ENERGY E, e.v.	Q2 S-R BANDS	Q2 S-R CDNT.	N2 S-W NO. 1	TEMPERATURE (DEGREES K)	DENSITY (GM/CM <sup>3</sup> )	NO BETA	NO GAMMA	NO PHOTO-DET (10MG)	0- FREZ-FREE P.E.	N P.E.	0 P.E.	TOTAL AIR	
1	10.70	0.	2.82E-03	0.	0.	0.	0.	0.	3.12E-06	6.16E-10	1.96E-06	5.28E-07	2.88E-03
2	10.60	0.	2.35E-03	0.	0.	0.	0.	0.	3.12E-06	7.03E-10	1.97E-06	5.28E-07	2.35E-03
3	10.50	0.	2.23E-03	0.	0.	0.	0.	0.	3.13E-06	7.24E-10	1.98E-06	5.28E-07	2.23E-03
4	10.40	0.	1.97E-03	0.	0.	0.	0.	0.	3.13E-06	7.47E-10	1.98E-06	5.28E-07	1.97E-03
5	10.30	0.	1.57E-03	0.	0.	0.	0.	0.	3.13E-06	7.70E-10	1.99E-06	5.21E-07	1.57E-03
6	10.20	0.	1.53E-03	0.	0.	0.	0.	0.	3.14E-06	7.93E-10	1.99E-06	5.21E-07	1.53E-03
7	10.10	0.	1.35E-03	0.	0.	0.	0.	0.	3.14E-06	8.14E-10	2.00E-06	5.21E-07	1.35E-03
8	10.00	0.	1.05E-03	0.	0.	0.	0.	0.	3.15E-06	8.38E-10	2.00E-06	5.22E-07	1.05E-03
9	9.90	0.	1.06E-03	0.	0.	0.	0.	0.	3.15E-06	8.64E-10	2.01E-06	5.22E-07	1.06E-03
10	9.80	0.	6.10E-04	0.	0.	0.	0.	0.	3.16E-06	8.91E-10	2.01E-06	5.22E-07	6.10E-04
11	9.70	0.	7.02E-04	0.	0.	0.	0.	0.	3.16E-06	9.19E-10	2.02E-06	5.23E-07	7.02E-04
12	9.60	0.	7.50E-04	0.	0.	0.	0.	0.	3.17E-06	9.48E-10	2.02E-06	5.23E-07	7.50E-04
13	9.50	0.	4.34E-06	5.67E-04	0.	0.	0.	0.	3.18E-06	9.79E-10	2.03E-06	5.23E-07	5.78E-04
14	9.40	0.	5.03E-06	4.93E-04	0.	0.	0.	0.	3.19E-06	1.01E-09	2.04E-06	5.23E-07	5.88E-04
15	9.30	0.	5.72E-06	4.92E-04	0.	0.	0.	0.	3.20E-06	1.04E-09	2.04E-06	5.24E-07	5.92E-04
16	9.20	0.	6.42E-06	3.48E-04	0.	0.	0.	0.	3.21E-06	1.08E-09	2.05E-06	5.24E-07	6.59E-04
17	9.10	0.	7.75E-06	3.58E-04	0.	0.	0.	0.	3.22E-06	1.11E-09	2.06E-06	5.24E-07	7.75E-04
18	9.00	0.	9.21E-06	2.92E-04	0.	0.	0.	0.	3.23E-06	1.15E-09	2.06E-06	5.25E-07	9.21E-04
19	8.90	0.	1.07E-05	2.47E-04	0.	0.	0.	0.	3.24E-06	1.19E-09	2.07E-06	5.25E-07	1.07E-04
20	8.80	0.	1.11E-05	2.32E-04	0.	0.	0.	0.	3.24E-06	1.23E-09	2.07E-06	5.25E-07	1.11E-04
21	8.70	0.	1.07E-05	1.77E-04	0.	0.	0.	0.	3.27E-06	1.28E-09	2.11E-06	5.26E-07	1.07E-04
22	8.60	0.	1.03E-05	1.78E-04	0.	0.	0.	0.	3.28E-06	1.32E-09	2.11E-06	5.26E-07	1.03E-04
23	8.50	0.	9.99E-06	1.37E-04	0.	0.	0.	0.	3.29E-06	1.37E-09	2.18E-06	5.26E-07	1.51E-04
24	8.40	0.	9.75E-06	1.31E-04	0.	0.	0.	0.	3.31E-06	1.42E-09	2.18E-06	5.27E-07	1.45E-04
25	8.30	0.	9.52E-06	9.64E-05	0.	0.	0.	0.	3.33E-06	1.47E-09	2.18E-06	5.27E-07	1.41E-04
26	8.20	0.	9.24E-06	9.54E-05	0.	0.	0.	0.	3.34E-06	1.52E-09	2.18E-06	5.27E-07	1.38E-04
27	8.10	0.	8.91E-06	7.73E-05	0.	0.	0.	0.	3.36E-06	1.59E-09	2.18E-06	5.27E-07	1.35E-04
28	8.00	0.	8.59E-06	7.02E-05	0.	0.	0.	0.	3.38E-06	1.64E-09	2.18E-06	5.27E-07	1.32E-04
29	7.90	0.	8.22E-06	5.42E-05	0.	0.	0.	0.	3.39E-06	1.71E-09	2.18E-06	5.27E-07	1.29E-04
30	7.80	0.	7.85E-06	5.31E-05	0.	0.	0.	0.	3.41E-06	1.77E-09	2.18E-06	5.27E-07	1.26E-04
31	7.70	0.	7.47E-06	4.26E-05	0.	0.	0.	0.	3.43E-06	1.84E-09	2.18E-06	5.27E-07	1.23E-04
32	7.60	0.	7.10E-06	3.70E-05	0.	0.	0.	0.	3.45E-06	1.92E-09	2.18E-06	5.27E-07	1.20E-04
33	7.50	0.	6.72E-06	3.11E-05	0.	0.	0.	0.	3.46E-06	1.99E-09	2.18E-06	5.27E-07	1.18E-04
34	7.40	0.	6.35E-06	2.59E-05	0.	0.	0.	0.	3.48E-06	2.08E-09	2.18E-06	5.27E-07	1.16E-04
35	7.30	0.	5.97E-06	2.25E-05	0.	0.	0.	0.	3.50E-06	2.16E-09	2.18E-06	5.27E-07	1.14E-04
36	7.20	0.	5.59E-06	1.66E-05	0.	0.	0.	0.	3.52E-06	2.25E-09	2.18E-06	5.27E-07	1.12E-04
37	7.10	0.	5.19E-06	1.65E-05	0.	0.	0.	0.	3.55E-06	2.35E-09	2.18E-06	5.27E-07	1.10E-04
38	7.00	0.	4.79E-06	1.36E-05	0.	0.	0.	0.	3.58E-06	2.45E-09	2.18E-06	5.27E-07	1.08E-04
39	6.90	0.	4.39E-06	1.14E-05	0.	0.	0.	0.	3.61E-06	2.56E-09	2.18E-06	5.27E-07	1.06E-04
40	6.80	0.	4.01E-06	1.02E-05	0.	0.	0.	0.	3.64E-06	2.68E-09	2.18E-06	5.27E-07	1.04E-04
41	6.70	0.	3.63E-06	9.11E-06	0.	0.	0.	0.	3.67E-06	2.80E-09	2.18E-06	5.27E-07	1.02E-04
42	6.60	0.	3.25E-06	8.01E-06	0.	0.	0.	0.	3.70E-06	2.93E-09	2.18E-06	5.27E-07	1.00E-04
43	6.50	0.	2.87E-06	6.66E-06	0.	0.	0.	0.	3.72E-06	3.07E-09	2.18E-06	5.27E-07	9.8E-05
44	6.40	0.	2.74E-06	5.74E-06	0.	0.	0.	0.	3.75E-06	3.22E-09	2.18E-06	5.27E-07	9.6E-05
45	6.30	0.	2.61E-06	4.82E-06	0.	0.	0.	0.	3.78E-06	3.37E-09	2.18E-06	5.27E-07	9.4E-05
46	6.20	0.	2.48E-06	4.00E-06	0.	0.	0.	0.	3.81E-06	3.54E-09	2.18E-06	5.27E-07	9.2E-05
47	6.10	0.	2.35E-06	3.28E-06	0.	0.	0.	0.	3.84E-06	3.72E-09	2.18E-06	5.27E-07	9.0E-05
48	6.00	0.	2.22E-06	2.67E-06	0.	0.	0.	0.	3.87E-06	3.91E-09	2.18E-06	5.27E-07	8.8E-05
49	5.90	0.	2.09E-06	2.16E-06	0.	0.	0.	0.	3.91E-06	4.11E-09	2.18E-06	5.27E-07	8.6E-05
50	5.80	0.	1.96E-06	1.75E-06	0.	0.	0.	0.	3.95E-06	4.33E-09	2.18E-06	5.27E-07	8.4E-05
51	5.70	0.	1.84E-06	1.44E-06	0.	0.	0.	0.	3.98E-06	4.56E-09	2.18E-06	5.27E-07	8.2E-05

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	A2 15° POS.	A2 32° POS.	MP* 1ST NEG.	BETA	NO GASSMA	NO VIB-ROT	NO 2	G- PHOTO-DET (10 <sup>15</sup> )	M FREE-FREE P.E.	M P.E.	O TOTAL AIR P.E.		
52	5.60	5.73E+07	0.	0.	3.13E-06	2.32E-05	0.	3.23E+06	4.01E-09	5.09E-07	7.41E-07	3.19E-05	
53	5.50	5.69E+07	0.	0.	3.03E-06	2.31E-05	0.	3.25E+06	3.97E-09	5.09E-07	7.41E-07	3.23E-05	
54	5.40	5.69E+07	0.	0.	3.21E-06	1.37E-05	0.	3.14E+06	5.34E-09	5.19E-07	7.47E-07	2.22E-05	
55	5.30	5.74E+07	0.	0.	3.31E-06	2.19E-05	0.	3.38E+06	5.87E-09	5.21E-07	7.83E-07	3.08E-05	
56	5.20	5.69E+07	0.	0.	3.39E-06	1.14E-05	0.	3.32E+06	6.27E-09	5.49E-07	8.82E-07	1.99E-05	
57	5.10	5.72E+07	0.	0.	3.28E-06	1.60E-05	0.	3.46E+06	6.75E-09	5.49E-07	8.22E-07	2.43E-05	
58	5.00	5.73E+07	0.	0.	2.72E-06	1.59E-05	0.	3.16E+11	3.60E-06	6.76E-09	5.44E-07	9.41E-07	2.14E-05
59	4.90	5.62E+07	0.	0.	2.92E-06	1.22E-05	0.	3.16E+11	3.49E-06	7.14E-09	5.08E-07	8.60E-07	2.08E-05
60	4.80	5.63E+07	0.	0.	3.04E-06	1.17E-05	0.	3.16E+11	3.95E-06	8.14E-09	5.81E-07	9.00E-07	1.99E-05
61	4.70	5.64E+07	0.	0.	2.62E-06	9.34E-06	0.	3.16E+11	3.95E-06	8.14E-09	5.81E-07	9.00E-07	1.75E-05
62	4.60	5.64E+07	0.	0.	2.77E-06	8.94E-06	0.	3.16E+11	3.91E-06	8.48E-09	6.11E-07	9.24E-07	1.71E-05
63	4.50	5.64E+07	0.	0.	2.72E-06	6.07E-06	0.	3.16E+11	3.91E-06	9.37E-09	6.35E-07	9.46E-07	1.44E-05
64	4.40	5.64E+07	0.	0.	2.23E-06	4.67E-06	0.	3.16E+11	3.64E-06	9.22E-09	6.49E-07	9.69E-07	1.36E-05
65	4.30	5.63E+07	0.	0.	1.96E-06	2.47E-06	0.	3.16E+11	3.67E-06	6.69E-09	6.49E-07	9.69E-07	1.75E-05
66	4.20	5.70E+07	0.	0.	2.00E-06	2.47E-06	0.	3.16E+11	3.78E-06	1.14E-08	6.89E-07	9.59E-07	2.04E-05
67	4.10	5.70E+07	0.	0.	1.79E-06	5.19E-07	0.	3.16E+11	3.71E-06	1.14E-08	6.89E-07	9.59E-07	1.88E-05
68	4.00	5.66E+07	0.	0.	1.62E-06	3.92E-07	0.	3.16E+11	3.72E-06	1.32E-08	5.11E-07	1.81E-07	2.27E-05
69	3.90	5.64E+07	0.	0.	1.34E-06	1.60E-07	0.	3.16E+11	3.71E-06	1.43E-08	3.96E-07	1.88E-07	1.44E-05
70	3.80	5.64E+07	0.	0.	1.46E-06	1.40E-07	0.	3.16E+11	3.70E-06	1.54E-08	4.06E-07	1.87E-07	2.74E-05
71	3.70	5.68E+08	0.	0.	1.37E-06	1.02E-06	0.	3.16E+11	3.64E-06	1.87E-08	3.28E-07	1.22E-07	2.13E-05
72	3.60	5.73E+08	0.	0.	1.99E-06	1.51E-05	0.	3.16E+11	3.41E-06	1.82E-08	3.54E-07	1.40E-07	2.62E-05
73	3.50	5.81E+08	0.	0.	1.93E-06	8.39E-07	0.	3.16E+11	3.42E-06	1.98E-08	4.03E-07	1.56E-07	2.79E-05
74	3.40	5.76E+08	0.	0.	4.41E-06	3.00E-06	0.	3.16E+11	1.80E-06	2.15E-08	4.47E-07	1.77E-07	1.88E-05
75	3.30	5.99E+08	0.	0.	1.16E-06	2.04E-05	0.	3.16E+11	1.80E-06	2.30E-08	5.11E-07	1.97E-07	2.63E-05
76	3.20	5.84E+08	0.	0.	2.58E-06	3.48E-05	0.	3.16E+11	1.80E-06	2.80E-08	5.63E-07	2.17E-07	2.83E-05
77	3.10	5.78E+08	0.	0.	2.08E-06	5.68E-07	0.	3.16E+11	1.82E-06	2.95E-08	6.21E-07	2.37E-07	3.97E-05
78	3.00	5.72E+08	0.	0.	1.67E-06	4.71E-06	0.	3.16E+11	1.81E-06	3.15E-08	6.76E-07	2.57E-07	2.52E-05
79	2.90	5.72E+08	0.	0.	6.27E-07	1.54E-05	0.	3.16E+11	1.82E-06	3.49E-08	7.32E-07	2.76E-07	1.94E-05
80	2.80	5.77E+08	0.	0.	2.63E-07	4.21E-06	0.	3.16E+11	1.82E-06	3.98E-08	7.92E-07	2.96E-07	2.62E-05
81	2.70	5.79E+08	0.	0.	1.31E-07	7.10E-08	0.	3.16E+11	1.82E-06	4.33E-08	8.53E-07	3.15E-07	1.35E-05
82	2.60	5.83E+08	0.	0.	6.08E-08	9.09E-07	0.	3.16E+11	1.82E-06	4.93E-08	9.21E-07	3.33E-07	1.92E-05
83	2.50	5.88E+08	0.	0.	9.17E-09	6.31E-07	0.	3.16E+11	1.82E-06	5.35E-08	4.10E-07	3.51E-07	3.08E-05
84	2.40	5.88E+08	0.	0.	6.18E-07	5.42E-10	0.	3.16E+11	1.82E-06	6.17E-08	5.21E-07	1.24E-07	3.98E-05
85	2.30	5.88E+08	0.	0.	8.23E-07	5.42E-10	0.	3.16E+11	1.80E-06	6.82E-08	6.32E-07	1.48E-07	5.92E-05
86	2.20	5.88E+08	0.	0.	3.46E-06	0.	0.	3.16E+11	1.80E-06	8.02E-08	7.46E-07	1.78E-07	9.17E-05
87	2.10	5.88E+08	0.	0.	1.03E-05	0.	0.	3.16E+11	1.79E-06	9.24E-08	8.68E-07	2.09E-07	1.33E-05
88	2.00	5.88E+08	0.	0.	1.54E-05	0.	0.	3.16E+11	1.79E-06	1.07E-07	9.91E-07	2.39E-07	1.03E-05
89	1.90	5.88E+08	0.	0.	3.97E-05	0.	0.	3.16E+11	1.77E-06	1.26E-07	1.12E-06	2.75E-07	3.08E-05
90	1.80	5.88E+08	0.	0.	2.94E-05	0.	0.	3.16E+11	1.59E-06	1.47E-07	1.38E-06	3.18E-07	3.26E-05
91	1.70	5.88E+08	0.	0.	2.56E-05	0.	0.	3.16E+11	1.50E-06	1.79E-07	1.53E-06	3.70E-07	3.92E-05
92	1.60	5.88E+08	0.	0.	2.45E-05	0.	0.	3.16E+11	1.27E-06	2.10E-07	1.76E-06	4.44E-07	2.82E-05
93	1.50	5.88E+08	0.	0.	3.45E-05	0.	0.	3.16E+11	2.56E-07	2.46E-07	1.94E-06	4.83E-07	3.39E-05
94	1.40	5.88E+08	0.	0.	3.71E-05	0.	0.	3.16E+11	5.77E-07	3.15E-07	2.36E-06	3.41E-07	3.57E-05
95	1.30	5.88E+08	0.	0.	2.38E-05	0.	0.	3.16E+11	0.	3.94E-07	1.90E-06	4.77E-07	2.67E-05
96	1.20	5.88E+08	0.	0.	2.74E-05	0.	0.	3.16E+11	0.	5.32E-07	2.52E-06	4.36E-07	2.91E-05
97	1.10	5.88E+08	0.	0.	1.99E-05	0.	0.	3.16E+11	0.	6.95E-07	2.59E-06	6.92E-07	2.38E-05
98	1.00	5.88E+08	0.	0.	1.84E-05	0.	0.	3.16E+11	0.	8.75E-07	3.08E-06	8.39E-07	2.38E-05
99	0.90	5.88E+08	0.	0.	1.45E-05	0.	0.	3.16E+11	0.	1.31E-06	4.22E-06	9.35E-07	2.18E-05
100	0.80	5.88E+08	0.	0.	6.49E-05	0.	0.	3.16E+11	0.	1.72E-06	4.77E-06	1.12E-06	1.43E-05
101	0.70	5.88E+08	0.	0.	1.85E-06	0.	0.	3.16E+11	0.	2.59E-06	4.45E-06	8.84E-07	9.36E-06
122	0.60	5.88E+08	0.	0.	7.33E-05	0.	0.	3.16E+11	0.	4.17E-06	4.55E-06	9.95E-07	9.07E-06

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E.V.	O2 S-P BANDS CONT.	N2 B-H NO. 1	TEMPERATURE (DEGREES K)		NO BETA	NO GAMMA	HO 2	D- PHOTO-OBT (10MSY)	FREE-FREE N P.E.	TOTAL AIR P.F.		
			8900.	DENSITY (GM/CC) 1.2932-86 (13.02-84 NORMAL)								
1 10.70 0.	0.	3.29E-05	0.	0.	0.	0.	0.	9.69E-08	6.50E-11	2.11E-07	5.16E-08	3.32E-05
2 10.60 0.	0.	2.78E-05	0.	0.	0.	0.	0.	9.64E-08	6.77E-11	2.12E-07	5.16E-08	2.77E-05
3 10.50 0.	0.	2.52E-05	0.	0.	0.	0.	0.	9.67E-08	6.97E-11	2.13E-07	5.16E-08	2.65E-05
4 10.40 0.	0.	2.55E-05	0.	0.	0.	0.	0.	9.69E-08	7.17E-11	2.14E-07	5.16E-08	2.38E-05
5 10.30 0.	0.	1.92E-05	0.	0.	0.	0.	0.	9.70E-08	7.80E-11	2.15E-07	5.16E-08	1.84E-05
6 10.20 0.	0.	1.70E-05	0.	0.	0.	0.	0.	9.71E-08	7.80E-11	2.15E-07	5.16E-08	1.84E-05
7 10.10 0.	0.	1.90E-05	0.	0.	0.	0.	0.	9.73E-08	7.80E-11	2.16E-07	5.16E-08	1.41E-05
8 10.00 0.	0.	1.23E-05	0.	0.	0.	0.	0.	9.74E-08	8.87E-11	2.16E-07	5.16E-08	1.26E-05
9 9.90 0.	0.	1.06E-05	0.	0.	0.	0.	0.	9.77E-08	8.87E-11	2.17E-07	5.16E-08	1.10E-05
10 9.80 0.	0.	8.17E-06	0.	0.	0.	0.	0.	9.79E-08	8.87E-11	2.18E-07	5.16E-08	8.54E-06
11 9.70 0.	0.	8.73E-06	0.	0.	0.	0.	0.	9.81E-08	9.13E-11	2.19E-07	5.16E-08	8.10E-06
12 9.60 0.	0.	4.31E-06	0.	0.	0.	0.	0.	9.83E-08	9.42E-11	2.19E-07	5.16E-08	7.02E-06
13 9.50 0.	0.	5.00E-06	0.	0.	0.	0.	0.	9.86E-08	9.73E-11	2.20E-07	5.16E-08	6.16E-06
14 9.40 0.	0.	5.69E-06	0.	0.	0.	0.	0.	9.90E-08	1.00E-10	2.20E-07	5.16E-08	5.99E-06
15 9.30 0.	0.	6.38E-06	0.	0.	0.	0.	0.	9.93E-08	1.04E-10	2.20E-07	5.16E-08	4.38E-06
16 9.20 0.	0.	7.71E-06	0.	0.	0.	0.	0.	9.97E-08	1.07E-10	2.20E-07	5.16E-08	4.45E-06
17 9.10 0.	0.	5.15E-06	0.	0.	0.	0.	0.	10.00E-08	1.11E-10	2.20E-07	5.16E-08	3.71E-06
18 9.00 0.	0.	1.06E-07	2.67E-06	0.	0.	0.	0.	10.00E-08	1.15E-10	2.20E-07	5.16E-08	3.16E-06
19 8.90 0.	0.	1.10E-07	2.71E-06	0.	0.	0.	0.	1.01E-07	1.19E-10	2.20E-07	5.16E-08	3.09E-06
20 8.80 0.	0.	1.04E-07	2.66E-06	0.	0.	0.	0.	1.01E-07	1.23E-10	2.20E-07	5.16E-08	3.02E-06
21 8.70 0.	0.	1.02E-07	2.62E-06	0.	0.	0.	0.	1.01E-07	1.27E-10	2.20E-07	5.16E-08	2.95E-06
22 8.60 0.	0.	9.93E-08	1.60E-06	0.	0.	0.	0.	1.02E-07	1.32E-10	2.20E-07	5.16E-08	2.88E-06
23 8.50 0.	0.	9.69E-08	1.53E-06	0.	0.	0.	0.	1.02E-07	1.37E-10	2.20E-07	5.16E-08	2.81E-06
24 8.40 0.	0.	9.40E-08	1.46E-06	0.	0.	0.	0.	1.03E-07	1.42E-10	2.20E-07	5.16E-08	2.74E-06
25 8.30 0.	0.	9.18E-08	1.39E-06	0.	0.	0.	0.	1.03E-07	1.47E-10	2.20E-07	5.16E-08	2.67E-06
26 8.20 0.	0.	8.86E-08	1.32E-06	0.	0.	0.	0.	1.04E-07	1.52E-10	2.20E-07	5.16E-08	2.60E-06
27 8.10 0.	0.	8.54E-08	1.25E-06	0.	0.	0.	0.	1.04E-07	1.57E-10	2.20E-07	5.16E-08	2.53E-06
28 8.00 0.	0.	8.17E-08	1.18E-06	0.	0.	0.	0.	1.05E-07	1.64E-10	2.20E-07	5.16E-08	2.46E-06
29 7.90 0.	0.	7.80E-08	1.10E-06	0.	0.	0.	0.	1.05E-07	1.71E-10	2.20E-07	5.16E-08	2.39E-06
30 7.80 0.	0.	7.43E-08	1.03E-06	0.	0.	0.	0.	1.06E-07	1.77E-10	2.20E-07	5.16E-08	2.32E-06
31 7.70 0.	0.	7.05E-08	9.63E-07	0.	0.	0.	0.	1.07E-07	1.85E-10	2.20E-07	5.16E-08	2.25E-06
32 7.60 0.	0.	6.68E-08	8.93E-07	0.	0.	0.	0.	1.07E-07	1.92E-10	2.20E-07	5.16E-08	2.18E-06
33 7.50 0.	0.	6.31E-08	8.23E-07	0.	0.	0.	0.	1.08E-07	2.00E-10	2.20E-07	5.16E-08	2.11E-06
34 7.40 0.	0.	5.94E-08	7.53E-07	0.	0.	0.	0.	1.08E-07	2.08E-10	2.20E-07	5.16E-08	2.04E-06
35 7.30 0.	0.	5.57E-08	6.83E-07	0.	0.	0.	0.	1.09E-07	2.16E-10	2.20E-07	5.16E-08	1.97E-06
36 7.20 0.	0.	5.20E-08	6.13E-07	0.	0.	0.	0.	1.09E-07	2.24E-10	2.20E-07	5.16E-08	1.90E-06
37 7.10 0.	0.	4.83E-08	5.43E-07	0.	0.	0.	0.	1.10E-07	2.32E-10	2.20E-07	5.16E-08	1.83E-06
38 7.00 0.	0.	4.46E-08	4.73E-07	0.	0.	0.	0.	1.10E-07	2.40E-10	2.20E-07	5.16E-08	1.76E-06
39 6.90 1.30E-10	0.	4.09E-08	4.03E-07	0.	0.	0.	0.	1.11E-07	2.48E-10	2.20E-07	5.16E-08	1.69E-06
40 6.80 1.08E-10	0.	3.72E-08	3.33E-07	0.	0.	0.	0.	1.12E-07	2.56E-10	2.20E-07	5.16E-08	1.62E-06
41 6.70 7.24E-11	0.	3.35E-08	2.63E-07	0.	0.	0.	0.	1.13E-07	2.64E-10	2.20E-07	5.16E-08	1.55E-06
42 6.60 4.19E-11	0.	2.98E-08	1.93E-07	0.	0.	0.	0.	1.14E-07	2.72E-10	2.20E-07	5.16E-08	1.48E-06
43 6.50 2.26E-11	0.	2.61E-08	1.23E-07	0.	0.	0.	0.	1.15E-07	2.80E-10	2.20E-07	5.16E-08	1.41E-06
44 6.40 3.17E-11	0.	2.24E-08	5.70E-08	0.	0.	0.	0.	1.16E-07	2.88E-10	2.20E-07	5.16E-08	1.34E-06
45 6.30 6.59E-11	0.	1.87E-08	1.65E-08	0.	0.	0.	0.	1.17E-07	2.96E-10	2.20E-07	5.16E-08	1.27E-06
46 6.20 1.87E-10	0.	1.50E-08	7.66E-09	0.	0.	0.	0.	1.18E-07	3.04E-10	2.20E-07	5.16E-08	1.20E-06
47 6.10 7.21E-10	0.	1.13E-08	3.18E-09	0.	0.	0.	0.	1.19E-07	3.12E-10	2.20E-07	5.16E-08	1.13E-06
48 6.00 1.82E-09	0.	7.66E-09	1.38E-09	0.	0.	0.	0.	1.20E-07	3.20E-10	2.20E-07	5.16E-08	1.06E-06
49 5.90 2.63E-09	0.	5.08E-11	3.47E-09	0.	0.	0.	0.	1.21E-07	3.28E-10	2.20E-07	5.16E-08	9.9E-07
50 5.80 4.11E-09	0.	1.23E-12	4.58E-08	1.44E-07	0.	0.	0.	1.22E-07	3.36E-10	2.20E-07	5.16E-08	9.2E-07
51 5.70 4.61E-09	0.	0.	4.79E-08	1.43E-07	0.	0.	0.	1.23E-07	3.44E-10	2.20E-07	5.16E-08	8.5E-07

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON OR S-R ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	M2 2ND NEG.	BETA	NO BANNA	NO VIS-ROT	NO 2	O- PHOTO-DET (IONS)	FREE-FREE N	P.E.	D	TOTAL AIR	
														TEMPERATURE (DEGREES K)
52	5.60	5.59E-09	0.	0.	3.40E-08	2.49E-07	0.	1.88E-07	4.63E-10	5.45E-08	7.19E-08	3.21E-07	0.	
53	5.50	5.60E-09	0.	0.	4.23E-08	2.49E-07	0.	1.08E-07	4.89E-10	5.90E-08	7.52E-08	5.31E-07	0.	
54	5.40	5.78E-09	0.	0.	3.46E-08	1.47E-07	0.	1.08E-07	5.14E-10	5.65E-08	7.65E-08	4.24E-07	0.	
55	5.30	5.48E-09	0.	0.	3.60E-08	2.36E-07	0.	1.09E-07	5.42E-10	7.00E-08	7.00E-08	5.16E-07	0.	
56	5.20	5.37E-09	0.	0.	3.68E-08	1.23E-07	0.	1.09E-07	5.78E-10	5.69E-08	6.00E-08	4.04E-07	0.	
57	5.10	3.38E-08	0.	0.	3.47E-08	1.72E-07	0.	1.24E-14	1.08E-07	6.13E-10	5.03E-08	0.9E-08	4.58E-07	
58	5.00	2.42E-08	0.	0.	3.97E-08	1.45E-07	0.	1.24E-14	1.07E-07	6.31E-10	5.97E-08	0.39E-08	4.79E-07	
59	4.90	2.01E-08	0.	0.	3.14E-08	1.37E-07	0.	1.24E-14	1.00E-07	6.51E-10	6.13E-08	0.78E-08	4.26E-07	
60	4.80	2.02E-09	0.	0.	3.27E-08	1.24E-07	0.	1.24E-14	1.09E-07	7.34E-10	6.27E-08	0.70E-08	4.21E-07	
61	4.70	2.13E-09	0.	0.	3.04E-08	1.01E-07	0.	1.24E-14	1.19E-07	7.84E-10	6.42E-08	0.99E-08	3.90E-07	
62	4.60	2.44E-08	0.	0.	2.90E-08	0.61E-08	0.	1.24E-14	1.15E-07	8.34E-10	6.60E-08	0.21E-08	3.90E-07	
63	4.50	2.37E-09	0.	0.	2.50E-08	0.51E-08	0.	1.24E-14	1.12E-07	8.93E-10	6.80E-08	0.43E-08	3.71E-07	
64	4.40	2.52E-09	0.	0.	2.40E-08	5.00E-08	0.	1.24E-14	1.12E-07	9.50E-10	7.01E-08	0.95E-08	3.78E-07	
65	4.30	2.01E-09	0.	0.	2.11E-08	2.65E-08	0.	1.24E-14	1.12E-07	1.02E-09	7.22E-08	0.66E-08	3.65E-07	
66	4.20	1.77E-09	0.	0.	2.15E-08	2.25E-08	0.	1.24E-14	1.14E-07	1.10E-09	7.43E-08	0.33E-09	3.61E-07	
67	4.10	1.54E-09	0.	0.	1.93E-08	5.50E-09	0.	1.24E-14	1.15E-07	1.18E-09	5.30E-08	0.81E-09	2.41E-07	
68	4.00	1.34E-09	0.	0.	1.75E-08	4.22E-09	0.	1.24E-14	1.15E-07	1.27E-09	5.51E-08	1.81E-08	3.05E-07	
69	3.90	1.04E-09	0.	0.	3.42E-08	1.42E-08	0.	1.24E-14	1.15E-07	1.37E-09	4.27E-08	1.84E-08	3.22E-07	
70	3.80	1.09E-09	0.	0.	1.08E-07	4.63E-07	1.90E-08	0.	1.24E-14	1.15E-07	4.38E-08	1.07E-08	7.57E-07	
71	3.70	6.83E-10	0.	0.	1.60E-07	8.76E-08	1.10E-08	0.	1.24E-14	1.13E-07	1.61E-08	3.45E-08	1.22E-08	4.28E-07
72	3.60	7.59E-10	0.	0.	6.98E-08	5.67E-07	1.20E-08	0.	1.24E-14	1.09E-07	1.75E-08	3.62E-08	1.39E-08	8.04E-07
73	3.50	6.50E-10	0.	0.	1.20E-07	2.48E-06	0.15E-09	0.	1.24E-14	0.99E-08	1.90E-09	4.35E-08	1.57E-08	2.47E-06
74	3.40	5.23E-10	0.	0.	5.13E-08	1.3E-07	8.9E-09	0.	1.24E-14	0.57E-08	2.08E-09	4.93E-08	1.77E-08	2.98E-07
75	3.30	3.94E-10	0.	0.	5.98E-08	7.21E-07	6.30E-09	0.	1.24E-14	0.57E-08	2.27E-09	5.91E-08	1.96E-08	7.08E-07
76	3.20	2.77E-10	0.	0.	3.02E-08	2.43E-06	6.32E-09	0.	1.24E-14	0.60E-08	2.50E-09	6.19E-08	2.13E-08	2.61E-06
77	3.10	2.77E-10	0.	0.	2.37E-08	1.77E-07	5.41E-09	0.	1.24E-14	0.61E-08	2.75E-09	6.70E-08	2.57E-08	3.55E-07
78	3.00	2.26E-10	0.	0.	1.24E-08	7.83E-07	4.62E-09	0.	1.24E-14	0.61E-08	3.03E-09	7.30E-08	2.57E-08	9.69E-07
79	2.90	1.71E-10	0.	0.	1.30E-09	5.84E-07	3.07E-09	0.	1.24E-14	0.62E-08	3.33E-09	7.90E-08	2.77E-08	7.62E-07
80	2.80	1.04E-10	0.	0.	3.33E-09	1.94E-07	1.71E-09	0.	1.24E-14	0.62E-08	3.73E-09	8.54E-08	2.99E-08	3.38E-07
81	2.70	6.23E-11	0.	0.	1.52E-09	3.86E-07	7.64E-10	0.	1.24E-14	0.62E-08	4.16E-09	9.21E-08	3.27E-08	5.49E-07
82	2.60	3.61E-11	0.	0.	7.79E-10	2.81E-10	0.	0.	1.24E-14	0.62E-08	4.67E-09	9.93E-08	3.71E-08	2.07E-07
83	2.50	2.34E-12	0.	0.	1.07E-10	2.30E-08	5.97E-11	0.	1.24E-14	0.62E-08	5.25E-09	4.49E-08	4.00E-08	1.48E-07
84	2.40	0.	0.	0.	3.04E-12	5.83E-12	0.	0.	1.24E-14	0.62E-08	5.94E-09	5.62E-08	1.23E-08	1.69E-07
85	2.30	0.	0.	0.	3.88E-08	0.	0.	0.	1.24E-14	0.62E-08	6.75E-09	6.82E-08	1.48E-08	1.84E-07
86	2.20	0.	0.	0.	7.41E-08	0.	0.	0.	1.24E-14	0.62E-08	7.73E-09	8.05E-08	1.78E-08	2.36E-07
87	2.10	0.	0.	0.	1.20E-07	0.	0.	0.	1.24E-14	0.62E-08	8.90E-09	9.37E-08	2.00E-08	2.99E-07
88	2.00	0.	0.	0.	1.80E-07	0.	0.	0.	1.24E-14	0.62E-08	1.03E-08	1.07E-07	2.30E-08	3.74E-07
89	1.90	0.	0.	0.	4.19E-07	0.	0.	0.	1.24E-14	0.62E-08	1.20E-08	1.21E-07	2.69E-08	4.27E-07
90	1.80	0.	0.	0.	3.43E-07	0.	0.	0.	1.24E-14	0.62E-08	1.42E-08	1.41E-07	3.17E-08	5.79E-07
91	1.70	0.	0.	0.	4.14E-07	0.	0.	0.	1.24E-14	0.62E-08	1.66E-08	1.65E-07	3.72E-08	6.86E-07
92	1.60	0.	0.	0.	2.89E-07	0.	0.	0.	1.24E-14	0.62E-08	2.02E-08	2.10E-07	4.63E-08	5.79E-07
93	1.50	0.	0.	0.	3.95E-07	0.	0.	0.	1.24E-14	0.62E-08	2.46E-08	2.10E-07	4.62E-08	6.93E-07
94	1.40	0.	0.	0.	3.92E-07	0.	0.	0.	1.24E-14	0.	3.03E-08	1.45E-07	3.43E-08	6.01E-07
95	1.30	0.	0.	0.	2.98E-07	0.	0.	0.	1.24E-14	0.	3.80E-08	1.45E-07	4.74E-08	5.69E-07
96	1.20	0.	0.	0.	2.96E-07	0.	0.	0.	1.24E-14	0.	4.84E-08	2.73E-07	5.85E-08	6.72E-07
97	1.10	0.	0.	0.	2.27E-07	0.	0.	0.	1.24E-14	0.	6.31E-08	3.22E-07	6.99E-08	6.81E-07
98	1.00	0.	0.	0.	2.15E-07	0.	0.	0.	1.24E-14	0.	8.42E-08	3.69E-07	8.36E-08	7.78E-07
99	0.90	0.	0.	0.	1.69E-07	0.	0.	0.	1.24E-14	0.	1.16E-07	4.49E-07	9.74E-08	6.32E-07
100	0.80	0.	0.	0.	2.21E-08	0.	0.	0.	1.24E-14	0.	1.64E-07	5.15E-07	1.12E-07	8.71E-07
101	0.70	0.	0.	0.	2.15E-08	0.	0.	0.	1.24E-14	0.	2.49E-07	4.37E-07	8.31E-08	7.96E-07
102	0.60	0.	0.	0.	8.54E-10	0.	0.	0.	1.24E-14	0.	4.81E-07	4.91E-07	9.96E-08	9.94E-07



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E.V.	O2 S-R CONT.	TEMPERATURE (DEGREES K)	NO BETA	NO GAMMA	DENSITY (GM/CC)	O- PHOTO-DET (10 <sup>-6</sup> )		PRESS-FREEZ		TOTAL AIR
						NO 2	P.S.	N	P.S.	
1 10.70 0.	0.	3.21E-07	9.	5.	0.	1.92E-09	6.42E-12	2.09E-09	5.09E-09	3.50E-07
2 10.60 0.	0.	2.67E-07	8.	5.	0.	2.00E-09	6.15E-12	2.10E-09	5.10E-09	2.96E-07
3 10.50 0.	0.	2.55E-07	8.	5.	0.	2.00E-09	6.05E-12	2.11E-09	5.10E-09	2.85E-07
4 10.40 0.	0.	2.24E-07	8.	0.	0.	2.07E-09	7.08E-12	2.12E-09	5.10E-09	2.53E-07
5 10.30 0.	0.	1.78E-07	8.	0.	0.	2.06E-09	7.29E-12	2.12E-09	5.11E-09	2.06E-07
6 10.20 0.	0.	1.74E-07	8.	0.	0.	2.06E-09	7.42E-12	2.13E-09	5.11E-09	2.03E-07
7 10.10 0.	0.	1.56E-07	8.	0.	0.	2.09E-09	7.87E-12	2.13E-09	5.11E-09	1.84E-07
8 10.00 0.	0.	1.20E-07	8.	0.	0.	2.08E-09	8.15E-12	2.14E-09	5.12E-09	1.59E-07
9 9.90 0.	0.	1.20E-07	8.	0.	0.	2.08E-09	8.15E-12	2.14E-09	5.12E-09	1.59E-07
10 9.80 0.	0.	1.08E-07	8.	0.	0.	2.08E-09	8.37E-12	2.15E-09	5.12E-09	1.38E-07
11 9.70 0.	0.	7.98E-08	8.	0.	0.	2.08E-09	8.63E-12	2.15E-09	5.12E-09	1.09E-07
12 9.60 0.	0.	6.53E-08	8.	0.	0.	2.08E-09	8.91E-12	2.16E-09	5.13E-09	8.15E-08
13 9.50 0.	4.14E-10	6.45E-08	8.	0.	0.	2.02E-09	9.19E-12	2.17E-09	5.13E-09	6.42E-08
14 9.40 0.	4.95E-10	5.60E-08	8.	0.	0.	2.02E-09	9.49E-12	2.17E-09	5.13E-09	6.42E-08
15 9.30 0.	5.51E-10	5.55E-08	8.	0.	0.	2.02E-09	9.81E-12	2.17E-09	5.13E-09	7.04E-08
16 9.20 0.	6.15E-10	3.96E-08	8.	0.	0.	2.02E-09	1.01E-11	2.17E-09	5.14E-09	5.41E-08
17 9.10 0.	7.47E-10	4.07E-08	8.	0.	0.	2.02E-09	1.09E-11	2.17E-09	5.14E-09	5.59E-08
18 9.00 0.	8.07E-10	3.37E-08	8.	0.	0.	2.02E-09	1.18E-11	2.17E-09	5.14E-09	4.06E-08
19 8.90 0.	1.03E-09	2.61E-08	8.	0.	0.	2.02E-09	1.28E-11	2.17E-09	5.14E-09	4.06E-08
20 8.80 0.	1.07E-09	2.64E-08	8.	0.	0.	2.02E-09	1.38E-11	2.17E-09	5.14E-09	4.13E-08
21 8.70 0.	1.08E-09	2.91E-08	8.	0.	0.	2.02E-09	1.48E-11	2.17E-09	5.14E-09	3.50E-08
22 8.60 0.	9.92E-10	2.03E-08	8.	0.	0.	2.02E-09	1.58E-11	2.17E-09	5.14E-09	3.51E-08
23 8.50 0.	9.62E-10	1.56E-08	8.	0.	0.	2.02E-09	1.68E-11	2.17E-09	5.14E-09	3.84E-08
24 8.40 0.	9.35E-10	1.49E-08	8.	0.	0.	2.02E-09	1.78E-11	2.17E-09	5.14E-09	2.97E-08
25 8.30 0.	9.15E-10	1.12E-08	8.	0.	0.	2.02E-09	1.88E-11	2.17E-09	5.14E-09	2.40E-08
26 8.20 0.	8.88E-10	1.02E-08	8.	0.	0.	2.02E-09	1.98E-11	2.17E-09	5.14E-09	2.56E-08
27 8.10 0.	8.53E-10	0.34E-09	8.	0.	0.	2.02E-09	2.08E-11	2.17E-09	5.14E-09	2.51E-08
28 8.00 0.	8.20E-10	7.98E-09	8.	0.	0.	2.02E-09	2.18E-11	2.17E-09	5.14E-09	2.20E-08
29 7.90 0.	7.92E-10	6.16E-09	8.	0.	0.	2.02E-09	2.28E-11	2.17E-09	5.14E-09	2.10E-08
30 7.80 0.	7.58E-10	6.04E-09	8.	0.	0.	2.02E-09	2.38E-11	2.17E-09	5.14E-09	2.09E-08
31 7.70 0.	7.20E-10	4.78E-09	8.	0.	0.	2.02E-09	2.48E-11	2.17E-09	5.14E-09	1.97E-08
32 7.60 0.	6.84E-10	4.21E-09	8.	3.05E-13	0.	2.02E-09	2.58E-11	2.17E-09	5.14E-09	1.91E-08
33 7.50 0.	6.48E-10	3.54E-09	8.	3.05E-13	0.	2.02E-09	2.68E-11	2.17E-09	5.14E-09	1.83E-08
34 7.40 0.	6.11E-10	2.94E-09	8.	3.05E-13	0.	2.02E-09	2.78E-11	2.17E-09	5.14E-09	1.79E-08
35 7.30 0.	5.73E-10	2.56E-09	8.	4.51E-11	0.	2.02E-09	2.88E-11	2.17E-09	5.14E-09	1.76E-08
36 7.20 0.	5.35E-10	2.11E-09	8.	1.29E-10	0.	2.02E-09	2.98E-11	2.17E-09	5.14E-09	1.72E-08
37 7.10 0.	5.00E-10	1.67E-09	8.	2.85E-10	0.	2.02E-09	3.08E-11	2.17E-09	5.14E-09	1.72E-08
38 7.00 6.70E-13	0.	1.57E-09	8.	9.54E-10	0.	2.02E-09	3.18E-11	2.17E-09	5.14E-09	1.71E-08
39 6.90 1.20E-12	0.	1.32E-09	8.	6.19E-10	0.	2.02E-09	3.28E-11	2.17E-09	5.14E-09	1.68E-08
40 6.80 1.02E-12	0.	1.14E-09	8.	1.89E-09	0.	2.02E-09	3.38E-11	2.17E-09	5.14E-09	1.77E-08
41 6.70 7.01E-13	0.	9.22E-10	8.	2.62E-09	0.	2.02E-09	3.48E-11	2.17E-09	5.14E-09	1.83E-08
42 6.60 4.84E-13	0.	7.52E-10	8.	3.32E-09	0.	2.02E-09	3.58E-11	2.17E-09	5.14E-09	1.78E-08
43 6.50 2.80E-13	0.	5.32E-10	8.	2.68E-09	0.	2.02E-09	3.68E-11	2.17E-09	5.14E-09	1.91E-08
44 6.40 3.06E-13	0.	3.11E-10	8.	2.10E-11	3.44E-09	2.02E-09	3.78E-11	2.17E-09	5.14E-09	1.89E-08
45 6.30 6.29E-13	0.	1.62E-10	8.	1.59E-09	6.39E-09	2.02E-09	3.88E-11	2.17E-09	5.14E-09	1.69E-08
46 6.20 3.61E-12	0.	7.50E-11	8.	1.35E-10	4.49E-09	2.02E-09	3.98E-11	2.17E-09	5.14E-09	1.79E-08
47 6.10 6.97E-12	0.	3.05E-11	8.	1.20E-09	6.52E-09	2.02E-09	4.08E-11	2.17E-09	5.14E-09	2.00E-08
48 6.00 1.74E-11	0.	7.02E-12	8.	1.34E-09	6.44E-09	2.02E-09	4.18E-11	2.17E-09	5.14E-09	1.73E-08
49 5.90 2.73E-11	0.	4.96E-13	8.	3.57E-10	1.50E-09	2.02E-09	4.28E-11	2.17E-09	5.14E-09	1.77E-08
50 5.80 3.97E-11	0.	1.21E-14	8.	4.95E-10	1.40E-09	2.02E-09	4.38E-11	2.17E-09	5.14E-09	1.70E-08
51 5.70 4.40E-11	0.	0.	4.65E-10	1.30E-09	0.	2.02E-09	4.48E-11	2.17E-09	5.14E-09	1.76E-08

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	M2 2ND NEG.	NO BETA	AD GAMMA	NO VIB-ROT	MG PHOTO-DET (IOMS)	O-FREE-FREE P.E.	N P.E.	O P.F.E.	TOTAL AIR	
													TEMPERATURE (DEGREES K)
52	5.60	5.48E-11	0.	0.	3.31E-10	2.42E-09	0.	0.	3.10E-09	4.31E-11	5.10E-09	7.27E-09	1.67E-08
53	5.50	5.47E-11	0.	0.	4.15E-10	2.42E-09	0.	0.	3.10E-09	4.77E-11	5.43E-09	7.39E-09	1.90E-08
54	5.40	5.57E-11	0.	0.	3.06E-10	1.42E-09	0.	0.	3.20E-09	5.04E-11	5.49E-09	7.52E-09	1.61E-08
55	5.30	5.25E-11	0.	0.	3.37E-10	2.29E-09	0.	0.	3.22E-09	5.35E-11	5.55E-09	7.67E-09	1.92E-08
56	5.20	5.25E-11	0.	0.	3.53E-10	1.92E-09	0.	0.	3.24E-09	5.64E-11	5.62E-09	7.86E-09	1.63E-08
57	5.10	5.24E-11	0.	0.	3.57E-10	1.67E-09	0.	0.	3.27E-09	5.90E-11	5.74E-09	8.09E-09	1.91E-08
58	5.00	5.24E-11	0.	0.	3.69E-10	1.41E-09	0.	0.	3.29E-09	6.25E-11	5.99E-09	8.24E-09	1.92E-08
59	4.90	5.19E-11	0.	0.	3.65E-10	1.31E-09	0.	0.	3.32E-09	6.74E-11	6.02E-09	8.47E-09	1.93E-08
60	4.80	5.19E-11	0.	0.	3.10E-10	1.27E-09	0.	0.	3.35E-09	7.17E-11	6.20E-09	8.63E-09	1.90E-08
61	4.70	5.06E-11	0.	0.	2.92E-10	9.61E-10	0.	0.	3.37E-09	7.64E-11	6.32E-09	8.90E-09	1.99E-08
62	4.60	5.06E-11	0.	0.	2.90E-10	9.35E-10	0.	0.	3.40E-09	8.15E-11	6.52E-09	9.06E-09	2.03E-08
63	4.50	5.29E-11	0.	3.43E-11	2.73E-10	6.35E-10	0.	1.19E-17	3.43E-09	8.71E-11	6.72E-09	9.27E-09	2.04E-08
64	4.40	5.24E-11	0.	1.37E-10	2.53E-10	4.80E-10	0.	1.19E-17	3.46E-09	9.32E-11	6.92E-09	9.49E-09	2.08E-08
65	4.30	5.19E-11	0.	2.80E-10	2.30E-10	2.59E-10	0.	1.19E-17	3.48E-09	9.95E-11	7.14E-09	9.71E-09	2.12E-08
66	4.20	5.17E-11	0.	1.33E-09	2.09E-10	2.17E-10	0.	1.19E-17	3.51E-09	1.07E-10	7.35E-09	9.93E-09	2.17E-08
67	4.10	5.15E-11	0.	3.48E-10	1.87E-10	5.42E-11	0.	1.19E-17	3.53E-09	1.17E-10	7.56E-09	1.01E-08	2.20E-08
68	4.00	5.29E-11	0.	1.84E-09	1.70E-10	4.10E-11	0.	1.19E-17	3.54E-09	1.24E-10	7.76E-09	1.03E-08	2.23E-08
69	3.90	5.10E-11	0.	8.22E-10	1.60E-10	1.80E-11	0.	1.19E-17	3.53E-09	1.34E-10	7.96E-09	1.05E-08	2.26E-08
70	3.80	5.06E-11	0.	1.05E-09	1.45E-10	1.40E-10	0.	1.19E-17	3.51E-09	1.45E-10	8.16E-09	1.07E-08	2.29E-08
71	3.70	5.35E-12	0.	1.54E-09	2.74E-09	1.07E-10	0.	1.19E-17	3.46E-09	1.57E-10	8.36E-09	1.09E-08	2.32E-08
72	3.60	7.05E-12	0.	6.82E-09	1.77E-08	7.25E-11	0.	1.19E-17	3.24E-09	1.72E-10	8.56E-09	1.11E-08	2.35E-08
73	3.50	6.08E-12	0.	1.17E-09	6.82E-08	7.25E-11	0.	1.19E-17	2.96E-09	1.86E-10	8.76E-09	1.13E-08	2.38E-08
74	3.40	5.08E-12	0.	5.71E-10	3.53E-09	6.74E-11	0.	1.19E-17	2.70E-09	2.00E-10	8.96E-09	1.15E-08	2.41E-08
75	3.30	3.08E-12	0.	5.88E-10	2.41E-08	6.12E-11	0.	1.19E-17	1.71E-09	2.15E-10	9.16E-09	1.17E-08	2.44E-08
76	3.20	3.04E-12	0.	2.95E-10	7.61E-08	6.35E-11	0.	1.19E-17	1.71E-09	2.32E-10	9.36E-09	1.19E-08	2.47E-08
77	3.10	2.68E-12	0.	2.95E-10	5.53E-09	5.24E-11	0.	1.19E-17	1.72E-09	2.49E-10	9.56E-09	1.21E-08	2.50E-08
78	3.00	2.10E-12	0.	1.21E-10	2.44E-08	4.90E-11	0.	1.19E-17	1.72E-09	2.66E-10	9.76E-09	1.23E-08	2.53E-08
79	2.90	1.65E-12	0.	7.13E-11	1.83E-08	2.93E-11	0.	1.19E-17	1.73E-09	2.83E-10	9.96E-09	1.25E-08	2.56E-08
80	2.80	1.63E-12	0.	3.26E-11	1.49E-08	1.66E-11	0.	1.19E-17	1.73E-09	3.00E-10	1.01E-08	1.27E-08	2.59E-08
81	2.70	8.38E-13	0.	1.49E-11	1.21E-08	7.22E-12	0.	1.19E-17	1.73E-09	3.17E-10	1.03E-08	1.29E-08	2.62E-08
82	2.60	3.47E-13	0.	7.61E-12	1.16E-09	2.72E-12	0.	1.19E-17	1.73E-09	3.34E-10	1.05E-08	1.31E-08	2.65E-08
83	2.50	2.27E-14	0.	1.04E-12	7.40E-10	5.01E-13	0.	1.19E-17	1.73E-09	3.51E-10	1.07E-08	1.33E-08	2.68E-08
84	2.40	0.	0.	6.99E-11	6.65E-10	5.66E-14	0.	1.19E-17	1.73E-09	3.68E-10	1.09E-08	1.35E-08	2.71E-08
85	2.30	0.	0.	3.71E-10	0.	0.	0.	1.19E-17	1.71E-09	3.85E-10	1.11E-08	1.37E-08	2.74E-08
86	2.20	0.	0.	7.24E-10	0.	0.	0.	1.19E-17	1.71E-09	4.02E-10	1.13E-08	1.39E-08	2.77E-08
87	2.10	0.	0.	1.77E-09	0.	0.	0.	1.19E-17	1.71E-09	4.19E-10	1.15E-08	1.41E-08	2.80E-08
88	2.00	0.	0.	1.76E-09	0.	0.	0.	1.19E-17	1.70E-09	4.36E-10	1.17E-08	1.43E-08	2.83E-08
89	1.90	0.	0.	4.05E-09	0.	0.	0.	1.19E-17	1.69E-09	4.53E-10	1.19E-08	1.45E-08	2.86E-08
90	1.80	0.	0.	3.35E-09	0.	0.	0.	1.19E-17	1.68E-09	4.70E-10	1.21E-08	1.47E-08	2.89E-08
91	1.70	0.	0.	4.02E-09	0.	0.	0.	1.19E-17	1.51E-09	4.87E-10	1.23E-08	1.49E-08	2.92E-08
92	1.60	0.	0.	4.02E-09	0.	0.	0.	1.19E-17	1.43E-09	5.04E-10	1.25E-08	1.51E-08	2.95E-08
93	1.50	0.	0.	2.79E-09	0.	0.	0.	1.19E-17	1.35E-09	5.21E-10	1.27E-08	1.53E-08	2.98E-08
94	1.40	0.	0.	3.02E-09	0.	0.	0.	1.19E-17	1.27E-09	5.38E-10	1.29E-08	1.55E-08	3.01E-08
95	1.30	0.	0.	2.72E-09	0.	0.	0.	1.19E-17	1.19E-09	5.55E-10	1.31E-08	1.57E-08	3.04E-08
96	1.20	0.	0.	2.80E-09	0.	0.	0.	1.19E-17	1.11E-09	5.72E-10	1.33E-08	1.59E-08	3.07E-08
97	1.10	0.	0.	2.27E-09	0.	0.	0.	1.19E-17	1.03E-09	5.89E-10	1.35E-08	1.61E-08	3.10E-08
98	1.00	0.	0.	2.27E-09	0.	0.	0.	1.19E-17	9.5E-10	6.06E-10	1.37E-08	1.63E-08	3.13E-08
99	0.90	0.	0.	1.45E-09	0.	0.	0.	1.19E-17	8.7E-10	6.23E-10	1.39E-08	1.65E-08	3.16E-08
100	0.80	0.	0.	7.61E-10	0.	0.	0.	1.19E-17	7.9E-10	6.40E-10	1.41E-08	1.67E-08	3.19E-08
101	0.70	0.	0.	2.80E-10	0.	0.	0.	1.19E-17	7.1E-10	6.57E-10	1.43E-08	1.69E-08	3.22E-08
102	0.60	0.	0.	8.30E-12	0.	0.	0.	1.19E-17	6.3E-10	6.74E-10	1.45E-08	1.71E-08	3.25E-08

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 0000. DENSITY (GM/CC) 1.2932-00 (10.00-20 NORMAL)

PHOTON ENERGY BANDS E.V.	O2 S-R CONT.	N2 S-R NO. 1	NO PETA	NO GAMMA	D- PHOTO-OXY (IONS)	D- FREE-FREE P.E.	D TOTAL AIR			
								P.E.	P.E.	
1 10.70 0.	0.	2.81E-09	0.	0.	0.	0.57E-11	0.01E-13	1.02E-09	4.02E-10	5.13E-09
2 10.60 0.	0.	2.34E-09	0.	0.	0.	0.50E-11	4.10E-13	1.92E-09	4.02E-10	4.07E-09
3 10.50 0.	0.	2.24E-09	0.	0.	0.	0.60E-11	6.30E-13	1.97E-09	4.03E-10	4.70E-09
4 10.40 0.	0.	1.94E-09	0.	0.	0.	0.61E-11	6.94E-13	1.98E-09	4.03E-10	4.91E-09
5 10.30 0.	0.	1.94E-09	0.	0.	0.	0.62E-11	6.74E-13	1.99E-09	4.03E-10	4.91E-09
6 10.20 0.	0.	1.92E-09	0.	0.	0.	0.63E-11	6.94E-13	1.99E-09	4.04E-10	4.60E-09
7 10.10 0.	0.	1.93E-09	0.	0.	0.	0.64E-11	7.27E-13	2.00E-09	4.04E-10	3.92E-09
8 10.00 0.	0.	1.05E-09	0.	0.	0.	0.67E-11	7.93E-13	2.01E-09	4.04E-10	3.63E-09
9 9.90 0.	0.	9.04E-10	0.	0.	0.	0.70E-11	8.08E-13	2.02E-09	4.04E-10	3.49E-09
10 9.80 0.	0.	6.90E-10	0.	0.	0.	0.72E-11	8.33E-13	2.02E-09	4.04E-10	3.29E-09
11 9.70 0.	0.	7.47E-10	0.	0.	0.	0.73E-11	8.66E-13	2.03E-09	4.04E-10	3.17E-09
12 9.60 0.	0.	3.79E-12	5.69E-10	0.	0.	0.74E-11	9.17E-13	2.03E-09	4.04E-10	3.24E-09
13 9.50 0.	0.	4.35E-12	4.91E-10	0.	0.	0.74E-11	9.28E-13	2.03E-09	4.04E-10	3.60E-09
14 9.40 0.	0.	4.95E-12	4.90E-10	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
15 9.30 0.	0.	5.55E-12	3.97E-10	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
16 9.20 0.	0.	6.70E-12	3.56E-10	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
17 9.10 0.	0.	7.97E-12	2.91E-10	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
18 9.00 0.	0.	9.23E-12	2.46E-10	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
19 8.90 0.	0.	9.59E-12	2.31E-10	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
20 8.80 0.	0.	9.25E-12	1.76E-10	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
21 8.70 0.	0.	8.91E-12	1.78E-10	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
22 8.60 0.	0.	8.64E-12	1.37E-10	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
23 8.50 0.	0.	8.44E-12	1.31E-10	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
24 8.40 0.	0.	8.24E-12	9.80E-11	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
25 8.30 0.	0.	7.99E-12	9.80E-11	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
26 8.20 0.	0.	7.71E-12	7.30E-11	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
27 8.10 0.	0.	7.43E-12	6.90E-11	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
28 8.00 0.	0.	7.11E-12	5.30E-11	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
29 7.90 0.	0.	6.79E-12	5.20E-11	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
30 7.80 0.	0.	6.46E-12	4.18E-11	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
31 7.70 0.	0.	6.14E-12	3.69E-11	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
32 7.60 0.	0.	5.81E-12	3.10E-11	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
33 7.50 0.	0.	5.49E-12	2.50E-11	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
34 7.40 0.	0.	5.16E-12	2.24E-11	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
35 7.30 0.	0.	4.83E-12	1.95E-11	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
36 7.20 0.	0.	4.49E-12	1.64E-11	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
37 7.10 0.	0.	4.16E-12	1.37E-11	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
38 7.00 0.	0.	3.83E-12	1.10E-11	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
39 6.90 0.	0.	3.50E-12	9.10E-12	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
40 6.80 0.	0.	3.17E-12	7.30E-12	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
41 6.70 0.	0.	2.84E-12	5.60E-12	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
42 6.60 0.	0.	2.51E-12	4.00E-12	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
43 6.50 0.	0.	2.18E-12	2.75E-12	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
44 6.40 0.	0.	1.85E-12	1.49E-12	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
45 6.30 0.	0.	1.52E-12	1.49E-12	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
46 6.20 0.	0.	1.19E-12	1.49E-12	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
47 6.10 0.	0.	8.60E-13	1.49E-12	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
48 6.00 0.	0.	5.20E-13	1.49E-12	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
49 5.90 0.	0.	1.80E-13	1.49E-12	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
50 5.80 0.	0.	3.94E-13	1.49E-12	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09
51 5.70 0.	0.	3.99E-13	1.49E-12	0.	0.	0.74E-11	9.31E-13	2.03E-09	4.04E-10	3.60E-09

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	NO 1ST POS.	NO 2ND POS.	TEMPERATURE (DEGREES K)	NO 1ST REC.	NO 2ND REC.	RETA	AD GAMMA	NO VIB-ROT	NO 2	DENSITY (GM/CC) 1.293E-00 (A.P. 96-98 NORMAL)		FREE-FREE P.S.		TOTAL AIR
										0.8800	0.8800	0- PHOTO-DEY (IONS)	N P.S.	
52	5.60	4.85E-13	0.	0.	2.93E-12	2.15E-11	0.	0.	0.	0.15E-11	5.22E-12	5.04E-10	0.00E-10	1.31E-09
53	5.50	4.90E-13	0.	0.	2.64E-12	2.24E-11	0.	0.	0.	0.20E-11	4.46E-12	5.00E-10	7.80E-10	1.52E-09
54	5.40	4.99E-13	0.	0.	2.98E-12	1.27E-11	0.	0.	0.	0.25E-11	4.71E-12	5.14E-10	7.12E-10	1.34E-09
55	5.30	4.68E-13	0.	0.	3.07E-12	2.30E-11	0.	0.	0.	0.31E-11	4.90E-12	5.20E-10	7.26E-10	1.37E-09
56	5.20	3.18E-13	0.	0.	3.13E-12	1.04E-11	0.	0.	0.	0.37E-11	5.29E-12	5.26E-10	7.44E-10	1.39E-09
57	5.10	2.90E-13	0.	0.	2.99E-12	1.87E-11	0.	0.	0.	0.46E-11	5.59E-12	5.39E-10	7.52E-10	1.42E-09
58	5.00	2.09E-13	0.	0.	2.56E-12	1.25E-11	0.	0.	0.	0.54E-11	5.94E-12	5.52E-10	7.60E-10	1.45E-09
59	4.90	1.74E-13	0.	0.	2.75E-12	1.17E-11	0.	0.	0.	0.61E-11	6.31E-12	5.67E-10	7.68E-10	1.48E-09
60	4.80	1.75E-13	0.	0.	2.61E-12	1.05E-11	0.	0.	0.	0.69E-11	6.71E-12	5.82E-10	7.76E-10	1.51E-09
61	4.70	1.64E-13	0.	0.	2.65E-12	8.68E-12	0.	0.	0.	0.76E-11	7.15E-12	5.98E-10	7.84E-10	1.54E-09
62	4.60	2.11E-13	0.	0.	2.56E-12	8.27E-12	0.	0.	0.	0.84E-11	7.63E-12	6.10E-10	7.92E-10	1.57E-09
63	4.50	2.05E-13	0.	3.88E-13	2.15E-12	5.60E-12	0.	0.	0.	0.92E-11	8.15E-12	6.23E-10	8.00E-10	1.60E-09
64	4.40	2.00E-13	0.	1.88E-12	0.	0.	0.	0.	0.	0.99E-11	8.72E-12	6.38E-10	8.08E-10	1.63E-09
65	4.30	1.74E-13	0.	2.53E-12	0.	2.28E-12	6.	0.	0.	0.94E-11	9.35E-12	6.50E-10	8.16E-10	1.66E-09
66	4.20	1.53E-13	0.	1.68E-12	0.	1.92E-12	0.	0.	0.	0.94E-11	1.02E-11	6.68E-10	8.24E-10	1.69E-09
67	4.10	1.35E-13	0.	3.02E-12	0.	1.65E-12	4.80E-13	0.	0.	0.94E-11	1.08E-11	6.88E-10	8.32E-10	1.72E-09
68	4.00	1.14E-13	0.	1.61E-11	0.	1.50E-12	3.67E-13	0.	0.	0.94E-11	1.14E-11	7.04E-10	8.40E-10	1.75E-09
69	3.90	0.96E-13	0.	7.80E-12	4.58E-11	1.24E-12	1.6.E-13	0.	0.	0.94E-11	1.22E-11	7.25E-10	8.48E-10	1.78E-09
70	3.80	9.47E-14	0.	9.24E-12	4.19E-10	1.29E-12	0.	0.	0.	0.94E-11	1.30E-11	7.47E-10	8.56E-10	1.81E-09
71	3.70	7.47E-14	0.	1.37E-11	7.65E-11	0.44E-13	0.	0.	0.	0.94E-11	1.47E-11	7.72E-10	8.64E-10	1.84E-09
72	3.60	6.31E-14	0.	5.97E-12	5.04E-10	1.04E-12	0.	0.	0.	0.94E-11	1.63E-11	8.04E-10	8.72E-10	1.87E-09
73	3.50	5.45E-14	0.	1.92E-11	1.95E-09	7.01E-13	0.	0.	0.	0.94E-11	1.74E-11	8.42E-10	8.80E-10	1.90E-09
74	3.40	4.52E-14	0.	4.59E-12	1.02E-10	7.73E-13	0.	0.	0.	0.94E-11	1.88E-11	8.86E-10	8.88E-10	1.93E-09
75	3.30	3.43E-14	0.	5.07E-12	6.91E-10	9.42E-13	0.	0.	0.	0.94E-11	2.06E-11	9.38E-10	8.96E-10	1.96E-09
76	3.20	2.72E-14	0.	2.58E-12	2.18E-09	5.44E-13	0.	0.	0.	0.94E-11	2.25E-11	9.94E-10	9.04E-10	1.99E-09
77	3.10	2.48E-14	0.	1.88E-12	1.59E-09	4.64E-13	0.	0.	0.	0.94E-11	2.51E-11	1.06E-09	9.12E-10	2.02E-09
78	3.00	1.95E-14	0.	1.88E-12	7.03E-10	3.98E-13	0.	0.	0.	0.94E-11	2.77E-11	1.14E-09	9.20E-10	2.05E-09
79	2.90	1.48E-14	0.	6.82E-13	5.25E-10	2.59E-13	0.	0.	0.	0.94E-11	3.06E-11	1.23E-09	9.28E-10	2.08E-09
80	2.80	1.44E-14	0.	2.89E-13	1.41E-10	1.47E-13	0.	0.	0.	0.94E-11	3.41E-11	1.33E-09	9.36E-10	2.11E-09
81	2.70	7.99E-15	0.	1.30E-13	3.46E-10	6.57E-14	0.	0.	0.	0.94E-11	3.80E-11	1.44E-09	9.44E-10	2.14E-09
82	2.60	3.13E-15	0.	6.66E-14	3.32E-11	2.42E-15	0.	0.	0.	0.94E-11	4.24E-11	1.56E-09	9.52E-10	2.17E-09
83	2.50	2.03E-16	0.	9.13E-15	2.12E-11	5.14E-16	0.	0.	0.	0.94E-11	4.74E-11	1.69E-09	9.60E-10	2.20E-09
84	2.40	0.	6.12E-13	0.	2.76E-11	5.01E-16	0.	0.	0.	0.94E-11	5.42E-11	1.83E-09	9.68E-10	2.23E-09
85	2.30	0.	3.25E-12	0.	0.	0.	0.	0.	0.	0.94E-11	6.16E-11	1.98E-09	9.76E-10	2.26E-09
86	2.20	0.	6.34E-17	0.	0.	0.	0.	0.	0.	0.94E-11	7.04E-11	2.14E-09	9.84E-10	2.29E-09
87	2.10	0.	1.03E-11	0.	0.	0.	0.	0.	0.	0.94E-11	8.12E-11	2.31E-09	9.92E-10	2.32E-09
88	2.00	0.	1.54E-11	0.	0.	0.	0.	0.	0.	0.94E-11	9.41E-11	2.49E-09	1.00E-09	2.35E-09
89	1.90	0.	3.54E-11	0.	0.	0.	0.	0.	0.	0.94E-11	1.10E-10	2.68E-09	1.01E-09	2.38E-09
90	1.80	0.	2.93E-11	0.	0.	0.	0.	0.	0.	0.94E-11	1.29E-10	2.88E-09	1.02E-09	2.41E-09
91	1.70	0.	3.54E-11	0.	0.	0.	0.	0.	0.	0.94E-11	1.54E-10	3.09E-09	1.03E-09	2.44E-09
92	1.60	0.	2.44E-11	0.	0.	0.	0.	0.	0.	0.94E-11	1.85E-10	3.32E-09	1.04E-09	2.47E-09
93	1.50	0.	3.04E-11	0.	0.	0.	0.	0.	0.	0.94E-11	2.25E-10	3.57E-09	1.05E-09	2.50E-09
94	1.40	0.	3.36E-11	0.	0.	0.	0.	0.	0.	0.94E-11	2.72E-10	3.84E-09	1.06E-09	2.53E-09
95	1.30	0.	2.54E-11	0.	0.	0.	0.	0.	0.	0.94E-11	3.30E-10	4.14E-09	1.07E-09	2.56E-09
96	1.20	0.	2.53E-11	0.	0.	0.	0.	0.	0.	0.94E-11	4.02E-10	4.47E-09	1.08E-09	2.59E-09
97	1.10	0.	1.94E-11	0.	0.	0.	0.	0.	0.	0.94E-11	4.96E-10	4.84E-09	1.09E-09	2.62E-09
98	1.00	0.	1.04E-11	0.	0.	0.	0.	0.	0.	0.94E-11	6.16E-10	5.26E-09	1.10E-09	2.65E-09
99	0.90	0.	1.85E-11	0.	0.	0.	0.	0.	0.	0.94E-11	7.68E-10	5.74E-09	1.11E-09	2.68E-09
100	0.80	0.	6.66E-12	0.	0.	0.	0.	0.	0.	0.94E-11	9.58E-10	6.28E-09	1.12E-09	2.71E-09
101	0.70	0.	1.87E-12	0.	0.	0.	0.	0.	0.	0.94E-11	1.20E-09	6.88E-09	1.13E-09	2.74E-09
102	0.60	0.	7.32E-14	0.	0.	0.	0.	0.	0.	0.94E-11	1.45E-09	7.54E-09	1.14E-09	2.77E-09

ABSORPTION COEFFICIENTS OF HEATED AIR (IMPERIAL SR.)

TEMPERATURE (DEGREES K) 8500. DENSITY (GM/CC) 1.2925-29 (10.0E-07 NORMAL)

PHOTON ENERGY BANDS E.V.	O2 S-R CMY.	M2 S-R NO. 1	BETA	NO GAMMA	NO 2	0- PHOTO-SET (1000)	FREE-FREE W P.E.	0 P.E.	TOTAL AIR
1 10.76 0.	0.	1.85E-11	0.	0.	0.	2.09E-12	4.09E-14	1.58E-10	4.08E-11
2 16.60 0.	0.	1.94E-11	0.	0.	0.	2.09E-12	5.09E-14	1.59E-10	4.04E-11
3 10.50 0.	0.	1.47E-11	0.	0.	0.	2.09E-12	1.09E-14	1.66E-10	4.04E-11
4 10.40 0.	0.	1.29E-11	0.	0.	0.	2.09E-12	3.32E-14	1.66E-10	4.04E-11
5 10.30 0.	0.	1.02E-11	0.	0.	0.	2.09E-12	5.49E-14	1.61E-10	4.04E-11
6 10.20 0.	0.	9.96E-12	0.	0.	0.	2.09E-12	5.45E-14	1.61E-10	4.04E-11
7 10.10 0.	0.	8.86E-12	0.	0.	0.	2.09E-12	5.82E-14	1.62E-10	4.04E-11
8 10.00 0.	0.	6.89E-12	0.	0.	0.	2.09E-12	6.08E-14	1.62E-10	4.04E-11
9 9.90 0.	0.	6.91E-12	0.	0.	0.	2.09E-12	6.18E-14	1.63E-10	4.04E-11
10 9.80 0.	0.	5.95E-12	0.	0.	0.	2.09E-12	6.34E-14	1.63E-10	4.04E-11
11 9.70 0.	0.	4.99E-12	0.	0.	0.	2.09E-12	6.59E-14	1.63E-10	4.04E-11
12 9.60 0.	0.	4.91E-12	0.	0.	0.	2.09E-12	6.79E-14	1.63E-10	4.04E-11
13 9.50 0.	0.	3.66E-11	0.	0.	0.	2.09E-12	7.08E-14	1.64E-10	4.04E-11
14 9.40 0.	0.	3.09E-11	0.	0.	0.	2.09E-12	7.46E-14	1.64E-10	4.04E-11
15 9.30 0.	0.	3.51E-11	0.	0.	0.	2.09E-12	7.47E-14	1.65E-10	4.04E-11
16 9.20 0.	0.	3.93E-11	0.	0.	0.	2.09E-12	7.71E-14	1.65E-10	4.04E-11
17 9.10 0.	0.	4.75E-11	0.	0.	0.	2.09E-12	7.97E-14	1.65E-10	4.04E-11
18 9.00 0.	0.	5.64E-11	0.	0.	0.	2.09E-12	8.24E-14	1.65E-10	4.04E-11
19 8.90 0.	0.	6.54E-11	0.	0.	0.	2.09E-12	8.52E-14	1.65E-10	4.04E-11
20 8.80 0.	0.	6.79E-11	0.	0.	0.	2.09E-12	8.81E-14	1.65E-10	4.04E-11
21 8.70 0.	0.	6.55E-11	0.	0.	0.	2.09E-12	9.12E-14	1.65E-10	4.04E-11
22 8.60 0.	0.	6.31E-11	0.	0.	0.	2.09E-12	9.45E-14	1.65E-10	4.04E-11
23 8.50 0.	0.	6.12E-11	0.	0.	0.	2.09E-12	9.79E-14	1.65E-10	4.04E-11
24 8.40 0.	0.	5.98E-11	0.	0.	0.	2.09E-12	1.01E-13	1.65E-10	4.04E-11
25 8.30 0.	0.	5.84E-11	0.	0.	0.	2.09E-12	1.05E-13	1.65E-10	4.04E-11
26 8.20 0.	0.	5.68E-11	0.	0.	0.	2.09E-12	1.09E-13	1.65E-10	4.04E-11
27 8.10 0.	0.	5.48E-11	0.	0.	0.	2.09E-12	1.13E-13	1.65E-10	4.04E-11
28 8.00 0.	0.	5.26E-11	0.	0.	0.	2.09E-12	1.17E-13	1.65E-10	4.04E-11
29 7.90 0.	0.	5.04E-11	0.	0.	0.	2.09E-12	1.22E-13	1.65E-10	4.04E-11
30 7.80 0.	0.	4.81E-11	0.	0.	0.	2.09E-12	1.27E-13	1.65E-10	4.04E-11
31 7.70 0.	0.	4.58E-11	0.	0.	0.	2.09E-12	1.32E-13	1.65E-10	4.04E-11
32 7.60 0.	0.	4.35E-11	0.	0.	0.	2.09E-12	1.37E-13	1.65E-10	4.04E-11
33 7.50 0.	0.	4.12E-11	0.	0.	0.	2.09E-12	1.42E-13	1.65E-10	4.04E-11
34 7.40 0.	0.	3.89E-11	0.	0.	0.	2.09E-12	1.47E-13	1.65E-10	4.04E-11
35 7.30 0.	0.	3.66E-11	0.	0.	0.	2.09E-12	1.52E-13	1.65E-10	4.04E-11
36 7.20 0.	0.	3.42E-11	0.	0.	0.	2.09E-12	1.57E-13	1.65E-10	4.04E-11
37 7.10 0.	0.	3.18E-11	0.	0.	0.	2.09E-12	1.62E-13	1.65E-10	4.04E-11
38 7.00 0.	0.	2.95E-11	0.	0.	0.	2.09E-12	1.67E-13	1.65E-10	4.04E-11
39 6.90 0.	0.	2.72E-11	0.	0.	0.	2.09E-12	1.72E-13	1.65E-10	4.04E-11
40 6.80 0.	0.	2.49E-11	0.	0.	0.	2.09E-12	1.77E-13	1.65E-10	4.04E-11
41 6.70 0.	0.	2.26E-11	0.	0.	0.	2.09E-12	1.82E-13	1.65E-10	4.04E-11
42 6.60 0.	0.	2.03E-11	0.	0.	0.	2.09E-12	1.87E-13	1.65E-10	4.04E-11
43 6.50 0.	0.	1.80E-11	0.	0.	0.	2.09E-12	1.92E-13	1.65E-10	4.04E-11
44 6.40 0.	0.	1.57E-11	0.	0.	0.	2.09E-12	1.97E-13	1.65E-10	4.04E-11
45 6.30 0.	0.	1.34E-11	0.	0.	0.	2.09E-12	2.02E-13	1.65E-10	4.04E-11
46 6.20 0.	0.	1.11E-11	0.	0.	0.	2.09E-12	2.07E-13	1.65E-10	4.04E-11
47 6.10 0.	0.	8.8E-12	0.	0.	0.	2.09E-12	2.12E-13	1.65E-10	4.04E-11
48 6.00 0.	0.	6.5E-12	0.	0.	0.	2.09E-12	2.17E-13	1.65E-10	4.04E-11
49 5.90 0.	0.	4.2E-12	0.	0.	0.	2.09E-12	2.22E-13	1.65E-10	4.04E-11
50 5.80 0.	0.	2.9E-12	0.	0.	0.	2.09E-12	2.27E-13	1.65E-10	4.04E-11
51 5.70 0.	0.	1.6E-12	0.	0.	0.	2.09E-12	2.32E-13	1.65E-10	4.04E-11

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	TEMPERATURE (DEGREES K)	8000.	DENSITY (GM/CC)	1.293E-09	(16.0E-07 NORMAL)						
1ST POS.	2ND POS.	1ST NEG.	BETA	NO GAMMA	NO VIR-ROT	2	D- PHOTO-DET (IONS)	N	P.E.	0	TOTAL AIR
52	5.60	3.43E-15	0.	1.99E-14	1.46E-13	0.	2.19E-12	3.44E-13	4.00E-11	5.76E-11	1.01E-10
53	5.50	4.47E-15	0.	2.02E-14	1.45E-13	0.	2.20E-12	3.43E-13	4.12E-11	5.86E-11	1.02E-10
54	5.40	1.49E-15	0.	2.02E-14	1.45E-13	0.	2.21E-12	3.44E-13	4.16E-11	5.96E-11	1.04E-10
55	5.30	3.28E-15	0.	2.08E-14	1.36E-13	0.	2.22E-12	4.06E-13	4.21E-11	6.08E-11	1.06E-10
56	5.20	2.23E-15	0.	2.11E-14	1.17E-13	0.	2.24E-12	4.30E-13	4.26E-11	6.23E-11	1.08E-10
57	5.10	2.33E-15	0.	2.03E-14	1.00E-13	0.	2.26E-12	4.56E-13	4.37E-11	6.38E-11	1.10E-10
58	5.00	1.47E-15	0.	1.74E-14	8.49E-14	0.	2.28E-12	4.83E-13	4.48E-11	6.53E-11	1.13E-10
59	4.90	1.22E-15	0.	1.63E-14	8.02E-14	0.	2.29E-12	5.14E-13	4.59E-11	6.66E-11	1.16E-10
60	4.80	1.23E-15	0.	1.91E-14	7.36E-14	0.	2.31E-12	5.47E-13	4.70E-11	6.84E-11	1.18E-10
61	4.70	1.24E-15	0.	1.77E-14	5.69E-14	0.	2.32E-12	5.82E-13	4.81E-11	7.00E-11	1.21E-10
62	4.60	1.46E-15	0.	1.74E-14	5.61E-14	0.	2.33E-12	6.21E-13	4.94E-11	7.17E-11	1.24E-10
63	4.50	1.44E-15	0.	1.46E-14	3.80E-14	0.	2.35E-12	6.53E-13	5.10E-11	7.34E-11	1.28E-10
64	4.40	1.40E-15	0.	1.40E-14	2.92E-14	0.	2.36E-12	6.89E-13	5.25E-11	7.51E-11	1.31E-10
65	4.30	1.22E-15	0.	1.23E-14	1.95E-14	0.	2.38E-12	7.28E-13	5.41E-11	7.69E-11	1.35E-10
66	4.20	1.07E-15	0.	1.26E-14	1.30E-14	0.	2.40E-12	7.69E-13	5.57E-11	7.87E-11	1.39E-10
67	4.10	9.45E-16	0.	1.12E-14	1.26E-15	0.	2.42E-12	8.12E-13	5.72E-11	8.06E-11	1.43E-10
68	4.00	8.10E-16	0.	1.08E-14	1.26E-15	0.	2.44E-12	8.57E-13	5.87E-11	8.26E-11	1.47E-10
69	3.90	6.25E-16	0.	7.93E-15	1.13E-15	0.	2.46E-12	9.04E-13	6.02E-11	8.47E-11	1.51E-10
70	3.80	6.64E-16	0.	6.07E-14	9.54E-15	0.	2.48E-12	9.53E-13	6.18E-11	8.69E-11	1.55E-10
71	3.70	5.23E-16	0.	6.97E-14	1.61E-15	0.	2.50E-12	1.00E-12	6.33E-11	8.92E-11	1.59E-10
72	3.60	4.42E-16	0.	3.92E-14	1.17E-15	0.	2.52E-12	1.05E-12	6.48E-11	9.16E-11	1.63E-10
73	3.50	3.02E-16	0.	6.72E-14	4.49E-15	0.	2.54E-12	1.11E-12	6.63E-11	9.41E-11	1.67E-10
74	3.40	3.17E-16	0.	2.68E-14	2.32E-15	0.	2.56E-12	1.18E-12	6.78E-11	9.66E-11	1.71E-10
75	3.30	2.41E-16	0.	3.38E-14	1.59E-15	0.	2.58E-12	1.26E-12	6.93E-11	9.91E-11	1.75E-10
76	3.20	1.91E-16	0.	1.69E-14	5.63E-16	0.	2.60E-12	1.34E-12	7.08E-11	1.01E-10	1.79E-10
77	3.10	1.68E-16	0.	1.33E-14	3.64E-16	0.	2.62E-12	1.43E-12	7.23E-11	1.03E-10	1.83E-10
78	3.00	1.37E-16	0.	6.97E-15	1.62E-15	0.	2.64E-12	1.53E-12	7.38E-11	1.05E-10	1.87E-10
79	2.90	1.04E-16	0.	4.16E-15	1.21E-15	0.	2.66E-12	1.63E-12	7.53E-11	1.07E-10	1.91E-10
80	2.80	1.01E-16	0.	1.87E-15	3.25E-16	0.	2.68E-12	1.73E-12	7.68E-11	1.09E-10	1.95E-10
81	2.70	5.00E-17	0.	8.54E-16	2.65E-16	0.	2.70E-12	1.84E-12	7.83E-11	1.11E-10	1.99E-10
82	2.60	2.19E-17	0.	4.37E-16	1.64E-16	0.	2.72E-12	1.95E-12	7.98E-11	1.13E-10	2.03E-10
83	2.50	1.42E-18	0.	8.08E-17	4.87E-17	0.	2.74E-12	2.06E-12	8.13E-11	1.15E-10	2.07E-10
84	2.40	0.	0.	4.02E-15	0.	0.	2.76E-12	2.17E-12	8.28E-11	1.17E-10	2.11E-10
85	2.30	0.	0.	2.13E-14	0.	0.	2.78E-12	2.28E-12	8.43E-11	1.19E-10	2.15E-10
86	2.20	0.	0.	4.14E-14	0.	0.	2.80E-12	2.39E-12	8.58E-11	1.21E-10	2.19E-10
87	2.10	0.	0.	6.74E-14	0.	0.	2.82E-12	2.50E-12	8.73E-11	1.23E-10	2.23E-10
88	2.00	0.	0.	1.01E-13	0.	0.	2.84E-12	2.61E-12	8.88E-11	1.25E-10	2.27E-10
89	1.90	0.	0.	2.34E-13	0.	0.	2.86E-12	2.72E-12	9.03E-11	1.27E-10	2.31E-10
90	1.80	0.	0.	1.93E-13	0.	0.	2.88E-12	2.83E-12	9.18E-11	1.29E-10	2.35E-10
91	1.70	0.	0.	2.33E-13	0.	0.	2.90E-12	2.94E-12	9.33E-11	1.31E-10	2.39E-10
92	1.60	0.	0.	1.60E-13	0.	0.	2.92E-12	3.05E-12	9.48E-11	1.33E-10	2.43E-10
93	1.50	0.	0.	2.00E-13	0.	0.	2.94E-12	3.16E-12	9.63E-11	1.35E-10	2.47E-10
94	1.40	0.	0.	2.20E-13	0.	0.	2.96E-12	3.27E-12	9.78E-11	1.37E-10	2.51E-10
95	1.30	0.	0.	1.56E-13	0.	0.	2.98E-12	3.38E-12	9.93E-11	1.39E-10	2.55E-10
96	1.20	0.	0.	1.66E-13	0.	0.	3.00E-12	3.49E-12	1.00E-10	1.41E-10	2.59E-10
97	1.10	0.	0.	1.27E-13	0.	0.	3.02E-12	3.60E-12	1.01E-10	1.43E-10	2.63E-10
98	1.00	0.	0.	1.21E-13	0.	0.	3.04E-12	3.71E-12	1.02E-10	1.45E-10	2.67E-10
99	0.90	0.	0.	9.52E-14	0.	0.	3.06E-12	3.82E-12	1.03E-10	1.47E-10	2.71E-10
100	0.80	0.	0.	4.37E-14	0.	0.	3.08E-12	3.93E-12	1.04E-10	1.49E-10	2.75E-10
101	0.70	0.	0.	1.19E-14	0.	0.	3.10E-12	4.04E-12	1.05E-10	1.51E-10	2.79E-10
102	0.60	0.	0.	4.81E-14	0.	0.	3.12E-12	4.15E-12	1.06E-10	1.53E-10	2.83E-10

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 9000. DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)

PHOTON ENERGY BANDS E.V.	Q2 S-R CNT.	N2 R-M NO. 1	NO BETA	NO GAMMA	NO Z	O- PHOTO-DIST (IONS)	FREE-FREE M P.E.	M P.E.	TOTAL AIR P.E.	
1 10.70 0.	0.	3.13E 01	0.	0.	0.	3.14E-01	2.31E-05	9.12E 09	2.31E-03	4.07E 01
2 10.60 0.	0.	2.69E 01	0.	0.	0.	3.15E-01	2.30E-05	2.32E-03	2.10E-03	2.60E 01
3 10.50 0.	0.	2.57E 01	0.	0.	0.	3.15E-01	2.30E-05	2.30E-03	2.10E-03	2.60E 01
4 10.40 0.	0.	2.28E 01	0.	0.	0.	3.16E-01	2.32E-05	2.34E-03	2.10E-03	2.32E 01
5 10.30 0.	0.	1.95E 01	0.	0.	0.	3.16E-01	2.40E-05	2.35E-03	2.10E-03	1.98E 01
6 10.20 0.	0.	1.83E 01	0.	0.	0.	3.16E-01	2.47E-05	2.35E-03	2.10E-03	1.86E 01
7 10.10 0.	0.	1.64E 01	0.	0.	0.	3.17E-01	2.75E-05	2.54E-03	2.10E-03	1.64E 01
8 10.00 0.	0.	1.34E 01	0.	0.	0.	3.17E-01	2.84E-05	2.34E-03	2.10E-03	1.34E 01
9 9.90 0.	0.	1.32E 01	0.	0.	0.	3.18E-01	2.93E-05	2.37E-03	2.10E-03	1.32E 01
10 9.80 0.	0.	1.15E 01	0.	0.	0.	3.18E-01	3.12E-05	2.38E-03	2.10E-03	1.15E 01
11 9.70 0.	0.	9.12E 00	0.	0.	0.	3.19E-01	3.11E-05	2.38E-03	2.10E-03	9.44E 00
12 9.60 0.	0.	8.74E 00	0.	0.	0.	3.20E-01	3.21E-05	2.39E-03	2.10E-03	8.81E 00
13 9.50 0.	0.	7.54E 00	0.	0.	0.	3.20E-01	3.31E-05	2.40E-03	2.10E-03	7.88E 00
14 9.40 0.	0.	6.62E 00	0.	0.	0.	3.21E-01	3.42E-05	2.40E-03	2.10E-03	6.47E 00
15 9.30 0.	0.	6.72E 00	0.	0.	0.	3.22E-01	3.53E-05	2.41E-03	2.10E-03	6.74E 00
16 9.20 0.	0.	4.92E 00	0.	0.	0.	3.24E-01	3.65E-05	2.42E-03	2.17E-03	7.24E 00
17 9.10 0.	0.	3.94E 00	0.	0.	0.	3.25E-01	3.77E-05	2.41E-04	2.17E-03	7.74E 00
18 9.00 0.	0.	4.22E 00	0.	0.	0.	3.26E-01	3.99E-05	2.39E-04	2.17E-03	7.94E 00
19 8.90 0.	0.	3.62E 00	0.	0.	0.	3.27E-01	4.04E-05	2.37E-04	2.17E-03	7.14E 00
20 8.80 0.	0.	3.44E 00	0.	0.	0.	3.28E-01	4.17E-05	2.35E-04	2.17E-03	7.16E 00
21 8.70 0.	0.	3.21E 00	0.	0.	0.	3.28E-01	4.32E-05	2.34E-04	2.17E-03	6.24E 00
22 8.60 0.	0.	2.72E 00	0.	0.	0.	3.31E-01	4.47E-05	2.32E-04	2.17E-03	6.15E 00
23 8.50 0.	0.	3.01E 00	0.	0.	0.	3.32E-01	4.63E-05	2.31E-04	2.17E-03	5.50E 00
24 8.40 0.	0.	2.96E 00	0.	0.	0.	3.33E-01	4.80E-05	2.29E-04	2.17E-03	5.37E 00
25 8.30 0.	0.	2.92E 00	0.	0.	0.	3.35E-01	4.97E-05	2.28E-04	2.18E-03	4.85E 00
26 8.20 0.	0.	2.84E 00	0.	0.	0.	3.37E-01	5.16E-05	2.26E-04	2.20E-03	4.74E 00
27 8.10 0.	0.	2.75E 00	0.	0.	0.	3.39E-01	5.35E-05	2.23E-04	2.22E-03	4.32E 00
28 8.00 0.	0.	2.65E 00	0.	0.	0.	3.41E-01	5.56E-05	2.22E-04	2.24E-03	4.19E 00
29 7.90 0.	0.	2.57E 00	0.	0.	0.	3.42E-01	5.77E-05	2.20E-04	2.27E-03	3.85E 00
30 7.80 0.	0.	2.47E 00	0.	0.	0.	3.44E-01	6.00E-05	2.19E-04	2.29E-03	3.75E 00
31 7.70 0.	0.	2.36E 00	0.	0.	0.	3.45E-01	6.24E-05	2.18E-04	2.31E-03	3.67E 00
32 7.60 0.	0.	2.25E 00	0.	0.	0.	3.47E-01	6.49E-05	2.17E-04	2.33E-03	3.67E 00
33 7.50 0.	0.	2.14E 00	0.	0.	0.	3.49E-01	6.75E-05	2.15E-04	2.35E-03	3.67E 00
34 7.40 0.	0.	2.03E 00	0.	0.	0.	3.51E-01	7.03E-05	2.14E-04	2.37E-03	3.68E 00
35 7.30 0.	0.	1.92E 00	0.	0.	0.	3.53E-01	7.32E-05	2.13E-04	2.39E-03	3.74E 00
36 7.20 0.	0.	1.80E 00	0.	0.	0.	3.55E-01	7.63E-05	2.12E-04	2.42E-03	3.69E 00
37 7.10 0.	0.	1.68E 00	0.	0.	0.	3.57E-01	7.96E-05	2.11E-04	2.44E-03	3.55E 00
38 7.00 0.	0.	1.56E 00	0.	0.	0.	3.61E-01	8.31E-05	2.10E-04	2.46E-03	3.17E 00
39 6.90 0.	0.	1.49E 00	0.	0.	0.	3.64E-01	8.68E-05	2.08E-04	2.50E-03	3.10E 00
40 6.80 0.	0.	1.41E 00	0.	0.	0.	3.67E-01	9.07E-05	2.07E-04	2.50E-03	3.10E 00
41 6.70 0.	0.	1.35E 00	0.	0.	0.	3.70E-01	9.48E-05	2.06E-04	2.52E-03	3.00E 00
42 6.60 0.	0.	1.44E 00	0.	0.	0.	3.72E-01	9.92E-05	2.07E-04	2.55E-03	3.30E 00
43 6.50 0.	0.	1.35E 00	0.	0.	0.	3.75E-01	1.04E-04	2.08E-04	2.57E-03	3.05E 00
44 6.40 0.	0.	1.22E 00	0.	0.	0.	3.78E-01	1.09E-04	2.09E-04	2.60E-03	2.27E 00
45 6.30 0.	0.	1.42E 00	0.	0.	0.	3.81E-01	1.14E-04	2.11E-04	2.63E-03	3.32E 00
46 6.20 0.	0.	1.66E 00	0.	0.	0.	3.84E-01	1.20E-04	2.12E-04	2.66E-03	3.62E 00
47 6.10 0.	0.	1.92E 00	0.	0.	0.	3.87E-01	1.26E-04	2.13E-04	2.72E-03	3.75E 00
48 6.00 0.	0.	1.62E 00	0.	0.	0.	3.90E-01	1.32E-04	2.14E-04	2.77E-03	3.34E 00
49 5.90 0.	0.	1.15E 00	0.	0.	0.	3.93E-01	1.39E-04	2.15E-04	2.82E-03	3.50E 00
50 5.80 0.	0.	2.62E 00	0.	0.	0.	3.96E-01	1.46E-04	2.16E-04	2.87E-03	3.54E 00
51 5.70 0.	0.	1.45E 00	0.	0.	0.	3.99E-01	1.54E-04	2.17E-04	2.91E-03	3.58E 00

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 9000. DENSITY (GM/CC) 1.293E-07 (1.0E 01 NORMAL)

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	N2+ 1ST NEG.	NO BETA	NO GAMMA	NO VIB-ROT	NO 2	O- PHOTO-DET	FREE-FREE (IONS)	N P.E.	O P.E.	TOTAL AIR
52	5.60	1.78E-01	0.	1.88E-01	1.33E 00	0.	0.	3.36E-01	1.43E-04	6.43E-04	2.96E-03	2.03E 00
53	5.50	1.93E-01	0.	2.32E-01	1.29E 00	0.	0.	3.37E-01	1.77E-04	6.51E-04	3.01E-03	2.05E 00
54	5.40	1.93E-01	0.	1.94E-01	1.26E-01	0.	0.	3.39E-01	1.82E-04	6.60E-04	3.06E-03	1.93E 00
55	5.30	1.79E-01	0.	1.99E-01	1.25E 00	0.	0.	3.41E-01	1.92E-04	6.69E-04	3.12E-03	1.98E 00
56	5.20	1.29E-01	0.	2.06E-01	1.20E 00	0.	0.	3.43E-01	2.05E-04	6.79E-04	3.20E-03	1.96E 00
57	5.10	1.13E-01	0.	1.98E-01	1.18E-01	0.	0.	3.46E-01	2.15E-04	6.89E-04	3.27E-03	1.83E 00
58	5.00	8.11E-02	0.	1.73E-01	8.27E-01	0.	0.	3.49E-01	2.25E-04	7.15E-04	3.35E-03	1.44E 00
59	4.90	7.00E-02	0.	1.84E-01	8.11E-01	0.	0.	3.52E-01	2.49E-04	7.34E-04	3.42E-03	1.42E 00
60	4.80	7.00E-02	0.	1.93E-01	7.64E-01	0.	0.	3.55E-01	2.82E-04	7.91E-04	3.50E-03	1.26E 00
61	4.70	7.88E-02	0.	1.82E-01	6.18E-01	0.	0.	3.58E-01	2.76E-04	7.71E-04	3.58E-03	1.24E 00
62	4.60	8.70E-02	0.	1.80E-01	5.80E-01	0.	0.	3.61E-01	2.94E-04	7.94E-04	3.67E-03	1.21E 00
63	4.50	8.90E-02	0.	1.84E-01	4.04E-01	0.	0.	3.64E-01	3.11E-04	8.22E-04	3.76E-03	1.02E 00
64	4.40	8.54E-02	0.	1.42E-01	3.65E-01	0.	0.	3.67E-01	3.36E-04	8.49E-04	3.85E-03	9.40E-01
65	4.30	7.35E-02	0.	1.33E-01	3.68E-01	0.	0.	3.70E-01	3.60E-04	8.77E-04	3.94E-03	8.21E-01
66	4.20	6.72E-02	0.	1.37E-01	3.45E-01	0.	0.	3.72E-01	3.87E-04	9.05E-04	4.03E-03	1.01E 00
67	4.10	5.99E-02	0.	1.37E-01	3.45E-02	0.	0.	3.74E-01	4.15E-04	9.36E-04	4.11E-03	6.85E-01
68	4.00	5.25E-02	0.	1.35E-01	2.64E-02	0.	0.	3.76E-01	4.48E-04	9.68E-04	4.19E-03	6.85E-01
69	3.90	4.53E-02	0.	1.35E-02	1.17E-02	0.	0.	3.78E-01	4.84E-04	1.00E-03	4.27E-03	9.85E-01
70	3.80	4.39E-02	0.	1.32E-01	1.02E-01	0.	0.	3.79E-01	5.23E-04	1.04E-03	4.35E-03	7.10E-01
71	3.70	3.95E-02	0.	3.42E-01	7.66E-02	0.	0.	3.80E-01	5.64E-04	1.08E-03	4.43E-03	7.78E-01
72	3.60	3.54E-02	0.	1.64E-01	6.37E-02	0.	0.	3.81E-01	6.07E-04	1.12E-03	4.51E-03	6.24E-01
73	3.50	2.97E-02	0.	2.88E-01	5.05E-02	0.	0.	3.82E-01	6.52E-04	1.16E-03	4.59E-03	6.37E-01
74	3.40	2.54E-02	0.	1.88E-01	4.44E-02	0.	0.	3.83E-01	7.00E-04	1.20E-03	4.67E-03	7.05E-01
75	3.30	1.73E-02	0.	1.88E-01	4.04E-02	0.	0.	3.84E-01	7.50E-04	1.24E-03	4.75E-03	3.99E-01
76	3.20	1.49E-02	0.	1.88E-01	4.04E-02	0.	0.	3.85E-01	8.00E-04	1.28E-03	4.83E-03	4.03E-01
77	3.10	1.34E-02	0.	7.99E-02	4.72E-02	0.	0.	3.86E-01	8.50E-04	1.32E-03	4.91E-03	3.82E-01
78	3.00	1.04E-02	0.	5.87E-02	3.74E-02	0.	0.	3.87E-01	9.00E-04	1.36E-03	4.99E-03	3.02E-01
79	2.90	6.08E-03	0.	3.31E-02	1.48E-02	0.	0.	3.88E-01	9.50E-04	1.40E-03	5.07E-03	2.79E-01
80	2.86	7.54E-03	0.	1.90E-02	1.01E-02	0.	0.	3.89E-01	1.00E-03	1.44E-03	5.15E-03	2.46E-01
81	2.70	4.56E-03	0.	6.35E-03	3.79E-03	0.	0.	3.90E-01	1.05E-03	1.48E-03	5.23E-03	2.22E-01
82	2.60	1.91E-03	0.	4.94E-03	7.17E-03	0.	0.	3.91E-01	1.10E-03	1.52E-03	5.31E-03	2.15E-01
83	2.50	1.22E-04	0.	2.98E-03	4.25E-04	0.	0.	3.92E-01	1.15E-03	1.56E-03	5.39E-03	1.92E-01
84	2.40	0.	0.	2.70E-04	6.81E-04	0.	0.	3.93E-01	1.20E-03	1.60E-03	5.47E-03	1.85E-01
85	2.30	0.	0.	1.87E-05	5.71E-04	0.	0.	3.94E-01	1.25E-03	1.64E-03	5.55E-03	1.69E-01
86	2.20	0.	0.	7.50E-05	0.	0.	0.	3.95E-01	1.30E-03	1.68E-03	5.63E-03	1.63E-01
87	2.10	0.	0.	1.83E-01	0.	0.	0.	3.96E-01	1.35E-03	1.72E-03	5.71E-03	1.56E-01
88	2.00	0.	0.	2.41E-01	0.	0.	0.	3.97E-01	1.40E-03	1.76E-03	5.79E-03	1.49E-01
89	1.90	0.	0.	3.04E-01	0.	0.	0.	3.98E-01	1.45E-03	1.80E-03	5.87E-03	1.42E-01
90	1.80	0.	0.	4.83E-01	0.	0.	0.	3.99E-01	1.50E-03	1.84E-03	5.95E-03	1.35E-01
91	1.70	0.	0.	7.79E-01	0.	0.	0.	4.00E-01	1.55E-03	1.88E-03	6.03E-03	1.28E-01
92	1.60	0.	0.	5.41E-01	0.	0.	0.	4.01E-01	1.60E-03	1.92E-03	6.11E-03	1.21E-01
93	1.50	0.	0.	6.40E-01	0.	0.	0.	4.02E-01	1.65E-03	1.96E-03	6.19E-03	1.14E-01
94	1.40	0.	0.	7.17E-01	0.	0.	0.	4.03E-01	1.70E-03	2.00E-03	6.27E-03	1.07E-01
95	1.30	0.	0.	5.22E-01	0.	0.	0.	4.04E-01	1.75E-03	2.04E-03	6.35E-03	1.00E-01
96	1.20	0.	0.	5.57E-01	0.	0.	0.	4.05E-01	1.80E-03	2.08E-03	6.43E-03	9.35E-02
97	1.10	0.	0.	4.93E-01	0.	0.	0.	4.06E-01	1.85E-03	2.12E-03	6.51E-03	8.70E-02
98	1.00	0.	0.	4.04E-01	0.	0.	0.	4.07E-01	1.90E-03	2.16E-03	6.59E-03	8.05E-02
99	0.90	0.	0.	3.24E-01	0.	0.	0.	4.08E-01	1.95E-03	2.20E-03	6.67E-03	7.40E-02
100	0.80	0.	0.	1.56E-01	0.	0.	0.	4.09E-01	2.00E-03	2.24E-03	6.75E-03	6.75E-02
101	0.70	0.	0.	4.00E-02	0.	0.	0.	4.10E-01	2.05E-03	2.28E-03	6.83E-03	6.10E-02
102	0.60	0.	0.	2.10E-03	0.	0.	0.	4.11E-01	2.10E-03	2.32E-03	6.91E-03	5.45E-02



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CH.)

PHOTON ENERGY BANDS E.V.	02 S-R CON.	TEMPERATURE (DEGREES K)	NO BETA	NO GAMMA	DENSITY (GM/CC)	NO 2	PHOTO-EFFECT (IONS)		FREE-ELECTRON		TOTAL AIR P.E.
							PHOTO-EFFECT (IONS)	FREE-ELECTRON			
1 10.70 0.	0.	2.04E-02	0.	0.	1.293E-03	0.	7.89E-03	1.68E-06	2.33E-06	2.45E-04	4.37E-00
2 10.50 0.	0.	1.73E-00	0.	0.	1.293E-03	0.	7.90E-03	1.09E-06	5.92E-04	2.45E-04	1.74E-00
3 10.50 0.	0.	1.67E-00	0.	0.	1.293E-03	0.	7.91E-03	1.22E-06	5.92E-04	2.45E-04	1.60E-00
4 10.50 0.	0.	1.49E-00	0.	0.	1.293E-03	0.	7.92E-03	1.15E-06	5.92E-04	2.45E-04	1.50E-00
5 10.50 0.	0.	1.21E-00	0.	0.	1.293E-03	0.	7.93E-03	1.10E-06	5.99E-04	2.45E-04	1.22E-00
6 10.50 0.	0.	1.19E-00	0.	0.	1.293E-03	0.	7.94E-03	1.22E-06	5.88E-04	2.45E-04	1.22E-00
7 10.10 0.	0.	1.07E-00	0.	0.	1.293E-03	0.	7.95E-03	1.26E-06	5.82E-04	2.45E-04	1.00E-00
8 10.10 0.	0.	8.52E-01	0.	0.	1.293E-03	0.	7.96E-03	1.30E-06	5.80E-04	2.45E-04	8.61E-01
9 9.90 0.	0.	8.36E-01	0.	0.	1.293E-03	0.	7.98E-03	1.34E-06	5.85E-04	2.45E-04	8.67E-01
10 9.80 0.	0.	7.52E-01	0.	0.	1.293E-03	0.	7.99E-03	1.38E-06	5.86E-04	2.45E-04	7.61E-01
11 9.70 0.	0.	6.24E-01	0.	0.	1.293E-03	0.	8.01E-03	1.42E-06	5.88E-04	2.45E-04	6.03E-01
12 9.60 0.	0.	5.36E-01	0.	0.	1.293E-03	0.	8.02E-03	1.47E-06	5.89E-04	2.45E-04	4.45E-01
13 9.50 0.	1.49E-02	4.94E-01	0.	0.	1.293E-03	0.	8.04E-03	1.52E-06	5.11E-04	2.45E-04	5.18E-01
14 9.40 0.	1.85E-02	4.34E-01	0.	0.	1.293E-03	0.	8.07E-03	1.57E-06	6.13E-04	2.45E-04	4.63E-01
15 9.30 0.	2.17E-02	4.38E-01	0.	0.	1.293E-03	0.	8.10E-03	1.62E-06	6.14E-04	2.45E-04	4.68E-01
16 9.20 0.	2.59E-02	3.25E-01	0.	0.	1.293E-03	0.	8.13E-03	1.67E-06	6.16E-04	2.45E-04	3.55E-01
17 9.10 0.	3.01E-02	3.28E-01	0.	0.	1.293E-03	0.	8.15E-03	1.73E-06	6.16E-04	2.45E-04	3.67E-01
18 9.00 0.	3.53E-02	2.75E-01	0.	0.	1.293E-03	0.	8.18E-03	1.78E-06	6.13E-04	2.45E-04	3.19E-01
19 8.90 0.	4.04E-02	2.38E-01	0.	0.	1.293E-03	0.	8.21E-03	1.85E-06	6.16E-04	2.45E-04	2.85E-01
20 8.80 0.	4.20E-02	2.24E-01	0.	0.	1.293E-03	0.	8.24E-03	1.91E-06	6.16E-04	2.45E-04	2.75E-01
21 8.70 0.	4.04E-02	1.74E-01	0.	0.	1.293E-03	0.	8.27E-03	1.98E-06	6.12E-04	2.45E-04	2.25E-01
22 8.60 0.	3.91E-02	1.77E-01	0.	0.	1.293E-03	0.	8.30E-03	2.05E-06	6.11E-04	2.45E-04	2.25E-01
23 8.50 0.	3.70E-02	1.40E-01	0.	0.	1.293E-03	0.	8.33E-03	2.12E-06	6.11E-04	2.44E-04	1.87E-01
24 8.40 0.	3.74E-02	1.35E-01	0.	0.	1.293E-03	0.	8.37E-03	2.20E-06	6.10E-04	2.44E-04	1.81E-01
25 8.30 0.	3.68E-02	1.04E-01	0.	0.	1.293E-03	0.	8.42E-03	2.28E-06	6.10E-04	2.45E-04	1.50E-01
26 8.20 0.	3.59E-02	1.02E-01	0.	0.	1.293E-03	0.	8.46E-03	2.36E-06	6.10E-04	2.46E-04	1.47E-01
27 8.10 0.	3.44E-02	8.01E-02	0.	0.	1.293E-03	0.	8.51E-03	2.45E-06	6.15E-04	2.50E-04	1.24E-01
28 8.00 0.	3.34E-02	7.75E-02	0.	0.	1.293E-03	0.	8.55E-03	2.54E-06	6.15E-04	2.52E-04	1.20E-01
29 7.90 0.	3.24E-02	6.15E-02	0.	0.	1.293E-03	0.	8.59E-03	2.64E-06	6.15E-04	2.55E-04	1.03E-01
30 7.80 0.	3.12E-02	6.07E-02	0.	0.	1.293E-03	0.	8.64E-03	2.75E-06	6.15E-04	2.57E-04	1.01E-01
31 7.70 0.	2.99E-02	4.90E-02	0.	0.	1.293E-03	0.	8.68E-03	2.85E-06	6.15E-04	2.60E-04	8.60E-02
32 7.65 0.	2.84E-02	4.39E-02	0.	5.38E-06	1.293E-03	0.	8.72E-03	2.97E-06	6.15E-04	2.62E-04	8.15E-02
33 7.50 0.	2.70E-02	3.74E-02	0.	3.09E-05	1.293E-03	0.	8.77E-03	3.09E-06	6.15E-04	2.65E-04	7.38E-02
34 7.40 0.	2.56E-02	3.16E-02	0.	1.41E-04	1.293E-03	0.	8.82E-03	3.22E-06	6.15E-04	2.67E-04	6.68E-02
35 7.30 0.	2.43E-02	2.51E-02	0.	7.57E-04	1.293E-03	0.	8.87E-03	3.35E-06	6.15E-04	2.69E-04	6.25E-02
36 7.20 0.	2.29E-02	2.35E-02	0.	2.06E-03	1.293E-03	0.	8.91E-03	3.49E-06	6.15E-04	2.72E-04	5.78E-02
37 7.10 0.	2.15E-02	2.13E-02	0.	5.06E-03	1.293E-03	0.	8.95E-03	3.64E-06	6.15E-04	2.74E-04	5.78E-02
38 7.00 0.	2.02E-02	1.82E-02	0.	1.52E-02	1.293E-03	0.	9.00E-03	3.80E-06	6.15E-04	2.77E-04	4.29E-02
39 6.90 0.	1.96E-02	1.56E-02	0.	1.41E-02	1.293E-03	0.	9.13E-03	3.97E-06	6.15E-04	2.79E-04	3.94E-02
40 6.80 0.	1.39E-02	1.39E-02	0.	3.10E-02	1.293E-03	0.	9.21E-03	4.15E-06	6.15E-04	2.81E-04	5.46E-02
41 6.70 0.	5.92E-05	0.	0.	4.05E-02	1.293E-03	0.	9.28E-03	4.34E-06	6.15E-04	2.84E-04	6.16E-02
42 6.60 0.	6.72E-05	0.	0.	2.24E-02	1.293E-03	0.	9.35E-03	4.54E-06	6.15E-04	2.87E-04	4.16E-02
43 6.50 0.	8.08E-05	0.	0.	4.22E-02	1.293E-03	0.	9.43E-03	4.76E-06	6.15E-04	2.89E-04	5.89E-02
44 6.40 0.	1.12E-05	0.	2.89E-04	5.21E-02	1.293E-03	0.	9.50E-03	4.98E-06	6.15E-04	2.92E-04	6.65E-02
45 6.30 0.	3.11E-05	0.	1.24E-03	2.47E-02	1.293E-03	0.	9.57E-03	5.22E-06	6.15E-04	2.96E-04	3.62E-02
46 6.20 0.	6.74E-05	0.	1.62E-03	3.87E-02	1.293E-03	0.	9.65E-03	5.48E-06	6.15E-04	3.01E-04	5.17E-02
47 6.10 0.	6.94E-04	0.	4.39E-03	4.27E-02	1.293E-03	0.	9.72E-03	5.76E-06	6.15E-04	3.06E-04	7.80E-02
48 6.00 0.	6.79E-04	0.	3.65E-03	3.20E-02	1.293E-03	0.	9.79E-03	6.05E-06	6.15E-04	3.12E-04	3.67E-02
49 5.90 0.	1.08E-03	0.	5.13E-03	2.33E-02	1.293E-03	0.	9.79E-03	6.36E-06	6.15E-04	3.17E-04	4.04E-02
50 5.80 0.	1.60E-03	0.	6.84E-03	2.25E-02	1.293E-03	0.	9.45E-03	6.70E-06	6.16E-04	3.22E-04	4.10E-02
51 5.70 0.	1.84E-03	0.	7.31E-03	2.33E-02	1.293E-03	0.	9.06E-03	7.06E-06	6.16E-04	3.28E-04	4.20E-02

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		1.293E-03		1.0E-01		NORMAL			
	M2 1ST POS.	M2 2ND POS.	BETA	GAMMA	NO VIB-ROT	NO NO	0- PHOTO-DET	FREE-FREE (IONS)	N	0	TOTAL AIR	
32	5.60	2.26E-03	0.	5.48E-03	3.81E-02	0.	0.	0.43E-03	7.44E-06	1.64E-04	3.33E-04	5.47E-02
33	5.50	2.31E-03	0.	6.98E-03	3.71E-02	0.	0.	4.47E-03	7.68E-06	1.66E-04	3.39E-04	5.51E-02
34	5.40	2.39E-03	0.	5.95E-03	2.37E-02	0.	0.	8.54E-03	8.30E-06	1.68E-04	3.45E-04	4.87E-02
35	5.30	2.27E-03	0.	5.78E-03	3.59E-02	0.	0.	4.57E-03	8.78E-06	1.71E-04	3.51E-04	5.30E-02
36	5.20	1.50E-03	0.	5.90E-03	2.01E-02	0.	0.	6.62E-03	9.30E-06	1.73E-04	3.56E-04	5.68E-02
37	5.10	1.46E-03	0.	4.70E-03	2.77E-02	0.	0.	8.70E-03	9.84E-06	1.76E-04	3.64E-04	4.41E-02
38	5.00	1.08E-03	0.	4.94E-03	2.39E-02	0.	0.	8.77E-03	1.05E-05	1.82E-04	3.68E-04	3.91E-02
39	4.90	8.86E-04	0.	5.28E-03	2.35E-02	0.	0.	8.84E-03	1.11E-05	1.87E-04	3.69E-04	3.89E-02
40	4.80	6.89E-04	0.	5.51E-03	2.14E-02	0.	0.	8.91E-03	1.18E-05	1.92E-04	3.94E-04	3.73E-02
41	4.70	9.47E-04	0.	5.28E-03	1.77E-02	0.	0.	8.99E-03	1.24E-05	1.97E-04	4.03E-04	3.35E-02
42	4.60	1.10E-03	0.	5.17E-03	1.57E-02	0.	0.	9.06E-03	1.31E-05	2.02E-04	4.13E-04	3.26E-02
43	4.50	1.09E-03	0.	4.41E-03	1.17E-02	0.	0.	9.13E-03	1.44E-05	2.18E-04	4.23E-04	2.75E-02
44	4.40	1.08E-03	0.	4.26E-03	8.71E-03	0.	0.	9.21E-03	1.54E-05	2.17E-04	4.33E-04	2.50E-02
45	4.30	9.56E-04	0.	3.89E-03	4.89E-03	0.	0.	9.28E-03	1.45E-05	2.24E-04	4.43E-04	2.41E-02
46	4.20	8.50E-04	0.	3.98E-03	3.91E-03	0.	0.	9.35E-03	1.77E-05	2.31E-04	4.53E-04	3.81E-02
47	4.10	7.57E-04	0.	3.98E-03	9.94E-04	0.	0.	9.43E-03	1.90E-05	2.38E-04	4.62E-04	2.11E-02
48	4.00	6.60E-04	0.	3.28E-03	7.59E-04	0.	0.	9.48E-03	2.05E-05	2.46E-04	4.71E-04	4.14E-02
49	3.90	5.22E-04	0.	1.20E-02	3.01E-04	0.	0.	9.53E-03	2.21E-05	1.93E-04	6.33E-05	2.56E-02
50	3.80	5.59E-04	0.	1.63E-02	2.33E-03	0.	0.	9.58E-03	2.36E-05	1.98E-04	6.52E-05	3.16E-02
51	3.70	4.49E-04	0.	2.25E-02	4.94E-04	0.	0.	9.62E-03	2.59E-05	1.52E-04	7.37E-05	3.47E-02
52	3.60	3.84E-04	0.	1.89E-02	3.24E-03	0.	0.	9.65E-03	2.82E-05	1.64E-04	8.35E-05	2.52E-02
53	3.50	3.37E-04	0.	1.74E-02	1.68E-03	0.	0.	7.89E-03	3.07E-05	1.66E-04	9.39E-05	3.83E-02
54	3.40	2.86E-04	0.	9.18E-03	6.98E-04	1.88E-03	0.	4.59E-03	3.35E-05	1.76E-04	1.09E-04	1.98E-02
55	3.30	2.19E-04	0.	9.18E-03	4.28E-03	1.34E-03	0.	4.59E-03	3.64E-05	1.96E-04	1.16E-04	1.98E-02
56	3.20	1.77E-04	0.	4.99E-03	1.17E-02	1.39E-03	0.	4.57E-03	4.02E-05	2.17E-04	1.40E-04	2.32E-02
57	3.10	1.59E-04	0.	3.83E-03	1.09E-03	1.19E-03	0.	4.58E-03	4.42E-05	2.38E-04	1.40E-04	1.13E-02
58	3.00	1.32E-04	0.	2.09E-03	4.24E-03	1.03E-03	0.	4.59E-03	4.89E-05	2.59E-04	1.52E-04	1.24E-02
59	2.90	1.02E-04	0.	1.24E-03	2.95E-03	6.95E-04	0.	4.60E-03	5.41E-05	2.88E-04	1.63E-04	1.61E-02
60	2.80	1.08E-04	0.	5.79E-04	9.48E-04	4.12E-04	0.	4.60E-03	6.01E-05	3.03E-04	1.76E-04	7.19E-03
61	2.70	5.77E-05	0.	2.63E-04	2.08E-03	1.72E-04	0.	4.60E-03	6.71E-05	3.27E-04	1.94E-04	7.78E-03
62	2.60	2.35E-05	0.	1.35E-04	1.96E-04	7.37E-05	0.	4.60E-03	7.52E-05	3.53E-04	2.03E-04	5.64E-03
63	2.50	1.53E-06	0.	1.74E-03	1.40E-04	1.62E-03	0.	4.60E-03	8.47E-05	3.95E-04	6.97E-05	5.33E-03
64	2.40	0.	0.	1.74E-03	1.67E-04	1.59E-06	0.	4.60E-03	9.58E-05	4.53E-04	4.54E-05	6.49E-03
65	2.30	0.	0.	1.56E-03	0.	0.	0.	4.57E-03	1.09E-04	2.74E-04	1.02E-04	1.02E-02
66	2.20	0.	0.	1.08E-03	0.	0.	0.	4.55E-03	1.22E-04	3.24E-04	1.23E-04	1.55E-02
67	2.10	0.	0.	1.59E-03	0.	0.	0.	4.55E-03	1.44E-04	3.77E-04	1.44E-04	2.69E-02
68	2.00	0.	0.	2.50E-02	0.	0.	0.	4.54E-03	1.66E-04	4.31E-04	1.66E-04	3.02E-02
69	1.90	0.	0.	1.90E-02	0.	0.	0.	4.21E-03	1.94E-04	4.64E-04	1.87E-04	5.64E-02
70	1.80	0.	0.	4.19E-02	0.	0.	0.	4.03E-03	2.29E-04	5.79E-04	2.22E-04	4.69E-02
71	1.70	0.	0.	5.04E-02	0.	0.	0.	3.80E-03	2.72E-04	6.73E-04	2.65E-04	5.58E-02
72	1.60	0.	0.	7.57E-02	0.	0.	0.	3.21E-03	3.27E-04	7.74E-04	3.08E-04	3.00E-02
73	1.50	0.	0.	4.38E-02	0.	0.	0.	1.46E-03	3.97E-04	9.58E-04	3.68E-04	4.68E-02
74	1.40	0.	0.	4.67E-02	0.	0.	0.	0.	4.90E-04	1.15E-03	4.20E-04	4.68E-02
75	1.30	0.	0.	3.40E-02	0.	0.	0.	0.	6.14E-04	1.39E-03	5.38E-04	3.64E-02
76	1.20	0.	0.	3.98E-02	0.	0.	0.	0.	7.83E-04	1.25E-03	4.82E-04	4.75E-02
77	1.10	0.	0.	1.82E-02	0.	0.	0.	0.	1.02E-03	1.54E-03	4.01E-04	3.13E-02
78	1.00	0.	0.	2.45E-02	0.	0.	0.	0.	1.36E-03	1.65E-03	4.53E-04	3.82E-02
79	0.90	0.	0.	2.11E-02	0.	0.	0.	0.	1.88E-03	2.88E-03	7.68E-04	2.58E-02
80	0.80	0.	0.	9.79E-03	0.	0.	0.	0.	2.69E-03	2.39E-03	6.83E-04	1.98E-02
81	0.70	0.	0.	2.61E-03	0.	0.	0.	0.	4.06E-03	2.65E-03	9.85E-04	1.63E-02
82	0.60	0.	0.	1.43E-04	0.	0.	0.	0.	6.51E-03	2.95E-03	1.10E-03	1.69E-02

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CH.)

PHOTON ENERGY E.V.	O2 S-R BANDS	O2 S-R CONT.	N2 S-R	TEMPERATURE (DEGREES K)	NO BETA	NO GAMMA	DENSITY (GM/CC)	1.293E-04 (18.8E-02 NORMAL)		TOTAL AIR	
								PHOTO-DET (10MS)	FREE-FREE P.R.		
3	10.70	0.	6.17E-02	0.	0.	0.	2.21E-04	7.70E-08	1.02E-04	2.24E-05	6.28E-02
4	10.60	0.	5.28E-02	0.	0.	0.	2.21E-04	7.02E-08	1.03E-04	2.54E-05	5.04E-02
5	10.50	0.	5.06E-02	0.	0.	0.	2.22E-04	6.15E-08	1.03E-04	2.54E-05	5.09E-02
6	10.40	0.	4.90E-02	0.	0.	0.	2.22E-04	5.39E-08	1.04E-04	2.53E-05	4.93E-02
7	10.30	0.	3.65E-02	0.	0.	0.	2.22E-04	4.64E-08	1.04E-04	2.53E-05	3.65E-02
8	10.20	0.	3.59E-02	0.	0.	0.	2.22E-04	3.89E-08	1.04E-04	2.53E-05	3.59E-02
9	10.10	0.	3.23E-02	0.	0.	0.	2.23E-04	3.16E-08	1.05E-04	2.53E-05	3.27E-02
10	9.90	0.	2.90E-02	0.	0.	0.	2.23E-04	2.79E-08	1.05E-04	2.53E-05	2.93E-02
11	9.70	0.	2.27E-02	0.	0.	0.	2.24E-04	2.06E-08	1.05E-04	2.53E-05	2.31E-02
12	9.60	0.	1.90E-02	0.	0.	0.	2.24E-04	1.83E-07	1.06E-04	2.53E-05	1.90E-02
13	9.50	0.	1.62E-02	0.	0.	0.	2.25E-04	1.67E-07	1.06E-04	2.53E-05	1.62E-02
14	9.40	0.	1.52E-02	0.	0.	0.	2.26E-04	1.49E-07	1.07E-04	2.53E-05	1.52E-02
15	9.30	0.	1.32E-02	0.	0.	0.	2.27E-04	1.31E-07	1.07E-04	2.53E-05	1.38E-02
16	9.20	0.	2.70E-04	0.	0.	0.	2.28E-04	1.21E-07	2.05E-05	2.53E-05	1.08E-02
17	9.10	0.	3.22E-04	0.	0.	0.	2.29E-04	1.25E-07	2.04E-05	2.53E-05	1.05E-02
18	9.00	0.	3.78E-04	0.	0.	0.	2.29E-04	1.30E-07	2.23E-05	2.53E-05	9.97E-03
19	8.90	0.	4.34E-04	0.	0.	0.	2.31E-04	1.39E-07	2.43E-05	2.53E-05	7.53E-03
20	8.80	0.	4.50E-04	0.	0.	0.	2.31E-04	1.59E-07	2.43E-05	2.53E-05	7.53E-03
21	8.70	0.	4.34E-04	0.	0.	0.	2.32E-04	1.49E-07	2.08E-05	2.53E-05	6.02E-03
22	8.60	0.	4.18E-04	0.	0.	0.	2.32E-04	1.49E-07	2.08E-05	2.53E-05	6.02E-03
23	8.50	0.	4.07E-04	0.	0.	0.	2.33E-04	1.54E-07	2.89E-05	2.53E-05	4.94E-03
24	8.40	0.	4.01E-04	0.	0.	0.	2.34E-04	1.60E-07	2.79E-05	2.53E-05	4.77E-03
25	8.30	0.	3.95E-04	0.	0.	0.	2.36E-04	1.65E-07	2.79E-05	2.53E-05	3.88E-03
26	8.20	0.	3.84E-04	0.	0.	0.	2.37E-04	1.72E-07	2.70E-05	2.56E-05	3.74E-03
27	8.10	0.	3.72E-04	0.	0.	0.	2.38E-04	1.70E-07	2.77E-05	2.50E-05	3.89E-03
28	8.00	0.	3.60E-04	0.	0.	0.	2.39E-04	1.65E-07	2.76E-05	2.41E-05	3.09E-03
29	7.90	0.	3.47E-04	0.	0.	0.	2.41E-04	1.62E-07	2.75E-05	2.43E-05	2.49E-03
30	7.80	0.	3.54E-04	0.	0.	0.	2.42E-04	2.09E-07	2.75E-05	2.66E-05	2.44E-03
31	7.70	0.	3.20E-04	0.	0.	0.	2.43E-04	2.07E-07	2.74E-05	2.66E-05	2.18E-03
32	7.60	0.	3.05E-04	0.	0.	0.	2.44E-04	2.16E-07	2.74E-05	2.71E-05	1.93E-03
33	7.50	0.	2.89E-04	0.	0.	0.	2.46E-04	2.25E-07	2.73E-05	2.73E-05	1.73E-03
34	7.40	0.	2.74E-04	0.	0.	0.	2.47E-04	2.34E-07	2.73E-05	2.76E-05	1.54E-03
35	7.30	0.	2.60E-04	0.	0.	0.	2.48E-04	2.44E-07	2.72E-05	2.78E-05	1.43E-03
36	7.20	0.	2.46E-04	0.	0.	0.	2.50E-04	2.54E-07	2.72E-05	2.81E-05	1.35E-03
37	7.10	0.	2.27E-04	0.	0.	0.	2.52E-04	2.65E-07	2.71E-05	2.83E-05	1.27E-03
38	7.00	0.	2.52E-07	0.	0.	0.	2.54E-04	2.76E-07	2.70E-05	2.86E-05	1.19E-03
39	6.90	0.	4.71E-07	0.	0.	0.	2.56E-04	2.89E-07	2.70E-05	2.86E-05	1.04E-03
40	6.80	0.	3.88E-07	0.	0.	0.	2.58E-04	3.15E-07	2.69E-05	2.91E-05	1.29E-03
41	6.70	0.	2.69E-07	0.	0.	0.	2.60E-04	3.45E-07	2.69E-05	2.94E-05	1.39E-03
42	6.60	0.	1.57E-07	0.	0.	0.	2.62E-04	3.80E-07	2.69E-05	2.96E-05	1.09E-04
43	6.50	0.	8.60E-08	0.	0.	0.	2.64E-04	4.16E-07	2.70E-05	2.99E-05	1.29E-03
44	6.40	0.	1.19E-07	0.	0.	0.	2.66E-04	4.62E-07	2.70E-05	3.02E-05	1.38E-03
45	6.30	0.	2.46E-07	0.	0.	0.	2.68E-04	5.18E-07	2.71E-05	3.06E-05	8.59E-04
46	6.20	0.	7.20E-07	0.	0.	0.	2.70E-04	5.98E-07	2.72E-05	3.11E-05	1.09E-03
47	6.10	0.	2.82E-06	0.	0.	0.	2.72E-04	6.98E-07	2.72E-05	3.17E-05	1.55E-03
48	6.00	0.	7.25E-06	0.	0.	0.	2.74E-04	8.20E-07	2.76E-05	3.22E-05	8.85E-04
49	5.90	0.	1.15E-05	0.	0.	0.	2.76E-04	9.62E-07	2.76E-05	3.29E-05	8.68E-04
50	5.80	0.	1.71E-05	0.	0.	0.	2.78E-04	1.13E-06	2.81E-05	3.35E-05	8.75E-04
51	5.70	0.	1.96E-05	0.	0.	0.	2.80E-04	1.31E-06	2.83E-05	3.39E-05	8.87E-04

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 9000. DENSITY (GM/CC) 1.293E-04 (10.0E-02 NORMAL)

PHOTON ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2* 1ST NEG.	BETA	NO GAMMA	NO VIB-R0T	NO PHOTO-DET (IONS)	FREE-FREE M P.E.	O P.E.	TOTAL AIR P.E.	
52	5.60	2.41E-05	0.	9.70E-05	6.65E-04	0.	2.56E-04	5.41E-07	2.89E-05	3.45E-05	1.18E-03
53	5.50	2.47E-05	0.	1.20E-04	6.67E-04	0.	2.37E-04	5.71E-07	2.89E-05	3.50E-05	1.11E-03
54	5.40	2.55E-05	0.	9.99E-05	4.24E-04	0.	2.56E-04	6.93E-07	2.93E-05	3.56E-05	6.56E-04
55	5.30	2.42E-05	0.	1.03E-04	6.45E-04	0.	2.40E-04	6.38E-07	2.97E-05	3.43E-05	1.07E-03
56	5.20	1.69E-05	0.	1.04E-04	3.61E-04	0.	2.41E-04	6.74E-07	3.01E-05	3.72E-05	7.94E-04
57	5.10	1.56E-05	0.	1.02E-04	4.97E-04	0.	2.43E-04	7.30E-07	3.09E-05	3.60E-05	9.29E-04
58	5.00	1.14E-05	0.	8.90E-05	4.27E-04	0.	2.48E-04	7.91E-07	3.17E-05	3.89E-05	6.44E-04
59	4.90	9.44E-06	0.	9.50E-05	4.19E-04	0.	2.48E-04	8.08E-07	3.26E-05	3.96E-05	6.43E-04
60	4.80	9.49E-06	0.	9.94E-05	3.84E-04	0.	2.50E-04	8.51E-07	3.34E-05	4.07E-05	6.17E-04
61	4.70	1.01E-05	0.	9.37E-05	3.19E-04	0.	2.52E-04	9.17E-07	3.42E-05	4.17E-05	7.51E-04
62	4.60	1.18E-05	0.	9.28E-05	2.99E-04	0.	2.54E-04	9.78E-07	3.53E-05	4.27E-05	7.37E-04
63	4.50	1.16E-05	0.	7.93E-05	2.59E-04	0.	2.56E-04	1.04E-06	3.65E-05	4.37E-05	6.58E-04
64	4.40	1.19E-05	0.	5.94E-05	1.94E-04	0.	2.59E-04	1.12E-06	3.77E-05	4.46E-05	6.46E-04
65	4.30	1.02E-05	0.	6.66E-05	8.65E-05	0.	2.62E-04	1.20E-06	3.89E-05	4.56E-05	6.40E-04
66	4.26	9.08E-06	0.	7.06E-05	7.02E-05	0.	2.62E-04	1.20E-06	4.02E-05	4.67E-05	6.18E-04
67	4.10	8.09E-06	0.	6.44E-05	1.79E-05	0.	2.63E-04	1.20E-06	4.15E-05	4.78E-05	6.18E-04
68	4.00	7.09E-06	0.	5.91E-05	1.34E-05	0.	2.64E-04	1.20E-06	4.27E-05	4.89E-05	6.12E-04
69	3.90	5.95E-06	0.	4.98E-05	4.02E-06	0.	2.65E-04	1.20E-06	4.39E-05	4.99E-05	6.06E-04
70	3.80	5.95E-06	0.	4.98E-05	4.02E-06	0.	2.65E-04	1.20E-06	4.51E-05	5.10E-05	5.94E-04
71	3.70	4.79E-06	0.	6.74E-04	5.57E-05	3.24E-05	2.58E-04	1.20E-06	4.63E-05	5.21E-05	5.79E-04
72	3.60	4.10E-06	0.	3.28E-04	3.61E-04	4.32E-05	2.41E-04	2.95E-06	4.75E-05	5.32E-05	5.64E-04
73	3.50	3.60E-06	0.	5.27E-04	1.21E-05	3.32E-05	2.21E-04	2.95E-06	4.87E-05	5.43E-05	5.49E-04
74	3.40	3.05E-06	0.	2.40E-04	7.80E-05	3.33E-05	1.27E-04	2.93E-06	5.00E-05	5.54E-05	5.33E-04
75	3.30	2.34E-06	0.	2.74E-04	4.72E-05	2.41E-05	1.20E-04	2.93E-06	5.12E-05	5.65E-05	5.17E-04
76	3.20	1.89E-06	0.	1.50E-04	1.31E-05	2.43E-05	1.20E-04	2.92E-06	5.24E-05	5.76E-05	5.01E-04
77	3.10	1.76E-06	0.	1.16E-04	1.22E-04	2.43E-05	1.20E-04	2.92E-06	5.36E-05	5.87E-05	4.85E-04
78	3.00	1.44E-06	0.	6.32E-05	4.75E-04	1.68E-05	1.20E-04	2.92E-06	5.48E-05	5.98E-05	4.69E-04
79	2.90	1.09E-06	0.	3.74E-05	3.29E-04	1.25E-05	1.20E-04	2.92E-06	5.60E-05	6.09E-05	4.53E-04
80	2.80	1.08E-06	0.	1.74E-05	1.07E-04	7.39E-06	1.20E-04	2.92E-06	5.72E-05	6.20E-05	4.37E-04
81	2.70	6.14E-07	0.	7.95E-06	2.33E-04	3.45E-06	1.20E-04	2.92E-06	5.84E-05	6.31E-05	4.21E-04
82	2.60	2.51E-07	0.	4.07E-06	2.19E-05	1.32E-06	1.20E-04	2.92E-06	5.96E-05	6.42E-05	4.05E-04
83	2.50	1.65E-08	0.	5.31E-07	1.57E-05	2.67E-07	1.20E-04	2.92E-06	6.08E-05	6.53E-05	3.89E-04
84	2.40	0.	0.	3.28E-05	0.	0.	1.20E-04	2.92E-06	6.20E-05	6.64E-05	3.73E-04
85	2.30	0.	0.	1.56E-04	0.	0.	1.20E-04	2.92E-06	6.32E-05	6.75E-05	3.57E-04
86	2.20	0.	0.	3.22E-04	0.	0.	1.20E-04	2.92E-06	6.44E-05	6.86E-05	3.41E-04
87	2.10	0.	0.	4.75E-04	0.	0.	1.20E-04	2.92E-06	6.56E-05	6.97E-05	3.25E-04
88	2.00	0.	0.	7.57E-04	0.	0.	1.20E-04	2.92E-06	6.68E-05	7.08E-05	3.09E-04
89	1.90	0.	0.	1.55E-03	0.	0.	1.20E-04	2.92E-06	6.80E-05	7.19E-05	2.93E-04
90	1.80	0.	0.	1.27E-03	0.	0.	1.20E-04	2.92E-06	6.92E-05	7.30E-05	2.77E-04
91	1.70	0.	0.	1.53E-03	0.	0.	1.20E-04	2.92E-06	7.04E-05	7.41E-05	2.61E-04
92	1.60	0.	0.	1.07E-03	0.	0.	1.20E-04	2.92E-06	7.16E-05	7.52E-05	2.45E-04
93	1.50	0.	0.	1.32E-03	0.	0.	1.20E-04	2.92E-06	7.28E-05	7.63E-05	2.29E-04
94	1.40	0.	0.	1.41E-03	0.	0.	1.20E-04	2.92E-06	7.40E-05	7.74E-05	2.13E-04
95	1.30	0.	0.	1.03E-03	0.	0.	1.20E-04	2.92E-06	7.52E-05	7.85E-05	1.97E-04
96	1.20	0.	0.	1.04E-03	0.	0.	1.20E-04	2.92E-06	7.64E-05	7.96E-05	1.81E-04
97	1.10	0.	0.	8.52E-04	0.	0.	1.20E-04	2.92E-06	7.76E-05	8.07E-05	1.65E-04
98	1.00	0.	0.	7.96E-04	0.	0.	1.20E-04	2.92E-06	7.88E-05	8.18E-05	1.49E-04
99	0.90	0.	0.	5.39E-04	0.	0.	1.20E-04	2.92E-06	8.00E-05	8.29E-05	1.33E-04
100	0.80	0.	0.	2.94E-04	0.	0.	1.20E-04	2.92E-06	8.12E-05	8.40E-05	1.17E-04
101	0.70	0.	0.	7.89E-05	0.	0.	1.20E-04	2.92E-06	8.24E-05	8.51E-05	1.01E-04
102	0.60	0.	0.	4.32E-06	0.	0.	1.20E-04	2.92E-06	8.36E-05	8.62E-05	8.5E-05

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 9000. DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)

PHOTON ENERGY E.V.	02 S-R BANDS		02 S-R CONT.		NO BETA	NO GAMMA	DENSITY (GM/CC)		0- PHOTO-DET (IONS)		0- FREE-ELECT P.E.		0 TOTAL AIR P.E.	
	NO.	NO.	NO.	NO.			NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
1	10.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	10.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	10.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	10.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	10.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	10.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	10.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8	10.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9	9.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	9.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	9.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12	9.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13	9.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14	9.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15	9.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16	9.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17	9.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18	9.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
19	8.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	8.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	8.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
22	8.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
23	8.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
24	8.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
25	8.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
26	8.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
27	8.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
28	8.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
29	7.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	7.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31	7.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
32	7.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
33	7.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
34	7.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
35	7.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
36	7.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
37	7.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
38	7.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
39	6.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	6.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41	6.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
42	6.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
43	6.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
44	6.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
45	6.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
46	6.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
47	6.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
48	6.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
49	5.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	5.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51	5.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

ABSORPTION COEFFICIENTS OF HEATED AIR (SILVER CL.)  
 TEMPERATURE (DEGREES K) 9000. DENSITY (GM/CC) 1.2932-95 (30.0E-03 NORMAL)

PHOTON ENERGY BANDS	N2		N2+		NO		NO		NO		O		O		TOTAL AIR		
	1ST POS.	2ND POS.	1ST POS.	2ND POS.	1ST POS.	2ND POS.	1ST POS.	2ND POS.	1ST POS.	2ND POS.	1ST POS.	2ND POS.	1ST POS.	2ND POS.	1ST POS.	2ND POS.	
52	5.60	2.42E-07	0.	0.	1.12E-06	7.90E-06	0.	0.	7.32E-06	5.19E-06	3.20E-06	3.43E-06	2.33E-06	2.33E-06	0.	0.	
53	5.40	2.48E-07	0.	0.	1.38E-06	7.69E-06	0.	0.	7.36E-06	5.48E-06	3.22E-06	3.51E-06	2.33E-06	2.33E-06	0.	0.	
54	5.20	2.56E-07	0.	0.	1.19E-06	4.92E-06	0.	0.	7.40E-06	5.79E-06	3.27E-06	3.57E-06	2.08E-06	2.08E-06	0.	0.	
55	5.30	2.43E-07	0.	0.	1.19E-06	7.44E-06	0.	0.	7.45E-06	6.17E-06	3.42E-06	3.64E-06	2.34E-06	2.34E-06	0.	0.	
56	5.20	1.70E-07	0.	0.	1.22E-06	4.17E-06	0.	0.	7.50E-06	6.49E-06	3.47E-06	3.72E-06	2.03E-06	2.03E-06	0.	0.	
57	5.10	1.50E-07	0.	0.	1.18E-06	5.74E-06	0.	0.	7.54E-06	6.68E-06	3.52E-06	3.81E-06	2.21E-06	2.21E-06	0.	0.	
58	5.00	1.44E-07	0.	0.	1.13E-06	4.92E-06	0.	0.	7.62E-06	7.39E-06	3.65E-06	3.99E-06	2.13E-06	2.13E-06	0.	0.	
59	4.90	9.50E-08	0.	0.	1.10E-06	4.83E-06	0.	0.	7.69E-06	7.76E-06	3.75E-06	3.99E-06	2.16E-06	2.16E-06	0.	0.	
60	4.80	9.53E-08	0.	0.	1.15E-06	4.43E-06	0.	0.	7.75E-06	6.26E-06	3.64E-06	4.07E-06	2.14E-06	2.14E-06	0.	0.	
61	4.70	1.02E-07	0.	0.	1.08E-06	3.64E-06	0.	0.	7.81E-06	6.90E-06	3.94E-06	4.17E-06	2.09E-06	2.09E-06	0.	0.	
62	4.60	1.18E-07	0.	0.	1.07E-06	3.45E-06	0.	0.	7.88E-06	9.39E-06	4.06E-06	4.28E-06	2.09E-06	2.09E-06	0.	0.	
63	4.50	1.16E-07	0.	0.	9.19E-07	2.42E-06	0.	0.	7.94E-06	10.00E-06	4.19E-06	4.30E-06	2.03E-06	2.03E-06	0.	0.	
64	4.40	1.16E-07	0.	0.	8.95E-07	1.81E-06	0.	0.	8.00E-06	1.07E-07	4.33E-06	4.48E-06	2.03E-06	2.03E-06	0.	0.	
65	4.30	1.03E-07	0.	0.	7.92E-07	9.94E-07	0.	0.	8.07E-06	1.15E-07	4.45E-06	4.59E-06	2.18E-06	2.18E-06	0.	0.	
66	4.20	9.12E-08	0.	0.	6.44E-07	8.10E-07	0.	0.	8.13E-06	1.23E-07	4.52E-06	4.54E-06	2.19E-06	2.19E-06	0.	0.	
67	4.10	8.13E-08	0.	0.	7.43E-07	2.05E-07	0.	0.	8.16E-06	1.33E-07	4.77E-06	4.77E-06	1.73E-06	1.73E-06	0.	0.	
68	4.00	7.00E-08	0.	0.	1.08E-06	0.	0.	0.	8.19E-06	1.33E-07	3.75E-06	6.37E-07	2.44E-06	2.44E-06	0.	0.	
69	3.90	5.60E-08	0.	0.	4.79E-06	5.75E-07	6.94E-08	0.	0.	8.16E-06	2.54E-07	2.80E-06	6.95E-07	1.68E-06	1.68E-06	0.	0.
70	3.80	5.94E-08	0.	0.	6.58E-06	1.11E-05	6.04E-07	0.	0.	8.13E-06	1.67E-07	2.94E-06	6.75E-07	3.82E-06	3.82E-06	0.	0.
71	3.70	4.81E-08	0.	0.	8.22E-06	2.38E-06	4.56E-07	0.	0.	8.00E-06	1.87E-07	2.90E-06	7.63E-07	2.32E-06	2.32E-06	0.	0.
72	3.60	4.22E-08	0.	0.	4.34E-06	1.54E-05	4.98E-07	0.	0.	7.50E-06	1.97E-07	2.75E-06	6.65E-07	3.16E-06	3.16E-06	0.	0.
73	3.50	3.67E-08	0.	0.	6.90E-06	3.16E-05	3.48E-07	0.	0.	8.66E-06	2.14E-07	3.11E-06	9.72E-07	7.02E-06	7.02E-06	0.	0.
74	3.40	3.07E-08	0.	0.	3.88E-06	3.34E-05	3.05E-07	0.	0.	8.66E-06	2.34E-07	3.32E-06	1.09E-06	1.58E-06	1.58E-06	0.	0.
75	3.3E	2.35E-08	0.	0.	3.49E-06	2.02E-05	2.77E-07	0.	0.	8.66E-06	2.56E-07	3.30E-06	1.21E-06	3.39E-06	3.39E-06	0.	0.
76	3.20	1.80E-08	0.	0.	1.98E-06	5.46E-05	2.61E-07	0.	0.	8.97E-06	2.81E-07	4.34E-06	1.31E-06	4.62E-06	4.62E-06	0.	0.
77	3.10	1.70E-08	0.	0.	1.58E-06	5.21E-05	2.44E-07	0.	0.	8.98E-06	3.09E-07	4.78E-06	1.43E-06	1.75E-06	1.75E-06	0.	0.
78	3.00	1.42E-08	0.	0.	6.37E-07	2.03E-05	2.14E-07	0.	0.	8.98E-06	3.41E-07	5.18E-06	1.57E-06	3.24E-06	3.24E-06	0.	0.
79	2.90	1.10E-08	0.	0.	2.98E-07	1.41E-05	1.44E-07	0.	0.	4.00E-06	3.77E-07	5.68E-06	1.69E-06	2.64E-06	2.64E-06	0.	0.
80	2.80	1.08E-08	0.	0.	1.98E-07	9.94E-06	3.98E-08	0.	0.	4.00E-06	4.19E-07	6.07E-06	1.82E-06	4.72E-06	4.72E-06	0.	0.
81	2.70	6.19E-09	0.	0.	1.98E-07	9.94E-06	3.98E-08	0.	0.	4.00E-06	4.60E-07	6.55E-06	1.90E-06	2.38E-06	2.38E-06	0.	0.
82	2.60	2.52E-09	0.	0.	5.58E-08	9.35E-07	1.52E-08	0.	0.	4.00E-06	5.25E-07	7.07E-06	2.24E-06	1.32E-06	1.32E-06	0.	0.
83	2.50	1.66E-10	0.	0.	7.03E-09	6.66E-07	3.31E-09	0.	0.	4.00E-06	5.91E-07	7.53E-06	2.46E-06	9.62E-06	9.62E-06	0.	0.
84	2.40	0.	0.	0.	1.34E-07	0.	0.	0.	4.00E-06	6.69E-07	8.03E-06	2.71E-06	1.13E-06	1.13E-06	0.	0.	
85	2.30	0.	0.	0.	2.04E-06	0.	0.	0.	3.97E-06	7.60E-07	8.49E-06	2.96E-06	1.33E-06	1.33E-06	0.	0.	
86	2.20	0.	0.	0.	4.22E-05	0.	0.	0.	3.97E-06	8.70E-07	9.08E-06	3.23E-06	1.58E-06	1.58E-06	0.	0.	
87	2.10	0.	0.	0.	5.28E-05	0.	0.	0.	3.94E-06	1.00E-06	9.55E-06	3.51E-06	1.83E-06	1.83E-06	0.	0.	
88	2.00	0.	0.	0.	1.00E-05	0.	0.	0.	3.81E-06	1.16E-06	9.82E-06	3.71E-06	2.03E-06	2.03E-06	0.	0.	
89	1.90	0.	0.	0.	2.05E-05	0.	0.	0.	3.67E-06	1.36E-06	9.73E-06	3.84E-06	2.16E-06	2.16E-06	0.	0.	
90	1.80	0.	0.	0.	1.64E-05	0.	0.	0.	3.51E-06	1.60E-06	1.14E-05	2.30E-06	3.54E-06	3.54E-06	0.	0.	
91	1.70	0.	0.	0.	2.03E-05	0.	0.	0.	3.38E-06	1.90E-06	1.35E-05	2.79E-06	4.17E-06	4.17E-06	0.	0.	
92	1.60	0.	0.	0.	1.41E-05	0.	0.	0.	2.79E-06	2.28E-06	1.55E-05	3.19E-06	3.78E-06	3.78E-06	0.	0.	
93	1.50	0.	0.	0.	1.74E-05	0.	0.	0.	1.77E-06	2.77E-06	1.75E-05	3.57E-06	4.25E-06	4.25E-06	0.	0.	
94	1.40	0.	0.	0.	1.87E-05	0.	0.	0.	0.	3.42E-06	2.13E-05	4.25E-06	4.27E-06	0.	0.		
95	1.30	0.	0.	0.	1.34E-05	0.	0.	0.	0.	4.28E-06	1.87E-05	3.75E-06	4.64E-06	0.	0.		
96	1.20	0.	0.	0.	1.40E-05	0.	0.	0.	0.	5.46E-06	2.46E-05	4.99E-06	4.91E-06	0.	0.		
97	1.10	0.	0.	0.	1.13E-05	0.	0.	0.	0.	7.11E-06	3.08E-05	5.56E-06	5.48E-06	0.	0.		
98	1.00	0.	0.	0.	1.05E-05	0.	0.	0.	0.	9.51E-06	3.55E-05	6.77E-06	6.23E-06	0.	0.		
99	0.90	0.	0.	0.	8.45E-06	0.	0.	0.	0.	1.31E-05	4.16E-05	7.96E-06	7.11E-06	0.	0.		
100	0.80	0.	0.	0.	3.92E-06	0.	0.	0.	0.	1.87E-05	4.78E-05	9.03E-06	7.87E-06	0.	0.		
101	0.70	0.	0.	0.	1.04E-06	0.	0.	0.	0.	2.67E-05	4.59E-05	7.25E-06	6.25E-06	0.	0.		
102	0.60	0.	0.	0.	5.71E-08	0.	0.	0.	0.	4.94E-05	4.54E-05	8.20E-06	9.93E-06	0.	0.		

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E.V.	O2 S-R BANDS	O2 S-R COMT.	M2 8-M NO. 1	TEMPERATURE (DEGREES K)	9000.	DENSITY (GM/CC)	NO. 2		NO. 0		M		O	
							BETA	GAMMA	PHOTO-DIET (IONS)	FREQUENCY (IONS)	P.E.	P.E.	P.E.	P.E.
1 10.70 0.	0.	0.	0.	8.08E-06	0.	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
2 15.60 0.	0.	0.	0.	6.85E-06	0.	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
3 10.50 0.	0.	0.	0.	6.83E-06	0.	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
4 10.40 0.	0.	0.	0.	5.89E-06	0.	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
5 10.30 0.	0.	0.	0.	4.78E-06	0.	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
6 10.20 0.	0.	0.	0.	4.71E-06	0.	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
7 10.10 0.	0.	0.	0.	4.23E-06	0.	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
8 10.00 0.	0.	0.	0.	3.86E-06	0.	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
9 9.90 0.	0.	0.	0.	3.49E-06	0.	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
10 9.80 0.	0.	0.	0.	2.98E-06	0.	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
11 9.70 0.	0.	0.	0.	2.52E-06	0.	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
12 9.60 0.	0.	0.	0.	2.52E-06	0.	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
13 9.50 0.	1.55E-08	1.98E-06	0.	1.91E-08	1.73E-06	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
14 9.40 0.	0.	0.	0.	2.27E-08	1.71E-06	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
15 9.30 0.	2.62E-08	1.27E-06	0.	3.62E-08	1.27E-06	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
16 9.20 0.	3.14E-08	1.35E-06	0.	3.62E-08	1.27E-06	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
17 9.10 0.	3.68E-08	1.09E-06	0.	3.62E-08	1.27E-06	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
18 9.00 0.	4.23E-08	9.34E-07	0.	4.23E-08	9.34E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
19 8.90 0.	4.78E-08	8.09E-07	0.	4.78E-08	8.09E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
20 8.80 0.	5.32E-08	6.97E-07	0.	5.32E-08	6.97E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
21 8.70 0.	5.86E-08	6.07E-07	0.	5.86E-08	6.07E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
22 8.60 0.	6.40E-08	5.35E-07	0.	6.40E-08	5.35E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
23 8.50 0.	6.94E-08	4.82E-07	0.	6.94E-08	4.82E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
24 8.40 0.	7.48E-08	4.38E-07	0.	7.48E-08	4.38E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
25 8.30 0.	8.02E-08	4.03E-07	0.	8.02E-08	4.03E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
26 8.20 0.	8.56E-08	3.74E-07	0.	8.56E-08	3.74E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
27 8.10 0.	9.10E-08	3.49E-07	0.	9.10E-08	3.49E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
28 8.00 0.	9.64E-08	3.27E-07	0.	9.64E-08	3.27E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
29 7.90 0.	1.018E-07	3.07E-07	0.	1.018E-07	3.07E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
30 7.80 0.	1.072E-07	2.88E-07	0.	1.072E-07	2.88E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
31 7.70 0.	1.126E-07	2.70E-07	0.	1.126E-07	2.70E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
32 7.60 0.	1.180E-07	2.53E-07	0.	1.180E-07	2.53E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
33 7.50 0.	1.234E-07	2.37E-07	0.	1.234E-07	2.37E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
34 7.40 0.	1.288E-07	2.22E-07	0.	1.288E-07	2.22E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
35 7.30 0.	1.342E-07	2.08E-07	0.	1.342E-07	2.08E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
36 7.20 0.	1.396E-07	1.94E-07	0.	1.396E-07	1.94E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
37 7.10 0.	1.450E-07	1.81E-07	0.	1.450E-07	1.81E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
38 7.00 2.49E-11	0.	0.	0.	1.450E-07	1.81E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
39 6.90 4.59E-11	0.	0.	0.	1.450E-07	1.81E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
40 6.80 3.70E-11	0.	0.	0.	1.450E-07	1.81E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
41 6.70 2.82E-11	0.	0.	0.	1.450E-07	1.81E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
42 6.60 1.95E-11	0.	0.	0.	1.450E-07	1.81E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
43 6.50 8.37E-12	0.	0.	0.	1.450E-07	1.81E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
44 6.40 1.66E-11	0.	0.	0.	1.450E-07	1.81E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
45 6.30 2.40E-11	0.	0.	0.	1.450E-07	1.81E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
46 6.20 7.00E-11	0.	0.	0.	1.450E-07	1.81E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
47 6.10 2.75E-10	0.	0.	0.	1.450E-07	1.81E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
48 6.00 7.06E-10	0.	0.	0.	1.450E-07	1.81E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
49 5.90 1.82E-09	0.	0.	0.	1.450E-07	1.81E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
50 5.80 1.66E-09	0.	0.	0.	1.450E-07	1.81E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	
51 5.70 1.31E-09	0.	0.	0.	1.450E-07	1.81E-07	0.	0.	0.	2.11E-07	7.49E-10	1.17E-06	3.39E-07	9.73E-06	

TEMPERATURE (DEGREES K) 9800. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON ENERGY BANDS	02 S-B	M2	2ND POS.	1ST POS.	M2	1ST NEG.	M2	M2	NO META	A.O	GAMMA	NO VIB-ROT	NO	MD	0-		N		0	
															PHOTO-DET	(TOMS)	FREE-FREE	P.E.	P.E.	TOTAL AIR
52	5.60	2.35E-09	0.	0.	0.	0.	1.10E-08	7.74E-08	0.	0.	0.	0.	0.	0.	2.29E-07	5.06E-09	3.27E-07	3.48E-07	9.47E-07	
53	5.50	2.48E-09	0.	0.	0.	0.	1.35E-08	7.54E-08	0.	0.	0.	0.	0.	0.	2.26E-07	5.34E-09	3.31E-07	3.45E-07	9.00E-07	
54	5.40	2.48E-09	0.	0.	0.	0.	1.35E-08	4.81E-08	0.	0.	0.	0.	0.	0.	2.27E-07	5.04E-09	3.39E-07	3.51E-07	9.01E-07	
55	5.30	2.36E-09	0.	0.	0.	0.	1.30E-08	7.29E-08	0.	0.	0.	0.	0.	0.	2.29E-07	5.97E-09	3.40E-07	3.50E-07	1.02E-06	
56	5.20	1.64E-09	0.	0.	0.	0.	1.30E-08	4.09E-08	0.	0.	0.	0.	0.	0.	2.30E-07	6.32E-09	3.49E-07	3.67E-07	1.03E-06	
57	5.10	1.51E-09	0.	0.	0.	0.	1.10E-08	5.62E-08	0.	0.	0.	0.	0.	0.	2.32E-07	6.70E-09	3.56E-07	3.75E-07	1.04E-06	
58	5.00	1.11E-09	0.	0.	0.	0.	1.01E-08	4.82E-08	0.	0.	0.	0.	0.	0.	2.34E-07	7.11E-09	3.63E-07	3.84E-07	1.05E-06	
59	4.90	9.29E-10	0.	0.	0.	0.	1.07E-08	4.73E-08	0.	0.	0.	0.	0.	0.	2.35E-07	7.54E-09	3.71E-07	3.92E-07	1.07E-06	
60	4.80	9.29E-10	0.	0.	0.	0.	1.2E-08	4.35E-08	0.	0.	0.	0.	0.	0.	2.38E-07	8.09E-09	3.82E-07	4.01E-07	1.08E-06	
61	4.70	9.08E-10	0.	0.	0.	0.	1.06E-08	3.60E-08	0.	0.	0.	0.	0.	0.	2.42E-07	8.92E-09	3.92E-07	4.11E-07	1.10E-06	
62	4.60	1.14E-09	0.	0.	0.	0.	9.95E-09	2.36E-08	0.	0.	0.	0.	0.	0.	2.44E-07	9.19E-09	4.04E-07	4.21E-07	1.12E-06	
63	4.50	1.13E-09	0.	2.67E-09	0.	0.	9.94E-09	2.36E-08	0.	0.	0.	0.	0.	0.	2.45E-07	9.70E-09	4.17E-07	4.31E-07	1.14E-06	
64	4.40	1.22E-09	0.	7.78E-09	0.	0.	9.68E-09	1.77E-08	0.	0.	0.	0.	0.	0.	2.46E-07	1.07E-08	4.31E-07	4.41E-07	1.16E-06	
65	4.30	9.33E-10	0.	1.08E-09	0.	0.	7.64E-09	9.77E-09	0.	0.	0.	0.	0.	0.	2.48E-07	1.2E-08	4.46E-07	4.51E-07	1.18E-06	
66	4.20	8.93E-10	0.	7.97E-09	0.	0.	7.97E-09	7.93E-09	0.	0.	0.	0.	0.	0.	2.50E-07	1.29E-08	4.69E-07	4.61E-07	1.19E-06	
67	4.10	7.87E-10	0.	2.22E-09	0.	0.	7.27E-09	2.87E-09	0.	0.	0.	0.	0.	0.	2.51E-07	1.29E-08	4.69E-07	4.61E-07	1.19E-06	
68	4.00	6.86E-10	0.	1.97E-09	0.	0.	6.88E-09	1.54E-09	0.	0.	0.	0.	0.	0.	2.52E-07	1.39E-08	4.82E-07	4.71E-07	1.21E-06	
69	3.90	5.94E-10	0.	4.79E-09	0.	0.	6.49E-09	6.08E-10	0.	0.	0.	0.	0.	0.	2.54E-07	1.59E-08	5.19E-07	5.09E-07	1.25E-06	
70	3.80	5.79E-10	0.	6.47E-09	0.	0.	6.47E-09	5.92E-09	0.	0.	0.	0.	0.	0.	2.56E-07	1.89E-08	5.69E-07	5.49E-07	1.31E-06	
71	3.70	4.66E-10	0.	8.85E-09	0.	0.	6.05E-09	7.54E-09	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
72	3.60	3.99E-10	0.	4.29E-08	0.	0.	4.69E-09	4.88E-09	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
73	3.50	3.51E-10	0.	8.91E-08	0.	0.	4.64E-09	3.41E-09	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
74	3.40	2.97E-10	0.	3.29E-08	0.	0.	3.29E-09	3.77E-09	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
75	3.30	2.20E-10	0.	6.42E-08	0.	0.	3.29E-09	4.40E-09	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
76	3.20	1.64E-10	0.	1.94E-08	0.	0.	1.94E-09	2.79E-09	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
77	3.10	1.45E-10	0.	1.95E-08	0.	0.	1.95E-09	2.79E-09	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
78	3.00	1.17E-10	0.	8.26E-09	0.	0.	8.26E-09	2.10E-09	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
79	2.90	1.08E-10	0.	4.91E-09	0.	0.	4.91E-09	1.41E-09	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
80	2.80	1.08E-10	0.	2.20E-09	0.	0.	2.20E-09	1.49E-09	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
81	2.70	5.99E-11	0.	1.04E-09	0.	0.	1.04E-09	3.15E-09	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
82	2.60	2.94E-11	0.	5.33E-10	0.	0.	5.33E-10	2.94E-09	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
83	2.50	1.61E-12	0.	6.96E-11	0.	0.	6.96E-11	2.12E-08	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
84	2.40	1.41E-12	0.	4.30E-09	0.	0.	4.30E-09	3.28E-12	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
85	2.30	0.	0.	2.04E-08	0.	0.	2.04E-08	0.	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
86	2.20	0.	0.	4.22E-08	0.	0.	4.22E-08	0.	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
87	2.10	0.	0.	6.22E-08	0.	0.	6.22E-08	0.	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
88	2.00	0.	0.	9.92E-08	0.	0.	9.92E-08	0.	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
89	1.90	0.	0.	2.83E-07	0.	0.	2.83E-07	0.	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
90	1.80	0.	0.	3.60E-07	0.	0.	3.60E-07	0.	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
91	1.70	0.	0.	2.01E-07	0.	0.	2.01E-07	0.	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
92	1.60	0.	0.	1.49E-07	0.	0.	1.49E-07	0.	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
93	1.50	0.	0.	1.73E-07	0.	0.	1.73E-07	0.	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
94	1.40	0.	0.	1.09E-07	0.	0.	1.09E-07	0.	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
95	1.30	0.	0.	1.39E-07	0.	0.	1.39E-07	0.	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
96	1.20	0.	0.	1.19E-07	0.	0.	1.19E-07	0.	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
97	1.10	0.	0.	1.04E-07	0.	0.	1.04E-07	0.	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
98	1.00	0.	0.	8.37E-08	0.	0.	8.37E-08	0.	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
99	0.90	0.	0.	3.88E-08	0.	0.	3.88E-08	0.	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
100	0.80	0.	0.	1.03E-08	0.	0.	1.03E-08	0.	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
101	0.70	0.	0.	1.03E-08	0.	0.	1.03E-08	0.	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	
102	0.50	0.	0.	5.64E-10	0.	0.	5.64E-10	0.	0.	0.	0.	0.	0.	0.	2.66E-07	1.78E-08	5.69E-07	5.49E-07	1.31E-06	



ADSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.),

PHOTON ENERGY BANDS E-V.	PHOTON O2 S-R ENERGY BANDS CONT.	TEMPERATURE (DEGREES K)	9000.	DENSITY (GM/CC)	1.293E-07	(18.0E-09 NORMAL)	FREE-FREE		P.S.		TOTAL AIR
							NO	AO	NO	P.S.	
		H2 O-H NO. 1	NO BETA	AO GAMMA	NO 2	PHOTO-OPT (I/MS)	0	1	0	P.S.	
1 10.70 0	0	6.99E-04	0	0	0	6.09E-09	6.79E-11	1.09E-07	2.37E-04	2.09E-07	2.09E-07
2 10.60 0	0	5.92E-08	0	0	0	6.10E-09	6.09E-11	1.10E-07	3.37E-04	1.99E-07	1.99E-07
3 10.50 0	0	5.73E-08	0	0	0	6.11E-09	7.10E-11	1.11E-07	2.37E-04	1.97E-07	1.97E-07
4 10.40 0	0	5.10E-08	0	0	0	6.12E-09	7.30E-11	1.12E-07	2.37E-04	1.91E-07	1.91E-07
5 10.30 0	0	4.14E-08	0	0	0	6.13E-09	7.70E-11	1.13E-07	2.37E-04	1.82E-07	1.82E-07
6 10.20 0	0	4.07E-08	0	0	0	6.14E-09	7.74E-11	1.14E-07	2.37E-04	1.87E-07	1.87E-07
7 10.10 0	0	3.66E-08	0	0	0	6.15E-09	7.97E-11	1.15E-07	2.37E-04	1.78E-07	1.78E-07
8 10.00 0	0	2.92E-08	0	0	0	6.16E-09	8.22E-11	1.16E-07	2.37E-04	1.71E-07	1.71E-07
9 9.90 0	0	2.94E-08	0	0	0	6.17E-09	8.47E-11	1.17E-07	2.36E-04	1.71E-07	1.71E-07
10 9.80 0	0	2.58E-08	0	0	0	6.18E-09	8.73E-11	1.18E-07	2.36E-04	1.68E-07	1.68E-07
11 9.70 0	0	2.04E-08	0	0	0	6.19E-09	9.01E-11	1.19E-07	2.36E-04	1.63E-07	1.63E-07
12 9.60 0	0	1.82E-08	0	0	0	6.20E-09	9.30E-11	1.20E-07	2.36E-04	1.59E-07	1.59E-07
13 9.50 0	0	1.69E-08	0	0	0	6.21E-09	9.59E-11	1.21E-07	2.36E-04	1.54E-07	1.54E-07
14 9.40 0	1.39E-18	1.71E-10	1.49E-08	0	0	6.22E-09	9.90E-11	1.22E-07	2.36E-04	1.50E-07	1.50E-07
15 9.30 0	2.03E-10	1.50E-08	0	0	0	6.23E-09	1.02E-10	1.23E-07	2.36E-04	1.46E-07	1.46E-07
16 9.20 0	2.35E-10	1.10E-08	0	0	0	6.24E-09	1.04E-10	1.24E-07	2.36E-04	1.42E-07	1.42E-07
17 9.10 0	2.81E-10	1.12E-08	0	0	0	6.25E-09	1.06E-10	1.25E-07	2.36E-04	1.38E-07	1.38E-07
18 9.00 0	3.30E-10	1.42E-08	0	0	0	6.26E-09	1.08E-10	1.26E-07	2.36E-04	1.34E-07	1.34E-07
19 8.90 0	3.79E-10	8.96E-09	0	0	0	6.27E-09	1.10E-10	1.27E-07	2.36E-04	1.30E-07	1.30E-07
20 8.80 0	3.92E-10	7.09E-09	0	0	0	6.28E-09	1.12E-10	1.28E-07	2.36E-04	1.26E-07	1.26E-07
21 8.70 0	3.74E-10	6.02E-09	0	0	0	6.29E-09	1.14E-10	1.29E-07	2.36E-04	1.22E-07	1.22E-07
22 8.60 0	3.45E-10	0.08E-09	0	0	0	6.30E-09	1.16E-10	1.30E-07	2.36E-04	1.18E-07	1.18E-07
23 8.50 0	3.55E-10	4.04E-09	0	0	0	6.31E-09	1.18E-10	1.31E-07	2.36E-04	1.14E-07	1.14E-07
24 8.40 0	3.50E-10	4.63E-09	0	0	0	6.32E-09	1.20E-10	1.32E-07	2.36E-04	1.10E-07	1.10E-07
25 8.30 0	3.44E-10	3.57E-09	0	0	0	6.33E-09	1.22E-10	1.33E-07	2.36E-04	1.06E-07	1.06E-07
26 8.20 0	3.32E-10	3.48E-09	0	0	0	6.34E-09	1.24E-10	1.34E-07	2.36E-04	1.02E-07	1.02E-07
27 8.10 0	3.25E-10	2.73E-09	0	0	0	6.35E-09	1.26E-10	1.35E-07	2.36E-04	9.80E-08	9.80E-08
28 8.00 0	3.14E-10	2.64E-09	0	0	0	6.36E-09	1.28E-10	1.36E-07	2.36E-04	9.40E-08	9.40E-08
29 7.90 0	3.03E-10	2.18E-09	0	0	0	6.37E-09	1.30E-10	1.37E-07	2.36E-04	9.00E-08	9.00E-08
30 7.80 0	2.91E-10	2.08E-09	0	0	0	6.38E-09	1.32E-10	1.38E-07	2.36E-04	8.60E-08	8.60E-08
31 7.70 0	2.79E-10	1.68E-09	0	0	0	6.39E-09	1.34E-10	1.39E-07	2.36E-04	8.20E-08	8.20E-08
32 7.60 0	2.64E-10	1.59E-09	0	0	0	6.40E-09	1.36E-10	1.40E-07	2.36E-04	7.80E-08	7.80E-08
33 7.50 0	2.52E-10	1.29E-09	0	0	0	6.41E-09	1.38E-10	1.41E-07	2.36E-04	7.40E-08	7.40E-08
34 7.40 0	2.39E-10	1.04E-09	0	0	0	6.42E-09	1.40E-10	1.42E-07	2.36E-04	7.00E-08	7.00E-08
35 7.30 0	2.27E-10	9.64E-10	0	0	0	6.43E-09	1.42E-10	1.43E-07	2.36E-04	6.60E-08	6.60E-08
36 7.20 0	2.13E-10	9.64E-10	0	0	0	6.44E-09	1.44E-10	1.44E-07	2.36E-04	6.20E-08	6.20E-08
37 7.10 0	1.98E-10	7.30E-10	0	0	0	6.45E-09	1.46E-10	1.45E-07	2.36E-04	5.80E-08	5.80E-08
38 7.00 2.20E-13	0	6.24E-10	0	0	0	6.46E-09	1.48E-10	1.46E-07	2.36E-04	5.40E-08	5.40E-08
39 6.90 4.74E-13	0	6.24E-10	0	0	0	6.47E-09	1.50E-10	1.47E-07	2.36E-04	5.00E-08	5.00E-08
40 6.80 3.19E-13	0	4.77E-10	0	0	0	6.48E-09	1.52E-10	1.48E-07	2.36E-04	4.60E-08	4.60E-08
41 6.70 2.35E-13	0	3.82E-10	0	0	0	6.49E-09	1.54E-10	1.49E-07	2.36E-04	4.20E-08	4.20E-08
42 6.60 1.37E-13	0	3.22E-10	0	0	0	6.50E-09	1.56E-10	1.50E-07	2.36E-04	3.80E-08	3.80E-08
43 6.50 7.51E-14	0	2.34E-10	0	0	0	6.51E-09	1.58E-10	1.51E-07	2.36E-04	3.40E-08	3.40E-08
44 6.40 1.04E-13	0	1.47E-10	0	0	0	6.52E-09	1.60E-10	1.52E-07	2.36E-04	3.00E-08	3.00E-08
45 6.30 2.15E-13	0	7.64E-11	0	0	0	6.53E-09	1.62E-10	1.53E-07	2.36E-04	2.60E-08	2.60E-08
46 6.20 6.20E-13	0	1.16E-11	0	0	0	6.54E-09	1.64E-10	1.54E-07	2.36E-04	2.20E-08	2.20E-08
47 6.10 2.44E-12	0	1.55E-11	0	0	0	6.55E-09	1.66E-10	1.55E-07	2.36E-04	1.80E-08	1.80E-08
48 6.00 6.33E-12	0	3.63E-12	0	0	0	6.56E-09	1.68E-10	1.56E-07	2.36E-04	1.40E-08	1.40E-08
49 5.90 1.00E-11	0	2.97E-12	0	0	0	6.57E-09	1.70E-10	1.57E-07	2.36E-04	1.00E-08	1.00E-08
50 5.80 1.49E-11	0	6.30E-13	0	0	0	6.58E-09	1.72E-10	1.58E-07	2.36E-04	6.00E-09	6.00E-09
51 5.70 1.71E-11	0	0	0	0	0	6.59E-09	1.74E-10	1.59E-07	2.36E-04	2.00E-09	2.00E-09

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		10.00E-07 (10.00E-05 NORMAL)		TOTAL AIR
	1ST POS.	2ND POS.	M2	M1	NO	NO	
52	5.60	2.18E-11	0.	0.	9.64E-11	6.80E-10	3.22E-08
53	5.50	2.13E-11	0.	0.	1.19E-10	8.83E-10	3.27E-08
54	5.40	2.28E-11	0.	0.	9.94E-11	4.24E-10	3.83E-08
55	5.30	2.11E-11	0.	0.	1.02E-10	4.47E-10	3.99E-08
56	5.20	1.47E-11	0.	0.	1.05E-10	3.59E-10	3.47E-08
57	5.10	1.36E-11	0.	0.	1.82E-10	4.94E-10	3.25E-08
58	5.00	9.99E-12	0.	0.	8.16E-11	4.24E-10	3.30E-08
59	4.90	8.29E-12	0.	0.	9.48E-11	4.16E-10	3.27E-08
60	4.80	6.83E-12	0.	0.	9.80E-11	3.82E-10	3.68E-08
61	4.70	6.03E-12	0.	0.	9.32E-11	3.17E-10	3.89E-08
62	4.60	1.03E-11	0.	0.	9.32E-11	2.98E-10	3.99E-08
63	4.50	1.01E-11	0.	0.	7.86E-11	2.86E-10	4.08E-08
64	4.40	1.01E-11	0.	0.	7.64E-11	2.86E-10	4.08E-08
65	4.30	8.91E-12	0.	0.	6.83E-11	2.48E-10	4.16E-08
66	4.20	7.92E-12	0.	0.	7.82E-11	2.97E-10	4.20E-08
67	4.10	7.06E-12	0.	0.	6.40E-11	2.79E-10	4.31E-08
68	4.00	6.49E-12	0.	0.	9.29E-11	1.35E-11	4.41E-08
69	3.90	4.87E-12	0.	0.	4.18E-10	1.99E-11	4.51E-08
70	3.80	5.17E-12	0.	0.	5.99E-10	3.21E-11	4.61E-08
71	3.70	4.10E-12	0.	0.	7.64E-10	2.14E-11	4.71E-08
72	3.60	3.59E-12	0.	0.	3.71E-10	1.39E-11	4.81E-08
73	3.50	3.14E-12	0.	0.	3.08E-10	3.00E-11	4.91E-08
74	3.40	2.68E-12	0.	0.	2.81E-10	2.99E-11	5.01E-08
75	3.30	2.04E-12	0.	0.	3.18E-10	2.39E-11	5.11E-08
76	3.20	1.65E-12	0.	0.	1.78E-10	8.08E-12	5.21E-08
77	3.10	1.48E-12	0.	0.	1.31E-10	4.60E-12	5.31E-08
78	3.00	1.23E-12	0.	0.	7.17E-11	1.85E-12	5.41E-08
79	2.90	9.52E-13	0.	0.	4.24E-11	1.24E-12	5.51E-08
80	2.80	9.30E-13	0.	0.	1.97E-11	4.15E-12	5.61E-08
81	2.70	7.38E-13	0.	0.	9.91E-12	8.94E-13	5.71E-08
82	2.60	7.38E-13	0.	0.	4.81E-12	8.40E-13	5.81E-08
83	2.50	1.44E-14	0.	0.	6.02E-12	2.86E-13	5.91E-08
84	2.40	0.	0.	0.	7.14E-12	2.84E-14	6.01E-08
85	2.30	0.	0.	0.	3.72E-13	0.	6.11E-08
86	2.20	0.	0.	0.	3.65E-13	0.	6.21E-08
87	2.10	0.	0.	0.	5.36E-13	0.	6.31E-08
88	2.00	0.	0.	0.	8.59E-13	0.	6.41E-08
89	1.90	0.	0.	0.	1.71E-12	0.	6.51E-08
90	1.80	0.	0.	0.	1.43E-12	0.	6.61E-08
91	1.70	0.	0.	0.	1.74E-12	0.	6.71E-08
92	1.60	0.	0.	0.	1.21E-12	0.	6.81E-08
93	1.50	0.	0.	0.	1.49E-12	0.	6.91E-08
94	1.40	0.	0.	0.	1.60E-12	0.	7.01E-08
95	1.30	0.	0.	0.	1.17E-12	0.	7.11E-08
96	1.20	0.	0.	0.	1.28E-12	0.	7.21E-08
97	1.10	0.	0.	0.	9.69E-13	0.	7.31E-08
98	1.00	0.	0.	0.	9.09E-13	0.	7.41E-08
99	0.90	0.	0.	0.	7.24E-13	0.	7.51E-08
100	0.80	0.	0.	0.	3.34E-13	0.	7.61E-08
101	0.70	0.	0.	0.	8.93E-14	0.	7.71E-08
102	0.60	0.	0.	0.	4.89E-14	0.	7.81E-08

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E.V.	O2 S-R CONT.	N2 S-R NO. 1	TEMPERATURE (DEGREES K)	9000.	DENSITY (GM/CC)	NO		PHOTO-DET (IONS)	FREE-FREE P.E.	TOTAL AIR P.E.
						NO BETA	NO GAMMA			
1 10.73 0.	0.	4.30E-10	0.	0.	1.74E-10	5.35E-12	6.44E-09	1.92E-09	1.12E-08	1.12E-08
2 10.60 0.	0.	3.72E-10	0.	0.	1.44E-10	5.31E-12	6.44E-09	1.92E-09	1.12E-08	1.12E-08
3 10.50 0.	0.	3.68E-10	0.	0.	1.44E-10	5.37E-12	6.75E-09	1.95E-09	1.12E-08	1.12E-08
4 10.40 0.	0.	3.20E-10	0.	0.	1.42E-10	5.35E-12	6.76E-09	1.95E-09	1.12E-08	1.12E-08
5 10.30 0.	0.	2.89E-10	0.	0.	1.45E-10	6.81E-12	6.76E-09	1.95E-09	1.12E-08	1.12E-08
6 10.20 0.	0.	2.96E-10	0.	0.	1.45E-10	6.93E-12	6.80E-09	1.95E-09	1.12E-08	1.12E-08
7 10.10 0.	0.	2.30E-10	0.	0.	1.45E-10	6.87E-12	6.83E-09	1.95E-09	1.12E-08	1.12E-08
8 10.00 0.	0.	1.83E-10	0.	0.	1.44E-10	6.77E-12	6.83E-09	1.95E-09	1.12E-08	1.12E-08
9 9.90 0.	0.	1.69E-10	0.	0.	1.44E-10	6.77E-12	6.83E-09	1.95E-09	1.12E-08	1.12E-08
10 9.80 0.	0.	1.62E-10	0.	0.	1.44E-10	6.98E-12	6.83E-09	1.95E-09	1.12E-08	1.12E-08
11 9.70 0.	0.	1.28E-10	0.	0.	1.44E-10	7.23E-12	6.92E-09	1.95E-09	1.12E-08	1.12E-08
12 9.60 0.	0.	1.37E-10	0.	0.	1.47E-10	7.23E-12	6.92E-09	1.95E-09	1.12E-08	1.12E-08
13 9.50 0.	9.73E-13	1.06E-10	0.	0.	1.47E-10	7.87E-12	6.96E-09	1.95E-09	1.12E-08	1.12E-08
14 9.40 0.	1.20E-12	9.37E-11	0.	0.	1.47E-10	7.91E-12	6.96E-09	1.95E-09	1.12E-08	1.12E-08
15 9.30 0.	1.42E-12	9.41E-11	0.	0.	1.48E-10	8.17E-12	6.96E-09	1.95E-09	1.12E-08	1.12E-08
16 9.20 0.	1.65E-12	6.09E-11	0.	0.	1.48E-10	8.14E-12	6.96E-09	1.95E-09	1.12E-08	1.12E-08
17 9.10 0.	1.97E-12	7.06E-11	0.	0.	1.49E-10	8.23E-12	6.96E-09	1.95E-09	1.12E-08	1.12E-08
18 9.00 0.	2.31E-12	5.91E-11	0.	0.	1.49E-10	9.20E-12	6.96E-09	1.95E-09	1.12E-08	1.12E-08
19 8.90 0.	2.65E-12	5.08E-11	0.	0.	1.50E-10	9.35E-12	6.96E-09	1.95E-09	1.12E-08	1.12E-08
20 8.80 0.	2.75E-12	4.82E-11	0.	0.	1.50E-10	9.35E-12	6.96E-09	1.95E-09	1.12E-08	1.12E-08
21 8.70 0.	2.65E-12	3.70E-11	0.	0.	1.51E-10	9.99E-12	6.96E-09	1.95E-09	1.12E-08	1.12E-08
22 8.60 0.	2.55E-12	3.62E-11	0.	0.	1.52E-10	1.07E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
23 8.50 0.	2.45E-12	3.02E-11	0.	0.	1.53E-10	1.11E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
24 8.40 0.	2.41E-12	2.24E-11	0.	0.	1.54E-10	1.15E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
25 8.30 0.	2.35E-12	2.30E-11	0.	0.	1.54E-10	1.15E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
26 8.20 0.	2.27E-12	1.72E-11	0.	0.	1.55E-10	1.14E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
27 8.10 0.	2.20E-12	1.67E-11	0.	0.	1.56E-10	1.14E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
28 8.00 0.	2.12E-12	1.31E-11	0.	0.	1.57E-10	1.14E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
29 7.90 0.	2.04E-12	1.30E-11	0.	0.	1.58E-10	1.14E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
30 7.80 0.	1.95E-12	1.05E-11	0.	0.	1.59E-10	1.14E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
31 7.70 0.	1.86E-12	9.43E-12	0.	6.37E-15	1.59E-10	1.14E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
32 7.60 0.	1.77E-12	8.09E-12	0.	3.65E-15	1.60E-10	1.14E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
33 7.50 0.	1.68E-12	6.83E-12	0.	1.87E-15	1.61E-10	1.14E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
34 7.40 0.	1.59E-12	6.05E-12	0.	6.92E-15	1.62E-10	1.14E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
35 7.30 0.	1.49E-12	5.09E-12	0.	2.44E-15	1.63E-10	1.14E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
36 7.20 0.	1.39E-12	4.50E-12	0.	6.02E-15	1.64E-10	1.14E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
37 7.10 0.	1.30E-12	3.91E-12	0.	1.80E-15	1.65E-10	1.14E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
38 7.00 0.	1.20E-12	3.32E-12	0.	1.47E-15	1.65E-10	1.14E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
39 6.90 0.	1.10E-12	2.73E-12	0.	3.35E-15	1.66E-10	1.14E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
40 6.80 0.	1.00E-12	2.14E-12	0.	2.90E-15	1.66E-10	1.14E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
41 6.70 0.	9.00E-13	1.55E-12	0.	2.43E-15	1.66E-10	1.14E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
42 6.60 0.	8.00E-13	9.66E-13	0.	2.02E-15	1.67E-10	1.14E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
43 6.50 0.	7.00E-13	4.00E-13	0.	1.66E-15	1.67E-10	1.14E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
44 6.40 0.	6.00E-13	3.40E-13	0.	1.47E-15	1.67E-10	1.14E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
45 6.30 0.	5.00E-13	2.83E-13	0.	1.29E-15	1.67E-10	1.14E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
46 6.20 0.	4.00E-13	2.26E-13	0.	1.10E-15	1.67E-10	1.14E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
47 6.10 0.	3.00E-13	1.69E-13	0.	9.00E-16	1.67E-10	1.14E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
48 6.00 0.	2.00E-13	1.12E-13	0.	7.00E-16	1.67E-10	1.14E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
49 5.90 0.	1.00E-13	5.63E-14	0.	5.00E-16	1.67E-10	1.14E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
50 5.80 0.	1.04E-13	5.00E-14	0.	3.95E-17	1.67E-10	1.14E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08
51 5.70 0.	1.20E-13	0.	0.	6.60E-15	1.69E-10	1.14E-11	6.96E-09	1.95E-09	1.12E-08	1.12E-08

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 9000. DENSITY (GM/CC) 1.293E-06 (10.0E-06 NORMAL)

PHOTON ENERGY	NO. 1ST POS.	NO. 2ND POS.	NO. 1ST NEG.	NO. 2ND NEG.	NO. GAMMA	NO. VIB-RNT	NO. 2	PHOTO-DET (IONS)	M	O	TOTAL AIR	
52	5.60	1.47E-13	0.	0.	6.39E-13	4.51E-12	0.	1.54E-10	3.70E-11	2.41E-09	2.49E-09	5.29E-09
53	5.50	1.51E-13	0.	0.	7.08E-13	4.40E-12	0.	1.52E-10	3.97E-11	2.45E-09	2.74E-09	5.13E-09
54	5.40	1.56E-13	0.	0.	8.59E-13	4.25E-12	0.	1.50E-10	4.28E-11	2.47E-09	2.78E-09	5.45E-09
55	5.30	1.48E-13	0.	0.	6.78E-13	4.25E-12	0.	1.50E-10	4.40E-11	2.50E-09	2.80E-09	5.55E-09
56	5.20	1.43E-13	0.	0.	6.57E-13	3.28E-12	0.	1.57E-10	4.70E-11	2.54E-09	2.97E-09	5.65E-09
57	5.10	1.50E-14	0.	0.	6.75E-13	3.28E-12	0.	1.59E-10	4.98E-11	2.60E-09	3.07E-09	5.79E-09
58	5.00	6.94E-14	0.	0.	5.97E-13	2.91E-12	0.	1.69E-10	5.29E-11	2.67E-09	3.04E-09	5.93E-09
59	4.90	5.78E-14	0.	0.	6.26E-13	2.74E-12	0.	1.65E-10	5.99E-11	2.75E-09	3.11E-09	6.07E-09
60	4.80	5.80E-14	0.	0.	6.55E-13	2.57E-12	0.	1.65E-10	5.99E-11	2.80E-09	3.10E-09	6.22E-09
61	4.70	6.18E-14	0.	0.	6.10E-13	2.30E-12	0.	1.64E-10	6.38E-11	2.86E-09	3.26E-09	6.37E-09
62	4.60	7.18E-14	0.	0.	6.12E-13	1.97E-12	0.	1.65E-10	6.81E-11	2.97E-09	3.34E-09	6.54E-09
63	4.50	7.08E-14	0.	1.12E-13	5.23E-13	1.82E-12	0.	1.67E-10	7.27E-11	3.07E-09	3.42E-09	6.73E-09
64	4.40	7.02E-14	0.	1.22E-13	5.23E-13	1.62E-12	0.	1.68E-10	7.76E-11	3.16E-09	3.50E-09	6.92E-09
65	4.30	6.23E-14	0.	9.74E-13	4.53E-13	5.70E-13	0.	1.69E-10	8.34E-11	3.24E-09	3.57E-09	7.01E-09
66	4.20	5.54E-14	0.	4.16E-12	4.05E-13	4.63E-13	0.	1.71E-10	8.95E-11	3.32E-09	3.64E-09	7.10E-09
67	4.10	4.94E-14	0.	1.21E-12	4.24E-13	1.13E-13	0.	1.71E-10	9.62E-11	3.40E-09	3.69E-09	7.19E-09
68	4.00	4.30E-14	0.	5.80E-12	3.90E-13	8.90E-14	0.	1.72E-10	1.04E-10	3.48E-09	3.75E-09	7.28E-09
69	3.90	3.40E-14	0.	2.57E-12	3.28E-13	3.97E-14	0.	1.74E-10	1.12E-10	3.56E-09	3.81E-09	7.37E-09
70	3.80	3.62E-14	0.	3.51E-12	2.82E-13	3.45E-13	0.	1.74E-10	1.21E-10	3.64E-09	3.87E-09	7.46E-09
71	3.70	2.93E-14	0.	4.76E-12	4.74E-13	2.61E-13	0.	1.76E-10	1.31E-10	3.72E-09	3.93E-09	7.55E-09
72	3.60	2.51E-14	0.	2.33E-12	3.08E-13	2.85E-13	0.	1.76E-10	1.42E-10	3.80E-09	3.99E-09	7.64E-09
73	3.50	2.20E-14	0.	3.79E-12	1.63E-13	1.99E-13	0.	1.78E-10	1.53E-10	3.88E-09	4.05E-09	7.73E-09
74	3.40	1.84E-14	0.	1.76E-12	4.64E-13	2.20E-13	0.	1.78E-10	1.65E-10	3.96E-09	4.11E-09	7.82E-09
75	3.30	1.43E-14	0.	1.86E-12	4.02E-13	1.59E-13	0.	1.80E-10	1.78E-10	4.04E-09	4.17E-09	7.91E-09
76	3.20	1.15E-14	0.	1.06E-12	1.12E-13	1.50E-13	0.	1.82E-10	1.92E-10	4.12E-09	4.23E-09	8.00E-09
77	3.10	1.04E-14	0.	8.23E-13	1.04E-13	1.40E-13	0.	1.84E-10	2.07E-10	4.20E-09	4.29E-09	8.09E-09
78	3.00	6.60E-15	0.	4.58E-13	4.05E-13	1.22E-13	0.	1.86E-10	2.23E-10	4.28E-09	4.35E-09	8.18E-09
79	2.90	6.66E-15	0.	2.66E-13	2.80E-13	8.24E-14	0.	1.88E-10	2.40E-10	4.36E-09	4.41E-09	8.27E-09
80	2.80	6.57E-15	0.	1.24E-13	9.14E-14	4.97E-14	0.	1.90E-10	2.58E-10	4.44E-09	4.47E-09	8.36E-09
81	2.70	3.74E-15	0.	5.67E-14	1.98E-13	2.37E-14	0.	1.92E-10	2.77E-10	4.52E-09	4.53E-09	8.45E-09
82	2.60	1.53E-15	0.	2.69E-14	1.34E-13	6.69E-15	0.	1.94E-10	2.97E-10	4.60E-09	4.59E-09	8.54E-09
83	2.50	1.01E-16	0.	3.78E-15	1.34E-13	1.89E-15	0.	1.96E-10	3.18E-10	4.68E-09	4.65E-09	8.63E-09
84	2.40	0.	2.33E-13	0.	1.59E-11	1.32E-16	0.	1.98E-10	3.40E-10	4.76E-09	4.71E-09	8.72E-09
85	2.30	0.	1.11E-12	0.	0.	0.	0.	2.00E-10	3.63E-10	4.84E-09	4.77E-09	8.81E-09
86	2.20	0.	2.29E-12	0.	0.	0.	0.	2.02E-10	3.87E-10	4.92E-09	4.83E-09	8.90E-09
87	2.10	0.	3.37E-12	0.	0.	0.	0.	2.04E-10	4.12E-10	5.00E-09	4.89E-09	8.99E-09
88	2.00	0.	5.38E-12	0.	0.	0.	0.	2.06E-10	4.38E-10	5.08E-09	4.95E-09	9.08E-09
89	1.90	0.	1.10E-11	0.	0.	0.	0.	2.08E-10	4.65E-10	5.16E-09	5.01E-09	9.17E-09
90	1.80	0.	9.00E-12	0.	0.	0.	0.	2.10E-10	4.93E-10	5.24E-09	5.07E-09	9.26E-09
91	1.70	0.	1.09E-11	0.	0.	0.	0.	2.12E-10	5.22E-10	5.32E-09	5.13E-09	9.35E-09
92	1.60	0.	7.57E-12	0.	0.	0.	0.	2.14E-10	5.52E-10	5.40E-09	5.19E-09	9.44E-09
93	1.50	0.	9.37E-12	0.	0.	0.	0.	2.16E-10	5.83E-10	5.48E-09	5.25E-09	9.53E-09
94	1.40	0.	1.00E-11	0.	0.	0.	0.	2.18E-10	6.15E-10	5.56E-09	5.31E-09	9.62E-09
95	1.30	0.	7.32E-12	0.	0.	0.	0.	2.20E-10	6.48E-10	5.64E-09	5.37E-09	9.71E-09
96	1.20	0.	7.52E-12	0.	0.	0.	0.	2.22E-10	6.82E-10	5.72E-09	5.43E-09	9.80E-09
97	1.10	0.	6.08E-12	0.	0.	0.	0.	2.24E-10	7.17E-10	5.80E-09	5.49E-09	9.89E-09
98	1.00	0.	5.68E-12	0.	0.	0.	0.	2.26E-10	7.53E-10	5.88E-09	5.55E-09	9.98E-09
99	0.90	0.	4.54E-12	0.	0.	0.	0.	2.28E-10	7.90E-10	5.96E-09	5.61E-09	1.00E-08
100	0.80	0.	2.10E-12	0.	0.	0.	0.	2.30E-10	8.28E-10	6.04E-09	5.67E-09	1.01E-08
101	0.70	0.	5.60E-12	0.	0.	0.	0.	2.32E-10	8.67E-10	6.12E-09	5.73E-09	1.02E-08
102	0.60	0.	3.07E-14	0.	0.	0.	0.	2.34E-10	9.07E-10	6.20E-09	5.79E-09	1.03E-08



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 9000. DENSITY (GM/CC) 1.293E-09 (10.0E-07 NORMAL)

PHOTON BANDS	Q2 S-R	N2 1ST POS.	N2 2ND POS.	N2 13T NEG.	BETA	GAMMA	VIB-ROT	NO	NO	0-		O-		TOTAL AIR
										FREI-FREE	N	PHOT-DET (IONS)	P.E.	
52	5.60	4.66E-16	0.	0.	1.01E-15	1.29E-14	0.	0.	1.94E-12	1.93E-12	1.21E-10	1.51E-10	2.74E-10	
53	5.50	4.77E-16	0.	0.	2.35E-15	1.29E-14	0.	0.	1.97E-12	2.04E-12	1.22E-10	1.54E-10	2.80E-10	
54	5.40	4.93E-16	0.	0.	1.88E-15	7.94E-15	0.	0.	1.98E-12	2.15E-12	1.24E-10	1.57E-10	2.85E-10	
55	5.30	4.68E-16	0.	0.	0.92E-15	1.20E-14	0.	0.	1.99E-12	2.28E-12	1.26E-10	1.60E-10	2.90E-10	
56	5.20	3.27E-16	0.	0.	1.98E-15	6.72E-15	0.	0.	2.00E-12	2.41E-12	1.28E-10	1.63E-10	2.96E-10	
57	5.10	3.01E-16	0.	0.	1.91E-15	9.24E-15	0.	0.	2.02E-12	2.55E-12	1.31E-10	1.67E-10	3.03E-10	
58	5.00	2.20E-16	0.	0.	1.66E-15	7.95E-15	0.	0.	2.04E-12	2.70E-12	1.34E-10	1.71E-10	3.10E-10	
59	4.90	1.83E-16	0.	0.	1.77E-15	7.79E-15	0.	0.	2.04E-12	2.70E-12	1.34E-10	1.71E-10	3.10E-10	
60	4.80	1.63E-16	0.	0.	1.92E-15	7.14E-15	0.	0.	2.07E-12	3.07E-12	1.41E-10	1.79E-10	3.25E-10	
61	4.70	1.96E-16	0.	0.	1.79E-15	5.93E-15	0.	0.	2.09E-12	3.27E-12	1.45E-10	1.83E-10	3.34E-10	
62	4.60	2.27E-16	0.	0.	1.73E-15	5.97E-15	0.	0.	2.11E-12	3.49E-12	1.49E-10	1.88E-10	3.43E-10	
63	4.50	2.24E-16	0.	0.	1.48E-15	3.90E-15	0.	0.	2.12E-12	3.73E-12	1.54E-10	1.92E-10	3.52E-10	
64	4.40	2.23E-16	0.	0.	1.43E-15	2.91E-15	0.	0.	2.14E-12	3.99E-12	1.60E-10	1.96E-10	3.62E-10	
65	4.30	1.97E-16	0.	0.	1.29E-15	1.61E-15	0.	0.	2.14E-12	4.27E-12	1.65E-10	2.00E-10	3.72E-10	
66	4.20	1.76E-16	0.	0.	1.31E-15	1.31E-15	0.	0.	2.14E-12	4.57E-12	1.70E-10	2.04E-10	3.82E-10	
67	4.10	1.58E-16	0.	0.	1.28E-15	3.33E-16	0.	0.	2.18E-12	4.93E-12	1.78E-10	2.11E-10	3.95E-10	
68	4.00	1.36E-16	0.	0.	1.48E-15	2.54E-16	0.	0.	2.19E-12	5.31E-12	1.85E-10	2.18E-10	4.08E-10	
69	3.90	1.08E-16	0.	0.	6.49E-15	3.20E-13	9.28E-13	9.28E-13	2.18E-12	5.74E-12	1.93E-10	2.26E-10	4.22E-10	
70	3.80	1.15E-16	0.	0.	6.85E-15	2.47E-12	9.79E-16	0.	0.	2.17E-12	6.20E-12	2.02E-10	2.34E-10	4.36E-10
71	3.70	9.27E-17	0.	0.	1.21E-14	5.28E-13	7.54E-16	0.	0.	2.14E-12	6.72E-12	2.11E-10	2.42E-10	4.50E-10
72	3.60	7.94E-17	0.	0.	5.08E-15	3.43E-12	0.36E-16	0.	0.	2.09E-12	7.30E-12	2.21E-10	2.50E-10	4.64E-10
73	3.50	6.97E-17	0.	0.	9.46E-15	1.15E-11	0.62E-16	0.	0.	1.83E-12	7.95E-12	2.32E-10	2.58E-10	4.78E-10
74	3.40	5.90E-17	0.	0.	4.44E-15	7.40E-13	6.21E-16	0.	0.	1.68E-12	8.68E-12	2.43E-10	2.66E-10	4.92E-10
75	3.30	4.53E-17	0.	0.	4.95E-15	4.48E-12	4.48E-16	0.	0.	1.60E-12	9.50E-12	2.55E-10	2.74E-10	5.06E-10
76	3.20	3.66E-17	0.	0.	2.08E-15	1.24E-11	4.93E-16	0.	0.	1.66E-12	1.04E-11	2.68E-10	2.82E-10	5.20E-10
77	3.10	3.28E-17	0.	0.	2.08E-15	1.16E-12	3.97E-16	0.	0.	1.66E-12	1.15E-11	2.75E-10	2.90E-10	5.34E-10
78	3.00	2.72E-17	0.	0.	1.13E-15	4.51E-12	3.45E-16	0.	0.	1.67E-12	1.26E-11	2.84E-10	2.98E-10	5.48E-10
79	2.90	2.11E-17	0.	0.	6.71E-16	3.12E-12	2.33E-16	0.	0.	1.67E-12	1.40E-11	2.94E-10	3.06E-10	5.62E-10
80	2.80	2.08E-17	0.	0.	3.12E-16	1.07E-12	1.38E-16	0.	0.	1.67E-12	1.56E-11	3.02E-10	3.14E-10	5.76E-10
81	2.70	1.19E-17	0.	0.	1.43E-16	2.21E-12	6.42E-17	0.	0.	1.67E-12	1.74E-11	3.12E-10	3.22E-10	5.90E-10
82	2.60	4.69E-18	0.	0.	7.30E-17	2.04E-13	2.42E-17	0.	0.	1.67E-12	1.95E-11	3.21E-10	3.30E-10	6.04E-10
83	2.50	3.20E-18	0.	0.	9.52E-18	1.49E-13	5.95E-18	0.	0.	1.67E-12	2.21E-11	3.31E-10	3.38E-10	6.18E-10
84	2.40	0.	0.	0.	5.89E-16	0.	0.	0.	0.	1.77E-12	2.52E-11	3.42E-10	3.46E-10	6.32E-10
85	2.30	0.	0.	0.	2.79E-15	0.	0.	0.	0.	1.85E-12	2.90E-11	3.54E-10	3.54E-10	6.46E-10
86	2.20	0.	0.	0.	5.78E-15	0.	0.	0.	0.	1.92E-12	3.35E-11	3.66E-10	3.62E-10	6.60E-10
87	2.10	0.	0.	0.	1.58E-15	0.	0.	0.	0.	2.00E-12	3.87E-11	3.78E-10	3.70E-10	6.74E-10
88	2.00	0.	0.	0.	1.58E-14	0.	0.	0.	0.	2.07E-12	4.47E-11	3.90E-10	3.78E-10	6.88E-10
89	1.90	0.	0.	0.	2.78E-14	0.	0.	0.	0.	2.14E-12	5.15E-11	4.02E-10	3.86E-10	7.02E-10
90	1.80	0.	0.	0.	2.27E-14	0.	0.	0.	0.	2.21E-12	5.91E-11	4.14E-10	3.94E-10	7.16E-10
91	1.70	0.	0.	0.	2.75E-14	0.	0.	0.	0.	2.28E-12	6.75E-11	4.26E-10	4.02E-10	7.30E-10
92	1.60	0.	0.	0.	1.91E-14	0.	0.	0.	0.	2.35E-12	7.67E-11	4.38E-10	4.10E-10	7.44E-10
93	1.50	0.	0.	0.	2.36E-14	0.	0.	0.	0.	2.42E-12	8.68E-11	4.50E-10	4.18E-10	7.58E-10
94	1.40	0.	0.	0.	2.53E-14	0.	0.	0.	0.	2.49E-12	9.78E-11	4.62E-10	4.26E-10	7.72E-10
95	1.30	0.	0.	0.	1.85E-14	0.	0.	0.	0.	2.56E-12	1.09E-10	4.74E-10	4.34E-10	7.86E-10
96	1.20	0.	0.	0.	1.90E-14	0.	0.	0.	0.	2.63E-12	1.22E-10	4.86E-10	4.42E-10	8.00E-10
97	1.10	0.	0.	0.	1.53E-14	0.	0.	0.	0.	2.70E-12	1.37E-10	4.98E-10	4.50E-10	8.14E-10
98	1.00	0.	0.	0.	1.43E-14	0.	0.	0.	0.	2.77E-12	1.54E-10	5.10E-10	4.58E-10	8.28E-10
99	0.90	0.	0.	0.	1.15E-14	0.	0.	0.	0.	2.84E-12	1.73E-10	5.22E-10	4.66E-10	8.42E-10
100	0.80	0.	0.	0.	5.31E-15	0.	0.	0.	0.	2.91E-12	1.94E-10	5.34E-10	4.74E-10	8.56E-10
101	0.70	0.	0.	0.	1.41E-15	0.	0.	0.	0.	2.98E-12	2.17E-10	5.46E-10	4.82E-10	8.70E-10
102	0.60	0.	0.	0.	7.74E-17	0.	0.	0.	0.	3.05E-12	2.42E-10	5.58E-10	4.90E-10	8.84E-10

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 10000. DENSITY (GM/CC) 1.2032-02 1.16E-01 (NORMAL)

PHOTON ENERGY BANDS E.V.	02 S-B CONT.	HZ S-B NO. 1	NO BETA	NO GAMMA	NO PHOTO-2ST (1000)	0- P.F.F. P.S.	0 TOTAL AIR
1 10.70 0.	0.	3.49E 01	0.	0.	0.	4.30E-01	0.24E-03
2 10.60 0.	0.	2.62E 01	0.	0.	0.	4.48E-01	0.27E-03
3 10.50 0.	0.	2.56E 01	0.	0.	0.	4.48E-01	0.24E-03
4 10.40 0.	0.	2.31E 01	0.	0.	0.	4.41E-01	0.22E-03
5 10.30 0.	0.	1.98E 01	0.	0.	0.	4.41E-01	0.22E-03
6 10.20 0.	0.	1.90E 01	0.	0.	0.	4.32E-01	0.21E-03
7 10.10 0.	0.	1.71E 01	0.	0.	0.	4.32E-01	0.21E-03
8 10.00 0.	0.	1.39E 01	0.	0.	0.	4.44E-01	0.22E-03
9 9.90 0.	0.	1.41E 01	0.	0.	0.	4.44E-01	0.21E-03
10 9.80 0.	0.	1.29E 01	0.	0.	0.	4.44E-01	0.21E-03
11 9.70 0.	0.	1.08E 01	0.	0.	0.	4.37E-01	0.20E-03
12 9.60 0.	0.	1.08E 01	0.	0.	0.	4.37E-01	0.20E-03
13 9.50 0.	5.36E-01	0.96E 00	0.	0.	0.	4.48E-01	0.20E-03
14 9.40 0.	7.23E-01	7.64E 00	0.	0.	0.	4.48E-01	0.18E-03
15 9.30 0.	9.25E-01	7.73E 00	0.	0.	0.	4.71E-01	0.17E-03
16 9.20 0.	1.10E 00	5.81E 00	0.	0.	0.	4.73E-01	0.17E-03
17 9.10 0.	1.31E 00	5.94E 00	0.	0.	0.	4.74E-01	0.16E-03
18 9.00 0.	1.52E 00	5.07E 00	0.	0.	0.	4.74E-01	0.15E-03
19 8.90 0.	1.73E 00	4.42E 00	0.	0.	0.	4.78E-01	0.15E-03
20 8.80 0.	1.94E 00	4.28E 00	0.	0.	0.	4.79E-01	0.14E-03
21 8.70 0.	1.72E 00	3.39E 00	0.	0.	0.	4.81E-01	0.14E-03
22 8.60 0.	1.64E 00	3.49E 00	0.	0.	0.	4.83E-01	0.13E-03
23 8.50 0.	1.62E 00	2.72E 00	0.	0.	0.	4.85E-01	0.12E-03
24 8.40 0.	1.62E 00	2.66E 00	0.	0.	0.	4.87E-01	0.12E-03
25 8.30 0.	1.59E 00	2.43E 00	0.	0.	0.	4.90E-01	0.11E-03
26 8.20 0.	1.56E 00	2.08E 00	0.	0.	0.	4.92E-01	0.11E-03
27 8.10 0.	1.51E 00	1.67E 00	0.	0.	0.	4.95E-01	0.10E-03
28 8.00 0.	1.46E 00	1.63E 00	0.	0.	0.	4.97E-01	0.10E-03
29 7.90 0.	1.42E 00	1.33E 00	0.	0.	0.	5.00E-01	0.09E-03
30 7.80 0.	1.38E 00	1.31E 00	0.	0.	0.	5.02E-01	0.08E-03
31 7.70 0.	1.33E 00	1.07E 00	0.	0.	0.	5.05E-01	0.08E-03
32 7.60 0.	1.27E 00	9.74E-01	0.	0.	0.	5.07E-01	0.07E-03
33 7.50 0.	1.20E 00	8.48E-01	0.	0.	0.	5.10E-01	0.07E-03
34 7.40 0.	1.14E 00	7.25E-01	0.	0.	0.	5.13E-01	0.06E-03
35 7.30 0.	1.09E 00	6.51E-01	0.	0.	0.	5.16E-01	0.06E-03
36 7.20 0.	1.03E 00	5.56E-01	0.	0.	0.	5.19E-01	0.05E-03
37 7.10 0.	9.66E-01	5.08E-01	0.	0.	0.	5.23E-01	0.05E-03
38 7.00 0.	9.41E-04	4.45E-01	0.	0.	0.	5.27E-01	0.05E-03
39 6.90 1.59E-03	0.	3.85E-01	0.	0.	0.	5.31E-01	0.04E-03
40 6.80 1.32E-03	0.	3.47E-01	0.	0.	0.	5.36E-01	0.04E-03
41 6.70 9.24E-04	0.	2.86E-01	0.	0.	0.	5.40E-01	0.04E-03
42 6.50 5.44E-04	0.	2.45E-01	0.	0.	0.	5.44E-01	0.03E-03
43 6.50 3.21E-04	0.	1.70E-01	0.	0.	0.	5.48E-01	0.03E-03
44 6.40 3.14E-04	0.	1.15E-01	0.	0.	0.	5.53E-01	0.03E-03
45 6.30 2.59E-04	0.	3.05E-02	0.	0.	0.	5.57E-01	0.02E-03
46 6.20 2.54E-04	0.	3.05E-02	0.	0.	0.	5.61E-01	0.02E-03
47 6.10 1.01E-02	0.	1.32E-02	0.	0.	0.	5.65E-01	0.02E-03
48 6.00 2.64E-02	0.	3.15E-03	0.	0.	0.	5.70E-01	0.02E-03
49 5.90 4.25E-02	0.	2.24E-04	0.	0.	0.	5.61E-01	0.02E-03
50 5.80 6.41E-02	0.	1.64E-01	0.	0.	0.	5.61E-01	0.02E-03
51 5.70 7.51E-02	0.	1.78E-01	0.	0.	0.	5.27E-01	0.02E-03

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES R) 10000. DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)

PHOTON ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2 1ST NEG.	N2 2ND NEG.	BETA	AD GAMMA	NO VIB-ROT	NO 2	0- PHOTO-DET	N FREE-FREE	N P.E.	0 TOTAL AIR	
52	5.60	9.32E-02	0	0	1.35E-01	9.33E-01	0	0	4.98E-01	6.10E-04	4.01E-03	1.07E-02	1.04E 00
53	5.50	9.16E-02	0	0	1.40E-01	8.94E-01	0	0	4.93E-01	6.42E-04	4.06E-03	1.09E-02	1.07E 00
54	5.40	1.01E-01	0	0	1.42E-01	8.55E-01	0	0	4.95E-01	6.81E-04	4.11E-03	1.11E-02	1.06E 00
55	5.30	9.63E-02	0	0	1.40E-01	8.77E-01	0	0	4.98E-01	7.20E-04	5.04E-03	1.13E-02	1.04E 00
56	5.20	6.69E-02	0	0	1.51E-01	8.21E-01	0	0	5.02E-01	7.63E-04	5.13E-03	1.15E-02	1.26E 00
57	5.10	6.40E-02	0	0	1.47E-01	7.80E-01	0	0	5.04E-01	8.09E-04	5.26E-03	1.16E-02	1.44E 00
58	5.00	4.72E-02	0	0	1.39E-01	6.16E-01	0	0	5.18E-01	8.59E-04	5.41E-03	1.21E-02	1.32E 00
59	4.90	3.93E-02	0	0	1.39E-01	6.20E-01	0	0	5.14E-01	9.12E-04	5.54E-03	1.23E-02	1.33E 00
60	4.80	3.93E-02	0	0	1.47E-01	5.70E-01	0	0	5.19E-01	9.71E-04	5.71E-03	1.26E-02	1.29E 00
61	4.70	4.23E-02	0	0	1.40E-01	4.85E-01	0	0	5.23E-01	1.03E-03	5.86E-03	1.29E-02	1.21E 00
62	4.60	4.97E-02	0	0	1.40E-01	4.51E-01	0	0	5.27E-01	1.10E-03	6.05E-03	1.32E-02	1.19E 00
63	4.50	4.97E-02	0	0	1.21E-01	3.23E-01	0	0	5.31E-01	1.18E-03	6.28E-03	1.35E-02	1.06E 00
64	4.40	5.02E-02	0	0	1.18E-01	2.36E-01	0	0	5.36E-01	1.26E-03	6.50E-03	1.39E-02	1.02E 00
65	4.30	4.50E-02	0	0	1.07E-01	1.35E-01	0	0	5.40E-01	1.35E-03	6.74E-03	1.42E-02	9.90E-01
66	4.20	4.04E-02	0	0	1.11E-01	1.04E-01	0	0	5.44E-01	1.45E-03	6.98E-03	1.45E-02	1.30E 00
67	4.10	3.64E-02	0	0	1.02E-01	1.27E-02	0	0	5.48E-01	1.56E-03	7.21E-03	1.48E-02	9.13E-01
68	4.00	3.21E-02	0	0	9.49E-02	2.10E-02	0	0	5.48E-01	1.68E-03	7.45E-03	1.51E-02	1.49E 00
69	3.90	2.76E-02	0	0	8.49E-02	2.10E-02	0	0	5.48E-01	1.82E-03	7.69E-03	1.54E-02	1.03E 00
70	3.80	2.58E-02	0	0	8.15E-02	3.60E-02	0	0	5.44E-01	1.95E-03	7.93E-03	1.57E-02	1.19E 00
71	3.70	2.27E-02	0	0	6.30E-02	6.60E-02	0	0	5.36E-01	2.13E-03	8.19E-03	1.60E-02	1.20E 00
72	3.60	1.97E-02	0	0	6.30E-02	7.24E-02	0	0	5.29E-01	2.31E-03	8.46E-03	1.63E-02	9.01E-01
73	3.50	1.75E-02	0	0	5.17E-02	5.21E-02	0	0	4.99E-01	2.52E-03	8.74E-03	1.66E-02	1.10E 00
74	3.40	1.50E-02	0	0	4.98E-02	5.74E-02	0	0	4.95E-01	2.75E-03	9.04E-03	1.69E-02	6.20E-01
75	3.30	1.16E-02	0	0	2.83E-02	4.25E-02	0	0	4.95E-01	3.01E-03	9.35E-03	1.72E-02	6.64E-01
76	3.20	9.50E-03	0	0	1.41E-01	1.25E-01	0	0	4.95E-01	3.29E-03	9.67E-03	1.75E-02	5.12E-01
77	3.10	8.69E-03	0	0	1.23E-01	1.42E-02	0	0	4.95E-01	3.58E-03	9.99E-03	1.78E-02	4.68E-01
78	3.00	7.53E-03	0	0	6.95E-02	3.41E-02	0	0	4.95E-01	3.88E-03	1.03E-02	1.81E-02	4.06E-01
79	2.90	5.76E-03	0	0	4.14E-02	3.20E-02	0	0	4.95E-01	4.18E-03	1.07E-02	1.84E-02	3.91E-01
80	2.80	5.76E-03	0	0	1.99E-02	1.44E-02	0	0	4.95E-01	4.48E-03	1.11E-02	1.87E-02	3.42E-01
81	2.70	3.38E-03	0	0	6.33E-03	6.95E-03	0	0	4.95E-01	4.78E-03	1.15E-02	1.90E-02	3.35E-01
82	2.50	1.42E-03	0	0	4.55E-03	2.74E-03	0	0	4.95E-01	5.08E-03	1.19E-02	1.93E-02	3.05E-01
83	2.50	9.40E-05	0	0	5.74E-04	6.09E-04	0	0	4.95E-01	5.38E-03	1.23E-02	1.96E-02	2.64E-01
84	2.40	0	0	0	1.04E-03	4.15E-05	0	0	4.95E-01	5.68E-03	1.27E-02	1.99E-02	2.35E-01
85	2.30	0	0	0	1.44E-01	0	0	0	4.95E-01	5.98E-03	1.31E-02	2.02E-02	2.06E-01
86	2.25	0	0	0	3.11E-01	0	0	0	4.95E-01	6.28E-03	1.35E-02	2.06E-02	1.77E-01
87	2.10	0	0	0	4.27E-01	0	0	0	4.95E-01	6.58E-03	1.39E-02	2.10E-02	1.51E-01
88	2.00	0	0	0	7.14E-01	0	0	0	4.95E-01	6.88E-03	1.43E-02	2.14E-02	1.26E-01
89	1.90	0	0	0	1.03E 00	0	0	0	4.95E-01	7.18E-03	1.47E-02	2.18E-02	1.01E-01
90	1.80	0	0	0	1.00E 00	0	0	0	4.95E-01	7.48E-03	1.51E-02	2.22E-02	7.84E-02
91	1.70	0	0	0	1.31E 00	0	0	0	4.95E-01	7.78E-03	1.55E-02	2.26E-02	5.67E-02
92	1.60	0	0	0	1.16E-01	0	0	0	4.95E-01	8.08E-03	1.59E-02	2.30E-02	3.50E-02
93	1.50	0	0	0	1.12E 00	0	0	0	4.95E-01	8.38E-03	1.63E-02	2.34E-02	2.34E-02
94	1.40	0	0	0	1.14E 00	0	0	0	4.95E-01	8.68E-03	1.67E-02	2.38E-02	1.19E-01
95	1.30	0	0	0	8.74E-01	0	0	0	4.95E-01	8.98E-03	1.71E-02	2.42E-02	8.00E-02
96	1.20	0	0	0	8.72E-01	0	0	0	4.95E-01	9.28E-03	1.75E-02	2.46E-02	5.83E-02
97	1.10	0	0	0	7.35E-01	0	0	0	4.95E-01	9.58E-03	1.79E-02	2.50E-02	3.66E-02
98	1.00	0	0	0	6.01E-01	0	0	0	4.95E-01	9.88E-03	1.83E-02	2.54E-02	2.50E-02
99	0.90	0	0	0	5.31E-01	0	0	0	4.95E-01	1.01E-02	1.87E-02	2.58E-02	1.34E-01
100	0.80	0	0	0	4.57E-01	0	0	0	4.95E-01	1.04E-02	1.91E-02	2.62E-02	8.27E-01
101	0.70	0	0	0	3.70E-02	0	0	0	4.95E-01	1.07E-02	1.95E-02	2.66E-02	5.10E-01
102	0.60	0	0	0	4.09E-03	0	0	0	4.95E-01	1.10E-02	1.99E-02	2.70E-02	2.91E-01



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 10000. DENSITY (GM/CC) 1.293E-03 (10.00-01 NORMAL)

PHOTON ENERGY BANDS E.V.	02 S-R BANDS CONT.	N2 B-H NO. 1	MO BETA	AO BANNA	MO 2	PHOTO-DET (1000)	FRES-FREE P.E.	0 P.E.	TOTAL AIR	
1 10.70 0.	0.	1.3 E 00	0.	0.	0.	1.31E-02	5.54E-06	9.11E 00	6.07E-04	3.42E 04
2 10.60 0.	0.	1.2E 00	0.	0.	0.	1.31E-02	5.09E-06	3.42E-03	9.04E-04	1.70E 04
3 10.50 0.	0.	1.15E 00	0.	0.	0.	1.32E-02	5.09E-06	3.42E-03	9.07E-04	1.17E 04
4 10.40 0.	0.	1.08E 00	0.	0.	0.	1.32E-02	6.04E-06	3.42E-03	9.04E-04	1.04E 04
5 10.30 0.	0.	0.95E-01	0.	0.	0.	1.32E-02	6.04E-06	3.42E-03	9.04E-04	6.78E-01
6 10.20 0.	0.	0.80E-01	0.	0.	0.	1.32E-02	6.04E-06	3.42E-03	9.04E-04	6.78E-01
7 10.10 0.	0.	7.71E-01	0.	0.	0.	1.32E-02	6.04E-06	3.42E-03	9.04E-04	7.00E-01
8 10.00 0.	0.	6.25E-01	0.	0.	0.	1.32E-02	6.04E-06	3.42E-03	9.04E-04	6.42E-01
9 9.90 0.	0.	6.34E-01	0.	0.	0.	1.32E-02	7.07E-06	3.42E-03	9.04E-04	6.52E-01
10 9.80 0.	0.	5.04E-01	0.	0.	0.	1.32E-02	7.07E-06	3.42E-03	9.04E-04	5.82E-01
11 9.70 0.	0.	4.54E-01	0.	0.	0.	1.32E-02	7.07E-06	3.42E-03	9.04E-04	4.71E-01
12 9.60 0.	0.	4.07E-01	0.	0.	0.	1.32E-02	7.07E-06	3.42E-03	9.04E-04	3.95E-01
13 9.50 0.	0.58E-03	3.64E-01	0.	0.	0.	1.32E-02	7.07E-06	3.42E-03	9.04E-04	3.10E-01
14 9.40 0.	0.67E-03	3.49E-01	0.	0.	0.	1.32E-02	7.07E-06	3.42E-03	9.04E-04	3.72E-01
15 9.30 0.	1.12E-02	3.48E-01	0.	0.	0.	1.32E-02	8.08E-06	3.42E-03	9.04E-04	3.77E-01
16 9.20 0.	1.35E-02	2.65E-01	0.	0.	0.	1.32E-02	8.08E-06	3.42E-03	9.04E-04	2.93E-01
17 9.10 0.	1.80E-02	2.65E-01	0.	0.	0.	1.32E-02	8.08E-06	3.42E-03	9.04E-04	2.93E-01
18 9.00 0.	1.86E-02	2.28E-01	0.	0.	0.	1.32E-02	9.07E-06	3.42E-03	9.04E-04	2.93E-01
19 8.90 0.	2.13E-02	1.99E-01	0.	0.	0.	1.32E-02	9.07E-06	3.42E-03	9.04E-04	2.93E-01
20 8.80 0.	2.29E-02	1.99E-01	0.	0.	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	2.20E-01
21 8.70 0.	2.12E-02	1.52E-01	0.	0.	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	1.80E-01
22 8.60 0.	2.04E-02	1.54E-01	0.	0.	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	1.90E-01
23 8.50 0.	1.99E-02	1.25E-01	0.	0.	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	1.54E-01
24 8.40 0.	1.97E-02	1.23E-01	0.	0.	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	1.54E-01
25 8.30 0.	1.95E-02	9.58E-02	0.	0.	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	1.30E-01
26 8.20 0.	1.91E-02	9.39E-02	0.	0.	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	1.29E-01
27 8.10 0.	1.89E-02	7.51E-02	0.	0.	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	1.19E-01
28 8.00 0.	1.86E-02	7.35E-02	0.	0.	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	1.07E-01
29 7.90 0.	1.75E-02	5.89E-02	0.	0.	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	9.25E-02
30 7.80 0.	1.75E-02	5.89E-02	0.	0.	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	9.25E-02
31 7.70 0.	1.62E-02	4.86E-02	0.	0.	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	8.19E-02
32 7.60 0.	1.52E-02	4.38E-02	0.	0.	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	6.94E-02
33 7.50 0.	1.44E-02	3.82E-02	0.	0.	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	6.34E-02
34 7.40 0.	1.41E-02	3.26E-02	0.	0.	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	5.98E-02
35 7.30 0.	1.34E-02	2.91E-02	0.	0.	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	5.14E-02
36 7.20 0.	1.26E-02	2.59E-02	0.	0.	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	4.75E-02
37 7.10 0.	1.19E-02	2.29E-02	0.	0.	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	4.20E-02
38 7.00 0.	1.05E-02	2.01E-02	0.	0.	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	3.54E-02
39 6.90 0.	1.01E-02	1.74E-02	0.	0.	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	3.14E-02
40 6.80 0.	1.59E-03	1.59E-02	0.	0.	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	2.75E-02
41 6.70 0.	1.11E-03	1.09E-02	0.	0.	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	2.02E-02
42 6.60 0.	6.53E-04	1.09E-02	0.	0.	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	1.63E-02
43 6.50 0.	3.62E-04	8.03E-03	0.	0.	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	1.04E-02
44 6.40 0.	4.56E-04	5.03E-03	1.47E-04	2.86E-02	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	5.14E-02
45 6.30 0.	1.03E-03	2.79E-03	6.41E-04	1.46E-02	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	3.25E-02
46 6.20 0.	1.03E-03	2.79E-03	8.53E-04	2.25E-02	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	4.20E-02
47 6.10 0.	1.24E-04	5.94E-04	2.33E-03	3.43E-02	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	3.54E-02
48 6.00 0.	3.17E-04	1.29E-02	2.00E-03	1.29E-02	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	3.30E-02
49 5.90 0.	5.18E-04	1.01E-05	2.83E-03	1.37E-02	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	3.55E-02
50 5.80 0.	7.93E-04	0.	3.81E-03	1.33E-02	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	3.59E-02
51 5.70 0.	9.65E-04	0.	4.14E-03	1.39E-02	0.	1.32E-02	1.01E-05	9.04E-04	9.04E-04	3.62E-02

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 10000. DENSITY (GM/CC) 1.293E-03 (10.0E-01 NORMAL)

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	% 1ST NEG.	% 2ND NEG.	BETA	NO	AD GAMMA	NO VIB-ROT	NO	NO 2	0- PHOTO-DET (IONS)	0- FREE-FREE P.E.	M P.E.	G P.E.	TOTAL AIR P.E.
52	5.60	1.12E-03	0.	0.	3.15E-03	2.17E-02	0.	0.	0.	0.	1.40E-02	3.31E-05	1.02E-03	1.40E-03	4.21E-02
53	5.50	1.26E-03	0.	0.	3.67E-03	2.08E-02	0.	0.	0.	0.	1.41E-02	4.12E-05	1.03E-03	1.41E-03	4.27E-02
54	5.40	1.21E-03	0.	0.	3.29E-03	1.41E-02	0.	0.	0.	0.	1.42E-02	4.36E-05	1.05E-03	1.21E-03	3.50E-02
55	5.30	1.16E-03	0.	0.	3.39E-03	2.04E-02	0.	0.	0.	0.	1.43E-02	4.91E-05	1.07E-03	1.26E-03	4.14E-02
56	5.20	1.28E-04	0.	0.	3.52E-03	1.21E-02	0.	0.	0.	0.	1.44E-02	4.80E-05	1.06E-03	1.26E-03	3.32E-02
57	5.10	7.65E-04	0.	0.	3.42E-03	1.65E-02	0.	0.	0.	0.	1.45E-02	5.80E-05	1.12E-03	1.26E-03	3.78E-02
58	5.00	5.07E-04	0.	0.	3.01E-03	1.43E-02	0.	0.	0.	0.	1.46E-02	5.30E-05	1.05E-03	1.27E-03	3.98E-02
59	4.90	4.73E-04	0.	0.	3.24E-03	1.44E-02	0.	0.	0.	0.	1.47E-02	5.64E-05	1.08E-03	1.27E-03	3.55E-02
60	4.80	4.73E-04	0.	0.	3.41E-03	1.13E-02	0.	0.	0.	0.	1.48E-02	6.32E-05	1.21E-03	1.30E-03	3.46E-02
61	4.70	5.09E-04	0.	0.	3.25E-03	1.13E-02	0.	0.	0.	0.	1.49E-02	6.33E-05	1.21E-03	1.30E-03	3.27E-02
62	4.60	5.99E-04	0.	0.	2.81E-03	1.05E-02	0.	0.	0.	0.	1.50E-02	7.07E-05	1.30E-03	1.48E-03	3.22E-02
63	4.50	5.97E-04	0.	0.	2.81E-03	7.50E-03	0.	0.	0.	0.	1.52E-02	7.37E-05	1.33E-03	1.40E-03	2.97E-02
64	4.40	6.03E-04	0.	0.	2.74E-03	5.50E-03	0.	0.	0.	0.	1.53E-02	8.00E-05	1.38E-03	1.52E-03	2.97E-02
65	4.30	5.40E-04	0.	0.	2.74E-03	3.13E-03	0.	0.	0.	0.	1.54E-02	8.00E-05	1.38E-03	1.52E-03	3.09E-02
66	4.20	4.85E-04	0.	0.	2.57E-03	2.47E-03	0.	0.	0.	0.	1.56E-02	9.30E-05	1.48E-03	1.59E-03	4.09E-02
67	4.10	4.37E-04	0.	0.	2.30E-03	6.38E-04	0.	0.	0.	0.	1.58E-02	1.00E-05	1.53E-03	1.42E-03	3.03E-02
68	4.00	3.77E-04	0.	0.	2.21E-03	4.80E-04	0.	0.	0.	0.	1.57E-02	1.00E-05	1.50E-03	1.27E-03	2.82E-02
69	3.90	3.05E-04	0.	0.	1.69E-03	2.09E-04	0.	0.	0.	0.	1.56E-02	1.30E-04	1.51E-03	2.03E-04	3.61E-02
70	3.80	3.31E-04	0.	0.	2.24E-02	4.44E-03	2.00E-03	0.	0.	0.	1.55E-02	1.20E-04	1.59E-03	2.92E-04	4.05E-02
71	3.70	2.73E-04	0.	0.	2.87E-02	1.07E-03	1.55E-03	0.	0.	0.	1.53E-02	1.20E-04	1.64E-03	3.20E-04	4.80E-02
72	3.60	2.36E-04	0.	0.	1.52E-02	6.60E-03	1.69E-02	0.	0.	0.	1.43E-02	1.40E-04	1.31E-03	3.70E-04	3.99E-02
73	3.50	2.10E-04	0.	0.	2.33E-02	2.04E-02	1.21E-02	0.	0.	0.	1.31E-02	1.61E-04	1.08E-03	4.14E-04	5.99E-02
74	3.40	1.81E-04	0.	0.	1.17E-02	1.57E-03	1.34E-03	0.	0.	0.	7.50E-03	1.74E-04	1.24E-03	4.62E-04	2.43E-02
75	3.30	1.45E-04	0.	0.	1.27E-02	6.68E-03	9.80E-04	0.	0.	0.	7.50E-03	1.74E-04	1.24E-03	4.62E-04	2.43E-02
76	3.20	1.35E-04	0.	0.	7.23E-03	2.16E-02	1.61E-03	0.	0.	0.	7.50E-03	2.11E-04	1.50E-03	5.11E-04	3.22E-02
77	3.10	1.04E-04	0.	0.	5.94E-03	2.49E-03	8.97E-04	0.	0.	0.	7.62E-03	2.32E-04	1.67E-03	6.12E-04	1.91E-02
78	3.00	9.01E-05	0.	0.	3.13E-03	6.68E-03	7.93E-04	0.	0.	0.	7.64E-03	2.37E-04	1.62E-03	6.83E-04	2.30E-02
79	2.90	6.94E-05	0.	0.	1.07E-03	5.63E-03	5.48E-04	0.	0.	0.	7.65E-03	2.64E-04	1.97E-03	7.14E-04	1.87E-02
80	2.80	6.22E-05	0.	0.	8.77E-04	2.15E-03	3.39E-04	0.	0.	0.	7.64E-03	3.16E-04	2.32E-03	7.49E-04	1.43E-02
81	2.70	4.06E-05	0.	0.	4.02E-04	4.19E-03	1.42E-04	0.	0.	0.	7.66E-03	3.37E-04	2.38E-03	8.29E-04	1.59E-02
82	2.60	1.70E-05	0.	0.	2.05E-04	3.91E-04	6.30E-05	0.	0.	0.	7.60E-03	3.96E-04	2.49E-03	8.99E-04	1.16E-02
83	2.50	1.44E-06	0.	0.	2.57E-05	3.04E-04	1.42E-05	0.	0.	0.	7.66E-03	5.04E-04	3.22E-03	4.22E-04	1.36E-02
84	2.40	0.	0.	0.	3.35E-04	1.43E-06	0.	0.	0.	0.	7.66E-03	6.94E-04	3.22E-03	4.22E-04	1.36E-02
85	2.30	0.	0.	0.	3.47E-03	0.	0.	0.	0.	0.	7.66E-03	9.44E-04	3.22E-03	4.22E-04	1.36E-02
86	2.20	0.	0.	0.	1.40E-02	0.	0.	0.	0.	0.	7.66E-03	1.26E-03	3.22E-03	4.22E-04	1.36E-02
87	2.10	0.	0.	0.	1.97E-02	0.	0.	0.	0.	0.	7.66E-03	1.68E-03	3.22E-03	4.22E-04	1.36E-02
88	2.00	0.	0.	0.	3.27E-02	0.	0.	0.	0.	0.	7.66E-03	2.22E-03	3.22E-03	4.22E-04	1.36E-02
89	1.90	0.	0.	0.	5.99E-02	0.	0.	0.	0.	0.	7.66E-03	2.96E-03	3.22E-03	4.22E-04	1.36E-02
90	1.80	0.	0.	0.	4.87E-02	0.	0.	0.	0.	0.	7.66E-03	3.96E-03	3.22E-03	4.22E-04	1.36E-02
91	1.70	0.	0.	0.	5.89E-02	0.	0.	0.	0.	0.	7.66E-03	5.24E-03	3.22E-03	4.22E-04	1.36E-02
92	1.60	0.	0.	0.	4.12E-02	0.	0.	0.	0.	0.	7.66E-03	6.94E-03	3.22E-03	4.22E-04	1.36E-02
93	1.50	0.	0.	0.	5.07E-02	0.	0.	0.	0.	0.	7.66E-03	9.44E-03	3.22E-03	4.22E-04	1.36E-02
94	1.40	0.	0.	0.	3.37E-02	0.	0.	0.	0.	0.	7.66E-03	1.26E-02	3.22E-03	4.22E-04	1.36E-02
95	1.30	0.	0.	0.	3.93E-02	0.	0.	0.	0.	0.	7.66E-03	1.68E-02	3.22E-03	4.22E-04	1.36E-02
96	1.20	0.	0.	0.	3.31E-02	0.	0.	0.	0.	0.	7.66E-03	2.22E-02	3.22E-03	4.22E-04	1.36E-02
97	1.10	0.	0.	0.	3.04E-02	0.	0.	0.	0.	0.	7.66E-03	2.96E-02	3.22E-03	4.22E-04	1.36E-02
98	1.00	0.	0.	0.	2.47E-02	0.	0.	0.	0.	0.	7.66E-03	3.96E-02	3.22E-03	4.22E-04	1.36E-02
99	0.90	0.	0.	0.	1.14E-02	0.	0.	0.	0.	0.	7.66E-03	5.24E-02	3.22E-03	4.22E-04	1.36E-02
100	0.80	0.	0.	0.	3.01E-03	0.	0.	0.	0.	0.	7.66E-03	6.94E-02	3.22E-03	4.22E-04	1.36E-02
101	0.70	0.	0.	0.	2.11E-04	0.	0.	0.	0.	0.	7.66E-03	9.44E-02	3.22E-03	4.22E-04	1.36E-02
102	0.60	0.	0.	0.	2.11E-04	0.	0.	0.	0.	0.	7.66E-03	1.26E-01	3.22E-03	4.22E-04	1.36E-02

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 10000. DENSITY (GM/CC) 1.2532-74 (15.02-02 NORMAL)

PHOTON ENERGY BANDS E.V.	02 3-R CONT.	02 B-W NG. 1	NO BETA	NO GAMMA	NO PHOTO-DET (IONS)	0 FREE-FREE P.E.	0 TOTAL AIR P.E.			
								0	0	0
1 10.70 0.	0.	2.45E-02	0.	0.	0.	4.29E-04	5.14E-07	6.81E-01	9.24E-03	7.08E-01
2 13.60 0.	0.	2.11E-02	0.	0.	0.	4.10E-04	5.44E-07	4.57E-04	9.24E-03	2.28E-02
3 10.50 0.	0.	2.06E-02	0.	0.	0.	4.10E-04	5.44E-07	4.57E-04	9.24E-03	2.19E-02
4 10.40 C.	0.	1.89E-02	0.	0.	0.	4.11E-04	5.79E-07	4.59E-04	9.27E-03	1.99E-02
5 10.30 0.	0.	1.92E-02	0.	0.	0.	4.11E-04	5.79E-07	4.60E-04	9.21E-03	1.67E-02
6 10.20 0.	0.	1.92E-02	0.	0.	0.	4.12E-04	5.94E-07	4.51E-04	9.29E-03	1.61E-02
7 10.10 0.	0.	1.94E-02	0.	0.	0.	4.12E-04	6.19E-07	4.42E-04	9.27E-03	1.47E-02
8 10.00 0.	0.	1.12E-02	0.	0.	0.	4.13E-04	6.38E-07	4.63E-04	9.19E-03	1.22E-02
9 9.90 0.	0.	1.13E-02	0.	0.	0.	4.13E-04	6.52E-07	4.64E-04	9.19E-03	1.28E-02
10 9.80 0.	0.	1.01E-02	0.	0.	0.	4.13E-04	6.72E-07	4.66E-04	9.17E-03	1.0E-02
11 9.70 0.	0.	8.10E-03	0.	0.	0.	4.13E-04	6.93E-07	4.67E-04	9.16E-03	8.07E-03
12 9.60 0.	0.	6.60E-03	0.	0.	0.	4.16E-04	7.19E-07	4.68E-04	9.14E-03	6.64E-03
13 9.50 0.	0.	6.79E-05	6.88E-03	0.	0.	4.17E-04	7.38E-07	4.69E-04	9.13E-03	7.92E-03
14 9.40 0.	0.	9.14E-05	6.15E-03	0.	0.	4.18E-04	7.62E-07	4.71E-04	9.12E-03	7.28E-03
15 9.30 0.	0.	1.15E-04	6.20E-03	0.	0.	4.20E-04	7.87E-07	4.72E-04	9.13E-03	7.38E-03
16 9.20 0.	0.	1.39E-04	4.67E-03	0.	0.	4.21E-04	8.13E-07	4.73E-04	9.12E-03	5.79E-03
17 9.10 0.	0.	1.69E-04	4.77E-03	0.	0.	4.23E-04	8.41E-07	4.74E-04	9.12E-03	5.54E-03
18 9.00 0.	0.	1.92E-04	4.07E-03	0.	0.	4.24E-04	8.49E-07	4.74E-04	9.11E-03	4.91E-03
19 8.90 0.	0.	2.20E-04	3.55E-03	0.	0.	4.24E-04	8.49E-07	4.74E-04	9.11E-03	4.91E-03
20 8.80 0.	0.	2.27E-04	3.40E-03	0.	0.	4.27E-04	9.30E-07	4.75E-04	9.18E-03	4.42E-03
21 8.70 0.	0.	2.10E-04	2.72E-03	0.	0.	4.27E-04	9.30E-07	4.75E-04	9.18E-03	4.27E-03
22 8.60 0.	0.	2.10E-04	2.75E-03	0.	0.	4.30E-04	9.62E-07	4.76E-04	9.09E-03	3.59E-03
23 8.50 0.	0.	2.05E-04	2.23E-03	0.	0.	4.32E-04	1.03E-06	4.76E-04	9.07E-03	3.09E-03
24 8.40 0.	0.	2.03E-04	2.16E-03	0.	0.	4.34E-04	1.07E-06	4.76E-04	9.07E-03	3.01E-03
25 8.30 0.	0.	2.01E-04	1.99E-03	0.	0.	4.37E-04	1.15E-06	4.76E-04	9.06E-03	2.55E-03
26 8.20 0.	0.	1.97E-04	1.67E-03	0.	0.	4.39E-04	1.28E-06	4.76E-04	9.17E-03	2.43E-03
27 8.10 0.	0.	1.91E-04	1.34E-03	0.	0.	4.41E-04	1.35E-06	4.76E-04	9.24E-03	2.19E-03
28 8.00 0.	0.	1.86E-04	1.31E-03	0.	0.	4.43E-04	1.24E-06	4.76E-04	9.32E-03	2.16E-03
29 7.90 0.	0.	1.80E-04	1.05E-03	0.	0.	4.48E-04	1.29E-06	4.76E-04	9.42E-03	1.98E-03
30 7.80 0.	0.	1.75E-04	1.05E-03	0.	0.	4.48E-04	1.29E-06	4.76E-04	9.42E-03	1.98E-03
31 7.70 0.	0.	1.66E-04	6.63E-04	0.	0.	4.50E-04	1.39E-06	4.76E-04	9.56E-03	1.7E-03
32 7.60 0.	0.	1.60E-04	7.82E-04	0.	0.	4.52E-04	1.43E-06	4.76E-04	9.56E-03	1.62E-03
33 7.50 0.	0.	1.52E-04	6.81E-04	0.	0.	4.51E-04	1.51E-06	4.76E-04	9.71E-03	1.51E-03
34 7.40 0.	0.	1.45E-04	5.63E-04	0.	0.	4.57E-04	1.57E-06	4.76E-04	9.76E-03	1.41E-03
35 7.30 0.	0.	1.38E-04	5.28E-04	0.	0.	4.60E-04	1.63E-06	4.76E-04	9.64E-03	1.35E-03
36 7.20 0.	0.	1.30E-04	4.46E-04	0.	0.	4.62E-04	1.72E-06	4.76E-04	9.44E-03	1.28E-03
37 7.10 0.	0.	1.22E-04	4.08E-04	0.	0.	4.64E-04	1.80E-06	4.76E-04	9.44E-03	1.27E-03
38 7.00 1.05E-07	0.	3.53E-04	0.	0.	0.	4.70E-04	1.85E-06	4.76E-04	1.27E-04	1.17E-03
39 6.90 1.98E-07	0.	3.07E-04	0.	0.	0.	4.74E-04	1.93E-06	4.76E-04	1.27E-04	1.17E-03
40 6.80 1.69E-07	0.	2.78E-04	0.	0.	0.	4.77E-04	2.02E-06	4.76E-04	1.27E-04	1.09E-03
41 6.70 1.19E-07	0.	2.30E-04	0.	0.	0.	4.81E-04	2.11E-06	4.76E-04	1.26E-04	1.03E-03
42 6.60 6.79E-08	0.	1.94E-04	0.	0.	0.	4.85E-04	2.21E-06	4.76E-04	1.27E-04	1.04E-03
43 6.50 3.74E-08	0.	1.43E-04	0.	0.	0.	4.89E-04	2.31E-06	4.76E-04	1.27E-04	1.05E-03
44 6.40 5.17E-08	0.	8.93E-05	0.	0.	0.	4.93E-04	2.43E-06	4.76E-04	1.28E-04	1.06E-03
45 6.30 1.07E-07	0.	4.97E-05	0.	0.	0.	4.97E-04	2.57E-06	4.76E-04	1.28E-04	1.07E-03
46 6.20 3.17E-07	0.	2.40E-05	0.	0.	0.	5.00E-04	2.74E-06	4.76E-04	1.29E-04	1.09E-03
47 6.10 1.24E-06	0.	1.06E-05	0.	0.	0.	5.04E-04	2.90E-06	4.76E-04	1.30E-04	1.11E-03
48 6.00 3.29E-06	0.	2.53E-06	0.	0.	0.	5.06E-04	3.07E-06	4.76E-04	1.31E-04	1.13E-03
49 5.90 5.30E-06	0.	1.00E-07	0.	0.	0.	5.08E-04	3.26E-06	4.76E-04	1.32E-04	1.14E-03
50 5.80 7.98E-06	0.	4.48E-08	0.	0.	0.	5.10E-04	3.46E-06	4.76E-04	1.34E-04	1.16E-03
51 5.70 9.38E-06	0.	0.	0.	0.	0.	5.12E-04	3.66E-06	4.76E-04	1.35E-04	1.18E-03

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	Q2 S-R	M2	1ST PCC.	M2	2ND POS.	M2	1ST NEG.	M2	BETA	NO	AD	GAMMA	M0	VIB-ROT	M0	2	M0	0-		TOTAL 'IR			
																		TEMPERATURE (DEGREES K)	DENSITY (GM/CC)		1.293E-04	(10.0E-02 NORMAL)	FREE-FREE (IONS)
52	5.65	1.18E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.37E-04	3.02E-06	1.36E-04	1.20E-04	1.04E-03	
53	5.50	1.20E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.39E-04	3.03E-06	1.36E-04	1.22E-04	1.05E-03
54	5.40	1.26E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.41E-04	4.05E-06	1.41E-04	1.24E-04	1.09E-03
55	5.30	1.21E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.43E-04	4.26E-06	1.42E-04	1.26E-04	1.05E-03
56	5.20	1.60E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.45E-04	4.53E-06	1.43E-04	1.28E-04	1.08E-03
57	5.10	7.98E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.47E-04	4.81E-06	1.44E-04	1.30E-04	1.02E-03
58	5.00	5.89E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.49E-04	5.10E-06	1.45E-04	1.32E-04	9.99E-04
59	4.90	4.91E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.51E-04	5.47E-06	1.46E-04	1.34E-04	1.03E-03
60	4.80	4.91E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.52E-04	5.77E-06	1.47E-04	1.36E-04	1.00E-03
61	4.70	5.29E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.54E-04	6.15E-06	1.48E-04	1.38E-04	9.89E-04
62	4.60	6.21E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.56E-04	6.56E-06	1.49E-04	1.40E-04	9.89E-04
63	4.50	6.20E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.58E-04	7.01E-06	1.50E-04	1.42E-04	9.89E-04
64	4.40	5.28E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.60E-04	7.50E-06	1.51E-04	1.44E-04	9.89E-04
65	4.30	5.61E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.62E-04	8.04E-06	1.52E-04	1.46E-04	9.89E-04
66	4.20	5.04E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.64E-04	8.64E-06	1.53E-04	1.48E-04	9.89E-04
67	4.10	4.54E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.66E-04	9.30E-06	1.54E-04	1.50E-04	9.89E-04
68	4.00	4.03E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.68E-04	1.00E-05	1.55E-04	1.52E-04	9.89E-04
69	3.90	3.24E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.70E-04	1.08E-05	1.56E-04	1.54E-04	9.89E-04
70	3.80	3.44E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.72E-04	1.17E-05	1.57E-04	1.56E-04	9.89E-04
71	3.70	2.83E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.74E-04	1.27E-05	1.58E-04	1.58E-04	9.89E-04
72	3.60	2.49E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.76E-04	1.37E-05	1.59E-04	1.60E-04	9.89E-04
73	3.50	2.18E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.78E-04	1.48E-05	1.60E-04	1.62E-04	9.89E-04
74	3.40	1.88E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.80E-04	1.60E-05	1.61E-04	1.64E-04	9.89E-04
75	3.30	1.43E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.82E-04	1.73E-05	1.62E-04	1.66E-04	9.89E-04
76	3.20	1.19E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.84E-04	1.88E-05	1.63E-04	1.68E-04	9.89E-04
77	3.10	1.08E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.86E-04	2.04E-05	1.64E-04	1.70E-04	9.89E-04
78	3.00	9.19E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.88E-04	2.21E-05	1.65E-04	1.72E-04	9.89E-04
79	2.90	7.21E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.90E-04	2.40E-05	1.66E-04	1.74E-04	9.89E-04
80	2.80	7.19E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.92E-04	2.61E-05	1.67E-04	1.76E-04	9.89E-04
81	2.70	4.22E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.94E-04	2.84E-05	1.68E-04	1.78E-04	9.89E-04
82	2.60	1.77E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.96E-04	3.09E-05	1.69E-04	1.80E-04	9.89E-04
83	2.50	1.18E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.98E-04	3.36E-05	1.70E-04	1.82E-04	9.89E-04
84	2.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.00E-04	3.65E-05	1.71E-04	1.84E-04	9.89E-04
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.02E-04	3.96E-05	1.72E-04	1.86E-04	9.89E-04
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.04E-04	4.29E-05	1.73E-04	1.88E-04	9.89E-04
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.06E-04	4.64E-05	1.74E-04	1.90E-04	9.89E-04
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.08E-04	5.01E-05	1.75E-04	1.92E-04	9.89E-04
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.10E-04	5.40E-05	1.76E-04	1.94E-04	9.89E-04
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.12E-04	5.81E-05	1.77E-04	1.96E-04	9.89E-04
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.14E-04	6.24E-05	1.78E-04	1.98E-04	9.89E-04
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.16E-04	6.69E-05	1.79E-04	2.00E-04	9.89E-04
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.18E-04	7.16E-05	1.80E-04	2.02E-04	9.89E-04
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.20E-04	7.65E-05	1.81E-04	2.04E-04	9.89E-04
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.22E-04	8.16E-05	1.82E-04	2.06E-04	9.89E-04
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.24E-04	8.69E-05	1.83E-04	2.08E-04	9.89E-04
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.26E-04	9.24E-05	1.84E-04	2.10E-04	9.89E-04
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.28E-04	9.81E-05	1.85E-04	2.12E-04	9.89E-04
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.30E-04	1.04E-04	1.86E-04	2.14E-04	9.89E-04
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.32E-04	1.08E-04	1.87E-04	2.16E-04	9.89E-04
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.34E-04	1.13E-04	1.88E-04	2.18E-04	9.89E-04
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.36E-04	1.18E-04	1.89E-04	2.20E-04	9.89E-04

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CASE)

PHOTON ENERGY E.V.	Q2 S-R BANDS	Q2 S-R CONT.	M2 R-M NO. 1	40 BETA	NO GAMMA	NO 2	0- PHOTO-EFT (10eV)	0- FRES-FREE M	P.E.	D P.F.	TOTAL AIR
1	10.70 0.	0.	2.59E-04	0.	0.	0.	1.27E-05	5.05E-08	4.65E-05	9.15E-06	3.27E-04
2	10.60 0.	0.	2.25E-04	0.	0.	0.	1.27E-05	5.19E-08	4.67E-05	9.14E-06	2.91E-04
3	10.50 0.	0.	2.12E-04	0.	0.	0.	1.27E-05	5.34E-08	4.70E-05	9.13E-06	2.84E-04
4	10.40 0.	0.	1.96E-04	0.	0.	0.	1.27E-05	5.50E-08	4.73E-05	9.12E-06	2.65E-04
5	10.30 0.	0.	1.81E-04	0.	0.	0.	1.27E-05	5.66E-08	4.77E-05	9.12E-06	2.30E-04
6	10.20 0.	0.	1.65E-04	0.	0.	0.	1.26E-05	5.83E-08	4.74E-05	9.11E-06	2.30E-04
7	10.10 0.	0.	1.48E-04	0.	0.	0.	1.26E-05	6.01E-08	4.75E-05	9.10E-06	2.14E-04
8	10.00 0.	0.	1.31E-04	0.	0.	0.	1.26E-05	6.19E-08	4.76E-05	9.10E-06	1.80E-04
9	9.90 0.	0.	1.20E-04	0.	0.	0.	1.26E-05	6.38E-08	4.76E-05	9.09E-06	1.80E-04
10	9.80 0.	0.	1.06E-04	0.	0.	0.	1.26E-05	6.58E-08	4.76E-05	9.08E-06	1.74E-04
11	9.70 0.	0.	6.56E-05	0.	0.	0.	1.26E-05	6.79E-08	4.76E-05	9.07E-06	1.54E-04
12	9.60 0.	0.	9.18E-05	0.	0.	0.	1.26E-05	7.01E-08	4.76E-05	9.07E-06	1.42E-04
13	9.50 0.	6.68E-07	7.27E-05	0.	0.	0.	1.26E-05	7.24E-08	4.76E-05	9.07E-06	1.28E-04
14	9.40 0.	9.01E-07	6.51E-05	5.	0.	0.	1.30E-05	7.49E-08	4.84E-05	9.05E-06	1.30E-04
15	9.30 0.	1.13E-06	6.56E-05	0.	0.	0.	1.30E-05	7.76E-08	4.83E-05	9.04E-06	1.31E-04
16	9.20 0.	1.37E-06	4.93E-05	0.	0.	0.	1.30E-05	7.99E-08	4.83E-05	9.03E-06	8.63E-05
17	9.10 0.	1.63E-06	5.08E-05	0.	0.	0.	1.31E-05	8.22E-08	4.84E-05	9.02E-06	8.77E-05
18	9.00 0.	1.89E-06	4.31E-05	0.	0.	0.	1.31E-05	8.46E-08	4.84E-05	9.02E-06	8.06E-05
19	8.90 0.	2.14E-06	3.75E-05	0.	0.	0.	1.32E-05	8.71E-08	4.83E-05	9.01E-06	7.53E-05
20	8.80 0.	2.23E-06	3.59E-05	0.	0.	0.	1.32E-05	8.96E-08	4.83E-05	9.00E-06	7.36E-05
21	8.70 0.	2.15E-06	2.88E-05	0.	0.	0.	1.33E-05	9.41E-08	4.83E-05	9.00E-06	6.64E-05
22	8.60 0.	2.07E-06	2.91E-05	0.	0.	0.	1.33E-05	9.79E-08	4.82E-05	8.99E-06	6.49E-05
23	8.50 0.	2.02E-06	2.36E-05	0.	0.	0.	1.34E-05	1.01E-07	4.82E-05	8.98E-06	6.13E-05
24	8.40 0.	2.00E-06	2.28E-05	0.	0.	0.	1.34E-05	1.05E-07	4.82E-05	8.98E-06	6.05E-05
25	8.30 0.	1.94E-06	1.78E-05	0.	0.	0.	1.35E-05	1.09E-07	4.82E-05	8.97E-06	5.57E-05
26	8.20 0.	1.94E-06	1.76E-05	0.	0.	0.	1.35E-05	1.12E-07	4.82E-05	8.97E-06	5.55E-05
27	8.10 0.	1.84E-06	1.42E-05	0.	0.	0.	1.37E-05	1.17E-07	4.81E-05	8.95E-06	5.21E-05
28	8.00 0.	1.83E-06	1.38E-05	0.	0.	0.	1.37E-05	1.21E-07	4.81E-05	8.95E-06	5.18E-05
29	7.90 0.	1.77E-06	1.11E-05	0.	0.	0.	1.38E-05	1.26E-07	4.81E-05	8.94E-06	4.92E-05
30	7.80 0.	1.72E-06	1.11E-05	0.	0.	0.	1.39E-05	1.31E-07	4.81E-05	8.94E-06	4.91E-05
31	7.70 0.	1.64E-06	9.13E-06	0.	0.	0.	1.39E-05	1.37E-07	4.81E-05	8.93E-06	4.74E-05
32	7.60 0.	1.59E-06	8.27E-06	0.	0.	0.	1.40E-05	1.43E-07	4.81E-05	8.93E-06	4.68E-05
33	7.50 0.	1.50E-06	7.20E-06	0.	0.	0.	1.41E-05	1.49E-07	4.81E-05	8.92E-06	4.58E-05
34	7.40 0.	1.43E-06	6.10E-06	0.	0.	0.	1.42E-05	1.56E-07	4.81E-05	8.92E-06	4.47E-05
35	7.30 0.	1.34E-06	5.95E-06	0.	0.	0.	1.43E-05	1.62E-07	4.81E-05	8.91E-06	4.43E-05
36	7.20 0.	1.24E-06	4.73E-06	0.	0.	0.	1.44E-05	1.69E-07	4.81E-05	8.91E-06	4.34E-05
37	7.10 0.	1.21E-06	4.37E-06	0.	0.	0.	1.45E-05	1.77E-07	4.81E-05	8.91E-06	4.24E-05
38	7.00 1.03E-09	0.	3.74E-06	0.	0.	0.	1.45E-05	1.84E-07	4.81E-05	8.90E-06	4.21E-05
39	6.90 1.94E-09	0.	3.25E-06	0.	0.	0.	1.47E-05	1.89E-07	4.80E-05	8.90E-06	4.24E-05
40	6.80 1.62E-09	0.	2.94E-06	0.	0.	0.	1.48E-05	1.95E-07	4.80E-05	8.90E-06	4.37E-05
41	6.70 1.13E-09	0.	2.43E-06	0.	0.	0.	1.49E-05	2.07E-07	4.80E-05	8.89E-06	4.39E-05
42	6.65 6.68E-10	0.	2.05E-06	0.	0.	0.	1.50E-05	2.16E-07	4.80E-05	8.89E-06	4.28E-05
43	6.55 3.69E-10	0.	1.52E-06	0.	0.	0.	1.51E-05	2.25E-07	4.80E-05	8.89E-06	4.38E-05
44	6.45 5.07E-10	0.	9.44E-07	0.	0.	0.	1.53E-05	2.37E-07	4.80E-05	8.88E-06	4.41E-05
45	6.30 3.05E-09	0.	5.26E-07	0.	0.	0.	1.54E-05	2.49E-07	4.80E-05	8.88E-06	4.21E-05
46	6.20 3.11E-09	0.	2.63E-07	0.	0.	0.	1.55E-05	2.61E-07	4.80E-05	8.88E-06	4.35E-05
47	6.10 1.24E-08	0.	1.12E-07	0.	0.	0.	1.56E-05	2.74E-07	4.80E-05	8.88E-06	4.54E-05
48	6.00 3.23E-08	0.	2.66E-08	0.	0.	0.	1.57E-05	2.88E-07	4.80E-05	8.88E-06	4.27E-05
49	5.90 5.20E-08	0.	1.90E-09	0.	0.	0.	1.57E-05	3.03E-07	4.80E-05	8.88E-06	4.34E-05
50	5.80 7.84E-08	0.	4.49E-11	0.	0.	0.	1.55E-05	3.19E-07	4.80E-05	8.88E-06	4.35E-05
51	5.70 9.20E-08	0.	5.75E-07	1.93E-06	0.	0.	1.45E-05	3.36E-07	4.80E-05	8.88E-06	4.30E-05

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 10000. DENSITY (GM/CC) 1.233E-05 (10-DE-03 NORMAL)

PHOTON ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	NO RETA	NO GAMMA	NO VIB-RNT	NO 2	PHOTO-DE* (IONS)	FREE-FREE (IONS)	N P.E	0 P.F.	TOTAL AIR
52	5.60	1.14E-07	0.	4.37E-07	3.01E-06	0.	0.	1.39E-05	3.54E-07	1.49E-05	1.19E-05	4.33E-05
53	5.50	1.10E-07	0.	5.36E-07	2.89E-06	0.	0.	1.36E-05	3.71E-07	1.45E-05	1.21E-05	4.30E-05
54	5.40	1.23E-07	0.	4.57E-07	1.95E-06	0.	0.	1.37E-05	3.91E-07	1.45E-05	1.22E-05	4.33E-05
55	5.30	1.18E-07	0.	4.70E-07	2.83E-06	0.	0.	1.39E-05	4.19E-07	1.47E-05	1.25E-05	4.47E-05
56	5.20	8.43E-08	0.	4.88E-07	1.65E-06	0.	0.	1.38E-05	4.48E-07	1.49E-05	1.26E-05	4.43E-05
57	5.10	7.93E-08	0.	4.75E-07	2.28E-06	0.	0.	1.48E-05	4.76E-07	1.58E-05	1.31E-05	4.57E-05
58	5.00	5.37E-08	0.	4.10E-07	1.99E-06	0.	0.	1.42E-05	4.99E-07	1.58E-05	1.33E-05	4.51E-05
59	4.90	4.62E-08	0.	4.50E-07	2.00E-06	0.	0.	1.42E-05	5.30E-07	1.62E-05	1.35E-05	4.70E-05
60	4.80	4.62E-08	0.	4.73E-07	1.84E-06	0.	0.	1.44E-05	5.61E-07	1.66E-05	1.39E-05	4.78E-05
61	4.70	5.19E-08	0.	4.31E-07	1.54E-06	0.	0.	1.44E-05	6.01E-07	1.71E-05	1.43E-05	4.55E-05
62	4.60	6.09E-08	0.	4.50E-07	1.44E-06	0.	0.	1.45E-05	6.41E-07	1.76E-05	1.46E-05	4.94E-05
63	4.50	6.08E-08	0.	3.90E-07	1.04E-06	0.	0.	1.47E-05	6.80E-07	1.83E-05	1.50E-05	5.02E-05
64	4.40	6.14E-08	0.	3.80E-07	7.62E-07	0.	0.	1.48E-05	7.34E-07	1.88E-05	1.53E-05	5.15E-05
65	4.30	5.17E-08	0.	3.45E-07	4.35E-07	0.	0.	1.49E-05	7.80E-07	1.96E-05	1.57E-05	5.38E-05
66	4.20	4.93E-08	0.	3.56E-07	3.43E-07	0.	0.	1.50E-05	8.44E-07	2.03E-05	1.60E-05	5.77E-05
67	4.10	4.45E-08	0.	3.30E-07	2.87E-07	0.	0.	1.51E-05	9.08E-07	2.10E-05	1.70E-05	4.17E-05
68	4.00	3.93E-08	0.	3.06E-07	2.07E-07	0.	0.	1.51E-05	9.79E-07	2.19E-05	1.78E-05	4.15E-05
69	3.90	3.15E-08	0.	2.97E-07	2.90E-07	0.	0.	1.51E-05	1.05E-06	2.29E-05	2.04E-05	4.15E-05
70	3.80	3.17E-08	0.	4.22E-06	8.77E-06	2.77E-07	0.	1.51E-05	1.14E-06	2.38E-05	2.29E-05	4.63E-05
71	3.70	2.78E-08	0.	5.42E-06	2.11E-06	2.15E-07	0.	1.48E-05	1.24E-06	2.43E-05	3.31E-06	4.14E-05
72	3.60	2.14E-08	0.	4.49E-06	1.34E-05	2.34E-07	0.	1.27E-05	1.34E-06	2.51E-05	3.73E-06	4.69E-05
73	3.50	2.14E-08	0.	4.49E-06	4.03E-05	1.68E-07	0.	1.27E-05	1.44E-06	2.51E-05	4.18E-06	7.63E-05
74	3.40	1.84E-08	0.	2.21E-06	3.09E-06	1.80E-07	0.	7.33E-06	1.67E-06	2.71E-05	4.64E-06	3.61E-05
75	3.30	1.43E-08	0.	2.40E-06	1.70E-05	1.37E-07	0.	7.33E-06	1.79E-06	2.91E-05	5.16E-06	5.28E-05
76	3.20	1.13E-08	0.	1.54E-06	4.26E-05	1.40E-07	0.	7.34E-06	1.92E-06	3.10E-05	5.67E-06	6.01E-05
77	3.10	1.06E-08	0.	1.95E-06	4.83E-06	1.25E-07	0.	7.35E-06	2.11E-06	3.30E-05	6.18E-06	4.88E-05
78	3.00	8.98E-09	0.	5.81E-07	1.70E-05	1.10E-07	0.	7.37E-06	2.38E-06	3.50E-05	6.69E-06	5.91E-05
79	2.90	7.07E-09	0.	3.52E-07	1.11E-05	7.61E-08	0.	7.38E-06	2.58E-06	3.70E-05	7.21E-06	5.57E-05
80	2.80	7.05E-09	0.	1.65E-07	4.20E-06	4.65E-08	0.	7.39E-06	2.87E-06	3.93E-05	7.76E-06	5.17E-05
81	2.70	4.14E-09	0.	7.50E-08	8.28E-06	2.74E-08	0.	7.39E-06	3.29E-06	4.19E-05	8.36E-06	5.94E-05
82	2.60	1.74E-09	0.	3.86E-08	7.73E-07	8.84E-09	0.	7.39E-06	3.59E-06	4.42E-05	8.57E-06	5.44E-05
83	2.50	1.14E-10	0.	4.85E-09	6.01E-07	1.56E-09	0.	7.39E-06	4.11E-06	4.68E-05	9.16E-06	5.39E-05
84	2.40	0.	0.	2.81E-07	0.	1.98E-10	0.	7.39E-06	4.58E-06	4.90E-05	9.42E-06	4.12E-05
85	2.30	0.	0.	1.82E-06	0.	0.	0.	7.39E-06	5.20E-06	5.10E-05	5.10E-06	4.80E-05
86	2.20	0.	0.	2.64E-06	0.	0.	0.	7.31E-06	5.99E-06	5.44E-05	5.15E-06	5.65E-05
87	2.10	0.	0.	3.62E-06	0.	0.	0.	7.28E-06	6.80E-06	4.01E-05	7.21E-06	6.50E-05
88	2.00	0.	0.	6.07E-06	0.	0.	0.	7.04E-06	7.94E-06	4.58E-05	8.26E-06	7.51E-05
89	1.90	0.	0.	1.13E-05	0.	0.	0.	6.77E-06	9.29E-06	5.17E-05	9.36E-06	8.64E-05
90	1.80	0.	0.	9.18E-05	0.	0.	0.	6.48E-06	1.09E-05	5.39E-05	1.11E-05	9.94E-05
91	1.70	0.	0.	7.11E-05	0.	0.	0.	6.18E-06	1.38E-05	7.22E-05	1.34E-05	1.16E-04
92	1.60	0.	0.	7.78E-06	0.	0.	0.	5.18E-06	1.58E-05	8.35E-05	1.56E-05	1.28E-04
93	1.50	0.	0.	9.54E-06	0.	0.	0.	2.34E-05	1.90E-05	1.04E-04	1.77E-05	1.53E-04
94	1.40	0.	0.	1.00E-05	0.	0.	0.	0.	2.34E-05	1.17E-04	2.16E-05	1.72E-04
95	1.30	0.	0.	7.42E-06	0.	0.	0.	0.	2.93E-05	1.00E-04	1.94E-05	1.65E-04
96	1.20	0.	0.	7.42E-06	0.	0.	0.	0.	4.08E-05	1.79E-04	2.59E-05	2.13E-04
97	1.10	0.	0.	6.24E-06	0.	2.85E-11	0.	0.	6.35E-05	2.07E-04	2.93E-05	2.64E-04
98	1.00	0.	0.	5.74E-06	0.	2.63E-10	0.	0.	8.99E-05	2.43E-04	3.56E-05	3.14E-04
99	0.90	0.	0.	4.64E-06	0.	3.22E-10	0.	0.	0.99E-04	2.43E-04	4.19E-05	3.88E-04
100	0.80	0.	0.	2.14E-05	0.	5.62E-09	0.	0.	1.29E-04	2.79E-04	4.81E-05	4.59E-04
101	0.70	0.	0.	5.69E-07	0.	3.68E-09	0.	0.	1.95E-04	3.09E-04	5.35E-05	5.59E-04
102	0.60	0.	0.	3.94E-08	0.	1.53E-08	0.	0.	3.11E-04	2.70E-04	4.36E-05	6.25E-04

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 10000. DENSITY (GM/CC) 1.293E-06 (18.0E-04 NORMAL)

PHOTON ENERGY E.V.	O2 S-R BANDS	O2 S-R CONT.	N2 O-W NO. 1	NO META	NO GAMMA	NO 2	O- PHOTO-DET (IONS)	M FREE-FREE P.E.	N P.E.	O TOTAL AIR P.E.		
1 10.70 0.			2.					3.72E-07	4.77E-09	4.38E-06	8.77E-07	7.93E-04
2 10.60 0.			0.					3.23E-07	4.06E-09	4.41E-06	8.76E-07	7.64E-04
3 10.50 0.			0.					3.75E-07	5.02E-09	4.42E-06	8.76E-07	7.61E-04
4 10.40 0.			0.					3.74E-07	5.17E-09	4.44E-06	8.75E-07	7.44E-04
5 10.30 0.			0.					3.74E-07	5.32E-09	4.44E-06	8.74E-07	7.14E-04
6 10.20 0.			0.					3.75E-07	5.48E-09	4.47E-06	8.73E-07	7.14E-04
7 10.10 0.			0.					3.75E-07	5.64E-09	4.48E-06	8.73E-07	7.02E-04
8 10.00 0.			0.					3.76E-07	5.81E-09	4.49E-06	8.72E-07	6.79E-04
9 9.9 0.			0.					3.76E-07	5.98E-09	4.51E-06	8.71E-07	6.82E-04
10 9.80 0.			0.					3.77E-07	6.16E-09	4.51E-06	8.70E-07	6.71E-04
11 9.70 0.			0.					3.78E-07	6.34E-09	4.52E-06	8.70E-07	6.54E-04
12 9.60 0.			0.					3.78E-07	6.52E-09	4.54E-06	8.69E-07	6.50E-04
13 9.50 0.			0.					3.79E-07	6.70E-09	4.54E-06	8.68E-07	6.45E-04
14 9.40 0.			0.					3.81E-07	7.00E-09	4.54E-06	8.67E-07	6.40E-04
15 9.30 0.			0.					3.82E-07	7.29E-09	4.54E-06	8.65E-07	6.32E-04
16 9.20 0.			0.					3.83E-07	7.47E-09	4.54E-06	8.64E-07	6.24E-04
17 9.10 0.			0.					3.85E-07	7.72E-09	4.54E-06	8.64E-07	6.16E-04
18 9.00 0.			0.					3.86E-07	7.97E-09	4.54E-06	8.64E-07	6.08E-04
19 8.90 0.			0.					3.87E-07	8.26E-09	4.54E-06	8.64E-07	6.00E-04
20 8.80 0.			0.					3.89E-07	8.54E-09	4.54E-06	8.63E-07	5.92E-04
21 8.70 0.			0.					3.90E-07	8.84E-09	4.54E-06	8.62E-07	5.84E-04
22 8.60 0.			0.					3.92E-07	9.16E-09	4.54E-06	8.62E-07	5.76E-04
23 8.50 0.			0.					3.93E-07	9.48E-09	4.54E-06	8.61E-07	5.68E-04
24 8.40 0.			0.					3.95E-07	9.83E-09	4.54E-06	8.60E-07	5.60E-04
25 8.30 0.			0.					3.97E-07	1.02E-08	4.54E-06	8.62E-07	5.52E-04
26 8.20 0.			0.					3.99E-07	1.06E-08	4.54E-06	8.63E-07	5.44E-04
27 8.10 0.			0.					4.01E-07	1.10E-08	4.54E-06	8.64E-07	5.36E-04
28 8.00 0.			0.					4.03E-07	1.14E-08	4.54E-06	8.64E-07	5.28E-04
29 7.90 0.			0.					4.05E-07	1.18E-08	4.54E-06	8.64E-07	5.20E-04
30 7.80 0.			0.					4.07E-07	1.22E-08	4.54E-06	8.64E-07	5.12E-04
31 7.70 0.			0.					4.10E-07	1.26E-08	4.54E-06	8.64E-07	5.04E-04
32 7.60 0.			0.					4.12E-07	1.30E-08	4.54E-06	8.64E-07	4.96E-04
33 7.50 0.			0.					4.14E-07	1.34E-08	4.54E-06	8.64E-07	4.88E-04
34 7.40 0.			0.					4.16E-07	1.44E-08	4.54E-06	8.64E-07	4.80E-04
35 7.30 0.			0.					4.18E-07	1.50E-08	4.54E-06	8.64E-07	4.72E-04
36 7.20 0.			0.					4.21E-07	1.54E-08	4.54E-06	8.64E-07	4.64E-04
37 7.10 0.			0.					4.23E-07	1.58E-08	4.54E-06	8.64E-07	4.56E-04
38 7.00 0.			0.					4.27E-07	1.70E-08	4.54E-06	8.64E-07	4.48E-04
39 6.90 0.			0.					4.31E-07	1.78E-08	4.54E-06	8.64E-07	4.40E-04
40 6.80 0.			0.					4.36E-07	1.86E-08	4.54E-06	8.64E-07	4.32E-04
41 6.70 0.			0.					4.38E-07	1.94E-08	4.54E-06	8.64E-07	4.24E-04
42 6.60 0.			0.					4.41E-07	2.03E-08	4.54E-06	8.64E-07	4.16E-04
43 6.50 0.			0.					4.45E-07	2.13E-08	4.54E-06	8.64E-07	4.08E-04
44 6.40 0.			0.					4.48E-07	2.23E-08	4.54E-06	8.64E-07	4.00E-04
45 6.30 0.			0.					4.52E-07	2.34E-08	4.54E-06	8.64E-07	3.92E-04
46 6.20 0.			0.					4.55E-07	2.45E-08	4.54E-06	8.64E-07	3.84E-04
47 6.10 0.			0.					4.58E-07	2.57E-08	4.54E-06	8.64E-07	3.76E-04
48 6.00 0.			0.					4.62E-07	2.71E-08	4.54E-06	8.64E-07	3.68E-04
49 5.90 0.			0.					4.65E-07	2.85E-08	4.54E-06	8.64E-07	3.60E-04
50 5.80 0.			0.					4.68E-07	3.00E-08	4.54E-06	8.64E-07	3.52E-04
51 5.70 0.			0.					4.72E-07	3.16E-08	4.54E-06	8.64E-07	3.44E-04

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 10000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON O2 S-R ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2+ 1ST NEG.	M2+ 2ND NEG.	BETA	NO GAMMA	NO VIB-RDT	NO 2	PHOTO-DET (IONS)	FREE-FREE P.E.	M P.E.	C P.F.	TOTAL AIR
52	3.60	1.05E-09	0.	0.	3.94E-09	2.71E-08	0.	0.	3.97E-07	3.32E-08	1.32E-06	1.14E-06	2.92E-05
53	5.50	1.08E-09	0.	0.	4.84E-09	2.60E-08	0.	0.	4.00E-07	3.52E-08	1.34E-06	1.16E-06	2.96E-05
54	5.30	1.33E-09	0.	0.	4.12E-09	1.74E-08	0.	0.	4.02E-07	3.72E-08	1.36E-06	1.17E-06	3.00E-05
55	5.30	1.09E-09	0.	0.	4.25E-09	2.55E-08	0.	0.	4.04E-07	3.93E-08	1.38E-06	1.19E-06	3.05E-05
56	3.20	7.74E-10	0.	0.	4.06E-09	1.52E-08	0.	0.	4.07E-07	4.17E-08	1.41E-06	1.22E-06	3.10E-05
57	5.10	7.39E-10	0.	0.	4.28E-09	2.04E-08	0.	0.	4.10E-07	4.42E-08	1.44E-06	1.25E-06	3.15E-05
58	5.00	5.30E-10	0.	0.	3.77E-09	1.79E-08	0.	0.	4.14E-07	4.69E-08	1.48E-06	1.28E-06	3.25E-05
59	4.90	4.42E-10	0.	0.	4.06E-09	1.80E-08	0.	0.	4.17E-07	4.98E-08	1.53E-06	1.31E-06	3.32E-05
60	4.80	4.42E-10	0.	0.	4.27E-09	1.66E-08	0.	0.	4.24E-07	5.30E-08	1.57E-06	1.33E-06	3.43E-05
61	4.70	4.76E-10	0.	0.	4.07E-09	1.41E-08	0.	0.	4.24E-07	5.65E-08	1.61E-06	1.37E-06	3.48E-05
62	4.60	5.59E-10	0.	0.	4.04E-09	1.31E-08	0.	0.	4.27E-07	6.03E-08	1.66E-06	1.40E-06	3.57E-05
63	4.50	5.58E-10	0.	1.18E-09	3.52E-09	9.39E-09	0.	0.	4.31E-07	6.44E-08	1.72E-06	1.44E-06	3.67E-05
64	4.40	5.63E-10	0.	4.24E-09	3.43E-09	6.86E-09	0.	0.	4.34E-07	6.89E-08	1.79E-06	1.47E-06	3.77E-05
65	4.30	5.05E-10	0.	1.05E-09	3.11E-09	6.39E-09	0.	0.	4.36E-07	7.39E-08	1.85E-06	1.50E-06	3.83E-05
66	4.20	4.54E-10	0.	4.22E-09	3.22E-09	3.09E-09	0.	0.	4.41E-07	7.93E-08	1.92E-06	1.57E-06	3.96E-05
67	4.10	4.09E-10	0.	1.33E-09	3.28E-09	7.99E-09	0.	0.	4.43E-07	8.53E-08	1.98E-06	1.61E-06	4.06E-05
68	4.00	3.60E-10	0.	5.53E-09	2.58E-09	6.11E-10	0.	0.	4.45E-07	9.19E-08	1.64E-06	1.64E-06	4.13E-05
69	3.90	3.09E-10	0.	2.63E-09	3.72E-09	2.62E-10	0.	0.	4.43E-07	9.92E-08	1.66E-06	1.64E-06	4.13E-05
70	3.80	3.09E-10	0.	3.74E-09	2.54E-09	2.50E-09	0.	0.	4.41E-07	1.07E-07	1.59E-06	1.62E-06	4.03E-05
71	3.70	2.95E-10	0.	4.81E-09	6.10E-09	1.94E-09	0.	0.	4.34E-07	1.16E-07	1.53E-06	1.62E-06	3.93E-05
72	3.60	2.21E-10	0.	2.54E-09	3.89E-09	2.11E-09	0.	0.	4.07E-07	1.26E-07	1.26E-06	1.56E-06	2.77E-05
73	3.50	1.96E-10	0.	3.96E-09	1.7E-09	1.51E-09	0.	0.	3.72E-07	1.37E-07	1.43E-06	1.40E-06	2.54E-05
74	3.40	1.69E-10	0.	1.96E-09	8.95E-09	1.68E-09	0.	0.	2.15E-07	1.50E-07	1.41E-06	1.47E-06	2.43E-05
75	3.30	1.31E-10	0.	2.13E-09	4.93E-07	1.24E-09	0.	0.	2.15E-07	1.64E-07	1.70E-06	1.44E-06	2.38E-05
76	3.20	1.07E-10	0.	1.21E-09	1.23E-06	1.23E-09	0.	0.	2.15E-07	1.80E-07	1.98E-06	1.43E-06	2.31E-05
77	3.10	9.70E-11	0.	9.31E-09	1.40E-07	1.12E-09	0.	0.	2.16E-07	1.98E-07	2.17E-06	1.42E-06	2.27E-05
78	3.00	6.24E-11	0.	5.24E-09	4.91E-07	9.93E-10	0.	0.	2.16E-07	2.19E-07	2.33E-06	1.41E-06	2.23E-05
79	2.90	6.49E-11	0.	3.12E-09	3.21E-07	6.86E-10	0.	0.	2.17E-07	2.42E-07	2.53E-06	1.41E-06	2.19E-05
80	2.80	6.47E-11	0.	1.47E-09	1.23E-07	4.19E-10	0.	0.	2.17E-07	2.69E-07	2.76E-06	1.41E-06	2.15E-05
81	2.70	3.80E-11	0.	6.73E-10	2.40E-07	2.02E-10	0.	0.	2.17E-07	3.01E-07	2.98E-06	1.41E-06	2.11E-05
82	2.60	1.59E-11	0.	3.43E-10	2.24E-07	7.98E-11	0.	0.	2.17E-07	3.37E-07	3.22E-06	1.41E-06	2.07E-05
83	2.50	1.07E-11	0.	4.38E-11	1.74E-07	1.77E-11	0.	0.	2.17E-07	3.80E-07	3.46E-06	1.41E-06	2.03E-05
84	2.40	0.	0.	2.50E-09	1.91E-06	1.79E-12	0.	0.	2.17E-07	4.30E-07	3.70E-06	1.41E-06	1.99E-05
85	2.30	0.	0.	1.04E-09	0.	0.	0.	0.	2.15E-07	4.89E-07	3.74E-06	1.41E-06	1.95E-05
86	2.20	0.	0.	2.35E-09	0.	0.	0.	0.	2.13E-07	5.59E-07	3.74E-06	1.41E-06	1.91E-05
87	2.10	0.	0.	3.22E-09	0.	0.	0.	0.	2.14E-07	6.44E-07	3.78E-06	1.41E-06	1.87E-05
88	2.00	0.	0.	5.38E-09	0.	0.	0.	0.	2.07E-07	7.64E-07	4.31E-06	1.41E-06	1.83E-05
89	1.90	0.	0.	10.08E-09	0.	0.	0.	0.	1.99E-07	9.05E-07	4.87E-06	1.41E-06	1.79E-05
90	1.80	0.	0.	8.12E-09	0.	0.	0.	0.	1.90E-07	1.03E-06	5.74E-06	1.41E-06	1.75E-05
91	1.70	0.	0.	9.84E-09	0.	0.	0.	0.	1.79E-07	1.22E-06	6.80E-06	1.41E-06	1.71E-05
92	1.60	0.	0.	6.90E-09	0.	0.	0.	0.	1.52E-07	1.47E-06	7.66E-06	1.41E-06	1.67E-05
93	1.50	0.	0.	8.47E-09	0.	0.	0.	0.	6.80E-08	1.79E-06	9.01E-06	1.41E-06	1.63E-05
94	1.40	0.	0.	8.40E-09	0.	0.	0.	0.	0.	2.20E-06	7.80E-06	2.03E-06	1.59E-05
95	1.30	0.	0.	6.59E-09	0.	0.	0.	0.	0.	2.76E-06	1.02E-05	1.66E-06	1.55E-05
96	1.20	0.	0.	6.62E-09	0.	0.	0.	0.	0.	3.52E-06	1.34E-05	1.48E-06	1.51E-05
97	1.10	0.	0.	5.54E-09	0.	0.	2.58E-13	0.	0.	4.59E-06	1.95E-05	2.01E-06	1.47E-05
98	1.00	0.	0.	5.13E-09	0.	0.	2.38E-12	0.	0.	6.13E-06	1.95E-05	3.41E-06	1.43E-05
99	0.90	0.	0.	4.16E-09	0.	0.	2.90E-12	0.	0.	8.44E-06	2.29E-05	4.02E-06	1.39E-05
100	0.80	0.	0.	1.94E-09	0.	0.	5.07E-11	0.	0.	1.21E-05	2.58E-05	4.57E-06	1.35E-05
101	0.70	0.	0.	5.05E-09	0.	0.	3.50E-11	0.	0.	1.83E-05	2.86E-05	5.10E-06	1.31E-05
102	0.60	0.	0.	3.54E-10	0.	0.	1.39E-10	0.	0.	2.93E-05	2.94E-05	5.18E-06	1.27E-05



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 10200. DENSITY (GM/CC) 1.2932-07 (10.0E-05 NORMAL)

PHOTON ENERGY BANDS E.V.	02 S-R CONT.	M2 B-W NO. 1	NO META	NO GAMMA	NO 2	O- PHOTO-DET (L/DMS)	M FRISE-FREE P.E.	O P.E.	TOTAL AIR		
1 10.70 0	0	1.58E-08	0	0	0	0	9.27E-09	3.91E-10	3.98E-07	7.66E-08	4.99E-07
2 10.60 0	0	1.32E-08	0	0	0	0	9.28E-09	4.92E-10	3.60E-07	7.59E-08	4.59E-07
3 10.50 0	0	1.29E-08	0	0	0	0	9.29E-09	4.33E-10	3.62E-07	7.59E-08	4.60E-07
4 10.40 0	0	1.14E-08	0	0	0	0	9.30E-09	4.29E-10	3.63E-07	7.58E-08	4.60E-07
5 10.30 0	0	9.56E-09	0	0	0	0	9.31E-09	4.38E-10	3.64E-07	7.58E-08	4.59E-07
6 10.20 0	0	9.50E-09	0	0	0	0	9.33E-09	4.31E-10	3.63E-07	7.57E-08	4.60E-07
7 10.10 0	0	6.62E-09	0	0	0	0	9.34E-09	4.58E-10	3.66E-07	7.56E-08	4.60E-07
8 10.00 0	0	7.02E-09	0	0	0	0	9.35E-09	4.59E-10	3.67E-07	7.56E-08	4.59E-07
9 9.90 0	0	7.09E-09	0	0	0	0	9.37E-09	4.94E-10	3.68E-07	7.55E-08	4.60E-07
10 9.80 0	0	8.31E-09	0	0	0	0	9.39E-09	5.09E-10	3.69E-07	7.54E-08	4.60E-07
11 9.70 0	0	5.09E-09	0	0	0	0	9.40E-09	5.25E-10	3.69E-07	7.54E-08	4.60E-07
12 9.60 0	0	5.44E-09	0	0	0	0	9.42E-09	5.42E-10	3.70E-07	7.53E-08	4.61E-07
13 9.50 0	0	4.61E-11	4.31E-09	0	0	0	9.44E-09	5.59E-10	3.71E-07	7.52E-08	4.61E-07
14 9.40 0	0	6.22E-11	3.86E-09	0	0	0	9.47E-09	5.77E-10	3.72E-07	7.52E-08	4.62E-07
15 9.30 0	0	7.83E-11	3.09E-09	0	0	0	9.51E-09	5.96E-10	3.73E-07	7.51E-08	4.62E-07
16 9.20 0	0	9.44E-11	2.92E-09	0	0	0	9.54E-09	6.16E-10	3.74E-07	7.50E-08	4.61E-07
17 9.10 0	0	1.17E-10	2.99E-09	0	0	0	9.57E-09	6.36E-10	3.75E-07	7.50E-08	4.61E-07
18 9.00 0	0	1.31E-10	2.55E-09	0	0	0	9.61E-09	6.56E-10	3.76E-07	7.49E-08	4.61E-07
19 8.90 0	0	1.49E-10	2.22E-09	0	0	0	9.64E-09	6.80E-10	3.76E-07	7.49E-08	4.61E-07
20 8.80 0	0	1.54E-10	2.13E-09	0	0	0	9.68E-09	7.04E-10	3.76E-07	7.48E-08	4.61E-07
21 8.70 0	0	1.48E-10	1.70E-09	0	0	0	9.71E-09	7.29E-10	3.76E-07	7.47E-08	4.61E-07
22 8.60 0	0	1.43E-10	1.73E-09	0	0	0	9.75E-09	7.54E-10	3.76E-07	7.47E-08	4.61E-07
23 8.50 0	0	1.39E-10	1.48E-09	0	0	0	9.78E-09	7.81E-10	3.76E-07	7.47E-08	4.61E-07
24 8.40 0	0	1.36E-10	1.35E-09	0	0	0	9.83E-09	8.10E-10	3.76E-07	7.46E-08	4.61E-07
25 8.30 0	0	1.37E-10	1.06E-09	0	0	0	9.88E-09	8.40E-10	3.76E-07	7.47E-08	4.61E-07
26 8.20 0	0	1.34E-10	1.05E-09	0	0	0	9.94E-09	8.71E-10	3.76E-07	7.47E-08	4.61E-07
27 8.10 0	0	1.30E-10	0.40E-10	0	0	0	9.99E-09	9.04E-10	3.76E-07	7.46E-08	4.61E-07
28 8.00 0	0	1.26E-10	0.19E-10	0	0	0	10.00E-09	9.38E-10	3.76E-07	7.46E-08	4.61E-07
29 7.90 0	0	1.28E-10	6.58E-10	0	0	0	1.01E-08	9.74E-10	3.76E-07	7.46E-08	4.61E-07
30 7.80 0	0	1.19E-10	4.58E-10	0	0	0	1.01E-08	1.01E-09	3.76E-07	7.46E-08	4.61E-07
31 7.70 0	0	1.14E-10	5.41E-10	0	0	0	1.02E-08	1.05E-09	3.76E-07	7.46E-08	4.61E-07
32 7.60 0	0	1.09E-10	4.90E-10	0	0	0	1.02E-08	1.09E-09	3.76E-07	7.46E-08	4.61E-07
33 7.50 0	0	1.04E-10	4.27E-10	0	0	0	1.03E-08	1.14E-09	3.76E-07	7.46E-08	4.61E-07
34 7.40 0	0	9.86E-11	3.65E-10	0	0	0	1.04E-08	1.24E-09	3.76E-07	7.46E-08	4.61E-07
35 7.30 0	0	9.39E-11	3.28E-10	0	0	0	1.05E-08	1.29E-09	3.76E-07	7.46E-08	4.61E-07
36 7.20 0	0	8.86E-11	2.68E-10	0	0	0	1.05E-08	1.34E-09	3.76E-07	7.46E-08	4.61E-07
37 7.10 0	0	8.33E-11	2.56E-10	0	0	0	1.06E-08	1.40E-09	3.76E-07	7.46E-08	4.61E-07
38 7.00 0	0	7.11E-14	2.22E-10	0	0	0	1.07E-08	1.46E-09	3.76E-07	7.46E-08	4.61E-07
39 6.90 0	0	1.34E-13	1.92E-10	0	0	0	1.07E-08	1.52E-09	3.76E-07	7.46E-08	4.61E-07
40 6.80 0	0	1.12E-13	1.75E-10	0	0	0	1.08E-08	1.59E-09	3.76E-07	7.46E-08	4.61E-07
41 6.70 0	0	7.81E-14	1.44E-10	0	0	0	1.08E-08	1.66E-09	3.76E-07	7.46E-08	4.61E-07
42 6.60 0	0	4.60E-14	1.21E-10	0	0	0	1.09E-08	1.74E-09	3.76E-07	7.46E-08	4.61E-07
43 6.50 0	0	2.54E-14	8.98E-11	0	0	0	1.10E-08	1.82E-09	3.76E-07	7.46E-08	4.61E-07
44 6.40 0	0	3.50E-14	5.99E-11	0	0	0	1.11E-08	1.91E-09	3.76E-07	7.46E-08	4.61E-07
45 6.30 0	0	7.24E-14	3.12E-11	0	0	0	1.11E-08	2.00E-09	3.76E-07	7.46E-08	4.61E-07
46 6.20 0	0	2.19E-13	1.56E-11	0	0	0	1.13E-08	2.09E-09	3.76E-07	7.46E-08	4.61E-07
47 6.10 0	0	8.15E-13	6.69E-12	0	0	0	1.14E-08	2.18E-09	3.76E-07	7.46E-08	4.61E-07
48 6.00 0	0	2.23E-12	1.59E-12	0	0	0	1.15E-08	2.28E-09	3.76E-07	7.46E-08	4.61E-07
49 5.90 0	0	3.59E-12	2.51E-13	0	0	0	1.15E-08	2.38E-09	3.76E-07	7.46E-08	4.61E-07
50 5.80 0	0	5.41E-12	3.36E-13	0	0	0	1.15E-08	2.47E-09	3.76E-07	7.46E-08	4.61E-07
51 5.70 0	0	6.35E-12	3.68E-13	0	0	0	1.06E-08	2.60E-09	3.76E-07	7.46E-08	4.61E-07

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 10000. DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)

PHOTON ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2 1ST NEG.	BETA	NO GAMMA	NO VIB-ROT	NO 2	0- PHOTO-DET (IONS)	FREE-FREE N P.E.	0 TOTAL AIR P.E.		
52	5.60	7.07E-12	0.	2.79E-11	1.92E-10	0.	0.	9.89E-09	2.74E-09	1.08E-07	9.86E-08	2.19E-07
53	5.50	6.15E-12	0.	3.43E-11	1.84E-10	0.	0.	9.94E-09	2.90E-09	1.09E-07	9.91E-08	2.23E-07
54	5.40	6.52E-12	0.	2.92E-11	1.25E-10	0.	0.	10.00E-09	3.04E-09	1.11E-07	1.02E-07	2.24E-07
55	5.30	6.10E-12	0.	3.00E-11	1.81E-10	0.	0.	1.01E-08	3.24E-08	1.13E-07	1.04E-07	2.29E-07
56	5.20	5.62E-12	0.	3.12E-11	1.07E-10	0.	0.	1.01E-08	3.43E-08	1.15E-07	1.06E-07	2.35E-07
57	5.10	5.81E-12	0.	3.08E-11	1.46E-10	0.	0.	1.02E-08	3.64E-08	1.16E-07	1.08E-07	2.40E-07
58	5.00	3.94E-12	0.	2.67E-11	1.27E-10	0.	0.	1.03E-08	3.85E-08	1.17E-07	1.11E-07	2.46E-07
59	4.90	3.32E-12	0.	2.07E-11	1.17E-10	0.	0.	1.04E-08	4.10E-08	1.20E-07	1.13E-07	2.53E-07
60	4.80	3.56E-12	0.	3.02E-11	1.10E-10	0.	0.	1.05E-08	4.37E-08	1.20E-07	1.16E-07	2.59E-07
61	4.70	3.20E-12	0.	2.80E-11	1.00E-10	0.	0.	1.06E-08	4.65E-08	1.31E-07	1.19E-07	2.65E-07
62	4.60	4.20E-12	0.	2.80E-11	9.31E-11	0.	0.	1.07E-08	4.97E-08	1.36E-07	1.21E-07	2.73E-07
63	4.50	4.20E-12	0.	2.49E-11	6.65E-11	0.	0.	1.07E-08	5.31E-08	1.41E-07	1.24E-07	2.81E-07
64	4.40	4.24E-12	0.	2.43E-11	4.87E-11	0.	0.	1.08E-08	5.66E-08	1.46E-07	1.27E-07	2.90E-07
65	4.30	3.68E-12	0.	2.28E-11	2.79E-11	0.	0.	1.09E-08	6.03E-08	1.51E-07	1.30E-07	2.98E-07
66	4.20	3.41E-12	0.	2.28E-11	2.19E-11	0.	0.	1.10E-08	6.53E-08	1.56E-07	1.38E-07	3.06E-07
67	4.10	3.07E-12	0.	6.91E-11	5.66E-12	0.	0.	1.10E-08	7.03E-08	1.30E-07	2.24E-07	1.71E-07
68	4.00	2.71E-12	0.	1.42E-11	4.77E-12	0.	0.	1.11E-08	7.57E-08	1.34E-07	2.31E-07	1.76E-07
69	3.90	2.10E-12	0.	1.74E-11	1.84E-12	0.	0.	1.10E-08	8.17E-08	1.63E-07	2.38E-07	1.47E-07
70	3.80	2.33E-12	0.	2.90E-11	5.90E-11	0.	0.	1.10E-08	8.84E-08	1.07E-07	2.45E-07	1.57E-07
71	3.70	1.92E-12	0.	3.21E-11	1.37E-11	0.	0.	1.10E-08	9.58E-08	9.39E-08	2.75E-07	1.44E-07
72	3.60	1.66E-12	0.	1.70E-11	9.06E-11	0.	0.	1.01E-08	1.04E-08	1.93E-07	3.10E-07	1.64E-07
73	3.50	1.48E-12	0.	2.61E-11	2.71E-11	0.	0.	9.27E-09	1.13E-08	1.16E-07	3.47E-07	1.99E-07
74	3.40	1.27E-12	0.	1.31E-11	2.08E-11	0.	0.	9.34E-09	1.24E-08	1.31E-07	3.84E-07	1.90E-07
75	3.30	9.84E-13	0.	1.42E-11	1.57E-11	0.	0.	9.35E-09	1.35E-08	1.46E-07	4.24E-07	2.20E-07
76	3.20	8.08E-13	0.	6.09E-11	2.67E-11	0.	0.	9.36E-09	1.46E-08	1.61E-07	4.71E-07	2.58E-07
77	3.10	7.39E-13	0.	6.21E-11	3.25E-11	0.	0.	9.37E-09	1.63E-08	1.77E-07	5.13E-07	2.83E-07
78	3.00	6.20E-13	0.	3.90E-11	1.14E-11	0.	0.	9.39E-09	1.80E-08	1.92E-07	5.56E-07	2.83E-07
79	2.90	4.88E-13	0.	2.90E-11	7.47E-11	0.	0.	9.40E-09	2.00E-08	2.08E-07	5.99E-07	3.01E-07
80	2.80	4.07E-13	0.	9.01E-12	2.83E-11	0.	0.	9.40E-09	2.22E-08	2.25E-07	6.45E-07	3.20E-07
81	2.70	2.60E-13	0.	4.49E-12	5.57E-11	0.	0.	9.40E-09	2.46E-08	2.43E-07	6.93E-07	3.46E-07
82	2.60	1.20E-13	0.	2.29E-12	5.20E-11	0.	0.	9.40E-09	2.70E-08	2.63E-07	7.49E-07	3.72E-07
83	2.50	8.02E-15	0.	2.07E-13	4.45E-11	0.	0.	9.40E-09	3.04E-08	2.82E-07	8.15E-07	4.00E-07
84	2.40	0.	0.	1.67E-11	0.	0.	0.	9.40E-09	3.54E-08	3.05E-07	8.94E-07	4.26E-07
85	2.30	0.	0.	7.23E-11	0.	0.	0.	9.40E-09	4.03E-08	3.24E-07	9.84E-07	4.62E-07
86	2.20	0.	0.	1.57E-11	0.	0.	0.	9.40E-09	4.61E-08	3.45E-07	1.08E-06	5.00E-07
87	2.10	0.	0.	3.74E-11	0.	0.	0.	9.40E-09	5.30E-08	3.68E-07	1.19E-06	5.40E-07
88	2.00	0.	0.	3.60E-11	0.	0.	0.	9.40E-09	6.15E-08	3.92E-07	1.32E-06	5.80E-07
89	1.90	0.	0.	6.69E-11	0.	0.	0.	9.40E-09	7.18E-08	4.19E-07	1.47E-06	6.20E-07
90	1.80	0.	0.	5.44E-11	0.	0.	0.	9.40E-09	8.46E-08	4.59E-07	1.64E-06	6.60E-07
91	1.70	0.	0.	6.59E-11	0.	0.	0.	9.40E-09	1.01E-07	5.05E-07	1.84E-06	7.10E-07
92	1.60	0.	0.	4.61E-11	0.	0.	0.	9.40E-09	1.21E-07	5.62E-07	2.07E-06	7.70E-07
93	1.50	0.	0.	5.65E-11	0.	0.	0.	9.40E-09	1.47E-07	6.35E-07	2.34E-06	8.40E-07
94	1.40	0.	0.	5.95E-11	0.	0.	0.	9.40E-09	1.81E-07	7.36E-07	2.65E-06	9.20E-07
95	1.30	0.	0.	4.40E-11	0.	0.	0.	9.40E-09	2.27E-07	8.71E-07	3.13E-06	1.07E-06
96	1.20	0.	0.	4.92E-11	0.	0.	0.	9.40E-09	2.90E-07	1.08E-06	3.70E-06	1.27E-06
97	1.10	0.	0.	3.70E-11	0.	0.	0.	9.40E-09	3.80E-07	1.45E-06	4.60E-06	1.59E-06
98	1.00	0.	0.	3.97E-11	0.	0.	0.	9.40E-09	5.05E-07	1.96E-06	5.90E-06	2.00E-06
99	0.90	0.	0.	2.79E-11	0.	0.	0.	9.40E-09	6.80E-07	2.70E-06	8.00E-06	2.60E-06
100	0.80	0.	0.	1.29E-11	0.	0.	0.	9.40E-09	9.40E-07	3.80E-06	1.10E-05	3.50E-06
101	0.70	0.	0.	3.37E-11	0.	0.	0.	9.40E-09	1.31E-06	5.30E-06	1.50E-05	4.80E-06
102	0.60	0.	0.	2.34E-12	0.	0.	0.	9.40E-09	2.00E-06	8.00E-06	2.20E-05	6.60E-06

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 3000. DENSITY (GM/CC) 1.2932-00 (1.6E-06 NORMAL)

PHOTON ENERGY BANDS E.V.	02 S-R CONT.	M2 0-M NO. 1	NO BETA	NO GAMMA	NO PHOTO-DET (IONS)	0-FREE-FREE P.E.	M P.E.	0 TOTAL AIR P.E.		
1 15.70 0.	0.	4.57E-11	0.	0.	0.	1.37E-10	2.16E-11	1.95E-00	4.74E-09	2.65E-00
2 16.66 0.	0.	3.95E-11	0.	0.	0.	1.37E-10	2.29E-11	1.97E-00	4.74E-09	2.65E-00
3 16.90 0.	0.	3.06E-11	0.	0.	0.	1.37E-10	2.31E-11	1.98E-00	4.74E-09	2.65E-00
4 10.40 0.	0.	2.46E-11	0.	0.	0.	1.37E-10	2.36E-11	1.98E-00	4.74E-09	2.65E-00
5 10.30 0.	0.	2.89E-11	0.	0.	0.	1.37E-10	2.52E-11	1.99E-00	4.73E-09	2.64E-00
6 10.20 0.	0.	2.83E-11	0.	0.	0.	1.36E-10	2.52E-11	1.99E-00	4.73E-09	2.64E-00
7 10.10 0.	0.	2.97E-11	0.	0.	0.	1.36E-10	2.60E-11	2.00E-00	4.72E-09	2.64E-00
8 10.00 0.	0.	2.09E-11	0.	0.	0.	1.36E-10	2.60E-11	2.00E-00	4.72E-09	2.64E-00
9 9.90 0.	0.	2.12E-11	0.	0.	0.	1.36E-10	2.76E-11	2.01E-00	4.71E-09	2.58E-00
10 9.80 0.	0.	1.88E-11	0.	0.	0.	1.36E-10	2.84E-11	2.01E-00	4.71E-09	2.58E-00
11 9.70 0.	0.	1.51E-11	0.	0.	0.	1.36E-10	2.93E-11	2.02E-00	4.71E-09	2.51E-00
12 9.60 0.	0.	1.62E-11	0.	0.	0.	1.36E-10	3.03E-11	2.02E-00	4.70E-09	2.51E-00
13 9.50 0.	1.79E-13	1.29E-11	0.	0.	0.	1.36E-10	3.12E-11	2.03E-00	4.70E-09	2.52E-00
14 9.40 0.	2.41E-13	1.19E-11	0.	0.	0.	1.40E-10	3.22E-11	2.03E-00	4.70E-09	2.52E-00
15 9.30 0.	3.03E-13	1.16E-11	0.	0.	0.	1.40E-10	3.32E-11	2.03E-00	4.69E-09	2.52E-00
16 9.20 0.	3.66E-13	0.78E-12	0.	0.	0.	1.41E-10	3.42E-11	2.03E-00	4.69E-09	2.52E-00
17 9.10 0.	4.30E-13	0.92E-12	0.	0.	0.	1.41E-10	3.52E-11	2.03E-00	4.68E-09	2.52E-00
18 9.00 0.	5.07E-13	7.61E-12	0.	0.	0.	1.42E-10	3.62E-11	2.03E-00	4.68E-09	2.52E-00
19 8.90 0.	5.78E-13	6.63E-12	0.	0.	0.	1.42E-10	3.72E-11	2.03E-00	4.67E-09	2.52E-00
20 8.80 0.	5.97E-13	6.34E-12	0.	0.	0.	1.43E-10	3.82E-11	2.03E-00	4.67E-09	2.52E-00
21 8.70 0.	5.78E-13	5.06E-12	0.	0.	0.	1.43E-10	3.92E-11	2.03E-00	4.67E-09	2.52E-00
22 8.60 0.	5.53E-13	3.15E-12	0.	0.	0.	1.44E-10	4.02E-11	2.03E-00	4.66E-09	2.52E-00
23 8.50 0.	5.40E-13	0.18E-12	0.	0.	0.	1.44E-10	4.12E-11	2.03E-00	4.66E-09	2.52E-00
24 8.40 0.	5.35E-13	0.93E-12	0.	0.	0.	1.45E-10	4.22E-11	2.03E-00	4.66E-09	2.52E-00
25 8.30 0.	5.30E-13	3.17E-12	0.	0.	0.	1.46E-10	4.32E-11	2.03E-00	4.66E-09	2.52E-00
26 8.20 0.	5.19E-13	3.12E-12	0.	0.	0.	1.47E-10	4.42E-11	2.03E-00	4.66E-09	2.52E-00
27 8.10 0.	5.04E-13	2.56E-12	0.	0.	0.	1.47E-10	4.52E-11	2.03E-00	4.66E-09	2.52E-00
28 8.00 0.	4.89E-13	2.44E-12	0.	0.	0.	1.48E-10	4.62E-11	2.03E-00	4.65E-09	2.52E-00
29 7.90 0.	4.79E-13	1.40E-12	0.	0.	0.	1.48E-10	4.72E-11	2.03E-00	4.65E-09	2.52E-00
30 7.80 0.	4.61E-13	1.96E-12	0.	0.	0.	1.49E-10	4.82E-11	2.03E-00	4.65E-09	2.52E-00
31 7.70 0.	4.43E-13	1.61E-12	0.	0.	0.	1.50E-10	4.92E-11	2.03E-00	4.65E-09	2.52E-00
32 7.60 0.	4.22E-13	1.46E-12	0.	0.	0.	1.51E-10	5.02E-11	2.03E-00	4.65E-09	2.52E-00
33 7.50 0.	4.01E-13	1.27E-12	0.	0.	0.	1.52E-10	5.12E-11	2.03E-00	4.65E-09	2.52E-00
34 7.40 0.	3.82E-13	1.09E-12	0.	0.	0.	1.53E-10	5.22E-11	2.03E-00	4.65E-09	2.52E-00
35 7.30 0.	3.64E-13	0.78E-12	0.	0.	0.	1.54E-10	5.32E-11	2.03E-00	4.65E-09	2.52E-00
36 7.20 0.	3.43E-13	0.34E-12	0.	0.	0.	1.54E-10	5.42E-11	2.03E-00	4.65E-09	2.52E-00
37 7.10 0.	3.22E-13	7.62E-13	0.	0.	0.	1.54E-10	5.52E-11	2.03E-00	4.65E-09	2.52E-00
38 7.00 0.	3.00E-13	0.	0.	0.	0.	1.54E-10	5.62E-11	2.03E-00	4.65E-09	2.52E-00
39 6.90 0.	2.77E-13	0.	0.	0.	0.	1.54E-10	5.72E-11	2.03E-00	4.65E-09	2.52E-00
40 6.80 0.	2.53E-13	0.	0.	0.	0.	1.54E-10	5.82E-11	2.03E-00	4.65E-09	2.52E-00
41 6.70 0.	2.30E-13	0.	0.	0.	0.	1.54E-10	5.92E-11	2.03E-00	4.65E-09	2.52E-00
42 6.60 0.	2.09E-13	0.	0.	0.	0.	1.54E-10	6.02E-11	2.03E-00	4.65E-09	2.52E-00
43 6.50 0.	1.92E-13	0.	0.	0.	0.	1.54E-10	6.12E-11	2.03E-00	4.65E-09	2.52E-00
44 6.40 0.	1.76E-13	0.	0.	0.	0.	1.54E-10	6.22E-11	2.03E-00	4.65E-09	2.52E-00
45 6.30 0.	1.60E-13	0.	0.	0.	0.	1.54E-10	6.32E-11	2.03E-00	4.65E-09	2.52E-00
46 6.20 0.	1.44E-13	0.	0.	0.	0.	1.54E-10	6.42E-11	2.03E-00	4.65E-09	2.52E-00
47 6.10 0.	1.29E-13	0.	0.	0.	0.	1.54E-10	6.52E-11	2.03E-00	4.65E-09	2.52E-00
48 6.00 0.	1.14E-13	0.	0.	0.	0.	1.54E-10	6.62E-11	2.03E-00	4.65E-09	2.52E-00
49 5.90 0.	1.00E-13	0.	0.	0.	0.	1.54E-10	6.72E-11	2.03E-00	4.65E-09	2.52E-00
50 5.80 0.	8.61E-14	0.	0.	0.	0.	1.54E-10	6.82E-11	2.03E-00	4.65E-09	2.52E-00
51 5.70 0.	7.47E-14	0.	0.	0.	0.	1.54E-10	6.92E-11	2.03E-00	4.65E-09	2.52E-00

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 10000. DENSITY (GM/CC) 1.293E-06 (10.0E-06 NORMAL)

PHOTON ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2 1ST NEG.	N2 2ND NEG.	RETA	GAMMA	NO VIB-ROT	NO 2	PHOTO-DET (IONS)	M FREE-FREE	M P.E.	O TOTAL AIR	
52	5.60	3.07E-14	0.	0.	9.52E-14	6.59E-13	0.	0.	1.66E-10	1.53E-10	5.89E-09	6.14E-09	1.24E-08
53	5.50	3.18E-14	0.	0.	1.17E-13	6.29E-13	0.	0.	1.47E-10	1.62E-10	5.98E-09	6.29E-09	1.25E-08
54	5.40	3.32E-14	0.	0.	9.99E-14	4.29E-13	0.	0.	1.47E-10	1.71E-10	6.08E-09	6.36E-09	1.26E-08
55	5.30	3.49E-14	0.	0.	1.02E-13	4.17E-13	0.	0.	1.48E-10	1.81E-10	6.18E-09	6.47E-09	1.30E-08
56	5.20	2.27E-14	0.	0.	1.06E-13	3.64E-13	0.	0.	1.49E-10	1.92E-10	6.28E-09	6.52E-09	1.32E-08
57	5.10	2.11E-14	0.	0.	1.08E-13	4.97E-13	0.	0.	1.51E-10	2.03E-10	6.38E-09	6.77E-09	1.36E-08
58	5.00	1.95E-14	0.	0.	1.11E-13	4.33E-13	0.	0.	1.52E-10	2.16E-10	6.52E-09	6.92E-09	1.39E-08
59	4.90	1.80E-14	0.	0.	9.80E-14	4.36E-13	0.	0.	1.53E-10	2.29E-10	6.61E-09	7.07E-09	1.43E-08
60	4.80	1.66E-14	0.	0.	1.03E-13	4.00E-13	0.	0.	1.54E-10	2.44E-10	6.70E-09	7.23E-09	1.46E-08
61	4.70	1.59E-14	0.	0.	9.83E-14	3.41E-13	0.	0.	1.56E-10	2.60E-10	6.78E-09	7.40E-09	1.50E-08
62	4.60	1.64E-14	0.	0.	9.81E-14	3.17E-13	0.	0.	1.57E-10	2.77E-10	7.10E-09	7.59E-09	1.54E-08
63	4.50	1.64E-14	0.	0.	8.59E-14	2.27E-13	0.	0.	1.58E-10	2.96E-10	7.69E-09	7.77E-09	1.58E-08
64	4.40	1.65E-14	0.	0.	8.29E-14	1.66E-13	0.	0.	1.60E-10	3.17E-10	7.96E-09	7.95E-09	1.64E-08
65	4.30	1.48E-14	0.	0.	7.51E-14	9.47E-14	0.	0.	1.61E-10	3.40E-10	8.29E-09	8.12E-09	1.69E-08
66	4.20	1.33E-14	0.	0.	7.77E-14	7.47E-14	0.	0.	1.62E-10	3.65E-10	8.55E-09	1.35E-09	1.64E-08
67	4.10	1.20E-14	0.	0.	7.19E-14	1.93E-14	0.	0.	1.63E-10	3.93E-10	7.98E-09	1.40E-09	9.03E-09
68	4.00	1.06E-14	0.	0.	1.80E-12	6.67E-14	1.48E-14	0.	1.63E-10	4.23E-10	5.45E-09	1.44E-09	7.48E-09
69	3.90	8.48E-15	0.	0.	5.24E-13	1.09E-11	6.73E-14	6.33E-15	1.63E-10	4.57E-10	5.64E-09	1.48E-09	7.75E-09
70	3.80	9.07E-15	0.	0.	7.45E-13	7.65E-11	6.95E-14	0.	1.62E-10	4.94E-10	5.82E-09	1.53E-09	8.08E-09
71	3.70	7.48E-15	0.	0.	9.57E-13	1.79E-11	4.68E-14	0.	1.60E-10	5.35E-10	5.13E-09	1.72E-09	7.58E-09
72	3.60	6.48E-15	0.	0.	9.84E-13	1.14E-10	5.19E-14	0.	1.69E-10	5.81E-10	5.64E-09	1.94E-09	8.42E-09
73	3.50	5.78E-15	0.	0.	7.77E-13	3.42E-10	3.68E-14	0.	1.57E-10	6.33E-10	6.36E-09	2.17E-09	9.69E-09
74	3.40	4.90E-15	0.	0.	3.94E-13	2.65E-11	4.05E-14	0.	7.89E-11	6.91E-10	7.17E-09	2.42E-09	1.10E-08
75	3.30	3.84E-15	0.	0.	4.24E-13	1.45E-10	2.99E-14	0.	7.90E-11	7.56E-10	7.90E-09	2.67E-09	1.16E-08
76	3.20	3.15E-15	0.	0.	2.41E-13	3.62E-10	3.04E-14	0.	7.91E-11	8.29E-10	8.42E-09	2.94E-09	1.38E-08
77	3.10	2.86E-15	0.	0.	1.89E-13	4.10E-11	2.74E-14	0.	7.93E-11	9.13E-10	9.66E-09	3.21E-09	1.57E-08
78	3.00	2.42E-15	0.	0.	1.84E-13	1.44E-10	2.40E-14	0.	7.95E-11	1.01E-09	1.05E-08	3.47E-09	1.52E-08
79	2.90	1.90E-15	0.	0.	6.22E-14	9.43E-11	1.64E-14	9.	7.96E-11	1.12E-09	1.14E-08	3.74E-09	1.64E-08
80	2.80	1.70E-15	0.	0.	2.92E-14	3.56E-11	1.01E-14	0.	7.96E-11	1.24E-09	1.23E-08	4.03E-09	1.77E-08
81	2.70	1.11E-15	0.	0.	1.34E-14	7.03E-11	4.89E-15	0.	7.98E-11	1.39E-09	1.33E-08	4.43E-09	1.93E-08
82	2.60	4.67E-16	0.	0.	6.85E-15	6.58E-12	1.92E-15	0.	7.98E-11	1.55E-09	6.83E-08	1.56E-09	1.68E-08
83	2.50	3.12E-17	0.	0.	8.97E-16	5.10E-12	4.28E-16	0.	7.98E-11	1.75E-09	8.12E-09	1.79E-09	1.17E-08
84	2.40	0.	0.	0.	4.97E-14	0.	0.	0.	7.98E-11	1.99E-09	1.01E-08	2.21E-09	1.44E-08
85	2.30	0.	0.	0.	2.14E-13	0.	0.	0.	7.98E-11	2.25E-09	1.22E-08	2.65E-09	1.77E-08
86	2.20	0.	0.	0.	6.57E-13	0.	0.	0.	7.98E-11	2.56E-09	1.45E-08	3.19E-09	2.08E-08
87	2.10	0.	0.	0.	6.41E-13	0.	0.	0.	7.95E-11	2.94E-09	1.68E-08	3.74E-09	2.36E-08
88	2.00	0.	0.	0.	1.97E-12	0.	0.	0.	7.95E-11	3.44E-09	1.92E-08	4.40E-09	2.70E-08
89	1.90	0.	0.	0.	1.89E-12	0.	0.	0.	7.91E-11	4.01E-09	2.17E-08	5.16E-09	3.07E-08
90	1.80	0.	0.	0.	1.87E-12	0.	0.	0.	7.91E-11	4.73E-09	2.50E-08	5.98E-09	3.42E-08
91	1.70	0.	0.	0.	1.94E-12	0.	0.	0.	6.99E-11	5.62E-09	3.03E-08	6.94E-09	4.30E-08
92	1.60	0.	0.	0.	1.37E-12	0.	0.	0.	5.97E-11	6.74E-07	3.17E-08	7.96E-09	4.61E-08
93	1.50	0.	0.	0.	1.49E-12	0.	0.	0.	2.53E-11	8.22E-09	4.42E-08	9.06E-09	5.74E-08
94	1.40	0.	0.	0.	1.77E-12	0.	0.	0.	0.	1.01E-08	3.12E-08	7.80E-09	6.84E-08
95	1.30	0.	0.	0.	1.31E-12	0.	0.	0.	0.	1.87E-08	4.45E-08	1.01E-08	6.73E-08
96	1.20	0.	0.	0.	1.37E-12	0.	0.	0.	0.	1.02E-08	5.99E-08	1.20E-08	8.01E-08
97	1.10	0.	0.	0.	1.10E-12	0.	0.	0.	0.	2.11E-08	7.20E-08	1.52E-08	1.00E-07
98	1.00	0.	0.	0.	1.02E-12	0.	0.	0.	0.	3.02E-08	8.72E-08	1.95E-08	1.34E-07
99	0.90	0.	0.	0.	8.97E-13	0.	0.	0.	0.	3.88E-08	8.88E-08	2.43E-08	1.68E-07
100	0.80	0.	0.	0.	3.86E-13	0.	0.	0.	0.	5.39E-08	9.88E-08	2.85E-08	1.88E-07
101	0.70	0.	0.	0.	1.01E-13	0.	0.	0.	0.	8.45E-16	1.01E-07	2.00E-08	2.09E-07
102	0.60	0.	0.	0.	7.84E-15	0.	0.	0.	0.	1.35E-07	1.13E-07	2.26E-08	2.71E-07

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) : 9000. DENSITY (GM/CC) 1.293E-09 (10.0E-07 NORMAL)

PHOTON ENERGY E.V.	O2 S-R BANDS	CONT.	H2 O-M NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-BET (10MS)	0- FREE-EEEE	M P.E.	TOTAL AIR P.E.	
1 10.70 0.	9.		2.98E-14	0.	0.	0.	5.85E-13	5.33E-13	4.64E-10	1.30E-10	5.95E-10
2 10.60 0.	0.		2.28E-14	0.	0.	0.	5.05E-13	4.49E-13	4.07E-10	1.20E-10	5.00E-10
3 10.50 0.	0.		2.17E-14	0.	0.	0.	5.04E-13	4.48E-13	4.06E-10	1.20E-10	5.00E-10
4 10.40 0.	0.		1.99E-14	0.	0.	0.	5.07E-13	4.51E-13	4.12E-10	1.20E-10	5.00E-10
5 10.30 0.	0.		1.61E-14	0.	0.	0.	5.00E-13	4.50E-13	4.27E-10	1.20E-10	5.00E-10
6 10.20 0.	0.		1.40E-14	0.	0.	0.	5.08E-13	4.15E-13	4.73E-10	1.20E-10	5.00E-10
7 10.10 0.	0.		1.48E-14	0.	0.	0.	5.08E-13	4.35E-13	4.75E-10	1.20E-10	5.00E-10
8 10.00 0.	0.		1.10E-14	0.	0.	0.	5.08E-13	4.54E-13	4.75E-10	1.20E-10	5.00E-10
9 9.90 0.	0.		1.10E-14	0.	0.	0.	5.01E-13	4.74E-13	4.77E-10	1.20E-10	5.00E-10
10 9.80 0.	0.		1.06E-14	0.	0.	0.	5.02E-13	4.93E-13	4.78E-10	1.20E-10	5.00E-10
11 9.70 0.	0.		0.93E-14	0.	0.	0.	5.03E-13	5.12E-13	4.79E-10	1.20E-10	5.00E-10
12 9.60 0.	0.		9.15E-15	0.	0.	0.	5.04E-13	5.31E-13	4.81E-10	1.20E-10	5.00E-10
13 9.50 0.	0.		1.13E-14	0.	0.	0.	5.05E-13	5.50E-13	4.82E-10	1.20E-10	5.00E-10
14 9.40 0.	0.		1.00E-14	0.	0.	0.	5.06E-13	5.69E-13	4.83E-10	1.20E-10	5.00E-10
15 9.30 0.	0.		2.20E-16	6.54E-13	0.	0.	6.00E-13	6.14E-13	1.33E-10	1.20E-10	2.64E-10
16 9.20 0.	0.		2.72E-16	4.92E-13	0.	0.	6.02E-13	6.41E-13	1.34E-10	1.20E-10	2.64E-10
17 9.10 0.	0.		3.24E-16	5.03E-13	0.	0.	6.04E-13	6.69E-13	1.34E-10	1.20E-10	2.63E-10
18 9.00 0.	0.		3.77E-16	4.29E-13	0.	0.	6.06E-13	6.98E-13	1.33E-10	1.20E-10	2.63E-10
19 8.90 0.	0.		4.30E-16	3.74E-13	0.	0.	6.07E-13	7.27E-13	1.33E-10	1.20E-10	2.62E-10
20 8.80 0.	0.		4.82E-16	3.50E-13	0.	0.	6.11E-13	7.56E-13	1.33E-10	1.20E-10	2.62E-10
21 8.70 0.	0.		4.82E-16	2.87E-13	0.	0.	6.13E-13	7.85E-13	1.33E-10	1.20E-10	2.62E-10
22 8.60 0.	0.		4.12E-16	2.90E-13	0.	0.	6.15E-13	8.14E-13	1.32E-10	1.20E-10	2.61E-10
23 8.50 0.	0.		4.02E-16	2.39E-13	0.	0.	6.17E-13	8.43E-13	1.32E-10	1.20E-10	2.61E-10
24 8.40 0.	0.		3.99E-16	2.27E-13	0.	0.	6.20E-13	8.72E-13	1.32E-10	1.20E-10	2.61E-10
25 8.30 0.	0.		3.95E-16	1.70E-13	0.	0.	6.22E-13	9.01E-13	1.32E-10	1.20E-10	2.61E-10
26 8.20 0.	0.		3.94E-16	1.41E-13	0.	0.	6.27E-13	9.30E-13	1.31E-10	1.20E-10	2.62E-10
27 8.10 0.	0.		3.75E-16	1.41E-13	0.	0.	6.30E-13	9.59E-13	1.31E-10	1.20E-10	2.63E-10
28 8.00 0.	0.		3.64E-16	1.30E-13	0.	0.	6.33E-13	9.88E-13	1.31E-10	1.20E-10	2.64E-10
29 7.90 0.	0.		3.54E-16	1.11E-13	0.	0.	6.36E-13	1.017E-12	1.31E-10	1.20E-10	2.65E-10
30 7.80 0.	0.		3.43E-16	9.10E-14	0.	0.	6.40E-13	1.046E-12	1.31E-10	1.20E-10	2.66E-10
31 7.70 0.	0.		3.30E-16	9.10E-14	0.	0.	6.43E-13	1.075E-12	1.31E-10	1.20E-10	2.67E-10
32 7.60 0.	0.		3.14E-16	8.24E-14	0.	0.	6.46E-13	1.104E-12	1.30E-10	1.20E-10	2.68E-10
33 7.50 0.	0.		2.99E-16	7.10E-14	0.	0.	6.49E-13	1.133E-12	1.30E-10	1.20E-10	2.69E-10
34 7.40 0.	0.		2.84E-16	6.19E-14	0.	0.	6.52E-13	1.162E-12	1.30E-10	1.20E-10	2.70E-10
35 7.30 0.	0.		2.71E-16	5.51E-14	0.	0.	6.57E-13	1.191E-12	1.30E-10	1.20E-10	2.71E-10
36 7.20 0.	0.		2.54E-16	4.70E-14	0.	0.	6.60E-13	1.220E-12	1.30E-10	1.20E-10	2.72E-10
37 7.10 0.	0.		2.40E-16	4.30E-14	0.	0.	6.65E-13	1.249E-12	1.30E-10	1.20E-10	2.73E-10
38 7.00 2.07E-19	0.		3.72E-16	0.	0.	0.	6.71E-13	1.278E-12	1.30E-10	1.20E-10	2.74E-10
39 6.90 3.91E-19	0.		3.24E-16	0.	0.	0.	6.77E-13	1.307E-12	1.30E-10	1.20E-10	2.75E-10
40 6.80 3.25E-19	0.		2.97E-16	0.	0.	0.	6.82E-13	1.336E-12	1.30E-10	1.20E-10	2.76E-10
41 6.70 2.20E-19	0.		2.42E-16	0.	0.	0.	6.87E-13	1.365E-12	1.30E-10	1.20E-10	2.77E-10
42 6.60 1.34E-19	0.		2.04E-16	0.	0.	0.	6.93E-13	1.394E-12	1.30E-10	1.20E-10	2.78E-10
43 6.50 7.42E-20	0.		1.91E-16	0.	0.	0.	6.98E-13	1.423E-12	1.30E-10	1.20E-10	2.79E-10
44 6.40 1.02E-19	0.		9.48E-17	2.88E-18	5.67E-16	0.	7.04E-13	1.452E-12	1.31E-10	1.40E-10	2.81E-10
45 6.30 2.11E-19	0.		5.24E-17	1.29E-17	2.07E-16	0.	7.09E-13	1.481E-12	1.31E-10	1.40E-10	2.82E-10
46 6.20 6.25E-19	0.		2.92E-17	1.67E-17	4.41E-16	0.	7.14E-13	1.510E-12	1.32E-10	1.50E-10	2.84E-10
47 6.10 2.49E-18	0.		1.12E-17	4.58E-17	6.73E-16	0.	7.20E-13	1.539E-12	1.32E-10	1.50E-10	2.85E-10
48 6.00 6.50E-18	0.		2.67E-18	3.92E-17	2.52E-16	0.	7.25E-13	1.568E-12	1.33E-10	1.50E-10	2.90E-10
49 5.90 1.05E-17	0.		1.90E-19	5.58E-17	1.61E-16	0.	7.29E-13	1.597E-12	1.33E-10	1.61E-10	3.01E-10
50 5.80 1.58E-17	0.		4.67E-21	7.40E-17	2.54E-16	0.	7.34E-13	1.626E-12	1.33E-10	1.61E-10	3.05E-10
51 5.70 1.85E-17	0.		0.	8.14E-17	2.73E-16	0.	7.39E-13	1.655E-12	1.33E-10	1.66E-10	3.08E-10



TEMPERATURE (DEGREES K) 11000. DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)

PHOTON O2 S-R ENERGY BANDS E.V.	O2 S-R CONT.	M2 B-W NO. 1	NO BETA	NO GAMMA	NO 2	PHOTO-DCT (IONS)	O- FREE-FREE N P.E.	O TOTAL AIR P.F.		
1 10.70 0.	0.	2.39E 01	0.	0.	0.	0.74E-01	3.10E-04	5.00E 01	2.50E-02	7.65E 01
2 10.60 0.	0.	2.24E 01	0.	0.	0.	0.74E-01	3.10E-04	7.32E-02	2.50E-02	2.32E 01
3 10.50 0.	0.	2.21E 01	0.	0.	0.	0.74E-01	3.10E-04	7.30E-02	2.50E-02	2.70E 01
4 10.40 0.	0.	2.01E 01	0.	0.	0.	0.74E-01	3.10E-04	7.30E-02	2.49E-02	2.89E 01
5 10.30 0.	0.	1.97E 01	0.	0.	0.	0.77E-01	3.47E-04	7.41E-02	2.49E-02	1.75E 01
6 10.20 0.	0.	1.88E 01	0.	0.	0.	0.74E-01	3.10E-04	7.43E-02	2.48E-02	1.74E 01
7 10.10 0.	0.	1.73E 01	0.	0.	0.	0.79E-01	3.66E-04	7.44E-02	2.48E-02	1.61E 01
8 10.00 0.	0.	1.27E 01	0.	0.	0.	0.81E-01	3.91E-04	7.48E-02	2.47E-02	1.36E 01
9 9.90 0.	0.	1.16E 01	0.	0.	0.	0.80E-01	4.83E-04	7.58E-02	2.47E-02	1.24E 01
10 9.80 0.	0.	9.48E 00	0.	0.	0.	0.84E-01	4.16E-04	7.52E-02	2.47E-02	1.02E 01
11 9.70 0.	0.	1.02E 01	0.	0.	0.	0.89E-01	4.29E-04	7.54E-02	2.46E-02	1.89E 01
12 9.60 0.	0.	8.18E 00	0.	0.	0.	0.86E-01	4.43E-04	7.54E-02	2.46E-02	8.94E 00
13 9.50 0.	0.	7.40E 00	0.	0.	0.	0.89E-01	4.57E-04	7.58E-02	2.46E-02	8.19E 00
14 9.40 0.	0.	7.49E 00	0.	0.	0.	0.91E-01	4.72E-04	7.68E-02	2.45E-02	8.20E 00
15 9.30 0.	0.	5.75E 00	0.	0.	0.	0.94E-01	4.88E-04	7.62E-02	2.45E-02	6.55E 00
16 9.20 0.	0.	5.80E 00	0.	0.	0.	0.94E-01	5.84E-04	7.18E-02	2.45E-02	6.42E 00
17 9.10 0.	0.	5.09E 00	0.	0.	0.	0.99E-01	5.21E-04	7.10E-02	2.44E-02	5.84E 00
18 9.00 0.	0.	4.90E 00	0.	0.	0.	7.01E-01	5.37E-04	7.17E-02	2.44E-02	5.24E 00
19 8.90 0.	0.	4.32E 00	0.	0.	0.	7.04E-01	5.54E-04	7.17E-02	2.44E-02	5.07E 00
20 8.80 0.	0.	3.52E 00	0.	0.	0.	7.08E-01	5.78E-04	7.16E-02	2.43E-02	4.27E 00
21 8.70 0.	0.	3.58E 00	0.	0.	0.	7.09E-01	5.98E-04	7.16E-02	2.43E-02	4.33E 00
22 8.60 0.	0.	2.95E 00	0.	0.	0.	7.11E-01	6.20E-04	7.16E-02	2.43E-02	3.78E 00
23 8.50 0.	0.	2.86E 00	0.	0.	0.	7.15E-01	6.42E-04	7.16E-02	2.42E-02	3.63E 00
24 8.40 0.	0.	2.29E 00	0.	0.	0.	7.19E-01	6.64E-04	7.16E-02	2.43E-02	3.05E 00
25 8.30 0.	0.	2.27E 00	0.	0.	0.	7.22E-01	6.91E-04	7.16E-02	2.44E-02	3.04E 00
26 8.20 0.	0.	1.87E 00	0.	0.	0.	7.25E-01	7.17E-04	7.15E-02	2.46E-02	2.62E 00
27 8.10 0.	0.	1.81E 00	0.	0.	0.	7.30E-01	7.44E-04	7.15E-02	2.46E-02	2.49E 00
28 8.00 0.	0.	1.48E 00	0.	0.	0.	7.33E-01	7.73E-04	7.15E-02	2.50E-02	2.20E 00
29 7.90 0.	0.	1.49E 00	0.	0.	0.	7.37E-01	8.03E-04	7.15E-02	2.51E-02	2.20E 00
30 7.80 0.	0.	1.24E 00	0.	0.	0.	7.41E-01	8.34E-04	7.15E-02	2.53E-02	2.03E 00
31 7.70 0.	0.	1.14E 00	0.	0.	0.	7.45E-01	8.64E-04	7.16E-02	2.55E-02	1.93E 00
32 7.60 0.	0.	1.06E 00	0.	1.97E-04	0.	7.49E-01	8.95E-04	7.16E-02	2.57E-02	1.80E 00
33 7.50 0.	0.	0.87E-01	0.	5.15E-04	0.	7.53E-01	9.26E-04	7.16E-02	2.58E-02	1.67E 00
34 7.40 0.	0.	0.77E-01	0.	2.87E-03	0.	7.57E-01	9.58E-04	7.16E-02	2.60E-02	1.61E 00
35 7.30 0.	0.	6.51E-01	0.	3.45E-02	0.	7.61E-01	1.02E-03	7.16E-02	2.62E-02	1.53E 00
36 7.20 0.	0.	6.28E-01	0.	3.75E-02	0.	7.67E-01	1.06E-03	7.16E-02	2.64E-02	1.55E 00
37 7.10 0.	0.	5.51E-01	0.	2.62E-01	0.	7.73E-01	1.11E-03	7.17E-02	2.65E-02	1.64E 00
38 7.00 0.	0.	4.95E-01	0.	2.75E-01	0.	7.80E-01	1.16E-03	7.17E-02	2.67E-02	1.59E 00
39 6.90 0.	0.	4.95E-01	0.	5.75E-01	0.	7.86E-01	1.21E-03	7.17E-02	2.69E-02	1.45E 00
40 6.80 0.	0.	3.72E-01	0.	6.72E-01	0.	7.92E-01	1.27E-03	7.17E-02	2.71E-02	1.49E 00
41 6.70 0.	0.	3.18E-01	0.	7.45E-01	0.	7.98E-01	1.33E-03	7.18E-02	2.73E-02	1.59E 00
42 6.60 0.	0.	2.99E-01	0.	7.45E-01	0.	8.05E-01	1.39E-03	7.19E-02	2.75E-02	1.44E 00
43 6.50 0.	0.	1.52E-01	3.98E-03	6.29E-01	0.	8.11E-01	1.45E-03	7.20E-02	2.77E-02	1.45E 00
44 6.40 0.	0.	6.88E-02	4.51E-01	0.	0.	8.17E-01	1.53E-03	7.21E-02	2.80E-02	1.42E 00
45 6.30 0.	0.	4.35E-02	6.80E-01	0.	0.	8.23E-01	1.60E-03	7.23E-02	2.82E-02	1.42E 00
46 6.20 0.	0.	1.93E-02	6.95E-01	0.	0.	8.30E-01	1.68E-03	7.25E-02	2.85E-02	1.67E 00
47 6.10 0.	0.	5.76E-02	3.97E-01	0.	0.	8.36E-01	1.77E-03	7.27E-02	2.89E-02	1.46E 00
48 6.00 0.	0.	3.33E-04	4.12E-01	0.	0.	8.38E-01	1.86E-03	7.29E-02	2.93E-02	1.41E 00
49 5.90 0.	0.	9.24E-06	3.97E-01	0.	0.	8.23E-01	1.96E-03	7.32E-02	3.02E-02	1.63E 00
50 5.80 0.	0.	1.23E-01	4.30E-01	0.	0.	7.73E-01	2.06E-03	7.34E-02	3.07E-02	1.42E 00

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	TEMPERATURE (DEGREES K)		NO. 2	NO. 1ST NEG.	NO. BETA	NO. GAMMA	MG. VIB-RPT	MG. NO. 2	D- PHOTO-DET (IONS)	FREE-FREE P.E.	N	P.F.	TOTAL AIR
	M2	M1											
52 5.60 5.58E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
53 5.50 5.75E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
54 5.40 6.08E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
55 5.30 5.87E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
56 5.20 4.25E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
57 5.10 3.94E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
58 5.00 2.95E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
59 4.90 2.47E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
60 4.80 2.46E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
61 4.70 2.67E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
62 4.60 3.14E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
63 4.50 3.19E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
64 4.40 3.24E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
65 4.30 2.96E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
66 4.20 2.68E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
67 4.10 2.43E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
68 4.00 2.17E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
69 3.90 1.76E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
70 3.80 1.85E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
71 3.70 1.55E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
72 3.60 1.38E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
73 3.50 1.24E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
74 3.40 1.09E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
75 3.30 1.04E-02 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
76 3.20 7.03E-03 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
77 3.10 6.47E-03 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
78 3.00 5.53E-03 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
79 2.90 4.44E-03 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
80 2.80 4.44E-03 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
81 2.70 2.68E-03 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
82 2.60 1.14E-03 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
83 2.50 7.74E-05 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
84 2.40 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
85 2.30 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
86 2.20 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
87 2.10 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
88 2.00 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
89 1.90 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
90 1.80 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
91 1.70 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
92 1.60 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
93 1.50 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
94 1.40 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
95 1.30 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
96 1.20 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
97 1.10 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
98 1.00 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
99 0.90 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
100 0.80 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
101 0.70 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
102 0.60 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 31000. DENSITY (GM/CC) 1.293E-03 (10.0E-01 NORMAL)

PHOTON ENERGY BANDS E.v.	02 S-R CONT.	N2 0-H NO. 1	NO BETA	NO GAMMA	NO 2	D- PHOTO-DET (TOMS)	M FREE-FREE P.F.	M P.F.	D TOTAL AIR P.F.		
1 10.70 0.	0.	7.61E-01	0.	0.	0.	2.13E-02	2.56E-05	0.66E-00	2.69E-03	9.36E-00	
2 10.60 0.	0.	6.93E-01	0.	0.	0.	2.13E-02	2.64E-05	1.26E-02	2.69E-03	6.99E-01	
3 10.50 0.	0.	6.52E-01	0.	0.	0.	2.14E-02	2.71E-05	1.26E-02	2.68E-03	6.88E-01	
4 10.40 0.	0.	5.93E-01	0.	0.	0.	2.14E-02	2.87E-05	1.27E-02	2.68E-03	6.58E-01	
5 10.30 0.	0.	4.94E-01	0.	0.	0.	2.14E-02	2.80E-05	1.27E-02	2.67E-03	5.31E-01	
6 10.20 0.	0.	4.96E-01	0.	0.	0.	2.15E-02	2.69E-05	1.28E-02	2.67E-03	3.32E-01	
7 10.10 0.	0.	4.93E-01	0.	0.	0.	2.15E-02	3.05E-05	1.28E-02	2.67E-03	4.98E-01	
8 10.00 0.	0.	3.79E-01	0.	0.	0.	2.16E-02	3.14E-05	1.29E-02	2.66E-03	4.12E-01	
9 9.90 0.	0.	3.80E-01	0.	0.	0.	2.16E-02	3.24E-05	1.29E-02	2.66E-03	4.17E-01	
10 9.80 0.	0.	3.42E-01	0.	0.	0.	2.16E-02	3.34E-05	1.29E-02	2.65E-03	3.79E-01	
11 9.70 0.	0.	2.76E-01	0.	0.	0.	2.16E-02	3.45E-05	1.29E-02	2.65E-03	3.19E-01	
12 9.60 0.	0.	3.00E-01	0.	0.	0.	2.17E-02	3.56E-05	1.30E-02	2.65E-03	3.37E-01	
13 9.50 0.	0.	2.41E-01	0.	0.	0.	2.17E-02	3.67E-05	1.30E-02	2.64E-03	2.79E-01	
14 9.40 0.	0.	2.19E-01	0.	0.	0.	2.18E-02	3.79E-05	1.30E-02	2.64E-03	2.56E-01	
15 9.30 0.	0.	2.21E-01	0.	0.	0.	2.19E-02	3.91E-05	1.31E-02	2.63E-03	2.59E-01	
16 9.20 0.	0.	1.76E-01	0.	0.	0.	2.20E-02	4.04E-05	1.31E-02	2.63E-03	2.08E-01	
17 9.10 0.	0.	1.76E-01	0.	0.	0.	2.20E-02	4.18E-05	1.31E-02	2.63E-03	2.08E-01	
18 9.00 0.	0.	1.50E-01	0.	0.	0.	2.21E-02	4.32E-05	1.31E-02	2.62E-03	1.92E-01	
19 8.90 0.	0.	1.34E-01	0.	0.	0.	2.22E-02	4.47E-05	1.31E-02	2.62E-03	1.61E-01	
20 8.80 0.	0.	1.28E-01	0.	0.	0.	2.23E-02	4.62E-05	1.31E-02	2.62E-03	1.56E-01	
21 8.70 0.	0.	1.04E-01	0.	0.	0.	2.24E-02	4.95E-05	1.31E-02	2.61E-03	1.33E-01	
22 8.60 0.	0.	1.06E-01	0.	0.	0.	2.24E-02	4.95E-05	1.31E-02	2.61E-03	1.34E-01	
23 8.50 0.	0.	8.70E-02	0.	0.	0.	2.25E-02	5.13E-05	1.31E-02	2.61E-03	1.16E-01	
24 8.40 0.	0.	8.46E-02	0.	0.	0.	2.24E-02	5.32E-05	1.31E-02	2.60E-03	1.14E-01	
25 8.30 0.	0.	6.76E-02	0.	0.	0.	2.27E-02	5.51E-05	1.31E-02	2.61E-03	9.67E-02	
26 8.20 0.	0.	6.69E-02	0.	0.	0.	2.26E-02	5.72E-05	1.31E-02	2.62E-03	9.62E-02	
27 8.10 0.	0.	5.46E-02	0.	0.	0.	2.30E-02	5.94E-05	1.31E-02	2.64E-03	8.48E-02	
28 8.00 0.	0.	5.36E-02	0.	0.	0.	2.31E-02	6.16E-05	1.31E-02	2.66E-03	8.31E-02	
29 7.90 0.	0.	4.37E-02	0.	0.	0.	2.32E-02	6.40E-05	1.31E-02	2.68E-03	7.39E-02	
30 7.80 0.	0.	4.41E-02	0.	0.	0.	2.33E-02	6.65E-05	1.31E-02	2.70E-03	7.39E-02	
31 7.70 0.	0.	3.67E-02	0.	0.	0.	2.35E-02	6.91E-05	1.31E-02	2.72E-03	6.7E-02	
32 7.60 0.	0.	3.58E-02	0.	1.99E-06	0.	2.36E-02	7.19E-05	1.31E-02	2.74E-03	6.37E-02	
33 7.50 0.	0.	2.96E-02	0.	9.43E-06	0.	2.37E-02	7.48E-05	1.31E-02	2.76E-03	5.99E-02	
34 7.40 0.	0.	2.56E-02	0.	5.30E-05	0.	2.38E-02	7.79E-05	1.31E-02	2.78E-03	5.61E-02	
35 7.30 0.	0.	2.33E-02	0.	2.59E-04	0.	2.40E-02	8.12E-05	1.31E-02	2.80E-03	5.41E-02	
36 7.20 0.	0.	2.01E-02	0.	4.87E-04	0.	2.41E-02	8.46E-05	1.31E-02	2.81E-03	5.15E-02	
37 7.10 0.	0.	1.86E-02	0.	1.89E-03	0.	2.43E-02	8.82E-05	1.31E-02	2.82E-03	5.14E-02	
38 7.00 0.	0.	1.63E-02	0.	4.85E-03	0.	2.45E-02	9.21E-05	1.31E-02	2.83E-03	5.35E-02	
39 6.90 0.	0.	1.43E-02	0.	1.15E-03	0.	2.47E-02	9.61E-05	1.31E-02	2.84E-03	5.08E-02	
40 6.80 0.	0.	1.31E-02	0.	1.04E-02	0.	2.49E-02	1.00E-04	1.31E-02	2.85E-03	5.03E-02	
41 6.70 0.	0.	1.18E-02	0.	7.80E-03	0.	2.51E-02	1.05E-04	1.31E-02	2.91E-03	5.52E-02	
42 6.60 0.	0.	9.38E-03	0.	7.80E-03	0.	2.53E-02	1.10E-04	1.31E-02	2.93E-03	4.93E-02	
43 6.50 0.	0.	7.05E-03	0.	7.05E-03	0.	2.55E-02	1.15E-04	1.31E-02	2.96E-03	5.31E-02	
44 6.40 0.	0.	4.46E-03	0.	7.35E-05	0.	2.57E-02	1.20E-04	1.31E-02	2.98E-03	5.24E-02	
45 6.30 0.	0.	2.56E-03	0.	3.26E-04	0.	2.59E-02	1.26E-04	1.31E-02	3.00E-03	4.98E-02	
46 6.20 0.	0.	1.31E-03	0.	4.40E-04	0.	2.61E-02	1.33E-04	1.31E-02	3.06E-03	4.74E-02	
47 6.10 0.	0.	1.21E-03	0.	1.83E-02	0.	2.63E-02	1.39E-04	1.31E-02	3.06E-03	3.10E-03	5.36E-02
48 6.00 0.	0.	1.30E-04	0.	1.06E-03	0.	2.65E-02	1.46E-04	1.31E-02	3.15E-03	4.24E-02	
49 5.90 0.	0.	9.83E-04	0.	1.52E-03	0.	2.65E-02	1.54E-04	1.31E-02	3.15E-03	4.32E-02	
50 5.80 0.	0.	2.43E-07	0.	2.04E-03	0.	2.61E-02	1.62E-04	1.31E-02	3.15E-03	4.32E-02	
51 5.70 0.	0.	5.08E-04	0.	2.27E-03	0.	2.45E-02	1.71E-04	1.31E-02	4.03E-03	3.39E-03	4.37E-02

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON Q2 S-M ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2+ 1ST NEG.	NO BETA	NO GAMMA	NO VIB-ROT	NO 2	D- PHOTO-DET (IONS)	FREE-FREE P.E.	M P.E.	D P.E.	TOTAL AIR
52	5.60	6.35E-04	0	1.77E-03	1.19E-02	0	0	2.28E-02	1.80E-04	4.07E-03	3.34E-03	4.47E-02
53	5.50	6.52E-04	0	2.16E-03	1.13E-02	0	0	2.29E-02	1.90E-04	4.14E-03	3.39E-03	4.46E-02
54	5.40	6.69E-04	0	1.84E-03	8.60E-03	0	0	2.30E-02	2.01E-04	4.22E-03	3.44E-03	4.44E-02
55	5.30	6.77E-04	0	1.92E-03	1.12E-02	0	0	2.31E-02	2.11E-04	4.30E-03	3.49E-03	4.42E-02
56	5.20	6.90E-04	0	2.01E-03	7.01E-03	0	0	2.32E-02	2.22E-04	4.38E-03	3.54E-03	4.40E-02
57	5.10	4.59E-04	0	1.97E-03	9.41E-03	0	0	2.33E-02	2.32E-04	4.46E-03	3.59E-03	4.38E-02
58	5.00	3.41E-04	0	1.75E-03	8.30E-03	0	0	2.34E-02	2.44E-04	4.52E-03	3.64E-03	4.36E-02
59	4.90	2.85E-04	0	1.90E-03	8.82E-03	0	0	2.35E-02	2.56E-04	4.58E-03	3.69E-03	4.34E-02
60	4.80	2.88E-04	0	2.00E-03	7.85E-03	0	0	2.36E-02	2.67E-04	4.64E-03	3.74E-03	4.32E-02
61	4.70	3.08E-04	0	1.93E-03	6.81E-03	0	0	2.37E-02	2.78E-04	4.70E-03	3.79E-03	4.30E-02
62	4.60	3.65E-04	0	1.94E-03	6.29E-03	0	0	2.38E-02	2.89E-04	4.76E-03	3.84E-03	4.28E-02
63	4.50	3.68E-04	0	1.70E-03	4.56E-03	0	0	2.47E-02	3.49E-04	5.11E-03	4.20E-03	4.20E-02
64	4.40	3.76E-04	0	1.67E-03	3.30E-03	0	0	2.49E-02	3.73E-04	5.32E-03	4.30E-03	4.29E-02
65	4.30	3.41E-04	0	1.52E-03	1.92E-03	0	0	2.51E-02	4.10E-04	5.83E-03	4.40E-03	4.38E-02
66	4.20	3.09E-04	0	1.58E-03	1.46E-03	0	0	2.53E-02	4.50E-04	6.08E-03	4.50E-03	4.37E-02
67	4.10	2.81E-04	0	1.48E-03	3.88E-04	0	0	2.54E-02	4.92E-04	6.28E-03	4.59E-03	4.36E-02
68	4.00	2.50E-04	0	1.39E-03	2.97E-04	0	0	2.55E-02	5.36E-04	6.50E-03	4.66E-03	4.35E-02
69	3.90	2.03E-04	0	1.51E-02	7.4E-04	0	0	2.54E-02	5.81E-04	6.74E-03	4.74E-03	4.34E-02
70	3.80	2.48E-04	0	2.22E-02	3.39E-03	0	0	2.53E-02	6.27E-04	6.91E-03	4.81E-03	4.33E-02
71	3.70	1.83E-04	0	2.72E-02	1.44E-03	0	0	2.49E-02	6.79E-04	7.04E-03	4.87E-03	4.32E-02
72	3.60	1.83E-04	0	1.58E-02	8.96E-04	0	0	2.45E-02	7.34E-04	7.11E-03	4.92E-03	4.31E-02
73	3.50	1.83E-04	0	2.27E-02	4.5E-04	0	0	2.41E-02	7.90E-04	7.18E-03	4.97E-03	4.30E-02
74	3.40	1.83E-04	0	1.20E-02	1.11E-02	6.73E-04	0	1.23E-02	8.47E-04	7.25E-03	5.02E-03	4.29E-02
75	3.30	9.76E-05	0	7.57E-03	2.59E-02	6.89E-04	0	1.23E-02	9.05E-04	7.32E-03	5.07E-03	4.28E-02
76	3.20	8.1E-05	0	5.80E-03	3.39E-03	6.22E-04	0	1.24E-02	9.64E-04	7.39E-03	5.12E-03	4.27E-02
77	3.10	7.46E-05	0	3.34E-03	1.09E-02	5.58E-04	0	1.24E-02	1.02E-03	7.46E-03	5.17E-03	4.26E-02
78	3.00	6.38E-05	0	2.08E-03	8.85E-03	3.94E-04	0	1.24E-02	1.08E-03	7.53E-03	5.22E-03	4.25E-02
79	2.90	5.09E-05	0	9.58E-04	2.92E-03	2.47E-04	0	1.24E-02	1.14E-03	7.60E-03	5.27E-03	4.24E-02
80	2.80	3.12E-05	0	4.37E-04	5.31E-03	1.23E-04	0	1.24E-02	1.20E-03	7.67E-03	5.32E-03	4.23E-02
81	2.70	3.07E-05	0	2.21E-04	4.97E-04	4.99E-05	0	1.24E-02	1.26E-03	7.74E-03	5.37E-03	4.22E-02
82	2.60	1.32E-05	0	2.69E-05	4.10E-04	1.12E-05	0	1.24E-02	1.32E-03	7.81E-03	5.42E-03	4.21E-02
83	2.50	6.92E-07	0	1.49E-03	4.23E-04	1.14E-06	0	1.24E-02	1.38E-03	7.88E-03	5.47E-03	4.20E-02
84	2.40	0	0	5.9E-03	0	0	0	1.24E-02	1.44E-03	7.95E-03	5.52E-03	4.19E-02
85	2.30	0	0	1.35E-02	0	0	0	1.24E-02	1.50E-03	8.02E-03	5.57E-03	4.18E-02
86	2.20	0	0	1.74E-02	0	0	0	1.24E-02	1.56E-03	8.09E-03	5.62E-03	4.17E-02
87	2.10	0	0	3.03E-02	0	0	0	1.24E-02	1.62E-03	8.16E-03	5.67E-03	4.16E-02
88	2.00	0	0	3.20E-02	0	0	0	1.24E-02	1.68E-03	8.23E-03	5.72E-03	4.15E-02
89	1.90	0	0	4.24E-02	0	0	0	1.24E-02	1.74E-03	8.30E-03	5.77E-03	4.14E-02
90	1.80	0	0	5.10E-02	0	0	0	1.24E-02	1.80E-03	8.37E-03	5.82E-03	4.13E-02
91	1.70	0	0	3.61E-02	0	0	0	1.24E-02	1.86E-03	8.44E-03	5.87E-03	4.12E-02
92	1.60	0	0	4.39E-02	0	0	0	1.24E-02	1.92E-03	8.51E-03	5.92E-03	4.11E-02
93	1.50	0	0	4.52E-02	0	0	0	1.24E-02	1.98E-03	8.58E-03	5.97E-03	4.10E-02
94	1.40	0	0	3.40E-02	0	0	0	1.24E-02	2.04E-03	8.65E-03	6.02E-03	4.09E-02
95	1.30	0	0	3.36E-02	0	0	0	1.24E-02	2.10E-03	8.72E-03	6.07E-03	4.08E-02
96	1.20	0	0	2.49E-02	0	0	0	1.24E-02	2.16E-03	8.79E-03	6.12E-03	4.07E-02
97	1.10	0	0	2.67E-02	0	0	0	1.24E-02	2.22E-03	8.86E-03	6.17E-03	4.06E-02
98	1.00	0	0	2.85E-02	0	0	0	1.24E-02	2.28E-03	8.93E-03	6.22E-03	4.05E-02
99	0.90	0	0	2.80E-02	0	0	0	1.24E-02	2.34E-03	9.00E-03	6.27E-03	4.04E-02
100	0.80	0	0	1.02E-02	0	0	0	1.24E-02	2.40E-03	9.07E-03	6.32E-03	4.03E-02
101	0.70	0	0	2.60E-03	0	0	0	1.24E-02	2.46E-03	9.14E-03	6.37E-03	4.02E-02
102	0.60	0	0	2.33E-04	0	0	0	1.24E-02	2.52E-03	9.21E-03	6.42E-03	4.01E-02



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 DENSITY (GM/CC) 1.2935-04 (10.0E-02 NORMAL)  
 TEMPERATURE (DEGREES K) 11000.

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2Z 1ST NEG.	BETA	GAMMA	NO VIB-RPT	NO 2	PHOTO-DET (TONS)	FREE-FREE P.E.	NO P.E.	TOTAL AIR	
52	5.60	6.42E-06	0.	0.	2.02E-05	1.36E-04	0.	0.	7.17E-04	1.76E-05	3.36E-04	1.70E-03
53	5.50	6.71E-06	0.	0.	2.07E-05	1.39E-04	0.	0.	7.21E-04	1.80E-05	3.41E-04	1.71E-03
54	5.40	7.08E-06	0.	0.	2.14E-05	1.43E-04	0.	0.	7.29E-04	1.85E-05	3.47E-04	1.69E-03
55	5.30	6.85E-06	0.	0.	2.19E-05	1.48E-04	0.	0.	7.38E-04	1.90E-05	3.53E-04	1.75E-03
56	5.20	4.96E-06	0.	0.	2.30E-05	1.60E-04	0.	0.	7.48E-04	1.96E-05	3.61E-04	1.72E-03
57	5.10	4.64E-06	0.	0.	2.39E-05	1.67E-04	0.	0.	7.48E-04	2.00E-05	3.68E-04	1.77E-03
58	5.00	3.45E-06	0.	0.	2.48E-05	1.74E-04	0.	0.	7.53E-04	2.03E-05	3.74E-04	1.79E-03
59	4.90	2.88E-06	0.	0.	2.56E-05	1.81E-04	0.	0.	7.59E-04	2.06E-05	3.80E-04	1.82E-03
60	4.80	2.67E-06	0.	0.	2.63E-05	1.87E-04	0.	0.	7.65E-04	2.09E-05	3.86E-04	1.85E-03
61	4.70	3.12E-06	0.	0.	2.70E-05	1.93E-04	0.	0.	7.71E-04	2.12E-05	3.92E-04	1.87E-03
62	4.60	3.69E-06	0.	0.	2.77E-05	1.99E-04	0.	0.	7.77E-04	2.15E-05	3.98E-04	1.90E-03
63	4.50	3.72E-06	0.	0.90E-06	1.94E-05	5.21E-05	0.	0.	7.78E-04	3.18E-05	4.12E-04	1.93E-03
64	4.40	3.61E-06	0.	3.07E-05	1.90E-05	3.74E-05	0.	0.	7.84E-04	3.64E-05	4.32E-04	1.98E-03
65	4.30	3.49E-06	0.	8.00E-05	1.74E-05	2.19E-05	0.	0.	7.90E-04	3.90E-05	4.62E-04	2.06E-03
66	4.20	3.13E-06	0.	3.00E-04	1.61E-05	1.49E-05	0.	0.	7.99E-04	4.19E-05	4.93E-04	2.13E-03
67	4.10	2.84E-06	0.	1.05E-04	1.50E-05	1.42E-06	0.	0.	7.99E-04	4.51E-05	5.12E-04	2.15E-03
68	4.00	2.53E-06	0.	4.37E-04	1.38E-05	3.35E-06	0.	0.	7.99E-04	4.85E-05	5.37E-04	2.14E-03
69	3.90	2.03E-06	0.	1.94E-04	3.59E-05	1.42E-06	0.	0.	7.99E-04	5.24E-05	5.69E-04	2.16E-03
70	3.80	2.21E-06	0.	2.89E-04	2.22E-04	1.46E-05	0.	0.	7.99E-04	5.67E-05	6.09E-04	2.13E-03
71	3.70	1.89E-06	0.	3.50E-04	5.91E-05	1.56E-05	0.	0.	7.99E-04	6.14E-05	6.59E-04	2.11E-03
72	3.60	1.62E-06	0.	1.97E-04	3.68E-04	1.26E-05	0.	0.	7.99E-04	6.65E-05	7.15E-04	2.04E-03
73	3.50	1.45E-06	0.	2.92E-04	1.01E-03	9.22E-05	0.	0.	7.99E-04	7.20E-05	7.82E-04	2.07E-03
74	3.40	1.27E-06	0.	1.95E-04	6.01E-05	1.02E-05	0.	0.	7.99E-04	7.79E-05	8.52E-04	2.05E-03
75	3.30	9.58E-07	0.	1.65E-04	4.53E-04	7.88E-06	0.	0.	7.99E-04	8.42E-05	9.26E-04	1.97E-03
76	3.20	8.21E-07	0.	9.74E-05	1.05E-03	7.88E-06	0.	0.	7.99E-04	9.10E-05	1.00E-03	1.91E-03
77	3.10	7.55E-07	0.	7.46E-05	1.39E-04	7.10E-06	0.	0.	7.99E-04	9.83E-05	1.08E-03	1.76E-03
78	3.00	6.45E-07	0.	4.30E-05	4.50E-04	6.37E-06	0.	0.	7.99E-04	1.06E-04	1.17E-03	1.64E-03
79	2.90	5.16E-07	0.	2.50E-05	2.82E-04	4.50E-06	0.	0.	7.99E-04	1.15E-04	1.27E-03	1.54E-03
80	2.80	5.19E-07	0.	1.22E-05	1.20E-04	2.92E-06	0.	0.	7.99E-04	1.24E-04	1.38E-03	1.44E-03
81	2.70	3.11E-07	0.	5.69E-06	2.18E-04	1.40E-06	0.	0.	7.99E-04	1.34E-04	1.49E-03	1.34E-03
82	2.60	1.34E-07	0.	2.89E-06	2.84E-05	5.85E-07	0.	0.	7.99E-04	1.45E-04	1.61E-03	1.24E-03
83	2.50	9.03E-09	0.	3.46E-07	1.68E-05	1.27E-07	0.	0.	7.99E-04	1.57E-04	1.74E-03	1.14E-03
84	2.40	0.	0.	1.90E-05	0.	0.	0.	0.	7.99E-04	1.70E-04	1.88E-03	1.04E-03
85	2.30	0.	0.	7.70E-05	0.	0.	0.	0.	7.99E-04	1.84E-04	2.03E-03	9.4E-04
86	2.20	0.	0.	1.73E-04	0.	0.	0.	0.	7.99E-04	2.00E-04	2.19E-03	8.4E-04
87	2.10	0.	0.	2.24E-04	0.	0.	0.	0.	7.99E-04	2.17E-04	2.37E-03	7.4E-04
88	2.00	0.	0.	3.00E-04	0.	0.	0.	0.	7.99E-04	2.36E-04	2.56E-03	6.4E-04
89	1.90	0.	0.	6.69E-04	0.	0.	0.	0.	7.99E-04	2.57E-04	2.77E-03	5.4E-04
90	1.80	0.	0.	5.45E-04	0.	0.	0.	0.	7.99E-04	2.80E-04	3.00E-03	4.4E-04
91	1.70	0.	0.	6.54E-04	0.	0.	0.	0.	7.99E-04	3.05E-04	3.24E-03	3.4E-04
92	1.60	0.	0.	4.64E-04	0.	0.	0.	0.	7.99E-04	3.32E-04	3.49E-03	2.4E-04
93	1.50	0.	0.	5.64E-04	0.	0.	0.	0.	7.99E-04	3.61E-04	3.76E-03	1.4E-04
94	1.40	0.	0.	5.82E-04	0.	0.	0.	0.	7.99E-04	3.92E-04	4.04E-03	4.4E-05
95	1.30	0.	0.	4.37E-04	0.	0.	0.	0.	7.99E-04	4.25E-04	4.34E-03	7.4E-05
96	1.20	0.	0.	4.37E-04	0.	0.	0.	0.	7.99E-04	4.60E-04	4.67E-03	1.4E-05
97	1.10	0.	0.	3.72E-04	0.	0.	0.	0.	7.99E-04	5.00E-04	5.00E-03	0.
98	1.00	0.	0.	3.44E-04	0.	0.	0.	0.	7.99E-04	5.45E-04	5.45E-03	0.
99	0.90	0.	0.	2.80E-04	0.	0.	0.	0.	7.99E-04	5.95E-04	5.95E-03	0.
100	0.80	0.	0.	1.31E-04	0.	0.	0.	0.	7.99E-04	6.50E-04	6.50E-03	0.
101	0.70	0.	0.	3.35E-04	0.	0.	0.	0.	7.99E-04	7.10E-04	7.10E-03	0.
102	0.60	0.	0.	2.87E-04	0.	0.	0.	0.	7.99E-04	7.75E-04	7.75E-03	0.

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CH.)

TEMPERATURE (DEGREES K) 31000. DENSITY (GM/CC) 1.203E-05 (10.0E-03 NORMAL)

PHOTON ENERGY BANDS E.V.	O2 S-R CONT.	O2 S-R BANDS	NO BETA	NO GAMMA	NO 2	D- PHOTO-DET (1000)	R P.S.	0 P.S.	TOTAL AIR P.S.
1 18.70 0.	0.	9.24E-05	0.	0.	0.	2.02E-05	2.02E-07	1.30E-04	2.02E-05
2 10.60 0.	0.	6.64E-05	0.	0.	0.	2.07E-05	2.04E-07	1.37E-04	2.07E-05
3 10.50 0.	0.	7.91E-05	0.	0.	0.	2.03E-05	2.30E-07	1.39E-04	2.03E-05
4 18.40 0.	0.	7.20E-05	0.	0.	0.	2.02E-05	2.61E-07	1.40E-04	2.02E-05
5 18.30 0.	0.	6.01E-05	0.	0.	0.	2.02E-05	2.68E-07	1.40E-04	2.02E-05
6 18.20 0.	0.	4.82E-05	0.	0.	0.	2.02E-05	2.75E-07	1.41E-04	2.02E-05
7 18.10 0.	0.	3.63E-05	0.	0.	0.	2.04E-05	2.82E-07	1.41E-04	2.04E-05
8 18.00 0.	0.	2.44E-05	0.	0.	0.	2.04E-05	2.89E-07	1.42E-04	2.04E-05
9 9.90 0.	0.	4.61E-05	0.	0.	0.	2.05E-05	3.12E-07	1.42E-04	2.05E-05
10 9.80 0.	0.	4.19E-05	0.	0.	0.	2.05E-05	3.22E-07	1.42E-04	2.05E-05
11 9.70 0.	0.	3.39E-05	0.	0.	0.	2.05E-05	3.22E-07	1.42E-04	2.05E-05
12 9.60 0.	0.	2.59E-05	0.	0.	0.	2.06E-05	3.22E-07	1.42E-04	2.06E-05
13 9.50 0.	0.	2.08E-05	0.	0.	0.	2.07E-05	3.22E-07	1.42E-04	2.07E-05
14 9.40 0.	0.	2.68E-05	0.	0.	0.	2.07E-05	3.59E-07	1.42E-04	2.07E-05
15 9.30 0.	0.	2.68E-05	0.	0.	0.	2.07E-05	3.59E-07	1.42E-04	2.07E-05
16 9.20 0.	0.	2.04E-05	0.	0.	0.	2.08E-05	3.77E-07	1.43E-04	2.08E-05
17 9.10 0.	0.	2.11E-05	0.	0.	0.	2.09E-05	3.98E-07	1.43E-04	2.09E-05
18 9.00 0.	0.	1.68E-05	0.	0.	0.	2.10E-05	4.37E-07	1.43E-04	2.10E-05
19 8.90 0.	0.	1.41E-05	0.	0.	0.	2.10E-05	4.72E-07	1.43E-04	2.10E-05
20 8.80 0.	0.	1.59E-05	0.	0.	0.	2.11E-05	4.91E-07	1.43E-04	2.11E-05
21 8.70 0.	0.	1.24E-05	0.	0.	0.	2.12E-05	4.40E-07	1.43E-04	2.12E-05
22 8.60 0.	0.	1.20E-05	0.	0.	0.	2.13E-05	4.62E-07	1.43E-04	2.13E-05
23 8.50 0.	0.	1.06E-05	0.	0.	0.	2.13E-05	4.79E-07	1.43E-04	2.13E-05
24 8.40 0.	0.	1.85E-05	0.	0.	0.	2.14E-05	4.94E-07	1.43E-04	2.14E-05
25 8.30 0.	0.	0.28E-06	0.	0.	0.	2.14E-05	5.14E-07	1.43E-04	2.14E-05
26 8.20 0.	0.	0.62E-06	0.	0.	0.	2.17E-05	5.34E-07	1.43E-04	2.17E-05
27 8.10 0.	0.	0.98E-06	0.	0.	0.	2.18E-05	5.54E-07	1.43E-04	2.18E-05
28 8.00 0.	0.	0.30E-06	0.	0.	0.	2.19E-05	5.75E-07	1.43E-04	2.19E-05
29 7.90 0.	0.	0.30E-06	0.	0.	0.	2.20E-05	5.97E-07	1.43E-04	2.20E-05
30 7.80 0.	0.	0.30E-06	0.	0.	0.	2.21E-05	6.20E-07	1.43E-04	2.21E-05
31 7.70 0.	0.	4.48E-06	0.	0.	0.	2.22E-05	6.45E-07	1.43E-04	2.22E-05
32 7.60 0.	0.	4.08E-06	0.	2.15E-10	0.	2.23E-05	6.71E-07	1.43E-04	2.23E-05
33 7.50 0.	0.	3.60E-06	0.	1.82E-09	0.	2.25E-05	6.98E-07	1.43E-04	2.25E-05
34 7.40 0.	0.	3.11E-06	0.	5.71E-09	0.	2.26E-05	7.27E-07	1.43E-04	2.26E-05
35 7.30 0.	0.	2.62E-06	0.	2.78E-08	0.	2.27E-05	7.57E-07	1.43E-04	2.27E-05
36 7.20 0.	0.	2.44E-06	0.	7.41E-08	0.	2.28E-05	7.89E-07	1.43E-04	2.28E-05
37 7.10 0.	0.	2.29E-06	0.	2.04E-07	0.	2.30E-05	8.23E-07	1.43E-04	2.30E-05
38 7.00 4.87E-10	0.	1.98E-06	0.	5.21E-07	0.	2.32E-05	8.59E-07	1.43E-04	2.32E-05
39 6.90 7.24E-10	0.	1.74E-06	0.	3.56E-07	0.	2.34E-05	8.97E-07	1.43E-04	2.34E-05
40 6.80 7.95E-10	0.	1.59E-06	0.	1.14E-06	0.	2.36E-05	9.37E-07	1.43E-04	2.36E-05
41 6.70 5.47E-10	0.	1.33E-06	0.	1.34E-06	0.	2.38E-05	9.80E-07	1.43E-04	2.38E-05
42 6.60 3.24E-10	0.	1.14E-06	0.	0.48E-07	0.	2.40E-05	1.02E-06	1.43E-04	2.40E-05
43 6.50 1.81E-10	0.	0.59E-07	0.	1.48E-06	0.	2.41E-05	1.07E-06	1.43E-04	2.41E-05
44 6.40 2.75E-10	0.	5.45E-07	7.92E-09	1.65E-06	0.	2.43E-05	1.12E-06	1.43E-04	2.43E-05
45 6.30 3.19E-10	0.	3.11E-07	3.52E-08	0.98E-06	0.	2.45E-05	1.17E-06	1.43E-04	2.45E-05
46 6.20 1.54E-09	0.	1.98E-07	4.74E-08	1.35E-06	0.	2.47E-05	1.24E-06	1.43E-04	2.47E-05
47 6.10 6.20E-09	0.	6.92E-08	1.31E-07	1.98E-06	0.	2.49E-05	1.30E-06	1.43E-04	2.49E-05
48 6.00 1.64E-08	0.	1.67E-08	1.15E-07	7.69E-07	0.	2.51E-05	1.37E-06	1.43E-04	2.51E-05
49 5.90 2.37E-08	0.	1.95E-09	1.63E-07	8.20E-07	0.	2.53E-05	1.44E-06	1.43E-04	2.53E-05
50 5.80 4.08E-08	0.	2.95E-11	2.22E-07	7.91E-07	0.	2.57E-05	1.51E-06	1.43E-04	2.57E-05
51 5.70 4.88E-08	0.	0.	2.45E-07	8.56E-07	0.	2.52E-05	1.59E-06	1.43E-04	2.52E-05

TEMPERATURE (DEGREES K) 1100. DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)

PHOTON O2 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2* 1ST NEG.	NO DATA	NO SAMMA	NO VIB-ROT	NO PHOTO-DET (IONS)	FREE-FREE (IONS)	N P.E.	0 TOTAL AIR P.E.		
52	5.60	6.06E-08	0.	0.	1.61E-07	1.29E-06	0.	2.10E-05	1.60E-06	4.49E-05	3.27E-05	1.02E-04
53	5.50	6.39E-08	0.	0.	2.33E-07	1.29E-06	0.	2.17E-05	1.70E-06	4.56E-05	3.32E-05	1.04E-04
54	5.40	6.70E-08	0.	0.	2.02E-07	1.61E-07	0.	0.23E-05	1.60E-06	4.64E-05	3.37E-05	1.05E-04
55	5.30	6.48E-08	0.	0.	2.07E-07	1.21E-06	0.	2.19E-05	1.99E-06	4.73E-05	3.43E-05	1.07E-04
56	5.20	6.78E-08	0.	0.	2.17E-07	1.50E-07	0.	2.21E-05	2.10E-06	4.82E-05	3.51E-05	1.08E-04
57	5.10	6.39E-08	0.	0.	2.12E-07	1.02E-07	0.	2.23E-05	2.23E-06	4.95E-05	3.58E-05	1.11E-04
58	5.00	6.26E-08	0.	0.	1.89E-07	8.95E-07	0.	2.25E-05	2.37E-06	5.09E-05	3.66E-05	1.13E-04
59	4.90	6.79E-08	0.	0.	2.04E-07	8.19E-07	0.	2.27E-05	2.52E-06	5.24E-05	3.74E-05	1.16E-04
60	4.80	6.72E-08	0.	0.	2.10E-07	8.49E-07	0.	2.28E-05	2.68E-06	5.39E-05	3.82E-05	1.19E-04
61	4.70	6.95E-08	0.	0.	2.06E-07	7.34E-07	0.	2.30E-05	2.85E-06	5.54E-05	3.91E-05	1.21E-04
62	4.50	6.40E-08	0.	0.	2.03E-07	6.79E-07	0.	2.32E-05	3.04E-06	5.73E-05	4.01E-05	1.25E-04
63	4.50	6.53E-08	0.	0.30E-08	1.83E-07	8.92E-07	0.	2.34E-05	3.25E-06	5.96E-05	4.11E-05	1.28E-04
64	4.40	6.90E-08	0.	2.90E-08	1.80E-07	8.59E-07	0.	2.36E-05	3.49E-06	6.19E-05	4.21E-05	1.32E-04
65	4.30	6.27E-08	0.	7.62E-08	1.64E-07	2.07E-07	0.	2.38E-05	3.73E-06	6.43E-05	4.31E-05	1.36E-04
66	4.20	6.94E-08	0.	2.92E-08	1.71E-07	1.60E-07	0.	2.40E-05	4.01E-06	6.67E-05	4.39E-05	1.42E-04
67	4.10	6.89E-08	0.	9.86E-08	1.60E-07	1.10E-08	0.	2.42E-05	4.31E-06	6.91E-05	4.24E-05	1.41E-04
68	4.00	6.39E-08	0.	4.12E-08	1.59E-07	3.10E-08	0.	2.43E-05	4.64E-06	7.16E-05	9.26E-06	1.14E-04
69	3.90	6.94E-08	0.	1.03E-08	1.58E-07	1.37E-08	0.	2.45E-05	5.01E-06	7.42E-05	9.53E-06	1.03E-04
70	3.80	6.08E-08	0.	2.68E-08	1.57E-07	1.37E-08	0.	2.46E-05	5.42E-06	7.69E-05	9.85E-06	1.66E-05
71	3.70	6.79E-08	0.	3.30E-08	1.56E-07	1.09E-07	0.	2.48E-05	5.87E-06	7.97E-05	1.10E-05	9.51E-05
72	3.60	6.53E-08	0.	1.86E-08	1.55E-07	1.19E-07	0.	2.21E-05	6.36E-06	8.27E-05	1.23E-05	1.02E-04
73	3.50	6.37E-08	0.	2.79E-08	1.54E-07	8.71E-08	0.	2.02E-05	6.90E-06	8.53E-05	1.37E-05	1.20E-04
74	3.40	6.20E-08	0.	1.46E-08	1.53E-07	9.64E-08	0.	1.17E-05	7.50E-06	8.63E-05	1.53E-05	9.91E-05
75	3.30	6.39E-08	0.	1.56E-08	1.52E-07	7.25E-08	0.	1.17E-05	8.26E-06	8.70E-05	1.69E-05	1.19E-04
76	3.20	6.77E-08	0.	9.18E-07	1.51E-07	7.43E-08	0.	1.17E-05	9.18E-06	8.75E-05	1.85E-05	1.46E-04
77	3.10	6.14E-08	0.	7.08E-07	1.50E-07	6.71E-08	0.	1.17E-05	1.02E-05	8.80E-05	2.02E-05	1.20E-04
78	3.00	6.11E-08	0.	4.92E-07	1.49E-07	6.02E-08	0.	1.18E-05	1.13E-05	8.78E-05	2.18E-05	1.47E-04
79	2.90	6.40E-08	0.	2.43E-07	1.48E-07	4.29E-08	0.	1.18E-05	1.23E-05	8.70E-05	2.35E-05	1.51E-04
80	2.80	6.91E-08	0.	1.19E-07	1.47E-07	2.67E-08	0.	1.18E-05	1.34E-05	8.63E-05	2.54E-05	1.57E-04
81	2.70	6.94E-08	0.	9.30E-08	1.46E-07	1.32E-08	0.	1.18E-05	1.45E-05	8.54E-05	2.73E-05	1.72E-04
82	2.60	6.20E-08	0.	3.68E-08	1.45E-07	9.34E-09	0.	1.18E-05	1.57E-05	8.42E-05	2.94E-05	1.78E-04
83	2.50	6.54E-08	0.	3.26E-08	1.44E-07	7.28E-09	0.	1.18E-05	1.70E-05	8.28E-05	3.17E-05	1.90E-04
84	2.40	6.00	1.00E-07	5.30E-07	1.43E-07	1.28E-09	0.	1.18E-05	1.84E-05	8.12E-05	3.46E-05	1.98E-04
85	2.30	6.00	7.20E-07	5.30E-07	1.42E-07	1.00E-09	0.	1.17E-05	2.00E-05	7.97E-05	3.78E-05	1.46E-04
86	2.20	6.00	1.63E-06	0.	0.	0.	0.	1.17E-05	2.17E-05	7.82E-05	4.13E-05	1.65E-04
87	2.10	6.00	2.11E-06	0.	0.	0.	0.	1.16E-05	2.36E-05	7.67E-05	4.51E-05	1.94E-04
88	2.00	6.00	3.07E-06	0.	0.	0.	0.	1.16E-05	2.56E-05	7.51E-05	4.92E-05	2.23E-04
89	1.90	6.00	4.61E-06	0.	0.	0.	0.	1.15E-05	2.77E-05	7.34E-05	5.36E-05	2.54E-04
90	1.80	6.00	6.31E-06	0.	0.	0.	0.	1.08E-05	3.00E-05	7.16E-05	5.83E-05	2.90E-04
91	1.70	6.00	8.14E-06	0.	0.	0.	0.	1.03E-05	3.24E-05	6.97E-05	6.33E-05	3.30E-04
92	1.60	6.00	1.01E-05	0.	0.	0.	0.	9.73E-06	3.50E-05	6.79E-05	6.86E-05	3.74E-04
93	1.50	6.00	1.30E-05	0.	0.	0.	0.	9.24E-06	3.78E-05	6.60E-05	7.42E-05	4.22E-04
94	1.40	6.00	1.60E-05	0.	0.	0.	0.	8.79E-06	4.08E-05	6.40E-05	8.03E-05	4.74E-04
95	1.30	6.00	1.90E-05	0.	0.	0.	0.	8.37E-06	4.40E-05	6.19E-05	8.68E-05	5.29E-04
96	1.20	6.00	2.20E-05	0.	0.	0.	0.	7.98E-06	4.74E-05	5.97E-05	9.36E-05	5.87E-04
97	1.10	6.00	2.50E-05	0.	0.	0.	0.	7.62E-06	5.10E-05	5.74E-05	1.00E-04	6.47E-04
98	1.00	6.00	2.80E-05	0.	0.	0.	0.	7.29E-06	5.48E-05	5.50E-05	1.07E-04	7.09E-04
99	0.90	6.00	3.20E-05	0.	0.	0.	0.	7.00E-06	5.89E-05	5.25E-05	1.14E-04	7.74E-04
100	0.80	6.00	3.60E-05	0.	0.	0.	0.	6.74E-06	6.33E-05	5.00E-05	1.21E-04	8.41E-04
101	0.70	6.00	4.00E-05	0.	0.	0.	0.	6.60E-06	6.80E-05	4.74E-05	1.28E-04	9.10E-04
102	0.60	6.00	4.50E-05	0.	0.	0.	0.	6.48E-06	7.30E-05	4.44E-05	1.35E-04	9.81E-04

ABSORPTION COEFFICIENTS OF HEATED AIR (IMPURE CH.)

TEMPERATURE (DEGREES K) 11000. DENSITY (GM/CC) 1.100E-06 (10.0E-04 NORMAL)

PHOTON ENERGY BANDS E.V.	02 S-R CONT.	M2 0-M NO. 1	NO BETA	AS GAMMA	NO 2	0- PHOTO-DET (1000)	M P.E.	0 TOTAL AIR P.E.
1 10.76 0.	0.	6.91E-07	0.	0.	0.	5.11E-07	2.64E-06	1.19E-09
2 7.60 0.	0.	6.81E-07	0.	0.	0.	5.12E-07	2.14E-06	2.39E-06
3 10.30 0.	0.	5.91E-07	0.	0.	0.	5.12E-07	2.14E-06	1.99E-05
4 10.40 0.	0.	5.30E-07	0.	0.	0.	5.44E-07	2.27E-06	1.20E-06
5 10.30 0.	0.	4.40E-07	0.	0.	0.	5.44E-07	2.27E-06	1.54E-04
6 15.20 0.	0.	4.90E-07	0.	0.	0.	5.07E-07	2.37E-06	2.17E-06
7 10.10 0.	0.	4.11E-07	0.	0.	0.	5.44E-07	2.27E-06	1.71E-06
8 6.80 0.	0.	3.40E-07	0.	0.	0.	5.40E-07	2.35E-06	1.98E-05
9 9.90 0.	0.	3.45E-07	0.	0.	0.	5.47E-07	2.83E-06	1.59E-05
10 9.80 0.	0.	3.10E-07	0.	0.	0.	5.40E-07	2.35E-06	1.99E-05
11 9.70 0.	0.	2.93E-07	0.	0.	0.	5.40E-07	2.35E-06	1.94E-05
12 9.60 0.	0.	2.75E-07	0.	0.	0.	5.29E-07	2.60E-06	2.37E-04
13 9.50 0.	0.	2.19E-07	0.	0.	0.	5.11E-07	2.64E-06	1.54E-05
14 9.40 0.	0.	1.90E-07	0.	0.	0.	5.32E-07	3.07E-06	2.34E-06
15 9.30 0.	0.	2.61E-07	0.	0.	0.	5.95E-07	3.17E-06	2.34E-06
16 9.20 0.	0.	1.54E-07	0.	0.	0.	5.57E-07	3.88E-06	3.57E-06
17 9.10 0.	0.	1.50E-07	0.	0.	0.	5.59E-07	3.89E-06	2.33E-06
18 9.00 0.	0.	1.36E-07	0.	0.	0.	5.61E-07	3.90E-06	2.33E-06
19 8.90 0.	0.	1.20E-07	0.	0.	0.	5.63E-07	3.91E-06	2.33E-06
20 8.80 0.	0.	1.16E-07	0.	0.	0.	5.65E-07	3.92E-06	2.33E-06
21 8.70 0.	0.	9.44E-08	0.	0.	0.	5.67E-07	3.93E-06	2.33E-06
22 8.60 0.	0.	9.59E-08	0.	0.	0.	5.69E-07	3.94E-06	2.33E-06
23 8.50 0.	0.	7.09E-08	0.	0.	0.	5.71E-07	4.10E-06	2.31E-06
24 8.40 0.	0.	7.67E-08	0.	0.	0.	5.74E-07	4.15E-06	2.31E-06
25 8.30 0.	0.	6.15E-08	0.	0.	0.	5.77E-07	4.37E-06	2.31E-06
26 8.20 0.	0.	6.07E-08	0.	0.	0.	5.80E-07	4.44E-06	2.31E-06
27 8.10 0.	0.	4.95E-08	0.	0.	0.	5.82E-07	4.62E-06	2.35E-06
28 8.00 0.	0.	4.66E-08	0.	0.	0.	5.84E-07	4.82E-06	2.37E-06
29 7.90 0.	0.	3.96E-08	0.	0.	0.	5.86E-07	5.19E-06	2.38E-06
30 7.80 0.	0.	4.00E-08	0.	0.	0.	5.88E-07	5.19E-06	2.38E-06
31 7.70 0.	0.	3.33E-08	0.	0.	0.	5.90E-07	5.41E-06	2.40E-06
32 7.60 0.	0.	2.69E-08	0.	0.	0.	5.92E-07	5.41E-06	2.40E-06
33 7.50 0.	0.	2.69E-08	0.	0.	0.	5.94E-07	5.41E-06	2.40E-06
34 7.40 0.	0.	2.32E-08	0.	0.	0.	5.96E-07	5.41E-06	2.40E-06
35 7.30 0.	0.	2.11E-08	0.	0.	0.	5.98E-07	5.41E-06	2.40E-06
36 7.20 0.	0.	1.82E-08	0.	0.	0.	6.00E-07	5.41E-06	2.40E-06
37 7.10 0.	0.	1.60E-08	0.	0.	0.	6.02E-07	5.41E-06	2.40E-06
38 7.00 4.03E-12	0.	1.43E-08	0.	0.	0.	6.04E-07	5.41E-06	2.40E-06
39 6.90 7.64E-12	0.	1.30E-08	0.	0.	0.	6.06E-07	5.41E-06	2.40E-06
40 6.80 6.40E-12	0.	1.19E-08	0.	0.	0.	6.08E-07	5.41E-06	2.40E-06
41 6.70 5.58E-12	0.	9.66E-09	0.	0.	0.	6.10E-07	5.41E-06	2.40E-06
42 6.60 2.68E-12	0.	9.51E-09	0.	0.	0.	6.12E-07	5.41E-06	2.40E-06
43 6.50 1.49E-12	0.	6.39E-09	0.	0.	0.	6.14E-07	5.41E-06	2.40E-06
44 6.40 2.04E-12	0.	4.87E-09	0.	0.	0.	6.16E-07	5.41E-06	2.40E-06
45 6.30 4.29E-12	0.	2.32E-09	0.	0.	0.	6.18E-07	5.41E-06	2.40E-06
46 6.20 1.27E-11	0.	1.19E-09	0.	0.	0.	6.20E-07	5.41E-06	2.40E-06
47 6.10 5.13E-11	0.	5.10E-10	0.	0.	0.	6.22E-07	5.41E-06	2.40E-06
48 6.00 2.35E-10	0.	1.25E-10	0.	0.	0.	6.24E-07	5.41E-06	2.40E-06
49 5.90 2.20E-10	0.	9.25E-11	0.	0.	0.	6.26E-07	5.41E-06	2.40E-06
50 5.80 3.37E-10	0.	1.74E-09	6.21E-09	0.	0.	6.28E-07	5.41E-06	2.40E-06
51 5.70 4.03E-10	0.	1.92E-09	6.77E-09	0.	0.	6.30E-07	5.41E-06	2.40E-06

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 11000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON OR S-R ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	M2 2ND NEG.	NO BETA	NO GAMMA	NO VIB-ROT	NO 2	0- PHOTO-DEY (IONS)	N FREE-FREE	0 P.E.	TOTAL AIR	
52	5.50	5.02E-10	0.	0.	1.50E-09	1.01E-08	0.	0.	5.70E-07	1.46E-07	3.68E-06	2.97E-06	7.59E-06
53	5.50	5.02E-10	0.	0.	1.02E-09	9.40E-09	0.	0.	5.81E-07	1.54E-07	3.04E-06	3.01E-06	7.78E-06
54	5.40	5.53E-10	0.	0.	1.58E-09	6.79E-09	0.	0.	5.84E-07	1.63E-07	4.02E-06	3.66E-06	7.83E-06
55	5.30	5.95E-10	0.	0.	1.68E-09	5.51E-09	0.	0.	5.88E-07	1.73E-07	4.97E-06	3.11E-06	7.98E-06
56	5.20	5.37E-10	0.	0.	1.78E-09	5.94E-09	0.	0.	5.92E-07	1.83E-07	4.17E-06	3.11E-06	8.14E-06
57	5.10	3.68E-10	0.	0.	1.67E-09	7.97E-09	0.	0.	5.97E-07	1.94E-07	4.28E-06	3.25E-06	8.34E-06
58	5.00	2.09E-10	0.	0.	1.48E-09	7.03E-09	0.	0.	6.02E-07	2.06E-07	4.00E-06	3.32E-06	8.54E-06
59	4.90	2.55E-10	0.	0.	1.61E-09	7.22E-09	0.	0.	6.07E-07	2.19E-07	4.33E-06	3.39E-06	8.74E-06
60	4.80	2.44E-10	0.	0.	1.70E-09	6.43E-09	0.	0.	6.12E-07	2.33E-07	4.66E-06	3.47E-06	8.94E-06
61	4.70	2.43E-10	0.	0.	1.63E-09	5.75E-09	0.	0.	6.17E-07	2.48E-07	4.99E-06	3.55E-06	9.22E-06
62	4.60	2.00E-10	0.	0.	1.64E-09	5.33E-09	0.	0.	6.22E-07	2.65E-07	4.66E-06	3.64E-06	9.49E-06
63	4.50	2.91E-10	0.	6.27E-10	1.48E-09	3.08E-09	0.	0.	6.27E-07	2.83E-07	5.15E-06	3.73E-06	9.88E-06
64	4.40	2.27E-10	0.	2.37E-10	1.41E-09	2.79E-09	0.	0.	6.32E-07	3.03E-07	5.35E-06	3.82E-06	1.01E-05
65	4.30	2.69E-10	0.	5.69E-10	1.29E-09	1.61E-09	0.	0.	6.37E-07	3.25E-07	5.56E-06	3.91E-06	1.04E-05
66	4.20	2.44E-10	0.	2.48E-10	1.34E-09	1.29E-09	0.	0.	6.42E-07	3.49E-07	5.77E-06	3.99E-06	1.08E-05
67	4.10	2.22E-10	0.	7.37E-10	1.26E-09	1.29E-10	0.	0.	6.47E-07	3.75E-07	5.98E-06	4.06E-06	1.12E-05
68	4.00	1.97E-10	0.	3.08E-10	1.17E-09	2.51E-10	0.	0.	6.52E-07	4.04E-07	5.19E-06	4.15E-06	1.16E-05
69	3.90	1.50E-10	0.	1.37E-10	1.08E-09	1.09E-10	0.	0.	6.57E-07	4.36E-07	5.32E-06	4.25E-06	1.20E-05
70	3.80	1.59E-10	0.	2.91E-10	1.02E-09	1.09E-10	0.	0.	6.62E-07	4.71E-07	5.45E-06	4.35E-06	1.24E-05
71	3.70	1.45E-10	0.	2.48E-10	9.50E-10	0.	0.	0.	6.67E-07	5.11E-07	5.58E-06	4.45E-06	1.28E-05
72	3.60	1.28E-10	0.	1.39E-10	8.84E-10	0.	0.	0.	6.72E-07	5.55E-07	4.72E-06	4.55E-06	1.32E-05
73	3.50	1.13E-10	0.	2.86E-10	8.04E-10	0.	0.	0.	6.77E-07	6.04E-07	4.85E-06	4.65E-06	1.36E-05
74	3.40	9.09E-11	0.	1.09E-10	7.09E-10	0.	0.	0.	6.82E-07	6.58E-07	4.98E-06	4.75E-06	1.40E-05
75	3.30	7.71E-11	0.	1.72E-10	6.49E-10	7.9E-10	0.	0.	6.87E-07	7.21E-07	5.11E-06	4.85E-06	1.44E-05
76	3.20	6.41E-11	0.	6.86E-10	5.82E-10	5.7E-10	0.	0.	6.92E-07	7.91E-07	5.24E-06	4.95E-06	1.48E-05
77	3.10	5.06E-11	0.	5.26E-10	5.08E-10	5.27E-10	0.	0.	6.97E-07	8.68E-07	5.37E-06	5.05E-06	1.52E-05
78	3.00	3.64E-11	0.	3.03E-10	4.27E-10	3.34E-10	0.	0.	7.02E-07	9.52E-07	5.50E-06	5.15E-06	1.56E-05
79	2.90	4.47E-11	0.	1.82E-10	3.48E-10	2.48E-10	0.	0.	7.07E-07	1.04E-06	5.63E-06	5.25E-06	1.60E-05
80	2.80	4.03E-11	0.	6.42E-10	2.69E-10	2.09E-10	0.	0.	7.12E-07	1.14E-06	5.76E-06	5.35E-06	1.64E-05
81	2.70	2.43E-11	0.	3.94E-10	1.84E-10	1.44E-10	0.	0.	7.17E-07	1.25E-06	5.89E-06	5.45E-06	1.68E-05
82	2.60	1.84E-11	0.	2.81E-10	1.50E-10	1.14E-10	0.	0.	7.22E-07	1.37E-06	6.02E-06	5.55E-06	1.72E-05
83	2.50	7.35E-12	0.	2.42E-11	1.30E-10	6.45E-11	0.	0.	7.27E-07	1.50E-06	6.15E-06	5.65E-06	1.76E-05
84	2.40	0.	0.	1.84E-09	1.34E-09	9.68E-10	0.	0.	7.32E-07	1.64E-06	6.28E-06	5.75E-06	1.80E-05
85	2.30	0.	0.	5.43E-09	0.	0.	0.	0.	7.37E-07	1.79E-06	6.41E-06	5.85E-06	1.84E-05
86	2.20	0.	0.	1.27E-08	0.	0.	0.	0.	7.42E-07	1.94E-06	6.54E-06	5.95E-06	1.88E-05
87	2.10	0.	0.	1.56E-08	0.	0.	0.	0.	7.47E-07	2.10E-06	6.67E-06	6.05E-06	1.92E-05
88	2.00	0.	0.	2.75E-08	0.	0.	0.	0.	7.52E-07	2.27E-06	6.80E-06	6.15E-06	1.96E-05
89	1.90	0.	0.	4.72E-08	0.	0.	0.	0.	7.57E-07	2.45E-06	6.93E-06	6.25E-06	1.99E-05
90	1.80	0.	0.	3.85E-08	0.	0.	0.	0.	7.62E-07	2.64E-06	7.06E-06	6.35E-06	2.03E-05
91	1.70	0.	0.	4.83E-08	0.	0.	0.	0.	7.67E-07	2.84E-06	7.19E-06	6.45E-06	2.07E-05
92	1.60	0.	0.	3.27E-08	0.	0.	0.	0.	7.72E-07	3.05E-06	7.32E-06	6.55E-06	2.11E-05
93	1.50	0.	0.	3.94E-08	0.	0.	0.	0.	7.77E-07	3.27E-06	7.45E-06	6.65E-06	2.15E-05
94	1.40	0.	0.	4.10E-08	0.	0.	0.	0.	7.82E-07	3.50E-06	7.58E-06	6.75E-06	2.19E-05
95	1.30	0.	0.	3.04E-08	0.	0.	0.	0.	7.87E-07	3.74E-06	7.71E-06	6.85E-06	2.23E-05
96	1.20	0.	0.	3.95E-08	0.	0.	0.	0.	7.92E-07	4.00E-06	7.84E-06	6.95E-06	2.27E-05
97	1.10	0.	0.	2.87E-08	0.	0.	0.	0.	7.97E-07	4.27E-06	7.97E-06	7.05E-06	2.31E-05
98	1.00	0.	0.	2.47E-08	0.	0.	0.	0.	8.02E-07	4.55E-06	8.10E-06	7.15E-06	2.35E-05
99	0.90	0.	0.	1.97E-08	0.	0.	0.	0.	8.07E-07	4.84E-06	8.23E-06	7.25E-06	2.39E-05
100	0.80	0.	0.	9.24E-09	0.	0.	0.	0.	8.12E-07	5.14E-06	8.36E-06	7.35E-06	2.43E-05
101	0.70	0.	0.	2.36E-09	0.	0.	0.	0.	8.17E-07	5.45E-06	8.49E-06	7.45E-06	2.47E-05
102	0.60	0.	0.	2.87E-10	0.	0.	0.	0.	8.22E-07	5.77E-06	8.62E-06	7.55E-06	2.51E-05

Handwritten note or signature at the bottom right corner.



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E.V.	O2 S-C CONT.	M2 S-W NO. 1	TEMPERATURE (DEGREES K)	NO BETA	NO GAMMA	DENSITY (GM/CC)	D-2		TOTAL AIR P.F.
							PHOTO-OET (IONS)	FREE-FREE (IONS)	
1 10.70 0.	0.	2.02E-09	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
2 10.60 0.	0.	2.43E-09	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
3 10.50 0.	0.	2.91E-09	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
4 10.40 0.	0.	3.46E-09	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
5 10.30 0.	0.	4.08E-09	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
6 10.20 0.	0.	4.77E-09	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
7 10.10 0.	0.	5.53E-09	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
8 10.00 0.	0.	6.36E-09	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
9 9.90 0.	0.	7.26E-09	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
10 9.80 0.	0.	8.23E-09	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
11 9.70 0.	0.	9.27E-09	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
12 9.60 0.	0.	1.038E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
13 9.50 0.	0.	1.155E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
14 9.40 0.	0.	1.279E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
15 9.30 0.	0.	1.410E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
16 9.20 0.	0.	1.548E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
17 9.10 0.	0.	1.694E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
18 9.00 0.	0.	1.847E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
19 8.90 0.	0.	2.008E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
20 8.80 0.	0.	2.177E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
21 8.70 0.	0.	2.354E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
22 8.60 0.	0.	2.539E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
23 8.50 0.	0.	2.732E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
24 8.40 0.	0.	2.934E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
25 8.30 0.	0.	3.145E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
26 8.20 0.	0.	3.365E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
27 8.10 0.	0.	3.594E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
28 8.00 0.	0.	3.832E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
29 7.90 0.	0.	4.079E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
30 7.80 0.	0.	4.335E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
31 7.70 0.	0.	4.599E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
32 7.60 0.	0.	4.871E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
33 7.50 0.	0.	5.151E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
34 7.40 0.	0.	5.439E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
35 7.30 0.	0.	5.735E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
36 7.20 0.	0.	6.039E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
37 7.10 0.	0.	6.351E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
38 7.00 0.	0.	6.671E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
39 6.90 0.	0.	7.000E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
40 6.80 0.	0.	7.337E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
41 6.70 0.	0.	7.683E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
42 6.60 0.	0.	8.038E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
43 6.50 0.	0.	8.402E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
44 6.40 0.	0.	8.775E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
45 6.30 0.	0.	9.157E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
46 6.20 0.	0.	9.548E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
47 6.10 0.	0.	9.948E-08	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
48 6.00 0.	0.	1.0357E-07	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
49 5.90 0.	0.	1.0784E-07	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
50 5.80 0.	0.	1.1228E-07	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07
51 5.70 0.	0.	1.1689E-07	0.	0.	19.00E-09	1.37E-09	7.61E-07	1.73E-07	9.49E-07

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 11800. DENSITY (GM/CC) 1.293E-07 (10.0E-03 NORMAL)

PHOTON ENERGY BANDS	1ST POS.	M2	2ND POS.	1ST NEG.	M2+	BETA	NO	AO	GAMMA	VIB-RDT	NO	NO	0-	FREE-FREE	N	0	TOTAL AIR
													PHOTO-DET (10MS)	P.L.E.	P.L.E.		
52	5.69	2.64E-12	0.	0.	0.	6.92E-12	4.47E-11	0.	0.	0.	0.	0.	1.07E-08	9.53E-09	2.48E-07	2.15E-07	4.03E-07
53	5.50	2.74E-12	0.	0.	0.	6.92E-12	4.44E-11	0.	0.	0.	0.	0.	1.07E-08	9.53E-09	2.48E-07	2.10E-07	4.91E-07
54	5.40	2.89E-12	0.	0.	0.	7.32E-12	3.15E-11	0.	0.	0.	0.	0.	1.08E-08	1.04E-08	2.56E-07	2.22E-07	5.00E-07
55	5.30	2.80E-12	0.	0.	0.	7.52E-12	4.40E-11	0.	0.	0.	0.	0.	1.09E-08	1.12E-08	2.61E-07	2.24E-07	5.00E-07
56	5.20	2.03E-12	0.	0.	0.	7.87E-12	2.74E-11	0.	0.	0.	0.	0.	1.09E-08	1.19E-08	2.66E-07	2.31E-07	5.20E-07
57	5.10	1.98E-12	0.	0.	0.	7.95E-12	3.86E-11	0.	0.	0.	0.	0.	1.10E-08	1.26E-08	2.73E-07	2.36E-07	5.33E-07
58	5.00	1.41E-12	0.	0.	0.	6.95E-12	3.85E-11	0.	0.	0.	0.	0.	1.12E-08	1.34E-08	2.81E-07	2.41E-07	5.40E-07
59	4.90	1.10E-12	0.	0.	0.	7.42E-12	3.33E-11	0.	0.	0.	0.	0.	1.13E-08	1.42E-08	2.99E-07	2.46E-07	5.61E-07
60	4.80	1.28E-12	0.	0.	0.	7.03E-12	3.07E-11	0.	0.	0.	0.	0.	1.14E-08	1.62E-08	3.04E-07	2.57E-07	5.91E-07
61	4.70	1.28E-12	0.	0.	0.	7.54E-12	2.64E-11	0.	0.	0.	0.	0.	1.15E-08	1.72E-08	3.14E-07	2.64E-07	6.09E-07
62	4.60	1.51E-12	0.	0.	0.	7.57E-12	2.46E-11	0.	0.	0.	0.	0.	1.15E-08	1.84E-08	3.20E-07	2.70E-07	6.29E-07
63	4.50	1.52E-12	0.	0.	0.	6.53E-12	1.79E-11	0.	0.	0.	0.	0.	1.15E-08	1.97E-08	3.24E-07	2.77E-07	6.58E-07
64	4.40	1.50E-12	0.	0.	0.	5.91E-12	1.89E-11	0.	0.	0.	0.	0.	1.15E-08	1.97E-08	3.35E-07	2.82E-07	6.78E-07
65	4.30	1.41E-12	0.	0.	0.	5.96E-12	1.75E-11	0.	0.	0.	0.	0.	1.16E-08	2.27E-08	3.55E-07	2.82E-07	6.78E-07
66	4.20	1.28E-12	0.	0.	0.	6.80E-12	5.79E-12	0.	0.	0.	0.	0.	1.19E-08	2.27E-08	3.68E-07	2.73E-07	6.40E-07
67	4.10	1.18E-12	0.	0.	0.	5.01E-12	1.52E-12	0.	0.	0.	0.	0.	1.19E-08	2.44E-08	3.82E-07	5.91E-07	4.77E-07
68	4.00	1.03E-12	0.	0.	0.	4.35E-12	1.14E-12	0.	0.	0.	0.	0.	1.19E-08	2.63E-08	3.78E-07	6.09E-07	4.27E-07
69	3.90	0.40E-13	0.	0.	0.	5.90E-11	4.43E-10	0.	0.	0.	0.	0.	1.19E-08	2.63E-08	2.55E-07	6.27E-07	3.94E-07
70	3.80	9.04E-13	0.	0.	0.	8.20E-11	2.73E-09	0.	0.	0.	0.	0.	1.19E-08	3.33E-08	2.68E-07	6.40E-07	3.74E-07
71	3.70	7.57E-13	0.	0.	0.	10.80E-11	2.79E-09	0.	0.	0.	0.	0.	1.19E-08	3.33E-08	2.68E-07	7.23E-07	3.94E-07
72	3.60	6.61E-13	0.	0.	0.	5.66E-11	4.54E-09	0.	0.	0.	0.	0.	1.09E-08	3.61E-08	2.63E-07	6.10E-07	3.94E-07
73	3.50	5.94E-13	0.	0.	0.	4.39E-11	1.24E-08	0.	0.	0.	0.	0.	10.80E-11	3.93E-08	2.94E-07	9.83E-07	4.48E-07
74	3.40	5.10E-13	0.	0.	0.	4.95E-11	1.10E-08	0.	0.	0.	0.	0.	9.77E-09	4.29E-08	3.33E-07	1.01E-07	4.43E-07
75	3.30	4.04E-13	0.	0.	0.	4.75E-11	5.61E-09	0.	0.	0.	0.	0.	9.78E-09	4.70E-08	3.70E-07	1.11E-07	5.40E-07
76	3.20	3.34E-13	0.	0.	0.	2.80E-11	1.20E-08	0.	0.	0.	0.	0.	9.78E-09	5.15E-08	4.04E-07	1.22E-07	6.40E-07
77	3.10	3.09E-13	0.	0.	0.	2.14E-11	1.72E-09	0.	0.	0.	0.	0.	9.08E-09	5.67E-08	4.44E-07	1.33E-07	6.43E-07
78	3.00	2.64E-13	0.	0.	0.	1.23E-11	5.95E-09	0.	0.	0.	0.	0.	9.09E-09	6.27E-08	4.85E-07	1.44E-07	7.03E-07
79	2.90	2.11E-13	0.	0.	0.	7.41E-12	3.47E-09	0.	0.	0.	0.	0.	9.83E-09	6.95E-08	5.24E-07	1.55E-07	7.48E-07
80	2.80	2.12E-13	0.	0.	0.	3.51E-12	1.40E-09	0.	0.	0.	0.	0.	9.84E-09	7.72E-08	5.68E-07	1.67E-07	8.19E-07
81	2.70	1.27E-13	0.	0.	0.	1.61E-12	2.69E-09	0.	0.	0.	0.	0.	9.84E-09	8.62E-08	6.15E-07	1.69E-07	8.78E-07
82	2.60	5.47E-14	0.	0.	0.	8.10E-13	2.52E-10	0.	0.	0.	0.	0.	9.84E-09	9.67E-08	6.64E-07	7.09E-07	8.38E-07
83	2.50	5.69E-15	0.	0.	0.	9.93E-14	2.08E-10	0.	0.	0.	0.	0.	9.84E-09	1.23E-07	5.01E-07	8.17E-07	6.40E-07
84	2.40	0.	0.	0.	0.	0.	2.19E-10	4.46E-15	0.	0.	0.	0.	9.84E-09	1.40E-07	6.97E-07	1.21E-07	8.73E-07
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.77E-09	1.60E-07	7.17E-07	1.45E-07	1.03E-06
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.74E-09	1.84E-07	8.35E-07	1.70E-07	1.26E-06
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.56E-09	2.14E-07	9.54E-07	1.95E-07	1.37E-06
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.39E-09	2.50E-07	1.08E-06	2.21E-07	1.56E-06
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.11E-09	2.94E-07	1.28E-06	2.65E-07	1.84E-06
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.82E-09	3.50E-07	1.52E-06	3.19E-07	2.19E-06
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.55E-09	4.21E-07	1.74E-06	3.80E-07	2.53E-06
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.28E-09	5.12E-07	2.04E-06	4.26E-07	2.90E-06
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.01E-09	6.12E-07	2.45E-06	4.83E-07	3.27E-06
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.74E-09	7.32E-07	2.96E-06	5.54E-07	3.64E-06
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.47E-09	8.81E-07	3.59E-06	6.40E-07	4.05E-06
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.20E-09	1.06E-06	4.36E-06	7.41E-07	4.52E-06
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.93E-09	1.28E-06	5.36E-06	8.60E-07	5.02E-06
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.66E-09	1.54E-06	6.64E-06	1.01E-06	5.59E-06
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.40E-09	1.84E-06	8.20E-06	1.20E-06	6.24E-06
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	6.14E-09	2.18E-06	1.01E-05	1.44E-06	6.99E-06
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.88E-09	2.56E-06	1.26E-05	1.74E-06	7.84E-06
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.62E-09	2.98E-06	1.56E-05	2.11E-06	8.78E-06

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K): 3100. DENSITY (GM/CC) 1.293E-09 (10.0E-06 NORMAL)

PHOTON ENERGY E.V.	OZ S-R BANDS	OZ S-R CONST.	HZ S-M MG. 1	NO BETA	NO GAMMA	NO 2	O- PHOTO-MET (10MG)	M P.E.	O P.E.	TOTAL AIR P.E.	
1 18.78 0.			2.79E-12	0.	0.	0.	6.67E-11	4.33E-11	2.34E-09	0.40E-09	3.01E-09
2 18.60 0.			2.35E-12	0.	0.	0.	6.83E-11	4.46E-11	2.37E-09	0.39E-09	3.02E-09
3 18.50 0.			2.31E-12	0.	0.	0.	6.64E-11	4.59E-11	2.30E-09	0.38E-09	3.03E-09
4 18.40 0.			2.18E-12	0.	0.	0.	6.69E-11	4.72E-11	2.39E-09	0.36E-09	3.04E-09
5 18.30 0.			1.75E-12	0.	0.	0.	6.64E-11	4.60E-11	2.40E-09	0.37E-09	3.04E-09
6 18.20 0.			1.74E-12	0.	0.	0.	6.47E-11	5.01E-11	2.40E-09	0.24E-09	3.02E-09
7 18.10 0.			1.91E-12	0.	0.	0.	6.47E-11	5.14E-11	2.41E-09	0.35E-09	3.04E-09
8 18.00 0.			1.33E-12	0.	0.	0.	6.60E-11	5.31E-11	2.41E-09	0.34E-09	3.04E-09
9 9.90 0.			1.35E-12	0.	0.	0.	6.76E-11	5.00E-11	2.42E-09	0.33E-09	3.07E-09
10 9.70 0.			1.21E-12	0.	0.	0.	6.71E-11	5.05E-11	2.43E-09	0.32E-09	3.07E-09
11 9.60 0.			9.98E-13	0.	0.	0.	6.72E-11	5.03E-11	2.43E-09	0.31E-09	3.06E-09
12 9.60 8.			1.00E-12	0.	0.	0.	6.72E-11	5.01E-11	2.43E-09	0.31E-09	3.06E-09
13 9.50 0.			8.66E-13	0.	0.	0.	6.74E-11	4.80E-11	2.45E-09	0.29E-09	3.09E-09
14 9.40 9.			7.75E-13	0.	0.	0.	6.77E-11	4.98E-11	2.45E-09	0.29E-09	3.09E-09
15 9.30 0.			6.6E-13	0.	0.	0.	6.79E-11	4.61E-11	2.46E-09	0.27E-09	3.15E-09
16 9.20 0.			6.02E-13	0.	0.	0.	6.82E-11	4.83E-11	2.47E-09	0.26E-09	3.15E-09
17 9.10 0.			6.14E-13	0.	0.	0.	6.84E-11	4.70E-11	2.47E-09	0.24E-09	3.14E-09
18 9.00 0.			5.37E-13	0.	0.	0.	6.87E-11	4.30E-11	2.48E-09	0.25E-09	3.14E-09
19 8.90 0.			4.78E-13	0.	0.	0.	6.88E-11	4.55E-11	2.48E-09	0.24E-09	3.14E-09
20 8.80 0.			4.52E-13	0.	0.	0.	6.92E-11	4.70E-11	2.48E-09	0.23E-09	3.14E-09
21 8.70 9.			3.99E-13	0.	0.	0.	6.94E-11	4.00E-11	2.49E-09	0.22E-09	3.14E-09
22 8.60 0.			3.75E-13	0.	0.	0.	6.96E-11	4.20E-11	2.49E-09	0.21E-09	3.14E-09
23 8.50 0.			3.08E-13	0.	0.	0.	6.99E-11	4.00E-11	2.49E-09	0.20E-09	3.14E-09
24 8.40 0.			3.00E-13	0.	0.	0.	7.13E-11	4.07E-11	2.49E-09	0.20E-09	3.13E-09
25 8.30 0.			2.80E-13	0.	0.	0.	7.00E-11	4.32E-11	2.49E-09	0.21E-09	3.14E-09
26 8.20 0.			2.37E-13	0.	0.	0.	7.16E-11	4.07E-11	2.49E-09	0.20E-09	3.14E-09
27 8.10 0.			1.94E-13	0.	0.	0.	7.14E-11	4.00E-11	2.49E-09	0.30E-09	3.14E-09
28 8.00 0.			1.98E-13	0.	0.	0.	7.17E-11	4.04E-11	2.49E-09	0.34E-09	3.15E-09
29 7.90 0.			1.58E-13	0.	0.	0.	7.25E-11	4.00E-11	2.49E-09	0.39E-09	3.15E-09
30 7.80 0.			1.56E-13	0.	0.	0.	7.25E-11	4.12E-11	2.49E-09	0.43E-09	3.16E-09
31 7.70 0.			1.30E-13	0.	0.	0.	7.28E-11	4.17E-11	2.49E-09	0.40E-09	3.16E-09
32 7.60 0.			1.19E-13	0.	0.	0.	7.32E-11	4.21E-11	2.49E-09	0.52E-09	3.17E-09
33 7.50 0.			1.85E-13	0.	0.	0.	7.34E-11	4.24E-11	2.49E-09	0.57E-09	3.17E-09
34 7.40 0.			9.88E-14	0.	0.	0.	7.40E-11	4.32E-11	2.49E-09	0.61E-09	3.18E-09
35 7.30 0.			8.25E-14	0.	0.	0.	7.44E-11	4.37E-11	2.49E-09	0.66E-09	3.19E-09
36 7.20 0.			7.12E-14	0.	0.	0.	7.48E-11	4.33E-11	2.49E-09	0.70E-09	3.19E-09
37 7.10 0.			6.58E-14	0.	0.	0.	7.54E-11	4.39E-11	2.49E-09	0.75E-09	3.19E-09
38 7.00 2.08E-17 0.			5.77E-14	0.	0.	0.	7.48E-11	4.56E-11	2.49E-09	0.79E-09	3.19E-09
39 6.90 5.48E-17 0.			5.07E-14	0.	0.	0.	7.66E-11	4.52E-11	2.49E-09	0.84E-09	3.19E-09
40 6.80 4.59E-17 0.			4.66E-14	0.	0.	0.	7.73E-11	4.70E-11	2.49E-09	0.88E-09	3.19E-09
41 6.70 3.24E-17 0.			3.89E-14	0.	0.	0.	7.79E-11	4.77E-11	2.49E-09	0.93E-09	3.19E-09
42 6.60 1.92E-17 0.			3.35E-14	0.	0.	0.	7.91E-11	4.64E-11	2.49E-09	1.00E-09	3.19E-09
43 6.5E 1.07E-17 0.			2.98E-14	0.	0.	0.	7.91E-11	4.64E-11	2.49E-09	1.00E-09	3.19E-09
44 6.4E 1.42E-17 0.			1.90E-14	3.38E-16	4.86E-14	0.	8.03E-11	2.94E-10	2.49E-09	7.10E-09	1.45E-08
45 6.3E 3.39E-17 0.			9.08E-15	1.46E-15	3.73E-14	0.	8.03E-11	2.84E-10	2.49E-09	7.26E-09	1.40E-08
46 6.20 9.10E-17 0.			4.64E-15	1.97E-15	5.03E-14	0.	8.09E-11	2.84E-10	2.49E-09	7.26E-09	1.40E-08
47 6.10 3.67E-16 0.			2.02E-15	5.44E-15	8.22E-14	0.	8.19E-11	2.47E-10	2.49E-09	7.39E-09	1.50E-08
48 6.00 9.70E-16 0.			4.06E-16	4.77E-15	3.20E-14	0.	8.22E-11	2.47E-10	2.49E-09	7.39E-09	1.52E-08
49 5.90 1.58E-15 8.			3.40E-17	6.00E-15	3.41E-14	0.	8.22E-11	2.40E-10	2.49E-09	7.62E-09	1.54E-08
50 5.80 2.42E-15 0.			6.80E-19	9.22E-15	3.29E-14	0.	8.09E-11	2.74E-10	2.49E-09	7.50E-09	1.56E-08
51 5.70 2.68E-15 0.			8.	1.02E-14	3.56E-14	0.	7.66E-11	2.69E-10	2.49E-09	7.64E-09	1.56E-08

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 1100. DENSITY (GM/CC) 1.293E-08 (10.0E-06 NORMAL)

PHOTON ENERGY BANDS	1ST POS.	M2	M2+ 1ST NEG.	BETA	NO	AO	GAMMA	VIB-ROT	NO	2	PHOTO-DET (IOMS)	0-	FREE-FREE	N	0	TOTAL AIR
52	5.60	3.69E-15	0.	0.	7.93E-15	5.34E-14	0.	0.	7.07E-11	3.95E-10	7.67E-09	7.94E-09	7.94E-09	7.94E-09	7.94E-09	1.68E-08
53	5.50	3.76E-15	0.	0.	7.71E-15	5.09E-14	0.	0.	7.11E-11	3.22E-10	7.76E-09	8.06E-09	8.06E-09	8.06E-09	8.06E-09	1.63E-08
54	5.40	3.97E-15	0.	0.	6.39E-15	3.59E-14	0.	0.	7.14E-11	3.49E-10	7.94E-09	8.20E-09	8.20E-09	8.20E-09	8.20E-09	1.66E-08
55	5.30	3.84E-15	0.	0.	6.08E-15	3.04E-14	0.	0.	7.19E-11	3.40E-10	6.99E-09	6.35E-09	6.35E-09	6.35E-09	6.35E-09	1.69E-08
56	5.20	2.78E-15	0.	0.	9.03E-15	3.15E-14	0.	0.	7.23E-11	3.41E-10	6.79E-09	6.54E-09	6.54E-09	6.54E-09	6.54E-09	1.72E-08
57	5.10	2.69E-15	0.	0.	8.03E-15	4.27E-14	0.	0.	7.30E-11	4.04E-10	6.44E-09	6.72E-09	6.72E-09	6.72E-09	6.72E-09	1.73E-08
58	5.00	1.93E-15	0.	0.	7.86E-15	3.79E-14	0.	0.	7.36E-11	4.20E-10	6.76E-09	6.91E-09	6.91E-09	6.91E-09	6.91E-09	1.81E-08
59	4.90	1.64E-15	0.	0.	6.56E-15	3.82E-14	0.	0.	7.42E-11	4.56E-10	6.98E-09	9.10E-09	9.10E-09	9.10E-09	9.10E-09	1.86E-08
60	4.80	1.79E-15	0.	0.	6.99E-15	3.52E-14	0.	0.	7.48E-11	4.58E-10	9.21E-09	9.21E-09	9.21E-09	9.21E-09	9.21E-09	1.91E-08
61	4.70	1.79E-15	0.	0.	6.99E-15	3.07E-14	0.	0.	7.54E-11	5.17E-10	9.48E-09	9.52E-09	9.52E-09	9.52E-09	9.52E-09	1.96E-08
62	4.60	2.07E-15	0.	0.	6.48E-15	2.97E-14	0.	0.	7.60E-11	5.90E-10	9.80E-09	9.76E-09	9.76E-09	9.76E-09	9.76E-09	2.02E-08
63	4.50	2.09E-15	0.	0.	2.49E-15	0.	0.	0.	7.66E-11	5.90E-10	1.02E-09	9.99E-09	9.99E-09	9.99E-09	9.99E-09	2.08E-08
64	4.40	2.13E-15	0.	0.	6.44E-15	0.	0.	0.	7.72E-11	6.31E-10	1.02E-09	1.02E-09	1.02E-09	1.02E-09	1.02E-09	2.15E-08
65	4.30	1.92E-15	0.	0.	6.84E-15	6.02E-14	0.	0.	7.78E-11	6.31E-10	1.02E-09	1.02E-09	1.02E-09	1.02E-09	1.02E-09	2.22E-08
66	4.20	1.79E-15	0.	0.	6.52E-15	6.64E-14	0.	0.	7.85E-11	7.26E-10	1.14E-09	1.04E-09	1.04E-09	1.04E-09	1.04E-09	2.27E-08
67	4.10	1.59E-15	0.	0.	2.66E-15	0.	0.	0.	7.92E-11	7.26E-10	1.14E-09	1.14E-09	1.14E-09	1.14E-09	1.14E-09	2.34E-08
68	4.00	1.42E-15	0.	0.	6.66E-15	1.74E-14	0.	0.	7.98E-11	8.01E-10	1.26E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	2.40E-08
69	3.90	1.15E-15	0.	0.	5.34E-15	5.57E-14	0.	0.	8.05E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	2.45E-08
70	3.80	1.24E-15	0.	0.	7.86E-15	2.18E-14	0.	0.	8.12E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	2.52E-08
71	3.70	3.04E-15	0.	0.	6.63E-15	4.54E-14	0.	0.	8.19E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	2.60E-08
72	3.60	9.04E-16	0.	0.	5.43E-15	2.43E-14	0.	0.	8.26E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	2.68E-08
73	3.50	6.14E-16	0.	0.	8.04E-15	6.67E-14	0.	0.	8.33E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	2.76E-08
74	3.40	7.16E-16	0.	0.	4.27E-15	5.00E-14	0.	0.	8.40E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	2.84E-08
75	3.30	5.16E-16	0.	0.	4.59E-15	3.81E-14	0.	0.	8.47E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	2.92E-08
76	3.20	6.69E-16	0.	0.	2.68E-15	6.22E-14	0.	0.	8.54E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	3.00E-08
77	3.10	4.29E-16	0.	0.	2.89E-15	9.22E-14	0.	0.	8.61E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	3.08E-08
78	3.00	3.62E-16	0.	0.	1.10E-15	2.97E-14	0.	0.	8.68E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	3.16E-08
79	2.90	2.89E-16	0.	0.	7.11E-15	1.66E-14	0.	0.	8.75E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	3.24E-08
80	2.80	2.91E-16	0.	0.	3.37E-15	7.93E-14	0.	0.	8.82E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	3.32E-08
81	2.70	1.74E-16	0.	0.	1.59E-15	1.44E-14	0.	0.	8.89E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	3.40E-08
82	2.60	1.49E-16	0.	0.	7.64E-15	1.35E-14	0.	0.	8.96E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	3.48E-08
83	2.50	3.06E-16	0.	0.	6.52E-15	1.11E-14	0.	0.	9.03E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	3.56E-08
84	2.40	0.	5.29E-15	0.	1.15E-12	5.12E-18	0.	0.	9.10E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	3.64E-08
85	2.30	0.	2.12E-14	0.	0.	0.	0.	0.	9.17E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	3.72E-08
86	2.20	0.	4.78E-14	0.	0.	0.	0.	0.	9.24E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	3.80E-08
87	2.10	0.	6.18E-14	0.	0.	0.	0.	0.	9.31E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	3.88E-08
88	2.00	0.	1.07E-13	0.	0.	0.	0.	0.	9.38E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	3.96E-08
89	1.90	0.	1.64E-13	0.	0.	0.	0.	0.	9.45E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	4.04E-08
90	1.80	0.	1.50E-13	0.	0.	0.	0.	0.	9.52E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	4.12E-08
91	1.70	0.	1.81E-13	0.	0.	0.	0.	0.	9.59E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	4.20E-08
92	1.60	0.	1.28E-13	0.	0.	0.	0.	0.	9.66E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	4.28E-08
93	1.50	0.	1.59E-13	0.	0.	0.	0.	0.	9.73E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	4.36E-08
94	1.40	0.	1.60E-13	0.	0.	0.	0.	0.	9.80E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	4.44E-08
95	1.30	0.	1.20E-13	0.	0.	0.	0.	0.	9.87E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	4.52E-08
96	1.20	0.	1.19E-13	0.	0.	0.	0.	0.	9.94E-11	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	4.60E-08
97	1.10	0.	1.03E-13	0.	0.	0.	0.	0.	1.00E-10	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	4.68E-08
98	1.00	0.	9.48E-14	0.	0.	0.	0.	0.	1.01E-10	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	4.76E-08
99	0.90	0.	7.71E-14	0.	0.	0.	0.	0.	1.02E-10	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	4.84E-08
100	0.80	0.	3.61E-14	0.	0.	0.	0.	0.	1.03E-10	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	4.92E-08
101	0.70	0.	9.23E-15	0.	0.	0.	0.	0.	1.04E-10	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	5.00E-08
102	0.60	0.	7.90E-16	0.	0.	0.	0.	0.	1.05E-10	8.01E-10	1.26E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09	5.08E-08

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 3300. DENSITY (GM/CC) 1.2932-89 (10.0E-07 NORMAL)

PHOTON ENERGY BANDS E.V.	O2 S-R CONT.	N2 S-R NO. 1	TEMPERATURE (DEGREES K) 3300.	DENSITY (GM/CC) 1.2932-89 (10.0E-07 NORMAL)	NO BETA	NO GAMMA	NO PHOTO-DET (IONS)	0- FREE-FREE P.E.	M P.F.	0 TOTAL AIR P.F.	
1 10.70 0.	0.	0.	5.10E-10	0.	0.	0.	1.16E-13	6.80E-13	3.24E-10	9.53E-11	4.20E-10
2 10.60 0.	0.	0.	4.4 5-16	0.	0.	0.	1.17E-13	6.29E-13	3.26E-10	9.51E-11	4.22E-10
3 10.50 0.	0.	0.	3.37E-16	0.	0.	0.	1.17E-13	6.41E-13	3.26E-10	9.58E-11	4.23E-10
4 10.40 0.	0.	0.	3.08E-16	0.	0.	0.	1.17E-13	6.80E-13	3.26E-10	9.49E-11	4.24E-10
5 10.30 0.	0.	0.	3.31E-16	0.	0.	0.	1.17E-13	6.49E-13	3.30E-10	9.47E-11	4.25E-10
6 10.20 0.	0.	0.	3.32E-16	0.	0.	0.	1.17E-13	7.00E-13	3.35E-10	9.46E-11	4.26E-10
7 10.10 0.	0.	0.	3.04E-16	0.	0.	0.	1.17E-13	7.21E-13	3.31E-10	9.44E-11	4.27E-10
8 9.90 0.	0.	0.	2.51E-16	0.	0.	0.	1.17E-13	7.43E-13	3.32E-10	9.43E-11	4.27E-10
9 9.80 0.	0.	0.	2.58E-16	0.	0.	0.	1.18E-13	7.66E-13	3.35E-10	9.42E-11	4.28E-10
10 9.70 0.	0.	0.	3.87E-16	0.	0.	0.	1.18E-13	7.90E-13	3.34E-10	9.40E-11	4.29E-10
11 9.60 0.	0.	0.	1.87E-16	0.	0.	0.	1.18E-13	8.14E-13	3.35E-10	9.40E-11	4.29E-10
12 9.50 0.	0.	0.	2.01E-16	0.	0.	0.	1.18E-13	8.48E-13	3.34E-10	9.37E-11	4.30E-10
13 9.40 0.	0.	0.	1.62E-16	0.	0.	0.	1.18E-13	8.71E-13	3.35E-10	9.36E-11	4.31E-10
14 9.30 0.	0.	0.	1.47E-16	0.	0.	0.	1.19E-13	8.95E-13	3.35E-10	9.35E-11	4.31E-10
15 9.20 0.	0.	0.	1.48E-16	0.	0.	0.	1.19E-13	9.20E-13	3.35E-10	9.35E-11	4.32E-10
16 9.10 0.	0.	0.	1.16E-16	0.	0.	0.	1.20E-13	9.45E-13	3.35E-10	9.32E-11	4.32E-10
17 9.00 0.	0.	0.	1.01E-16	0.	0.	0.	1.20E-13	9.71E-13	3.35E-10	9.31E-11	4.31E-10
18 8.90 0.	0.	0.	8.89E-17	0.	0.	0.	1.21E-13	1.02E-12	3.35E-10	9.29E-11	4.31E-10
19 8.80 0.	0.	0.	8.5E-17	0.	0.	0.	1.21E-13	1.06E-12	3.35E-10	9.28E-11	4.31E-10
20 8.70 0.	0.	0.	6.97E-17	0.	0.	0.	1.22E-13	1.09E-12	3.35E-10	9.27E-11	4.31E-10
21 8.60 0.	0.	0.	6.97E-17	0.	0.	0.	1.22E-13	1.13E-12	3.35E-10	9.25E-11	4.30E-10
22 8.50 0.	0.	0.	7.08E-17	0.	0.	0.	1.22E-13	1.17E-12	3.35E-10	9.24E-11	4.30E-10
23 8.40 0.	0.	0.	9.83E-17	0.	0.	0.	1.23E-13	1.21E-12	3.35E-10	9.23E-11	4.30E-10
24 8.30 0.	0.	0.	9.47E-17	0.	0.	0.	1.24E-13	1.25E-12	3.35E-10	9.22E-11	4.30E-10
25 8.20 0.	0.	0.	4.55E-17	0.	0.	0.	1.24E-13	1.30E-12	3.35E-10	9.21E-11	4.30E-10
26 8.10 0.	0.	0.	4.48E-17	0.	0.	0.	1.25E-13	1.35E-12	3.35E-10	9.20E-11	4.30E-10
27 8.00 0.	0.	0.	3.66E-17	0.	0.	0.	1.25E-13	1.40E-12	3.35E-10	9.19E-11	4.30E-10
28 7.90 0.	0.	0.	3.59E-17	0.	0.	0.	1.26E-13	1.46E-12	3.35E-10	9.18E-11	4.30E-10
29 7.80 0.	0.	0.	2.98E-17	0.	0.	0.	1.27E-13	1.51E-12	3.35E-10	9.17E-11	4.30E-10
30 7.70 0.	0.	0.	2.95E-17	0.	0.	0.	1.27E-13	1.57E-12	3.35E-10	9.16E-11	4.30E-10
31 7.60 0.	0.	0.	2.48E-17	0.	0.	0.	1.28E-13	1.63E-12	3.35E-10	9.15E-11	4.30E-10
32 7.50 0.	0.	0.	2.28E-17	0.	0.	0.	1.29E-13	1.70E-12	3.35E-10	9.14E-11	4.30E-10
33 7.40 0.	0.	0.	1.98E-17	0.	0.	0.	1.29E-13	1.77E-12	3.35E-10	9.13E-11	4.30E-10
34 7.30 0.	0.	0.	1.72E-17	0.	0.	0.	1.30E-13	1.84E-12	3.35E-10	9.12E-11	4.30E-10
35 7.20 0.	0.	0.	1.58E-17	0.	0.	0.	1.31E-13	1.92E-12	3.35E-10	9.11E-11	4.30E-10
36 7.10 0.	0.	0.	1.35E-17	0.	0.	0.	1.31E-13	2.00E-12	3.35E-10	9.10E-11	4.30E-10
37 7.00 0.	0.	0.	1.24E-17	0.	0.	0.	1.33E-13	2.08E-12	3.35E-10	9.09E-11	4.30E-10
38 6.90 6.30E-21	0.	0.	1.09E-17	0.	0.	0.	1.34E-13	2.16E-12	3.35E-10	9.08E-11	4.30E-10
39 6.80 1.21E-20	0.	0.	9.59E-18	0.	0.	0.	1.35E-13	2.27E-12	3.35E-10	9.07E-11	4.30E-10
40 6.70 1.02E-20	0.	0.	8.81E-18	0.	0.	0.	1.36E-13	2.37E-12	3.35E-10	9.06E-11	4.30E-10
41 6.60 4.25E-21	0.	0.	7.36E-18	0.	0.	0.	1.37E-13	2.48E-12	3.35E-10	9.05E-11	4.30E-10
42 6.50 3.37E-21	0.	0.	6.29E-18	0.	0.	0.	1.38E-13	2.60E-12	3.35E-10	9.04E-11	4.30E-10
43 6.40 3.24E-21	0.	0.	4.78E-18	0.	0.	0.	1.39E-13	2.75E-12	3.35E-10	9.03E-11	4.30E-10
44 6.30 6.75E-21	0.	0.	3.01E-18	0.	0.	0.	1.40E-13	2.92E-12	3.35E-10	9.02E-11	4.30E-10
45 6.20 2.01E-20	0.	0.	1.72E-18	0.	0.	0.	1.41E-13	3.11E-12	3.35E-10	9.01E-11	4.30E-10
46 6.10 6.13E-20	0.	0.	9.78E-19	0.	0.	0.	1.42E-13	3.32E-12	3.35E-10	9.00E-11	4.30E-10
47 6.00 2.15E-19	0.	0.	3.83E-19	0.	0.	0.	1.43E-13	3.55E-12	3.35E-10	8.99E-11	4.30E-10
48 5.90 3.50E-19	0.	0.	9.25E-20	0.	0.	0.	1.44E-13	3.80E-12	3.35E-10	8.98E-11	4.30E-10
49 5.80 5.35E-19	0.	0.	1.89E-18	0.	0.	0.	1.44E-13	4.05E-12	3.35E-10	8.97E-11	4.30E-10
50 5.70 6.37E-19	0.	0.	1.69E-18	0.	0.	0.	1.42E-13	4.30E-12	3.35E-10	8.96E-11	4.30E-10
51 5.70 6.37E-19	0.	0.	2.08E-18	0.	0.	0.	1.54E-13	4.04E-12	3.35E-10	8.96E-11	4.30E-10

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	O2 S-R	M2	B2	M2*	NEG.	BETA	GAMMA	NO	VIB-ROT	NO	2	PHOTO-DET (IONS)	M	FREE-FREE	N	D	TOTAL AIR
52	5.40	2.97E-19	0.	0.	1.62E-18	1.10E-17	0.	0.	0.	0.	0.	1.24E-13	4.26E-12	1.06E-10	1.10E-10	1.10E-10	2.20E-10
53	5.50	4.3E-19	0.	0.	1.09E-18	1.04E-17	0.	0.	0.	0.	0.	1.20E-13	4.59E-12	1.02E-10	1.02E-10	1.02E-10	2.32E-10
54	5.60	6.78E-19	0.	0.	1.72E-18	1.03E-17	0.	0.	0.	0.	0.	1.88E-13	5.93E-12	1.11E-10	1.11E-10	1.11E-10	2.41E-10
55	5.30	6.50E-19	0.	0.	1.69E-18	6.44E-18	0.	0.	0.	0.	0.	1.27E-13	5.93E-12	1.13E-10	1.13E-10	1.13E-10	2.46E-10
56	5.20	6.16E-19	0.	0.	1.61E-18	6.44E-18	0.	0.	0.	0.	0.	1.20E-13	5.95E-12	1.16E-10	1.16E-10	1.16E-10	2.52E-10
57	5.10	5.74E-19	0.	0.	1.61E-18	7.42E-18	0.	0.	0.	0.	0.	1.39E-13	6.40E-12	1.20E-10	1.20E-10	1.20E-10	2.58E-10
58	4.90	3.97E-19	0.	0.	1.74E-18	7.42E-18	0.	0.	0.	0.	0.	1.30E-13	6.40E-12	1.23E-10	1.23E-10	1.23E-10	2.65E-10
59	4.80	3.57E-19	0.	0.	1.64E-18	7.20E-18	0.	0.	0.	0.	0.	1.18E-13	6.40E-12	1.27E-10	1.27E-10	1.27E-10	2.72E-10
60	4.70	3.07E-19	0.	0.	1.77E-18	6.29E-18	0.	0.	0.	0.	0.	1.38E-13	7.23E-12	1.30E-10	1.30E-10	1.30E-10	2.78E-10
61	4.60	4.58E-19	0.	0.	1.70E-18	5.77E-18	0.	0.	0.	0.	0.	1.84E-13	7.41E-12	1.39E-10	1.39E-10	1.39E-10	2.86E-10
62	4.50	4.28E-19	0.	0.	1.96E-18	4.19E-18	0.	0.	0.	0.	0.	1.95E-13	8.24E-12	1.40E-10	1.40E-10	1.40E-10	2.97E-10
63	4.40	4.72E-19	0.	0.	1.93E-18	3.07E-18	0.	0.	0.	0.	0.	1.37E-13	9.46E-12	1.45E-10	1.45E-10	1.45E-10	3.06E-10
64	4.30	4.28E-19	0.	0.	1.48E-18	1.74E-18	0.	0.	0.	0.	0.	1.37E-13	9.46E-12	1.51E-10	1.51E-10	1.51E-10	3.06E-10
65	4.20	3.68E-19	0.	0.	1.45E-18	1.34E-18	0.	0.	0.	0.	0.	1.30E-13	1.01E-11	1.57E-10	1.57E-10	1.57E-10	3.07E-10
66	4.10	3.28E-19	0.	0.	1.45E-18	1.34E-18	0.	0.	0.	0.	0.	1.30E-13	1.01E-11	1.57E-10	1.57E-10	1.57E-10	3.07E-10
67	4.00	3.14E-19	0.	0.	1.27E-18	2.72E-19	0.	0.	0.	0.	0.	1.30E-13	1.01E-11	1.57E-10	1.57E-10	1.57E-10	3.07E-10
68	3.90	2.95E-19	0.	0.	1.01E-17	3.40E-19	0.	0.	0.	0.	0.	1.30E-13	1.01E-11	1.57E-10	1.57E-10	1.57E-10	3.07E-10
69	3.80	2.74E-19	0.	0.	1.01E-17	3.40E-19	0.	0.	0.	0.	0.	1.30E-13	1.01E-11	1.57E-10	1.57E-10	1.57E-10	3.07E-10
70	3.70	2.50E-19	0.	0.	1.02E-17	6.29E-19	0.	0.	0.	0.	0.	1.30E-13	1.01E-11	1.57E-10	1.57E-10	1.57E-10	3.07E-10
71	3.60	2.80E-19	0.	0.	1.03E-17	3.00E-19	0.	0.	0.	0.	0.	1.07E-13	1.72E-11	1.12E-10	1.12E-10	1.12E-10	4.46E-11
72	3.50	2.80E-19	0.	0.	1.03E-17	3.00E-19	0.	0.	0.	0.	0.	1.07E-13	1.72E-11	1.12E-10	1.12E-10	1.12E-10	4.46E-11
73	3.40	1.57E-19	0.	0.	8.07E-18	9.43E-19	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
74	3.30	1.22E-19	0.	0.	8.61E-18	4.81E-19	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
75	3.20	1.08E-19	0.	0.	9.07E-18	1.11E-19	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
76	3.10	9.39E-20	0.	0.	3.69E-18	1.47E-19	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
77	3.00	8.00E-20	0.	0.	2.24E-18	4.76E-19	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
78	2.90	6.59E-20	0.	0.	5.37E-18	2.98E-19	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
79	2.80	6.43E-20	0.	0.	5.37E-18	2.98E-19	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
80	2.70	3.59E-20	0.	0.	2.93E-19	2.31E-19	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
81	2.60	1.66E-20	0.	0.	1.40E-19	2.16E-19	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
82	2.50	1.12E-21	0.	0.	1.60E-20	1.76E-19	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
83	2.40	0.	0.	0.	1.84E-19	1.03E-21	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
84	2.30	0.	0.	0.	4.01E-18	0.	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
85	2.20	0.	0.	0.	9.03E-18	0.	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
86	2.10	0.	0.	0.	1.17E-17	0.	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
87	2.00	0.	0.	0.	2.63E-17	0.	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
88	1.90	0.	0.	0.	3.49E-17	0.	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
89	1.80	0.	0.	0.	2.84E-17	0.	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
90	1.70	0.	0.	0.	3.42E-17	0.	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
91	1.60	0.	0.	0.	2.42E-17	0.	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
92	1.50	0.	0.	0.	2.94E-17	0.	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
93	1.40	0.	0.	0.	3.85E-17	0.	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
94	1.30	0.	0.	0.	2.28E-17	0.	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
95	1.20	0.	0.	0.	2.28E-17	0.	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
96	1.10	0.	0.	0.	2.28E-17	0.	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
97	1.00	0.	0.	0.	1.94E-17	0.	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
98	0.90	0.	0.	0.	1.79E-17	0.	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
99	0.80	0.	0.	0.	1.46E-17	0.	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
100	0.70	0.	0.	0.	6.03E-18	0.	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
101	0.60	0.	0.	0.	1.74E-18	0.	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11
102	0.50	0.	0.	0.	1.49E-19	0.	0.	0.	0.	0.	0.	6.72E-14	1.92E-11	1.42E-10	1.42E-10	1.42E-10	5.94E-11

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 1800. DENSITY (GM/CC) 1.203E-02 ( 1.0E 01 NORMAL)

PHOTON ENERGY BANDS E.V.	OR B-M CMY.	M2 B-M NO. 1	NO BETA	NO GAMMA	NO PHOTO-DEY (10MS)	G-FREE P.E.	M P.E.	TOTAL AIR P.E.
1 10.70 0.	0.	1.92E 01	0.	0.	0.	9.81E-01	1.33E-03	6.79E 01
2 10.60 0.	0.	1.69E 01	0.	0.	0.	9.62E-01	1.46E-03	6.30E 02
3 10.50 0.	0.	1.47E 01	0.	0.	0.	9.44E-01	1.60E-03	5.87E 02
4 10.40 0.	0.	1.26E 01	0.	0.	0.	9.28E-01	1.74E-03	5.48E 02
5 10.30 0.	0.	1.06E 01	0.	0.	0.	9.14E-01	1.88E-03	5.13E 02
6 10.20 0.	0.	8.92E 00	0.	0.	0.	9.02E-01	2.02E-03	4.81E 02
7 10.10 0.	0.	7.48E 00	0.	0.	0.	8.92E-01	2.16E-03	4.51E 02
8 10.00 0.	0.	6.10E 00	0.	0.	0.	8.84E-01	2.30E-03	4.23E 02
9 9.90 0.	0.	4.90E 00	0.	0.	0.	8.78E-01	2.44E-03	3.97E 02
10 9.80 0.	0.	3.70E 00	0.	0.	0.	8.74E-01	2.58E-03	3.73E 02
11 9.70 0.	0.	2.60E 00	0.	0.	0.	8.72E-01	2.72E-03	3.51E 02
12 9.60 0.	0.	1.70E 00	0.	0.	0.	8.72E-01	2.86E-03	3.31E 02
13 9.50 0.	0.	1.00E 00	0.	0.	0.	8.74E-01	3.00E-03	3.13E 02
14 9.40 0.	0.	6.20E 00	0.	0.	0.	8.78E-01	3.14E-03	2.97E 02
15 9.30 0.	0.	4.00E 00	0.	0.	0.	8.84E-01	3.28E-03	2.83E 02
16 9.20 0.	0.	2.60E 00	0.	0.	0.	8.92E-01	3.42E-03	2.71E 02
17 9.10 0.	0.	1.60E 00	0.	0.	0.	9.02E-01	3.56E-03	2.61E 02
18 9.00 0.	0.	9.00E 00	0.	0.	0.	9.14E-01	3.70E-03	2.53E 02
19 8.90 0.	0.	5.00E 00	0.	0.	0.	9.28E-01	3.84E-03	2.47E 02
20 8.80 0.	0.	3.10E 00	0.	0.	0.	9.44E-01	3.98E-03	2.43E 02
21 8.70 0.	0.	1.80E 00	0.	0.	0.	9.62E-01	4.12E-03	2.40E 02
22 8.60 0.	0.	1.00E 00	0.	0.	0.	9.81E-01	4.26E-03	2.38E 02
23 8.50 0.	0.	6.00E 00	0.	0.	0.	1.00E 00	4.40E-03	2.37E 02
24 8.40 0.	0.	3.50E 00	0.	0.	0.	1.01E 00	4.54E-03	2.37E 02
25 8.30 0.	0.	2.00E 00	0.	0.	0.	1.02E 00	4.68E-03	2.37E 02
26 8.20 0.	0.	1.20E 00	0.	0.	0.	1.03E 00	4.82E-03	2.37E 02
27 8.10 0.	0.	7.00E 00	0.	0.	0.	1.04E 00	4.96E-03	2.37E 02
28 8.00 0.	0.	4.00E 00	0.	0.	0.	1.05E 00	5.10E-03	2.37E 02
29 7.90 0.	0.	2.50E 00	0.	0.	0.	1.06E 00	5.24E-03	2.37E 02
30 7.80 0.	0.	1.50E 00	0.	0.	0.	1.07E 00	5.38E-03	2.37E 02
31 7.70 0.	0.	9.00E 00	0.	0.	0.	1.08E 00	5.52E-03	2.37E 02
32 7.60 0.	0.	5.00E 00	0.	0.	0.	1.09E 00	5.66E-03	2.37E 02
33 7.50 0.	0.	3.00E 00	0.	0.	0.	1.10E 00	5.80E-03	2.37E 02
34 7.40 0.	0.	1.80E 00	0.	0.	0.	1.11E 00	5.94E-03	2.37E 02
35 7.30 0.	0.	1.00E 00	0.	0.	0.	1.12E 00	6.08E-03	2.37E 02
36 7.20 0.	0.	6.00E 00	0.	0.	0.	1.13E 00	6.22E-03	2.37E 02
37 7.10 0.	0.	3.50E 00	0.	0.	0.	1.14E 00	6.36E-03	2.37E 02
38 7.00 0.	0.	2.00E 00	0.	0.	0.	1.15E 00	6.50E-03	2.37E 02
39 6.90 0.	0.	1.20E 00	0.	0.	0.	1.16E 00	6.64E-03	2.37E 02
40 6.80 0.	0.	7.00E 00	0.	0.	0.	1.17E 00	6.78E-03	2.37E 02
41 6.70 0.	0.	4.00E 00	0.	0.	0.	1.18E 00	6.92E-03	2.37E 02
42 6.60 0.	0.	2.50E 00	0.	0.	0.	1.19E 00	7.06E-03	2.37E 02
43 6.50 0.	0.	1.50E 00	0.	0.	0.	1.20E 00	7.20E-03	2.37E 02
44 6.40 0.	0.	9.00E 00	0.	0.	0.	1.21E 00	7.34E-03	2.37E 02
45 6.30 0.	0.	5.00E 00	0.	0.	0.	1.22E 00	7.48E-03	2.37E 02
46 6.20 0.	0.	3.00E 00	0.	0.	0.	1.23E 00	7.62E-03	2.37E 02
47 6.10 0.	0.	1.80E 00	0.	0.	0.	1.24E 00	7.76E-03	2.37E 02
48 6.00 0.	0.	1.00E 00	0.	0.	0.	1.25E 00	7.90E-03	2.37E 02
49 5.90 0.	0.	6.00E 00	0.	0.	0.	1.26E 00	8.04E-03	2.37E 02
50 5.80 0.	0.	3.50E 00	0.	0.	0.	1.27E 00	8.18E-03	2.37E 02
51 5.70 0.	0.	2.00E 00	0.	0.	0.	1.28E 00	8.32E-03	2.37E 02

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 12000. DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)

PHOTON ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	N2+ 2ND NEG.	BETA	NO GAMMA	NO VIB-ROT	NO 2	0- PHOTO-DET (IONS)	M FREE-FREE	N P.E.	O TOTAL AIR	
52	5.60	3.48E-02	0.	0.	6.59E-02	4.39E-01	0.	0.	1.05E 00	7.24E-03	8.43E-02	7.63E-02	1.75E 00
53	5.50	3.67E-02	0.	0.	8.02E-02	4.14E-01	0.	0.	1.02E 00	7.64E-03	8.57E-02	7.74E-02	1.74E 00
54	5.40	3.90E-02	0.	0.	7.05E-02	3.92E-01	0.	0.	1.06E 00	8.08E-03	8.79E-02	7.80E-02	1.64E 00
55	5.30	3.50E-02	0.	0.	7.24E-02	4.33E-01	0.	0.	1.06E 00	8.55E-03	8.93E-02	7.95E-02	1.77E 00
56	5.20	2.79E-02	0.	0.	7.07E-02	2.69E-01	0.	0.	1.07E 00	9.06E-03	9.11E-02	8.10E-02	1.63E 00
57	5.10	2.63E-02	0.	0.	7.50E-02	3.57E-01	0.	0.	1.08E 00	9.40E-03	9.34E-02	8.33E-02	1.73E 00
58	5.00	1.96E-02	0.	0.	6.71E-02	3.19E-01	0.	0.	1.09E 00	1.02E-02	9.63E-02	8.51E-02	1.69E 00
59	4.90	1.64E-02	0.	0.	7.31E-02	3.37E-01	0.	0.	1.10E 00	1.08E-02	9.97E-02	8.66E-02	1.72E 00
60	4.80	1.64E-02	0.	0.	7.95E-02	3.07E-01	0.	0.	1.11E 00	1.15E-02	1.02E-01	8.86E-02	1.71E 00
61	4.70	1.79E-02	0.	0.	7.52E-02	2.70E-01	0.	0.	1.12E 00	1.23E-02	1.09E-01	9.00E-02	1.69E 00
62	4.60	2.13E-02	0.	0.	7.59E-02	2.48E-01	0.	0.	1.13E 00	1.31E-02	1.09E-01	9.31E-02	1.69E 00
63	4.50	2.17E-02	0.	2.80E-02	6.72E-02	1.92E-01	0.	0.	1.14E 00	1.40E-02	1.14E-01	9.54E-02	1.64E 00
64	4.40	2.24E-02	0.	2.38E-02	6.83E-02	1.38E-01	0.	0.	1.14E 00	1.50E-02	1.10E-01	9.77E-02	1.69E 00
65	4.30	2.05E-02	0.	2.59E-02	6.12E-02	1.72E-01	0.	0.	1.15E 00	1.61E-02	1.28E-01	1.00E-01	1.61E 00
66	4.20	1.67E-02	0.	3.59E-01	6.30E-02	5.87E-02	0.	0.	1.16E 00	1.73E-02	1.28E-01	1.03E-01	2.50E 00
67	4.10	1.71E-02	0.	3.41E-01	6.04E-02	1.54E-02	0.	0.	1.17E 00	1.86E-02	1.33E-01	1.04E-01	1.66E 00
68	4.00	1.53E-02	0.	1.35E 00	5.69E-02	1.16E-02	0.	0.	1.17E 00	2.00E-02	1.39E-01	2.53E-02	2.79E 00
69	3.90	1.66E-02	0.	6.05E-01	5.02E-02	4.80E-03	0.	0.	1.17E 00	2.16E-02	1.29E-01	2.60E-02	2.02E 00
70	3.80	1.66E-02	0.	9.09E-01	5.94E-02	6.	0.	0.	1.18E 00	2.33E-02	1.24E-01	2.69E-02	2.48E 00
71	3.70	1.19E-02	0.	1.07E 00	2.33E-02	4.29E-02	0.	0.	1.18E 00	2.53E-02	9.80E-02	2.99E-02	2.45E 00
72	3.60	1.01E-02	0.	6.37E-01	1.43E-01	4.66E-02	0.	0.	1.07E 00	2.79E-02	1.07E-01	3.34E-02	2.08E 00
73	3.50	9.50E-03	0.	9.17E-01	3.42E-01	3.67E-02	0.	0.	9.01E-01	3.04E-02	1.09E-01	3.71E-02	2.48E 00
74	3.40	8.12E-03	0.	5.00E-01	3.60E-02	3.66E-02	0.	0.	5.66E-01	3.26E-02	1.22E-01	4.13E-02	1.35E 00
75	3.30	6.36E-03	0.	3.39E-01	1.73E-01	2.94E-02	0.	0.	5.67E-01	3.57E-02	1.36E-01	4.55E-02	1.51E 00
76	3.20	4.96E-03	0.	3.24E-01	3.70E-01	2.77E-02	0.	0.	5.69E-01	3.82E-02	1.45E-01	4.93E-02	1.53E 00
77	3.00	4.29E-03	0.	1.93E-01	1.68E-01	2.51E-02	0.	0.	5.70E-01	4.77E-02	1.77E-01	5.66E-02	1.20E 00
78	2.90	3.46E-03	0.	6.78E-02	1.03E-01	1.88E-02	0.	0.	5.71E-01	5.20E-02	1.92E-01	6.31E-02	1.09E 00
79	2.80	3.31E-03	0.	4.19E-02	4.81E-02	1.16E-02	0.	0.	5.72E-01	5.80E-02	2.08E-01	6.81E-02	1.01E 00
80	2.70	2.44E-03	0.	1.93E-02	8.19E-02	5.87E-03	0.	0.	5.72E-01	6.50E-02	2.29E-01	7.35E-02	1.05E 00
81	2.60	9.40E-04	0.	9.73E-03	7.71E-03	2.42E-03	0.	0.	5.72E-01	7.36E-02	2.44E-01	7.98E-02	1.07E 00
82	2.50	6.41E-05	0.	1.15E-03	6.45E-03	5.28E-04	0.	0.	5.72E-01	8.20E-02	2.74E-01	8.65E-02	9.76E-01
83	2.40	0.	0.08E-02	0.	1.15E-03	5.70E-05	0.	0.	5.72E-01	9.37E-02	3.20E-01	4.43E-02	1.10E 00
84	2.30	0.	2.31E-01	0.	0.	0.	0.	0.	5.00E-01	1.07E-01	2.35E-01	5.30E-02	1.19E 00
85	2.20	0.	5.38E-01	0.	0.	0.	0.	0.	5.02E-01	1.22E-01	2.76E-01	6.39E-02	1.57E 00
86	2.10	0.	6.64E-01	0.	0.	0.	0.	0.	5.03E-01	1.40E-01	3.28E-01	7.48E-02	1.77E 00
87	2.00	0.	1.19E 00	0.	0.	0.	0.	0.	5.05E-01	1.63E-01	3.69E-01	8.57E-02	2.32E 00
88	1.90	0.	1.91E 00	0.	0.	0.	0.	0.	5.06E-01	1.92E-01	4.19E-01	9.76E-02	3.14E 00
89	1.80	0.	1.56E 00	0.	0.	0.	0.	0.	5.07E-01	2.24E-01	4.84E-01	1.17E-01	3.60E 00
90	1.70	0.	1.07E 00	0.	0.	0.	0.	0.	4.72E-01	2.67E-01	5.91E-01	1.41E-01	3.54E 00
91	1.60	0.	1.33E 00	0.	0.	0.	0.	0.	4.00E-01	3.21E-01	6.84E-01	1.60E-01	2.91E 00
92	1.50	0.	1.61E 00	0.	0.	0.	0.	0.	1.02E-01	3.93E-01	9.07E-01	2.00E-01	3.25E 00
93	1.40	0.	1.64E 00	0.	0.	0.	0.	0.	0.	4.02E-01	1.04E 00	2.35E-01	3.42E 00
94	1.30	0.	1.24E 00	0.	0.	0.	0.	0.	0.	6.04E-01	1.34E 00	3.00E-01	3.69E 00
95	1.20	0.	1.07E 00	0.	0.	0.	0.	0.	0.	7.70E-01	1.34E 00	2.97E-01	3.62E 00
96	1.10	0.	1.21E 00	0.	0.	0.	0.	0.	0.	1.09E 00	1.69E 00	3.73E-01	4.19E 00
97	1.00	0.	9.84E-01	0.	0.	0.	0.	0.	0.	1.35E 00	2.00E 00	4.16E-01	4.74E 00
98	0.90	0.	8.05E-01	0.	0.	0.	0.	0.	0.	1.80E 00	2.27E 00	4.90E-01	5.43E 00
99	0.80	0.	3.79E-01	0.	0.	0.	0.	0.	0.	2.00E 00	2.61E 00	5.04E-01	6.23E 00
100	0.70	0.	9.50E-02	0.	0.	0.	0.	0.	0.	4.03E 00	2.87E 00	6.10E-01	7.66E 00
101	0.60	0.	9.61E-03	0.	0.	0.	0.	0.	0.	6.49E 00	3.21E 00	6.90E-01	1.03E 01
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY E.V.	02 S-R BANDS	02 S-R CONT.	M2 B-M NO. 1	TEMPERATURE (DEGREES KI)	DENSITY (MG/CM <sup>3</sup> )	WTCCT	1.293E-03	(18.0E-01)	CORRECTED	NO	AO	GAMMA	NO	0-	FREE-FREE	M	0	TOTAL APP
1	10-20	0	3.09E-01	0	0	0	3.21E-02	9.50E-04	1.28E-01	6.79E-03	1.34E-01	0	0	0	0	0	0	0
2	10-30	0	3.42E-01	0	0	0	3.21E-02	9.03E-04	3.49E-02	6.71E-03	4.10E-01	0	0	0	0	0	0	0
3	10-50	0	3.99E-01	0	0	0	3.22E-02	1.01E-04	3.47E-02	6.70E-03	6.13E-01	0	0	0	0	0	0	0
4	10-60	0	3.11E-01	0	0	0	3.22E-02	1.04E-04	3.40E-02	6.60E-03	3.09E-01	0	0	0	0	0	0	0
5	10-30	0	2.62E-01	0	0	0	3.23E-02	1.07E-04	3.49E-02	6.67E-03	3.10E-01	0	0	0	0	0	0	0
6	10-20	0	2.44E-01	0	0	0	3.23E-02	1.10E-04	3.50E-02	6.66E-03	3.10E-01	0	0	0	0	0	0	0
7	10-10	0	2.43E-01	0	0	0	3.23E-02	1.14E-04	3.50E-02	6.66E-03	3.10E-01	0	0	0	0	0	0	0
8	10-00	0	2.64E-01	0	0	0	3.24E-02	1.17E-04	3.51E-02	6.64E-03	3.10E-01	0	0	0	0	0	0	0
9	9-90	0	2.07E-01	0	0	0	3.24E-02	1.21E-04	3.52E-02	6.62E-03	3.10E-01	0	0	0	0	0	0	0
10	9-80	0	1.60E-01	0	0	0	3.24E-02	1.25E-04	3.52E-02	6.61E-03	3.10E-01	0	0	0	0	0	0	0
11	9-70	0	1.56E-01	0	0	0	3.24E-02	1.29E-04	3.54E-02	6.59E-03	3.10E-01	0	0	0	0	0	0	0
12	9-60	0	1.67E-01	0	0	0	3.24E-02	1.33E-04	3.54E-02	6.59E-03	3.10E-01	0	0	0	0	0	0	0
13	9-50	0	1.57E-01	0	0	0	3.27E-02	1.37E-04	3.54E-02	6.57E-03	3.12E-01	0	0	0	0	0	0	0
14	9-40	0	1.29E-01	0	0	0	3.28E-02	1.41E-04	3.57E-02	6.55E-03	3.10E-01	0	0	0	0	0	0	0
15	9-30	0	1.27E-01	0	0	0	3.29E-02	1.46E-04	3.54E-02	6.54E-03	3.10E-01	0	0	0	0	0	0	0
16	9-20	0	9.90E-02	0	0	0	3.28E-02	1.51E-04	3.52E-02	6.53E-03	3.10E-01	0	0	0	0	0	0	0
17	9-10	0	1.01E-01	0	0	0	3.27E-02	1.56E-04	3.49E-02	6.52E-03	3.10E-01	0	0	0	0	0	0	0
18	9-00	0	8.67E-02	0	0	0	3.25E-02	1.61E-04	3.47E-02	6.51E-03	3.10E-01	0	0	0	0	0	0	0
19	8-90	0	7.91E-02	0	0	0	3.24E-02	1.67E-04	3.44E-02	6.49E-03	3.10E-01	0	0	0	0	0	0	0
20	8-80	0	7.64E-02	0	0	0	3.23E-02	1.72E-04	3.42E-02	6.48E-03	3.10E-01	0	0	0	0	0	0	0
21	8-70	0	6.32E-02	0	0	0	3.26E-02	1.78E-04	3.40E-02	6.47E-03	3.10E-01	0	0	0	0	0	0	0
22	8-60	0	6.44E-02	0	0	0	3.26E-02	1.85E-04	3.40E-02	6.45E-03	3.10E-01	0	0	0	0	0	0	0
23	8-50	0	5.38E-02	0	0	0	3.26E-02	1.91E-04	3.40E-02	6.44E-03	3.10E-01	0	0	0	0	0	0	0
24	8-40	0	5.29E-02	0	0	0	3.28E-02	1.98E-04	3.40E-02	6.44E-03	3.10E-01	0	0	0	0	0	0	0
25	8-30	0	4.26E-02	0	0	0	3.28E-02	2.06E-04	3.40E-02	6.44E-03	3.10E-01	0	0	0	0	0	0	0
26	8-20	0	3.50E-02	0	0	0	3.40E-02	2.13E-04	3.40E-02	6.40E-03	3.10E-01	0	0	0	0	0	0	0
27	8-10	0	3.50E-02	0	0	0	3.40E-02	2.21E-04	3.40E-02	6.32E-03	3.10E-01	0	0	0	0	0	0	0
28	8-00	0	3.45E-02	0	0	0	3.40E-02	2.30E-04	3.40E-02	6.34E-03	3.10E-01	0	0	0	0	0	0	0
29	7-90	0	2.85E-02	0	0	0	3.40E-02	2.39E-04	3.40E-02	6.34E-03	3.10E-01	0	0	0	0	0	0	0
30	7-80	0	2.89E-02	0	0	0	3.41E-02	2.49E-04	3.40E-02	6.34E-03	3.10E-01	0	0	0	0	0	0	0
31	7-70	0	2.44E-02	0	0	0	3.41E-02	2.59E-04	3.40E-02	6.34E-03	3.10E-01	0	0	0	0	0	0	0
32	7-60	0	2.29E-02	0	0	0	3.41E-02	2.70E-04	3.40E-02	6.34E-03	3.10E-01	0	0	0	0	0	0	0
33	7-50	0	2.01E-02	0	0	0	3.41E-02	2.79E-04	3.40E-02	6.34E-03	3.10E-01	0	0	0	0	0	0	0
34	7-40	0	1.79E-02	0	0	0	3.41E-02	2.90E-04	3.40E-02	6.34E-03	3.10E-01	0	0	0	0	0	0	0
35	7-30	0	1.60E-02	0	0	0	3.41E-02	3.02E-04	3.40E-02	6.34E-03	3.10E-01	0	0	0	0	0	0	0
36	7-20	0	1.40E-02	0	0	0	3.41E-02	3.15E-04	3.40E-02	6.34E-03	3.10E-01	0	0	0	0	0	0	0
37	7-10	0	1.30E-02	0	0	0	3.41E-02	3.29E-04	3.40E-02	6.34E-03	3.10E-01	0	0	0	0	0	0	0
38	7-00	0	1.15E-02	0	0	0	3.41E-02	3.43E-04	3.40E-02	6.34E-03	3.10E-01	0	0	0	0	0	0	0
39	6-90	0	1.02E-02	0	0	0	3.41E-02	3.58E-04	3.40E-02	6.34E-03	3.10E-01	0	0	0	0	0	0	0
40	6-80	0	9.51E-03	0	0	0	3.41E-02	3.74E-04	3.40E-02	6.34E-03	3.10E-01	0	0	0	0	0	0	0
41	6-70	0	8.63E-03	0	0	0	3.41E-02	3.91E-04	3.40E-02	6.34E-03	3.10E-01	0	0	0	0	0	0	0
42	6-60	0	6.93E-03	0	0	0	3.41E-02	4.09E-04	3.40E-02	6.34E-03	3.10E-01	0	0	0	0	0	0	0
43	6-50	0	5.20E-03	0	0	0	3.41E-02	4.29E-04	3.40E-02	6.34E-03	3.10E-01	0	0	0	0	0	0	0
44	6-40	0	3.42E-03	0	0	0	3.41E-02	4.50E-04	3.40E-02	6.34E-03	3.10E-01	0	0	0	0	0	0	0
45	6-30	0	1.90E-03	0	0	0	3.41E-02	4.72E-04	3.40E-02	6.34E-03	3.10E-01	0	0	0	0	0	0	0
46	6-20	0	1.04E-03	0	0	0	3.41E-02	4.95E-04	3.40E-02	6.34E-03	3.10E-01	0	0	0	0	0	0	0
47	6-10	0	4.60E-04	0	0	0	3.41E-02	5.20E-04	3.40E-02	6.34E-03	3.10E-01	0	0	0	0	0	0	0
48	6-00	0	1.13E-04	0	0	0	3.41E-02	5.48E-04	3.40E-02	6.34E-03	3.10E-01	0	0	0	0	0	0	0
49	5-90	0	8.63E-04	0	0	0	3.41E-02	5.78E-04	3.40E-02	6.34E-03	3.10E-01	0	0	0	0	0	0	0
50	5-80	0	2.60E-04	0	0	0	3.41E-02	6.09E-04	3.40E-02	6.34E-03	3.10E-01	0	0	0	0	0	0	0
51	5-70	0	3.07E-04	0	0	0	3.41E-02	6.40E-04	3.40E-02	6.34E-03	3.10E-01	0	0	0	0	0	0	0

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 12000. DENSITY (GM/CC) 1.293E-03 (10.0E-01 NORMAL)

PHOTON 02 S-R ENERGY BANDS	N2 1ST PHS.	N2 2ND PHS.	N2 1ST NEB.	NO BETA	NO GAMMA	NO VIB-ROT	NO 2	O- PHOTO-DET (IONS)	N FREE-FREE	N P.E.	O P.E.	TOTAL AIR
52	5.60	3.87E-04	0.	0.	9.88E-04	6.58E-03	0.	3.43E-02	6.73E-04	1.20E-02	8.05E-03	6.29E-02
53	5.50	4.07E-04	0.	0.	1.21E-03	6.20E-03	0.	3.44E-02	7.10E-04	1.22E-02	8.16E-03	6.31E-02
54	5.40	4.35E-04	0.	0.	1.06E-03	4.53E-03	0.	3.46E-02	7.50E-04	1.24E-02	8.28E-03	6.33E-02
55	5.30	4.62E-04	0.	0.	1.00E-03	4.20E-03	0.	3.48E-02	7.90E-04	1.27E-02	8.42E-03	6.44E-02
56	5.20	3.10E-04	0.	0.	1.10E-03	4.05E-03	0.	3.51E-02	8.41E-04	1.30E-02	8.60E-03	6.29E-02
57	5.10	2.91E-04	0.	0.	1.12E-03	3.38E-03	0.	3.54E-02	8.92E-04	1.33E-02	8.78E-03	6.51E-02
58	5.00	2.10E-04	0.	0.	1.01E-03	4.70E-03	0.	3.57E-02	9.43E-04	1.37E-02	8.96E-03	6.53E-02
59	4.90	1.82E-04	0.	0.	1.10E-03	4.05E-03	0.	3.60E-02	1.01E-03	1.41E-02	9.15E-03	6.55E-02
60	4.85	1.82E-04	0.	0.	1.10E-03	4.05E-03	0.	3.62E-02	1.02E-03	1.42E-02	9.16E-03	6.56E-02
61	4.70	1.98E-04	0.	0.	1.13E-03	4.05E-03	0.	3.65E-02	1.14E-03	1.50E-02	9.57E-03	6.76E-02
62	4.60	2.36E-04	0.	0.	1.14E-03	3.73E-03	0.	3.68E-02	1.23E-03	1.55E-02	9.81E-03	6.85E-02
63	4.50	2.41E-04	0.	5.67E-04	1.01E-03	2.73E-03	0.	3.71E-02	1.30E-03	1.62E-02	1.01E-02	6.92E-02
64	4.40	2.48E-04	0.	1.08E-03	9.98E-04	1.95E-03	0.	3.74E-02	1.39E-03	1.68E-02	1.03E-02	7.10E-02
65	4.30	2.27E-04	0.	5.24E-03	9.10E-04	1.95E-03	0.	3.77E-02	1.49E-03	1.75E-02	1.06E-02	7.48E-02
66	4.20	2.07E-04	0.	1.93E-02	9.57E-04	9.78E-04	0.	3.80E-02	1.60E-03	1.82E-02	1.08E-02	8.00E-02
67	4.10	1.90E-04	0.	6.90E-03	9.05E-04	2.31E-04	0.	3.82E-02	1.72E-03	1.89E-02	1.10E-02	7.80E-02
68	4.00	1.70E-04	0.	2.74E-02	8.53E-04	1.75E-04	0.	3.85E-02	1.84E-03	1.96E-02	2.66E-03	9.10E-02
69	3.90	1.49E-04	0.	1.22E-02	8.22E-04	7.55E-04	0.	3.87E-02	2.00E-03	1.75E-02	2.74E-03	7.46E-02
70	3.80	1.51E-04	0.	1.64E-02	5.24E-03	8.08E-04	0.	3.90E-02	2.15E-03	1.70E-02	2.84E-03	8.58E-02
71	3.70	1.28E-04	0.	2.17E-02	1.53E-03	6.43E-04	0.	3.94E-02	2.30E-03	1.41E-02	3.16E-03	8.10E-02
72	3.60	1.09E-04	0.	1.29E-02	9.30E-03	6.99E-04	0.	3.97E-02	2.50E-03	1.52E-02	3.52E-03	7.94E-02
73	3.50	1.03E-04	0.	1.66E-02	2.30E-02	5.21E-04	0.	3.21E-02	2.70E-03	1.55E-02	3.91E-03	9.71E-02
74	3.40	9.01E-05	0.	1.03E-02	2.34E-03	5.70E-04	0.	1.85E-02	3.01E-03	1.74E-02	4.37E-03	5.66E-02
75	3.30	7.06E-05	0.	1.00E-02	1.13E-02	4.41E-04	0.	1.89E-02	3.32E-03	1.93E-02	4.79E-03	6.06E-02
76	3.20	5.93E-05	0.	6.56E-03	2.91E-02	4.94E-04	0.	1.29E-02	3.63E-03	2.13E-02	5.28E-03	7.95E-02
77	3.10	5.19E-05	0.	5.02E-03	3.67E-03	4.59E-04	0.	1.06E-02	4.01E-03	2.33E-02	5.72E-03	6.80E-02
78	3.00	4.70E-05	0.	2.94E-03	1.10E-02	3.76E-04	0.	1.07E-02	4.43E-03	2.52E-02	6.18E-03	6.89E-02
79	2.90	3.49E-05	0.	1.70E-03	6.69E-03	2.70E-04	0.	1.07E-02	4.91E-03	2.73E-02	6.64E-03	6.43E-02
80	2.80	3.90E-05	0.	6.47E-04	3.13E-03	1.73E-04	0.	1.07E-02	5.45E-03	2.94E-02	7.10E-03	6.51E-02
81	2.70	2.30E-05	0.	3.91E-04	5.34E-03	6.80E-05	0.	1.07E-02	6.10E-03	3.20E-02	7.74E-03	8.04E-02
82	2.60	1.04E-05	0.	1.97E-04	5.03E-04	3.62E-05	0.	1.07E-02	6.85E-03	3.47E-02	8.39E-03	6.52E-02
83	2.50	7.11E-07	0.	2.33E-05	4.34E-04	8.20E-06	0.	1.07E-02	7.70E-03	3.75E-02	9.05E-03	6.99E-02
84	2.40	0.	1.23E-05	0.	4.24E-04	8.56E-07	0.	1.07E-02	8.65E-03	4.04E-02	9.79E-03	7.52E-02
85	2.30	0.	1.68E-05	0.	0.	0.	0.	1.07E-02	9.65E-03	4.34E-02	1.06E-02	8.04E-02
86	2.20	0.	1.09E-05	0.	0.	0.	0.	1.07E-02	1.07E-02	4.64E-02	1.16E-02	8.51E-02
87	2.10	0.	3.34E-06	0.	0.	0.	0.	1.07E-02	1.19E-02	4.93E-02	1.26E-02	8.98E-02
88	2.00	0.	2.41E-06	0.	0.	0.	0.	1.07E-02	1.32E-02	5.22E-02	1.36E-02	9.45E-02
89	1.90	0.	3.67E-06	0.	0.	0.	0.	1.07E-02	1.46E-02	5.51E-02	1.46E-02	9.92E-02
90	1.80	0.	3.18E-06	0.	0.	0.	0.	1.07E-02	1.61E-02	5.80E-02	1.56E-02	1.04E-01
91	1.70	0.	3.78E-06	0.	0.	0.	0.	1.07E-02	1.77E-02	6.10E-02	1.66E-02	1.09E-01
92	1.60	0.	2.79E-06	0.	0.	0.	0.	1.07E-02	1.94E-02	6.41E-02	1.76E-02	1.14E-01
93	1.50	0.	3.25E-06	0.	0.	0.	0.	1.07E-02	2.12E-02	6.72E-02	1.86E-02	1.19E-01
94	1.40	0.	3.37E-06	0.	0.	0.	0.	1.07E-02	2.31E-02	7.04E-02	1.96E-02	1.24E-01
95	1.30	0.	2.51E-06	0.	0.	0.	0.	1.07E-02	2.51E-02	7.36E-02	2.06E-02	1.29E-01
96	1.20	0.	2.46E-06	0.	0.	0.	0.	1.07E-02	2.72E-02	7.68E-02	2.16E-02	1.34E-01
97	1.10	0.	2.17E-06	0.	0.	0.	0.	1.07E-02	2.94E-02	8.00E-02	2.26E-02	1.39E-01
98	1.00	0.	1.99E-06	0.	0.	0.	0.	1.07E-02	3.17E-02	8.32E-02	2.36E-02	1.44E-01
99	0.90	0.	1.63E-06	0.	0.	0.	0.	1.07E-02	3.41E-02	8.64E-02	2.46E-02	1.49E-01
100	0.80	0.	1.62E-06	0.	0.	0.	0.	1.07E-02	3.66E-02	8.96E-02	2.56E-02	1.54E-01
101	0.70	0.	1.92E-06	0.	0.	0.	0.	1.07E-02	3.91E-02	9.28E-02	2.66E-02	1.59E-01
102	0.60	0.	1.95E-06	0.	0.	0.	0.	1.07E-02	4.16E-02	9.60E-02	2.76E-02	1.64E-01

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 12000. DENSITY (GM/CC) 1.293E-04 (19.05-02 NORMAL)

PHOTON ENERGY BANDS E.V.	02 S-R CONT.	N2 S-R NO. 1	BETA	NO GAMMA	NO 2	PHOTO-DET (LONG)	0- FREE-FREE P.E.	N P.E.	0 P.F.	TOTAL AIR
1 10.70 0.	0.	4.19E-03	0.	0.	0.	0.93E-04	9.28E-04	1.24E-03	0.67E-04	1.27E-03
2 10.60 0.	0.	3.72E-03	0.	0.	0.	9.95E-04	9.59E-04	3.50E-03	0.64E-04	9.92E-03
3 10.50 0.	0.	3.44E-03	0.	0.	0.	9.94E-04	9.37E-04	3.60E-03	0.65E-04	9.91E-03
4 10.40 0.	0.	3.35E-03	0.	0.	0.	9.97E-04	1.01E-03	3.61E-03	0.63E-04	9.63E-03
5 10.30 0.	0.	2.82E-03	0.	0.	0.	9.99E-04	1.04E-03	3.62E-03	0.62E-04	9.13E-03
6 10.20 0.	0.	2.84E-03	0.	0.	0.	10.00E-04	1.07E-03	3.63E-03	0.61E-04	9.14E-03
7 10.10 0.	0.	2.62E-03	0.	0.	0.	10.00E-04	1.10E-03	3.63E-03	0.59E-04	7.92E-03
8 10.00 0.	0.	2.19E-03	0.	0.	0.	10.00E-04	1.14E-03	3.64E-03	0.59E-04	7.51E-03
9 9.90 0.	0.	2.23E-03	0.	0.	0.	10.00E-04	1.17E-03	3.65E-03	0.57E-04	7.54E-03
10 9.80 0.	0.	2.02E-03	0.	0.	0.	1.01E-03	1.21E-03	3.64E-03	0.59E-04	7.34E-03
11 9.70 0.	0.	1.86E-03	0.	0.	0.	1.01E-03	1.25E-03	3.67E-03	0.54E-04	7.02E-03
12 9.60 0.	0.	1.89E-03	0.	0.	0.	1.01E-03	1.29E-03	3.68E-03	0.53E-04	7.10E-03
13 9.50 0.	0.	1.47E-03	0.	0.	0.	1.01E-03	1.33E-03	3.69E-03	0.51E-04	6.84E-03
14 9.40 0.	0.	1.34E-03	0.	0.	0.	1.01E-03	1.37E-03	3.70E-03	0.50E-04	6.72E-03
15 9.30 0.	0.	1.34E-03	0.	0.	0.	1.02E-03	1.42E-03	3.71E-03	0.49E-04	6.74E-03
16 9.20 0.	0.	1.07E-03	0.	0.	0.	1.02E-03	1.46E-03	3.72E-03	0.48E-04	6.47E-03
17 9.10 0.	0.	1.89E-03	0.	0.	0.	1.03E-03	1.51E-03	3.73E-03	0.46E-04	6.49E-03
18 9.00 0.	0.	9.54E-04	0.	0.	0.	1.03E-03	1.56E-03	3.74E-03	0.45E-04	6.37E-03
19 8.90 0.	0.	8.31E-04	0.	0.	0.	1.03E-03	1.62E-03	3.75E-03	0.44E-04	6.69E-03
20 8.80 0.	0.	8.23E-04	0.	0.	0.	1.04E-03	1.67E-03	3.76E-03	0.43E-04	6.42E-03
21 8.70 0.	0.	6.80E-04	0.	0.	0.	1.04E-03	1.73E-03	3.76E-03	0.41E-04	6.40E-03
22 8.60 0.	0.	6.82E-04	0.	0.	0.	1.04E-03	1.79E-03	3.76E-03	0.40E-04	6.30E-03
23 8.50 0.	0.	5.79E-04	0.	0.	0.	1.05E-03	1.86E-03	3.76E-03	0.40E-04	6.30E-03
24 8.40 0.	0.	4.50E-04	0.	0.	0.	1.05E-03	1.92E-03	3.76E-03	0.39E-04	6.30E-03
25 8.30 0.	0.	4.58E-04	0.	0.	0.	1.06E-03	1.99E-03	3.76E-03	0.39E-04	6.30E-03
26 8.20 0.	0.	4.94E-04	0.	0.	0.	1.06E-03	2.07E-03	3.76E-03	0.42E-04	6.29E-03
27 8.10 0.	0.	3.74E-04	0.	0.	0.	1.07E-03	2.15E-03	3.76E-03	0.46E-04	6.22E-03
28 8.00 0.	0.	3.72E-04	0.	0.	0.	1.08E-03	2.23E-03	3.76E-03	0.46E-04	6.22E-03
29 7.90 0.	0.	3.07E-04	0.	0.	0.	1.08E-03	2.31E-03	3.76E-03	0.46E-04	6.17E-03
30 7.80 0.	0.	3.11E-04	0.	0.	0.	1.09E-03	2.40E-03	3.76E-03	0.46E-04	6.19E-03
31 7.70 0.	0.	2.62E-04	0.	0.	0.	1.09E-03	2.50E-03	3.76E-03	0.46E-04	6.19E-03
32 7.60 0.	0.	2.42E-04	0.	0.	0.	1.10E-03	2.60E-03	3.76E-03	0.46E-04	6.14E-03
33 7.50 0.	0.	2.16E-04	0.	0.	0.	1.10E-03	2.71E-03	3.76E-03	0.46E-04	6.13E-03
34 7.40 0.	0.	1.88E-04	0.	0.	0.	1.11E-03	2.82E-03	3.76E-03	0.46E-04	6.11E-03
35 7.30 0.	0.	1.73E-04	0.	0.	0.	1.12E-03	2.93E-03	3.76E-03	0.46E-04	6.11E-03
36 7.20 0.	0.	1.51E-04	0.	0.	0.	1.12E-03	3.06E-03	3.76E-03	0.46E-04	6.11E-03
37 7.10 0.	0.	1.40E-04	0.	0.	0.	1.13E-03	3.19E-03	3.76E-03	0.46E-04	6.12E-03
38 7.00 2.74E-08	0.	1.24E-04	0.	0.	0.	1.14E-03	3.33E-03	3.76E-03	0.46E-04	6.14E-03
39 6.90 5.27E-08	0.	1.10E-04	0.	0.	0.	1.15E-03	3.48E-03	3.76E-03	0.46E-04	6.14E-03
40 6.80 4.49E-08	0.	1.02E-04	0.	0.	0.	1.16E-03	3.63E-03	3.76E-03	0.46E-04	6.14E-03
41 6.70 3.16E-08	0.	9.64E-05	0.	0.	0.	1.17E-03	3.80E-03	3.76E-03	0.46E-04	6.19E-03
42 6.60 1.68E-08	0.	7.46E-05	0.	0.	0.	1.18E-03	3.98E-03	3.76E-03	0.46E-04	6.19E-03
43 6.50 1.04E-08	0.	5.68E-05	0.	0.	0.	1.19E-03	4.16E-03	3.76E-03	0.46E-04	6.19E-03
44 6.40 1.44E-08	0.	3.69E-05	0.	0.	0.	1.20E-03	4.36E-03	3.76E-03	0.46E-04	6.19E-03
45 6.30 3.01E-08	0.	2.15E-05	0.	0.	0.	1.20E-03	4.58E-03	3.76E-03	0.46E-04	6.19E-03
46 6.20 9.04E-08	0.	1.12E-05	0.	0.	0.	1.21E-03	4.80E-03	3.76E-03	0.46E-04	6.19E-03
47 6.10 3.68E-07	0.	4.96E-06	0.	0.	0.	1.22E-03	5.04E-03	3.76E-03	0.46E-04	6.19E-03
48 6.00 9.84E-07	0.	1.21E-06	0.	0.	0.	1.23E-03	5.30E-03	3.76E-03	0.46E-04	6.19E-03
49 5.90 1.62E-06	0.	4.68E-06	0.	0.	0.	1.23E-03	5.58E-03	3.76E-03	0.46E-04	6.19E-03
50 5.80 2.50E-06	0.	1.14E-05	0.	0.	0.	1.23E-03	5.87E-03	3.76E-03	0.46E-04	6.19E-03
51 5.70 3.02E-06	0.	1.28E-05	0.	0.	0.	1.24E-03	6.19E-03	3.76E-03	0.46E-04	6.19E-03

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	NO RETA	NO GAMMA	NO VIB-ROT	NO 2	O- PHOTO-DET (IMNS)	FRES-FREE N	P.E.	O P.F.	TOTAL AIR
52	5.61	3.81E-06	0.	1.02E-05	6.77E-05	0.	0.	1.06E-03	6.53E-05	1.24E-03	7.90E-04	3.25E-03
53	5.52	4.01E-06	0.	1.24E-05	6.37E-05	0.	0.	1.07E-03	6.09E-05	1.27E-03	8.09E-04	3.29E-03
54	5.40	4.26E-06	0.	1.09E-05	6.44E-05	0.	0.	1.07E-03	7.20E-05	1.29E-03	8.21E-04	3.31E-03
55	5.30	4.15E-06	0.	1.12E-05	6.34E-05	0.	0.	1.08E-03	7.71E-05	1.32E-03	8.35E-04	3.38E-03
56	5.20	3.95E-06	0.	1.18E-05	6.45E-05	0.	0.	1.08E-03	8.16E-05	1.35E-03	8.53E-04	3.42E-03
57	5.10	2.87E-06	0.	1.10E-05	5.97E-05	0.	0.	1.09E-03	8.06E-05	1.38E-03	8.71E-04	3.58E-03
58	5.0E	2.14E-06	0.	1.03E-05	6.92E-05	0.	0.	1.11E-03	9.19E-05	1.42E-03	8.99E-04	3.77E-03
59	4.90	1.80E-06	0.	1.13E-05	5.74E-05	0.	0.	1.12E-03	9.77E-05	1.46E-03	9.26E-04	3.85E-03
60	4.80	1.79E-06	0.	1.20E-05	6.74E-05	0.	0.	1.13E-03	1.09E-04	1.51E-03	9.26E-04	3.85E-03
61	4.70	1.95E-06	0.	1.16E-05	6.14E-05	0.	0.	1.13E-03	1.11E-04	1.55E-03	9.59E-04	3.88E-03
62	4.60	2.33E-06	0.	1.17E-05	5.83E-05	0.	0.	1.14E-03	1.08E-04	1.61E-03	9.73E-04	3.89E-03
63	4.50	2.37E-06	0.	1.04E-05	2.81E-05	0.	0.	1.15E-03	1.20E-04	1.66E-03	9.97E-04	4.08E-03
64	4.40	2.44E-06	0.	2.04E-05	2.80E-05	0.	0.	1.16E-03	1.39E-04	1.74E-03	1.02E-03	4.11E-03
65	4.30	2.24E-06	0.	5.54E-05	1.95E-05	0.	0.	1.17E-03	1.45E-04	1.82E-03	1.05E-03	4.25E-03
66	4.20	2.04E-06	0.	2.08E-04	8.99E-06	0.	0.	1.18E-03	1.56E-04	1.89E-03	1.07E-03	4.52E-03
67	4.10	1.87E-06	0.	7.43E-05	2.38E-06	0.	0.	1.18E-03	1.67E-04	1.95E-03	1.09E-03	4.89E-03
68	4.00	1.67E-06	0.	2.94E-04	8.77E-06	2.82E-06	0.	1.19E-03	1.80E-04	2.03E-03	2.04E-04	3.97E-03
69	3.90	1.37E-06	0.	1.32E-04	3.14E-05	7.75E-06	7.46E-07	1.18E-03	1.94E-04	1.82E-03	2.72E-04	3.64E-03
70	3.80	1.48E-06	0.	1.98E-04	1.81E-04	8.24E-06	8.	1.18E-03	2.10E-04	1.86E-03	2.92E-04	3.92E-03
71	3.70	1.26E-06	0.	2.34E-04	5.29E-05	6.62E-06	0.	1.16E-03	2.29E-04	1.45E-03	3.13E-04	3.5E-03
72	3.60	1.11E-06	0.	1.38E-04	3.21E-04	7.19E-06	0.	1.08E-03	2.48E-04	1.58E-03	3.49E-04	3.75E-03
73	3.50	1.00E-06	0.	2.08E-04	8.14E-04	5.36E-06	0.	0.93E-04	2.70E-04	1.61E-03	3.88E-04	4.28E-03
74	3.40	8.66E-07	0.	1.11E-04	8.08E-05	5.96E-06	0.	5.73E-04	2.94E-04	1.88E-03	4.32E-04	3.80E-03
75	3.30	6.95E-07	0.	1.17E-04	3.88E-04	4.54E-06	0.	5.74E-04	3.22E-04	2.08E-03	4.75E-04	3.89E-03
76	3.20	5.84E-07	0.	7.06E-05	8.32E-04	4.67E-06	0.	5.75E-04	3.59E-04	2.21E-03	5.21E-04	4.56E-03
77	3.10	5.42E-07	0.	5.41E-05	1.27E-04	4.27E-06	0.	5.74E-04	3.89E-04	2.41E-03	5.67E-04	4.13E-03
78	3.00	4.68E-07	0.	3.17E-05	3.81E-04	3.67E-06	0.	5.78E-04	4.18E-04	2.62E-03	6.13E-04	4.46E-03
79	2.90	3.78E-07	0.	1.92E-05	2.31E-04	2.78E-06	0.	5.79E-04	4.77E-04	2.83E-03	6.60E-04	4.80E-03
80	2.80	3.64E-07	0.	9.12E-06	1.04E-04	1.79E-06	0.	5.79E-04	5.30E-04	3.07E-03	7.12E-04	5.01E-03
81	2.70	2.34E-07	0.	4.21E-06	1.64E-04	9.85E-07	0.	5.79E-04	5.92E-04	3.32E-03	7.68E-04	5.45E-03
82	2.60	1.83E-07	0.	2.12E-06	1.73E-05	3.73E-07	0.	5.79E-04	6.63E-04	3.60E-03	8.26E-04	5.87E-03
83	2.50	7.03E-09	0.	2.90E-07	1.50E-05	8.52E-08	0.	5.79E-04	7.42E-04	3.97E-03	8.92E-04	6.32E-03
84	2.40	0.	0.	1.32E-05	1.46E-05	8.79E-09	0.	5.79E-04	8.45E-04	4.42E-03	9.63E-04	6.83E-03
85	2.30	0.	0.	5.04E-05	0.	0.	0.	5.75E-04	9.61E-04	5.07E-03	5.55E-04	7.41E-03
86	2.20	0.	0.	1.17E-04	0.	0.	0.	5.73E-04	1.02E-03	5.81E-03	6.60E-04	7.96E-03
87	2.10	0.	0.	1.55E-04	0.	0.	0.	5.78E-04	1.27E-03	6.77E-03	7.82E-04	8.75E-03
88	2.00	0.	0.	2.59E-04	0.	0.	0.	5.52E-04	1.47E-03	8.45E-03	9.95E-04	9.82E-03
89	1.90	0.	0.	4.34E-04	0.	0.	0.	5.31E-04	1.72E-03	9.18E-03	1.02E-03	9.86E-03
90	1.80	0.	0.	3.41E-04	0.	0.	0.	5.00E-04	2.02E-03	7.32E-03	1.22E-03	1.14E-02
91	1.70	0.	0.	4.07E-04	0.	0.	0.	4.70E-04	2.41E-03	8.72E-03	1.48E-03	1.35E-02
92	1.60	0.	0.	2.91E-04	0.	0.	0.	4.05E-04	2.89E-03	1.01E-02	1.73E-03	1.54E-02
93	1.50	0.	0.	3.50E-04	0.	0.	0.	1.04E-04	3.52E-03	1.28E-02	2.09E-03	1.69E-02
94	1.40	0.	0.	3.57E-04	0.	0.	0.	0.	4.33E-03	1.57E-02	2.46E-03	2.08E-02
95	1.30	0.	0.	2.78E-04	0.	0.	0.	0.	5.45E-03	1.98E-02	3.22E-03	2.87E-02
96	1.20	0.	0.	2.64E-04	0.	0.	0.	0.	6.96E-03	2.44E-02	3.11E-03	3.14E-02
97	1.10	0.	0.	2.37E-04	0.	0.	0.	0.	9.04E-03	2.94E-02	3.90E-03	3.74E-02
98	1.00	0.	0.	2.14E-04	0.	0.	0.	0.	1.21E-02	2.95E-02	4.35E-03	4.62E-02
99	0.90	0.	0.	1.75E-04	0.	0.	0.	0.	1.68E-02	3.35E-02	5.13E-03	5.56E-02
100	0.80	0.	0.	8.25E-05	0.	0.	0.	0.	2.42E-02	3.85E-02	5.90E-03	6.66E-02
101	0.70	0.	0.	2.07E-05	0.	0.	0.	0.	3.02E-02	4.24E-02	6.46E-03	8.06E-02
102	0.60	0.	0.	2.09E-06	0.	0.	0.	0.	5.79E-02	4.73E-02	7.22E-03	1.12E-01

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 12800. DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)

PHOTON ENERGY E.V.	D2 S-R BANDS	S-R CONT.	M2 B-W NO. 1	NO BETA	NO GAMMA	NO 2	O- PHOTO-MET (IONS)	O- FREE-FREE N P.E.	O TOTAL AIR P.F.		
1	10.70 0.	0.	3.53E-05	0.	0.	0.	2.04E-05	6.59E-07	1.16E-01	4.38E-05	1.14E-01
2	10.60 0.	0.	3.10E-05	0.	0.	0.	2.04E-05	6.74E-07	3.20E-04	6.29E-05	4.52E-04
3	10.50 0.	0.	3.07E-05	0.	0.	0.	2.05E-05	6.80E-07	3.30E-04	6.20E-05	4.53E-04
4	10.40 0.	0.	2.82E-05	0.	0.	0.	2.05E-05	6.26E-07	3.31E-04	6.27E-05	4.52E-04
5	10.30 0.	0.	2.37E-05	0.	0.	0.	2.06E-05	6.53E-07	3.32E-04	6.25E-05	4.48E-04
6	10.20 0.	0.	2.30E-05	0.	0.	0.	2.06E-05	6.02E-07	3.33E-04	6.24E-05	4.49E-04
7	10.10 0.	0.	2.20E-05	0.	0.	0.	2.06E-05	5.51E-07	3.34E-04	6.23E-05	4.48E-04
8	10.00 0.	0.	1.95E-05	0.	0.	0.	2.07E-05	5.00E-07	3.34E-04	6.22E-05	4.45E-04
9	9.90 0.	0.	1.80E-05	0.	0.	0.	2.07E-05	4.49E-07	3.35E-04	6.21E-05	4.46E-04
10	9.80 0.	0.	1.70E-05	0.	0.	0.	2.08E-05	3.98E-07	3.36E-04	6.19E-05	4.45E-04
11	9.70 0.	0.	1.41E-05	0.	0.	0.	2.08E-05	3.47E-07	3.37E-04	6.18E-05	4.43E-04
12	9.60 0.	0.	1.52E-05	0.	0.	0.	2.09E-05	2.96E-07	3.38E-04	6.17E-05	4.45E-04
13	9.50 0.	0.	1.24E-05	0.	0.	0.	2.09E-05	2.45E-07	3.39E-04	6.15E-05	4.43E-04
14	9.40 0.	0.	1.13E-05	0.	0.	0.	2.09E-05	1.94E-07	3.40E-04	6.14E-05	4.43E-04
15	9.30 0.	0.	1.15E-05	0.	0.	0.	2.11E-05	1.43E-07	3.41E-04	6.13E-05	4.44E-04
16	9.20 0.	0.	9.97E-06	0.	0.	0.	2.13E-05	9.2E-08	3.42E-04	6.12E-05	4.43E-04
17	9.10 0.	0.	9.10E-06	0.	0.	0.	2.15E-05	4.1E-08	3.43E-04	6.11E-05	4.43E-04
18	9.00 0.	0.	8.08E-06	0.	0.	0.	2.15E-05	3.0E-08	3.43E-04	6.09E-05	4.43E-04
19	8.80 0.	0.	7.14E-06	0.	0.	0.	2.17E-05	1.9E-08	3.44E-04	6.08E-05	4.43E-04
20	8.60 0.	0.	6.93E-06	0.	0.	0.	2.17E-05	8.0E-09	3.44E-04	6.07E-05	4.43E-04
21	8.50 0.	0.	5.73E-06	0.	0.	0.	2.19E-05	7.0E-09	3.45E-04	6.06E-05	4.43E-04
22	8.40 0.	0.	5.83E-06	0.	0.	0.	2.19E-05	6.0E-09	3.45E-04	6.05E-05	4.43E-04
23	8.30 0.	0.	4.87E-06	0.	0.	0.	2.20E-05	5.0E-09	3.46E-04	6.04E-05	4.43E-04
24	8.20 0.	0.	4.76E-06	0.	0.	0.	2.20E-05	4.0E-09	3.46E-04	6.03E-05	4.43E-04
25	8.10 0.	0.	3.86E-06	0.	0.	0.	2.21E-05	3.0E-09	3.47E-04	6.02E-05	4.43E-04
26	8.00 0.	0.	3.84E-06	0.	0.	0.	2.21E-05	2.0E-09	3.47E-04	6.01E-05	4.43E-04
27	8.10 0.	0.	3.17E-06	0.	0.	0.	2.22E-05	1.0E-09	3.48E-04	6.00E-05	4.43E-04
28	8.00 0.	0.	3.13E-06	0.	0.	0.	2.22E-05	0.0E-09	3.48E-04	5.99E-05	4.43E-04
29	7.90 0.	0.	2.50E-06	0.	0.	0.	2.23E-05	0.0E-09	3.49E-04	5.98E-05	4.43E-04
30	7.80 0.	0.	2.62E-06	0.	0.	0.	2.23E-05	0.0E-09	3.49E-04	5.97E-05	4.43E-04
31	7.70 0.	0.	2.21E-06	0.	0.	0.	2.24E-05	0.0E-09	3.50E-04	5.96E-05	4.43E-04
32	7.60 0.	0.	2.04E-06	0.	0.	0.	2.24E-05	0.0E-09	3.50E-04	5.95E-05	4.43E-04
33	7.50 0.	0.	1.92E-06	0.	0.	0.	2.25E-05	0.0E-09	3.51E-04	5.94E-05	4.43E-04
34	7.40 0.	0.	1.50E-06	0.	0.	0.	2.25E-05	0.0E-09	3.51E-04	5.93E-05	4.43E-04
35	7.30 0.	0.	1.45E-06	0.	0.	0.	2.26E-05	0.0E-09	3.52E-04	5.92E-05	4.43E-04
36	7.20 0.	0.	1.27E-06	0.	0.	0.	2.26E-05	0.0E-09	3.52E-04	5.91E-05	4.43E-04
37	7.10 0.	0.	1.18E-06	0.	0.	0.	2.27E-05	0.0E-09	3.53E-04	5.90E-05	4.43E-04
38	7.00 2.46E-10	0.	1.05E-06	0.	0.	0.	2.27E-05	0.0E-09	3.53E-04	5.89E-05	4.43E-04
39	6.90 4.71E-10	0.	9.20E-07	0.	0.	0.	2.28E-05	0.0E-09	3.54E-04	5.88E-05	4.43E-04
40	6.80 3.92E-10	0.	5.52E-07	0.	0.	0.	2.28E-05	0.0E-09	3.54E-04	5.87E-05	4.43E-04
41	6.70 2.82E-10	0.	6.77E-07	0.	0.	0.	2.29E-05	0.0E-09	3.55E-04	5.86E-05	4.43E-04
42	6.60 1.60E-10	0.	6.28E-07	0.	0.	0.	2.29E-05	0.0E-09	3.55E-04	5.85E-05	4.43E-04
43	6.50 9.46E-11	0.	4.70E-07	0.	0.	0.	2.30E-05	0.0E-09	3.56E-04	5.84E-05	4.43E-04
44	6.40 1.29E-10	0.	3.10E-07	0.	0.	0.	2.30E-05	0.0E-09	3.56E-04	5.83E-05	4.43E-04
45	6.30 2.60E-10	0.	1.61E-07	0.	0.	0.	2.31E-05	0.0E-09	3.57E-04	5.82E-05	4.43E-04
46	6.20 6.07E-10	0.	9.41E-08	0.	0.	0.	2.31E-05	0.0E-09	3.57E-04	5.81E-05	4.43E-04
47	6.10 3.29E-09	0.	4.17E-08	0.	0.	0.	2.32E-05	0.0E-09	3.58E-04	5.80E-05	4.43E-04
48	6.00 8.78E-09	0.	1.02E-08	0.	0.	0.	2.32E-05	0.0E-09	3.58E-04	5.79E-05	4.43E-04
49	5.90 1.45E-08	0.	7.26E-10	0.	0.	0.	2.33E-05	0.0E-09	3.59E-04	5.78E-05	4.43E-04
50	5.80 2.23E-08	0.	1.61E-11	0.	0.	0.	2.33E-05	0.0E-09	3.59E-04	5.77E-05	4.43E-04
51	5.70 2.70E-08	0.	1.11E-07	4.02E-07	0.	0.	2.34E-05	0.0E-09	3.60E-04	5.76E-05	4.43E-04

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 1200. DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)

PHOTON ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2 1ST NEG.	BETA	AD GAMMA	NO VIB-RAT	NO 2	D+ PHOTO-DET (IONS)	N FREE-FREE	N P.E.	O P.E.	TOTAL AIR	
52	5.60	3.48E-08	0.	0.	0.61E-08	5.87E-07	0.	0.	3.03E-05	5.90E-06	1.14E-04	7.53E-05	2.27E-04
53	5.50	3.58E-08	0.	0.	1.08E-07	5.94E-07	0.	0.	3.05E-05	6.31E-06	1.16E-04	7.64E-05	2.31E-04
54	5.40	3.68E-08	0.	0.	9.43E-08	4.04E-07	0.	0.	3.08E-05	6.70E-06	1.18E-04	7.76E-05	2.34E-04
55	5.30	3.78E-08	0.	0.	9.69E-08	5.93E-07	0.	0.	3.10E-05	7.06E-06	1.21E-04	7.89E-05	2.38E-04
56	5.20	3.88E-08	0.	0.	1.02E-07	3.60E-07	0.	0.	3.13E-05	7.48E-06	1.23E-04	8.04E-05	2.43E-04
57	5.10	3.98E-08	0.	0.	10.00E-08	4.78E-07	0.	0.	3.15E-05	7.93E-06	1.27E-04	8.23E-05	2.48E-04
58	5.00	4.08E-08	0.	0.	8.97E-08	4.27E-07	0.	0.	3.18E-05	8.42E-06	1.30E-04	8.48E-05	2.54E-04
59	4.90	4.18E-08	0.	0.	9.70E-08	4.45E-07	0.	0.	3.21E-05	8.95E-06	1.34E-04	8.77E-05	2.61E-04
60	4.80	4.28E-08	0.	0.	1.04E-07	4.11E-07	0.	0.	3.24E-05	1.01E-05	1.37E-04	9.07E-05	2.68E-04
61	4.70	4.38E-08	0.	0.	1.01E-07	3.61E-07	0.	0.	3.28E-05	1.08E-05	1.40E-04	9.37E-05	2.75E-04
62	4.60	4.48E-08	0.	0.	1.02E-07	3.32E-07	0.	0.	3.31E-05	1.16E-05	1.43E-04	9.67E-05	2.82E-04
63	4.50	4.58E-08	0.	0.	8.99E-08	2.84E-07	0.	0.	3.34E-05	1.24E-05	1.46E-04	9.97E-05	2.89E-04
64	4.40	4.68E-08	0.	0.	8.87E-08	1.74E-07	0.	0.	3.37E-05	1.33E-05	1.49E-04	1.02E-04	2.96E-04
65	4.30	4.78E-08	0.	0.	8.10E-08	1.03E-07	0.	0.	3.40E-05	1.43E-05	1.52E-04	1.07E-04	3.03E-04
66	4.20	4.88E-08	0.	0.	8.54E-08	7.79E-08	0.	0.	3.43E-05	1.54E-05	1.55E-04	1.11E-04	3.10E-04
67	4.10	4.98E-08	0.	0.	8.08E-08	2.07E-08	0.	0.	3.46E-05	1.65E-05	1.58E-04	1.16E-04	3.17E-04
68	4.00	5.08E-08	0.	0.	7.61E-08	1.58E-08	0.	0.	3.49E-05	1.78E-05	1.62E-04	1.21E-04	3.24E-04
69	3.90	5.18E-08	0.	0.	1.11E-08	8.09E-07	6.72E-08	6.47E-09	3.52E-05	1.92E-05	1.67E-04	1.27E-04	3.31E-04
70	3.80	5.28E-08	0.	0.	1.07E-08	5.03E-06	7.14E-08	0.	3.55E-05	2.07E-05	1.71E-04	1.32E-04	3.38E-04
71	3.70	5.38E-08	0.	0.	1.07E-08	1.47E-06	5.74E-08	0.	3.58E-05	2.23E-05	1.76E-04	1.38E-04	3.45E-04
72	3.60	5.48E-08	0.	0.	1.07E-08	8.95E-06	4.24E-08	0.	3.61E-05	2.40E-05	1.81E-04	1.44E-04	3.52E-04
73	3.50	5.58E-08	0.	0.	1.08E-08	2.28E-05	4.65E-08	0.	3.64E-05	2.58E-05	1.86E-04	1.50E-04	3.59E-04
74	3.40	5.68E-08	0.	0.	9.82E-07	2.29E-06	5.17E-08	0.	3.67E-05	2.77E-05	1.91E-04	1.56E-04	3.66E-04
75	3.30	5.78E-08	0.	0.	9.82E-07	1.08E-05	3.94E-08	0.	3.70E-05	2.97E-05	1.96E-04	1.62E-04	3.73E-04
76	3.20	5.88E-08	0.	0.	9.94E-07	2.32E-05	4.05E-08	0.	3.73E-05	3.18E-05	2.01E-04	1.68E-04	3.80E-04
77	3.10	5.98E-08	0.	0.	4.59E-07	3.52E-04	3.70E-08	0.	3.76E-05	3.40E-05	2.06E-04	1.74E-04	3.87E-04
78	3.00	6.08E-08	0.	0.	2.67E-07	1.06E-05	3.36E-08	0.	3.79E-05	3.63E-05	2.11E-04	1.80E-04	3.94E-04
79	2.90	6.18E-08	0.	0.	1.61E-07	8.42E-06	2.41E-08	0.	3.82E-05	3.87E-05	2.16E-04	1.86E-04	4.01E-04
80	2.80	6.28E-08	0.	0.	7.60E-08	3.00E-06	1.59E-08	0.	3.85E-05	4.12E-05	2.21E-04	1.92E-04	4.08E-04
81	2.70	6.38E-08	0.	0.	3.94E-08	5.12E-06	7.85E-09	0.	3.88E-05	4.38E-05	2.26E-04	1.98E-04	4.15E-04
82	2.60	6.48E-08	0.	0.	1.70E-08	4.82E-07	3.24E-09	0.	3.91E-05	4.65E-05	2.31E-04	2.04E-04	4.22E-04
83	2.50	6.58E-08	0.	0.	2.11E-09	4.16E-07	7.39E-10	0.	3.94E-05	4.93E-05	2.36E-04	2.10E-04	4.29E-04
84	2.40	6.68E-08	0.	0.	4.07E-07	7.62E-11	0.	0.	3.97E-05	5.22E-05	2.41E-04	2.16E-04	4.36E-04
85	2.30	6.78E-08	0.	0.	0.	0.	0.	0.	3.99E-05	5.52E-05	2.46E-04	2.22E-04	4.43E-04
86	2.20	6.88E-08	0.	0.	0.	0.	0.	0.	4.02E-05	5.83E-05	2.51E-04	2.28E-04	4.50E-04
87	2.10	6.98E-08	0.	0.	0.	0.	0.	0.	4.05E-05	6.14E-05	2.56E-04	2.34E-04	4.57E-04
88	2.00	7.08E-08	0.	0.	0.	0.	0.	0.	4.08E-05	6.46E-05	2.61E-04	2.40E-04	4.64E-04
89	1.90	7.18E-08	0.	0.	0.	0.	0.	0.	4.11E-05	6.79E-05	2.66E-04	2.46E-04	4.71E-04
90	1.80	7.28E-08	0.	0.	0.	0.	0.	0.	4.14E-05	7.13E-05	2.71E-04	2.52E-04	4.78E-04
91	1.70	7.38E-08	0.	0.	0.	0.	0.	0.	4.17E-05	7.48E-05	2.76E-04	2.58E-04	4.85E-04
92	1.60	7.48E-08	0.	0.	0.	0.	0.	0.	4.20E-05	7.84E-05	2.81E-04	2.64E-04	4.92E-04
93	1.50	7.58E-08	0.	0.	0.	0.	0.	0.	4.23E-05	8.21E-05	2.86E-04	2.70E-04	5.00E-04
94	1.40	7.68E-08	0.	0.	0.	0.	0.	0.	4.26E-05	8.59E-05	2.91E-04	2.76E-04	5.07E-04
95	1.30	7.78E-08	0.	0.	0.	0.	0.	0.	4.29E-05	9.00E-05	2.96E-04	2.82E-04	5.14E-04
96	1.20	7.88E-08	0.	0.	0.	0.	0.	0.	4.32E-05	9.42E-05	3.01E-04	2.88E-04	5.21E-04
97	1.10	7.98E-08	0.	0.	0.	0.	0.	0.	4.35E-05	9.86E-05	3.06E-04	2.94E-04	5.28E-04
98	1.00	8.08E-08	0.	0.	0.	0.	0.	0.	4.38E-05	1.03E-04	3.11E-04	3.00E-04	5.35E-04
99	0.90	8.18E-08	0.	0.	0.	0.	0.	0.	4.41E-05	1.07E-04	3.16E-04	3.06E-04	5.42E-04
100	0.80	8.28E-08	0.	0.	0.	0.	0.	0.	4.44E-05	1.12E-04	3.21E-04	3.12E-04	5.49E-04
101	0.70	8.38E-08	0.	0.	0.	0.	0.	0.	4.47E-05	1.17E-04	3.26E-04	3.18E-04	5.56E-04
102	0.60	8.48E-08	0.	0.	0.	0.	0.	0.	4.50E-05	1.22E-04	3.31E-04	3.24E-04	5.63E-04

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 12000. DENSITY (GM/CC) 1.2932E-06 (10.0E-04 NORMAL)

PHOTON Q2 S-R ENERGY BANDS E.V.	D2 S-R CONT.	N2 S-R NO. 1	NO META	NO GAMMA	NO 2	O- PHOTO-ECT (1000)	FREE-E P.E.	N P.E.	O P.E.	TOTAL AIC
1 10.70 0.	0.	1.90E-07	0.	0.	0.	6.34E-07	6.49E-08	2.49E-09	5.24E-06	1.64E-05
2 10.60 0.	0.	1.74E-07	0.	0.	0.	4.47E-07	6.04E-08	2.46E-09	5.19E-06	1.61E-05
3 10.50 0.	0.	1.72E-07	0.	0.	0.	4.47E-07	6.03E-08	2.47E-09	5.19E-06	1.61E-05
4 10.40 0.	0.	1.58E-07	0.	0.	0.	4.40E-07	7.03E-08	2.40E-09	5.17E-06	1.60E-05
5 10.30 0.	0.	1.31E-07	0.	0.	0.	4.40E-07	7.24E-08	2.40E-09	5.16E-06	1.60E-05
6 10.20 0.	0.	1.38E-07	0.	0.	0.	4.40E-07	7.27E-08	2.40E-09	5.15E-06	1.60E-05
7 10.10 0.	0.	1.24E-07	0.	0.	0.	6.51E-07	7.68E-08	2.50E-09	5.14E-06	1.59E-05
8 10.00 0.	0.	1.04E-07	0.	0.	0.	6.51E-07	7.68E-08	2.51E-09	5.13E-06	1.59E-05
9 9.90 0.	0.	1.05E-07	0.	0.	0.	6.50E-07	7.68E-08	2.51E-09	5.12E-06	1.59E-05
10 9.80 0.	0.	9.57E-08	0.	0.	0.	6.50E-07	7.68E-08	2.52E-09	5.11E-06	1.58E-05
11 9.70 0.	0.	7.92E-08	0.	0.	0.	6.50E-07	7.68E-08	2.52E-09	5.10E-06	1.58E-05
12 9.60 0.	0.	6.51E-08	0.	0.	0.	6.50E-07	7.68E-08	2.52E-09	5.09E-06	1.58E-05
13 9.50 0.	0.	6.93E-08	0.	0.	0.	6.50E-07	7.68E-08	2.52E-09	5.07E-06	1.58E-05
14 9.40 0.	0.	6.35E-08	0.	0.	0.	6.42E-07	9.54E-08	2.55E-09	5.04E-06	1.58E-05
15 9.30 0.	0.	6.44E-08	0.	0.	0.	6.42E-07	9.54E-08	2.55E-09	5.05E-06	1.58E-05
16 9.20 0.	0.	5.05E-08	0.	0.	0.	6.52E-07	1.02E-07	7.82E-09	5.04E-06	1.58E-05
17 9.10 0.	0.	5.15E-08	0.	0.	0.	6.47E-07	1.09E-07	7.62E-09	5.04E-06	1.58E-05
18 9.00 0.	0.	4.51E-08	0.	0.	0.	6.70E-07	1.09E-07	7.61E-09	5.03E-06	1.58E-05
19 8.90 0.	0.	4.02E-08	0.	0.	0.	6.72E-07	1.12E-07	7.60E-09	5.02E-06	1.58E-05
20 8.80 0.	0.	3.89E-08	0.	0.	0.	6.74E-07	1.10E-07	7.60E-09	5.01E-06	1.58E-05
21 8.70 0.	0.	3.21E-08	0.	0.	0.	6.77E-07	1.20E-07	7.50E-09	5.00E-06	1.58E-05
22 8.60 0.	0.	3.27E-08	0.	0.	0.	6.79E-07	1.25E-07	7.50E-09	4.99E-06	1.58E-05
23 8.50 0.	0.	2.73E-08	0.	0.	0.	6.82E-07	1.24E-07	7.50E-09	4.98E-06	1.58E-05
24 8.40 0.	0.	2.67E-08	0.	0.	0.	6.85E-07	1.34E-07	7.50E-09	4.97E-06	1.58E-05
25 8.30 0.	0.	2.16E-08	0.	0.	0.	6.89E-07	1.39E-07	7.50E-09	4.97E-06	1.58E-05
26 8.20 0.	0.	2.15E-08	0.	0.	0.	6.92E-07	1.44E-07	7.50E-09	4.96E-06	1.58E-05
27 8.10 0.	0.	1.78E-08	0.	0.	0.	6.96E-07	1.49E-07	7.50E-09	4.95E-06	1.58E-05
28 8.00 0.	0.	1.76E-08	0.	0.	0.	6.98E-07	1.49E-07	7.50E-09	4.94E-06	1.58E-05
29 7.90 0.	0.	1.47E-08	0.	0.	0.	7.03E-07	1.65E-07	7.50E-09	4.93E-06	1.58E-05
30 7.80 0.	0.	1.24E-08	0.	0.	0.	7.07E-07	1.67E-07	7.50E-09	4.92E-06	1.58E-05
31 7.70 0.	0.	1.24E-08	0.	0.	0.	7.10E-07	1.74E-07	7.50E-09	4.91E-06	1.58E-05
32 7.60 0.	0.	1.02E-08	0.	0.	0.	7.14E-07	1.81E-07	7.50E-09	4.90E-06	1.58E-05
33 7.50 0.	0.	1.02E-08	0.	4.41E-13	0.	7.17E-07	1.80E-07	7.50E-09	4.90E-06	1.58E-05
34 7.40 0.	0.	8.69E-09	0.	2.83E-12	0.	7.21E-07	1.96E-07	7.50E-09	4.89E-06	1.58E-05
35 7.30 0.	0.	9.15E-09	0.	8.04E-11	0.	7.29E-07	2.04E-07	7.50E-09	4.88E-06	1.58E-05
36 7.20 0.	0.	7.11E-09	0.	2.14E-10	0.	7.29E-07	2.13E-07	7.50E-09	4.88E-06	1.58E-05
37 7.10 0.	0.	6.45E-09	0.	6.10E-10	0.	7.35E-07	2.22E-07	7.50E-09	4.87E-06	1.58E-05
38 7.00 1.67E-12	0.	5.57E-09	0.	1.49E-09	0.	7.41E-07	2.32E-07	7.50E-09	4.87E-06	1.58E-05
39 6.90 3.20E-12	0.	5.21E-09	0.	1.66E-09	0.	7.47E-07	2.42E-07	7.50E-09	4.86E-06	1.58E-05
40 6.80 2.70E-12	0.	4.84E-09	0.	3.31E-09	0.	7.53E-07	2.53E-07	7.50E-09	4.86E-06	1.58E-05
41 6.70 1.92E-12	0.	4.08E-09	0.	2.73E-09	0.	7.59E-07	2.64E-07	7.50E-09	4.85E-06	1.58E-05
42 6.60 1.14E-12	0.	3.53E-09	0.	2.50E-09	0.	7.65E-07	2.76E-07	7.50E-09	4.85E-06	1.58E-05
43 6.50 6.44E-13	0.	2.68E-09	0.	4.23E-09	0.	7.71E-07	2.90E-07	7.50E-09	4.84E-06	1.58E-05
44 6.40 8.75E-13	0.	1.74E-09	2.66E-11	4.53E-09	0.	7.77E-07	3.03E-07	7.50E-09	4.84E-06	1.58E-05
45 6.30 1.63E-12	0.	1.01E-09	9.24E-11	4.61E-09	0.	7.83E-07	3.16E-07	7.50E-09	4.83E-06	1.58E-05
46 6.20 5.49E-12	0.	5.26E-10	1.26E-10	3.86E-09	0.	7.89E-07	3.24E-07	7.50E-09	4.83E-06	1.58E-05
47 6.10 2.24E-11	0.	2.34E-10	5.43E-09	3.50E-09	0.	7.95E-07	3.31E-07	7.50E-09	4.82E-06	1.58E-05
48 6.00 5.97E-11	0.	5.73E-11	3.13E-10	2.27E-09	0.	8.01E-07	3.60E-07	7.50E-09	4.82E-06	1.58E-05
49 5.90 9.64E-11	0.	4.08E-12	4.49E-10	2.32E-09	0.	8.01E-07	4.00E-07	7.50E-09	4.81E-06	1.58E-05
50 5.80 1.52E-10	0.	1.02E-13	6.13E-10	2.27E-09	0.	8.06E-07	4.30E-07	7.50E-09	4.81E-06	1.58E-05
51 5.70 1.64E-10	0.	8.	6.86E-10	2.44E-09	0.	8.11E-07	4.60E-07	7.50E-09	4.80E-06	1.58E-05

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 17000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON O2 S-R ENERGY BANDS	N2 1ST POS.	M2 2ND POS.	N2+ 1ST NEG.	BETA	NO GAMMA	NO VIB-ROT	NO VIB-ROT	NO PHOTO-DCT (IONS)	O- FREE-FREE N	P.E.	O P.E.	TOTAL AIR	
52	5.60	2.31E-10	0.	0.	5.44E-10	3.43E-09	0.	0.	6.89E-07	4.54E-07	6.55E-06	6.21E-06	1.59E-05
53	5.30	2.43E-10	0.	0.	6.85E-10	3.42E-09	0.	0.	6.91E-07	4.75E-07	6.78E-06	6.30E-06	1.62E-05
54	5.40	2.58E-10	0.	0.	5.93E-10	2.50E-09	0.	0.	6.97E-07	5.07E-07	6.65E-06	6.43E-06	1.65E-05
55	5.30	2.52E-10	0.	0.	6.30E-10	3.42E-09	0.	0.	7.01E-07	5.36E-07	6.66E-06	6.51E-06	1.68E-05
56	5.20	1.65E-10	0.	0.	6.30E-10	2.72E-09	0.	0.	7.06E-07	5.68E-07	6.65E-06	6.65E-06	1.72E-05
57	5.10	1.74E-10	0.	0.	6.20E-10	2.95E-09	0.	0.	7.12E-07	6.02E-07	6.65E-06	6.79E-06	1.76E-05
58	5.00	1.30E-10	0.	0.	5.94E-10	2.64E-09	0.	0.	7.17E-07	6.39E-07	6.70E-06	6.93E-06	1.81E-05
59	4.90	1.09E-10	0.	0.	6.04E-10	2.78E-09	0.	0.	7.23E-07	6.75E-07	6.67E-06	7.07E-06	1.85E-05
60	4.80	1.09E-10	0.	0.	6.12E-10	2.94E-09	0.	0.	7.28E-07	7.12E-07	6.65E-06	7.22E-06	1.90E-05
61	4.70	1.19E-10	0.	0.	6.22E-10	2.93E-09	0.	0.	7.33E-07	7.49E-07	6.63E-06	7.37E-06	1.94E-05
62	4.60	1.44E-10	0.	0.	6.27E-10	2.51E-09	0.	0.	7.38E-07	7.87E-07	6.61E-06	7.52E-06	1.98E-05
63	4.50	1.44E-10	0.	2.80E-10	5.95E-10	1.30E-09	0.	0.	7.43E-07	8.25E-07	6.59E-06	7.67E-06	2.02E-05
64	4.40	1.48E-10	0.	2.66E-10	5.40E-10	1.07E-09	0.	0.	7.48E-07	8.63E-07	6.57E-06	7.82E-06	2.06E-05
65	4.30	1.34E-10	0.	2.64E-10	5.04E-10	1.07E-09	0.	0.	7.53E-07	9.01E-07	6.55E-06	7.97E-06	2.10E-05
66	4.20	1.24E-10	0.	2.60E-10	4.68E-10	1.07E-09	0.	0.	7.58E-07	9.39E-07	6.53E-06	8.12E-06	2.14E-05
67	4.10	1.13E-10	0.	2.55E-10	4.32E-10	1.07E-09	0.	0.	7.63E-07	9.77E-07	6.51E-06	8.27E-06	2.18E-05
68	4.00	1.02E-10	0.	2.50E-10	3.96E-10	1.07E-09	0.	0.	7.68E-07	1.015E-06	6.49E-06	8.42E-06	2.22E-05
69	3.90	8.35E-11	0.	2.45E-10	3.60E-10	1.07E-09	0.	0.	7.73E-07	1.053E-06	6.47E-06	8.57E-06	2.26E-05
70	3.80	9.01E-11	0.	2.40E-10	3.24E-10	1.07E-09	0.	0.	7.78E-07	1.091E-06	6.45E-06	8.72E-06	2.30E-05
71	3.70	7.63E-11	0.	2.35E-10	2.88E-10	1.07E-09	0.	0.	7.83E-07	1.129E-06	6.43E-06	8.87E-06	2.34E-05
72	3.60	6.73E-11	0.	2.30E-10	2.52E-10	1.07E-09	0.	0.	7.88E-07	1.167E-06	6.41E-06	9.02E-06	2.38E-05
73	3.50	6.10E-11	0.	2.25E-10	2.16E-10	1.07E-09	0.	0.	7.93E-07	1.205E-06	6.39E-06	9.17E-06	2.42E-05
74	3.40	5.38E-11	0.	2.20E-10	1.80E-10	1.07E-09	0.	0.	7.98E-07	1.243E-06	6.37E-06	9.32E-06	2.46E-05
75	3.30	4.22E-11	0.	2.15E-10	1.44E-10	1.07E-09	0.	0.	8.03E-07	1.281E-06	6.35E-06	9.47E-06	2.50E-05
76	3.20	3.55E-11	0.	2.10E-10	1.08E-10	1.07E-09	0.	0.	8.08E-07	1.319E-06	6.33E-06	9.62E-06	2.54E-05
77	3.10	3.29E-11	0.	2.05E-10	7.2E-11	1.07E-09	0.	0.	8.13E-07	1.357E-06	6.31E-06	9.77E-06	2.58E-05
78	3.00	2.84E-11	0.	2.00E-10	3.6E-11	1.07E-09	0.	0.	8.18E-07	1.395E-06	6.29E-06	9.92E-06	2.62E-05
79	2.90	2.30E-11	0.	1.95E-10	0.	1.07E-09	0.	0.	8.23E-07	1.433E-06	6.27E-06	1.007E-05	2.66E-05
80	2.80	2.33E-11	0.	1.90E-10	0.	1.07E-09	0.	0.	8.28E-07	1.471E-06	6.25E-06	1.022E-05	2.70E-05
81	2.70	1.42E-11	0.	1.85E-10	0.	1.07E-09	0.	0.	8.33E-07	1.509E-06	6.23E-06	1.037E-05	2.74E-05
82	2.60	6.23E-12	0.	1.80E-10	0.	1.07E-09	0.	0.	8.38E-07	1.547E-06	6.21E-06	1.052E-05	2.78E-05
83	2.50	4.25E-12	0.	1.75E-10	0.	1.07E-09	0.	0.	8.43E-07	1.585E-06	6.19E-06	1.067E-05	2.82E-05
84	2.40	0.	0.	1.70E-10	0.	1.07E-09	0.	0.	8.48E-07	1.623E-06	6.17E-06	1.082E-05	2.86E-05
85	2.30	0.	0.	1.65E-10	0.	1.07E-09	0.	0.	8.53E-07	1.661E-06	6.15E-06	1.097E-05	2.90E-05
86	2.20	0.	0.	1.60E-10	0.	1.07E-09	0.	0.	8.58E-07	1.699E-06	6.13E-06	1.112E-05	2.94E-05
87	2.10	0.	0.	1.55E-10	0.	1.07E-09	0.	0.	8.63E-07	1.737E-06	6.11E-06	1.127E-05	2.98E-05
88	2.00	0.	0.	1.50E-10	0.	1.07E-09	0.	0.	8.68E-07	1.775E-06	6.09E-06	1.142E-05	3.02E-05
89	1.90	0.	0.	1.45E-10	0.	1.07E-09	0.	0.	8.73E-07	1.813E-06	6.07E-06	1.157E-05	3.06E-05
90	1.80	0.	0.	1.40E-10	0.	1.07E-09	0.	0.	8.78E-07	1.851E-06	6.05E-06	1.172E-05	3.10E-05
91	1.70	0.	0.	1.35E-10	0.	1.07E-09	0.	0.	8.83E-07	1.889E-06	6.03E-06	1.187E-05	3.14E-05
92	1.60	0.	0.	1.30E-10	0.	1.07E-09	0.	0.	8.88E-07	1.927E-06	6.01E-06	1.202E-05	3.18E-05
93	1.50	0.	0.	1.25E-10	0.	1.07E-09	0.	0.	8.93E-07	1.965E-06	5.99E-06	1.217E-05	3.22E-05
94	1.40	0.	0.	1.20E-10	0.	1.07E-09	0.	0.	8.98E-07	2.003E-06	5.97E-06	1.232E-05	3.26E-05
95	1.30	0.	0.	1.15E-10	0.	1.07E-09	0.	0.	9.03E-07	2.041E-06	5.95E-06	1.247E-05	3.30E-05
96	1.20	0.	0.	1.10E-10	0.	1.07E-09	0.	0.	9.08E-07	2.079E-06	5.93E-06	1.262E-05	3.34E-05
97	1.10	0.	0.	1.05E-10	0.	1.07E-09	0.	0.	9.13E-07	2.117E-06	5.91E-06	1.277E-05	3.38E-05
98	1.00	0.	0.	1.01E-10	0.	1.07E-09	0.	0.	9.18E-07	2.155E-06	5.89E-06	1.292E-05	3.42E-05
99	0.90	0.	0.	9.29E-11	0.	1.07E-09	0.	0.	9.23E-07	2.193E-06	5.87E-06	1.307E-05	3.46E-05
100	0.80	0.	0.	8.88E-11	0.	1.07E-09	0.	0.	9.28E-07	2.231E-06	5.85E-06	1.322E-05	3.50E-05
101	0.70	0.	0.	8.47E-11	0.	1.07E-09	0.	0.	9.33E-07	2.269E-06	5.83E-06	1.337E-05	3.54E-05
102	0.60	0.	0.	8.06E-11	0.	1.07E-09	0.	0.	9.38E-07	2.307E-06	5.81E-06	1.352E-05	3.58E-05



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES N) 12000. DENSITY (GM/CC) 1.2335-07 (10.0E-05 NORMAL)

PHOTON ENERGY BANDS	O2 S-R CONT.	M2 S-R NO. 1	NO BETA	NO GAMMA	NO 2	O- PHOTO-DET (ICM)	O- FREE-FREC M P.E.	O TOTAL AIR P.E.		
1 10.70 0.	0.	3.79E-10	0.	0.	0.	7.23E-09	2.91E-09	1.07E-06	2.74E-07	1.36E-06
2 10.50 0.	0.	3.33E-10	0.	0.	0.	7.24E-09	3.00E-09	1.08E-06	2.75E-07	1.36E-06
3 10.50 0.	0.	3.30E-10	0.	0.	0.	7.29E-09	3.00E-09	1.08E-06	2.75E-07	1.37E-06
4 10.40 0.	0.	3.03E-10	0.	0.	0.	7.26E-09	3.17E-09	1.09E-06	2.72E-07	1.37E-06
5 10.30 0.	0.	2.59E-10	0.	0.	0.	7.27E-09	3.27E-09	1.09E-06	2.72E-07	1.37E-06
6 10.20 0.	0.	2.57E-10	0.	0.	0.	7.28E-09	3.37E-09	1.09E-06	2.71E-07	1.37E-06
7 10.10 0.	0.	2.37E-10	0.	0.	0.	7.30E-09	3.47E-09	1.09E-06	2.71E-07	1.36E-06
8 10.00 0.	0.	1.98E-10	0.	0.	0.	7.31E-09	3.60E-09	1.10E-06	2.70E-07	1.36E-06
9 9.80 0.	0.	1.82E-10	0.	0.	0.	7.32E-09	3.60E-09	1.10E-06	2.69E-07	1.36E-06
10 9.60 0.	0.	1.52E-10	0.	0.	0.	7.34E-09	3.92E-09	1.10E-06	2.69E-07	1.36E-06
11 9.40 0.	0.	1.63E-10	0.	0.	0.	7.35E-09	3.84E-09	1.11E-06	2.68E-07	1.36E-06
12 9.20 0.	0.	1.33E-10	0.	0.	0.	7.36E-09	4.17E-09	1.11E-06	2.67E-07	1.35E-06
13 9.00 0.	0.	1.22E-10	0.	0.	0.	7.36E-09	4.31E-09	1.11E-06	2.67E-07	1.35E-06
14 8.80 0.	0.	1.23E-10	0.	0.	0.	7.42E-09	4.49E-09	1.12E-06	2.66E-07	1.35E-06
15 8.60 0.	0.	9.64E-11	0.	0.	0.	7.44E-09	4.59E-09	1.12E-06	2.66E-07	1.35E-06
16 8.40 0.	0.	9.64E-11	0.	0.	0.	7.47E-09	4.75E-09	1.13E-06	2.65E-07	1.35E-06
17 8.20 0.	0.	9.64E-11	0.	0.	0.	7.47E-09	4.75E-09	1.13E-06	2.65E-07	1.35E-06
18 8.00 0.	0.	6.64E-11	0.	0.	0.	7.50E-09	4.81E-09	1.13E-06	2.65E-07	1.35E-06
19 7.80 0.	0.	7.75E-11	0.	0.	0.	7.52E-09	5.0E-09	1.13E-06	2.64E-07	1.35E-06
20 7.60 0.	0.	7.44E-11	0.	0.	0.	7.55E-09	5.25E-09	1.13E-06	2.64E-07	1.35E-06
21 7.40 0.	0.	6.13E-11	0.	0.	0.	7.56E-09	5.44E-09	1.13E-06	2.63E-07	1.35E-06
22 7.20 0.	0.	6.27E-11	0.	0.	0.	7.68E-09	5.63E-09	1.13E-06	2.63E-07	1.35E-06
23 7.00 0.	0.	5.24E-11	0.	0.	0.	7.68E-09	5.63E-09	1.13E-06	2.63E-07	1.35E-06
24 6.80 0.	0.	7.12E-11	0.	0.	0.	7.47E-09	4.81E-09	1.13E-06	2.62E-07	1.35E-06
25 6.60 0.	0.	4.15E-11	0.	0.	0.	7.71E-09	6.27E-09	1.13E-06	2.62E-07	1.35E-06
26 6.40 0.	0.	4.12E-11	0.	0.	0.	7.79E-09	6.50E-09	1.13E-06	2.64E-07	1.35E-06
27 6.20 0.	0.	3.41E-11	0.	0.	0.	7.79E-09	6.74E-09	1.13E-06	2.64E-07	1.35E-06
28 6.00 0.	0.	3.34E-11	0.	0.	0.	7.82E-09	7.00E-09	1.13E-06	2.67E-07	1.35E-06
29 7.90 0.	0.	2.77E-11	0.	0.	0.	7.82E-09	7.25E-09	1.13E-06	2.69E-07	1.35E-06
30 7.80 0.	0.	2.62E-11	0.	0.	0.	7.91E-09	7.52E-09	1.13E-06	2.70E-07	1.35E-06
31 7.70 0.	0.	2.37E-11	0.	0.	0.	7.95E-09	7.89E-09	1.13E-06	2.72E-07	1.35E-06
32 7.60 0.	0.	2.9E-11	0.	1.48E-15	0.	7.99E-09	8.17E-09	1.13E-06	2.73E-07	1.35E-06
33 7.50 0.	0.	1.55E-11	0.	6.52E-15	0.	8.05E-09	8.50E-09	1.13E-06	2.75E-07	1.35E-06
34 7.40 0.	0.	1.70E-11	0.	3.95E-14	0.	8.08E-09	8.89E-09	1.13E-06	2.77E-07	1.35E-06
35 7.30 0.	0.	1.56E-11	0.	1.85E-13	0.	8.12E-09	9.22E-09	1.13E-06	2.78E-07	1.35E-06
36 7.20 0.	0.	1.36E-11	0.	4.95E-13	0.	8.12E-09	9.22E-09	1.13E-06	2.78E-07	1.35E-06
37 7.10 0.	0.	1.27E-11	0.	1.41E-12	0.	8.23E-09	9.61E-09	1.13E-06	2.82E-07	1.35E-06
38 7.00 0.	0.	1.12E-11	0.	3.40E-12	0.	8.30E-09	1.00E-08	1.13E-06	2.83E-07	1.35E-06
39 6.90 0.	0.	9.98E-12	0.	3.80E-12	0.	8.37E-09	1.05E-08	1.13E-06	2.85E-07	1.35E-06
40 6.80 0.	0.	9.26E-12	0.	2.65E-12	0.	8.43E-09	1.14E-08	1.13E-06	2.86E-07	1.35E-06
41 6.70 0.	0.	7.62E-12	0.	6.60E-12	0.	8.50E-09	1.15E-08	1.13E-06	2.86E-07	1.35E-06
42 6.60 0.	0.	6.76E-12	0.	5.74E-12	0.	8.57E-09	1.25E-08	1.13E-06	2.86E-07	1.35E-06
43 6.50 0.	0.	5.14E-12	0.	9.74E-12	0.	8.63E-09	1.31E-08	1.13E-06	2.92E-07	1.35E-06
44 6.40 0.	0.	3.34E-12	0.	4.2E-14	0.	8.70E-09	1.37E-08	1.13E-06	2.94E-07	1.35E-06
45 6.30 0.	0.	1.94E-12	0.	2.13E-13	0.	8.77E-09	1.44E-08	1.13E-06	2.97E-07	1.35E-06
46 6.20 0.	0.	1.01E-12	0.	2.02E-13	0.	8.82E-09	1.51E-08	1.13E-06	3.01E-07	1.35E-06
47 6.10 0.	0.	4.46E-13	0.	6.69E-13	0.	8.90E-09	1.58E-08	1.13E-06	3.06E-07	1.35E-06
48 6.00 0.	0.	1.10E-13	0.	7.22E-13	0.	8.97E-09	1.66E-08	1.13E-06	3.10E-07	1.35E-06
49 5.90 0.	0.	5.62E-13	0.	1.03E-12	0.	9.07E-09	1.75E-08	1.13E-06	3.14E-07	1.35E-06
50 5.80 0.	0.	1.94E-14	0.	1.41E-12	0.	9.32E-09	1.84E-08	1.13E-06	3.19E-07	1.35E-06
51 5.70 0.	0.	5.10E-13	0.	1.38E-12	0.	9.38E-09	1.94E-08	1.13E-06	3.23E-07	1.35E-06

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	Q2 S-R	N2 1ST POS.	N2 2ND POS.	N2 NEG.	NO BETA	NO GAMMA	NO VIB-ROT	NO 2	FREE-FREE		TOTAL AIR		
									PHOTO-DET (IONS)	P.E.	P.E.	P.E.	
52	5.50	6.41E-13	0.	0.	1.29E-12	0.36E-12	0.	0.	7.72E-09	2.05E-08	3.74E-07	3.27E-07	7.30E-07
53	5.50	6.75E-13	0.	0.	1.53E-12	7.86E-12	0.	0.	7.76E-09	2.16E-08	3.81E-07	3.32E-07	7.42E-07
54	5.50	7.17E-13	0.	0.	1.34E-12	5.75E-12	0.	0.	7.00E-09	2.39E-08	3.08E-07	3.37E-07	7.46E-07
55	5.50	7.60E-13	0.	0.	1.58E-12	7.87E-12	0.	0.	7.89E-09	2.42E-08	3.96E-07	3.43E-07	7.71E-07
56	5.50	8.04E-13	0.	0.	1.45E-12	5.12E-12	0.	0.	7.90E-09	2.54E-08	4.05E-07	3.58E-07	7.88E-07
57	5.50	8.48E-13	0.	0.	1.43E-12	6.61E-12	0.	0.	7.94E-09	2.72E-08	4.16E-07	3.58E-07	8.08E-07
58	5.50	8.91E-13	0.	0.	1.28E-12	6.08E-12	0.	0.	8.03E-09	2.88E-08	4.26E-07	3.68E-07	8.19E-07
59	4.90	3.08E-13	0.	0.	1.53E-12	6.32E-12	0.	0.	8.10E-09	3.07E-08	4.41E-07	3.72E-07	8.52E-07
60	4.90	3.81E-13	0.	0.	1.48E-12	5.85E-12	0.	0.	6.17E-09	3.26E-08	4.54E-07	3.80E-07	8.75E-07
61	4.70	3.29E-13	0.	0.	1.43E-12	5.14E-12	0.	0.	6.23E-09	3.45E-08	4.67E-07	3.90E-07	9.00E-07
62	4.60	3.99E-13	0.	0.	1.45E-12	4.73E-12	0.	0.	6.30E-09	3.71E-08	4.84E-07	4.08E-07	9.29E-07
63	4.50	3.99E-13	0.	5.53E-13	1.28E-12	3.47E-12	0.	0.	6.37E-09	3.97E-08	5.04E-07	4.09E-07	9.52E-07
64	4.40	4.12E-13	0.	1.05E-12	1.26E-12	2.47E-12	0.	0.	6.43E-09	4.25E-08	5.24E-07	4.19E-07	9.95E-07
65	4.30	3.77E-13	0.	5.10E-12	1.17E-12	1.47E-12	0.	0.	6.50E-09	4.53E-08	5.46E-07	4.26E-07	1.03E-06
66	4.20	3.49E-13	0.	1.86E-11	1.22E-12	1.15E-12	0.	0.	6.57E-09	4.80E-08	5.68E-07	4.07E-07	1.03E-06
67	4.10	3.14E-13	0.	6.72E-12	1.19E-12	2.94E-13	0.	0.	6.60E-09	5.05E-08	5.98E-07	1.85E-07	7.50E-07
68	4.00	2.82E-13	0.	2.66E-11	1.08E-12	2.25E-13	0.	0.	6.63E-09	5.66E-08	5.21E-07	1.80E-07	6.99E-07
69	3.90	2.32E-13	0.	1.19E-11	1.62E-10	9.57E-13	6.2E-14	0.	6.40E-09	6.41E-08	4.08E-07	1.12E-07	5.89E-07
70	3.80	2.59E-13	0.	1.79E-11	9.23E-10	1.02E-12	0.	0.	6.57E-09	6.68E-08	4.23E-07	1.16E-07	6.15E-07
71	3.70	2.12E-13	0.	2.11E-11	2.70E-10	8.17E-13	0.	0.	6.63E-09	7.16E-08	3.95E-07	1.28E-07	6.43E-07
72	3.60	1.89E-13	0.	1.26E-11	1.64E-09	8.68E-13	0.	0.	7.90E-09	7.78E-08	4.32E-07	1.43E-07	6.82E-07
73	3.50	1.69E-13	0.	1.81E-11	4.16E-09	6.62E-13	0.	0.	7.73E-09	8.57E-08	4.83E-07	1.59E-07	7.39E-07
74	3.40	1.49E-13	0.	1.09E-11	4.13E-10	7.36E-13	0.	0.	4.17E-09	9.24E-08	5.43E-07	1.77E-07	8.17E-07
75	3.30	1.17E-13	0.	1.04E-11	1.96E-09	5.60E-13	0.	0.	4.18E-09	1.01E-07	6.03E-07	1.95E-07	9.05E-07
76	3.20	9.84E-14	0.	6.39E-12	4.25E-09	5.77E-13	0.	0.	4.19E-09	1.11E-07	6.64E-07	2.14E-07	9.97E-07
77	3.10	9.15E-14	0.	4.89E-12	6.44E-10	5.27E-13	0.	0.	4.19E-09	1.22E-07	7.26E-07	2.33E-07	1.08E-06
78	3.00	7.82E-14	0.	2.82E-12	1.94E-09	4.78E-13	0.	0.	4.20E-09	1.35E-07	7.88E-07	2.52E-07	1.18E-06
79	2.90	6.38E-14	0.	1.78E-12	1.16E-09	3.43E-13	0.	0.	4.21E-09	1.50E-07	8.52E-07	2.71E-07	1.28E-06
80	2.80	6.42E-14	0.	8.24E-13	5.51E-10	2.20E-13	0.	0.	4.22E-09	1.66E-07	9.24E-07	2.92E-07	1.39E-06
81	2.70	3.94E-14	0.	3.84E-13	9.40E-10	1.12E-13	0.	0.	4.22E-09	1.86E-07	1.00E-06	2.92E-07	1.48E-06
82	2.60	1.73E-14	0.	1.97E-13	8.85E-11	4.61E-14	0.	0.	4.22E-09	2.08E-07	1.08E-06	1.34E-07	1.43E-06
83	2.50	1.19E-14	0.	2.27E-14	7.64E-11	1.05E-14	0.	0.	4.22E-09	2.34E-07	6.95E-07	1.55E-07	1.59E-06
84	2.40	0.	0.	1.20E-12	7.47E-11	1.09E-13	0.	0.	4.22E-09	2.61E-07	8.40E-07	1.80E-07	1.72E-06
85	2.30	0.	0.	4.54E-12	0.	0.	0.	0.	4.18E-09	3.02E-07	1.04E-06	2.08E-07	1.82E-06
86	2.20	0.	0.	1.08E-11	0.	0.	0.	0.	4.17E-09	3.45E-07	1.23E-06	2.44E-07	1.86E-06
87	2.10	0.	0.	3.31E-11	0.	0.	0.	0.	4.15E-09	3.98E-07	1.44E-06	3.21E-07	2.16E-06
88	2.00	0.	0.	2.34E-11	0.	0.	0.	0.	4.02E-09	4.61E-07	1.64E-06	3.68E-07	2.47E-06
89	1.90	0.	0.	3.77E-11	0.	0.	0.	0.	3.86E-09	5.39E-07	1.86E-06	4.19E-07	2.82E-06
90	1.80	0.	0.	3.09E-11	0.	0.	0.	0.	3.40E-09	6.35E-07	2.20E-06	5.02E-07	3.34E-06
91	1.70	0.	0.	3.68E-11	0.	0.	0.	0.	3.40E-09	7.56E-07	2.62E-06	6.06E-07	3.99E-06
92	1.60	0.	0.	2.63E-11	0.	0.	0.	0.	2.94E-09	9.09E-07	3.05E-06	7.08E-07	4.63E-06
93	1.50	0.	0.	3.17E-11	0.	0.	0.	0.	1.34E-09	1.10E-06	3.58E-06	6.17E-07	5.58E-06
94	1.40	0.	0.	3.23E-11	0.	0.	0.	0.	0.	1.26E-06	2.99E-06	6.65E-07	5.62E-06
95	1.30	0.	0.	2.45E-11	0.	0.	0.	0.	0.	1.71E-06	4.42E-06	9.49E-07	7.08E-06
96	1.20	0.	0.	2.39E-11	0.	0.	0.	0.	0.	2.18E-06	5.62E-06	1.28E-06	9.28E-06
97	1.10	0.	0.	2.11E-11	0.	0.	0.	0.	0.	2.64E-06	7.54E-06	1.77E-06	1.17E-05
98	1.00	0.	0.	1.94E-11	0.	0.	0.	0.	0.	3.81E-06	1.11E-05	2.80E-06	1.72E-05
99	0.90	0.	0.	1.59E-11	0.	0.	0.	0.	0.	5.89E-06	1.58E-05	2.10E-06	1.75E-05
100	0.80	0.	0.	7.45E-12	0.	0.	0.	0.	0.	7.57E-06	1.13E-05	2.94E-06	2.12E-05
101	0.70	0.	0.	1.07E-12	0.	0.	0.	0.	0.	1.24E-05	1.01E-05	1.95E-06	2.34E-05
102	0.60	0.	0.	1.90E-13	0.	0.	0.	0.	0.	1.62E-05	1.14E-05	2.31E-06	3.10E-05

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY E.V.	O2 S-R BANDS	O2 S-R CONT.	M2 S-R NO. 1	TEMPERATURE (DEGREES K)	12900.	DENSITY (GM/CC)	1.293E+06 (10.0E-06 NORMAL)		TOTAL AIR			
							NO BETA	AD GAMMA				
							RO 2	PHOTO-DRY (IONS)	FREE-FREE P.E.	P.F.E.		
1	1.70	0	0	1.24E-13	0	0	0	2.05E-11	5.47E-11	9.4E-09	5.78E-09	2.52E-08
2	1.60	0	0	1.09E-13	0	0	0	2.09E-11	5.59E-11	1.79E-08	5.69E-09	2.53E-08
3	1.50	0	0	9.82E-14	0	0	0	2.06E-11	5.74E-11	1.96E-08	5.68E-09	2.54E-08
4	1.40	0	0	9.93E-14	0	0	0	2.06E-11	5.91E-11	1.97E-08	5.67E-09	2.54E-08
5	1.30	0	0	8.36E-14	0	0	0	2.04E-11	6.08E-11	1.97E-08	5.66E-09	2.54E-08
6	1.20	0	0	8.44E-14	0	0	0	2.07E-11	6.24E-11	1.98E-08	5.65E-09	2.55E-08
7	1.10	0	0	7.74E-14	0	0	0	2.07E-11	6.45E-11	1.98E-08	5.64E-09	2.55E-08
8	1.00	0	0	6.92E-14	0	0	0	2.07E-11	6.69E-11	1.99E-08	5.62E-09	2.56E-08
9	9.90	0	0	6.01E-14	0	0	0	2.08E-11	6.97E-11	2.00E-08	5.60E-09	2.57E-08
10	9.80	0	0	4.97E-14	0	0	0	2.08E-11	7.29E-11	2.00E-08	5.59E-09	2.57E-08
11	9.70	0	0	3.45E-14	0	0	0	2.09E-11	7.52E-11	2.01E-08	5.58E-09	2.57E-08
12	9.60	0	0	2.83E-14	0	0	0	2.10E-11	7.74E-11	2.01E-08	5.57E-09	2.58E-08
13	9.50	0	0	3.96E-14	0	0	0	2.10E-11	8.01E-11	2.02E-08	5.56E-09	2.58E-08
14	9.40	0	0	4.09E-14	0	0	0	2.11E-11	8.28E-11	2.02E-08	5.54E-09	1.7E-08
15	9.30	0	0	3.16E-14	0	0	0	2.11E-11	8.59E-11	2.02E-08	5.53E-09	1.7E-08
16	9.20	0	0	2.23E-14	0	0	0	2.12E-11	8.84E-11	2.03E-08	5.52E-09	1.7E-08
17	9.10	0	0	2.63E-14	0	0	0	2.13E-11	9.14E-11	2.03E-08	5.51E-09	1.7E-08
18	9.00	0	0	2.58E-14	0	0	0	2.14E-11	9.48E-11	2.03E-08	5.50E-09	1.6E-08
19	8.90	0	0	2.44E-14	0	0	0	2.14E-11	9.78E-11	2.02E-08	5.49E-09	1.6E-08
20	8.80	0	0	2.02E-14	0	0	0	2.15E-11	1.01E-10	2.02E-08	5.48E-09	1.6E-08
21	8.70	0	0	2.04E-14	0	0	0	2.16E-11	1.05E-10	2.01E-08	5.47E-09	1.6E-08
22	8.60	0	0	1.75E-14	0	0	0	2.17E-11	1.09E-10	2.01E-08	5.46E-09	1.6E-08
23	8.50	0	0	1.48E-14	0	0	0	2.18E-11	1.15E-10	2.01E-08	5.45E-09	1.6E-08
24	8.40	0	0	1.38E-14	0	0	0	2.19E-11	1.17E-10	2.01E-08	5.44E-09	1.6E-08
25	8.30	0	0	1.39E-14	0	0	0	2.20E-11	1.21E-10	2.01E-08	5.43E-09	1.6E-08
26	8.20	0	0	1.12E-14	0	0	0	2.21E-11	1.25E-10	2.00E-08	5.52E-09	1.7E-08
27	8.10	0	0	1.10E-14	0	0	0	2.22E-11	1.30E-10	2.00E-08	5.56E-09	1.7E-08
28	8.00	0	0	9.15E-15	0	0	0	2.23E-11	1.35E-10	2.01E-08	5.59E-09	1.8E-08
29	7.90	0	0	9.25E-15	0	0	0	2.25E-11	1.41E-10	2.02E-08	5.62E-09	1.8E-08
30	7.80	0	0	7.74E-15	0	0	0	2.26E-11	1.46E-10	2.02E-08	5.66E-09	1.9E-08
31	7.70	0	0	7.14E-15	0	5.7E-19	0	2.27E-11	1.52E-10	2.02E-08	5.69E-09	1.9E-08
32	7.60	0	0	6.41E-15	0	2.4E-19	0	2.28E-11	1.58E-10	2.02E-08	5.73E-09	1.9E-08
33	7.50	0	0	5.52E-15	0	1.9E-17	0	2.29E-11	1.65E-10	2.02E-08	5.76E-09	1.9E-08
34	7.40	0	0	5.12E-15	0	3.0E-17	0	2.31E-11	1.71E-10	2.02E-08	5.79E-09	1.9E-08
35	7.30	0	0	4.47E-15	0	1.8E-16	0	2.32E-11	1.78E-10	2.02E-08	5.83E-09	1.9E-08
36	7.20	0	0	4.16E-15	0	5.3E-16	0	2.34E-11	1.86E-10	2.02E-08	5.86E-09	1.9E-08
37	7.10	0	0	3.95E-15	0	1.2E-15	0	2.36E-11	1.95E-10	2.02E-08	5.89E-09	1.9E-08
38	7.00	0	0	3.27E-15	0	1.4E-15	0	2.37E-11	2.03E-10	2.02E-08	5.93E-09	1.9E-08
39	6.90	0	0	3.04E-15	0	2.0E-15	0	2.39E-11	2.12E-10	2.02E-08	5.96E-09	1.9E-08
40	6.80	0	0	2.54E-15	0	3.2E-15	0	2.41E-11	2.22E-10	2.02E-08	6.00E-09	1.9E-08
41	6.70	0	0	2.29E-15	0	2.1E-15	0	2.43E-11	2.32E-10	2.02E-08	6.04E-09	1.9E-08
42	6.60	0	0	1.99E-15	0	3.0E-15	0	2.45E-11	2.43E-10	2.02E-08	6.09E-09	1.9E-08
43	6.50	0	0	1.69E-15	0	3.7E-15	0	2.48E-11	2.54E-10	2.02E-08	6.14E-09	1.9E-08
44	6.40	0	0	1.09E-15	1.79E-17	3.2E-15	0	2.49E-11	2.55E-10	2.02E-08	6.13E-09	1.9E-08
45	6.30	0	0	6.37E-16	5.03E-17	3.2E-15	0	2.49E-11	2.47E-10	2.02E-08	6.18E-09	1.9E-08
46	6.20	0	0	3.33E-16	1.09E-16	3.3E-15	0	2.51E-11	2.49E-10	2.02E-08	6.35E-09	1.9E-08
47	6.10	0	0	1.47E-16	3.04E-16	4.71E-15	0	2.53E-11	2.49E-10	2.02E-08	6.36E-09	1.9E-08
48	6.00	0	0	3.62E-17	3.04E-16	4.71E-15	0	2.55E-11	3.10E-10	2.02E-08	6.45E-09	1.9E-08
49	5.90	0	0	2.57E-18	1.97E-16	3.90E-16	0	2.55E-11	3.20E-10	2.02E-08	6.54E-09	1.9E-08
50	5.80	0	0	6.30E-20	1.83E-16	5.33E-16	0	2.51E-11	3.43E-10	2.02E-08	6.63E-09	1.9E-08
51	5.70	0	0	2.21E-15	5.04E-16	2.16E-15	0	2.56E-11	3.65E-10	2.02E-08	6.72E-09	1.9E-08

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	W2 1ST POS.	W2 2ND POS.	W2 1ST NEG.	W2 2ND NEG.	NO BETA	NO GAMMA	NO VIB-ROT	NO 2	NO 0- PHOTO-DET	DENSITY (10 <sup>22</sup> CC) (10.0E-06 NORMAL)		TOTAL AIR P.F.
										TEMPERATURE (DEGREES K)	1.293E-08 (10.0E-06 NORMAL)	
52	3.60	2.78E-16	0.	0.	4.73E-16	3.15E-15	0.	0.	2.19E-11	3.31E-10	6.79E-09	6.02E-09
53	5.50	2.93E-16	0.	0.	5.78E-16	2.97E-15	0.	0.	2.20E-11	4.33E-10	6.09E-09	6.01E-09
54	5.40	3.14E-16	0.	0.	5.06E-16	2.17E-15	0.	0.	2.21E-11	4.28E-10	7.83E-09	7.02E-09
55	5.30	3.03E-16	0.	0.	5.20E-16	2.97E-15	0.	0.	2.22E-11	4.30E-10	7.30E-09	7.14E-09
56	5.20	2.92E-16	0.	0.	5.40E-16	2.97E-15	0.	0.	2.23E-11	4.32E-10	7.30E-09	7.29E-09
57	5.10	2.81E-16	0.	0.	5.30E-16	2.57E-15	0.	0.	2.24E-11	5.04E-10	7.33E-09	7.44E-09
58	5.00	2.70E-16	0.	0.	5.02E-16	2.29E-15	0.	0.	2.25E-11	5.37E-10	7.35E-09	7.44E-09
59	4.90	1.31E-16	0.	0.	5.25E-16	2.39E-15	0.	0.	2.26E-11	5.71E-10	7.98E-09	7.75E-09
60	4.80	1.31E-16	0.	0.	5.57E-16	2.21E-15	0.	0.	2.27E-11	6.00E-10	8.22E-09	7.92E-09
61	4.70	1.43E-16	0.	0.	5.40E-16	1.94E-15	0.	0.	2.28E-11	6.40E-10	8.40E-09	8.11E-09
62	4.60	1.74E-16	0.	0.	5.45E-16	1.78E-15	0.	0.	2.29E-11	6.51E-10	8.76E-09	8.32E-09
63	4.50	1.74E-16	0.	0.	4.82E-16	1.31E-15	0.	0.	2.30E-11	7.30E-10	9.13E-09	8.52E-09
64	4.40	1.79E-16	0.	0.	4.76E-16	9.33E-16	0.	0.	2.31E-11	7.90E-10	9.50E-09	8.71E-09
65	4.30	1.63E-16	0.	0.	4.40E-16	5.54E-16	0.	0.	2.32E-11	8.47E-10	9.80E-09	8.88E-09
66	4.20	1.49E-16	0.	0.	4.50E-16	4.14E-16	0.	0.	2.33E-11	9.09E-10	1.03E-08	9.12E-09
67	4.10	1.30E-16	0.	0.	4.34E-16	1.13E-16	0.	0.	2.34E-11	1.05E-08	1.04E-08	9.20E-09
68	4.00	1.22E-16	0.	0.	4.08E-16	8.48E-17	0.	0.	2.35E-11	1.14E-08	1.04E-08	9.28E-09
69	3.90	1.09E-16	0.	0.	3.91E-15	3.61E-16	0.	0.	2.36E-11	1.23E-08	1.04E-08	9.36E-09
70	3.80	1.09E-16	0.	0.	5.08E-15	2.29E-12	3.61E-16	0.	2.37E-11	1.33E-08	1.04E-08	9.44E-09
71	3.70	9.21E-17	0.	0.	6.73E-15	6.49E-13	3.08E-16	0.	2.38E-11	1.43E-08	1.04E-08	9.52E-09
72	3.60	8.10E-17	0.	0.	4.12E-15	3.95E-12	3.08E-16	0.	2.39E-11	1.53E-08	1.04E-08	9.60E-09
73	3.50	7.39E-17	0.	0.	5.92E-15	9.95E-12	2.49E-16	0.	2.40E-11	1.63E-08	1.04E-08	9.68E-09
74	3.40	6.48E-17	0.	0.	3.20E-15	9.93E-13	2.77E-16	0.	2.41E-11	1.73E-08	1.04E-08	9.76E-09
75	3.30	5.09E-17	0.	0.	3.44E-15	4.74E-12	2.11E-16	0.	2.42E-11	1.83E-08	1.04E-08	9.84E-09
76	3.20	4.27E-17	0.	0.	2.10E-15	1.02E-11	2.10E-16	0.	2.43E-11	1.93E-08	1.04E-08	9.92E-09
77	3.10	3.94E-17	0.	0.	1.60E-15	1.55E-12	1.99E-16	0.	2.44E-11	2.03E-08	1.04E-08	1.00E-08
78	3.00	3.42E-17	0.	0.	9.40E-16	4.67E-12	1.88E-16	0.	2.45E-11	2.13E-08	1.04E-08	1.01E-08
79	2.90	2.76E-17	0.	0.	5.60E-16	2.63E-12	1.29E-16	0.	2.46E-11	2.23E-08	1.04E-08	1.02E-08
80	2.80	2.40E-17	0.	0.	2.71E-16	1.33E-12	0.31E-17	0.	2.47E-11	2.33E-08	1.04E-08	1.03E-08
81	2.70	1.74E-17	0.	0.	1.28E-16	2.24E-12	4.21E-17	0.	2.48E-11	2.43E-08	1.04E-08	1.04E-08
82	2.60	1.50E-18	0.	0.	6.29E-17	2.13E-13	1.74E-17	0.	2.49E-11	2.53E-08	1.04E-08	1.05E-08
83	2.50	1.11E-19	0.	0.	7.43E-18	1.84E-13	3.96E-18	0.	2.50E-11	2.63E-08	1.04E-08	1.06E-08
84	2.40	0.	0.	0.	1.80E-13	4.89E-19	0.	0.	2.51E-11	2.73E-08	1.04E-08	1.07E-08
85	2.30	0.	0.	0.	1.50E-13	0.	0.	0.	2.52E-11	2.83E-08	1.04E-08	1.08E-08
86	2.20	0.	0.	0.	3.45E-13	0.	0.	0.	2.53E-11	2.93E-08	1.04E-08	1.09E-08
87	2.10	0.	0.	0.	4.29E-13	0.	0.	0.	2.54E-11	3.03E-08	1.04E-08	1.10E-08
88	2.00	0.	0.	0.	7.06E-13	0.	0.	0.	2.55E-11	3.13E-08	1.04E-08	1.11E-08
89	1.90	0.	0.	0.	1.24E-14	0.	0.	0.	2.56E-11	3.23E-08	1.04E-08	1.12E-08
90	1.80	0.	0.	0.	1.01E-14	0.	0.	0.	2.57E-11	3.33E-08	1.04E-08	1.13E-08
91	1.70	0.	0.	0.	1.21E-14	0.	0.	0.	2.58E-11	3.43E-08	1.04E-08	1.14E-08
92	1.60	0.	0.	0.	8.63E-15	0.	0.	0.	2.59E-11	3.53E-08	1.04E-08	1.15E-08
93	1.50	0.	0.	0.	1.04E-14	0.	0.	0.	2.60E-11	3.63E-08	1.04E-08	1.16E-08
94	1.40	0.	0.	0.	1.06E-14	0.	0.	0.	2.61E-11	3.73E-08	1.04E-08	1.17E-08
95	1.30	0.	0.	0.	8.02E-15	0.	0.	0.	2.62E-11	3.83E-08	1.04E-08	1.18E-08
96	1.20	0.	0.	0.	7.84E-15	0.	0.	0.	2.63E-11	3.93E-08	1.04E-08	1.19E-08
97	1.10	0.	0.	0.	6.92E-15	0.	0.	0.	2.64E-11	4.03E-08	1.04E-08	1.20E-08
98	1.00	0.	0.	0.	6.36E-15	0.	0.	0.	2.65E-11	4.13E-08	1.04E-08	1.21E-08
99	0.90	0.	0.	0.	5.20E-15	0.	0.	0.	2.66E-11	4.23E-08	1.04E-08	1.22E-08
100	0.80	0.	0.	0.	2.44E-15	0.	0.	0.	2.67E-11	4.33E-08	1.04E-08	1.23E-08
101	0.70	0.	0.	0.	6.14E-16	0.	0.	0.	2.68E-11	4.43E-08	1.04E-08	1.24E-08
102	0.60	0.	0.	0.	6.21E-17	0.	0.	0.	2.69E-11	4.53E-08	1.04E-08	1.25E-08

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES M) 12000. DENSITY (GM/CC) 1.293E-09 (19.0E-07 NORMAL)

PHOTON ENERGY BANDS E.V.	O2 S-R CONT.	N2 S-R NO. 1	TEMPERATURE (DEGREES M)	DENSITY (GM/CC)	NO BETA	NO GAMMA	NO 2	PHOTON-DET (IONS)	O- FREE-FREE P.E.	N P.E.	O P.E.	TOTAL AIR
1	10.70	0.	1.92E-17	0.	0.	0.	0.	2.47E-14	6.84E-13	2.15E-10	6.50E-11	7.81E-10
2	10.60	0.	1.34E-17	0.	0.	0.	0.	2.47E-14	6.21E-13	2.16E-10	6.49E-11	7.82E-10
3	10.50	0.	1.32E-17	0.	0.	0.	0.	2.48E-14	6.39E-13	2.17E-10	6.48E-11	7.82E-10
4	10.40	0.	1.22E-17	0.	0.	0.	0.	2.46E-14	6.98E-13	2.18E-10	6.46E-11	7.82E-10
5	10.30	0.	1.02E-17	0.	0.	0.	0.	2.48E-14	6.77E-13	2.18E-10	6.45E-11	7.84E-10
6	10.20	0.	1.03E-17	0.	0.	0.	0.	2.49E-14	6.96E-13	2.19E-10	6.44E-11	7.84E-10
7	10.10	0.	9.98E-18	0.	0.	0.	0.	2.49E-14	7.19E-13	2.20E-10	6.42E-11	7.84E-10
8	10.00	0.	7.96E-18	0.	0.	0.	0.	2.49E-14	7.41E-13	2.20E-10	6.41E-11	7.85E-10
9	9.90	0.	8.09E-18	0.	0.	0.	0.	2.50E-14	7.63E-13	2.21E-10	6.40E-11	7.85E-10
10	9.80	0.	7.95E-18	0.	0.	0.	0.	2.50E-14	7.87E-13	2.21E-10	6.39E-11	7.86E-10
11	9.70	0.	6.89E-18	0.	0.	0.	0.	2.51E-14	8.12E-13	2.22E-10	6.37E-11	7.86E-10
12	9.60	0.	6.94E-18	0.	0.	0.	0.	2.51E-14	8.38E-13	2.22E-10	6.36E-11	7.87E-10
13	9.50	0.	5.34E-18	0.	0.	0.	0.	2.51E-14	8.64E-13	2.23E-10	6.35E-11	7.87E-10
14	9.40	0.	4.60E-18	0.	0.	0.	0.	2.52E-14	8.93E-13	2.23E-10	6.33E-11	7.87E-10
15	9.30	0.	4.95E-18	0.	0.	0.	0.	2.52E-14	9.22E-13	2.24E-10	6.32E-11	7.87E-10
16	9.20	0.	3.67E-18	0.	0.	0.	0.	2.53E-14	9.52E-13	2.24E-10	6.31E-11	7.87E-10
17	9.10	0.	3.96E-18	0.	0.	0.	0.	2.53E-14	9.84E-13	2.25E-10	6.30E-11	7.87E-10
18	9.00	0.	3.47E-18	0.	0.	0.	0.	2.53E-14	1.02E-12	2.25E-10	6.28E-11	7.87E-10
19	8.90	0.	3.09E-18	0.	0.	0.	0.	2.54E-14	1.09E-12	2.26E-10	6.27E-11	7.87E-10
20	8.80	0.	2.99E-18	0.	0.	0.	0.	2.54E-14	1.17E-12	2.26E-10	6.26E-11	7.87E-10
21	8.70	0.	2.47E-18	0.	0.	0.	0.	2.55E-14	1.13E-12	2.26E-10	6.25E-11	7.87E-10
22	8.60	0.	2.52E-18	0.	0.	0.	0.	2.56E-14	1.17E-12	2.26E-10	6.24E-11	7.87E-10
23	8.50	0.	2.10E-18	0.	0.	0.	0.	2.61E-14	1.21E-12	2.26E-10	6.23E-11	7.87E-10
24	8.40	0.	2.05E-18	0.	0.	0.	0.	2.62E-14	1.25E-12	2.26E-10	6.21E-11	7.87E-10
25	8.30	0.	1.66E-18	0.	0.	0.	0.	2.63E-14	1.30E-12	2.26E-10	6.22E-11	7.87E-10
26	8.20	0.	1.65E-18	0.	0.	0.	0.	2.64E-14	1.35E-12	2.26E-10	6.26E-11	7.87E-10
27	8.10	0.	1.37E-18	0.	0.	0.	0.	2.65E-14	1.40E-12	2.26E-10	6.30E-11	7.87E-10
28	8.00	0.	1.35E-18	0.	0.	0.	0.	2.66E-14	1.45E-12	2.26E-10	6.34E-11	7.87E-10
29	7.90	0.	1.13E-18	0.	0.	0.	0.	2.69E-14	1.51E-12	2.26E-10	6.37E-11	7.87E-10
30	7.80	0.	1.13E-18	0.	0.	0.	0.	2.70E-14	1.57E-12	2.26E-10	6.41E-11	7.87E-10
31	7.70	0.	9.52E-19	0.	0.	0.	0.	2.72E-14	1.63E-12	2.26E-10	6.45E-11	7.87E-10
32	7.60	0.	8.79E-19	0.	0.	0.	0.	2.73E-14	1.69E-12	2.26E-10	6.49E-11	7.87E-10
33	7.50	0.	7.84E-19	0.	0.	0.	0.	2.74E-14	1.76E-12	2.26E-10	6.53E-11	7.87E-10
34	7.40	0.	6.83E-19	0.	0.	0.	0.	2.76E-14	1.83E-12	2.26E-10	6.57E-11	7.87E-10
35	7.30	0.	6.27E-19	0.	0.	0.	0.	2.77E-14	1.91E-12	2.26E-10	6.60E-11	7.87E-10
36	7.20	0.	5.47E-19	0.	0.	0.	0.	2.79E-14	1.99E-12	2.26E-10	6.64E-11	7.87E-10
37	7.10	0.	5.09E-19	0.	0.	0.	0.	2.81E-14	2.08E-12	2.26E-10	6.68E-11	7.87E-10
38	7.00	2.62E-22	4.91E-19	0.	0.	0.	0.	2.84E-14	2.17E-12	2.26E-10	6.72E-11	7.87E-10
39	6.90	5.08E-22	4.08E-19	0.	0.	0.	0.	2.86E-14	2.26E-12	2.26E-10	6.76E-11	7.87E-10
40	6.80	4.22E-22	3.72E-19	0.	0.	0.	0.	2.88E-14	2.35E-12	2.26E-10	6.80E-11	7.87E-10
41	6.70	3.08E-22	3.14E-19	0.	0.	0.	0.	2.90E-14	2.47E-12	2.26E-10	6.84E-11	7.87E-10
42	6.60	1.79E-22	2.71E-19	0.	0.	0.	0.	2.92E-14	2.59E-12	2.26E-10	6.89E-11	7.87E-10
43	6.50	1.01E-22	2.06E-19	0.	0.	0.	0.	2.95E-14	2.71E-12	2.26E-10	6.94E-11	7.87E-10
44	6.40	1.37E-22	1.34E-19	0.	0.	0.	0.	2.97E-14	2.84E-12	2.26E-10	6.98E-11	7.87E-10
45	6.30	2.85E-22	7.80E-20	0.	0.	0.	0.	3.00E-14	2.98E-12	2.26E-10	7.05E-11	7.87E-10
46	6.20	6.58E-22	4.06E-20	0.	0.	0.	0.	3.02E-14	3.13E-12	2.26E-10	7.15E-11	7.87E-10
47	6.10	3.50E-21	1.60E-20	0.	0.	0.	0.	3.04E-14	3.28E-12	2.26E-10	7.25E-11	7.87E-10
48	6.00	9.33E-21	4.40E-21	0.	0.	0.	0.	3.06E-14	3.43E-12	2.26E-10	7.36E-11	7.87E-10
49	5.90	1.54E-20	3.14E-21	0.	0.	0.	0.	3.08E-14	3.61E-12	2.26E-10	7.46E-11	7.87E-10
50	5.80	2.38E-20	7.80E-21	0.	0.	0.	0.	3.09E-14	3.82E-12	2.26E-10	7.56E-11	7.87E-10
51	5.70	2.87E-20	0.	0.	0.	0.	0.	2.84E-14	4.63E-12	2.26E-10	7.66E-11	7.87E-10

TEMPERATURE (DEGREES K) 12000. DENSITY (GM/CC) 1.293E-09 (10.0E-07 NORMAL)  
 ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	RETA	NO GAMMA	NO VIB-ROT	NO 2	0- PHOTO-OXY (IONS)	FREE-FREE	N	0	TOTAL AIR	
										P.E.	P.E.		
52	5.60	3.61E-20	0.	0.	3.96E-20	3.97E-19	0.	0.	2.64E-14	4.25E-12	7.50E-11	7.77E-11	1.57E-10
53	3.50	3.60E-20	0.	0.	7.28E-20	3.78E-19	0.	0.	2.65E-14	4.48E-12	7.63E-11	7.80E-11	1.60E-10
54	3.40	4.04E-20	0.	0.	6.38E-20	2.78E-19	0.	0.	2.66E-14	4.74E-12	7.79E-11	8.00E-11	1.63E-10
55	3.30	3.94E-20	0.	0.	6.55E-20	3.74E-19	0.	0.	2.68E-14	5.02E-12	7.94E-11	8.14E-11	1.66E-10
56	3.20	2.89E-20	0.	0.	6.90E-20	2.43E-19	0.	0.	2.70E-14	5.31E-12	8.11E-11	8.31E-11	1.70E-10
57	3.10	2.72E-20	0.	0.	6.79E-20	3.24E-19	0.	0.	2.72E-14	5.63E-12	8.33E-11	8.49E-11	1.74E-10
58	3.00	2.04E-20	0.	0.	6.07E-20	2.69E-19	0.	0.	2.74E-14	5.90E-12	8.57E-11	8.66E-11	1.78E-10
59	2.90	1.70E-20	0.	0.	4.65E-20	3.01E-19	0.	0.	2.77E-14	6.34E-12	8.83E-11	9.04E-11	1.83E-10
60	2.80	1.70E-20	0.	0.	7.02E-20	2.74E-19	0.	0.	2.78E-14	6.77E-12	9.10E-11	9.02E-11	1.86E-10
61	2.70	1.85E-20	0.	0.	6.61E-20	2.44E-19	0.	0.	2.81E-14	7.21E-12	9.37E-11	9.25E-11	1.93E-10
62	2.60	2.21E-20	0.	0.	6.87E-20	2.29E-19	0.	0.	2.84E-14	7.70E-12	9.70E-11	9.48E-11	2.00E-10
63	2.50	2.35E-20	0.	0.	6.08E-20	1.69E-19	0.	0.	2.86E-14	8.22E-12	1.01E-10	9.71E-11	2.06E-10
64	2.40	2.32E-20	0.	0.	7.43E-20	1.19E-19	0.	0.	2.88E-14	8.80E-12	1.05E-10	9.86E-11	2.13E-10
65	2.30	2.32E-20	0.	0.	5.54E-20	6.99E-20	0.	0.	2.90E-14	9.43E-12	1.09E-10	1.02E-10	2.13E-10
66	2.20	1.94E-20	0.	0.	5.78E-20	9.27E-20	0.	0.	2.92E-14	1.01E-11	1.14E-10	1.04E-10	2.14E-10
67	2.10	1.77E-20	0.	0.	5.47E-20	1.40E-20	0.	0.	2.94E-14	1.17E-11	1.01E-10	1.01E-10	2.16E-10
68	2.00	1.59E-20	0.	0.	5.19E-20	1.07E-20	0.	0.	2.96E-14	1.27E-11	8.10E-11	2.57E-11	1.16E-10
69	1.90	1.30E-20	0.	0.	4.79E-20	4.33E-21	0.	0.	2.98E-14	1.37E-11	7.50E-11	2.65E-11	1.21E-10
70	1.80	1.41E-20	0.	0.	7.19E-20	2.57E-21	0.	0.	2.99E-14	1.47E-11	7.50E-11	2.74E-11	1.17E-10
71	1.70	1.20E-20	0.	0.	6.08E-20	4.83E-21	0.	0.	3.01E-14	1.58E-11	7.91E-11	3.05E-11	1.25E-10
72	1.60	1.05E-20	0.	0.	5.04E-20	4.22E-21	0.	0.	3.02E-14	1.69E-11	8.60E-11	3.40E-11	1.32E-10
73	1.50	8.53E-21	0.	0.	7.28E-20	3.13E-21	0.	0.	3.04E-14	1.82E-11	9.60E-11	3.78E-11	1.37E-10
74	1.40	8.1E-21	0.	0.	4.02E-20	1.19E-21	0.	0.	3.06E-14	1.97E-11	1.09E-10	4.21E-11	1.40E-10
75	1.30	6.60E-21	0.	0.	4.24E-20	5.57E-21	0.	0.	3.08E-14	2.10E-11	1.21E-10	4.63E-11	1.40E-10
76	1.20	5.54E-21	0.	0.	2.56E-20	2.74E-21	0.	0.	3.10E-14	2.30E-11	1.33E-10	5.08E-11	1.40E-10
77	1.10	5.15E-21	0.	0.	1.94E-20	1.49E-21	0.	0.	3.12E-14	2.53E-11	1.43E-10	5.53E-11	1.40E-10
78	1.00	4.44E-21	0.	0.	1.15E-20	5.42E-21	0.	0.	3.14E-14	2.80E-11	1.58E-10	5.97E-11	1.40E-10
79	0.90	3.59E-21	0.	0.	6.98E-20	3.28E-21	0.	0.	3.16E-14	3.10E-11	1.75E-10	6.43E-11	1.40E-10
80	0.80	3.44E-21	0.	0.	3.15E-20	1.54E-21	0.	0.	3.18E-14	3.45E-11	1.95E-10	6.92E-11	1.40E-10
81	0.70	2.82E-21	0.	0.	1.53E-20	2.62E-21	0.	0.	3.20E-14	3.85E-11	2.18E-10	7.42E-11	1.40E-10
82	0.60	9.74E-22	0.	0.	7.69E-21	2.47E-21	0.	0.	3.22E-14	4.30E-11	2.43E-10	7.92E-11	1.40E-10
83	0.50	6.64E-22	0.	0.	9.99E-22	2.13E-21	0.	0.	3.24E-14	4.80E-11	2.70E-10	8.42E-11	1.40E-10
84	0.40	0.	0.	0.	4.01E-20	2.08E-21	0.	0.	3.26E-14	5.35E-11	3.00E-10	8.92E-11	1.40E-10
85	0.30	0.	0.	0.	1.03E-19	0.	0.	0.	3.28E-14	5.95E-11	3.30E-10	9.42E-11	1.40E-10
86	0.20	0.	0.	0.	4.24E-19	0.	0.	0.	3.30E-14	6.60E-11	3.60E-10	9.92E-11	1.40E-10
87	0.10	0.	0.	0.	5.25E-19	0.	0.	0.	3.32E-14	7.30E-11	3.90E-10	1.04E-10	1.40E-10
88	0.00	0.	0.	0.	9.40E-19	0.	0.	0.	3.34E-14	8.05E-11	4.20E-10	1.09E-10	1.40E-10
89	1.90	0.	0.	0.	1.51E-18	0.	0.	0.	3.36E-14	8.85E-11	4.50E-10	1.14E-10	1.40E-10
90	1.80	0.	0.	0.	1.24E-18	0.	0.	0.	3.38E-14	9.70E-11	4.80E-10	1.19E-10	1.40E-10
91	1.70	0.	0.	0.	1.48E-18	0.	0.	0.	3.40E-14	1.06E-10	5.10E-10	1.24E-10	1.40E-10
92	1.60	0.	0.	0.	1.04E-18	0.	0.	0.	3.42E-14	1.16E-10	5.40E-10	1.29E-10	1.40E-10
93	1.50	0.	0.	0.	1.27E-18	0.	0.	0.	3.44E-14	1.27E-10	5.70E-10	1.34E-10	1.40E-10
94	1.40	0.	0.	0.	1.30E-18	0.	0.	0.	3.46E-14	1.39E-10	6.00E-10	1.39E-10	1.40E-10
95	1.30	0.	0.	0.	9.01E-19	0.	0.	0.	3.48E-14	1.52E-10	6.30E-10	1.44E-10	1.40E-10
96	1.20	0.	0.	0.	6.40E-19	0.	0.	0.	3.50E-14	1.66E-10	6.60E-10	1.49E-10	1.40E-10
97	1.10	0.	0.	0.	4.97E-19	0.	0.	0.	3.52E-14	1.81E-10	6.90E-10	1.54E-10	1.40E-10
98	1.00	0.	0.	0.	7.29E-19	0.	0.	0.	3.54E-14	1.97E-10	7.20E-10	1.59E-10	1.40E-10
99	0.90	0.	0.	0.	6.37E-19	0.	0.	0.	3.56E-14	2.14E-10	7.50E-10	1.64E-10	1.40E-10
100	0.80	0.	0.	0.	2.29E-18	0.	0.	0.	3.58E-14	2.32E-10	7.80E-10	1.69E-10	1.40E-10
101	0.70	0.	0.	0.	7.51E-20	0.	0.	0.	3.60E-14	2.51E-10	8.10E-10	1.74E-10	1.40E-10
102	0.60	0.	0.	0.	7.69E-21	0.	0.	0.	3.62E-14	2.70E-10	8.40E-10	1.79E-10	1.40E-10

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 30000. DENSITY (GM/CC) 1.2935-02 (1.0E 01 NORMAL)

PHOTON ENERGY RANGE (e.v.)	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7	NO. 8	NO. 9	NO. 10	PHOTO-DET (1000)		FREE-FREE		TOTAL AIR	
											1	2	1	2	1	2
1 10.78 0.	1.30E 01	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.30E 00	3.09E-03	1.20E 02	1.43E-03	1.40E 02	1.40E 02
2 10.80 0.	1.10E 01	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.30E 00	3.13E-03	6.77E-01	2.43E-01	1.37E 01	1.37E 01
3 10.90 0.	1.50E 01	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.30E 00	3.27E-03	6.31E-01	1.41E-01	1.37E 01	1.37E 01
4 10.48 0.	1.00E 01	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.30E 00	3.27E-03	6.32E-01	1.41E-01	1.20E 01	1.20E 01
5 10.30 0.	0.80E 01	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.30E 00	3.27E-03	6.32E-01	1.41E-01	1.13E 01	1.13E 01
6 10.20 0.	0.17E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.30E 00	3.27E-03	6.32E-01	1.40E-01	1.13E 01	1.13E 01
7 10.10 0.	0.40E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.30E 00	3.27E-03	6.32E-01	1.40E-01	1.06E 01	1.06E 01
8 10.00 0.	7.10E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.30E 00	3.27E-03	6.32E-01	1.40E-01	9.50E 00	9.50E 00
9 9.90 0.	7.20E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.30E 00	3.27E-03	6.40E-01	1.30E-01	9.50E 00	9.50E 00
10 9.80 0.	2.71E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.30E 00	4.10E-03	6.40E-01	1.30E-01	7.70E 00	7.70E 00
11 9.70 0.	0.61E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.30E 00	4.23E-03	6.49E-01	1.30E-01	8.27E 00	8.27E 00
12 9.60 0.	0.60E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.30E 00	4.23E-03	6.47E-01	1.30E-01	7.10E 00	7.10E 00
13 9.50 0.	0.60E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.30E 00	4.23E-03	6.47E-01	1.30E-01	7.10E 00	7.10E 00
14 9.40 0.	4.00E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.41E 00	4.50E-03	6.49E-01	1.37E-01	6.70E 00	6.70E 00
15 9.30 0.	0.67E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.41E 00	4.50E-03	6.51E-01	1.37E-01	6.00E 00	6.00E 00
16 9.20 0.	3.71E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.42E 00	4.50E-03	6.50E-01	1.37E-01	5.92E 00	5.92E 00
17 9.10 0.	3.70E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.42E 00	4.50E-03	6.50E-01	1.37E-01	5.92E 00	5.92E 00
18 9.00 0.	3.20E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.42E 00	4.50E-03	6.50E-01	1.37E-01	5.13E 00	5.13E 00
19 8.90 0.	3.00E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.42E 00	4.50E-03	6.50E-01	1.37E-01	4.70E 00	4.70E 00
20 8.80 0.	2.90E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.42E 00	4.50E-03	6.50E-01	1.37E-01	4.71E 00	4.71E 00
21 8.70 0.	2.90E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.42E 00	4.50E-03	6.50E-01	1.37E-01	4.23E 00	4.23E 00
22 8.60 0.	2.81E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.42E 00	4.50E-03	6.51E-01	1.37E-01	4.20E 00	4.20E 00
23 8.50 0.	2.71E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.42E 00	4.50E-03	6.51E-01	1.37E-01	3.91E 00	3.91E 00
24 8.40 0.	2.07E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.47E 00	4.50E-03	6.51E-01	1.37E-01	3.51E 00	3.51E 00
25 8.30 0.	1.70E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.47E 00	4.50E-03	6.51E-01	1.37E-01	3.52E 00	3.52E 00
26 8.20 0.	1.70E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.47E 00	4.50E-03	6.51E-01	1.37E-01	3.24E 00	3.24E 00
27 8.10 0.	1.41E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.49E 00	7.31E-03	6.51E-01	1.37E-01	3.24E 00	3.24E 00
28 8.00 0.	1.41E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.49E 00	7.31E-03	6.51E-01	1.37E-01	3.24E 00	3.24E 00
29 7.90 0.	1.17E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.50E 00	7.31E-03	6.51E-01	1.37E-01	3.24E 00	3.24E 00
30 7.80 0.	1.20E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.50E 00	7.31E-03	6.51E-01	1.37E-01	3.24E 00	3.24E 00
31 7.70 0.	1.00E 00	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.50E 00	7.31E-03	6.51E-01	1.37E-01	3.24E 00	3.24E 00
32 7.60 0.	0.44E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.50E 00	7.31E-03	6.51E-01	1.37E-01	3.24E 00	3.24E 00
33 7.50 0.	0.92E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.52E 00	6.53E-03	6.51E-01	1.37E-01	2.82E 00	2.82E 00
34 7.40 0.	7.40E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.54E 00	9.24E-03	6.51E-01	1.41E-01	2.64E 00	2.64E 00
35 7.30 0.	0.81E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.54E 00	9.24E-03	6.51E-01	1.41E-01	2.64E 00	2.64E 00
36 7.20 0.	0.80E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.59E 00	1.00E-02	6.51E-01	1.42E-01	2.54E 00	2.54E 00
37 7.10 0.	9.11E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.57E 00	1.07E-02	6.51E-01	1.43E-01	2.59E 00	2.59E 00
38 7.00 0.	9.11E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.50E 00	1.09E-02	6.51E-01	1.43E-01	2.59E 00	2.59E 00
39 6.90 0.	4.94E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.40E 00	1.19E-02	6.51E-01	1.44E-01	2.59E 00	2.59E 00
40 6.80 0.	4.27E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.40E 00	1.19E-02	6.51E-01	1.44E-01	2.59E 00	2.59E 00
41 6.70 0.	3.00E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.62E 00	1.25E-02	6.51E-01	1.46E-01	2.62E 00	2.62E 00
42 6.60 0.	1.00E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.63E 00	1.31E-02	6.51E-01	1.47E-01	2.58E 00	2.58E 00
43 6.50 0.	1.37E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.64E 00	1.37E-02	6.51E-01	1.47E-01	2.60E 00	2.60E 00
44 6.40 0.	3.41E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.60E 00	1.43E-02	6.51E-01	1.46E-01	2.55E 00	2.55E 00
45 6.30 0.	9.54E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.67E 00	1.50E-02	6.51E-01	1.50E-01	2.37E 00	2.37E 00
46 6.20 0.	3.15E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.60E 00	1.48E-02	6.51E-01	1.49E-01	2.44E 00	2.44E 00
47 6.10 0.	3.00E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.69E 00	1.74E-02	6.51E-01	1.54E-01	2.50E 00	2.50E 00
48 6.00 0.	4.88E-06	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.71E 00	1.74E-02	6.51E-01	1.54E-01	2.32E 00	2.32E 00
49 5.90 0.	7.9E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.71E 00	1.74E-02	6.51E-01	1.54E-01	2.32E 00	2.32E 00
50 5.80 0.	4.76E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.68E 00	1.93E-02	6.51E-01	1.49E-01	2.32E 00	2.32E 00
51 5.70 0.	3.50E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.59E 00	2.03E-02	6.51E-01	1.62E-01	2.25E 00	2.25E 00

TEMPERATURE (DEGREES K) 3000. DENSITY (GM/CC) 1.2936-02 ( 1.0E 01 NORMAL)

PHOTON OR S-R ENERGY BANDS	1ST POS.	2ND POS.	N1	N2	BETA	NO	NO	NO	NO	NO	NO	NO	NO	0- PHOTO-DET (IONS)		FREP-FREE		TOTAL AIR	
														P.E.	P.E.	P.E.	P.E.		
92	5.60	1.96E-10	0	0	4.43E-02	2.92E-01	0	0	1.47E-00	2.14E-02	2.38E-01	1.04E-01	2.22E-00						
93	5.70	0	0	0	5.91E-02	2.74E-01	0	0	1.48E-00	2.24E-02	2.37E-01	1.04E-01	2.22E-00						
94	5.80	0	0	0	4.79E-02	2.80E-01	0	0	1.48E-00	2.30E-02	2.43E-01	1.04E-01	2.22E-00						
95	5.90	0	0	0	4.92E-02	2.78E-01	0	0	1.49E-00	2.40E-02	2.40E-01	1.71E-01	2.20E-00						
96	6.00	0	0	0	5.21E-02	2.66E-01	0	0	1.50E-00	2.46E-02	2.58E-01	1.79E-01	2.20E-00						
97	6.10	0	0	0	3.14E-02	2.47E-01	0	0	1.51E-00	2.80E-02	2.68E-01	1.70E-01	2.28E-00						
98	6.20	0	0	0	4.02E-02	2.31E-01	0	0	1.52E-00	3.08E-02	2.60E-01	1.82E-01	2.20E-00						
99	6.30	0	0	0	5.17E-02	2.33E-01	0	0	1.50E-00	3.21E-02	2.70E-01	1.89E-01	2.32E-00						
100	6.40	0	0	0	3.39E-02	2.10E-01	0	0	1.57E-00	3.40E-02	2.94E-01	1.94E-01	2.35E-00						
101	6.50	0	0	0	5.27E-02	1.92E-01	0	0	1.50E-00	3.60E-02	3.05E-01	1.99E-01	2.37E-00						
102	6.60	0	0	0	5.34E-02	1.74E-01	0	0	1.50E-00	3.80E-02	3.15E-01	2.02E-01	2.30E-00						
103	6.70	0	0	0	4.22E-02	0.80E-02	0	0	1.08E-00	4.40E-02	3.31E-01	2.06E-01	2.44E-00						
104	6.80	0	0	0	4.39E-02	5.32E-02	0	0	1.02E-00	4.70E-02	3.40E-01	2.10E-01	2.60E-00						
105	6.90	0	0	0	4.57E-02	4.10E-02	0	0	1.02E-00	5.10E-02	3.48E-01	2.10E-01	2.31E-00						
106	7.00	0	0	0	4.30E-02	3.23E-02	0	0	1.04E-00	5.49E-02	3.58E-01	2.20E-01	2.71E-00						
107	7.10	0	0	0	4.19E-02	0.30E-02	0	0	1.04E-00	5.97E-02	3.69E-01	2.20E-01	2.54E-00						
108	7.20	0	0	0	4.32E-02	3.30E-02	0	0	1.04E-00	6.37E-02	3.79E-01	2.30E-01	2.60E-00						
109	7.30	0	0	0	4.45E-02	2.05E-02	0	0	1.04E-00	6.87E-02	3.90E-01	2.30E-01	2.60E-00						
110	7.40	0	0	0	4.58E-02	1.08E-02	0	0	1.04E-00	7.37E-02	4.00E-01	2.30E-01	2.71E-00						
111	7.50	0	0	0	4.71E-02	0.00E-02	0	0	1.04E-00	7.87E-02	4.10E-01	2.30E-01	2.71E-00						
112	7.60	0	0	0	4.84E-02	3.20E-02	0	0	1.04E-00	8.37E-02	4.20E-01	2.30E-01	2.71E-00						
113	7.70	0	0	0	4.97E-02	2.10E-02	0	0	1.04E-00	8.87E-02	4.30E-01	2.30E-01	2.71E-00						
114	7.80	0	0	0	5.10E-02	1.00E-02	0	0	1.04E-00	9.37E-02	4.40E-01	2.30E-01	2.71E-00						
115	7.90	0	0	0	5.23E-02	0.00E-02	0	0	1.04E-00	9.87E-02	4.50E-01	2.30E-01	2.71E-00						
116	8.00	0	0	0	5.36E-02	3.00E-02	0	0	1.04E-00	1.03E-01	4.60E-01	2.30E-01	2.71E-00						
117	8.10	0	0	0	5.49E-02	2.00E-02	0	0	1.04E-00	1.08E-01	4.70E-01	2.30E-01	2.71E-00						
118	8.20	0	0	0	5.62E-02	1.00E-02	0	0	1.04E-00	1.13E-01	4.80E-01	2.30E-01	2.71E-00						
119	8.30	0	0	0	5.75E-02	0.00E-02	0	0	1.04E-00	1.18E-01	4.90E-01	2.30E-01	2.71E-00						
120	8.40	0	0	0	5.88E-02	3.00E-02	0	0	1.04E-00	1.23E-01	5.00E-01	2.30E-01	2.71E-00						
121	8.50	0	0	0	6.01E-02	2.00E-02	0	0	1.04E-00	1.28E-01	5.10E-01	2.30E-01	2.71E-00						
122	8.60	0	0	0	6.14E-02	1.00E-02	0	0	1.04E-00	1.33E-01	5.20E-01	2.30E-01	2.71E-00						
123	8.70	0	0	0	6.27E-02	0.00E-02	0	0	1.04E-00	1.38E-01	5.30E-01	2.30E-01	2.71E-00						
124	8.80	0	0	0	6.40E-02	3.00E-02	0	0	1.04E-00	1.43E-01	5.40E-01	2.30E-01	2.71E-00						
125	8.90	0	0	0	6.53E-02	2.00E-02	0	0	1.04E-00	1.48E-01	5.50E-01	2.30E-01	2.71E-00						
126	9.00	0	0	0	6.66E-02	1.00E-02	0	0	1.04E-00	1.53E-01	5.60E-01	2.30E-01	2.71E-00						
127	9.10	0	0	0	6.79E-02	0.00E-02	0	0	1.04E-00	1.58E-01	5.70E-01	2.30E-01	2.71E-00						
128	9.20	0	0	0	6.92E-02	3.00E-02	0	0	1.04E-00	1.63E-01	5.80E-01	2.30E-01	2.71E-00						
129	9.30	0	0	0	7.05E-02	2.00E-02	0	0	1.04E-00	1.68E-01	5.90E-01	2.30E-01	2.71E-00						
130	9.40	0	0	0	7.18E-02	1.00E-02	0	0	1.04E-00	1.73E-01	6.00E-01	2.30E-01	2.71E-00						
131	9.50	0	0	0	7.31E-02	0.00E-02	0	0	1.04E-00	1.78E-01	6.10E-01	2.30E-01	2.71E-00						
132	9.60	0	0	0	7.44E-02	3.00E-02	0	0	1.04E-00	1.83E-01	6.20E-01	2.30E-01	2.71E-00						
133	9.70	0	0	0	7.57E-02	2.00E-02	0	0	1.04E-00	1.88E-01	6.30E-01	2.30E-01	2.71E-00						
134	9.80	0	0	0	7.70E-02	1.00E-02	0	0	1.04E-00	1.93E-01	6.40E-01	2.30E-01	2.71E-00						
135	9.90	0	0	0	7.83E-02	0.00E-02	0	0	1.04E-00	1.98E-01	6.50E-01	2.30E-01	2.71E-00						
136	10.00	0	0	0	7.96E-02	3.00E-02	0	0	1.04E-00	2.03E-01	6.60E-01	2.30E-01	2.71E-00						
137	10.10	0	0	0	8.09E-02	2.00E-02	0	0	1.04E-00	2.08E-01	6.70E-01	2.30E-01	2.71E-00						
138	10.20	0	0	0	8.22E-02	1.00E-02	0	0	1.04E-00	2.13E-01	6.80E-01	2.30E-01	2.71E-00						
139	10.30	0	0	0	8.35E-02	0.00E-02	0	0	1.04E-00	2.18E-01	6.90E-01	2.30E-01	2.71E-00						
140	10.40	0	0	0	8.48E-02	3.00E-02	0	0	1.04E-00	2.23E-01	7.00E-01	2.30E-01	2.71E-00						
141	10.50	0	0	0	8.61E-02	2.00E-02	0	0	1.04E-00	2.28E-01	7.10E-01	2.30E-01	2.71E-00						
142	10.60	0	0	0	8.74E-02	1.00E-02	0	0	1.04E-00	2.33E-01	7.20E-01	2.30E-01	2.71E-00						
143	10.70	0	0	0	8.87E-02	0.00E-02	0	0	1.04E-00	2.38E-01	7.30E-01	2.30E-01	2.71E-00						
144	10.80	0	0	0	9.00E-02	3.00E-02	0	0	1.04E-00	2.43E-01	7.40E-01	2.30E-01	2.71E-00						
145	10.90	0	0	0	9.13E-02	2.00E-02	0	0	1.04E-00	2.48E-01	7.50E-01	2.30E-01	2.71E-00						
146	11.00	0	0	0	9.26E-02	1.00E-02	0	0	1.04E-00	2.53E-01	7.60E-01	2.30E-01	2.71E-00						
147	11.10	0	0	0	9.39E-02	0.00E-02	0	0	1.04E-00	2.58E-01	7.70E-01	2.30E-01	2.71E-00						
148	11.20	0	0	0	9.52E-02	3.00E-02	0	0	1.04E-00	2.63E-01	7.80E-01	2.30E-01	2.71E-00						
149	11.30	0	0	0	9.65E-02	2.00E-02	0	0	1.04E-00	2.68E-01	7.90E-01	2.30E-01	2.71E-00						
150	11.40	0	0	0	9.78E-02	1.00E-02	0	0	1.04E-00	2.73E-01	8.00E-01	2.30E-01	2.71E-00						
151	11.50	0	0	0	9.91E-02	0.00E-02	0	0	1.04E-00	2.78E-01	8.10E-01	2.30E-01	2.71E-00						
152	11.60	0	0	0	1.00E-01	3.00E-02	0	0	1.04E-00	2.83E-01	8.20E-01	2.30E-01	2.71E-00						
153	11.70	0	0	0	1.01E-01	2.00E-02	0	0	1.04E-00	2.88E-01	8.30E-01	2.30E-01	2.71E-00						
154	11.80	0	0	0	1.02E-01	1.00E-02	0	0	1.04E-00	2.93E-01	8.40E-01	2.30E-01	2.71E-00						
155	11.90	0	0	0	1.03E-01	0.00E-02	0	0	1.04E-00	2.98E-01	8.50E-01	2.30E-01	2.71E-00						
156	12.00	0	0	0	1.04E-01	3.00E-02	0	0	1.04E-00	3.03E-01	8.60E-01	2.30E-01	2.71E-00						
157	12.10	0	0	0	1.05E-01	2.00E-02	0	0	1.04E-00	3.08E-01	8.70E-01	2.30E-01	2.71E-00						
158	12.20	0	0	0	1.06E-01	1.00E-02	0	0	1.04E-00	3.13E-01	8.80E-01	2.30E-01	2.71E-00						
159	12.30	0	0	0	1.07E-01	0.00E-02	0	0	1.04E-00	3.18E-01	8.90E-01	2.30E-01	2.71E-00						
160	12.40	0	0	0	1.08E-01	3.00E-02	0	0	1.04E-00	3.23E-01	9.00E-01	2.30E-01	2.71E-00						
161	12.50	0	0	0	1.09E-01	2.00E-02	0	0	1.04E-00	3.28E-01	9.10E-01	2.30E-01	2.71E-00						
162	12.60	0	0	0	1.10E-01	1.00E-02	0	0	1.04E-00	3.33E-01	9.20E-01	2.30E-01	2.71E-00						
163	12.70	0	0	0	1.11E-01	0.00E-02	0	0	1.04E-00	3.38E-01	9.30E-01	2.30E-01	2.71E-						





ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 1390. DENSITY (GM/CC) 1.293E-03 ( 1.0E 00 NORMAL)

ENERGY BANDS	PHOTON 02 S-R	187 POS.	M2	M2	M2	NO	NO	NO	NO	NO	NO	NO	NO	PHOTO-DET (IPMS)		FRES-FREE		TOTAL AIR
														P.E.	P.E.	N	P.E.	
52	5.08	1.00E-12	0.	0.	0.	5.66E-04	3.74E-03	0.	0.	0.	0.	0.	0.	4.70E-02	2.84E-03	2.30E-02	1.69E-02	9.99E-03
53	5.38	0.	0.	0.	0.	6.31E-04	3.58E-03	0.	0.	0.	0.	0.	0.	4.81E-02	2.10E-03	2.94E-02	1.72E-02	1.01E-01
54	5.48	0.	0.	0.	0.	6.13E-04	2.67E-03	0.	0.	0.	0.	0.	0.	4.83E-02	3.30E-03	3.06E-02	1.74E-02	1.01E-01
55	5.38	0.	0.	0.	0.	6.28E-04	3.52E-03	0.	0.	0.	0.	0.	0.	4.80E-02	2.42E-03	3.04E-02	1.77E-02	1.04E-01
56	5.20	0.	0.	0.	0.	6.65E-04	2.37E-03	0.	0.	0.	0.	0.	0.	4.80E-02	2.59E-03	3.12E-02	1.81E-02	1.04E-01
57	5.18	0.	0.	0.	0.	6.57E-04	3.13E-03	0.	0.	0.	0.	0.	0.	4.81E-02	2.78E-03	3.22E-02	1.84E-02	1.06E-01
58	5.00	2.15E-09	0.	0.	0.	5.91E-04	2.82E-03	0.	0.	0.	0.	0.	0.	4.90E-02	2.90E-03	3.31E-02	1.86E-02	1.06E-01
59	4.98	9.07E-09	0.	0.	0.	5.47E-04	2.50E-03	0.	0.	0.	0.	0.	0.	5.00E-02	3.03E-03	3.41E-02	1.92E-02	1.06E-01
60	4.88	9.19E-09	0.	0.	0.	6.80E-04	2.76E-03	0.	0.	0.	0.	0.	0.	5.00E-02	3.27E-03	3.52E-02	1.94E-02	1.12E-01
61	4.78	1.20E-04	0.	0.	0.	6.73E-04	2.49E-03	0.	0.	0.	0.	0.	0.	5.10E-02	3.50E-03	3.63E-02	2.01E-02	1.14E-01
62	4.68	1.00E-04	0.	0.	0.	6.82E-04	2.24E-03	0.	0.	0.	0.	0.	0.	5.10E-02	3.72E-03	3.74E-02	2.08E-02	1.16E-01
63	4.58	1.33E-04	0.	0.	0.	6.81E-04	1.66E-03	0.	0.	0.	0.	0.	0.	5.10E-02	3.94E-03	3.85E-02	2.15E-02	1.18E-01
64	4.48	1.71E-04	0.	0.	0.	6.83E-04	1.17E-03	0.	0.	0.	0.	0.	0.	5.20E-02	4.27E-03	3.96E-02	2.22E-02	1.20E-01
65	4.38	1.60E-04	0.	0.	0.	6.81E-04	7.37E-04	0.	0.	0.	0.	0.	0.	5.20E-02	4.72E-03	4.07E-02	2.30E-02	1.22E-01
66	4.28	1.49E-04	0.	0.	0.	6.78E-04	5.24E-04	0.	0.	0.	0.	0.	0.	5.31E-02	4.91E-03	4.18E-02	2.37E-02	1.25E-01
67	4.18	1.33E-04	0.	0.	0.	6.60E-04	1.49E-04	0.	0.	0.	0.	0.	0.	5.31E-02	5.20E-03	4.29E-02	2.45E-02	1.28E-01
68	4.08	1.20E-04	0.	0.	0.	6.30E-04	1.07E-04	0.	0.	0.	0.	0.	0.	5.31E-02	5.59E-03	4.40E-02	2.53E-02	1.31E-01
69	3.98	1.07E-05	0.	0.	0.	6.02E-04	7.34E-05	0.	0.	0.	0.	0.	0.	5.31E-02	6.14E-03	4.51E-02	2.61E-02	1.34E-01
70	3.88	1.00E-04	0.	0.	0.	5.64E-04	5.04E-05	0.	0.	0.	0.	0.	0.	5.31E-02	6.85E-03	4.62E-02	2.70E-02	1.37E-01
71	3.78	9.20E-05	0.	0.	0.	5.27E-04	4.13E-04	0.	0.	0.	0.	0.	0.	5.31E-02	7.28E-03	4.73E-02	2.79E-02	1.40E-01
72	3.68	8.21E-05	0.	0.	0.	4.89E-04	3.40E-04	0.	0.	0.	0.	0.	0.	5.31E-02	7.83E-03	4.84E-02	2.88E-02	1.43E-01
73	3.58	7.39E-05	0.	0.	0.	4.51E-04	2.87E-04	0.	0.	0.	0.	0.	0.	5.31E-02	8.48E-03	4.95E-02	2.97E-02	1.46E-01
74	3.48	6.60E-05	0.	0.	0.	4.13E-04	2.40E-04	0.	0.	0.	0.	0.	0.	5.31E-02	9.23E-03	5.06E-02	3.06E-02	1.49E-01
75	3.38	5.86E-05	0.	0.	0.	3.75E-04	2.00E-04	0.	0.	0.	0.	0.	0.	5.31E-02	1.01E-02	5.17E-02	3.15E-02	1.52E-01
76	3.28	5.16E-05	0.	0.	0.	3.37E-04	1.66E-04	0.	0.	0.	0.	0.	0.	5.31E-02	1.12E-02	5.28E-02	3.24E-02	1.55E-01
77	3.18	4.48E-05	0.	0.	0.	3.00E-04	1.38E-04	0.	0.	0.	0.	0.	0.	5.31E-02	1.25E-02	5.39E-02	3.33E-02	1.58E-01
78	3.08	3.84E-05	0.	0.	0.	2.63E-04	1.15E-04	0.	0.	0.	0.	0.	0.	5.31E-02	1.39E-02	5.50E-02	3.42E-02	1.61E-01
79	2.98	3.24E-05	0.	0.	0.	2.27E-04	9.34E-05	0.	0.	0.	0.	0.	0.	5.31E-02	1.54E-02	5.61E-02	3.51E-02	1.64E-01
80	2.88	2.67E-05	0.	0.	0.	1.92E-04	7.66E-05	0.	0.	0.	0.	0.	0.	5.31E-02	1.70E-02	5.72E-02	3.60E-02	1.67E-01
81	2.78	2.13E-05	0.	0.	0.	1.58E-04	6.23E-05	0.	0.	0.	0.	0.	0.	5.31E-02	1.87E-02	5.83E-02	3.69E-02	1.70E-01
82	2.68	1.62E-05	0.	0.	0.	1.25E-04	5.04E-05	0.	0.	0.	0.	0.	0.	5.31E-02	2.05E-02	5.94E-02	3.78E-02	1.73E-01
83	2.58	1.13E-05	0.	0.	0.	9.34E-05	4.06E-05	0.	0.	0.	0.	0.	0.	5.31E-02	2.24E-02	6.05E-02	3.87E-02	1.76E-01
84	2.48	0.67E-05	0.	0.	0.	6.27E-05	3.27E-05	0.	0.	0.	0.	0.	0.	5.31E-02	2.44E-02	6.16E-02	3.96E-02	1.79E-01
85	2.38	0.	0.	0.	0.	3.42E-05	0.	0.	0.	0.	0.	0.	0.	5.31E-02	2.65E-02	6.27E-02	4.05E-02	1.82E-01
86	2.28	0.	0.	0.	0.	1.57E-05	0.	0.	0.	0.	0.	0.	0.	5.31E-02	2.87E-02	6.38E-02	4.14E-02	1.85E-01
87	2.18	0.	0.	0.	0.	7.75E-06	0.	0.	0.	0.	0.	0.	0.	5.31E-02	3.10E-02	6.49E-02	4.23E-02	1.88E-01
88	2.08	0.	0.	0.	0.	4.19E-06	0.	0.	0.	0.	0.	0.	0.	5.31E-02	3.34E-02	6.60E-02	4.32E-02	1.91E-01
89	1.98	0.	0.	0.	0.	2.21E-06	0.	0.	0.	0.	0.	0.	0.	5.31E-02	3.59E-02	6.71E-02	4.41E-02	1.94E-01
90	1.88	0.	0.	0.	0.	1.17E-06	0.	0.	0.	0.	0.	0.	0.	5.31E-02	3.85E-02	6.82E-02	4.50E-02	1.97E-01
91	1.78	0.	0.	0.	0.	6.28E-07	0.	0.	0.	0.	0.	0.	0.	5.31E-02	4.12E-02	6.93E-02	4.59E-02	1.99E-01
92	1.68	0.	0.	0.	0.	3.31E-07	0.	0.	0.	0.	0.	0.	0.	5.31E-02	4.40E-02	7.04E-02	4.68E-02	2.02E-01
93	1.58	0.	0.	0.	0.	1.71E-07	0.	0.	0.	0.	0.	0.	0.	5.31E-02	4.69E-02	7.15E-02	4.77E-02	2.05E-01
94	1.48	0.	0.	0.	0.	9.00E-08	0.	0.	0.	0.	0.	0.	0.	5.31E-02	5.00E-02	7.26E-02	4.86E-02	2.08E-01
95	1.38	0.	0.	0.	0.	4.72E-08	0.	0.	0.	0.	0.	0.	0.	5.31E-02	5.32E-02	7.37E-02	4.95E-02	2.11E-01
96	1.28	0.	0.	0.	0.	2.46E-08	0.	0.	0.	0.	0.	0.	0.	5.31E-02	5.66E-02	7.48E-02	5.04E-02	2.14E-01
97	1.18	0.	0.	0.	0.	1.30E-08	0.	0.	0.	0.	0.	0.	0.	5.31E-02	6.02E-02	7.59E-02	5.13E-02	2.17E-01
98	1.08	0.	0.	0.	0.	6.84E-09	0.	0.	0.	0.	0.	0.	0.	5.31E-02	6.40E-02	7.70E-02	5.22E-02	2.20E-01
99	0.98	0.	0.	0.	0.	3.71E-09	0.	0.	0.	0.	0.	0.	0.	5.31E-02	6.80E-02	7.81E-02	5.31E-02	2.23E-01
100	0.88	0.	0.	0.	0.	2.00E-09	0.	0.	0.	0.	0.	0.	0.	5.31E-02	7.22E-02	7.92E-02	5.40E-02	2.26E-01
101	0.78	0.	0.	0.	0.	1.10E-09	0.	0.	0.	0.	0.	0.	0.	5.31E-02	7.66E-02	8.03E-02	5.49E-02	2.29E-01
102	0.68	0.	0.	0.	0.	6.00E-10	0.	0.	0.	0.	0.	0.	0.	5.31E-02	8.12E-02	8.14E-02	5.58E-02	2.32E-01

ABSORPTION COEFFICIENTS OF HEATED AIR (AVERAGE CH.)  
 TEMPERATURE (DEGREES F) 13000. DENSITY (GM/CC) 1.292E-04 ( 1.0E-01 NORMAL)

PHOTON OR S-R ENERGY BANDS CMY.	CS-R CMY.	MS S-R CMY.	NO DELTA	MS GAMMA	NO Z	PMPD-PRT (YRMS)	R P.E.	0 TOTAL AIR P.E.
1 10-20 0.	0.	1.91E-03	0.	0.	0.	1.29E-03	2.70E-05	1.52E-00
2 10-60 0.	0.	1.49E-03	0.	0.	0.	1.29E-03	2.64E-05	1.43E-03
3 10-50 0.	0.	1.09E-03	0.	0.	0.	1.29E-03	2.64E-05	1.32E-03
4 10-40 0.	0.	1.94E-03	0.	0.	0.	1.29E-03	2.64E-05	1.21E-02
5 10-30 0.	0.	1.30E-03	0.	0.	0.	1.29E-03	2.64E-05	1.20E-02
6 10-20 0.	0.	1.30E-03	0.	0.	0.	1.29E-03	2.64E-05	1.10E-02
7 10-10 0.	0.	1.30E-03	0.	0.	0.	1.29E-03	2.64E-05	1.10E-02
8 10-00 0.	0.	1.09E-03	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
9 9-00 0.	0.	1.07E-03	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
10 8-00 0.	0.	0.82E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
11 7-00 0.	0.	0.31E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
12 6-00 0.	0.	0.69E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
13 5-00 0.	0.	7.31E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
14 4-00 0.	0.	6.73E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
15 3-00 0.	0.	6.09E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
16 2-00 0.	0.	5.42E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
17 1-00 0.	0.	5.04E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
18 0-00 0.	0.	4.91E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
19 0-00 0.	0.	4.87E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
20 0-00 0.	0.	4.87E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
21 0-00 0.	0.	3.59E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
22 0-00 0.	0.	3.07E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
23 0-00 0.	0.	3.10E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
24 0-00 0.	0.	3.04E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
25 0-00 0.	0.	2.92E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
26 0-00 0.	0.	2.49E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
27 0-00 0.	0.	2.00E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
28 0-00 0.	0.	2.00E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
29 0-00 0.	0.	1.72E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
30 0-00 0.	0.	1.79E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
31 0-00 0.	0.	1.49E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
32 0-00 0.	0.	1.89E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
33 0-00 0.	0.	1.89E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
34 0-00 0.	0.	1.49E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
35 0-00 0.	0.	0.91E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
36 0-00 0.	0.	0.91E-04	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
37 0-00 0.	0.	0.37E-05	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
38 0-00 0.	0.	1.98E-00	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
39 0-00 0.	0.	3.03E-08	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
40 0-00 0.	0.	2.97E-08	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
41 0-00 0.	0.	1.64E-08	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
42 0-00 0.	0.	1.10E-08	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
43 0-00 0.	0.	6.33E-09	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
44 0-00 0.	0.	3.49E-09	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
45 0-00 0.	0.	1.97E-09	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
46 0-00 0.	0.	2.68E-10	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
47 0-00 0.	0.	3.00E-10	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
48 0-00 0.	0.	1.70E-10	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
49 0-00 0.	0.	3.02E-11	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
50 0-00 0.	0.	4.75E-12	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03
51 0-00 0.	0.	3.56E-13	0.	0.	0.	1.29E-03	2.64E-05	1.10E-03



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CN.)

TEMPERATURE (DEGREES K) 3300. DENSITY (GM/CC) 1.295E-05 (1.0E-03 NORMAL)

PHOTON OR S-R ENERGY BANDS E.V.	OS S-R COMT.	MS S-R COMT.	NO BETA	NO GAMMA	NO 2	O- PHOTO-DET (J/MS)		O- FREE-FLYE M		O TOTAL AIR P.C.	
						PHOTO-DET (J/MS)	FREE-FLYE M	P.C.	P.C.		
1 10.70 0.	0.	1.30E-05	0.	0.	0.	1.59E-05	2.37E-06	1.29E-01	1.29E-04	1.30E-01	0.
2 10.80 0.	0.	1.29E-05	0.	0.	0.	1.58E-05	2.44E-06	6.45E-04	1.29E-04	1.29E-04	0.24E-04
3 10.90 0.	0.	1.28E-05	0.	0.	0.	1.56E-05	2.51E-06	6.40E-04	1.29E-04	1.29E-04	0.27E-04
4 10.98 0.	0.	1.27E-05	0.	0.	0.	1.57E-05	2.54E-06	6.51E-04	1.29E-04	1.29E-04	0.28E-04
5 10.99 0.	0.	0.95E-04	0.	0.	0.	1.57E-05	2.64E-06	6.52E-04	1.29E-04	1.29E-04	0.28E-04
6 10.99 0.	0.	0.69E-04	0.	0.	0.	1.56E-05	2.74E-06	6.54E-04	1.29E-04	1.29E-04	0.30E-04
7 10.99 0.	0.	0.72E-04	0.	0.	0.	1.56E-05	2.82E-06	6.55E-04	1.27E-04	1.27E-04	0.30E-04
8 10.00 0.	0.	7.00E-04	0.	0.	0.	1.59E-05	2.91E-06	6.57E-04	1.27E-04	1.27E-04	0.30E-04
9 9.99 0.	0.	7.19E-04	0.	0.	0.	1.59E-05	3.00E-06	6.58E-04	1.27E-04	1.27E-04	0.30E-04
10 9.99 0.	0.	7.09E-04	0.	0.	0.	1.60E-05	3.09E-06	6.60E-04	1.24E-04	1.24E-04	0.33E-04
11 9.70 0.	0.	5.90E-04	0.	0.	0.	1.61E-05	3.18E-06	6.62E-04	1.26E-04	1.26E-04	0.33E-04
12 9.60 0.	0.	6.30E-04	0.	0.	0.	1.61E-05	3.26E-06	6.63E-04	1.26E-04	1.26E-04	0.33E-04
13 9.50 0.	0.	5.27E-04	0.	0.	0.	1.62E-05	3.34E-06	6.65E-04	1.25E-04	1.25E-04	0.34E-04
14 9.40 0.	0.	4.06E-04	0.	0.	0.	1.63E-05	3.41E-06	6.67E-04	1.25E-04	1.25E-04	0.37E-04
15 9.30 0.	0.	4.94E-04	0.	0.	0.	1.64E-05	3.48E-06	6.69E-04	1.25E-04	1.25E-04	0.39E-04
16 9.20 0.	0.	3.93E-04	0.	0.	0.	1.65E-05	3.55E-06	6.71E-04	1.24E-04	1.24E-04	0.40E-04
17 9.10 0.	0.	4.81E-04	0.	0.	0.	1.67E-05	3.62E-06	6.73E-04	1.24E-04	1.24E-04	0.40E-04
18 9.00 0.	0.	3.94E-04	0.	0.	0.	1.68E-05	3.69E-06	6.75E-04	1.24E-04	1.24E-04	0.40E-04
19 8.90 0.	0.	3.19E-04	0.	0.	0.	1.70E-05	3.76E-06	6.77E-04	1.24E-04	1.24E-04	0.40E-04
20 8.80 0.	0.	3.09E-04	0.	0.	0.	1.71E-05	3.83E-06	6.79E-04	1.24E-04	1.24E-04	0.40E-04
21 8.70 0.	0.	2.90E-04	0.	0.	0.	1.72E-05	3.90E-06	6.81E-04	1.23E-04	1.23E-04	0.40E-04
22 8.60 0.	0.	2.64E-04	0.	0.	0.	1.74E-05	3.97E-06	6.83E-04	1.23E-04	1.23E-04	0.40E-04
23 8.50 0.	0.	2.24E-04	0.	0.	0.	1.75E-05	4.04E-06	6.85E-04	1.22E-04	1.22E-04	0.40E-04
24 8.40 0.	0.	2.19E-04	0.	0.	0.	1.77E-05	4.11E-06	6.87E-04	1.22E-04	1.22E-04	0.40E-04
25 8.30 0.	0.	1.89E-04	0.	0.	0.	1.78E-05	4.18E-06	6.89E-04	1.22E-04	1.22E-04	0.40E-04
26 8.20 0.	0.	1.79E-04	0.	0.	0.	1.80E-05	4.25E-06	6.91E-04	1.23E-04	1.23E-04	0.40E-04
27 8.10 0.	0.	1.90E-04	0.	0.	0.	1.82E-05	4.32E-06	6.93E-04	1.23E-04	1.23E-04	0.40E-04
28 8.00 0.	0.	1.49E-04	0.	0.	0.	1.83E-05	4.39E-06	6.95E-04	1.24E-04	1.24E-04	0.40E-04
29 7.90 0.	0.	1.26E-04	0.	0.	0.	1.85E-05	4.46E-06	6.97E-04	1.24E-04	1.24E-04	0.40E-04
30 7.80 0.	0.	1.20E-04	0.	0.	0.	1.87E-05	4.53E-06	6.99E-04	1.24E-04	1.24E-04	0.40E-04
31 7.70 0.	0.	1.00E-04	0.	0.	0.	1.89E-05	4.60E-06	7.01E-04	1.24E-04	1.24E-04	0.40E-04
32 7.60 0.	0.	9.01E-05	0.	5.07E-11	0.	1.91E-05	4.67E-06	7.03E-04	1.24E-04	1.24E-04	0.40E-04
33 7.50 0.	0.	9.01E-05	0.	2.11E-10	0.	1.93E-05	4.74E-06	7.05E-04	1.24E-04	1.24E-04	0.40E-04
34 7.40 0.	0.	7.92E-05	0.	1.32E-09	0.	1.95E-05	4.81E-06	7.07E-04	1.24E-04	1.24E-04	0.40E-04
35 7.30 0.	0.	7.92E-05	0.	6.22E-09	0.	1.97E-05	4.88E-06	7.09E-04	1.24E-04	1.24E-04	0.40E-04
36 7.20 0.	0.	6.43E-05	0.	1.63E-08	0.	1.99E-05	4.95E-06	7.11E-04	1.24E-04	1.24E-04	0.40E-04
37 7.10 0.	0.	6.03E-05	0.	4.64E-08	0.	2.01E-05	5.02E-06	7.13E-04	1.24E-04	1.24E-04	0.40E-04
38 7.00 0.	0.	5.39E-05	0.	1.12E-07	0.	2.03E-05	5.09E-06	7.15E-04	1.24E-04	1.24E-04	0.40E-04
39 6.90 0.	0.	4.83E-05	0.	1.32E-07	0.	2.05E-05	5.16E-06	7.17E-04	1.24E-04	1.24E-04	0.40E-04
40 6.80 2.64E-10	0.	4.92E-05	0.	2.95E-07	0.	2.07E-05	5.23E-06	7.19E-04	1.24E-04	1.24E-04	0.40E-04
41 6.70 1.49E-10	0.	3.69E-05	0.	3.69E-07	0.	2.09E-05	5.30E-06	7.21E-04	1.24E-04	1.24E-04	0.40E-04
42 6.60 0.95E-11	0.	3.69E-05	0.	1.96E-07	0.	2.11E-05	5.37E-06	7.23E-04	1.24E-04	1.24E-04	0.40E-04
43 6.50 5.84E-11	0.	2.90E-05	0.	3.34E-07	0.	2.13E-05	5.44E-06	7.25E-04	1.24E-04	1.24E-04	0.40E-04
44 6.40 2.83E-11	0.	1.70E-05	1.44E-09	3.34E-07	0.	2.15E-05	5.51E-06	7.27E-04	1.24E-04	1.24E-04	0.40E-04
45 6.30 1.60E-11	0.	1.01E-05	6.56E-09	2.01E-07	0.	2.17E-05	5.58E-06	7.29E-04	1.24E-04	1.24E-04	0.40E-04
46 6.20 7.85E-12	0.	5.34E-05	9.65E-09	2.93E-07	0.	2.19E-05	5.65E-06	7.31E-04	1.24E-04	1.24E-04	0.40E-04
47 6.10 3.15E-12	0.	2.40E-05	2.53E-08	4.01E-07	0.	2.21E-05	5.72E-06	7.33E-04	1.24E-04	1.24E-04	0.40E-04
48 6.00 1.20E-12	0.	9.92E-05	2.29E-08	1.74E-07	0.	2.23E-05	5.79E-06	7.35E-04	1.24E-04	1.24E-04	0.40E-04
49 5.90 3.11E-13	0.	4.28E-05	3.31E-08	1.76E-07	0.	2.25E-05	5.86E-06	7.37E-04	1.24E-04	1.24E-04	0.40E-04
50 5.80 3.94E-14	0.	1.05E-05	4.54E-08	1.74E-07	0.	2.27E-05	5.93E-06	7.39E-04	1.24E-04	1.24E-04	0.40E-04
51 5.70 2.49E-15	0.	0.	5.13E-08	1.92E-07	0.	2.29E-05	6.00E-06	7.41E-04	1.24E-04	1.24E-04	0.40E-04

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES N) 13000. DENSITY (GM/CC) 1.291E-05 (10.0E-03 NORMAL)

PHOTON OR S-K ENERGY BANDS	M7 1ST POS.	M2 2ND POS.	M2* 1ST NEG.	M7 BETA	M0 GAMMA	M0 VID-ROT	M0 2	M0 PHOT-DET (IONS)	M0 FREQ-FREE	M0 P.E.	TOTAL AIR		
												P.E.	
52	5.60	1.29E-16	0.	0.	4.19E-08	2.74E-07	0.	0.	3.9E-05	1.67E-05	2.40E-04	1.49E-04	4.44E-04
53	5.50	0.	0.	0.	5.0E-08	2.9E-07	0.	0.	3.1E-05	1.7E-05	2.4E-04	1.51E-04	4.51E-04
54	5.40	0.	0.	0.	6.4E-08	3.9E-07	0.	0.	3.1E-05	1.7E-05	2.4E-04	1.53E-04	4.68E-04
55	5.30	0.	0.	0.	4.0E-08	2.9E-07	0.	0.	3.1E-05	1.7E-05	2.4E-04	1.56E-04	4.69E-04
56	5.20	0.	0.	0.	4.0E-08	2.9E-07	0.	0.	3.1E-05	1.7E-05	2.4E-04	1.59E-04	4.79E-04
57	5.10	0.	0.	0.	4.8E-08	3.2E-07	0.	0.	3.1E-05	1.7E-05	2.4E-04	1.62E-04	4.91E-04
58	5.00	0.	0.	0.	4.3E-08	2.7E-07	0.	0.	3.1E-05	1.7E-05	2.4E-04	1.65E-04	5.04E-04
59	4.90	1.46E-09	0.	0.	4.7E-08	3.1E-07	0.	0.	3.1E-05	1.7E-05	2.4E-04	1.68E-04	5.18E-04
60	4.80	1.32E-09	0.	0.	4.0E-08	2.9E-07	0.	0.	3.1E-05	1.7E-05	2.4E-04	1.72E-04	5.32E-04
61	4.70	9.27E-09	0.	0.	4.9E-08	3.1E-07	0.	0.	4.6E-05	2.0E-05	3.0E-04	1.77E-04	5.48E-04
62	4.60	1.37E-08	0.	0.	4.9E-08	3.1E-07	0.	0.	4.1E-05	3.3E-05	3.1E-04	1.81E-04	5.66E-04
63	4.50	1.27E-08	0.	0.	4.9E-08	3.1E-07	0.	0.	4.1E-05	3.3E-05	3.1E-04	1.86E-04	5.86E-04
64	4.40	1.32E-08	0.	0.	4.4E-08	2.9E-07	0.	0.	4.1E-05	3.4E-05	3.4E-04	1.90E-04	6.07E-04
65	4.30	1.22E-08	0.	0.	4.1E-08	2.7E-07	0.	0.	4.1E-05	3.4E-05	3.4E-04	1.95E-04	6.30E-04
66	4.20	1.32E-08	0.	0.	4.2E-08	3.0E-07	0.	0.	4.2E-05	3.7E-05	3.7E-04	2.01E-04	6.53E-04
67	4.10	1.42E-08	0.	0.	4.1E-08	2.9E-07	0.	0.	4.2E-05	3.7E-05	3.7E-04	2.07E-04	6.73E-04
68	4.00	9.31E-09	0.	0.	3.0E-08	2.0E-07	0.	0.	4.2E-05	4.1E-05	4.1E-04	2.14E-04	7.07E-04
69	3.90	7.71E-09	0.	0.	6.4E-07	3.4E-06	0.	0.	4.2E-05	4.9E-05	5.0E-04	2.22E-04	7.46E-04
70	3.80	8.95E-09	0.	0.	9.1E-07	3.5E-06	0.	0.	4.2E-05	5.3E-05	5.3E-04	2.30E-04	7.90E-04
71	3.70	7.17E-09	0.	0.	1.1E-06	3.6E-06	0.	0.	4.1E-05	5.8E-05	5.8E-04	2.39E-04	8.39E-04
72	3.60	6.15E-09	0.	0.	6.0E-07	3.7E-06	0.	0.	3.9E-05	6.3E-05	6.3E-04	2.49E-04	8.93E-04
73	3.50	5.08E-09	0.	0.	9.0E-07	3.9E-06	0.	0.	3.9E-05	6.9E-05	6.9E-04	2.60E-04	9.52E-04
74	3.40	4.04E-09	0.	0.	3.6E-07	3.7E-06	0.	0.	2.0E-05	8.2E-05	8.2E-04	2.72E-04	1.01E-03
75	3.30	4.07E-09	0.	0.	3.0E-07	3.4E-06	0.	0.	2.0E-05	8.2E-05	8.2E-04	2.85E-04	1.07E-03
76	3.20	3.45E-09	0.	0.	2.7E-07	3.1E-06	0.	0.	2.0E-05	8.2E-05	8.2E-04	2.99E-04	1.14E-03
77	3.10	3.23E-09	0.	0.	2.7E-07	2.7E-06	0.	0.	2.0E-05	8.2E-05	8.2E-04	3.14E-04	1.21E-03
78	3.00	2.91E-09	0.	0.	1.6E-07	2.7E-06	0.	0.	2.0E-05	8.2E-05	8.2E-04	3.30E-04	1.29E-03
79	2.90	2.38E-09	0.	0.	1.0E-07	2.7E-06	0.	0.	2.0E-05	8.2E-05	8.2E-04	3.47E-04	1.38E-03
80	2.80	2.10E-09	0.	0.	4.0E-08	2.7E-06	0.	0.	2.0E-05	8.2E-05	8.2E-04	3.66E-04	1.48E-03
81	2.70	1.80E-09	0.	0.	2.2E-08	2.7E-06	0.	0.	2.0E-05	8.2E-05	8.2E-04	3.87E-04	1.59E-03
82	2.60	1.47E-09	0.	0.	1.1E-08	2.7E-06	0.	0.	2.0E-05	8.2E-05	8.2E-04	4.10E-04	1.71E-03
83	2.50	1.14E-09	0.	0.	1.20E-08	2.7E-06	0.	0.	2.0E-05	8.2E-05	8.2E-04	4.35E-04	1.84E-03
84	2.40	0.	0.	0.	2.9E-07	4.4E-06	0.	0.	2.0E-05	8.2E-05	8.2E-04	4.62E-04	1.99E-03
85	2.30	0.	0.	0.	2.3E-07	4.1E-06	0.	0.	2.0E-05	8.2E-05	8.2E-04	4.91E-04	2.16E-03
86	2.20	0.	0.	0.	5.6E-07	0.	0.	0.	2.0E-05	8.2E-05	8.2E-04	5.22E-04	2.35E-03
87	2.10	0.	0.	0.	9.7E-07	0.	0.	0.	2.0E-05	8.2E-05	8.2E-04	5.55E-04	2.56E-03
88	2.00	0.	0.	0.	1.4E-06	0.	0.	0.	2.0E-05	8.2E-05	8.2E-04	5.90E-04	2.79E-03
89	1.90	0.	0.	0.	1.8E-06	0.	0.	0.	2.0E-05	8.2E-05	8.2E-04	6.27E-04	3.04E-03
90	1.80	0.	0.	0.	1.5E-06	0.	0.	0.	2.0E-05	8.2E-05	8.2E-04	6.66E-04	3.31E-03
91	1.70	0.	0.	0.	1.0E-06	0.	0.	0.	2.0E-05	8.2E-05	8.2E-04	7.06E-04	3.60E-03
92	1.60	0.	0.	0.	1.2E-06	0.	0.	0.	2.0E-05	8.2E-05	8.2E-04	7.48E-04	3.91E-03
93	1.50	0.	0.	0.	1.5E-06	0.	0.	0.	2.0E-05	8.2E-05	8.2E-04	7.92E-04	4.24E-03
94	1.40	0.	0.	0.	1.8E-06	0.	0.	0.	2.0E-05	8.2E-05	8.2E-04	8.38E-04	4.60E-03
95	1.30	0.	0.	0.	1.2E-06	0.	0.	0.	2.0E-05	8.2E-05	8.2E-04	8.84E-04	4.98E-03
96	1.20	0.	0.	0.	1.6E-06	0.	0.	0.	2.0E-05	8.2E-05	8.2E-04	9.32E-04	5.38E-03
97	1.10	0.	0.	0.	1.8E-06	0.	0.	0.	2.0E-05	8.2E-05	8.2E-04	9.82E-04	5.80E-03
98	1.00	0.	0.	0.	9.7E-07	0.	0.	0.	2.0E-05	8.2E-05	8.2E-04	1.03E-03	6.24E-03
99	0.90	0.	0.	0.	7.07E-07	0.	0.	0.	2.0E-05	8.2E-05	8.2E-04	1.08E-03	6.70E-03
100	0.80	0.	0.	0.	3.7E-07	0.	0.	0.	2.0E-05	8.2E-05	8.2E-04	1.14E-03	7.18E-03
101	0.70	0.	0.	0.	9.2E-08	0.	0.	0.	2.0E-05	8.2E-05	8.2E-04	1.20E-03	7.68E-03
102	0.60	0.	0.	0.	1.8E-08	0.	0.	0.	2.0E-05	8.2E-05	8.2E-04	1.26E-03	8.20E-03

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 13000, DENSITY (GM/CC) 1.292E-04 (10.0E-04 NORMAL)

PHOTON ENERGY BANDS E.V.	DS S-R CONT.	WS S-R NO. 1	NO DELTA	NO BANNA	NO 2	O- PHOTO-DET (lines)		TOTAL AIR		
						P.A.E.	P.A.E.			
1 10.70 0.	0.	5.04E-08	0.	0.	0.	0.21E-07	1.47E-07	1.68E-07	0.37E-04	4.07E-03
2 10.80 0.	0.	4.47E-08	0.	0.	0.	0.21E-07	1.51E-07	1.72E-07	0.39E-04	4.19E-03
3 10.90 0.	0.	4.04E-08	0.	0.	0.	0.21E-07	1.55E-07	1.76E-07	0.41E-04	4.31E-03
4 10.95 0.	0.	3.71E-08	0.	0.	0.	0.21E-07	1.59E-07	1.80E-07	0.43E-04	4.43E-03
5 10.98 0.	0.	3.42E-08	0.	0.	0.	0.21E-07	1.63E-07	1.84E-07	0.45E-04	4.55E-03
6 10.99 0.	0.	3.16E-08	0.	0.	0.	0.21E-07	1.67E-07	1.88E-07	0.47E-04	4.67E-03
7 10.99 0.	0.	2.93E-08	0.	0.	0.	0.21E-07	1.71E-07	1.92E-07	0.49E-04	4.79E-03
8 10.99 0.	0.	2.72E-08	0.	0.	0.	0.21E-07	1.75E-07	1.96E-07	0.51E-04	4.91E-03
9 9.99 0.	0.	2.52E-08	0.	0.	0.	0.21E-07	1.79E-07	2.00E-07	0.53E-04	5.03E-03
10 9.99 0.	0.	2.33E-08	0.	0.	0.	0.21E-07	1.83E-07	2.04E-07	0.55E-04	5.15E-03
11 9.70 0.	0.	2.17E-08	0.	0.	0.	0.21E-07	1.87E-07	2.08E-07	0.57E-04	5.27E-03
12 9.60 0.	0.	2.03E-08	0.	0.	0.	0.21E-07	1.91E-07	2.12E-07	0.59E-04	5.39E-03
13 9.50 0.	0.	1.91E-08	0.	0.	0.	0.21E-07	1.95E-07	2.16E-07	0.61E-04	5.51E-03
14 9.40 0.	0.	1.78E-08	0.	0.	0.	0.21E-07	1.99E-07	2.20E-07	0.63E-04	5.63E-03
15 9.30 0.	0.	1.68E-08	0.	0.	0.	0.21E-07	2.03E-07	2.24E-07	0.65E-04	5.75E-03
16 9.20 0.	0.	1.59E-08	0.	0.	0.	0.21E-07	2.07E-07	2.28E-07	0.67E-04	5.87E-03
17 9.10 0.	0.	1.47E-08	0.	0.	0.	0.21E-07	2.11E-07	2.32E-07	0.69E-04	5.99E-03
18 9.00 0.	0.	1.33E-08	0.	0.	0.	0.21E-07	2.15E-07	2.36E-07	0.71E-04	6.11E-03
19 8.90 0.	0.	1.22E-08	0.	0.	0.	0.21E-07	2.19E-07	2.40E-07	0.73E-04	6.23E-03
20 8.80 0.	0.	1.12E-08	0.	0.	0.	0.21E-07	2.23E-07	2.44E-07	0.75E-04	6.35E-03
21 8.70 0.	0.	1.04E-08	0.	0.	0.	0.21E-07	2.27E-07	2.48E-07	0.77E-04	6.47E-03
22 8.60 0.	0.	9.77E-09	0.	0.	0.	0.21E-07	2.31E-07	2.52E-07	0.79E-04	6.59E-03
23 8.50 0.	0.	9.17E-09	0.	0.	0.	0.21E-07	2.35E-07	2.56E-07	0.81E-04	6.71E-03
24 8.40 0.	0.	8.63E-09	0.	0.	0.	0.21E-07	2.39E-07	2.60E-07	0.83E-04	6.83E-03
25 8.30 0.	0.	8.12E-09	0.	0.	0.	0.21E-07	2.43E-07	2.64E-07	0.85E-04	6.95E-03
26 8.20 0.	0.	7.64E-09	0.	0.	0.	0.21E-07	2.47E-07	2.68E-07	0.87E-04	7.07E-03
27 8.10 0.	0.	7.19E-09	0.	0.	0.	0.21E-07	2.51E-07	2.72E-07	0.89E-04	7.19E-03
28 8.00 0.	0.	6.75E-09	0.	0.	0.	0.21E-07	2.55E-07	2.76E-07	0.91E-04	7.31E-03
29 7.90 0.	0.	6.33E-09	0.	0.	0.	0.21E-07	2.59E-07	2.80E-07	0.93E-04	7.43E-03
30 7.80 0.	0.	5.92E-09	0.	0.	0.	0.21E-07	2.63E-07	2.84E-07	0.95E-04	7.55E-03
31 7.70 0.	0.	5.52E-09	0.	0.	0.	0.21E-07	2.67E-07	2.88E-07	0.97E-04	7.67E-03
32 7.60 0.	0.	5.13E-09	0.	0.	0.	0.21E-07	2.71E-07	2.92E-07	0.99E-04	7.79E-03
33 7.50 0.	0.	4.75E-09	0.	0.	0.	0.21E-07	2.75E-07	2.96E-07	0.10E-03	7.91E-03
34 7.40 0.	0.	4.38E-09	0.	0.	0.	0.21E-07	2.79E-07	3.00E-07	0.11E-03	8.03E-03
35 7.30 0.	0.	4.02E-09	0.	0.	0.	0.21E-07	2.83E-07	3.04E-07	0.12E-03	8.15E-03
36 7.20 0.	0.	3.67E-09	0.	0.	0.	0.21E-07	2.87E-07	3.08E-07	0.13E-03	8.27E-03
37 7.10 0.	0.	3.33E-09	0.	0.	0.	0.21E-07	2.91E-07	3.12E-07	0.14E-03	8.39E-03
38 7.00 0.	0.	3.00E-09	0.	0.	0.	0.21E-07	2.95E-07	3.16E-07	0.15E-03	8.51E-03
39 6.90 1.22E-12	0.	2.68E-09	0.	0.	0.	0.21E-07	2.99E-07	3.20E-07	0.16E-03	8.63E-03
40 6.80 1.52E-12	0.	2.37E-09	0.	0.	0.	0.21E-07	3.03E-07	3.24E-07	0.17E-03	8.75E-03
41 6.70 1.58E-13	0.	2.07E-09	0.	0.	0.	0.21E-07	3.07E-07	3.28E-07	0.18E-03	8.87E-03
42 6.60 2.51E-13	0.	1.78E-09	0.	0.	0.	0.21E-07	3.11E-07	3.32E-07	0.19E-03	8.99E-03
43 6.50 2.50E-13	0.	1.50E-09	0.	0.	0.	0.21E-07	3.15E-07	3.36E-07	0.20E-03	9.11E-03
44 6.40 1.58E-14	0.	1.23E-09	0.	0.	0.	0.21E-07	3.19E-07	3.40E-07	0.21E-03	9.23E-03
45 6.30 1.09E-14	0.	1.00E-09	0.	0.	0.	0.21E-07	3.23E-07	3.44E-07	0.22E-03	9.35E-03
46 6.20 1.08E-14	0.	7.85E-10	0.	0.	0.	0.21E-07	3.27E-07	3.48E-07	0.23E-03	9.47E-03
47 6.10 1.55E-14	0.	6.76E-10	0.	0.	0.	0.21E-07	3.31E-07	3.52E-07	0.24E-03	9.59E-03
48 6.00 6.34E-15	0.	5.72E-10	0.	0.	0.	0.21E-07	3.35E-07	3.56E-07	0.25E-03	9.71E-03
49 5.90 1.53E-15	0.	4.73E-10	0.	0.	0.	0.21E-07	3.39E-07	3.60E-07	0.26E-03	9.83E-03
50 5.80 1.94E-16	0.	3.79E-10	0.	0.	0.	0.21E-07	3.43E-07	3.64E-07	0.27E-03	9.95E-03
51 5.70 1.43E-17	0.	2.90E-10	0.	0.	0.	0.21E-07	3.47E-07	3.68E-07	0.28E-03	1.01E-02





ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CH.)  
 DENSITY (GM/CC) 1.2926-07 (10.05-05 NORMAL)

PHOTON ENERGY E, e.v.	OS BANDS	OS 8-R COMT.	N2 8-R NO. 1	D	NO 8-R NO. 2	PHOTO-NET (1/cm)		FREQ-FREE		TOTAL AIR	
						NO	8-R NO.	NO	P.E.	NO	P.E.
1 10-78.0		0.	3.09E-11	0.	0.	0.	3.62E-08	4.47E-09	1.09E-04	1.18E-07	1.41E-06
2 10-63.0		0.	3.92E-11	0.	0.	0.	3.82E-08	4.68E-09	1.10E-04	1.20E-07	1.43E-06
3 10-50.0		0.	3.98E-11	0.	0.	0.	3.62E-08	4.52E-09	1.10E-04	1.18E-07	1.43E-06
4 10-40.0		0.	3.74E-11	0.	0.	0.	3.63E-08	4.66E-09	1.10E-04	1.19E-07	1.43E-06
5 10-30.0		0.	2.79E-11	0.	0.	0.	3.63E-08	4.70E-09	1.11E-04	1.19E-07	1.43E-06
6 10-20.0		0.	2.79E-11	0.	0.	0.	3.64E-08	4.94E-09	1.11E-04	1.20E-07	1.43E-06
7 10-10.0		0.	2.92E-11	0.	0.	0.	3.64E-08	5.09E-09	1.11E-04	1.20E-07	1.43E-06
8 10-00.0		0.	2.92E-11	0.	0.	0.	3.65E-08	5.24E-09	1.11E-04	1.20E-07	1.43E-06
9 9-90.0		0.	2.84E-11	0.	0.	0.	3.66E-08	5.40E-09	1.12E-04	1.20E-07	1.43E-06
10 9-80.0		0.	2.84E-11	0.	0.	0.	3.67E-08	5.57E-09	1.12E-04	1.21E-07	1.44E-06
11 9-70.0		0.	1.71E-11	0.	0.	0.	3.68E-08	5.75E-09	1.12E-04	1.21E-07	1.44E-06
12 9-60.0		0.	1.94E-11	0.	0.	0.	3.68E-08	5.93E-09	1.12E-04	1.21E-07	1.44E-06
13 9-50.0		0.	1.92E-11	0.	0.	0.	3.69E-08	6.12E-09	1.12E-04	1.21E-07	1.44E-06
14 9-40.0		0.	1.40E-11	0.	0.	0.	3.70E-08	6.32E-09	1.13E-04	1.21E-07	1.44E-06
15 9-30.0		0.	1.42E-11	0.	0.	0.	3.71E-08	6.52E-09	1.13E-04	1.21E-07	1.44E-06
16 9-20.0		0.	1.13E-11	0.	0.	0.	3.72E-08	6.72E-09	1.13E-04	1.21E-07	1.44E-06
17 9-10.0		0.	1.14E-11	0.	0.	0.	3.74E-08	6.93E-09	1.13E-04	1.21E-07	1.44E-06
18 9-00.0		0.	1.62E-11	0.	0.	0.	3.74E-08	7.14E-09	1.13E-04	1.21E-07	1.44E-06
19 8-90.0		0.	3.13E-12	0.	0.	0.	3.76E-08	7.35E-09	1.14E-04	1.21E-07	1.44E-06
20 8-80.0		0.	8.92E-12	0.	0.	0.	3.77E-08	7.57E-09	1.14E-04	1.21E-07	1.44E-06
21 8-70.0		0.	7.46E-12	0.	0.	0.	3.79E-08	7.79E-09	1.14E-04	1.21E-07	1.44E-06
22 8-60.0		0.	7.62E-12	0.	0.	0.	3.80E-08	8.02E-09	1.14E-04	1.21E-07	1.44E-06
23 8-50.0		0.	6.44E-12	0.	0.	0.	3.82E-08	8.25E-09	1.14E-04	1.21E-07	1.44E-06
24 8-40.0		0.	4.37E-12	0.	0.	0.	3.84E-08	8.48E-09	1.14E-04	1.21E-07	1.44E-06
25 8-30.0		0.	2.11E-12	0.	0.	0.	3.86E-08	8.72E-09	1.14E-04	1.21E-07	1.44E-06
26 8-20.0		0.	5.17E-12	0.	0.	0.	3.88E-08	8.96E-09	1.14E-04	1.21E-07	1.44E-06
27 8-10.0		0.	4.32E-12	0.	0.	0.	3.90E-08	9.20E-09	1.14E-04	1.21E-07	1.44E-06
28 8-00.0		0.	4.20E-12	0.	0.	0.	3.92E-08	9.45E-09	1.14E-04	1.21E-07	1.44E-06
29 7-90.0		0.	3.57E-12	0.	0.	0.	3.94E-08	9.70E-09	1.14E-04	1.21E-07	1.44E-06
30 7-80.0		0.	3.64E-12	0.	0.	0.	3.96E-08	9.95E-09	1.14E-04	1.21E-07	1.44E-06
31 7-70.0		0.	3.10E-12	0.	0.	0.	3.98E-08	1.02E-08	1.14E-04	1.21E-07	1.44E-06
32 7-60.0		0.	2.60E-12	0.	0.	0.	4.00E-08	1.05E-08	1.14E-04	1.21E-07	1.44E-06
33 7-50.0		0.	2.80E-12	0.	0.	0.	4.02E-08	1.08E-08	1.14E-04	1.21E-07	1.44E-06
34 7-40.0		0.	2.28E-12	0.	0.	0.	4.04E-08	1.11E-08	1.14E-04	1.21E-07	1.44E-06
35 7-30.0		0.	2.11E-12	0.	0.	0.	4.06E-08	1.14E-08	1.14E-04	1.21E-07	1.44E-06
36 7-20.0		0.	1.69E-12	0.	0.	0.	4.08E-08	1.17E-08	1.14E-04	1.21E-07	1.44E-06
37 7-10.0		0.	1.74E-12	0.	0.	0.	4.09E-08	1.20E-08	1.14E-04	1.21E-07	1.44E-06
38 7-00.0	37E-16	0.	1.95E-12	0.	0.	0.	4.12E-08	1.23E-08	1.14E-04	1.21E-07	1.44E-06
39 6-90.0	1.42E-15	0.	1.98E-12	0.	0.	0.	4.15E-08	1.26E-08	1.14E-04	1.21E-07	1.44E-06
40 6-80.0	1.20E-15	0.	1.38E-12	0.	0.	0.	4.18E-08	1.29E-08	1.14E-04	1.21E-07	1.44E-06
41 6-70.0	8.59E-16	0.	1.11E-12	0.	0.	0.	4.22E-08	1.32E-08	1.14E-04	1.21E-07	1.44E-06
42 6-60.0	5.15E-16	0.	9.67E-13	0.	0.	0.	4.25E-08	1.35E-08	1.14E-04	1.21E-07	1.44E-06
43 6-50.0	2.81E-16	0.	7.44E-13	0.	0.	0.	4.28E-08	1.38E-08	1.14E-04	1.21E-07	1.44E-06
44 6-40.0	1.03E-16	0.	4.90E-13	0.	0.	0.	4.32E-08	1.41E-08	1.14E-04	1.21E-07	1.44E-06
45 6-30.0	9.21E-17	0.	2.91E-13	0.	0.	0.	4.35E-08	1.44E-08	1.14E-04	1.21E-07	1.44E-06
46 6-20.0	4.08E-17	0.	1.38E-13	0.	0.	0.	4.39E-08	1.47E-08	1.14E-04	1.21E-07	1.44E-06
47 6-10.0	1.81E-17	0.	6.91E-14	0.	0.	0.	4.42E-08	1.50E-08	1.14E-04	1.21E-07	1.44E-06
48 5-90.0	7.99E-18	0.	1.71E-14	0.	0.	0.	4.45E-08	1.53E-08	1.14E-04	1.21E-07	1.44E-06
49 5-80.0	1.79E-18	0.	1.23E-15	0.	0.	0.	4.48E-08	1.56E-08	1.14E-04	1.21E-07	1.44E-06
50 5-60.0	2.27E-19	0.	3.04E-17	0.	0.	0.	4.52E-08	1.59E-08	1.14E-04	1.21E-07	1.44E-06
51 5-70.0	1.47E-20	0.	2.09E-13	7.81E-13	0.	0.	4.55E-08	1.62E-08	1.14E-04	1.21E-07	1.44E-06

**ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)**  
 TEMPERATURE (DEGREES K) 13000, DENSITY (GM/CC) 1.293E-07 (I.P. 0E-05 NORMAL)

PHOTON OR S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2 3RD POS.	N2+ 1ST NEG.	NO 1ST POS.	NO 2ND POS.	SUMMA	NO 1ST POS.	NO 2ND POS.	C- PHOTO-DET (FPM)	FREF-FREE A	P.E.	TOTAL AIR	
52	5.60	7.49E-22	0.	0.	1.69E-13	1.11E-12	0.	0.	0.	3.80E-04	3.01E-08	4.07E-07	1.57E-07	7.50E-07
53	5.50	0.	0.	0.	2.05E-13	1.04E-12	0.	0.	0.	3.80E-04	3.19E-08	4.14E-07	3.62E-07	8.12E-07
54	5.40	0.	0.	0.	1.83E-13	7.83E-13	0.	0.	0.	3.90E-04	3.36E-08	4.23E-07	3.08E-07	8.26E-07
55	5.30	0.	0.	0.	1.67E-13	1.05E-12	0.	0.	0.	3.92E-04	3.55E-08	4.33E-07	3.74E-07	8.46E-07
56	5.20	0.	0.	0.	1.98E-13	7.07E-13	0.	0.	0.	3.95E-04	3.74E-08	4.42E-07	3.81E-07	8.65E-07
57	5.10	0.	0.	0.	1.98E-13	7.07E-13	0.	0.	0.	3.92E-04	3.94E-08	4.50E-07	3.89E-07	8.87E-07
58	5.00	9.57E-15	0.	0.	1.78E-13	8.42E-13	0.	0.	0.	4.02E-04	4.24E-08	4.68E-07	3.97E-07	9.11E-07
59	4.90	2.89E-14	0.	0.	1.95E-13	8.87E-13	0.	0.	0.	4.05E-04	4.50E-08	4.82E-07	4.05E-07	9.36E-07
60	4.80	4.89E-14	0.	0.	2.05E-13	9.28E-13	0.	0.	0.	4.08E-04	4.79E-08	4.97E-07	4.13E-07	9.63E-07
61	4.70	5.33E-14	0.	0.	2.01E-13	7.30E-13	0.	0.	0.	4.12E-04	5.11E-08	5.13E-07	4.21E-07	9.92E-07
62	4.60	7.13E-14	0.	0.	2.03E-13	6.60E-13	0.	0.	0.	4.15E-04	5.49E-08	5.32E-07	4.29E-07	1.02E-06
63	4.50	7.32E-14	0.	0.	1.82E-13	4.92E-13	0.	0.	0.	4.18E-04	5.82E-08	5.55E-07	4.38E-07	1.05E-06
64	4.40	7.62E-14	0.	0.	1.80E-13	3.50E-13	0.	0.	0.	4.22E-04	6.23E-08	5.78E-07	4.56E-07	1.10E-06
65	4.30	7.62E-14	0.	0.	1.67E-13	2.11E-13	0.	0.	0.	4.25E-04	6.69E-08	6.03E-07	4.74E-07	1.14E-06
66	4.20	6.44E-14	0.	0.	1.75E-13	1.51E-13	0.	0.	0.	4.28E-04	7.17E-08	6.29E-07	4.92E-07	1.19E-06
67	4.10	5.93E-14	0.	0.	1.67E-13	4.19E-14	0.	0.	0.	4.30E-04	7.71E-08	6.54E-07	5.11E-07	1.24E-06
68	4.00	5.36E-14	0.	0.	1.50E-13	3.20E-14	0.	0.	0.	4.32E-04	8.30E-08	6.81E-07	5.31E-07	1.30E-06
69	3.90	4.81E-14	0.	0.	1.41E-13	1.78E-14	0.	0.	0.	4.35E-04	8.96E-08	7.10E-07	5.53E-07	1.37E-06
70	3.80	4.31E-14	0.	0.	1.50E-13	0.00E-14	0.	0.	0.	4.28E-04	9.69E-08	7.44E-07	5.77E-07	1.45E-06
71	3.70	4.31E-14	0.	0.	2.00E-12	7.69E-11	0.	0.	0.	4.22E-04	1.05E-07	7.85E-07	6.00E-07	1.54E-06
72	3.60	3.95E-14	0.	0.	2.00E-12	4.55E-10	1.38E-13	0.	0.	3.95E-04	1.14E-07	8.31E-07	6.25E-07	1.64E-06
73	3.50	3.64E-14	0.	0.	2.02E-12	1.80E-09	1.01E-13	0.	0.	3.82E-04	1.24E-07	8.80E-07	6.50E-07	1.76E-06
74	3.40	2.97E-14	0.	0.	1.82E-12	1.10E-09	1.13E-13	0.	0.	2.98E-04	1.36E-07	9.20E-07	6.76E-07	1.90E-06
75	3.30	2.94E-14	0.	0.	1.69E-12	5.40E-10	8.65E-14	0.	0.	2.09E-04	1.49E-07	9.64E-07	7.03E-07	2.06E-06
76	3.20	1.89E-14	0.	0.	1.82E-12	1.09E-09	9.92E-14	0.	0.	2.09E-04	1.63E-07	1.01E-06	7.32E-07	2.24E-06
77	3.10	1.86E-14	0.	0.	8.91E-13	1.80E-10	5.24E-14	0.	0.	2.10E-04	1.80E-07	1.03E-06	7.62E-07	2.44E-06
78	3.00	1.82E-14	0.	0.	4.76E-13	5.27E-10	7.54E-14	0.	0.	2.10E-04	1.99E-07	1.07E-06	7.93E-07	2.68E-06
79	2.90	1.32E-14	0.	0.	2.88E-13	3.11E-10	3.30E-14	0.	0.	2.11E-04	2.20E-07	1.12E-06	8.26E-07	3.00E-06
80	2.80	1.33E-14	0.	0.	1.39E-13	1.57E-10	3.02E-14	0.	0.	2.11E-04	2.44E-07	1.18E-06	8.61E-07	3.40E-06
81	2.70	8.33E-15	0.	0.	5.11E-14	2.94E-10	1.86E-14	0.	0.	2.11E-04	2.73E-07	1.25E-06	9.00E-07	3.90E-06
82	2.60	3.72E-15	0.	0.	3.21E-14	2.41E-11	7.72E-15	0.	0.	2.11E-04	3.04E-07	1.25E-06	9.42E-07	4.50E-06
83	2.50	2.36E-16	0.	0.	3.71E-15	2.19E-11	1.00E-15	0.	0.	2.11E-04	3.44E-07	1.26E-06	9.88E-07	5.30E-06
84	2.40	0.	0.	0.	1.84E-13	0.	0.	0.	0.	2.11E-04	3.90E-07	1.28E-06	1.04E-06	6.30E-06
85	2.30	0.	0.	0.	6.95E-13	0.	0.	0.	0.	2.09E-04	4.44E-07	1.25E-06	1.07E-06	7.40E-06
86	2.20	0.	0.	0.	1.04E-12	0.	0.	0.	0.	2.08E-04	5.07E-07	1.14E-06	1.10E-06	8.60E-06
87	2.10	0.	0.	0.	1.04E-12	0.	0.	0.	0.	2.08E-04	5.84E-07	1.03E-06	1.14E-06	9.90E-06
88	2.00	0.	0.	0.	3.94E-12	0.	0.	0.	0.	2.01E-04	6.78E-07	9.27E-06	1.17E-06	1.15E-05
89	1.90	0.	0.	0.	5.62E-12	0.	0.	0.	0.	1.93E-04	7.95E-07	1.24E-06	1.17E-06	1.30E-05
90	1.80	0.	0.	0.	4.40E-12	0.	0.	0.	0.	1.85E-04	9.34E-07	2.60E-06	1.16E-06	1.48E-05
91	1.70	0.	0.	0.	5.29E-12	0.	0.	0.	0.	1.74E-04	1.11E-06	3.10E-06	1.16E-06	1.70E-05
92	1.60	0.	0.	0.	3.01E-12	0.	0.	0.	0.	1.47E-04	1.34E-06	3.69E-06	1.06E-06	2.20E-05
93	1.50	0.	0.	0.	4.95E-12	0.	0.	0.	0.	6.70E-05	1.63E-06	4.30E-06	1.06E-06	2.80E-05
94	1.40	0.	0.	0.	4.05E-12	0.	0.	0.	0.	0.	2.01E-06	3.70E-06	1.20E-06	3.40E-05
95	1.30	0.	0.	0.	3.50E-12	0.	0.	0.	0.	0.	2.52E-06	5.50E-06	1.20E-06	4.20E-05
96	1.20	0.	0.	0.	3.89E-12	0.	0.	0.	0.	0.	3.21E-06	7.90E-06	1.22E-06	5.20E-05
97	1.10	0.	0.	0.	3.05E-12	0.	0.	0.	0.	0.	4.20E-06	1.10E-05	1.19E-06	6.50E-05
98	1.00	0.	0.	0.	2.80E-12	0.	0.	0.	0.	0.	5.64E-06	1.50E-05	2.42E-06	8.10E-05
99	0.90	0.	0.	0.	2.30E-12	0.	0.	0.	0.	0.	7.40E-06	1.90E-05	2.85E-06	9.90E-05
100	0.80	0.	0.	0.	1.80E-12	0.	0.	0.	0.	0.	1.11E-05	2.40E-05	3.13E-06	1.20E-04
101	0.70	0.	0.	0.	2.00E-13	0.	0.	0.	0.	0.	1.67E-05	3.20E-05	2.65E-06	1.50E-04
102	0.60	0.	0.	0.	3.12E-14	0.	0.	0.	0.	0.	2.63E-05	4.40E-05	2.99E-06	1.90E-04

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES F) 13000. DENSITY (GM/CC) 1.2026-00 (1.00-00 NORMAL)

PHOTON ENERGY BANDS E.V.	MO META	MO GAMMA	MO 2	MO FREE-FREE	MO P.F.	MO TOTAL AIR	TEMPERATURE (DEGREES F) 13000. DENSITY (GM/CC) 1.2026-00 (1.00-00 NORMAL)	
							MO P.F.	MO TOTAL AIR
1 10-20 5	0	0	0	0	0	0	5.045-12	5.045-11
2 10-20 6	0	0	0	0	0	0	5.075-12	5.075-11
3 10-20 7	0	0	0	0	0	0	5.085-12	5.085-11
4 10-20 8	0	0	0	0	0	0	5.095-12	5.095-11
5 10-20 9	0	0	0	0	0	0	5.105-12	5.105-11
6 10-20 10	0	0	0	0	0	0	5.115-12	5.115-11
7 10-20 11	0	0	0	0	0	0	5.125-12	5.125-11
8 10-20 12	0	0	0	0	0	0	5.135-12	5.135-11
9 9-20 0	0	0	0	0	0	0	5.145-12	5.145-11
10 9-20 1	0	0	0	0	0	0	5.155-12	5.155-11
11 9-20 2	0	0	0	0	0	0	5.165-12	5.165-11
12 9-20 3	0	0	0	0	0	0	5.175-12	5.175-11
13 9-20 4	0	0	0	0	0	0	5.185-12	5.185-11
14 9-20 5	0	0	0	0	0	0	5.195-12	5.195-11
15 9-20 6	0	0	0	0	0	0	5.205-12	5.205-11
16 9-20 7	0	0	0	0	0	0	5.215-12	5.215-11
17 9-20 8	0	0	0	0	0	0	5.225-12	5.225-11
18 9-20 9	0	0	0	0	0	0	5.235-12	5.235-11
19 9-20 10	0	0	0	0	0	0	5.245-12	5.245-11
20 9-20 11	0	0	0	0	0	0	5.255-12	5.255-11
21 9-20 12	0	0	0	0	0	0	5.265-12	5.265-11
22 8-20 0	0	0	0	0	0	0	5.275-12	5.275-11
23 8-20 1	0	0	0	0	0	0	5.285-12	5.285-11
24 8-20 2	0	0	0	0	0	0	5.295-12	5.295-11
25 8-20 3	0	0	0	0	0	0	5.305-12	5.305-11
26 8-20 4	0	0	0	0	0	0	5.315-12	5.315-11
27 8-20 5	0	0	0	0	0	0	5.325-12	5.325-11
28 8-20 6	0	0	0	0	0	0	5.335-12	5.335-11
29 8-20 7	0	0	0	0	0	0	5.345-12	5.345-11
30 8-20 8	0	0	0	0	0	0	5.355-12	5.355-11
31 8-20 9	0	0	0	0	0	0	5.365-12	5.365-11
32 8-20 10	0	0	0	0	0	0	5.375-12	5.375-11
33 8-20 11	0	0	0	0	0	0	5.385-12	5.385-11
34 8-20 12	0	0	0	0	0	0	5.395-12	5.395-11
35 7-20 0	0	0	0	0	0	0	5.405-12	5.405-11
36 7-20 1	0	0	0	0	0	0	5.415-12	5.415-11
37 7-20 2	0	0	0	0	0	0	5.425-12	5.425-11
38 7-20 3	0	0	0	0	0	0	5.435-12	5.435-11
39 7-20 4	0	0	0	0	0	0	5.445-12	5.445-11
40 7-20 5	0	0	0	0	0	0	5.455-12	5.455-11
41 7-20 6	0	0	0	0	0	0	5.465-12	5.465-11
42 6-20 0	0	0	0	0	0	0	5.475-12	5.475-11
43 6-20 1	0	0	0	0	0	0	5.485-12	5.485-11
44 6-20 2	0	0	0	0	0	0	5.495-12	5.495-11
45 6-20 3	0	0	0	0	0	0	5.505-12	5.505-11
46 6-20 4	0	0	0	0	0	0	5.515-12	5.515-11
47 6-20 5	0	0	0	0	0	0	5.525-12	5.525-11
48 6-20 6	0	0	0	0	0	0	5.535-12	5.535-11
49 6-20 7	0	0	0	0	0	0	5.545-12	5.545-11
50 6-20 8	0	0	0	0	0	0	5.555-12	5.555-11
51 5-20 0	0	0	0	0	0	0	5.565-12	5.565-11

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 13000. DENSITY (GM/CC) 1.293E-06 (1.0E-05 NORMAL)

PHOTON ENERGY BANDS	OZ S-R	M2	M2	1ST POS.	2ND POS.	M2	BETA	SAHKA	VIB-ROT	NO	NO	PHOTO-DET (1PMS)	FREQ-FREE	M	O	TOTAL AIR
52	5.68	1.40E-29	0.	0.	0.	0.	3.10E-17	2.05E-16	0.	0.	0.	6.26E-12	3.99E-10	5.31E-09	5.04E-09	1.87E-08
53	5.59	0.	0.	0.	0.	0.	3.79E-17	1.92E-16	0.	0.	0.	6.29E-12	4.21E-10	5.41E-09	5.10E-09	1.89E-08
54	5.48	0.	0.	0.	0.	0.	3.35E-17	1.44E-16	0.	0.	0.	6.32E-12	4.45E-10	5.52E-09	5.10E-09	1.89E-08
55	5.30	0.	0.	0.	0.	0.	3.44E-17	1.93E-16	0.	0.	0.	6.36E-12	4.71E-10	5.65E-09	5.26E-09	1.94E-08
56	5.20	0.	0.	0.	0.	0.	3.64E-17	1.30E-16	0.	0.	0.	6.40E-12	4.99E-10	5.77E-09	5.47E-09	1.96E-08
57	5.10	0.	0.	0.	0.	0.	3.59E-17	1.71E-16	0.	0.	0.	6.46E-12	5.29E-10	5.93E-09	5.40E-09	1.94E-08
58	5.00	1.00E-10	0.	0.	0.	0.	3.23E-17	1.55E-16	0.	0.	0.	6.51E-12	5.62E-10	6.11E-09	5.59E-09	1.93E-08
59	4.98	4.42E-10	0.	0.	0.	0.	3.94E-17	1.43E-16	0.	0.	0.	6.57E-12	5.97E-10	6.20E-09	5.70E-09	1.92E-08
60	4.88	1.0E-10	0.	0.	0.	0.	3.77E-17	1.51E-16	0.	0.	0.	6.62E-12	6.35E-10	6.40E-09	5.82E-09	1.90E-08
61	4.78	1.00E-17	0.	0.	0.	0.	3.68E-17	1.34E-16	0.	0.	0.	6.67E-12	6.77E-10	6.69E-09	6.07E-09	1.88E-08
62	4.66	1.41E-17	0.	0.	0.	0.	3.73E-17	1.23E-16	0.	0.	0.	6.73E-12	7.22E-10	6.94E-09	6.37E-09	1.86E-08
63	4.58	1.45E-17	0.	0.	0.	0.	3.33E-17	9.60E-17	0.	0.	0.	6.76E-12	7.72E-10	7.24E-09	6.67E-09	1.84E-08
64	4.48	1.51E-17	0.	0.	0.	0.	3.38E-17	6.42E-17	0.	0.	0.	6.84E-12	8.24E-10	7.59E-09	6.93E-09	1.82E-08
65	4.38	1.39E-17	0.	0.	0.	0.	3.07E-17	3.87E-17	0.	0.	0.	6.89E-12	8.69E-10	7.87E-09	6.92E-09	1.82E-08
66	4.28	1.20E-17	0.	0.	0.	0.	3.21E-17	2.87E-17	0.	0.	0.	6.94E-12	9.16E-10	8.21E-09	1.79E-09	1.80E-08
67	4.18	1.18E-17	0.	0.	0.	0.	3.80E-17	2.69E-17	0.	0.	0.	6.97E-12	1.02E-09	8.52E-09	1.95E-09	1.84E-08
68	4.08	1.06E-17	0.	0.	0.	0.	2.90E-17	5.07E-18	0.	0.	0.	7.00E-12	1.10E-09	8.71E-09	1.98E-09	1.87E-08
69	3.98	0.79E-17	0.	0.	0.	0.	3.15E-16	6.79E-16	0.	0.	0.	6.97E-12	1.19E-09	9.00E-09	1.96E-09	1.86E-08
70	3.88	0.53E-18	0.	0.	0.	0.	4.81E-16	3.59E-13	2.74E-17	0.	0.	6.94E-12	1.29E-09	9.32E-09	2.03E-09	1.95E-08
71	3.78	0.18E-18	0.	0.	0.	0.	2.49E-16	1.14E-13	2.29E-17	0.	0.	6.94E-12	1.39E-09	9.63E-09	2.25E-09	1.95E-08
72	3.68	7.28E-18	0.	0.	0.	0.	5.43E-16	8.72E-13	2.44E-17	0.	0.	6.98E-12	1.51E-09	9.95E-09	2.50E-09	1.95E-08
73	3.59	6.61E-18	0.	0.	0.	0.	4.60E-16	1.60E-12	1.85E-17	0.	0.	7.00E-12	1.65E-09	1.03E-09	2.77E-09	1.97E-08
74	3.49	0.89E-18	0.	0.	0.	0.	2.79E-16	1.74E-13	2.80E-17	0.	0.	7.00E-12	1.80E-09	1.09E-09	3.00E-09	1.98E-08
75	3.39	4.69E-18	0.	0.	0.	0.	2.80E-16	7.94E-13	1.59E-17	0.	0.	7.00E-12	1.97E-09	1.16E-09	3.39E-09	1.99E-08
76	3.29	3.90E-18	0.	0.	0.	0.	1.70E-16	1.61E-12	1.44E-17	0.	0.	7.00E-12	2.16E-09	1.24E-09	3.71E-09	1.99E-08
77	3.19	3.05E-18	0.	0.	0.	0.	1.37E-16	2.75E-13	1.51E-17	0.	0.	7.00E-12	2.38E-09	1.33E-09	4.03E-09	1.99E-08
78	3.08	3.25E-18	0.	0.	0.	0.	1.05E-16	7.70E-13	1.30E-17	0.	0.	7.00E-12	2.63E-09	1.43E-09	4.34E-09	1.98E-08
79	2.98	2.62E-18	0.	0.	0.	0.	4.98E-17	4.59E-13	1.61E-17	0.	0.	7.00E-12	2.91E-09	1.54E-09	4.69E-09	1.95E-08
80	2.88	2.62E-18	0.	0.	0.	0.	2.36E-17	2.33E-13	6.61E-18	0.	0.	7.00E-12	3.24E-09	1.66E-09	5.06E-09	1.92E-08
81	2.78	1.93E-18	0.	0.	0.	0.	1.69E-17	3.57E-13	3.41E-18	0.	0.	7.00E-12	3.62E-09	1.80E-09	5.46E-09	1.88E-08
82	2.68	7.38E-19	0.	0.	0.	0.	5.46E-18	3.57E-14	1.43E-19	0.	0.	7.00E-12	4.05E-09	1.95E-09	5.90E-09	1.83E-08
83	2.58	5.07E-20	0.	0.	0.	0.	4.39E-19	3.19E-14	3.30E-19	0.	0.	7.00E-12	4.54E-09	2.12E-09	6.40E-09	1.77E-08
84	2.48	0.	0.	0.	0.	0.	3.29E-17	0.	0.	0.	7.00E-12	5.08E-09	2.34E-09	6.94E-09	7.00E-09	1.70E-08
85	2.38	0.	0.	0.	0.	0.	1.12E-16	0.	0.	0.	7.00E-12	5.64E-09	2.61E-09	7.54E-09	7.70E-09	1.62E-08
86	2.28	0.	0.	0.	0.	0.	2.75E-16	0.	0.	0.	7.00E-12	6.24E-09	2.92E-09	8.20E-09	8.40E-09	1.54E-08
87	2.18	0.	0.	0.	0.	0.	3.31E-16	0.	0.	0.	7.00E-12	6.88E-09	3.27E-09	8.94E-09	9.10E-09	1.46E-08
88	2.08	0.	0.	0.	0.	0.	6.06E-16	0.	0.	0.	7.00E-12	7.56E-09	3.67E-09	9.76E-09	9.90E-09	1.38E-08
89	1.98	0.	0.	0.	0.	0.	9.21E-16	0.	0.	0.	7.00E-12	8.28E-09	4.12E-09	1.06E-08	1.07E-08	1.30E-08
90	1.88	0.	0.	0.	0.	0.	7.99E-16	0.	0.	0.	7.00E-12	9.04E-09	4.64E-09	1.16E-08	1.17E-08	1.22E-08
91	1.78	0.	0.	0.	0.	0.	8.99E-16	0.	0.	0.	7.00E-12	9.84E-09	5.22E-09	1.28E-08	1.29E-08	1.14E-08
92	1.68	0.	0.	0.	0.	0.	6.48E-16	0.	0.	0.	7.00E-12	1.06E-08	5.86E-09	1.42E-08	1.42E-08	1.06E-08
93	1.58	0.	0.	0.	0.	0.	7.74E-16	0.	0.	0.	7.00E-12	1.19E-08	6.54E-09	1.58E-08	1.58E-08	9.80E-09
94	1.48	0.	0.	0.	0.	0.	7.83E-16	0.	0.	0.	7.00E-12	1.34E-08	7.26E-09	1.76E-08	1.76E-08	9.00E-09
95	1.38	0.	0.	0.	0.	0.	5.95E-16	0.	0.	0.	7.00E-12	1.50E-08	8.02E-09	1.96E-08	1.96E-08	8.20E-09
96	1.28	0.	0.	0.	0.	0.	5.77E-16	0.	0.	0.	7.00E-12	1.68E-08	8.82E-09	2.18E-08	2.18E-08	7.40E-09
97	1.18	0.	0.	0.	0.	0.	5.19E-16	0.	0.	0.	7.00E-12	1.88E-08	9.74E-09	2.44E-08	2.44E-08	6.60E-09
98	1.08	0.	0.	0.	0.	0.	4.77E-16	0.	0.	0.	7.00E-12	2.10E-08	1.07E-08	2.74E-08	2.74E-08	5.80E-09
99	0.98	0.	0.	0.	0.	0.	3.91E-16	0.	0.	0.	7.00E-12	2.34E-08	1.19E-08	3.08E-08	3.08E-08	5.00E-09
100	0.88	0.	0.	0.	0.	0.	3.04E-16	0.	0.	0.	7.00E-12	2.60E-08	1.34E-08	3.46E-08	3.46E-08	4.20E-09
101	0.78	0.	0.	0.	0.	0.	4.95E-17	0.	0.	0.	7.00E-12	2.88E-08	1.52E-08	3.88E-08	3.88E-08	3.40E-09
102	0.68	0.	0.	0.	0.	0.	5.31E-16	0.	0.	0.	7.00E-12	3.18E-08	1.72E-08	4.34E-08	4.34E-08	2.60E-09

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 3300. DENSITY (GM/CC) 1.2926-09 ( 1.26-06 NORMAL)

PHOTON ENERGY BANDS	OZ 3-R	OZ 3-R CONT.	OZ 0-W NO. 1	BETA	NO	GAMMA	NO	2	PHOTO-EFF (FRES)	N	P.E.	B	TOTAL AIR P.E.
1 18.70 0.	0.	0.	7.23E-19	0.	0.	0.	0.	6.24E-15	5.07E-13	1.40E-11	4.34E-11	1.99E-10	1.99E-10
2 18.60 0.	0.	0.	6.41E-19	0.	0.	0.	0.	6.24E-15	6.44E-13	1.40E-11	4.34E-11	1.97E-10	1.97E-10
3 18.50 0.	0.	0.	6.37E-19	0.	0.	0.	0.	6.29E-15	6.21E-13	1.39E-11	4.34E-11	1.94E-10	1.94E-10
4 18.40 0.	0.	0.	5.90E-19	0.	0.	0.	0.	6.24E-15	6.38E-13	1.39E-11	4.32E-11	1.92E-10	1.92E-10
5 18.30 0.	0.	0.	5.61E-19	0.	0.	0.	0.	6.27E-15	6.38E-13	1.31E-11	4.32E-11	1.97E-10	1.97E-10
6 18.20 0.	0.	0.	5.60E-19	0.	0.	0.	0.	6.28E-15	6.78E-13	1.31E-11	4.31E-11	1.97E-10	1.97E-10
7 18.10 0.	0.	0.	4.78E-19	0.	0.	0.	0.	6.28E-15	5.04E-13	1.32E-11	4.30E-11	1.97E-10	1.97E-10
8 18.00 0.	0.	0.	3.90E-19	0.	0.	0.	0.	6.29E-15	7.28E-13	1.32E-11	4.40E-11	1.94E-10	1.94E-10
9 9.90 0.	0.	0.	4.04E-19	0.	0.	0.	0.	6.30E-15	7.42E-13	1.32E-11	4.47E-11	1.94E-10	1.94E-10
10 9.82 0.	0.	0.	3.72E-19	0.	0.	0.	0.	6.32E-15	7.95E-13	1.33E-11	4.44E-11	1.92E-10	1.92E-10
11 9.70 0.	0.	0.	3.11E-19	0.	0.	0.	0.	6.34E-15	8.48E-13	1.34E-11	4.44E-11	1.92E-10	1.92E-10
12 9.60 0.	0.	0.	3.39E-19	0.	0.	0.	0.	6.34E-15	8.48E-13	1.34E-11	4.44E-11	1.92E-10	1.92E-10
13 9.50 0.	0.	0.	2.74E-19	0.	0.	0.	0.	6.35E-15	8.48E-13	1.34E-11	4.43E-11	1.95E-10	1.95E-10
14 9.40 0.	0.	0.	2.99E-19	0.	0.	0.	0.	6.37E-15	8.47E-13	1.33E-11	4.42E-11	1.944E-10	1.944E-10
15 9.30 0.	0.	0.	2.99E-19	0.	0.	0.	0.	6.40E-15	8.96E-13	1.33E-11	4.41E-11	1.942E-10	1.942E-10
16 9.20 0.	0.	0.	2.85E-19	0.	0.	0.	0.	6.42E-15	9.22E-13	1.32E-11	4.39E-11	1.941E-10	1.941E-10
17 9.10 0.	0.	0.	2.10E-19	0.	0.	0.	0.	6.44E-15	9.34E-13	1.32E-11	4.38E-11	1.940E-10	1.940E-10
18 9.00 0.	0.	0.	1.66E-19	0.	0.	0.	0.	6.47E-15	9.99E-13	1.32E-11	4.37E-11	1.94E-10	1.94E-10
19 8.90 0.	0.	0.	1.67E-19	0.	0.	0.	0.	6.47E-15	1.12E-12	1.31E-11	4.36E-11	1.93E-10	1.93E-10
20 8.80 0.	0.	0.	1.62E-19	0.	0.	0.	0.	6.51E-15	1.16E-12	1.31E-11	4.36E-11	1.937E-10	1.937E-10
21 8.70 0.	0.	0.	1.30E-19	0.	0.	0.	0.	6.54E-15	1.09E-12	1.31E-11	4.34E-11	1.94E-10	1.94E-10
22 8.61 0.	0.	0.	1.30E-19	0.	0.	0.	0.	6.54E-15	1.17E-12	1.31E-11	4.32E-11	1.93E-10	1.93E-10
23 8.50 0.	0.	0.	1.17E-19	0.	0.	0.	0.	6.58E-15	1.17E-12	1.30E-11	4.32E-11	1.93E-10	1.93E-10
24 8.40 0.	0.	0.	1.15E-19	0.	0.	0.	0.	6.62E-15	1.22E-12	1.30E-11	4.31E-11	1.92E-10	1.92E-10
25 8.32 0.	0.	0.	9.92E-20	0.	0.	0.	0.	6.65E-15	1.31E-12	1.29E-11	4.31E-11	1.92E-10	1.92E-10
26 8.20 0.	0.	0.	9.41E-20	0.	0.	0.	0.	6.72E-15	1.36E-12	1.28E-11	4.34E-11	1.93E-10	1.93E-10
27 8.10 0.	0.	0.	7.29E-20	0.	0.	0.	0.	6.75E-15	1.41E-12	1.28E-11	4.34E-11	1.93E-10	1.93E-10
28 8.01 0.	0.	0.	6.50E-20	0.	0.	0.	0.	6.78E-15	1.44E-12	1.28E-11	4.33E-11	1.93E-10	1.93E-10
29 7.90 0.	0.	0.	6.43E-20	0.	0.	0.	0.	6.82E-15	1.52E-12	1.28E-11	4.33E-11	1.93E-10	1.93E-10
30 7.80 0.	0.	0.	6.43E-20	0.	0.	0.	0.	6.86E-15	1.58E-12	1.28E-11	4.32E-11	1.92E-10	1.92E-10
31 7.70 0.	0.	0.	5.24E-20	0.	0.	0.	0.	6.89E-15	1.64E-12	1.28E-11	4.32E-11	1.92E-10	1.92E-10
32 7.60 0.	0.	0.	4.72E-20	0.	0.	0.	0.	6.93E-15	1.71E-12	1.28E-11	4.29E-11	1.91E-10	1.91E-10
33 7.50 0.	0.	0.	4.14E-20	0.	0.	0.	0.	6.97E-15	1.78E-12	1.28E-11	4.27E-11	1.91E-10	1.91E-10
34 7.40 0.	0.	0.	3.83E-20	0.	0.	0.	0.	7.00E-15	1.87E-12	1.28E-11	4.26E-11	1.91E-10	1.91E-10
35 7.30 0.	0.	0.	3.37E-20	0.	0.	0.	0.	7.04E-15	1.93E-12	1.28E-11	4.26E-11	1.91E-10	1.91E-10
36 7.20 0.	0.	0.	3.37E-20	0.	0.	0.	0.	7.08E-15	2.01E-12	1.28E-11	4.26E-11	1.91E-10	1.91E-10
37 7.10 0.	0.	0.	3.16E-20	0.	0.	0.	0.	7.10E-15	2.07E-12	1.28E-11	4.26E-11	1.91E-10	1.91E-10
38 7.00 1.60E-23 0.	0.	0.	2.83E-20	0.	0.	0.	0.	7.16E-15	2.11E-12	1.28E-11	4.26E-11	1.91E-10	1.91E-10
39 6.90 3.07E-23 0.	0.	0.	2.93E-20	0.	0.	0.	0.	7.22E-15	2.20E-12	1.28E-11	4.26E-11	1.91E-10	1.91E-10
40 6.80 2.60E-23 0.	0.	0.	2.37E-20	0.	0.	0.	0.	7.27E-15	2.30E-12	1.28E-11	4.26E-11	1.91E-10	1.91E-10
41 6.70 1.86E-23 0.	0.	0.	2.02E-20	0.	0.	0.	0.	7.33E-15	2.40E-12	1.28E-11	4.26E-11	1.91E-10	1.91E-10
42 6.60 1.27E-23 0.	0.	0.	1.76E-20	0.	0.	0.	0.	7.39E-15	2.50E-12	1.28E-11	4.26E-11	1.91E-10	1.91E-10
43 6.50 6.31E-24 0.	0.	0.	1.35E-20	0.	0.	0.	0.	7.45E-15	2.62E-12	1.28E-11	4.26E-11	1.81E-10	1.81E-10
44 6.40 3.52E-24 0.	0.	0.	8.92E-21	0.	0.	0.	0.	7.51E-15	2.69E-12	1.28E-11	4.26E-11	1.82E-10	1.82E-10
45 6.30 1.99E-24 0.	0.	0.	5.29E-21	0.	0.	0.	0.	7.56E-15	2.69E-12	1.28E-11	4.26E-11	1.82E-10	1.82E-10
46 6.20 6.79E-25 0.	0.	0.	2.79E-21	0.	0.	0.	0.	7.62E-15	3.04E-12	1.28E-11	4.26E-11	1.82E-10	1.82E-10
47 6.10 3.53E-25 0.	0.	0.	1.26E-21	0.	0.	0.	0.	7.68E-15	3.04E-12	1.28E-11	4.26E-11	1.82E-10	1.82E-10
48 6.00 1.60E-25 0.	0.	0.	3.10E-22	0.	0.	0.	0.	7.74E-15	3.35E-12	1.28E-11	4.26E-11	1.82E-10	1.82E-10
49 5.90 3.87E-26 0.	0.	0.	2.21E-23	0.	0.	0.	0.	7.80E-15	3.71E-12	1.28E-11	4.26E-11	1.82E-10	1.82E-10
50 5.80 4.91E-27 0.	0.	0.	5.52E-25	0.	0.	0.	0.	7.86E-15	3.71E-12	1.28E-11	4.26E-11	1.82E-10	1.82E-10
51 5.70 3.61E-28 0.	0.	0.	4.15E-26	0.	0.	0.	0.	7.92E-15	3.92E-12	1.28E-11	4.26E-11	1.82E-10	1.82E-10

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 13000. DENSITY (GM/CC) 1.293E-09 ( 1.0E-06 NORMAL)

PHOTON ENERGY BANDS	M1 POS.	M2 POS.	M2 1ST POS.	M2 2ND POS.	M2 3RD POS.	M2+ 1ST NEG.	M2+ 2ND NEG.	NO BETS	NO GAMMA	NO WIG-ROT	NO 2	0- PHOTO-IT (IPMS)	FREE-FREF N	P.E.	TOTAL AIR	
															0	P.E.
52	5.60	1.61E-20	0.	0.	3.35E-21	2.21E-20	0.	0.	0.	0.	0.	6.68E-15	4.13E-12	5.91E-11	5.16E-11	1.12E-10
53	5.91	0.	0.	4.09E-21	2.07E-20	0.	0.	0.	0.	0.	0.	6.69E-15	4.36E-12	5.61E-11	5.33E-11	1.14E-10
54	5.49	0.	0.	3.72E-21	1.96E-20	0.	0.	0.	0.	0.	0.	6.73E-15	4.61E-12	5.73E-11	5.41E-11	1.16E-10
55	5.30	0.	0.	3.72E-21	2.09E-20	0.	0.	0.	0.	0.	0.	6.77E-15	4.04E-12	5.80E-11	5.98E-11	1.10E-10
56	5.20	0.	0.	3.94E-21	1.40E-20	0.	0.	0.	0.	0.	0.	6.01E-15	5.17E-12	5.99E-11	5.41E-11	1.21E-10
57	5.14	0.	0.	3.49E-21	1.85E-20	0.	0.	0.	0.	0.	0.	6.87E-15	5.82E-12	6.15E-11	5.75E-11	1.24E-10
58	5.03	2.07E-22	0.	3.50E-21	1.87E-20	0.	0.	0.	0.	0.	0.	6.92E-15	5.82E-12	6.34E-11	5.84E-11	1.20E-10
59	4.90	4.90E-22	0.	3.68E-21	1.76E-20	0.	0.	0.	0.	0.	0.	6.99E-15	6.18E-12	6.53E-11	5.96E-11	1.31E-10
60	4.80	4.93E-22	0.	4.07E-21	1.63E-20	0.	0.	0.	0.	0.	0.	7.04E-15	6.99E-12	6.74E-11	6.06E-11	1.35E-10
61	4.78	1.10E-21	0.	3.98E-21	1.49E-20	0.	0.	0.	0.	0.	0.	7.10E-15	7.01E-12	6.95E-11	6.24E-11	1.39E-10
62	4.60	1.94E-21	0.	4.04E-21	1.33E-20	0.	0.	0.	0.	0.	0.	7.18E-15	7.02E-12	7.23E-11	6.39E-11	1.43E-10
63	4.50	1.90E-21	0.	3.68E-21	9.81E-21	0.	0.	0.	0.	0.	0.	7.27E-15	7.99E-12	7.52E-11	6.59E-11	1.49E-10
64	4.40	1.49E-21	0.	3.75E-21	4.94E-21	0.	0.	0.	0.	0.	0.	7.38E-15	8.95E-12	7.84E-11	6.85E-11	1.53E-10
65	4.30	1.32E-21	0.	3.32E-21	4.10E-21	0.	0.	0.	0.	0.	0.	7.50E-15	9.17E-12	8.10E-11	7.08E-11	1.56E-10
66	4.20	1.40E-21	0.	3.47E-21	3.10E-21	0.	0.	0.	0.	0.	0.	7.59E-15	9.84E-12	8.57E-11	7.47E-11	1.61E-10
67	4.10	1.20E-21	0.	3.31E-21	8.31E-22	0.	0.	0.	0.	0.	0.	7.72E-15	1.06E-11	7.70E-11	7.95E-11	1.67E-10
68	4.00	1.06E-21	0.	3.14E-21	6.39E-22	0.	0.	0.	0.	0.	0.	7.85E-15	1.14E-11	8.08E-11	8.29E-11	1.71E-10
69	3.90	9.61E-22	0.	2.80E-21	2.55E-22	0.	0.	0.	0.	0.	0.	7.92E-15	1.23E-11	8.33E-11	8.58E-11	1.74E-10
70	3.80	1.04E-21	0.	2.94E-21	0.	0.	0.	0.	0.	0.	0.	7.99E-15	1.33E-11	8.59E-11	8.83E-11	1.77E-10
71	3.70	0.94E-21	0.	2.43E-21	0.	0.	0.	0.	0.	0.	0.	8.06E-15	1.45E-11	8.95E-11	9.12E-11	1.80E-10
72	3.60	7.91E-22	0.	2.64E-21	0.	0.	0.	0.	0.	0.	0.	8.15E-15	1.57E-11	9.35E-11	9.45E-11	1.83E-10
73	3.50	7.23E-22	0.	2.10E-21	0.	0.	0.	0.	0.	0.	0.	8.24E-15	1.71E-11	9.76E-11	9.81E-11	1.87E-10
74	3.40	6.44E-22	0.	1.84E-21	2.22E-21	0.	0.	0.	0.	0.	0.	8.34E-15	1.86E-11	1.02E-11	1.02E-11	1.91E-10
75	3.30	5.97E-22	0.	3.08E-20	0.39E-16	1.77E-21	0.	0.	0.	0.	0.	8.44E-15	2.04E-11	1.04E-11	1.04E-11	1.94E-10
76	3.20	4.30E-22	0.	1.90E-20	1.70E-21	0.	0.	0.	0.	0.	0.	8.54E-15	2.24E-11	1.03E-11	1.03E-11	1.97E-10
77	3.10	4.03E-22	0.	1.49E-20	2.84E-16	1.64E-21	0.	0.	0.	0.	0.	8.65E-15	2.47E-11	1.03E-11	1.03E-11	1.99E-10
78	3.00	3.51E-22	0.	0.64E-21	6.18E-16	1.50E-21	0.	0.	0.	0.	0.	8.76E-15	2.72E-11	1.02E-11	1.02E-11	2.02E-10
79	2.90	2.86E-22	0.	5.27E-21	4.02E-16	1.09E-21	0.	0.	0.	0.	0.	8.88E-15	3.07E-11	1.02E-11	1.02E-11	2.05E-10
80	2.80	2.92E-22	0.	7.52E-21	2.44E-16	7.14E-22	0.	0.	0.	0.	0.	8.99E-15	3.50E-11	1.04E-11	1.04E-11	2.08E-10
81	2.70	1.80E-22	0.	1.17E-21	3.94E-16	3.69E-22	0.	0.	0.	0.	0.	9.12E-15	3.95E-11	1.05E-11	1.05E-11	2.11E-10
82	2.60	1.07E-23	0.	5.04E-22	3.74E-17	1.55E-22	0.	0.	0.	0.	0.	9.25E-15	4.42E-11	1.05E-11	1.05E-11	2.14E-10
83	2.50	9.54E-24	0.	6.74E-23	3.34E-17	1.57E-23	0.	0.	0.	0.	0.	9.38E-15	4.91E-11	1.06E-11	1.06E-11	2.17E-10
84	2.40	0.	0.	3.42E-17	3.71E-24	0.	0.	0.	0.	0.	0.	9.51E-15	5.41E-11	1.06E-11	1.06E-11	2.20E-10
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.64E-15	5.93E-11	1.07E-11	1.07E-11	2.23E-10
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.77E-15	6.47E-11	1.07E-11	1.07E-11	2.26E-10
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.91E-15	7.03E-11	1.08E-11	1.08E-11	2.29E-10
88	2.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.00E-14	7.61E-11	1.08E-11	1.08E-11	2.32E-10
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.01E-14	8.21E-11	1.09E-11	1.09E-11	2.35E-10
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-14	8.83E-11	1.09E-11	1.09E-11	2.38E-10
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.03E-14	9.47E-11	1.10E-11	1.10E-11	2.41E-10
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.04E-14	1.01E-10	1.10E-11	1.10E-11	2.44E-10
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.05E-14	1.06E-10	1.10E-11	1.10E-11	2.47E-10
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.06E-14	1.11E-10	1.10E-11	1.10E-11	2.50E-10
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.07E-14	1.17E-10	1.10E-11	1.10E-11	2.53E-10
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.08E-14	1.23E-10	1.10E-11	1.10E-11	2.56E-10
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.09E-14	1.30E-10	1.10E-11	1.10E-11	2.59E-10
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.10E-14	1.37E-10	1.10E-11	1.10E-11	2.62E-10
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.11E-14	1.45E-10	1.10E-11	1.10E-11	2.65E-10
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.12E-14	1.53E-10	1.10E-11	1.10E-11	2.68E-10
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.13E-14	1.62E-10	1.10E-11	1.10E-11	2.71E-10
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.14E-14	1.71E-10	1.10E-11	1.10E-11	2.74E-10

TEMPERATURE (INVERSE K) 14000. DENSITY (GM/CM<sup>3</sup>) 1.793E-02 ( 1.0E 01 NORMAL)

PHOTON ENERGY BANDS E.V.	OR S-R CONT.	NR S-R NO. 1	NO DELTA	NO GAMMA	NO 2	PHOTO-DEL (TIMES)	FREE-FREE N P.E.	TOTAL AIR P.E.		
1 10.70 0.	0.	0.30E 00	0.	0.	0.	1.04E 00	1.01E-03	1.04E 02	2.04E-01	1.77E 02
2 10.60 0.	0.	7.45E 00	0.	0.	0.	1.04E 00	8.14E-03	1.34E 00	2.02E-01	1.09E 01
3 10.50 0.	0.	7.45E 00	0.	0.	0.	1.04E 00	0.37E-03	1.32E 00	2.02E-01	1.09E 01
4 10.40 0.	0.	6.94E 00	0.	0.	0.	1.04E 00	0.62E-03	1.32E 00	2.02E-01	1.09E 01
5 10.30 0.	0.	5.94E 00	0.	0.	0.	1.09E 00	0.37E-03	1.30E 00	2.01E-01	9.43E 00
6 10.20 0.	0.	6.09E 00	0.	0.	0.	1.09E 00	0.14E-03	1.34E 00	2.04E-01	9.59E 00
7 10.10 0.	0.	5.63E 00	0.	0.	0.	1.09E 00	0.41E-03	1.34E 00	2.04E-01	9.13E 00
8 10.00 0.	0.	4.83E 00	0.	0.	0.	1.09E 00	0.77E-03	1.37E 00	2.07E-01	8.53E 00
9 9.90 0.	0.	4.02E 00	0.	0.	0.	1.04E 00	0.03E-03	1.37E 00	2.07E-01	8.43E 00
10 9.80 0.	0.	4.04E 00	0.	0.	0.	1.04E 00	1.03E-02	1.37E 00	2.07E-01	8.04E 00
11 9.70 0.	0.	3.03E 00	0.	0.	0.	1.04E 00	1.04E-02	1.30E 00	2.07E-01	7.39E 00
12 9.60 0.	0.	4.12E 00	0.	0.	0.	1.07E 00	1.10E-02	1.30E 00	2.07E-01	7.64E 00
13 9.50 0.	0.	3.44E 00	0.	0.	0.	1.07E 00	1.13E-02	1.30E 00	2.07E-01	6.90E 00
14 9.40 0.	0.	3.17E 00	0.	0.	0.	1.09E 00	1.11E-02	1.30E 00	2.07E-01	6.70E 00
15 9.30 0.	0.	2.52E 00	0.	0.	0.	1.04E 00	1.21E-02	1.34E 00	2.07E-01	6.01E 00
16 9.20 0.	0.	2.61E 00	0.	0.	0.	1.09E 00	1.23E-02	1.40E 00	2.07E-01	5.10E 00
17 9.10 0.	0.	2.67E 00	0.	0.	0.	1.09E 00	1.23E-02	1.40E 00	2.07E-01	5.31E 00
18 9.00 0.	0.	2.30E 00	0.	0.	0.	1.09E 00	1.33E-02	1.40E 00	2.07E-01	5.02E 00
19 8.90 0.	0.	2.16E 00	0.	0.	0.	1.09E 00	1.30E-02	1.40E 00	2.07E-01	4.80E 00
20 8.80 0.	0.	2.17E 00	0.	0.	0.	1.07E 00	1.42E-02	1.40E 00	2.07E-01	4.79E 00
21 8.70 0.	0.	1.70E 00	0.	0.	0.	1.02E 00	1.47E-02	1.40E 00	2.06E-01	4.44E 00
22 8.60 0.	0.	1.02E 00	0.	0.	0.	1.04E 00	1.53E-02	1.40E 00	2.06E-01	4.40E 00
23 8.50 0.	0.	1.85E 00	0.	0.	0.	1.04E 00	1.58E-02	1.40E 00	2.07E-01	4.23E 00
24 8.40 0.	0.	1.53E 00	0.	0.	0.	1.04E 00	1.64E-02	1.40E 00	2.06E-01	4.21E 00
25 8.30 0.	0.	1.27E 00	0.	0.	0.	1.09E 00	1.70E-02	1.40E 00	2.06E-01	3.94E 00
26 8.20 0.	0.	1.27E 00	0.	0.	0.	1.09E 00	1.74E-02	1.40E 00	2.07E-01	3.90E 00
27 8.10 0.	0.	1.07E 00	0.	0.	0.	1.09E 00	1.83E-02	1.40E 00	2.07E-01	3.79E 00
28 8.00 0.	0.	1.07E 00	0.	0.	0.	1.09E 00	1.98E-02	1.40E 00	2.07E-01	3.64E 00
29 7.90 0.	0.	0.60E 00	0.	0.	0.	2.01E 00	2.05E-02	1.40E 00	2.07E-01	3.64E 00
30 7.80 0.	0.	0.10E 00	0.	0.	0.	2.02E 00	2.13E-02	1.40E 00	2.07E-01	3.50E 00
31 7.70 0.	0.	7.80E 00	0.	0.	0.	2.02E 00	2.13E-02	1.40E 00	2.07E-01	3.50E 00
32 7.60 0.	0.	7.37E 00	0.	0.	0.	2.04E 00	2.31E-02	1.40E 00	2.07E-01	3.47E 00
33 7.50 0.	0.	6.60E 00	0.	0.	0.	2.04E 00	2.31E-02	1.40E 00	2.07E-01	3.47E 00
34 7.40 0.	0.	3.91E 00	0.	0.	0.	2.09E 00	2.46E-02	1.40E 00	2.07E-01	3.41E 00
35 7.30 0.	0.	5.95E 00	0.	0.	0.	2.09E 00	2.50E-02	1.40E 00	2.07E-01	3.30E 00
36 7.20 0.	0.	4.67E 00	0.	0.	0.	2.07E 00	2.61E-02	1.40E 00	2.07E-01	3.34E 00
37 7.10 0.	0.	4.60E 00	0.	0.	0.	2.09E 00	2.72E-02	1.40E 00	2.08E-01	3.34E 00
38 7.00 0.	0.	4.14E 00	0.	0.	0.	2.11E 00	2.72E-02	1.40E 00	2.08E-01	3.30E 00
39 6.90 1.93E-04 3.	0.	3.73E 00	0.	0.	0.	2.11E 00	2.97E-02	1.40E 00	2.08E-01	3.30E 00
40 6.80 1.65E-04 8.	0.	3.92E 00	0.	0.	0.	2.14E 00	3.12E-02	1.40E 00	2.08E-01	3.47E 00
41 6.70 1.18E-04 8.	0.	3.02E 00	0.	0.	0.	2.14E 00	3.24E-02	1.40E 00	2.08E-01	3.49E 00
42 6.60 7.12E-05 0.	0.	2.64E 00	0.	0.	0.	2.18E 00	3.30E-02	1.40E 00	2.07E-01	3.30E 00
43 6.50 4.95E-05 0.	0.	2.86E 00	0.	0.	0.	2.19E 00	3.59E-02	1.40E 00	2.08E-01	3.43E 00
44 6.40 2.28E-05 0.	0.	1.36E 00	0.	0.	0.	2.21E 00	3.72E-02	1.40E 00	2.08E-01	3.39E 00
45 6.30 1.30E-05 0.	0.	0.29E 00	0.	0.	0.	2.23E 00	3.90E-02	1.40E 00	2.07E-01	3.26E 00
46 6.20 5.75E-06 0.	0.	4.44E 00	0.	0.	0.	2.24E 00	4.18E-02	1.40E 00	2.06E-01	3.33E 00
47 6.10 2.49E-06 0.	0.	2.62E 00	0.	0.	0.	2.24E 00	4.32E-02	1.40E 00	2.06E-01	3.42E 00
48 6.00 1.04E-06 0.	0.	5.03E 00	0.	0.	0.	2.28E 00	4.52E-02	1.40E 00	2.06E-01	3.28E 00
49 5.90 2.58E-07 0.	0.	3.59E 00	0.	0.	0.	2.28E 00	4.76E-02	1.40E 00	2.07E-01	3.24E 00
50 5.80 3.28E-08 0.	0.	0.99E 00	0.	0.	0.	2.24E 00	5.01E-02	1.40E 00	2.06E-01	3.20E 00
51 5.70 2.41E-08 0.	0.	0.	0.	0.	0.	2.11E 00	5.29E-02	1.40E 00	2.06E-01	3.17E 00

TEMPERATURE (DEGREES K) 14000. DENSITY (GM/CC) 1.293E-02 I 1.0E 01 NORMAL

PHOTON QZ S-R ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	BETA	NO	GAMMA	NO	VIB-ROT	NO	2	PHOTO-DET (IRMS)	FREQ-FREQ	N	P.E.	0	P.E.	TOTAL AIR
52	5.60	1.00E-10	0.	2.90E-02	1.94E-01	0.	0.	0.	0.	0.	1.90E 00	5.97E-02	5.31E-01	3.10E-C1	3.00E 00	3.00E 00	
53	5.50	0.	0.	3.61E-02	1.81E-01	0.	0.	0.	0.	0.	1.97E 00	5.62E-02	5.41E-01	3.27E-01	3.11E 00	3.11E 00	
54	5.40	0.	0.	3.23E-02	1.39E-01	0.	0.	0.	0.	0.	1.90E 00	5.22E-02	5.54E-01	3.27E-01	3.10E 00	3.10E 00	
55	5.30	0.	0.	3.11E-02	1.43E-01	0.	0.	0.	0.	0.	1.50E 00	6.99E-02	5.67E-01	3.32E-01	3.17E 00	3.17E 00	
56	5.20	0.	0.	3.52E-02	1.27E-01	0.	0.	0.	0.	0.	2.01E 00	6.97E-02	5.80E-01	3.30E-01	3.16E 00	3.16E 00	
57	5.10	0.	0.	5.49E-02	1.66E-01	0.	0.	0.	0.	0.	2.02E 00	7.90E-02	5.96E-01	3.25E-01	3.24E 00	3.24E 00	
58	5.00	1.41E-03	0.	3.15E-02	1.52E-01	0.	0.	0.	0.	0.	2.04E 00	7.84E-02	6.14E-01	3.32E-01	3.27E 00	3.27E 00	
59	4.90	3.35E-03	0.	3.47E-02	1.61E-01	0.	0.	0.	0.	0.	2.06E 00	7.84E-02	6.33E-01	3.39E-01	3.33E 00	3.33E 00	
60	4.80	6.13E-03	0.	3.70E-02	1.50E-01	0.	0.	0.	0.	0.	2.07E 00	8.07E-02	6.45E-01	3.60E-01	3.38E 00	3.38E 00	
61	4.70	9.08E-03	0.	3.64E-02	1.34E-01	0.	0.	0.	0.	0.	2.09E 00	8.45E-02	6.75E-01	3.75E-01	3.42E 00	3.42E 00	
62	4.60	1.05E-02	0.	3.70E-02	1.22E-01	0.	0.	0.	0.	0.	2.11E 00	8.01E-02	7.01E-01	3.85E-01	3.47E 00	3.47E 00	
63	4.50	1.18E-02	0.	3.32E-02	9.11E-02	0.	0.	0.	0.	0.	2.13E 00	1.04E-02	7.32E-01	3.85E-01	3.52E 00	3.52E 00	
64	4.40	1.10E-02	0.	3.30E-02	6.39E-02	0.	0.	0.	0.	0.	2.14E 00	1.15E-02	7.64E-01	4.04E-01	3.62E 00	3.62E 00	
65	4.30	1.09E-02	0.	3.10E-02	3.90E-02	0.	0.	0.	0.	0.	2.16E 00	1.24E-02	7.99E-01	4.15E-01	3.62E 00	3.62E 00	
66	4.20	1.01E-02	0.	3.29E-02	2.85E-02	0.	0.	0.	0.	0.	2.18E 00	1.33E-02	8.34E-01	4.25E-01	3.62E 00	3.62E 00	
67	4.10	9.33E-03	0.	3.26E-02	7.71E-03	0.	0.	0.	0.	0.	2.19E 00	1.43E-02	8.69E-01	4.35E-01	3.62E 00	3.62E 00	
68	4.00	9.40E-03	0.	3.27E-02	5.07E-03	0.	0.	0.	0.	0.	2.19E 00	1.54E-02	9.04E-01	4.45E-01	3.62E 00	3.62E 00	
69	3.90	7.47E-03	0.	5.45E-01	1.90E-02	2.67E-02	2.33E-03	0.	0.	0.	2.19E 00	1.64E-02	9.39E-01	4.55E-01	3.62E 00	3.62E 00	
70	3.80	7.69E-03	0.	9.44E-01	9.90E-02	2.66E-02	0.	0.	0.	0.	2.18E 00	1.80E-02	9.81E-01	4.65E-01	3.62E 00	3.62E 00	
71	3.70	6.47E-03	0.	9.42E-01	3.35E-02	2.36E-02	0.	0.	0.	0.	2.14E 00	1.95E-02	9.86E-01	4.75E-01	3.62E 00	3.62E 00	
72	3.60	5.43E-03	0.	6.85E-01	1.95E-02	2.56E-02	0.	0.	0.	0.	2.01E 00	2.31E-02	7.42E-01	1.79E-01	3.07E 00	3.07E 00	
73	3.50	5.45E-03	0.	6.37E-01	4.39E-01	1.90E-02	0.	0.	0.	0.	1.64E 00	2.31E-02	7.71E-01	1.84E-01	4.33E 00	4.33E 00	
74	3.40	4.90E-03	0.	4.94E-01	5.22E-02	2.10E-02	0.	0.	0.	0.	1.04E 00	2.52E-02	6.62E-01	2.15E-01	2.00E 00	2.00E 00	
75	3.30	3.87E-03	0.	5.13E-01	2.20E-01	1.70E-02	0.	0.	0.	0.	1.04E 00	3.02E-02	6.95E-01	2.34E-01	3.20E 00	3.20E 00	
76	3.20	3.31E-03	0.	3.25E-01	4.38E-01	1.77E-02	0.	0.	0.	0.	1.00E 00	3.02E-02	1.05E 00	2.58E-01	3.45E 00	3.45E 00	
77	3.10	3.12E-03	0.	2.48E-01	8.20E-02	1.64E-02	0.	0.	0.	0.	1.07E 00	3.35E-02	1.15E 00	2.80E-01	3.14E 00	3.14E 00	
78	3.00	2.79E-03	0.	1.49E-01	2.21E-01	1.51E-02	0.	0.	0.	0.	1.07E 00	3.89E-02	1.24E 00	3.03E-01	3.37E 00	3.37E 00	
79	2.90	2.29E-03	0.	9.11E-02	1.24E-01	1.12E-02	0.	0.	0.	0.	1.07E 00	4.07E-02	1.34E 00	3.26E-01	3.36E 00	3.36E 00	
80	2.80	2.31E-03	0.	4.34E-02	6.91E-02	7.44E-03	0.	0.	0.	0.	1.07E 00	4.93E-02	1.46E 00	3.52E-01	3.46E 00	3.46E 00	
81	2.70	1.45E-03	0.	2.03E-02	1.04E-01	3.90E-03	0.	0.	0.	0.	1.07E 00	5.67E-02	1.56E 00	3.80E-01	3.47E 00	3.47E 00	
82	2.60	6.57E-04	0.	1.01E-02	1.02E-02	1.64E-03	0.	0.	0.	0.	1.07E 00	6.38E-02	1.71E 00	4.05E-01	3.70E 00	3.70E 00	
83	2.50	4.54E-04	0.	1.14E-03	9.34E-03	3.46E-04	0.	0.	0.	0.	1.07E 00	7.38E-02	1.94E 00	4.33E-01	3.88E 00	3.88E 00	
84	2.40	0.	0.	8.40E-03	4.05E-03	0.	0.	0.	0.	0.	1.07E 00	8.28E-02	2.26E 00	4.55E-01	4.30E 00	4.30E 00	
85	2.30	0.	0.	1.90E-01	0.	0.	0.	0.	0.	0.	1.06E 00	8.22E-02	1.78E 00	5.05E-01	4.17E 00	4.17E 00	
86	2.20	0.	0.	4.80E-01	0.	0.	0.	0.	0.	0.	1.06E 00	9.42E-02	2.11E 00	5.07E-01	4.90E 00	4.90E 00	
87	2.10	0.	0.	5.52E-01	0.	0.	0.	0.	0.	0.	1.05E 00	1.04E 00	2.40E 00	5.29E-01	5.90E 00	5.90E 00	
88	2.00	0.	0.	1.03E 00	0.	0.	0.	0.	0.	0.	1.02E 00	1.24E 00	2.68E 00	5.61E-01	5.61E 00	5.61E 00	
89	1.90	0.	0.	1.49E 00	0.	0.	0.	0.	0.	0.	9.42E-01	1.47E 00	3.19E 00	6.03E-01	7.70E 00	7.70E 00	
90	1.80	0.	0.	1.24E 00	0.	0.	0.	0.	0.	0.	9.39E-01	1.73E 00	3.39E 00	6.70E-01	8.30E 00	8.30E 00	
91	1.70	0.	0.	1.46E 00	0.	0.	0.	0.	0.	0.	9.34E-01	2.04E 00	4.54E 00	8.27E-01	9.77E 00	9.77E 00	
92	1.60	0.	0.	1.08E 00	0.	0.	0.	0.	0.	0.	7.95E-01	2.49E 00	5.80E 00	9.86E-01	1.09E 01	1.09E 01	
93	1.50	0.	0.	1.25E 00	0.	0.	0.	0.	0.	0.	3.40E-01	3.02E 00	6.75E 00	1.17E 00	1.25E 01	1.25E 01	
94	1.40	0.	0.	1.26E 00	0.	0.	0.	0.	0.	0.	0.	4.67E 00	1.07E 01	1.83E 00	1.82E 01	1.82E 01	
95	1.30	0.	0.	9.60E-01	0.	0.	0.	0.	0.	0.	0.	5.97E 00	1.12E 01	1.81E 00	1.90E 01	1.90E 01	
96	1.20	0.	0.	9.27E-01	0.	0.	0.	0.	0.	0.	0.	7.84E 00	1.15E 01	2.20E 00	2.47E 01	2.47E 01	
97	1.10	0.	0.	7.77E-01	0.	0.	0.	0.	0.	0.	0.	1.05E 00	1.67E 01	2.56E 00	3.05E 01	3.05E 01	
98	1.00	0.	0.	6.34E-01	0.	0.	0.	0.	0.	0.	0.	1.45E 01	1.98E 01	3.82E 00	3.72E 01	3.72E 01	
99	0.90	0.	0.	3.00E-01	0.	0.	0.	0.	0.	0.	0.	2.07E 01	2.19E 01	5.47E 00	4.63E 01	4.63E 01	
100	0.80	0.	0.	7.34E-02	0.	0.	0.	0.	0.	0.	0.	3.11E 01	2.70E 01	5.74E 00	5.89E 01	5.89E 01	
101	0.70	0.	0.	9.85E-03	0.	0.	0.	0.	0.	0.	0.	5.01E 01	2.40E 01	4.14E 00	4.11E 01	4.11E 01	
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 14000. DENSITY (GM/CC) 1.292E-03 ( 1.0E 00 NORMAL)

PHOTON OR 4-R ENERGY BANDS	OR 3-R COMT.	1/2 R-M NR. 1	NO		MO	O-		O		TOTAL AIR
			BETA	WAMMA		PHOTO-DET (ICNS)	P.R.G.	PHOTO-DET (ICNS)	P.R.G.	
1 10-70 0.	0.	1.05E-01	0.	0.	1.	5.07E-02	7.61E-04	1.04E-01	2.00E-02	1.00E-01
2 10-66 0.	0.	9.37E-02	0.	0.	0.	5.00E-02	7.07E-04	1.51E-01	2.00E-02	3.32E-01
3 10-59 0.	0.	9.30E-02	0.	0.	0.	5.09E-02	8.00E-04	1.51E-01	2.00E-02	3.32E-01
4 10-40 0.	0.	8.72E-02	0.	0.	0.	5.09E-02	8.30E-04	1.52E-01	2.07E-02	3.27E-01
5 10-38 0.	0.	7.40E-02	0.	0.	0.	5.91E-02	8.54E-04	1.52E-01	2.04E-02	3.15E-01
6 10-20 0.	0.	7.40E-02	0.	0.	0.	5.91E-02	8.54E-04	1.52E-01	2.04E-02	3.15E-01
7 10-10 0.	0.	7.37E-02	0.	0.	0.	5.92E-02	8.60E-04	1.53E-01	2.04E-02	3.22E-01
8 10-00 0.	0.	6.05E-02	0.	0.	0.	7.79E-02	9.24E-04	1.52E-01	2.04E-02	3.02E-01
9 9-99 0.	0.	6.19E-02	0.	0.	0.	5.94E-02	9.62E-04	1.54E-01	2.03E-02	3.04E-01
10 9-88 0.	0.	5.70E-02	0.	0.	0.	5.99E-02	1.02E-03	1.54E-01	2.02E-02	3.01E-01
11 9-78 0.	0.	4.71E-02	0.	0.	0.	5.96E-02	1.07E-03	1.54E-01	2.01E-02	2.91E-01
12 9-60 0.	0.	5.10E-02	0.	0.	0.	5.97E-02	1.06E-03	1.55E-01	2.03E-02	2.95E-01
13 9-50 0.	0.	4.32E-02	0.	0.	0.	5.90E-02	1.09E-03	1.55E-01	2.79E-02	2.87E-01
14 9-40 0.	0.	6.01E-02	0.	0.	0.	5.00E-02	1.12E-03	1.52E-01	2.79E-02	2.87E-01
15 9-38 0.	0.	4.08E-02	0.	0.	0.	6.02E-02	1.10E-03	1.56E-01	2.70E-02	2.80E-01
16 9-20 0.	0.	3.20E-02	0.	0.	0.	6.04E-02	1.20E-03	1.57E-01	2.77E-02	2.79E-01
17 9-10 0.	0.	3.30E-02	0.	0.	0.	6.07E-02	1.24E-03	1.57E-01	2.76E-02	2.76E-01
18 9-00 0.	0.	2.90E-02	0.	0.	0.	6.09E-02	1.20E-03	1.57E-01	2.75E-02	2.75E-01
19 8-90 0.	0.	2.71E-02	0.	0.	0.	6.11E-02	1.30E-03	1.57E-01	2.75E-02	2.75E-01
20 8-80 0.	0.	2.68E-02	0.	0.	0.	6.13E-02	1.37E-03	1.57E-01	2.74E-02	2.74E-01
21 8-70 0.	0.	2.25E-02	0.	0.	0.	6.15E-02	1.42E-03	1.53E-01	2.73E-02	2.73E-01
22 8-60 0.	0.	2.29E-02	0.	0.	0.	6.17E-02	1.47E-03	1.53E-01	2.72E-02	2.72E-01
23 8-50 0.	0.	1.95E-02	0.	0.	0.	6.20E-02	1.57E-03	1.53E-01	2.72E-02	2.72E-01
24 8-40 0.	0.	1.92E-02	0.	0.	0.	6.23E-02	1.50E-03	1.54E-01	2.71E-02	2.71E-01
25 8-30 0.	0.	1.59E-02	0.	0.	0.	6.26E-02	1.63E-03	1.54E-01	2.71E-02	2.71E-01
26 8-20 0.	0.	1.59E-02	0.	0.	0.	6.29E-02	1.78E-03	1.59E-01	2.72E-02	2.72E-01
27 8-10 0.	0.	1.34E-02	0.	0.	0.	6.33E-02	1.74E-03	1.57E-01	2.73E-02	2.73E-01
28 8-00 0.	0.	1.34E-02	0.	0.	0.	6.36E-02	1.83E-03	1.57E-01	2.72E-02	2.72E-01
29 7-90 0.	0.	1.15E-02	0.	0.	0.	6.39E-02	1.90E-03	1.59E-01	2.76E-02	2.76E-01
30 7-80 0.	0.	1.15E-02	0.	0.	0.	6.42E-02	1.97E-03	1.58E-01	2.77E-02	2.77E-01
31 7-70 0.	0.	9.98E-03	0.	0.	0.	6.46E-02	2.05E-03	1.52E-01	2.70E-02	2.70E-01
32 7-60 0.	0.	9.25E-03	0.	0.	0.	6.49E-02	2.13E-03	1.54E-01	2.79E-02	2.79E-01
33 7-50 0.	0.	7.45E-03	0.	0.	0.	6.52E-02	2.22E-03	1.56E-01	2.81E-02	2.81E-01
34 7-40 0.	0.	7.45E-03	0.	0.	0.	6.55E-02	2.31E-03	1.56E-01	2.82E-02	2.82E-01
35 7-30 0.	0.	6.92E-03	0.	0.	0.	6.60E-02	2.41E-03	1.57E-01	2.83E-02	2.83E-01
36 7-20 0.	0.	6.12E-03	0.	0.	0.	6.63E-02	2.51E-03	1.52E-01	2.84E-02	2.84E-01
37 7-10 0.	0.	5.78E-03	0.	0.	0.	6.66E-02	2.62E-03	1.53E-01	2.85E-02	2.85E-01
38 7-00 0.	0.	5.21E-03	0.	0.	0.	6.74E-02	2.73E-03	1.52E-01	2.86E-02	2.86E-01
39 6-90 0.	0.	4.69E-03	0.	0.	0.	6.79E-02	2.85E-03	1.52E-01	2.86E-02	2.86E-01
40 6-80 0.	0.	4.42E-03	0.	0.	0.	6.85E-02	2.98E-03	1.52E-01	2.89E-02	2.89E-01
41 6-70 0.	0.	3.86E-03	0.	0.	0.	6.90E-02	3.12E-03	1.51E-01	2.90E-02	2.90E-01
42 6-60 0.	0.	3.34E-03	0.	0.	0.	6.96E-02	3.26E-03	1.51E-01	2.92E-02	2.92E-01
43 6-50 0.	0.	2.59E-03	0.	0.	0.	7.01E-02	3.40E-03	1.54E-01	2.94E-02	2.94E-01
44 6-40 0.	0.	1.78E-03	0.	0.	0.	7.07E-02	3.56E-03	1.53E-01	2.95E-02	2.95E-01
45 6-30 0.	0.	1.64E-03	0.	0.	0.	7.12E-02	3.74E-03	1.47E-01	2.96E-02	2.96E-01
46 6-20 0.	0.	3.57E-04	0.	0.	0.	7.17E-02	3.94E-03	1.52E-01	3.01E-02	3.01E-01
47 6-10 0.	0.	2.59E-04	0.	0.	0.	7.23E-02	4.14E-03	1.58E-01	3.05E-02	3.05E-01
48 6-00 0.	0.	6.31E-05	0.	0.	0.	7.28E-02	4.35E-03	1.57E-01	3.09E-02	3.09E-01
49 5-90 0.	0.	4.91E-05	0.	0.	0.	7.28E-02	4.50E-03	1.57E-01	3.12E-02	3.12E-01
50 5-80 0.	0.	1.13E-07	0.	0.	0.	7.17E-02	4.60E-03	1.57E-01	3.16E-02	3.16E-01
51 5-70 0.	0.	1.13E-07	0.	0.	0.	6.74E-02	4.60E-03	1.57E-01	3.20E-02	3.20E-01



ASSUMPTION COEFFICIENTS OF HEATED AIR (INFORMING CASE)

TEMPERATURE (DEGREES F)	DENSITY (G/CC)	VOLUME (L)	WEIGHT (G)	HEAT CAPACITY (CAL/DEG G)	SPECIFIC HEAT (CAL/DEG G)	TOTAL AIR
1.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
2.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
3.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
4.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
5.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
6.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
7.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
8.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
9.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
10.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
11.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
12.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
13.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
14.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
15.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
16.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
17.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
18.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
19.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
20.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
21.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
22.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
23.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
24.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
25.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
26.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
27.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
28.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
29.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
30.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
31.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
32.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
33.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
34.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
35.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
36.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
37.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
38.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
39.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
40.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
41.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
42.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
43.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
44.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
45.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
46.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
47.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
48.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
49.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
50.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03
51.10E+00	1.29E-03	7.74E-09	1.00E-02	2.76E-03	1.74E-03	1.74E-03

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 14000, DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	M2 2ND NEG.	BETA	GAMMA	NU VIB-ROT	NO	O- PHOTO-EFF (1/MS)	M PREF-FREE	M P.E.	D TOTAL AIR	
													NO
52	5.60	1.02E-14	0.	0.	3.00E-06	1.96E-05	0.	0.	1.81E-03	4.95E-04	5.59E-03	3.08E-03	1.10E-02
53	5.50	0.	0.	0.	3.66E-06	1.93E-05	0.	0.	1.82E-03	5.21E-04	5.66E-03	3.12E-03	1.11E-02
54	5.40	0.	0.	0.	3.27E-06	1.91E-05	0.	0.	1.83E-03	5.51E-04	5.79E-03	3.17E-03	1.16E-02
55	5.30	0.	0.	0.	3.86E-06	1.89E-05	0.	0.	1.84E-03	5.80E-04	5.92E-03	3.22E-03	1.16E-02
56	5.20	0.	0.	0.	3.37E-06	1.87E-05	0.	0.	1.86E-03	6.17E-04	6.06E-03	3.29E-03	1.16E-02
57	5.10	0.	0.	0.	3.93E-06	1.85E-05	0.	0.	1.87E-03	6.46E-04	6.22E-03	3.35E-03	1.21E-02
58	5.00	0.	0.	0.	3.59E-06	1.83E-05	0.	0.	1.88E-03	6.75E-04	6.42E-03	3.41E-03	1.21E-02
59	4.90	3.15E-07	0.	0.	3.92E-06	1.81E-05	0.	0.	1.90E-03	7.04E-04	6.58E-03	3.46E-03	1.26E-02
60	4.80	9.77E-07	0.	0.	3.75E-06	1.82E-05	0.	0.	1.92E-03	7.33E-04	6.82E-03	3.52E-03	1.31E-02
61	4.70	7.60E-07	0.	0.	3.75E-06	1.84E-05	0.	0.	1.93E-03	7.62E-04	7.06E-03	3.58E-03	1.35E-02
62	4.60	1.02E-06	0.	0.	3.75E-06	1.84E-05	0.	0.	1.95E-03	7.91E-04	7.30E-03	3.64E-03	1.39E-02
63	4.50	1.56E-06	0.	2.79E-06	3.37E-06	9.29E-06	0.	0.	1.97E-03	8.20E-04	7.54E-03	3.69E-03	1.44E-02
64	4.40	1.11E-06	0.	6.91E-06	3.35E-06	6.40E-06	0.	0.	1.97E-03	8.49E-04	7.78E-03	3.75E-03	1.49E-02
65	4.30	1.03E-06	0.	2.65E-06	3.14E-06	3.95E-06	0.	0.	2.00E-03	8.78E-04	8.02E-03	3.81E-03	1.54E-02
66	4.20	9.49E-07	0.	9.14E-06	3.29E-06	2.84E-06	0.	0.	2.01E-03	9.07E-04	8.26E-03	3.87E-03	1.59E-02
67	4.10	8.70E-07	0.	3.50E-06	3.16E-06	2.81E-06	0.	0.	2.02E-03	9.36E-04	8.50E-03	3.93E-03	1.64E-02
68	4.00	7.98E-07	0.	1.31E-06	3.01E-06	5.95E-07	0.	0.	2.02E-03	9.65E-04	8.74E-03	3.99E-03	1.69E-02
69	3.90	5.45E-07	0.	5.65E-06	2.27E-06	2.90E-06	0.	0.	2.02E-03	9.94E-04	8.98E-03	4.05E-03	1.74E-02
70	3.80	3.24E-07	0.	9.22E-06	1.13E-06	2.96E-06	0.	0.	2.01E-03	1.02E-03	9.22E-03	4.11E-03	1.79E-02
71	3.70	6.27E-07	0.	1.03E-06	3.87E-06	2.96E-06	0.	0.	2.01E-03	1.05E-03	9.46E-03	4.17E-03	1.84E-02
72	3.60	5.58E-07	0.	6.61E-06	2.23E-06	2.96E-06	0.	0.	1.99E-03	1.08E-03	9.70E-03	4.23E-03	1.89E-02
73	3.50	5.13E-07	0.	9.14E-06	5.03E-06	1.94E-06	0.	0.	1.98E-03	1.11E-03	9.94E-03	4.29E-03	1.94E-02
74	3.40	4.61E-07	0.	3.10E-06	5.98E-06	2.21E-06	0.	0.	1.97E-03	1.14E-03	1.02E-02	4.35E-03	1.99E-02
75	3.30	3.65E-07	0.	5.60E-06	2.61E-06	1.72E-06	0.	0.	1.95E-03	1.17E-03	1.04E-02	4.41E-03	2.04E-02
76	3.20	3.11E-07	0.	3.97E-06	5.92E-06	1.79E-06	0.	0.	1.93E-03	1.20E-03	1.06E-02	4.47E-03	2.09E-02
77	3.10	2.93E-07	0.	2.71E-06	9.40E-06	1.66E-06	0.	0.	1.91E-03	1.23E-03	1.08E-02	4.53E-03	2.14E-02
78	3.00	2.58E-07	0.	1.62E-06	2.53E-06	1.53E-06	0.	0.	1.89E-03	1.26E-03	1.10E-02	4.59E-03	2.19E-02
79	2.90	2.12E-07	0.	9.95E-06	1.46E-06	1.13E-06	0.	0.	1.87E-03	1.29E-03	1.12E-02	4.65E-03	2.24E-02
80	2.80	2.18E-07	0.	4.77E-06	7.92E-06	7.54E-07	0.	0.	1.85E-03	1.32E-03	1.14E-02	4.71E-03	2.29E-02
81	2.70	1.38E-07	0.	2.21E-06	1.22E-06	3.96E-07	0.	0.	1.83E-03	1.35E-03	1.16E-02	4.77E-03	2.34E-02
82	2.60	6.18E-08	0.	1.10E-06	1.17E-06	1.68E-07	0.	0.	1.81E-03	1.38E-03	1.18E-02	4.83E-03	2.39E-02
83	2.50	4.27E-08	0.	1.74E-07	1.07E-06	3.91E-08	0.	0.	1.79E-03	1.41E-03	1.20E-02	4.89E-03	2.44E-02
84	2.40	0.	0.	6.17E-06	9.62E-06	4.10E-09	0.	0.	1.77E-03	1.44E-03	1.22E-02	4.95E-03	2.49E-02
85	2.30	0.	0.	2.14E-06	0.	0.	0.	0.	1.75E-03	1.47E-03	1.24E-02	5.01E-03	2.54E-02
86	2.20	0.	0.	5.24E-06	0.	0.	0.	0.	1.73E-03	1.50E-03	1.26E-02	5.07E-03	2.59E-02
87	2.10	0.	0.	6.82E-06	0.	0.	0.	0.	1.71E-03	1.53E-03	1.28E-02	5.13E-03	2.64E-02
88	2.00	0.	0.	1.13E-06	0.	0.	0.	0.	1.69E-03	1.56E-03	1.30E-02	5.19E-03	2.69E-02
89	1.90	0.	0.	1.63E-06	0.	0.	0.	0.	1.67E-03	1.59E-03	1.32E-02	5.25E-03	2.74E-02
90	1.80	0.	0.	1.35E-06	0.	0.	0.	0.	1.65E-03	1.62E-03	1.34E-02	5.31E-03	2.79E-02
91	1.70	0.	0.	1.89E-06	0.	0.	0.	0.	1.63E-03	1.65E-03	1.36E-02	5.37E-03	2.84E-02
92	1.60	0.	0.	1.14E-06	0.	0.	0.	0.	1.61E-03	1.68E-03	1.38E-02	5.43E-03	2.89E-02
93	1.50	0.	0.	1.37E-06	0.	0.	0.	0.	1.59E-03	1.71E-03	1.40E-02	5.49E-03	2.94E-02
94	1.40	9.	0.	1.37E-06	0.	0.	0.	0.	1.57E-03	1.74E-03	1.42E-02	5.55E-03	2.99E-02
95	1.30	0.	0.	1.85E-06	0.	0.	0.	0.	1.55E-03	1.77E-03	1.44E-02	5.61E-03	3.04E-02
96	1.20	0.	0.	1.01E-06	0.	0.	0.	0.	1.53E-03	1.80E-03	1.46E-02	5.67E-03	3.09E-02
97	1.10	0.	0.	9.25E-06	0.	0.	0.	0.	1.51E-03	1.83E-03	1.48E-02	5.73E-03	3.14E-02
98	1.00	0.	0.	6.48E-06	0.	0.	0.	0.	1.49E-03	1.86E-03	1.50E-02	5.79E-03	3.19E-02
99	0.90	0.	0.	6.96E-06	0.	0.	0.	0.	1.47E-03	1.89E-03	1.52E-02	5.85E-03	3.24E-02
100	0.80	0.	0.	3.26E-06	0.	0.	0.	0.	1.45E-03	1.92E-03	1.54E-02	5.91E-03	3.29E-02
101	0.70	0.	0.	8.01E-06	0.	0.	0.	0.	1.43E-03	1.95E-03	1.56E-02	5.97E-03	3.34E-02
102	0.60	0.	0.	1.85E-06	0.	0.	0.	0.	1.41E-03	1.98E-03	1.58E-02	6.03E-03	3.39E-02

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CH.)

PHOTON OR S-B ENERGY BANDS E.V.	OR S-B CNT.	NO S-H NO. 1	TEMPERATURE (DEGREES K) 14000.		NO META	NO GAMMA	NO Z	PHOTO-EFF (J/MS)	P.F.	TOTAL AIR	
			DENSITY (GM/CC)	1.972E-09 (30.25-03 NORMAL)							
1 10-70 0	0	5.31E-06	0	0	0	0	3.94E-05	5.41E-06	1.32E-01	2.31E-04	1.32E-01
2 10-60 0	0	4.74E-06	0	0	0	0	3.70E-05	5.30E-06	1.37E-01	2.31E-04	1.37E-01
3 10-50 0	0	4.20E-06	0	0	0	0	3.47E-05	5.18E-06	1.42E-01	2.30E-04	1.42E-01
4 10-40 0	0	3.72E-06	0	0	0	0	3.26E-05	5.06E-06	1.47E-01	2.29E-04	1.47E-01
5 10-30 0	0	3.27E-06	0	0	0	0	3.06E-05	4.94E-06	1.52E-01	2.28E-04	1.52E-01
6 10-20 0	0	2.86E-06	0	0	0	0	2.87E-05	4.82E-06	1.57E-01	2.27E-04	1.57E-01
7 10-10 0	0	2.48E-06	0	0	0	0	2.69E-05	4.70E-06	1.62E-01	2.26E-04	1.62E-01
8 10-00 0	0	2.14E-06	0	0	0	0	2.52E-05	4.58E-06	1.67E-01	2.25E-04	1.67E-01
9 5-90 0	0	1.83E-06	0	0	0	0	2.36E-05	4.46E-06	1.72E-01	2.24E-04	1.72E-01
10 0-90 0	0	1.55E-06	0	0	0	0	2.21E-05	4.34E-06	1.77E-01	2.23E-04	1.77E-01
11 0-70 0	0	1.30E-06	0	0	0	0	2.07E-05	4.22E-06	1.82E-01	2.22E-04	1.82E-01
12 0-60 0	0	1.08E-06	0	0	0	0	1.94E-05	4.10E-06	1.87E-01	2.21E-04	1.87E-01
13 0-50 0	0	9.00E-07	0	0	0	0	1.82E-05	3.98E-06	1.92E-01	2.20E-04	1.92E-01
14 0-40 0	0	7.48E-07	0	0	0	0	1.71E-05	3.86E-06	1.97E-01	2.19E-04	1.97E-01
15 0-30 0	0	6.20E-07	0	0	0	0	1.61E-05	3.74E-06	2.02E-01	2.18E-04	2.02E-01
16 0-20 0	0	5.14E-07	0	0	0	0	1.52E-05	3.62E-06	2.07E-01	2.17E-04	2.07E-01
17 0-10 0	0	4.28E-07	0	0	0	0	1.44E-05	3.50E-06	2.12E-01	2.16E-04	2.12E-01
18 0-00 0	0	3.58E-07	0	0	0	0	1.37E-05	3.38E-06	2.17E-01	2.15E-04	2.17E-01
19 0-00 0	0	3.00E-07	0	0	0	0	1.31E-05	3.26E-06	2.22E-01	2.14E-04	2.22E-01
20 0-00 0	0	2.52E-07	0	0	0	0	1.25E-05	3.14E-06	2.27E-01	2.13E-04	2.27E-01
21 0-70 0	0	2.14E-07	0	0	0	0	1.20E-05	3.02E-06	2.32E-01	2.12E-04	2.32E-01
22 0-60 0	0	1.83E-07	0	0	0	0	1.15E-05	2.90E-06	2.37E-01	2.11E-04	2.37E-01
23 0-50 0	0	1.58E-07	0	0	0	0	1.10E-05	2.78E-06	2.42E-01	2.10E-04	2.42E-01
24 0-40 0	0	1.37E-07	0	0	0	0	1.06E-05	2.66E-06	2.47E-01	2.09E-04	2.47E-01
25 0-30 0	0	1.19E-07	0	0	0	0	1.02E-05	2.54E-06	2.52E-01	2.08E-04	2.52E-01
26 0-20 0	0	1.03E-07	0	0	0	0	9.80E-06	2.42E-06	2.57E-01	2.07E-04	2.57E-01
27 0-10 0	0	8.90E-08	0	0	0	0	9.40E-06	2.30E-06	2.62E-01	2.06E-04	2.62E-01
28 0-00 0	0	7.68E-08	0	0	0	0	9.00E-06	2.18E-06	2.67E-01	2.05E-04	2.67E-01
29 0-00 0	0	6.66E-08	0	0	0	0	8.60E-06	2.06E-06	2.72E-01	2.04E-04	2.72E-01
30 0-00 0	0	5.80E-08	0	0	0	0	8.20E-06	1.94E-06	2.77E-01	2.03E-04	2.77E-01
31 0-70 0	0	5.06E-08	0	0	0	0	7.80E-06	1.82E-06	2.82E-01	2.02E-04	2.82E-01
32 0-60 0	0	4.42E-08	0	0	0	0	7.40E-06	1.70E-06	2.87E-01	2.01E-04	2.87E-01
33 0-50 0	0	3.86E-08	0	0	0	0	7.00E-06	1.58E-06	2.92E-01	2.00E-04	2.92E-01
34 0-40 0	0	3.37E-08	0	0	0	0	6.60E-06	1.46E-06	2.97E-01	1.99E-04	2.97E-01
35 0-30 0	0	2.94E-08	0	0	0	0	6.20E-06	1.34E-06	3.02E-01	1.98E-04	3.02E-01
36 0-20 0	0	2.56E-08	0	0	0	0	5.80E-06	1.22E-06	3.07E-01	1.97E-04	3.07E-01
37 0-10 0	0	2.23E-08	0	0	0	0	5.40E-06	1.10E-06	3.12E-01	1.96E-04	3.12E-01
38 0-00 0	0	1.94E-08	0	0	0	0	5.00E-06	9.80E-07	3.17E-01	1.95E-04	3.17E-01
39 0-00 0	0	1.69E-08	0	0	0	0	4.60E-06	8.60E-07	3.22E-01	1.94E-04	3.22E-01
40 0-00 0	0	1.47E-08	0	0	0	0	4.20E-06	7.40E-07	3.27E-01	1.93E-04	3.27E-01
41 0-70 0	0	1.28E-08	0	0	0	0	3.80E-06	6.20E-07	3.32E-01	1.92E-04	3.32E-01
42 0-60 0	0	1.11E-08	0	0	0	0	3.40E-06	5.00E-07	3.37E-01	1.91E-04	3.37E-01
43 0-50 0	0	9.50E-09	0	0	0	0	3.00E-06	3.80E-07	3.42E-01	1.90E-04	3.42E-01
44 0-40 0	0	8.00E-09	0	0	0	0	2.60E-06	2.60E-07	3.47E-01	1.89E-04	3.47E-01
45 0-30 0	0	6.66E-09	0	0	0	0	2.20E-06	1.40E-07	3.52E-01	1.88E-04	3.52E-01
46 0-20 0	0	5.46E-09	0	0	0	0	1.80E-06	2.20E-08	3.57E-01	1.87E-04	3.57E-01
47 0-10 0	0	4.37E-09	0	0	0	0	1.40E-06	3.00E-09	3.62E-01	1.86E-04	3.62E-01
48 0-00 0	0	3.38E-09	0	0	0	0	1.00E-06	3.80E-10	3.67E-01	1.85E-04	3.67E-01
49 0-00 0	0	2.48E-09	0	0	0	0	7.00E-07	4.60E-11	3.72E-01	1.84E-04	3.72E-01
50 0-00 0	0	1.66E-09	0	0	0	0	4.00E-07	5.40E-12	3.77E-01	1.83E-04	3.77E-01
51 0-70 0	0	9.00E-10	0	0	0	0	2.00E-07	6.20E-13	3.82E-01	1.82E-04	3.82E-01

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 1400. DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	BEA	NO GAMMA	NO VIU-ROT	NO 2	D- PHOTO-DET (17MS)	FREQ-FREE P.E.	N	D P.E.	TOTAL AIR	
52	5.80	7.16F-17	0.	0.	1.92E-08	1.26E-07	0.	0.	4.23E-05	3.01E-05	4.23E-04	2.59E-04	7.63F-04
53	5.98	0.	0.	0.	2.34E-08	1.17E-07	0.	0.	4.23E-05	4.02E-05	4.32E-04	2.62E-04	7.76E-04
54	5.40	0.	0.	0.	2.09E-08	9.00E-08	0.	0.	4.27E-05	4.29E-05	4.42E-04	2.66E-04	7.93E-04
55	5.38	0.	0.	0.	2.13E-08	1.10E-07	0.	0.	4.30E-05	4.50E-05	4.52E-04	2.70E-04	8.10E-04
56	5.28	0.	0.	0.	2.20E-08	8.23E-08	0.	0.	4.33E-05	4.76E-05	4.82E-04	2.75E-04	8.29E-04
57	5.18	0.	0.	0.	2.26E-08	8.03E-08	0.	0.	4.36E-05	5.05E-05	5.10E-04	2.81E-04	8.50E-04
58	5.08	0.	0.	0.	2.32E-08	8.83E-08	0.	0.	4.40E-05	5.36E-05	5.49E-04	2.88E-04	8.73E-04
59	4.98	2.22E-09	0.	0.	2.25E-08	1.05E-07	0.	0.	4.44E-05	5.70E-05	5.95E-04	2.92E-04	8.98E-04
60	4.88	0.04E-09	0.	0.	2.40E-08	9.72E-08	0.	0.	4.47E-05	6.04E-05	6.31E-04	2.98E-04	9.25E-04
61	4.78	5.33E-09	0.	0.	2.34E-08	8.69E-08	0.	0.	4.51E-05	6.44E-05	6.78E-04	3.05E-04	9.54E-04
62	4.68	7.21E-09	0.	0.	2.40E-08	7.94E-08	0.	0.	4.55E-05	6.89E-05	7.39E-04	3.13E-04	9.86E-04
63	4.58	7.48E-09	0.	0.	2.16E-08	5.91E-08	0.	0.	4.58E-05	7.37E-05	7.94E-04	3.21E-04	1.02E-03
64	4.48	7.88E-09	0.	0.	2.14E-08	4.14E-08	0.	0.	4.62E-05	7.89E-05	8.59E-04	3.29E-04	1.06E-03
65	4.38	7.24E-09	0.	0.	2.01E-08	2.53E-08	0.	0.	4.66E-05	8.45E-05	9.37E-04	3.37E-04	1.11E-03
66	4.28	6.40E-09	0.	0.	5.33E-07	0.	0.	4.69E-05	9.07E-05	9.65E-04	3.46E-04	1.15E-03	
67	4.18	6.10E-09	0.	0.	2.02E-08	5.00E-09	0.	0.	4.71E-05	9.74E-05	1.03E-03	3.50E-04	1.19E-03
68	4.08	5.61E-09	0.	0.	1.92E-08	3.81E-09	0.	0.	4.73E-05	1.05E-04	1.12E-03	3.50E-04	1.23E-03
69	3.98	4.88E-09	0.	0.	3.48E-07	4.75E-07	0.	0.	4.71E-05	1.13E-04	1.22E-03	3.50E-04	1.27E-03
70	3.88	3.99E-09	0.	0.	5.38E-07	2.35E-06	0.	0.	4.69E-05	1.23E-04	1.36E-03	3.50E-04	1.31E-03
71	3.78	4.43E-09	0.	0.	5.08E-07	8.11E-07	0.	0.	4.62E-05	1.33E-04	1.52E-03	3.50E-04	1.35E-03
72	3.68	3.93E-09	0.	0.	3.84E-07	4.68E-06	0.	0.	4.33E-05	1.45E-04	1.69E-03	3.50E-04	1.42E-03
73	3.58	3.61E-09	0.	0.	3.32E-07	1.05E-05	0.	0.	3.94E-05	1.58E-04	1.88E-03	3.50E-04	1.49E-03
74	3.48	3.24E-09	0.	0.	3.14E-07	1.25E-05	0.	0.	2.28E-05	1.72E-04	2.09E-03	3.50E-04	1.56E-03
75	3.38	2.58E-09	0.	0.	3.24E-07	9.47E-06	0.	0.	2.29E-05	1.86E-04	2.32E-03	3.50E-04	1.62E-03
76	3.28	2.18E-09	0.	0.	2.58E-07	1.05E-05	0.	0.	2.29E-05	2.02E-04	2.58E-03	3.50E-04	1.67E-03
77	3.18	2.06E-09	0.	0.	1.58E-07	1.97E-06	0.	0.	2.30E-05	2.27E-04	2.89E-03	3.50E-04	1.74E-03
78	3.08	1.81E-09	0.	0.	9.44E-08	3.30E-06	0.	0.	2.30E-05	2.53E-04	3.24E-03	3.50E-04	1.81E-03
79	2.98	1.49E-09	0.	0.	5.79E-08	3.07E-06	0.	0.	2.31E-05	2.78E-04	3.64E-03	3.50E-04	1.89E-03
80	2.88	1.53E-09	0.	0.	2.77E-08	1.64E-06	0.	0.	2.31E-05	3.10E-04	4.10E-03	3.50E-04	1.97E-03
81	2.78	9.57E-10	0.	0.	1.23E-08	2.53E-09	0.	0.	2.31E-05	3.46E-04	4.63E-03	3.50E-04	2.06E-03
82	2.68	8.35E-10	0.	0.	8.49E-09	2.45E-07	0.	0.	2.31E-05	3.86E-04	5.24E-03	3.50E-04	2.16E-03
83	2.58	3.08E-11	0.	0.	7.24E-10	2.24E-07	0.	0.	2.31E-05	4.34E-04	5.94E-03	3.50E-04	2.28E-03
84	2.48	0.	0.	0.	3.59E-08	0.	0.	0.	2.29E-05	4.94E-04	6.74E-03	3.50E-04	2.42E-03
85	2.38	0.	0.	0.	1.29E-07	0.	0.	0.	2.28E-05	5.67E-04	7.74E-03	3.50E-04	2.58E-03
86	2.28	0.	0.	0.	1.49E-07	0.	0.	0.	2.27E-05	6.44E-04	8.94E-03	3.50E-04	2.76E-03
87	2.18	0.	0.	0.	3.88E-07	0.	0.	0.	2.26E-05	7.32E-04	1.04E-02	3.50E-04	2.96E-03
88	2.08	0.	0.	0.	6.59E-07	0.	0.	0.	2.26E-05	8.31E-04	1.21E-02	3.50E-04	3.18E-03
89	1.98	0.	0.	0.	9.58E-07	0.	0.	0.	2.26E-05	9.41E-04	1.41E-02	3.50E-04	3.42E-03
90	1.88	0.	0.	0.	7.04E-07	0.	0.	0.	2.02E-05	1.01E-03	1.64E-02	3.50E-04	3.68E-03
91	1.78	0.	0.	0.	9.25E-07	0.	0.	0.	1.91E-05	1.14E-03	1.90E-02	3.50E-04	3.96E-03
92	1.68	0.	0.	0.	6.73E-07	0.	0.	0.	1.61E-05	1.30E-03	2.21E-02	3.50E-04	4.27E-03
93	1.58	0.	0.	0.	7.98E-07	0.	0.	0.	7.33E-06	1.50E-03	2.58E-02	3.50E-04	4.61E-03
94	1.48	0.	0.	0.	8.08E-07	0.	0.	0.	0.	1.75E-03	3.03E-02	3.50E-04	5.00E-03
95	1.38	0.	0.	0.	6.14E-07	0.	0.	0.	0.	2.05E-03	3.64E-02	3.50E-04	5.41E-03
96	1.28	0.	0.	0.	5.19E-07	0.	0.	0.	0.	2.35E-03	4.34E-02	3.50E-04	5.86E-03
97	1.18	0.	0.	0.	5.70E-07	0.	0.	0.	0.	2.65E-03	5.14E-02	3.50E-04	6.36E-03
98	1.08	0.	0.	0.	4.98E-07	0.	0.	0.	0.	2.95E-03	6.04E-02	3.50E-04	6.90E-03
99	9.98	0.	0.	0.	4.85E-07	0.	0.	0.	0.	3.25E-03	7.04E-02	3.50E-04	7.48E-03
100	8.98	0.	0.	0.	1.91E-07	0.	0.	0.	0.	3.55E-03	8.14E-02	3.50E-04	8.10E-03
101	7.98	0.	0.	0.	4.66E-08	0.	0.	0.	0.	3.85E-03	9.34E-02	3.50E-04	8.76E-03
102	6.98	0.	0.	0.	6.13E-09	0.	0.	0.	0.	4.15E-03	1.06E-01	3.50E-04	9.46E-03

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES H) 1.000. DENSITY (GM/CC) 1.2930-00 (10.00-00 NORMAL)

PHOTON ENERGY E.V.	GS S-R SAMPS	GS S-R CNT.	MR S-R NO. 1	NO DELTA	MS GAMMA	C0	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27	C28	C29	C30	C31	C32	C33	C34	C35	C36	C37	C38	C39	C40	C41	C42	C43	C44	C45	C46	C47	C48	C49	C50	C51	C52	C53	C54	C55	C56	C57	C58	C59	C60	C61	C62	C63	C64	C65	C66	C67	C68	C69	C70	C71	C72	C73	C74	C75	C76	C77	C78	C79	C80	C81	C82	C83	C84	C85	C86	C87	C88	C89	C90	C91	C92	C93	C94	C95	C96	C97	C98	C99	C100	C101	C102	C103	C104	C105	C106	C107	C108	C109	C110	C111	C112	C113	C114	C115	C116	C117	C118	C119	C120	C121	C122	C123	C124	C125	C126	C127	C128	C129	C130	C131	C132	C133	C134	C135	C136	C137	C138	C139	C140	C141	C142	C143	C144	C145	C146	C147	C148	C149	C150	C151	C152	C153	C154	C155	C156	C157	C158	C159	C160	C161	C162	C163	C164	C165	C166	C167	C168	C169	C170	C171	C172	C173	C174	C175	C176	C177	C178	C179	C180	C181	C182	C183	C184	C185	C186	C187	C188	C189	C190	C191	C192	C193	C194	C195	C196	C197	C198	C199	C200	C201	C202	C203	C204	C205	C206	C207	C208	C209	C210	C211	C212	C213	C214	C215	C216	C217	C218	C219	C220	C221	C222	C223	C224	C225	C226	C227	C228	C229	C230	C231	C232	C233	C234	C235	C236	C237	C238	C239	C240	C241	C242	C243	C244	C245	C246	C247	C248	C249	C250	C251	C252	C253	C254	C255	C256	C257	C258	C259	C260	C261	C262	C263	C264	C265	C266	C267	C268	C269	C270	C271	C272	C273	C274	C275	C276	C277	C278	C279	C280	C281	C282	C283	C284	C285	C286	C287	C288	C289	C290	C291	C292	C293	C294	C295	C296	C297	C298	C299	C300	C301	C302	C303	C304	C305	C306	C307	C308	C309	C310	C311	C312	C313	C314	C315	C316	C317	C318	C319	C320	C321	C322	C323	C324	C325	C326	C327	C328	C329	C330	C331	C332	C333	C334	C335	C336	C337	C338	C339	C340	C341	C342	C343	C344	C345	C346	C347	C348	C349	C350	C351	C352	C353	C354	C355	C356	C357	C358	C359	C360	C361	C362	C363	C364	C365	C366	C367	C368	C369	C370	C371	C372	C373	C374	C375	C376	C377	C378	C379	C380	C381	C382	C383	C384	C385	C386	C387	C388	C389	C390	C391	C392	C393	C394	C395	C396	C397	C398	C399	C400	C401	C402	C403	C404	C405	C406	C407	C408	C409	C410	C411	C412	C413	C414	C415	C416	C417	C418	C419	C420	C421	C422	C423	C424	C425	C426	C427	C428	C429	C430	C431	C432	C433	C434	C435	C436	C437	C438	C439	C440	C441	C442	C443	C444	C445	C446	C447	C448	C449	C450	C451	C452	C453	C454	C455	C456	C457	C458	C459	C460	C461	C462	C463	C464	C465	C466	C467	C468	C469	C470	C471	C472	C473	C474	C475	C476	C477	C478	C479	C480	C481	C482	C483	C484	C485	C486	C487	C488	C489	C490	C491	C492	C493	C494	C495	C496	C497	C498	C499	C500	C501	C502	C503	C504	C505	C506	C507	C508	C509	C510	C511	C512	C513	C514	C515	C516	C517	C518	C519	C520	C521	C522	C523	C524	C525	C526	C527	C528	C529	C530	C531	C532	C533	C534	C535	C536	C537	C538	C539	C540	C541	C542	C543	C544	C545	C546	C547	C548	C549	C550	C551	C552	C553	C554	C555	C556	C557	C558	C559	C560	C561	C562	C563	C564	C565	C566	C567	C568	C569	C570	C571	C572	C573	C574	C575	C576	C577	C578	C579	C580	C581	C582	C583	C584	C585	C586	C587	C588	C589	C590	C591	C592	C593	C594	C595	C596	C597	C598	C599	C600	C601	C602	C603	C604	C605	C606	C607	C608	C609	C610	C611	C612	C613	C614	C615	C616	C617	C618	C619	C620	C621	C622	C623	C624	C625	C626	C627	C628	C629	C630	C631	C632	C633	C634	C635	C636	C637	C638	C639	C640	C641	C642	C643	C644	C645	C646	C647	C648	C649	C650	C651	C652	C653	C654	C655	C656	C657	C658	C659	C660	C661	C662	C663	C664	C665	C666	C667	C668	C669	C670	C671	C672	C673	C674	C675	C676	C677	C678	C679	C680	C681	C682	C683	C684	C685	C686	C687	C688	C689	C690	C691	C692	C693	C694	C695	C696	C697	C698	C699	C700	C701	C702	C703	C704	C705	C706	C707	C708	C709	C710	C711	C712	C713	C714	C715	C716	C717	C718	C719	C720	C721	C722	C723	C724	C725	C726	C727	C728	C729	C730	C731	C732	C733	C734	C735	C736	C737	C738	C739	C740	C741	C742	C743	C744	C745	C746	C747	C748	C749	C750	C751	C752	C753	C754	C755	C756	C757	C758	C759	C760	C761	C762	C763	C764	C765	C766	C767	C768	C769	C770	C771	C772	C773	C774	C775	C776	C777	C778	C779	C780	C781	C782	C783	C784	C785	C786	C787	C788	C789	C790	C791	C792	C793	C794	C795	C796	C797	C798	C799	C800	C801	C802	C803	C804	C805	C806	C807	C808	C809	C810	C811	C812	C813	C814	C815	C816	C817	C818	C819	C820	C821	C822	C823	C824	C825	C826	C827	C828	C829	C830	C831	C832	C833	C834	C835	C836	C837	C838	C839	C840	C841	C842	C843	C844	C845	C846	C847	C848	C849	C850	C851	C852	C853	C854	C855	C856	C857	C858	C859	C860	C861	C862	C863	C864	C865	C866	C867	C868	C869	C870	C871	C872	C873	C874	C875	C876	C877	C878	C879	C880	C881	C882	C883	C884	C885	C886	C887	C888	C889	C890	C891	C892	C893	C894	C895	C896	C897	C898	C899	C900	C901	C902	C903	C904	C905	C906	C907	C908	C909	C910	C911	C912	C913	C914	C915	C916	C917	C918	C919	C920	C921	C922	C923	C924	C925	C926	C927	C928	C929	C930	C931	C932	C933	C934	C935	C936	C937	C938	C939	C940	C941	C942	C94
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ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON OR S-R ENERGY BANDS	M2 POS.	M2 NEG.	M2+ POS.	M2+ NEG.	NO BETA	NO GAMMA	NO V:0-ROT	NO	D- PHOTO-DET (TPMS)	D- FREF-FREE	N	O	TOTAL AIR
52	5.60	2.19E-10	0.	0.	4.84E-11	3.17E-10	0.	0.	5.07E-07	1.79E-06	1.93E-05	1.43E-05	3.59E-05
53	5.50	0.	0.	0.	5.91E-11	2.96E-10	0.	0.	5.10E-07	1.86E-06	1.97E-05	1.45E-05	3.66E-05
54	5.40	0.	0.	0.	5.28E-11	2.72E-10	0.	0.	5.18E-07	2.02E-06	2.02E-05	1.47E-05	3.74E-05
55	5.30	0.	0.	0.	5.42E-11	2.99E-10	0.	0.	5.10E-07	2.11E-06	2.08E-05	1.49E-05	3.82E-05
56	5.20	0.	0.	0.	5.76E-11	2.99E-10	0.	0.	5.19E-07	2.24E-06	2.11E-05	1.52E-05	3.91E-05
57	5.10	0.	0.	0.	5.71E-11	2.72E-10	0.	0.	5.26E-07	2.39E-06	2.17E-05	1.55E-05	4.01E-05
58	5.00	2.06E-12	0.	0.	5.16E-11	2.48E-10	0.	0.	5.20E-07	2.52E-06	2.23E-05	1.58E-05	4.12E-05
59	4.90	6.79E-12	0.	0.	5.60E-11	2.46E-10	0.	0.	5.35E-07	2.68E-06	2.33E-05	1.61E-05	4.24E-05
60	4.80	1.24E-11	0.	0.	6.02E-11	2.45E-10	0.	0.	5.37E-07	2.85E-06	2.38E-05	1.65E-05	4.37E-05
61	4.70	1.64E-11	0.	0.	6.59E-11	2.19E-10	0.	0.	5.41E-07	3.04E-06	2.48E-05	1.69E-05	4.50E-05
62	4.60	2.20E-11	0.	0.	6.59E-11	2.09E-10	0.	0.	5.48E-07	3.24E-06	2.58E-05	1.73E-05	4.64E-05
63	4.50	2.20E-11	0.	3.30E-11	5.44E-11	1.49E-10	0.	0.	5.50E-07	3.45E-06	2.68E-05	1.78E-05	4.84E-05
64	4.40	2.39E-11	0.	3.21E-11	5.41E-11	1.39E-10	0.	0.	5.59E-07	3.71E-06	2.78E-05	1.82E-05	5.03E-05
65	4.30	2.22E-11	0.	3.15E-11	5.41E-11	6.37E-11	0.	0.	5.59E-07	3.99E-06	2.91E-05	1.87E-05	5.23E-05
66	4.20	2.64E-11	0.	3.11E-11	5.41E-11	4.48E-11	0.	0.	5.68E-07	4.27E-06	3.05E-05	1.92E-05	5.42E-05
67	4.10	1.90E-11	0.	4.14E-11	5.10E-11	0.	0.	5.68E-07	4.56E-06	3.18E-05	1.97E-05	5.62E-05	
68	4.00	1.72E-11	0.	1.99E-09	4.80E-11	3.81E-12	0.	0.	5.68E-07	4.86E-06	3.29E-05	2.02E-05	5.82E-05
69	3.90	1.43E-11	0.	7.21E-10	4.58E-09	0.	0.	5.68E-07	5.16E-06	3.42E-05	2.07E-05	6.02E-05	
70	3.80	1.56E-11	0.	1.12E-09	2.20E-08	4.68E-11	0.	0.	5.68E-07	5.46E-06	3.54E-05	2.12E-05	6.22E-05
71	3.7E	1.35E-11	0.	1.25E-09	7.74E-09	3.66E-11	0.	0.	5.68E-07	5.76E-06	3.66E-05	2.17E-05	6.42E-05
72	3.6E	1.20E-11	0.	8.60E-10	4.42E-08	4.90E-11	0.	0.	5.68E-07	6.06E-06	3.78E-05	2.22E-05	6.62E-05
73	3.50	1.10E-11	0.	1.11E-09	1.01E-07	3.20E-11	0.	0.	5.68E-07	6.36E-06	3.90E-05	2.27E-05	6.82E-05
74	3.40	9.91E-12	0.	6.53E-10	1.20E-08	3.57E-11	0.	0.	5.68E-07	6.66E-06	4.02E-05	2.32E-05	7.02E-05
75	3.30	7.64E-12	0.	6.70E-10	5.25E-08	2.70E-11	0.	0.	5.68E-07	6.96E-06	4.14E-05	2.37E-05	7.22E-05
76	3.20	6.73E-12	0.	4.27E-10	1.61E-07	2.69E-11	0.	0.	5.68E-07	7.26E-06	4.26E-05	2.42E-05	7.42E-05
77	3.10	6.32E-12	0.	3.28E-10	1.99E-08	2.48E-11	0.	0.	5.68E-07	7.56E-06	4.38E-05	2.47E-05	7.62E-05
78	3.00	5.55E-12	0.	1.96E-10	5.09E-08	2.47E-11	0.	0.	5.68E-07	7.86E-06	4.50E-05	2.52E-05	7.82E-05
79	2.90	4.66E-12	0.	1.20E-10	2.42E-08	1.83E-11	0.	0.	5.68E-07	8.16E-06	4.62E-05	2.57E-05	8.02E-05
80	2.80	4.09E-12	0.	5.77E-11	1.59E-09	1.22E-11	0.	0.	5.68E-07	8.46E-06	4.74E-05	2.62E-05	8.22E-05
81	2.70	2.93E-12	0.	2.68E-11	2.44E-08	6.56E-12	0.	0.	5.68E-07	8.76E-06	4.86E-05	2.67E-05	8.42E-05
82	2.60	1.33E-12	0.	1.33E-11	2.35E-09	2.71E-12	0.	0.	5.68E-07	9.06E-06	4.98E-05	2.72E-05	8.62E-05
83	2.50	9.10E-14	0.	1.91E-12	2.15E-09	6.32E-13	0.	0.	5.68E-07	9.36E-06	5.10E-05	2.77E-05	8.82E-05
84	2.45	0.	0.	7.47E-11	1.33E-09	6.52E-14	0.	0.	5.68E-07	9.66E-06	5.22E-05	2.82E-05	9.02E-05
85	2.30	0.	0.	2.60E-10	0.	0.	0.	0.	5.68E-07	9.96E-06	5.34E-05	2.87E-05	9.22E-05
86	2.20	0.	0.	6.34E-10	0.	0.	0.	0.	5.68E-07	1.02E-05	5.46E-05	2.92E-05	9.42E-05
87	2.10	0.	0.	7.29E-10	0.	0.	0.	0.	5.68E-07	1.08E-05	5.58E-05	2.97E-05	9.62E-05
88	2.00	0.	0.	1.36E-09	0.	0.	0.	0.	5.68E-07	1.14E-05	5.70E-05	3.02E-05	9.82E-05
89	1.90	0.	0.	1.70E-09	0.	0.	0.	0.	5.68E-07	1.20E-05	5.82E-05	3.07E-05	1.00E-04
90	1.80	0.	0.	1.64E-09	0.	0.	0.	0.	5.68E-07	1.26E-05	5.94E-05	3.12E-05	1.02E-04
91	1.70	0.	0.	1.93E-09	0.	0.	0.	0.	5.68E-07	1.32E-05	6.06E-05	3.17E-05	1.04E-04
92	1.60	0.	0.	1.40E-09	0.	0.	0.	0.	5.68E-07	1.38E-05	6.18E-05	3.22E-05	1.06E-04
93	1.50	0.	0.	1.66E-09	0.	0.	0.	0.	5.68E-07	1.44E-05	6.30E-05	3.27E-05	1.08E-04
94	1.45	0.	0.	1.67E-09	0.	0.	0.	0.	5.68E-07	1.50E-05	6.42E-05	3.32E-05	1.10E-04
95	1.30	0.	0.	1.27E-09	0.	0.	0.	0.	5.68E-07	1.56E-05	6.54E-05	3.37E-05	1.12E-04
96	1.20	0.	0.	1.23E-09	0.	0.	0.	0.	5.68E-07	1.62E-05	6.66E-05	3.42E-05	1.14E-04
97	1.10	0.	0.	1.12E-09	0.	0.	0.	0.	5.68E-07	1.68E-05	6.78E-05	3.47E-05	1.16E-04
98	1.00	0.	0.	1.03E-09	0.	0.	0.	0.	5.68E-07	1.74E-05	6.90E-05	3.52E-05	1.18E-04
99	0.90	0.	0.	6.43E-10	0.	0.	0.	0.	5.68E-07	1.80E-05	7.02E-05	3.57E-05	1.20E-04
100	0.80	0.	0.	3.97E-10	0.	0.	0.	0.	5.68E-07	1.86E-05	7.14E-05	3.62E-05	1.22E-04
101	0.70	0.	0.	9.70E-11	0.	0.	0.	0.	5.68E-07	1.92E-05	7.26E-05	3.67E-05	1.24E-04
102	0.60	0.	0.	1.26E-11	0.	0.	0.	0.	5.68E-07	1.98E-05	7.38E-05	3.72E-05	1.26E-04





ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 14000. DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)

PHOTON Q2 S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2 1ST NEG.	BETA	NO GAMMA	NU VIB-ROT	NO 2	PHOTO-DET (1%NS)	0- FREF-FREE	N P.E.	D P.F.	TOTAL AIR
52	5.60	1.07E-22	0.	2.03E-14	1.33E-13	0.	0.	1.97E-09	3.96E-08	3.06E-07	3.17E-07	7.20E-07
53	5.50	0.	0.	2.48E-14	1.24E-13	0.	0.	1.98E-09	3.70E-08	3.73E-07	3.21E-07	7.33E-07
54	5.40	0.	0.	2.22E-14	9.53E-14	0.	0.	1.99E-09	3.91E-08	3.82E-07	3.26E-07	7.40E-07
55	5.30	0.	0.	2.27E-14	1.26E-13	0.	0.	1.61E-09	4.13E-08	3.91E-07	3.31E-07	7.65E-07
56	5.20	0.	0.	2.42E-14	8.72E-14	0.	0.	1.42E-09	4.45E-08	4.00E-07	3.37E-07	7.83E-07
57	5.10	0.	0.	2.40E-14	1.14E-13	0.	0.	1.42E-09	4.45E-08	4.11E-07	3.44E-07	8.03E-07
58	5.00	1.40E-15	0.	2.17E-14	1.04E-13	0.	0.	1.63E-09	4.33E-08	4.24E-07	3.51E-07	8.23E-07
59	4.90	3.33E-15	0.	2.38E-14	1.11E-13	0.	0.	1.63E-09	4.33E-08	4.37E-07	3.59E-07	8.43E-07
60	4.80	6.03E-15	0.	2.34E-14	1.03E-13	0.	0.	1.60E-09	4.37E-08	4.51E-07	3.65E-07	8.74E-07
61	4.70	8.03E-15	0.	2.30E-14	9.21E-14	0.	0.	1.67E-09	4.34E-08	4.64E-07	3.74E-07	9.01E-07
62	4.60	1.00E-14	0.	2.24E-14	8.41E-14	0.	0.	1.69E-09	4.34E-08	4.78E-07	3.84E-07	9.37E-07
63	4.50	1.12E-14	0.	2.20E-14	7.64E-14	0.	0.	1.70E-09	4.34E-08	4.92E-07	3.94E-07	9.73E-07
64	4.40	1.17E-14	0.	2.16E-14	6.94E-14	0.	0.	1.72E-09	4.34E-08	5.06E-07	4.04E-07	1.01E-06
65	4.30	1.04E-14	0.	2.13E-14	6.30E-14	0.	0.	1.72E-09	4.34E-08	5.20E-07	4.16E-07	1.05E-06
66	4.20	1.02E-14	0.	2.10E-14	5.71E-14	0.	0.	1.74E-09	4.34E-08	5.34E-07	4.28E-07	1.09E-06
67	4.10	8.24E-15	0.	2.07E-14	5.18E-14	0.	0.	1.74E-09	4.34E-08	5.48E-07	4.40E-07	1.14E-06
68	4.00	6.43E-15	0.	2.04E-14	4.70E-14	0.	0.	1.74E-09	4.34E-08	5.62E-07	4.52E-07	1.19E-06
69	3.90	7.64E-15	0.	2.01E-14	4.26E-14	0.	0.	1.74E-09	4.34E-08	5.76E-07	4.64E-07	1.24E-06
70	3.80	7.64E-15	0.	1.98E-14	3.87E-14	0.	0.	1.74E-09	4.34E-08	5.90E-07	4.76E-07	1.29E-06
71	3.70	6.43E-15	0.	1.95E-14	3.52E-14	0.	0.	1.74E-09	4.34E-08	6.04E-07	4.88E-07	1.34E-06
72	3.60	5.90E-15	0.	1.92E-14	3.20E-14	0.	0.	1.74E-09	4.34E-08	6.18E-07	5.00E-07	1.39E-06
73	3.50	5.42E-15	0.	1.89E-14	2.91E-14	0.	0.	1.74E-09	4.34E-08	6.32E-07	5.12E-07	1.44E-06
74	3.40	4.47E-15	0.	1.86E-14	2.66E-14	0.	0.	1.74E-09	4.34E-08	6.46E-07	5.24E-07	1.49E-06
75	3.30	3.65E-15	0.	1.83E-14	2.44E-14	0.	0.	1.74E-09	4.34E-08	6.60E-07	5.36E-07	1.54E-06
76	3.20	3.29E-15	0.	1.80E-14	2.24E-14	0.	0.	1.74E-09	4.34E-08	6.74E-07	5.48E-07	1.59E-06
77	3.10	3.10E-15	0.	1.78E-14	2.06E-14	0.	0.	1.74E-09	4.34E-08	6.88E-07	5.60E-07	1.64E-06
78	3.00	2.72E-15	0.	1.75E-14	1.91E-14	0.	0.	1.74E-09	4.34E-08	7.02E-07	5.72E-07	1.69E-06
79	2.90	2.24E-15	0.	1.72E-14	1.78E-14	0.	0.	1.74E-09	4.34E-08	7.16E-07	5.84E-07	1.74E-06
80	2.80	2.30E-15	0.	1.69E-14	1.67E-14	0.	0.	1.74E-09	4.34E-08	7.30E-07	5.96E-07	1.79E-06
81	2.70	1.44E-15	0.	1.66E-14	1.58E-14	0.	0.	1.74E-09	4.34E-08	7.44E-07	6.08E-07	1.84E-06
82	2.60	6.52E-16	0.	1.63E-14	1.50E-14	0.	0.	1.74E-09	4.34E-08	7.58E-07	6.20E-07	1.89E-06
83	2.50	4.51E-17	0.	1.60E-14	1.43E-14	0.	0.	1.74E-09	4.34E-08	7.72E-07	6.32E-07	1.94E-06
84	2.40	0.	0.	1.57E-14	1.37E-14	0.	0.	1.74E-09	4.34E-08	7.86E-07	6.44E-07	1.99E-06
85	2.30	0.	0.	1.54E-14	1.32E-14	0.	0.	1.74E-09	4.34E-08	8.00E-07	6.56E-07	2.04E-06
86	2.20	0.	0.	1.51E-14	1.27E-14	0.	0.	1.74E-09	4.34E-08	8.14E-07	6.68E-07	2.09E-06
87	2.10	0.	0.	1.48E-14	1.23E-14	0.	0.	1.74E-09	4.34E-08	8.28E-07	6.80E-07	2.14E-06
88	2.00	0.	0.	1.45E-14	1.19E-14	0.	0.	1.74E-09	4.34E-08	8.42E-07	6.92E-07	2.19E-06
89	1.90	0.	0.	1.42E-14	1.16E-14	0.	0.	1.74E-09	4.34E-08	8.56E-07	7.04E-07	2.24E-06
90	1.80	0.	0.	1.39E-14	1.13E-14	0.	0.	1.74E-09	4.34E-08	8.70E-07	7.16E-07	2.29E-06
91	1.70	0.	0.	1.36E-14	1.10E-14	0.	0.	1.74E-09	4.34E-08	8.84E-07	7.28E-07	2.34E-06
92	1.60	0.	0.	1.33E-14	1.07E-14	0.	0.	1.74E-09	4.34E-08	8.98E-07	7.40E-07	2.39E-06
93	1.50	0.	0.	1.30E-14	1.04E-14	0.	0.	1.74E-09	4.34E-08	9.12E-07	7.52E-07	2.44E-06
94	1.40	0.	0.	1.27E-14	1.01E-14	0.	0.	1.74E-09	4.34E-08	9.26E-07	7.64E-07	2.49E-06
95	1.30	0.	0.	1.24E-14	9.84E-15	0.	0.	1.74E-09	4.34E-08	9.40E-07	7.76E-07	2.54E-06
96	1.20	0.	0.	1.21E-14	9.59E-15	0.	0.	1.74E-09	4.34E-08	9.54E-07	7.88E-07	2.59E-06
97	1.10	0.	0.	1.18E-14	9.35E-15	0.	0.	1.74E-09	4.34E-08	9.68E-07	8.00E-07	2.64E-06
98	1.00	0.	0.	1.15E-14	9.12E-15	0.	0.	1.74E-09	4.34E-08	9.82E-07	8.12E-07	2.69E-06
99	0.90	0.	0.	1.12E-14	8.90E-15	0.	0.	1.74E-09	4.34E-08	9.96E-07	8.24E-07	2.74E-06
100	0.80	0.	0.	1.09E-14	8.69E-15	0.	0.	1.74E-09	4.34E-08	1.01E-06	8.36E-07	2.79E-06
101	0.70	0.	0.	1.06E-14	8.49E-15	0.	0.	1.74E-09	4.34E-08	1.02E-06	8.48E-07	2.84E-06
102	0.60	0.	0.	1.03E-14	8.30E-15	0.	0.	1.74E-09	4.34E-08	1.04E-06	8.60E-07	2.89E-06

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CH.)

TEMPERATURE (DEGREES K) 14000. DENSITY (GM/CC) 1.292E-06 ( 1.0E-05 NORMAL)

PHOTON ENERGY BANDS E.V.	OS S-R CONT.	MS S-R CONT.	MC DETA	MC GAMMA	NO 2	O- PHOTO-DEY (1000)	P.S. P.E.	TOTAL AIR		
1 18.78 8.	0.	0.	0.	0.	0.	1.03E-12	9.03E-11	1.04E-06	3.29E-09	1.37E-08
2 18.64 8.	0.	0.	0.	0.	0.	1.03E-12	9.77E-11	1.04E-06	1.20E-09	1.30E-08
3 18.50 8.	0.	0.	0.	0.	0.	1.02E-12	9.94E-11	1.03E-06	1.27E-09	1.30E-08
4 18.40 8.	0.	0.	0.	0.	0.	1.02E-12	6.11E-11	1.03E-06	3.26E-09	1.30E-08
5 18.30 9.	0.	0.	0.	0.	0.	1.02E-12	6.29E-11	1.03E-06	3.29E-09	1.30E-08
6 18.20 8.	0.	0.	0.	0.	0.	1.02E-12	6.40E-11	1.04E-06	3.24E-09	1.30E-08
7 18.10 8.	0.	0.	0.	0.	0.	1.02E-12	6.07E-11	1.04E-06	3.23E-09	1.30E-08
8 18.00 8.	0.	0.	0.	0.	0.	1.02E-12	6.00E-11	1.04E-06	3.22E-09	1.30E-08
9 9.90 8.	0.	0.	0.	0.	0.	1.04E-12	7.09E-11	1.04E-06	3.21E-09	1.30E-08
10 9.80 8.	0.	0.	0.	0.	0.	1.04E-12	7.31E-11	1.07E-06	3.21E-09	1.40E-08
11 9.70 8.	0.	0.	0.	0.	0.	1.04E-12	7.54E-11	1.07E-06	3.20E-09	1.40E-08
12 9.60 8.	0.	0.	0.	0.	0.	1.04E-12	7.78E-11	1.07E-06	3.19E-09	1.40E-08
13 9.50 8.	0.	0.	0.	0.	0.	1.04E-12	8.03E-11	1.08E-06	3.18E-09	1.40E-08
14 9.40 8.	0.	0.	0.	0.	0.	1.04E-12	8.29E-11	1.08E-06	3.17E-09	1.40E-08
15 9.30 8.	0.	0.	0.	0.	0.	1.04E-12	8.56E-11	1.08E-06	3.16E-09	1.40E-08
16 9.20 8.	0.	0.	0.	0.	0.	1.04E-12	8.84E-11	1.08E-06	3.15E-09	1.40E-08
17 9.10 8.	0.	0.	0.	0.	0.	1.04E-12	9.13E-11	1.08E-06	3.14E-09	1.40E-08
18 9.00 8.	0.	0.	0.	0.	0.	1.04E-12	9.44E-11	1.08E-06	3.13E-09	1.40E-08
19 8.90 8.	0.	0.	0.	0.	0.	1.04E-12	9.77E-11	1.08E-06	3.12E-09	1.40E-08
20 8.80 8.	0.	0.	0.	0.	0.	1.04E-12	1.01E-10	1.08E-06	3.11E-09	1.40E-08
21 8.70 8.	0.	0.	0.	0.	0.	1.04E-12	1.05E-10	1.08E-06	3.11E-09	1.40E-08
22 8.60 8.	0.	0.	0.	0.	0.	1.04E-12	1.09E-10	1.08E-06	3.11E-09	1.40E-08
23 8.50 8.	0.	0.	0.	0.	0.	1.04E-12	1.14E-10	1.08E-06	3.11E-09	1.40E-08
24 8.40 8.	0.	0.	0.	0.	0.	1.04E-12	1.19E-10	1.08E-06	3.11E-09	1.40E-08
25 8.30 8.	0.	0.	0.	0.	0.	1.04E-12	1.24E-10	1.08E-06	3.11E-09	1.40E-08
26 8.20 8.	0.	0.	0.	0.	0.	1.04E-12	1.29E-10	1.08E-06	3.11E-09	1.40E-08
27 8.10 8.	0.	0.	0.	0.	0.	1.04E-12	1.34E-10	1.08E-06	3.11E-09	1.40E-08
28 8.00 8.	0.	0.	0.	0.	0.	1.04E-12	1.39E-10	1.08E-06	3.11E-09	1.40E-08
29 7.90 8.	0.	0.	0.	0.	0.	1.04E-12	1.44E-10	1.08E-06	3.11E-09	1.40E-08
30 7.80 8.	0.	0.	0.	0.	0.	1.04E-12	1.49E-10	1.08E-06	3.11E-09	1.40E-08
31 7.70 8.	0.	0.	0.	0.	0.	1.04E-12	1.54E-10	1.08E-06	3.11E-09	1.40E-08
32 7.60 8.	0.	0.	0.	0.	0.	1.04E-12	1.59E-10	1.08E-06	3.11E-09	1.40E-08
33 7.50 8.	0.	0.	0.	0.	0.	1.04E-12	1.64E-10	1.08E-06	3.11E-09	1.40E-08
34 7.40 8.	0.	0.	0.	0.	0.	1.04E-12	1.69E-10	1.08E-06	3.11E-09	1.40E-08
35 7.30 8.	0.	0.	0.	0.	0.	1.04E-12	1.74E-10	1.08E-06	3.11E-09	1.40E-08
36 7.20 8.	0.	0.	0.	0.	0.	1.04E-12	1.79E-10	1.08E-06	3.11E-09	1.40E-08
37 7.10 8.	0.	0.	0.	0.	0.	1.04E-12	1.84E-10	1.08E-06	3.11E-09	1.40E-08
38 7.00 8.	0.	0.	0.	0.	0.	1.04E-12	1.89E-10	1.08E-06	3.11E-09	1.40E-08
39 6.90 8.	0.	0.	0.	0.	0.	1.04E-12	1.94E-10	1.08E-06	3.11E-09	1.40E-08
40 6.80 8.	0.	0.	0.	0.	0.	1.04E-12	1.99E-10	1.08E-06	3.11E-09	1.40E-08
41 6.70 8.	0.	0.	0.	0.	0.	1.04E-12	2.04E-10	1.08E-06	3.11E-09	1.40E-08
42 6.60 8.	0.	0.	0.	0.	0.	1.04E-12	2.09E-10	1.08E-06	3.11E-09	1.40E-08
43 6.50 8.	0.	0.	0.	0.	0.	1.04E-12	2.14E-10	1.08E-06	3.11E-09	1.40E-08
44 6.40 8.	0.	0.	0.	0.	0.	1.04E-12	2.19E-10	1.08E-06	3.11E-09	1.40E-08
45 6.30 8.	0.	0.	0.	0.	0.	1.04E-12	2.24E-10	1.08E-06	3.11E-09	1.40E-08
46 6.20 8.	0.	0.	0.	0.	0.	1.04E-12	2.29E-10	1.08E-06	3.11E-09	1.40E-08
47 6.10 8.	0.	0.	0.	0.	0.	1.04E-12	2.34E-10	1.08E-06	3.11E-09	1.40E-08
48 6.00 8.	0.	0.	0.	0.	0.	1.04E-12	2.39E-10	1.08E-06	3.11E-09	1.40E-08
49 5.90 8.	0.	0.	0.	0.	0.	1.04E-12	2.44E-10	1.08E-06	3.11E-09	1.40E-08
50 5.80 8.	0.	0.	0.	0.	0.	1.04E-12	2.49E-10	1.08E-06	3.11E-09	1.40E-08
51 5.70 8.	0.	0.	0.	0.	0.	1.04E-12	2.54E-10	1.08E-06	3.11E-09	1.40E-08

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K)	14000	DENSITY (GM/CC)	1.2036-00	( 1.0E-05 NORMAL)	PHOTO-DET (FMS)		FREF-FREE		TOTAL RIP			
					NO	2	M	P.E.	0	P.E.		
52	5.60	1.45E-26	0.	0.	2.64E-18	1.73E-17	0.	1.94E-12	3.08E-09	3.08E-09	0.19E-09	
53	5.50	0.	0.	0.	3.21E-18	1.82E-17	0.	1.93E-12	4.17E-10	4.17E-09	3.73E-09	0.34E-09
54	5.40	0.	0.	0.	3.78E-18	1.24E-17	0.	1.94E-12	4.41E-10	4.26E-09	3.78E-09	0.51E-09
55	5.30	0.	0.	0.	2.94E-18	1.64E-17	0.	1.97E-12	4.07E-10	4.39E-09	3.80E-09	0.69E-09
56	5.20	0.	0.	0.	3.15E-18	1.33E-17	0.	1.98E-12	4.49E-10	4.92E-09	3.92E-09	0.90E-09
57	5.10	0.	0.	0.	3.12E-18	1.46E-17	0.	2.00E-12	5.24E-10	4.47E-09	3.99E-09	1.13E-09
58	5.00	1.89E-19	0.	0.	3.02E-18	1.35E-17	0.	2.02E-12	5.91E-10	4.75E-09	4.07E-09	1.38E-09
59	4.90	4.49E-19	0.	0.	3.10E-18	1.34E-17	0.	2.03E-12	6.60E-10	4.90E-09	4.15E-09	1.65E-09
60	4.80	8.22E-19	0.	0.	3.30E-18	1.34E-17	0.	2.03E-12	7.31E-10	5.08E-09	4.24E-09	1.93E-09
61	4.70	1.08E-18	0.	0.	3.22E-18	1.29E-17	0.	2.07E-12	8.04E-10	5.23E-09	4.34E-09	2.21E-09
62	4.60	1.46E-18	0.	0.	3.31E-18	1.09E-17	0.	2.10E-12	8.79E-10	5.42E-09	4.45E-09	2.49E-09
63	4.50	1.91E-18	0.	0.	2.97E-18	8.14E-18	0.	2.10E-12	9.56E-10	5.62E-09	4.57E-09	2.77E-09
64	4.40	2.42E-18	0.	0.	2.95E-18	5.71E-18	0.	2.12E-12	1.035E-09	5.82E-09	4.69E-09	3.05E-09
65	4.30	3.00E-18	0.	0.	2.77E-18	3.48E-18	0.	2.13E-12	1.116E-09	6.03E-09	4.82E-09	3.33E-09
66	4.20	3.65E-18	0.	0.	2.90E-18	2.58E-18	0.	2.13E-12	1.200E-09	6.24E-09	4.95E-09	3.61E-09
67	4.10	4.37E-18	0.	0.	2.79E-18	8.89E-19	0.	2.14E-12	1.287E-09	6.46E-09	5.08E-09	3.89E-09
68	4.00	5.16E-18	0.	0.	2.63E-18	5.29E-19	0.	2.17E-12	1.377E-09	6.71E-09	5.21E-09	4.17E-09
69	3.90	6.01E-18	0.	0.	2.39E-18	2.08E-19	0.	2.16E-12	1.470E-09	6.97E-09	5.35E-09	4.45E-09
70	3.80	6.92E-18	0.	0.	2.15E-18	0.	0.	2.15E-12	1.566E-09	7.24E-09	5.49E-09	4.73E-09
71	3.70	7.90E-18	0.	0.	1.92E-18	0.	0.	2.12E-12	1.665E-09	7.52E-09	5.64E-09	5.01E-09
72	3.60	8.95E-18	0.	0.	1.70E-18	0.	0.	1.98E-12	1.767E-09	7.81E-09	5.79E-09	5.24E-09
73	3.50	1.00E-17	0.	0.	1.49E-18	0.	0.	1.81E-12	1.872E-09	8.11E-09	5.94E-09	5.48E-09
74	3.40	1.14E-17	0.	0.	1.29E-18	0.	0.	1.65E-12	1.979E-09	8.42E-09	6.09E-09	5.71E-09
75	3.30	1.30E-17	0.	0.	1.10E-18	0.	0.	1.50E-12	2.088E-09	8.74E-09	6.24E-09	5.94E-09
76	3.20	1.47E-17	0.	0.	9.22E-19	0.	0.	1.35E-12	2.200E-09	9.07E-09	6.39E-09	6.17E-09
77	3.10	1.66E-17	0.	0.	7.45E-19	0.	0.	1.20E-12	2.315E-09	9.41E-09	6.54E-09	6.40E-09
78	3.00	1.87E-17	0.	0.	5.88E-19	0.	0.	1.05E-12	2.432E-09	9.76E-09	6.69E-09	6.63E-09
79	2.90	2.10E-17	0.	0.	4.43E-19	0.	0.	9.00E-13	2.551E-09	1.013E-08	6.84E-09	6.86E-09
80	2.80	2.35E-17	0.	0.	3.09E-19	0.	0.	7.45E-13	2.672E-09	1.056E-08	6.99E-09	7.09E-09
81	2.70	2.62E-17	0.	0.	1.81E-19	0.	0.	5.90E-13	2.805E-09	1.101E-08	7.14E-09	7.32E-09
82	2.60	2.90E-17	0.	0.	1.01E-19	0.	0.	4.35E-13	2.940E-09	1.147E-08	7.29E-09	7.55E-09
83	2.50	3.19E-17	0.	0.	6.80E-20	0.	0.	2.80E-13	3.077E-09	1.194E-08	7.44E-09	7.78E-09
84	2.40	0.	0.	0.	5.87E-20	0.	0.	1.25E-13	3.216E-09	1.242E-08	7.59E-09	8.01E-09
85	2.30	0.	0.	0.	5.02E-20	0.	0.	6.70E-14	3.357E-09	1.291E-08	7.74E-09	8.24E-09
86	2.20	0.	0.	0.	4.24E-20	0.	0.	5.84E-14	3.500E-09	1.341E-08	7.89E-09	8.47E-09
87	2.10	0.	0.	0.	3.52E-20	0.	0.	5.05E-14	3.645E-09	1.391E-08	8.04E-09	8.70E-09
88	2.00	0.	0.	0.	2.85E-20	0.	0.	4.33E-14	3.792E-09	1.441E-08	8.19E-09	8.93E-09
89	1.90	0.	0.	0.	2.24E-20	0.	0.	3.67E-14	3.940E-09	1.491E-08	8.34E-09	9.16E-09
90	1.80	0.	0.	0.	1.68E-20	0.	0.	3.07E-14	4.090E-09	1.541E-08	8.49E-09	9.39E-09
91	1.70	0.	0.	0.	1.17E-20	0.	0.	2.53E-14	4.241E-09	1.591E-08	8.64E-09	9.62E-09
92	1.60	0.	0.	0.	7.14E-21	0.	0.	2.04E-14	4.393E-09	1.641E-08	8.79E-09	9.85E-09
93	1.50	0.	0.	0.	4.57E-21	0.	0.	1.60E-14	4.546E-09	1.691E-08	8.94E-09	1.008E-08
94	1.40	0.	0.	0.	2.96E-21	0.	0.	1.20E-14	4.700E-09	1.741E-08	9.09E-09	1.031E-08
95	1.30	0.	0.	0.	1.89E-21	0.	0.	8.34E-15	4.855E-09	1.791E-08	9.24E-09	1.054E-08
96	1.20	0.	0.	0.	1.24E-21	0.	0.	5.56E-15	5.010E-09	1.841E-08	9.39E-09	1.077E-08
97	1.10	0.	0.	0.	8.14E-22	0.	0.	3.74E-15	5.165E-09	1.891E-08	9.54E-09	1.100E-08
98	1.00	0.	0.	0.	5.24E-22	0.	0.	2.50E-15	5.320E-09	1.941E-08	9.69E-09	1.123E-08
99	0.90	0.	0.	0.	3.40E-22	0.	0.	1.64E-15	5.475E-09	1.991E-08	9.84E-09	1.146E-08
100	0.80	0.	0.	0.	2.24E-22	0.	0.	1.08E-15	5.630E-09	2.041E-08	9.99E-09	1.169E-08
101	0.70	0.	0.	0.	1.46E-22	0.	0.	7.24E-16	5.785E-09	2.091E-08	1.014E-08	1.192E-08
102	0.60	0.	0.	0.	9.64E-23	0.	0.	4.94E-16	5.940E-09	2.141E-08	1.029E-08	1.215E-08
103	0.50	0.	0.	0.	6.34E-23	0.	0.	3.34E-16	6.095E-09	2.191E-08	1.044E-08	1.238E-08
104	0.40	0.	0.	0.	4.24E-23	0.	0.	2.24E-16	6.250E-09	2.241E-08	1.059E-08	1.261E-08
105	0.30	0.	0.	0.	2.84E-23	0.	0.	1.48E-16	6.405E-09	2.291E-08	1.074E-08	1.284E-08
106	0.20	0.	0.	0.	1.84E-23	0.	0.	9.84E-17	6.560E-09	2.341E-08	1.089E-08	1.307E-08
107	0.10	0.	0.	0.	1.24E-23	0.	0.	6.54E-17	6.715E-09	2.391E-08	1.104E-08	1.330E-08
108	0.00	0.	0.	0.	8.04E-24	0.	0.	4.34E-17	6.870E-09	2.441E-08	1.119E-08	1.353E-08



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES N) 14000. DE SITY (GM/CC) 1.293E-09 ( 1.8E-06 NORMAL)

PHOTON OR S-R ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 3RD POS.	M2 1ST NEG.	RETA	NO GAMMA	NO VIB-ROT	NO PHOTO-DEP (IONS)	O-FREE-FREE N	P.F.E.	D TOTAL AIR		
52	5.60	1.50E-30	0.	0.	2.73E-22	1.78E-21	0.	0.	1.99E-15	4.03E-12	4.25E-11	3.75E-11	0.41E-11
53	3.50	0.	0.	0.	3.35E-22	1.65E-21	0.	0.	2.00E-15	4.24E-12	4.34E-11	3.80E-11	0.57E-11
54	5.40	0.	0.	0.	2.97E-22	1.28E-21	0.	0.	2.01E-15	4.50E-12	4.44E-11	3.85E-11	0.75E-11
55	5.30	0.	0.	0.	3.05E-22	1.69E-21	0.	0.	2.02E-15	4.76E-12	4.55E-11	3.91E-11	0.94E-11
56	5.20	0.	0.	0.	3.24E-22	1.17E-21	0.	0.	2.04E-15	5.04E-12	4.66E-11	3.99E-11	0.16E-11
57	5.10	0.	0.	0.	3.24E-22	1.59E-21	0.	0.	2.05E-15	5.39E-12	4.79E-11	4.07E-11	0.40E-11
58	5.00	1.94E-23	0.	0.	3.20E-22	1.49E-21	0.	0.	2.07E-15	5.64E-12	4.94E-11	4.15E-11	0.64E-11
59	4.90	4.64E-23	0.	0.	3.20E-22	1.49E-21	0.	0.	2.07E-15	6.03E-12	5.10E-11	4.23E-11	0.93E-11
60	4.80	0.92E-23	0.	0.	3.44E-22	1.38E-21	0.	0.	2.10E-15	6.43E-12	5.27E-11	4.32E-11	1.22E-11
61	4.70	1.17E-22	0.	0.	3.35E-22	1.13E-21	0.	0.	2.12E-15	6.84E-12	5.44E-11	4.43E-11	1.66E-11
62	4.60	1.51E-22	0.	0.	3.41E-22	1.13E-21	0.	0.	2.14E-15	7.30E-12	5.65E-11	4.54E-11	1.99E-11
63	4.50	1.56E-22	0.	1.96E-22	3.06E-22	0.39E-22	0.	0.	2.16E-15	7.80E-12	5.91E-11	4.65E-11	1.13E-10
64	4.40	1.64E-22	0.	4.99E-22	3.05E-22	5.89E-22	0.	0.	2.17E-15	8.35E-12	6.18E-11	4.71E-11	1.17E-10
65	4.30	1.52E-22	0.	1.48E-21	2.94E-22	3.59E-22	0.	0.	2.19E-15	8.95E-12	6.46E-11	4.58E-11	1.17E-10
66	4.20	1.40E-22	0.	5.13E-21	2.95E-22	2.65E-22	0.	0.	2.21E-15	9.60E-12	6.75E-11	4.48E-11	0.10E-11
67	4.10	1.30E-22	0.	2.81E-21	2.83E-22	2.19E-22	0.	0.	2.22E-15	1.03E-11	6.28E-11	4.53E-11	0.84E-11
68	4.00	1.18E-22	0.	7.34E-21	2.74E-22	5.44E-23	0.	0.	2.23E-15	1.11E-11	5.01E-11	4.59E-11	7.70E-11
69	3.90	9.82E-23	0.	3.33E-21	2.46E-22	2.14E-23	0.	0.	2.22E-15	1.20E-11	5.23E-11	4.63E-11	0.60E-11
70	3.80	1.07E-22	0.	5.18E-21	2.43E-22	0.	0.	0.	2.21E-15	1.30E-11	5.03E-11	4.69E-11	0.02E-11
71	3.70	9.24E-23	0.	5.78E-21	2.17E-22	0.	0.	0.	2.17E-15	1.41E-11	5.26E-11	4.87E-11	0.54E-11
72	3.60	8.24E-23	0.	3.70E-21	1.99E-22	0.	0.	0.	2.04E-15	1.53E-11	5.73E-11	2.07E-11	9.32E-11
73	3.50	7.57E-23	0.	5.12E-21	1.60E-22	0.	0.	0.	1.86E-15	1.67E-11	6.09E-11	2.29E-11	1.00E-10
74	3.40	6.80E-23	0.	3.82E-21	1.71E-22	0.	0.	0.	1.07E-15	1.82E-11	6.61E-11	2.53E-11	1.12E-10
75	3.30	5.38E-23	0.	3.13E-21	1.62E-22	1.51E-22	0.	0.	1.00E-15	1.99E-11	7.54E-11	2.74E-11	1.23E-10
76	3.20	4.50E-23	0.	1.97E-21	1.11E-22	1.04E-22	0.	0.	1.00E-15	2.19E-11	8.29E-11	3.04E-11	1.35E-10
77	3.10	4.33E-23	0.	1.52E-21	5.83E-23	1.51E-22	0.	0.	1.08E-15	2.41E-11	9.06E-11	3.31E-11	1.40E-10
78	3.00	3.81E-23	0.	9.88E-22	1.57E-22	1.46E-22	0.	0.	1.08E-15	2.66E-11	9.82E-11	3.57E-11	1.61E-10
79	2.90	3.13E-23	0.	5.97E-22	9.08E-23	1.03E-22	0.	0.	1.08E-15	2.94E-11	1.06E-10	3.84E-11	1.74E-10
80	2.80	3.22E-23	0.	2.47E-22	4.91E-23	6.85E-23	0.	0.	1.09E-15	3.26E-11	1.15E-10	4.13E-11	1.85E-10
81	2.70	2.91E-23	0.	1.24E-22	7.54E-23	3.60E-23	0.	0.	1.09E-15	3.64E-11	1.25E-10	4.45E-11	1.81E-10
82	2.60	9.12E-24	0.	6.16E-23	7.23E-23	1.53E-23	0.	0.	1.09E-15	4.10E-11	1.38E-10	4.81E-11	1.83E-10
83	2.50	5.30E-25	0.	4.97E-24	6.64E-24	3.56E-24	0.	0.	1.09E-15	4.62E-11	1.51E-10	5.21E-11	1.66E-10
84	2.40	0.	3.46E-22	0.	5.97E-24	3.71E-25	0.	0.	1.08E-15	5.23E-11	1.67E-10	5.61E-11	1.99E-10
85	2.30	0.	1.29E-21	0.	0.	0.	0.	0.	1.08E-15	5.96E-11	1.42E-10	3.00E-11	2.37E-10
86	2.20	0.	2.93E-21	0.	0.	0.	0.	0.	1.07E-15	6.81E-11	1.67E-10	4.33E-11	4.79E-10
87	2.10	0.	3.37E-21	0.	0.	0.	0.	0.	1.07E-15	7.85E-11	1.83E-10	5.64E-11	3.22E-10
88	2.00	0.	5.31E-21	0.	0.	0.	0.	0.	1.03E-15	9.11E-11	2.20E-10	5.74E-11	3.69E-10
89	1.90	0.	9.14E-21	0.	0.	0.	0.	0.	9.96E-16	1.04E-10	2.51E-10	6.04E-11	4.23E-10
90	1.80	0.	7.56E-21	0.	0.	0.	0.	0.	9.52E-16	1.25E-10	2.98E-10	6.00E-11	5.03E-10
91	1.70	0.	5.91E-21	0.	0.	0.	0.	0.	6.97E-16	1.49E-10	3.56E-10	9.14E-11	5.97E-10
92	1.60	0.	6.47E-21	0.	0.	0.	0.	0.	7.59E-16	1.80E-10	3.83E-10	1.04E-10	4.71E-10
93	1.50	0.	7.66E-21	0.	0.	0.	0.	0.	3.45E-16	2.19E-10	3.29E-10	1.25E-10	6.74E-10
94	1.40	0.	7.70E-21	0.	0.	0.	0.	0.	0.	2.79E-10	4.36E-10	1.10E-10	6.16E-10
95	1.30	0.	5.97E-21	0.	0.	0.	0.	0.	0.	3.58E-10	6.75E-10	1.59E-10	1.12E-09
96	1.20	0.	5.67E-21	0.	0.	0.	0.	0.	0.	4.32E-10	8.51E-10	1.95E-10	1.48E-09
97	1.10	0.	5.16E-21	0.	0.	0.	0.	0.	0.	5.64E-10	1.04E-09	2.49E-10	1.86E-09
98	1.00	0.	4.75E-21	0.	0.	0.	0.	0.	0.	7.61E-10	1.26E-09	3.02E-10	2.33E-09
99	0.90	0.	5.90E-21	0.	0.	0.	0.	0.	0.	1.05E-09	1.44E-09	3.37E-10	2.82E-09
100	0.80	0.	1.85E-21	0.	0.	0.	0.	0.	0.	1.50E-09	1.32E-09	2.87E-10	3.10E-09
101	0.70	0.	4.89E-22	0.	0.	0.	0.	0.	0.	2.26E-09	1.51E-09	3.50E-10	4.39E-09
102	0.60	0.	5.80E-23	0.	0.	0.	0.	0.	0.	3.67E-09	1.70E-09	3.75E-10	5.70E-09

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES M) 15000. DENSITY (GM/CC) 1.2028-02 ( 1.05 01 NORMAL)

PHOTON OR S-R ENERGY RANGS	OR S-R CONT.	H2 D-H NO. 1	NO BETA	NO GAMMA	NO	0- PHOTO-OST (1/MS)	FRES-FRES N P.E.	0 TOTAL AIR P.E.		
1 10.70 0.	0.	5.23E 00	0.	0.	0.	2.34E 00	1.02E-02	2.04E 02	5.19E-01	2.12E 02
2 10.80 0.	0.	4.71E 00	0.	0.	0.	2.32E 00	1.07E-02	2.59E 00	5.17E-01	1.91E 01
3 10.90 0.	0.	4.72E 00	0.	0.	0.	2.35E 00	1.00E-02	2.51E 00	5.14E-01	1.91E 01
4 10.95 0.	0.	4.72E 00	0.	0.	0.	2.35E 00	1.00E-02	2.52E 00	5.14E-01	1.93E 00
5 10.98 0.	0.	3.81E 00	0.	0.	0.	2.35E 00	2.03E-02	2.53E 00	5.12E-01	1.92E 00
6 10.20 0.	0.	3.90E 00	0.	0.	0.	2.30E 00	2.10E-02	2.54E 00	5.11E-01	1.92E 00
7 10.10 0.	0.	3.64E 00	0.	0.	0.	2.30E 00	2.10E-02	2.54E 00	5.09E-01	1.87E 00
8 10.00 0.	0.	3.14E 00	0.	0.	0.	2.30E 00	2.23E-02	2.59E 00	5.07E-01	1.88E 00
9 9.90 0.	0.	3.21E 00	0.	0.	0.	2.37E 00	2.30E-02	2.59E 00	5.04E-01	1.84E 00
10 9.80 0.	0.	2.90E 00	0.	0.	0.	2.37E 00	2.37E-02	2.54E 00	5.04E-01	1.84E 00
11 9.70 0.	0.	2.92E 00	0.	0.	0.	2.30E 00	2.44E-02	2.54E 00	5.03E-01	1.80E 00
12 9.60 0.	0.	2.72E 00	0.	0.	0.	2.30E 00	2.52E-02	2.57E 00	5.01E-01	1.81E 00
13 9.50 0.	0.	2.30E 00	0.	0.	0.	2.30E 00	2.68E-02	2.56E 00	4.99E-01	1.78E 00
14 9.40 0.	0.	2.19E 00	0.	0.	0.	2.30E 00	2.69E-02	2.59E 00	4.98E-01	1.75E 00
15 9.30 0.	0.	2.19E 00	0.	0.	0.	2.40E 00	2.77E-02	2.59E 00	4.96E-01	1.71E 00
16 9.20 0.	0.	1.70E 00	0.	0.	0.	2.41E 00	2.87E-02	2.60E 00	4.94E-01	1.71E 00
17 9.10 0.	0.	1.82E 00	0.	0.	0.	2.42E 00	2.96E-02	2.67E-01	4.93E-01	1.63E 00
18 9.00 0.	0.	1.82E 00	0.	0.	0.	2.43E 00	3.04E-02	2.67E-01	4.91E-01	1.59E 00
19 8.90 0.	0.	1.89E 00	0.	0.	0.	2.44E 00	3.17E-02	2.67E-01	4.90E-01	1.52E 00
20 8.80 0.	0.	1.60E 00	0.	0.	0.	2.40E 00	3.29E-02	2.67E-01	4.89E-01	1.50E 00
21 8.70 0.	0.	1.24E 00	0.	0.	0.	2.49E 00	3.39E-02	2.67E-01	4.87E-01	1.50E 00
22 8.60 0.	0.	1.37E 00	0.	0.	0.	2.44E 00	3.51E-02	2.60E-01	4.89E-01	1.43E 00
23 8.50 0.	0.	1.10E 00	0.	0.	0.	2.47E 00	3.64E-02	2.69E-01	4.84E-01	1.40E 00
24 8.40 0.	0.	1.00E 00	0.	0.	0.	2.40E 00	3.77E-02	2.70E-01	4.83E-01	1.40E 00
25 8.30 0.	0.	0.89E-01	0.	0.	0.	2.56E 00	3.91E-02	2.72E-01	4.82E-01	1.40E 00
26 8.20 0.	0.	9.10E-01	0.	0.	0.	2.51E 00	4.05E-02	2.74E-01	4.84E-01	1.42E 00
27 8.10 0.	0.	7.72E-01	0.	0.	0.	2.52E 00	4.21E-02	2.75E-01	4.86E-01	1.43E 00
28 8.00 0.	0.	7.72E-01	0.	0.	0.	2.54E 00	4.37E-02	2.78E-01	4.88E-01	1.42E 00
29 7.90 0.	0.	6.95E-01	0.	0.	0.	2.53E 00	4.54E-02	2.81E-01	4.89E-01	1.42E 00
30 7.80 0.	0.	6.74E-01	0.	0.	0.	2.56E 00	4.72E-02	2.85E-01	4.91E-01	1.40E 00
31 7.70 0.	0.	5.82E-01	0.	0.	0.	2.57E 00	4.90E-02	2.89E-01	4.93E-01	1.40E 00
32 7.60 0.	0.	5.17E-01	0.	0.	0.	2.57E 00	5.10E-02	2.93E-01	4.95E-01	1.40E 00
33 7.50 0.	0.	5.00E-01	0.	0.	0.	2.60E 00	5.31E-02	2.97E-01	4.96E-01	1.42E 00
34 7.40 0.	0.	4.44E-01	0.	0.	0.	2.61E 00	5.53E-02	3.01E-01	4.98E-01	1.41E 00
35 7.30 0.	0.	4.16E-01	0.	0.	0.	2.63E 00	5.76E-02	3.05E-01	5.00E-01	1.41E 00
36 7.20 0.	0.	3.71E-01	0.	0.	0.	2.64E 00	6.00E-02	3.08E-01	5.02E-01	1.40E 00
37 7.10 0.	0.	3.92E-01	0.	0.	0.	2.67E 00	6.26E-02	3.12E-01	5.03E-01	1.42E 00
38 7.00 0.	0.	3.80E-01	0.	0.	0.	2.69E 00	6.54E-02	3.16E-01	5.05E-01	1.40E 00
39 6.90 1.31E-04 0.	0.	2.89E-01	0.	0.	0.	2.71E 00	6.83E-02	3.20E-01	5.07E-01	1.40E 00
40 6.80 1.12E-04 0.	0.	2.75E-01	0.	0.	0.	2.73E 00	7.13E-02	3.24E-01	5.09E-01	1.40E 00
41 6.70 6.08E-05 0.	0.	2.37E-01	0.	0.	0.	2.75E 00	7.46E-02	3.28E-01	5.11E-01	1.40E 00
42 6.60 4.80E-05 0.	0.	2.10E-01	0.	0.	0.	2.77E 00	7.81E-02	3.33E-01	5.14E-01	1.41E 00
43 6.50 2.79E-05 0.	0.	1.64E-01	0.	0.	0.	2.80E 00	8.17E-02	3.38E-01	5.16E-01	1.40E 00
44 6.40 1.54E-05 0.	0.	1.11E-01	0.	0.	0.	2.82E 00	8.57E-02	3.42E-01	5.19E-01	1.40E 00
45 6.30 9.05E-06 0.	0.	6.74E-02	0.	0.	0.	2.84E 00	8.99E-02	3.46E-01	5.23E-01	1.40E 00
46 6.20 4.04E-06 0.	0.	3.66E-02	0.	0.	0.	2.86E 00	9.43E-02	3.49E-01	5.28E-01	1.40E 00
47 6.10 1.83E-06 0.	0.	1.89E-02	0.	0.	0.	2.88E 00	9.91E-02	3.52E-01	5.35E-01	1.41E 00
48 6.00 7.54E-07 0.	0.	1.03E-02	0.	0.	0.	2.90E 00	1.04E-01	3.51E-01	5.41E-01	1.40E 00
49 5.90 1.84E-07 0.	0.	3.62E-03	0.	0.	0.	2.90E 00	1.10E-01	1.61E 00	5.47E-01	1.40E 00
50 5.80 2.34E-08 0.	0.	2.08E-02	0.	0.	0.	2.86E 00	1.19E-01	1.62E 00	5.53E-01	1.40E 00
51 5.70 1.72E-09 0.	0.	2.39E-02	0.	0.	0.	2.69E 00	1.22E-01	1.63E 00	5.59E-01	1.42E 00





ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 15000. DENSITY (GM/CC) 1.292E-03 ( 1.0E 00 NORMAL)

PHOTON ENERGY BANDS E.V.	OR S-R	OR S-R COMT.	M2 S-M NO. 1	NO		O- PHOTO-OPT (10WS)	M	O P.E.	TOTAL AIR		
				BETA	GAMMA						
1 18.79 0.	0.	0.	5.74E-02	0.	0.	0.	7.31E-02	1.73E-03	2.13E 01	5.10E-02	2.15E 01
2 18.00 0.	0.	0.	5.17E-02	0.	0.	0.	7.32E-02	1.78E-03	2.62E-01	5.10E-02	4.61E-01
3 18.00 0.	0.	0.	5.10E-02	0.	0.	0.	7.32E-02	1.83E-03	2.62E-01	5.10E-02	4.62E-01
4 18.00 0.	0.	0.	4.80E-02	0.	0.	0.	7.34E-02	1.69E-03	2.64E-01	5.15E-02	4.40E-01
5 18.00 0.	0.	0.	4.10E-02	0.	0.	0.	7.37E-02	1.64E-03	2.69E-01	5.13E-02	4.33E-01
6 18.00 0.	0.	0.	4.20E-02	0.	0.	0.	7.35E-02	2.00E-03	2.64E-01	5.11E-02	4.35E-01
7 18.00 0.	0.	0.	3.90E-02	0.	0.	0.	7.34E-02	2.04E-03	2.64E-01	5.10E-02	4.33E-01
8 18.00 0.	0.	0.	3.42E-02	0.	0.	0.	7.37E-02	2.12E-03	2.57E-01	5.08E-02	4.20E-01
9 9.90 0.	0.	0.	3.52E-02	0.	0.	0.	7.30E-02	2.19E-03	2.67E-01	5.04E-02	4.29E-01
10 9.90 0.	0.	0.	3.37E-02	0.	0.	0.	7.40E-02	2.20E-03	2.60E-01	5.05E-02	4.27E-01
11 9.70 0.	0.	0.	2.70E-02	0.	0.	0.	7.41E-02	2.37E-03	2.69E-01	5.03E-02	4.23E-01
12 9.60 0.	0.	0.	3.00E-02	0.	0.	0.	7.42E-02	2.40E-03	2.69E-01	5.01E-02	4.24E-01
13 9.50 0.	0.	0.	2.52E-02	0.	0.	0.	7.44E-02	2.48E-03	2.74E-01	5.00E-02	4.22E-01
14 9.40 0.	0.	0.	2.44E-02	0.	0.	0.	7.47E-02	2.50E-03	2.73E-01	4.98E-02	4.21E-01
15 9.30 0.	0.	0.	2.40E-02	0.	0.	0.	7.50E-02	2.60E-03	2.72E-01	4.97E-02	4.23E-01
16 9.20 0.	0.	0.	1.95E-02	0.	0.	0.	7.52E-02	2.72E-03	2.72E-01	4.93E-02	4.19E-01
17 9.10 0.	0.	0.	2.00E-02	0.	0.	0.	7.52E-02	2.82E-03	2.72E-01	4.93E-02	4.20E-01
18 9.00 0.	0.	0.	1.70E-02	0.	0.	0.	7.56E-02	2.92E-03	2.80E-02	4.92E-02	4.20E-01
19 9.00 0.	0.	0.	1.64E-02	0.	0.	0.	7.62E-02	3.02E-03	2.80E-02	4.92E-02	4.20E-01
20 8.80 0.	0.	0.	1.85E-02	0.	0.	0.	7.62E-02	3.12E-03	2.80E-02	4.92E-02	4.20E-01
21 8.70 0.	0.	0.	1.36E-02	0.	0.	0.	7.64E-02	3.26E-03	2.80E-02	4.87E-02	4.20E-01
22 8.60 0.	0.	0.	1.40E-02	0.	0.	0.	7.66E-02	3.34E-03	2.80E-02	4.86E-02	4.20E-01
23 8.50 0.	0.	0.	1.21E-02	0.	0.	0.	7.71E-02	3.45E-03	2.80E-02	4.83E-02	4.20E-01
24 8.40 0.	0.	0.	1.19E-02	0.	0.	0.	7.75E-02	3.55E-03	2.80E-02	4.83E-02	4.20E-01
25 8.30 0.	0.	0.	9.25E-03	0.	0.	0.	7.78E-02	3.65E-03	2.80E-02	4.83E-02	4.20E-01
26 8.20 0.	0.	0.	9.95E-03	0.	0.	0.	7.78E-02	3.75E-03	2.80E-02	4.83E-02	4.20E-01
27 8.10 0.	0.	0.	8.49E-03	0.	0.	0.	7.82E-02	3.85E-03	2.80E-02	4.83E-02	4.20E-01
28 8.00 0.	0.	0.	8.40E-03	0.	0.	0.	7.82E-02	3.95E-03	2.80E-02	4.83E-02	4.20E-01
29 7.90 0.	0.	0.	7.10E-03	0.	0.	0.	7.86E-02	4.05E-03	2.80E-02	4.83E-02	4.20E-01
30 7.80 0.	0.	0.	7.30E-03	0.	0.	0.	7.86E-02	4.15E-03	2.80E-02	4.83E-02	4.20E-01
31 7.70 0.	0.	0.	6.30E-03	0.	0.	0.	7.86E-02	4.25E-03	2.80E-02	4.83E-02	4.20E-01
32 7.60 0.	0.	0.	6.01E-03	0.	0.	0.	7.86E-02	4.35E-03	2.80E-02	4.83E-02	4.20E-01
33 7.50 0.	0.	0.	5.49E-03	0.	0.	0.	7.86E-02	4.45E-03	2.80E-02	4.83E-02	4.20E-01
34 7.40 0.	0.	0.	4.80E-03	0.	0.	0.	7.86E-02	4.55E-03	2.80E-02	4.83E-02	4.20E-01
35 7.30 0.	0.	0.	4.57E-03	0.	0.	0.	7.86E-02	4.65E-03	2.80E-02	4.83E-02	4.20E-01
36 7.20 0.	0.	0.	4.87E-03	0.	0.	0.	7.86E-02	4.75E-03	2.80E-02	4.83E-02	4.20E-01
37 7.10 0.	0.	0.	3.87E-03	0.	0.	0.	7.86E-02	4.85E-03	2.80E-02	4.83E-02	4.20E-01
38 7.00 0.	0.	0.	3.90E-03	0.	0.	0.	7.86E-02	4.95E-03	2.80E-02	4.83E-02	4.20E-01
39 6.90 1.31E-06	0.	0.	3.10E-03	0.	0.	0.	7.86E-02	5.05E-03	2.80E-02	4.83E-02	4.20E-01
40 6.80 1.12E-06	0.	0.	3.82E-03	0.	0.	0.	7.86E-02	5.15E-03	2.80E-02	4.83E-02	4.20E-01
41 6.70 8.89E-07	0.	0.	2.61E-03	0.	0.	0.	7.86E-02	5.25E-03	2.80E-02	4.83E-02	4.20E-01
42 6.60 6.69E-07	0.	0.	2.38E-03	0.	0.	0.	7.86E-02	5.35E-03	2.80E-02	4.83E-02	4.20E-01
43 6.50 2.80E-07	0.	0.	1.61E-03	0.	0.	0.	7.86E-02	5.45E-03	2.80E-02	4.83E-02	4.20E-01
44 6.40 1.90E-07	0.	0.	1.22E-03	0.	0.	0.	7.86E-02	5.55E-03	2.80E-02	4.83E-02	4.20E-01
45 6.30 9.00E-08	0.	0.	7.43E-04	0.	0.	0.	7.86E-02	5.65E-03	2.80E-02	4.83E-02	4.20E-01
46 6.20 4.04E-08	0.	0.	4.02E-04	0.	0.	0.	7.86E-02	5.75E-03	2.80E-02	4.83E-02	4.20E-01
47 6.10 1.43E-08	0.	0.	1.89E-04	0.	0.	0.	7.86E-02	5.85E-03	2.80E-02	4.83E-02	4.20E-01
48 6.00 7.50E-09	0.	0.	4.64E-05	0.	0.	0.	7.86E-02	5.95E-03	2.80E-02	4.83E-02	4.20E-01
49 5.90 1.04E-09	0.	0.	3.32E-05	0.	0.	0.	7.86E-02	6.05E-03	2.80E-02	4.83E-02	4.20E-01
50 5.80 2.34E-10	0.	0.	2.10E-05	0.	0.	0.	7.86E-02	6.15E-03	2.80E-02	4.83E-02	4.20E-01
51 5.70 1.72E-11	0.	0.	2.51E-05	0.	0.	0.	7.86E-02	6.25E-03	2.80E-02	4.83E-02	4.20E-01

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 15000. DENSITY (GM/CC) 1.293E-03 ( 1.0E 00 NORMAL)

PHOTON ENERGY	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	M2 2ND NEG.	N1 BETA	M0 GAMMA	M0 VIB-ROT	M0 NO	M0 NO	O-		O		TOTAL AIR
										PHOTO-DET (1/MS)	FREF-FREE (1/MS)	P.E.	P.E.	
52	5.67	7.75E-15	0.	0.	2.00E-04	1.34E-03	0.	0.	7.80E-02	1.22E-02	1.10E-01	5.66E-02	2.98E-01	
53	5.59	0.	0.	0.	2.56E-04	1.28E-03	0.	0.	7.84E-02	1.26E-02	1.12E-01	5.73E-02	2.82E-01	
54	5.43	0.	0.	0.	2.29E-04	9.68E-04	0.	0.	7.98E-02	1.36E-02	1.15E-01	5.89E-02	2.72E-01	
55	5.39	0.	0.	0.	2.51E-04	1.28E-03	0.	0.	7.98E-02	1.44E-02	1.17E-01	5.89E-02	2.72E-01	
56	5.28	0.	0.	0.	2.51E-04	9.13E-04	0.	0.	8.05E-02	1.53E-02	1.20E-01	6.01E-02	2.77E-01	
57	5.19	0.	0.	0.	2.46E-04	1.19E-03	0.	0.	8.13E-02	1.62E-02	1.22E-01	6.12E-02	2.74E-01	
58	5.00	1.95E-05	0.	0.	2.26E-04	1.09E-03	0.	0.	8.13E-02	1.72E-02	1.25E-01	6.24E-02	2.90E-01	
59	4.93	2.48E-05	0.	0.	2.53E-04	1.17E-03	0.	0.	8.19E-02	1.82E-02	1.27E-01	6.35E-02	2.97E-01	
60	4.83	4.53E-05	0.	0.	2.47E-04	1.08E-03	0.	0.	8.25E-02	1.92E-02	1.30E-01	6.46E-02	3.04E-01	
61	4.73	6.81E-05	0.	0.	2.64E-04	9.83E-04	0.	0.	8.32E-02	2.02E-02	1.40E-01	6.66E-02	3.12E-01	
62	4.63	8.15E-05	0.	0.	2.69E-04	9.95E-04	0.	0.	8.39E-02	2.12E-02	1.46E-01	6.83E-02	3.21E-01	
63	4.50	8.47E-05	0.	0.	2.43E-04	6.70E-04	0.	0.	8.44E-02	2.34E-02	1.53E-01	7.10E-02	3.32E-01	
64	4.40	8.93E-05	0.	0.	2.43E-04	4.67E-04	0.	0.	8.52E-02	2.51E-02	1.61E-01	7.18E-02	3.41E-01	
65	4.30	8.38E-05	0.	0.	2.29E-04	2.87E-04	0.	0.	8.59E-02	2.71E-02	1.67E-01	7.34E-02	3.57E-01	
66	4.20	7.72E-05	0.	0.	2.40E-04	2.08E-04	0.	0.	8.68E-02	2.94E-02	1.75E-01	7.59E-02	3.74E-01	
67	4.10	7.18E-05	0.	0.	2.32E-04	5.68E-05	0.	0.	8.69E-02	3.18E-02	1.82E-01	7.82E-02	3.89E-01	
68	4.00	6.59E-05	0.	0.	2.22E-04	4.38E-05	0.	0.	8.73E-02	3.37E-02	1.90E-01	8.04E-02	3.98E-01	
69	3.90	5.98E-05	0.	0.	2.01E-04	1.68E-05	0.	0.	8.69E-02	3.63E-02	1.97E-01	8.26E-02	4.08E-01	
70	3.80	5.08E-05	0.	0.	1.65E-04	0.	0.	0.	8.66E-02	3.94E-02	2.03E-01	8.48E-02	4.19E-01	
71	3.70	5.24E-05	0.	0.	1.95E-04	0.	0.	0.	8.52E-02	4.28E-02	2.07E-01	8.68E-02	4.30E-01	
72	3.63	4.69E-05	0.	0.	1.95E-04	0.	0.	0.	8.38E-02	4.65E-02	2.12E-01	8.87E-02	4.41E-01	
73	3.53	4.33E-05	0.	0.	1.65E-04	1.51E-04	0.	0.	8.25E-02	5.06E-02	2.16E-01	9.05E-02	4.52E-01	
74	3.43	3.92E-05	0.	0.	1.32E-04	1.69E-04	0.	0.	8.12E-02	5.51E-02	2.20E-01	9.22E-02	4.63E-01	
75	3.33	3.11E-05	0.	0.	1.32E-04	1.32E-04	0.	0.	8.00E-02	6.00E-02	2.25E-01	9.39E-02	4.74E-01	
76	3.23	2.48E-05	0.	0.	1.08E-04	1.34E-04	0.	0.	7.88E-02	6.54E-02	2.30E-01	9.56E-02	4.85E-01	
77	3.13	2.54E-05	0.	0.	1.26E-04	0.	0.	0.	7.76E-02	7.12E-02	2.34E-01	9.73E-02	4.96E-01	
78	3.03	2.48E-05	0.	0.	1.44E-04	1.20E-04	0.	0.	7.64E-02	7.74E-02	2.38E-01	9.90E-02	5.07E-01	
79	2.93	1.46E-05	0.	0.	1.68E-04	4.32E-05	0.	0.	7.52E-02	8.40E-02	2.42E-01	1.01E-01	5.18E-01	
80	2.83	1.92E-05	0.	0.	1.68E-04	2.47E-05	0.	0.	7.40E-02	9.10E-02	2.46E-01	1.03E-01	5.29E-01	
81	2.73	1.21E-05	0.	0.	1.98E-04	3.63E-05	0.	0.	7.28E-02	9.84E-02	2.50E-01	1.05E-01	5.40E-01	
82	2.63	5.37E-06	0.	0.	1.98E-05	1.34E-05	0.	0.	7.16E-02	1.06E-01	2.54E-01	1.07E-01	5.51E-01	
83	2.53	3.87E-07	0.	0.	1.09E-05	1.30E-04	0.	0.	7.04E-02	1.14E-01	2.58E-01	1.09E-01	5.62E-01	
84	2.43	0.	0.	0.	2.87E-04	3.42E-07	0.	0.	6.92E-02	1.22E-01	2.62E-01	1.11E-01	5.73E-01	
85	2.33	0.	0.	0.	1.77E-03	0.	0.	0.	6.80E-02	1.30E-01	2.66E-01	1.13E-01	5.84E-01	
86	2.23	0.	0.	0.	4.93E-03	0.	0.	0.	6.68E-02	1.38E-01	2.70E-01	1.15E-01	5.95E-01	
87	2.13	0.	0.	0.	4.93E-03	0.	0.	0.	6.56E-02	1.46E-01	2.74E-01	1.17E-01	6.06E-01	
88	2.03	0.	0.	0.	9.16E-03	0.	0.	0.	6.44E-02	1.54E-01	2.78E-01	1.19E-01	6.17E-01	
89	1.93	0.	0.	0.	1.30E-02	0.	0.	0.	6.32E-02	1.62E-01	2.82E-01	1.21E-01	6.28E-01	
90	1.83	0.	0.	0.	1.89E-02	0.	0.	0.	6.20E-02	1.70E-01	2.86E-01	1.23E-01	6.39E-01	
91	1.73	0.	0.	0.	1.27E-02	0.	0.	0.	6.08E-02	1.78E-01	2.90E-01	1.25E-01	6.50E-01	
92	1.63	0.	0.	0.	9.29E-03	0.	0.	0.	5.96E-02	1.86E-01	2.94E-01	1.27E-01	6.61E-01	
93	1.53	0.	0.	0.	1.09E-02	0.	0.	0.	5.84E-02	1.94E-01	2.98E-01	1.29E-01	6.72E-01	
94	1.43	0.	0.	0.	1.09E-02	0.	0.	0.	5.72E-02	2.02E-01	3.02E-01	1.31E-01	6.83E-01	
95	1.33	0.	0.	0.	9.33E-03	0.	0.	0.	5.60E-02	2.10E-01	3.06E-01	1.33E-01	6.94E-01	
96	1.23	0.	0.	0.	9.01E-03	0.	0.	0.	5.48E-02	2.18E-01	3.10E-01	1.35E-01	7.05E-01	
97	1.13	0.	0.	0.	7.41E-03	0.	0.	0.	5.36E-02	2.26E-01	3.14E-01	1.37E-01	7.16E-01	
98	1.03	0.	0.	0.	5.80E-03	0.	0.	0.	5.24E-02	2.34E-01	3.18E-01	1.39E-01	7.27E-01	
99	0.93	0.	0.	0.	5.59E-03	0.	0.	0.	5.12E-02	2.42E-01	3.22E-01	1.41E-01	7.38E-01	
100	0.83	0.	0.	0.	2.43E-03	0.	0.	0.	5.00E-02	2.50E-01	3.26E-01	1.43E-01	7.49E-01	
101	0.73	0.	0.	0.	3.45E-04	0.	0.	0.	4.88E-02	2.58E-01	3.30E-01	1.45E-01	7.60E-01	
102	0.63	0.	0.	0.	6.29E-04	0.	0.	0.	4.76E-02	2.66E-01	3.34E-01	1.47E-01	7.71E-01	
103	0.53	0.	0.	0.	9.29E-05	0.	0.	0.	4.64E-02	2.74E-01	3.38E-01	1.49E-01	7.82E-01	

ASSUMPTION COEFFICIENTS OF HEATED AIR (TEMPERATURE CH.)  
 TEMPERATURE (DEGREES F) 15000. DENSITY (GM/CC) 1.2928-04 (1.0E-01 NORMAL)

PHOTON RE S-B ENERGY BANDS CONT. E.V.	02 S-B	NO 1	NO DATA	NO GAMMA	NO Z	0- PHOTO-007 (1000)	0- PHOTO-007 (1000)	N	0	TOTAL AIR
1 10.70 0.	0.	4.48E-04	0.	0.	0.	2.00E-03	1.32E-04	1.04E 00	4.00E-03	1.00E 00
2 10.60 0.	0.	4.32E-04	0.	0.	0.	2.00E-03	1.37E-04	2.31E-02	4.70E-03	3.05E-03
3 10.50 0.	0.	4.04E-04	0.	0.	0.	2.01E-03	1.41E-04	2.32E-02	4.77E-03	3.04E-03
4 10.40 0.	0.	3.76E-04	0.	0.	0.	2.01E-03	1.44E-04	2.33E-02	4.79E-03	3.04E-03
5 10.30 0.	0.	3.50E-04	0.	0.	0.	2.01E-03	1.47E-04	2.34E-02	4.74E-03	3.04E-03
6 10.20 0.	0.	3.24E-04	0.	0.	0.	2.01E-03	1.50E-04	2.34E-02	4.72E-03	3.07E-03
7 10.10 0.	0.	3.11E-04	0.	0.	0.	2.02E-03	1.51E-04	2.34E-02	4.71E-03	3.07E-03
8 10.00 0.	0.	2.98E-04	0.	0.	0.	2.02E-03	1.52E-04	2.34E-02	4.69E-03	3.07E-03
9 9.90 0.	0.	2.86E-04	0.	0.	0.	2.02E-03	1.53E-04	2.34E-02	4.68E-03	3.06E-03
10 9.80 0.	0.	2.74E-04	0.	0.	0.	2.02E-03	1.54E-04	2.34E-02	4.66E-03	3.06E-03
11 9.70 0.	0.	2.62E-04	0.	0.	0.	2.02E-03	1.55E-04	2.34E-02	4.65E-03	3.06E-03
12 9.60 0.	0.	2.50E-04	0.	0.	0.	2.02E-03	1.56E-04	2.34E-02	4.64E-03	3.06E-03
13 9.50 0.	0.	2.38E-04	0.	0.	0.	2.02E-03	1.57E-04	2.34E-02	4.63E-03	3.06E-03
14 9.40 0.	0.	2.26E-04	0.	0.	0.	2.02E-03	1.58E-04	2.34E-02	4.62E-03	3.06E-03
15 9.30 0.	0.	2.14E-04	0.	0.	0.	2.02E-03	1.59E-04	2.34E-02	4.61E-03	3.06E-03
16 9.20 0.	0.	2.02E-04	0.	0.	0.	2.02E-03	1.60E-04	2.34E-02	4.60E-03	3.06E-03
17 9.10 0.	0.	1.90E-04	0.	0.	0.	2.02E-03	1.61E-04	2.34E-02	4.59E-03	3.06E-03
18 9.00 0.	0.	1.78E-04	0.	0.	0.	2.02E-03	1.62E-04	2.34E-02	4.58E-03	3.06E-03
19 8.90 0.	0.	1.66E-04	0.	0.	0.	2.02E-03	1.63E-04	2.34E-02	4.57E-03	3.06E-03
20 8.80 0.	0.	1.54E-04	0.	0.	0.	2.02E-03	1.64E-04	2.34E-02	4.56E-03	3.06E-03
21 8.70 0.	0.	1.42E-04	0.	0.	0.	2.02E-03	1.65E-04	2.34E-02	4.55E-03	3.06E-03
22 8.60 0.	0.	1.30E-04	0.	0.	0.	2.02E-03	1.66E-04	2.34E-02	4.54E-03	3.06E-03
23 8.50 0.	0.	1.18E-04	0.	0.	0.	2.02E-03	1.67E-04	2.34E-02	4.53E-03	3.06E-03
24 8.40 0.	0.	1.06E-04	0.	0.	0.	2.02E-03	1.68E-04	2.34E-02	4.52E-03	3.06E-03
25 8.30 0.	0.	9.4E-05	0.	0.	0.	2.02E-03	1.69E-04	2.34E-02	4.51E-03	3.06E-03
26 8.20 0.	0.	8.2E-05	0.	0.	0.	2.02E-03	1.70E-04	2.34E-02	4.50E-03	3.06E-03
27 8.10 0.	0.	7.0E-05	0.	0.	0.	2.02E-03	1.71E-04	2.34E-02	4.49E-03	3.06E-03
28 8.00 0.	0.	5.8E-05	0.	0.	0.	2.02E-03	1.72E-04	2.34E-02	4.48E-03	3.06E-03
29 7.90 0.	0.	4.6E-05	0.	0.	0.	2.02E-03	1.73E-04	2.34E-02	4.47E-03	3.06E-03
30 7.80 0.	0.	3.4E-05	0.	0.	0.	2.02E-03	1.74E-04	2.34E-02	4.46E-03	3.06E-03
31 7.70 0.	0.	2.2E-05	0.	0.	0.	2.02E-03	1.75E-04	2.34E-02	4.45E-03	3.06E-03
32 7.60 0.	0.	1.0E-05	0.	0.	0.	2.02E-03	1.76E-04	2.34E-02	4.44E-03	3.06E-03
33 7.50 0.	0.	0.0E-05	0.	0.	0.	2.02E-03	1.77E-04	2.34E-02	4.43E-03	3.06E-03
34 7.40 0.	0.	0.0E-05	0.	0.	0.	2.02E-03	1.78E-04	2.34E-02	4.42E-03	3.06E-03
35 7.30 0.	0.	0.0E-05	0.	0.	0.	2.02E-03	1.79E-04	2.34E-02	4.41E-03	3.06E-03
36 7.20 0.	0.	0.0E-05	0.	0.	0.	2.02E-03	1.80E-04	2.34E-02	4.40E-03	3.06E-03
37 7.10 0.	0.	0.0E-05	0.	0.	0.	2.02E-03	1.81E-04	2.34E-02	4.39E-03	3.06E-03
38 7.00 0.	0.	0.0E-05	0.	0.	0.	2.02E-03	1.82E-04	2.34E-02	4.38E-03	3.06E-03
39 6.90 0.	0.	0.0E-05	0.	0.	0.	2.02E-03	1.83E-04	2.34E-02	4.37E-03	3.06E-03
40 6.80 0.	0.	0.0E-05	0.	0.	0.	2.02E-03	1.84E-04	2.34E-02	4.36E-03	3.06E-03
41 6.70 0.	0.	0.0E-05	0.	0.	0.	2.02E-03	1.85E-04	2.34E-02	4.35E-03	3.06E-03
42 6.60 0.	0.	0.0E-05	0.	0.	0.	2.02E-03	1.86E-04	2.34E-02	4.34E-03	3.06E-03
43 6.50 0.	0.	0.0E-05	0.	0.	0.	2.02E-03	1.87E-04	2.34E-02	4.33E-03	3.06E-03
44 6.40 0.	0.	0.0E-05	0.	0.	0.	2.02E-03	1.88E-04	2.34E-02	4.32E-03	3.06E-03
45 6.30 0.	0.	0.0E-05	0.	0.	0.	2.02E-03	1.89E-04	2.34E-02	4.31E-03	3.06E-03
46 6.20 0.	0.	0.0E-05	0.	0.	0.	2.02E-03	1.90E-04	2.34E-02	4.30E-03	3.06E-03
47 6.10 0.	0.	0.0E-05	0.	0.	0.	2.02E-03	1.91E-04	2.34E-02	4.29E-03	3.06E-03
48 6.00 0.	0.	0.0E-05	0.	0.	0.	2.02E-03	1.92E-04	2.34E-02	4.28E-03	3.06E-03
49 5.90 0.	0.	0.0E-05	0.	0.	0.	2.02E-03	1.93E-04	2.34E-02	4.27E-03	3.06E-03
50 5.80 0.	0.	0.0E-05	0.	0.	0.	2.02E-03	1.94E-04	2.34E-02	4.26E-03	3.06E-03
51 5.70 0.	0.	0.0E-05	0.	0.	0.	2.02E-03	1.95E-04	2.34E-02	4.25E-03	3.06E-03







ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 15000. DENSITY (GM/CC) 1.293E-06 (18.0E-04 NORMAL)

PHOTON ENERGY E.V.	OS 3-R CONT.	MZ 0-M NO. 1	NO BETA	NO B/MNA	NO Z	O- PHOTO-OET (TMS)	M P.E.	O P.E.	TOTAL AIR
1 10.70 0.	0.	2.16E-09	0.	0.	0.	2.97E-07	3.93E-07	5.07E-05	1.40E-05
2 13.00 0.	0.	1.94E-09	0.	0.	0.	2.97E-07	3.63E-07	5.09E-05	1.47E-05
3 10.70 0.	0.	1.95E-09	0.	0.	0.	2.96E-07	3.74E-07	5.12E-05	1.47E-05
4 10.48 0.	0.	1.82E-09	0.	0.	0.	2.96E-07	3.65E-07	5.14E-05	1.46E-05
5 10.48 0.	0.	1.97E-09	0.	0.	0.	2.96E-07	3.54E-07	5.15E-05	1.44E-05
6 10.28 0.	0.	1.61E-09	0.	0.	0.	2.96E-07	4.08E-07	5.15E-05	1.45E-05
7 10.10 0.	0.	1.50E-09	0.	0.	0.	2.96E-07	4.28E-07	5.15E-05	1.45E-05
8 10.00 0.	0.	1.30E-09	0.	0.	0.	3.00E-07	4.33E-07	5.17E-05	1.44E-05
9 9.90 0.	0.	1.32E-09	0.	0.	0.	3.01E-07	4.40E-07	5.16E-05	1.44E-05
10 9.70 0.	0.	1.23E-09	0.	0.	0.	3.01E-07	4.60E-07	5.19E-05	1.44E-05
11 9.70 0.	0.	1.04E-09	0.	0.	0.	3.01E-07	4.79E-07	5.21E-05	1.43E-05
12 9.60 0.	0.	1.13E-09	0.	0.	0.	3.02E-07	4.90E-07	5.23E-05	1.43E-05
13 9.50 0.	0.	0.48E-10	0.	0.	0.	3.02E-07	5.02E-07	5.24E-05	1.42E-05
14 9.40 0.	0.	0.89E-10	0.	0.	0.	3.04E-07	5.22E-07	5.25E-05	1.42E-05
15 9.30 0.	0.	0.93E-10	0.	0.	0.	3.05E-07	5.39E-07	5.27E-05	1.41E-05
16 9.20 0.	0.	7.31E-10	0.	0.	0.	3.06E-07	5.57E-07	5.28E-05	1.41E-05
17 9.10 0.	0.	7.51E-10	0.	0.	0.	3.07E-07	5.75E-07	5.28E-05	1.40E-05
18 9.00 0.	0.	6.74E-10	0.	0.	0.	3.08E-07	5.92E-07	5.29E-05	1.40E-05
19 8.90 0.	0.	6.13E-10	0.	0.	0.	3.09E-07	6.12E-07	5.29E-05	1.39E-05
20 8.80 0.	0.	6.01E-10	0.	0.	0.	3.10E-07	6.33E-07	5.29E-05	1.39E-05
21 8.70 0.	0.	5.13E-10	0.	0.	0.	3.11E-07	6.56E-07	5.29E-05	1.39E-05
22 8.60 0.	0.	5.24E-10	0.	0.	0.	3.12E-07	6.80E-07	5.29E-05	1.38E-05
23 8.50 0.	0.	4.53E-10	0.	0.	0.	3.13E-07	7.06E-07	5.29E-05	1.38E-05
24 8.40 0.	0.	4.47E-10	0.	0.	0.	3.15E-07	7.33E-07	5.29E-05	1.37E-05
25 8.30 0.	0.	3.73E-10	0.	0.	0.	3.17E-07	7.62E-07	5.29E-05	1.37E-05
26 8.20 0.	0.	3.73E-10	0.	0.	0.	3.18E-07	7.92E-07	5.29E-05	1.36E-05
27 8.10 0.	0.	3.19E-10	0.	0.	0.	3.20E-07	8.24E-07	5.29E-05	1.36E-05
28 8.00 0.	0.	3.19E-10	0.	0.	0.	3.22E-07	8.58E-07	5.29E-05	1.35E-05
29 7.90 0.	0.	2.70E-10	0.	0.	0.	3.23E-07	8.94E-07	5.29E-05	1.35E-05
30 7.80 0.	0.	2.70E-10	0.	0.	0.	3.25E-07	9.32E-07	5.29E-05	1.40E-05
31 7.70 0.	0.	2.40E-10	0.	0.	0.	3.27E-07	9.72E-07	5.29E-05	1.40E-05
32 7.60 0.	0.	2.26E-10	0.	0.	0.	3.29E-07	1.01E-06	5.29E-05	1.41E-05
33 7.50 0.	0.	2.06E-10	0.	1.49E-14	0.	3.30E-07	1.05E-06	5.29E-05	1.41E-05
34 7.40 0.	0.	1.83E-10	0.	4.13E-13	0.	3.32E-07	1.09E-06	5.29E-05	1.42E-05
35 7.30 0.	0.	1.72E-10	0.	1.76E-11	0.	3.34E-07	1.14E-06	5.29E-05	1.42E-05
36 7.20 0.	0.	1.93E-10	0.	4.72E-12	0.	3.36E-07	1.19E-06	5.29E-05	1.43E-05
37 7.10 0.	0.	1.45E-10	0.	1.43E-11	0.	3.38E-07	1.25E-06	5.29E-05	1.43E-05
38 7.00 0.	0.	1.32E-10	0.	3.07E-11	0.	3.41E-07	1.31E-06	5.29E-05	1.44E-05
39 6.90 0.	0.	1.19E-10	0.	3.01E-11	0.	3.44E-07	1.38E-06	5.29E-05	1.44E-05
40 6.80 0.	0.	1.13E-10	0.	7.20E-11	0.	3.46E-07	1.45E-06	5.29E-05	1.45E-05
41 6.70 0.	0.	0.79E-11	0.	7.91E-11	0.	3.48E-07	1.53E-06	5.29E-05	1.46E-05
42 6.60 0.	0.	0.66E-11	0.	8.67E-11	0.	3.52E-07	1.61E-06	5.29E-05	1.46E-05
43 6.50 0.	0.	6.70E-11	0.	8.66E-11	0.	3.55E-07	1.69E-06	5.29E-05	1.47E-05
44 6.40 0.	0.	4.50E-11	0.	3.95E-13	0.	3.57E-07	1.78E-06	5.29E-05	1.48E-05
45 6.30 0.	0.	2.79E-11	0.	1.62E-12	0.	3.60E-07	1.87E-06	5.29E-05	1.49E-05
46 6.20 0.	0.	1.51E-11	0.	2.26E-12	0.	3.63E-07	1.97E-06	5.29E-05	1.50E-05
47 6.10 0.	0.	6.95E-12	0.	8.40E-12	0.	3.66E-07	2.07E-06	5.29E-05	1.52E-05
48 6.00 0.	0.	1.74E-12	0.	1.97E-12	0.	3.68E-07	2.18E-06	5.29E-05	1.54E-05
49 5.90 0.	0.	1.25E-13	0.	6.67E-12	0.	3.69E-07	2.29E-06	5.29E-05	1.56E-05
50 5.80 0.	0.	3.12E-15	0.	1.20E-11	0.	3.63E-07	2.41E-06	5.29E-05	1.57E-05
51 5.70 0.	0.	1.39E-10	0.	1.30E-11	0.	3.41E-07	2.34E-06	5.29E-05	1.59E-05

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM)  
 TEMPERATURE (DEGREES K) 15000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON ENERGY	N2 POS. 1ST	N2 POS. 2ND	N2 POS. 3RD	ETA	NO GAMMA	NO 1/4-ROT	NO 2	0- PHOTO-NET (1/MS)	M P.E.	0 P.F.	TOTAL AIR		
52	5.60	4.26E-20	0.	0.	1.15E-11	7.47E-11	0.	0.	3.17E-07	2.49E-06	2.13E-05	1.61E-05	4.02E-05
53	5.50	0.	0.	0.	1.40E-11	6.96E-11	0.	0.	3.19E-07	2.43E-06	2.17E-05	1.63E-05	4.10E-05
54	5.47	0.	0.	0.	1.20E-11	5.44E-11	0.	0.	3.20E-07	2.78E-06	2.72E-05	1.65E-05	4.19E-05
55	5.37	0.	0.	0.	1.23E-11	7.07E-11	0.	0.	3.22E-07	2.94E-06	2.20E-05	1.68E-05	4.28E-05
56	5.20	0.	0.	0.	1.38E-11	5.03E-11	0.	0.	3.24E-07	3.12E-06	2.33E-05	1.71E-05	4.38E-05
57	5.10	0.	0.	0.	1.37E-11	6.59E-11	0.	0.	3.27E-07	3.30E-06	2.48E-05	1.74E-05	4.50E-05
58	5.00	4.30E-15	0.	0.	1.75E-11	6.03E-11	0.	0.	3.30E-07	3.51E-06	2.47E-05	1.77E-05	4.63E-05
59	4.90	1.99E-12	0.	0.	1.36E-11	6.46E-11	0.	0.	3.33E-07	3.73E-06	2.55E-05	1.81E-05	4.76E-05
60	4.80	3.56E-12	0.	0.	1.47E-11	6.03E-11	0.	0.	3.35E-07	3.97E-06	2.64E-05	1.85E-05	4.91E-05
61	4.70	4.66E-12	0.	0.	1.45E-11	5.42E-11	0.	0.	3.38E-07	4.23E-06	2.72E-05	1.89E-05	5.07E-05
62	4.60	6.59E-12	0.	0.	1.48E-11	4.93E-11	0.	0.	3.41E-07	4.51E-06	2.83E-05	1.94E-05	5.24E-05
63	4.54	6.85E-12	0.	3.90E-12	1.54E-11	5.69E-11	0.	0.	3.44E-07	4.82E-06	2.96E-05	1.99E-05	5.47E-05
64	4.40	7.22E-12	0.	2.78E-11	1.54E-11	2.37E-11	0.	0.	3.46E-07	5.16E-06	3.09E-05	2.04E-05	5.69E-05
65	4.30	6.79E-12	0.	4.52E-11	1.26E-11	1.59E-11	0.	0.	3.49E-07	5.53E-06	3.24E-05	2.09E-05	5.92E-05
66	4.20	5.24E-12	0.	2.60E-10	1.32E-11	1.14E-11	0.	0.	3.52E-07	5.94E-06	3.39E-05	2.15E-05	6.16E-05
67	4.10	5.61E-12	0.	1.17E-10	1.20E-11	3.12E-12	0.	0.	3.55E-07	6.39E-06	3.53E-05	2.17E-05	6.37E-05
68	4.00	5.30E-12	0.	4.13E-10	1.22E-11	2.37E-12	0.	0.	3.58E-07	6.88E-06	3.68E-05	2.17E-05	6.55E-05
69	3.90	4.48E-12	0.	1.89E-10	1.11E-11	6.27E-13	0.	0.	3.62E-07	7.39E-06	3.83E-05	2.17E-05	6.70E-05
70	3.80	4.49E-12	0.	2.96E-10	8.74E-09	1.19E-11	0.	0.	3.67E-07	8.04E-06	4.00E-05	2.17E-05	6.95E-05
71	3.73	4.24E-12	0.	3.23E-10	3.14E-09	9.52E-12	0.	0.	3.72E-07	8.72E-06	4.18E-05	2.17E-05	7.20E-05
72	3.69	3.79E-12	0.	2.14E-10	1.79E-08	1.08E-11	0.	0.	3.77E-07	9.47E-06	4.37E-05	2.17E-05	7.45E-05
73	3.60	3.50E-12	0.	2.92E-10	3.65E-08	3.31E-12	0.	0.	3.82E-07	1.03E-05	4.57E-05	2.17E-05	7.70E-05
74	3.47	3.17E-12	0.	1.76E-10	4.92E-09	9.29E-12	0.	0.	3.87E-07	1.13E-05	4.78E-05	2.17E-05	7.95E-05
75	3.30	2.55E-12	0.	1.82E-10	2.07E-08	7.30E-12	0.	0.	3.92E-07	1.23E-05	4.99E-05	2.17E-05	8.20E-05
76	3.23	2.18E-12	0.	1.16E-10	3.81E-09	7.60E-12	0.	0.	3.97E-07	1.34E-05	5.20E-05	2.17E-05	8.45E-05
77	3.19	2.05E-12	0.	4.95E-11	7.74E-09	7.11E-12	0.	0.	4.02E-07	1.44E-05	5.41E-05	2.17E-05	8.70E-05
78	3.09	1.81E-12	0.	5.41E-11	2.80E-08	6.61E-12	0.	0.	4.07E-07	1.55E-05	5.62E-05	2.17E-05	8.95E-05
79	2.99	1.50E-12	0.	3.34E-11	1.13E-08	4.94E-12	0.	0.	4.12E-07	1.67E-05	5.83E-05	2.17E-05	9.20E-05
80	2.90	1.55E-12	0.	1.60E-11	6.49E-09	3.13E-12	0.	0.	4.17E-07	1.79E-05	6.04E-05	2.17E-05	9.45E-05
81	2.70	9.79E-13	0.	7.46E-12	9.54E-09	1.77E-12	0.	0.	4.22E-07	1.92E-05	6.25E-05	2.17E-05	9.70E-05
82	2.61	4.50E-13	0.	3.68E-12	9.32E-10	7.62E-13	0.	0.	4.27E-07	2.04E-05	6.46E-05	2.17E-05	9.95E-05
83	2.59	3.13E-14	0.	4.10E-13	8.46E-10	1.79E-13	0.	0.	4.32E-07	2.16E-05	6.67E-05	2.17E-05	1.02E-04
84	2.43	0.	0.	1.94E-11	7.54E-10	1.69E-14	0.	0.	4.37E-07	2.28E-05	6.88E-05	2.17E-05	1.04E-04
85	2.37	0.	0.	6.64E-11	0.	0.	0.	0.	4.42E-07	2.40E-05	7.09E-05	2.17E-05	1.06E-04
86	2.29	0.	0.	1.69E-10	0.	0.	0.	0.	4.47E-07	2.52E-05	7.30E-05	2.17E-05	1.08E-04
87	2.13	0.	0.	1.85E-10	0.	0.	0.	0.	4.52E-07	2.64E-05	7.51E-05	2.17E-05	1.10E-04
88	2.07	0.	0.	3.52E-10	0.	0.	0.	0.	4.57E-07	2.76E-05	7.72E-05	2.17E-05	1.12E-04
89	1.94	0.	0.	4.89E-10	0.	0.	0.	0.	4.62E-07	2.88E-05	7.93E-05	2.17E-05	1.14E-04
90	1.83	0.	0.	4.07E-10	0.	0.	0.	0.	4.67E-07	3.00E-05	8.14E-05	2.17E-05	1.16E-04
91	1.73	0.	0.	4.79E-10	0.	0.	0.	0.	4.72E-07	3.12E-05	8.35E-05	2.17E-05	1.18E-04
92	1.60	0.	0.	3.49E-10	0.	0.	0.	0.	4.77E-07	3.24E-05	8.56E-05	2.17E-05	1.20E-04
93	1.53	0.	0.	4.02E-10	0.	0.	0.	0.	4.82E-07	3.36E-05	8.77E-05	2.17E-05	1.22E-04
94	1.49	0.	0.	4.02E-10	0.	0.	0.	0.	4.87E-07	3.48E-05	8.98E-05	2.17E-05	1.24E-04
95	1.34	0.	0.	3.13E-10	0.	0.	0.	0.	4.92E-07	3.60E-05	9.19E-05	2.17E-05	1.26E-04
96	1.27	0.	0.	3.01E-10	0.	0.	0.	0.	4.97E-07	3.72E-05	9.40E-05	2.17E-05	1.28E-04
97	1.13	0.	0.	2.74E-10	0.	0.	0.	0.	5.02E-07	3.84E-05	9.61E-05	2.17E-05	1.30E-04
98	1.03	0.	0.	2.55E-10	0.	0.	0.	0.	5.07E-07	3.96E-05	9.82E-05	2.17E-05	1.32E-04
99	0.93	0.	0.	2.10E-10	0.	0.	0.	0.	5.12E-07	4.08E-05	1.00E-04	2.17E-05	1.34E-04
100	0.93	0.	0.	2.10E-10	0.	0.	0.	0.	5.17E-07	4.20E-05	1.02E-04	2.17E-05	1.36E-04
101	0.73	0.	0.	2.07E-11	0.	0.	0.	0.	5.22E-07	4.32E-05	1.04E-04	2.17E-05	1.38E-04
102	0.73	0.	0.	2.35E-11	0.	0.	0.	0.	5.27E-07	4.44E-05	1.06E-04	2.17E-05	1.40E-04
103	0.63	0.	0.	3.49E-12	0.	0.	0.	0.	5.32E-07	4.56E-05	1.08E-04	2.17E-05	1.42E-04
104	0.63	0.	0.	3.49E-12	0.	0.	0.	0.	5.37E-07	4.68E-05	1.10E-04	2.17E-05	1.44E-04



TEMPERATURE (CELSIUS) 15000. DENSITY (GM/CC) 1.2930-07 (10.0E-03 NORMAL)

PHOTON ENERGY E.V.	OS S-R BANDS	OS S-R CONT.	NO. 1	NO. 2		NO. 3	FREE-FREE P.E.	NO. 4	NO. 5		TOTAL AIR S.E.
				BETA	GAMMA				PHOTO-DET (IONS)	P.E.	
1 10.70 0.	0.	0.	0.	0.	0.	5.73E-10	5.19E-09	7.41E-07	2.35E-07	2.35E-07	9.02E-07
2 10.40 0.	0.	0.	0.	0.	0.	5.74E-10	5.19E-09	7.45E-07	2.35E-07	2.35E-07	9.02E-07
3 10.50 0.	0.	0.	0.	0.	0.	5.75E-10	5.19E-09	7.37E-07	2.34E-07	2.34E-07	8.72E-07
4 10.40 0.	0.	0.	0.	0.	0.	5.76E-10	5.19E-09	7.30E-07	2.33E-07	2.33E-07	8.74E-07
5 10.30 0.	0.	0.	0.	0.	0.	5.78E-10	5.19E-09	7.42E-07	2.32E-07	2.32E-07	8.79E-07
6 10.20 0.	0.	0.	0.	0.	0.	5.77E-10	5.19E-09	7.42E-07	2.32E-07	2.32E-07	8.80E-07
7 10.10 0.	0.	0.	0.	0.	0.	5.79E-10	5.19E-09	7.44E-07	2.31E-07	2.31E-07	8.82E-07
8 10.00 0.	0.	0.	0.	0.	0.	5.80E-10	5.19E-09	7.47E-07	2.30E-07	2.30E-07	8.84E-07
9 9.90 0.	0.	0.	0.	0.	0.	5.81E-10	5.19E-09	7.49E-07	2.29E-07	2.29E-07	8.85E-07
10 9.80 0.	0.	0.	0.	0.	0.	5.82E-10	5.19E-09	7.51E-07	2.28E-07	2.28E-07	8.87E-07
11 9.70 0.	0.	0.	0.	0.	0.	5.83E-10	5.19E-09	7.52E-07	2.27E-07	2.27E-07	8.88E-07
12 9.60 0.	0.	0.	0.	0.	0.	5.84E-10	5.19E-09	7.53E-07	2.26E-07	2.26E-07	8.90E-07
13 9.50 0.	0.	0.	0.	0.	0.	5.85E-10	5.19E-09	7.55E-07	2.25E-07	2.25E-07	8.91E-07
14 9.40 0.	0.	0.	0.	0.	0.	5.86E-10	5.19E-09	7.56E-07	2.24E-07	2.24E-07	8.92E-07
15 9.30 0.	0.	0.	0.	0.	0.	5.88E-10	5.19E-09	7.58E-07	2.23E-07	2.23E-07	8.93E-07
16 9.20 0.	0.	0.	0.	0.	0.	5.90E-10	5.19E-09	7.59E-07	2.22E-07	2.22E-07	8.94E-07
17 9.10 0.	0.	0.	0.	0.	0.	5.92E-10	5.19E-09	7.61E-07	2.21E-07	2.21E-07	8.95E-07
18 9.00 0.	0.	0.	0.	0.	0.	5.93E-10	5.19E-09	7.62E-07	2.20E-07	2.20E-07	8.96E-07
19 8.90 0.	0.	0.	0.	0.	0.	5.95E-10	5.19E-09	7.64E-07	2.19E-07	2.19E-07	8.97E-07
20 8.80 0.	0.	0.	0.	0.	0.	5.97E-10	5.19E-09	7.66E-07	2.18E-07	2.18E-07	8.98E-07
21 8.70 0.	0.	0.	0.	0.	0.	5.99E-10	5.19E-09	7.67E-07	2.17E-07	2.17E-07	8.99E-07
22 8.60 0.	0.	0.	0.	0.	0.	6.01E-10	5.19E-09	7.69E-07	2.16E-07	2.16E-07	9.00E-07
23 8.50 0.	0.	0.	0.	0.	0.	6.03E-10	5.19E-09	7.71E-07	2.15E-07	2.15E-07	9.01E-07
24 8.40 0.	0.	0.	0.	0.	0.	6.05E-10	5.19E-09	7.73E-07	2.14E-07	2.14E-07	9.02E-07
25 8.30 0.	0.	0.	0.	0.	0.	6.07E-10	5.19E-09	7.75E-07	2.13E-07	2.13E-07	9.03E-07
26 8.20 0.	0.	0.	0.	0.	0.	6.10E-10	5.19E-09	7.78E-07	2.12E-07	2.12E-07	9.04E-07
27 8.10 0.	0.	0.	0.	0.	0.	6.12E-10	5.19E-09	7.80E-07	2.11E-07	2.11E-07	9.05E-07
28 8.00 0.	0.	0.	0.	0.	0.	6.15E-10	5.19E-09	7.83E-07	2.10E-07	2.10E-07	9.06E-07
29 7.90 0.	0.	0.	0.	0.	0.	6.17E-10	5.19E-09	7.85E-07	2.09E-07	2.09E-07	9.07E-07
30 7.80 0.	0.	0.	0.	0.	0.	6.20E-10	5.19E-09	7.88E-07	2.08E-07	2.08E-07	9.08E-07
31 7.70 0.	0.	0.	0.	0.	0.	6.22E-10	5.19E-09	7.90E-07	2.07E-07	2.07E-07	9.09E-07
32 7.60 0.	0.	0.	0.	0.	0.	6.25E-10	5.19E-09	7.93E-07	2.06E-07	2.06E-07	9.10E-07
33 7.50 0.	0.	0.	0.	0.	0.	6.27E-10	5.19E-09	7.95E-07	2.05E-07	2.05E-07	9.11E-07
34 7.40 0.	0.	0.	0.	0.	0.	6.30E-10	5.19E-09	7.98E-07	2.04E-07	2.04E-07	9.12E-07
35 7.30 0.	0.	0.	0.	0.	0.	6.32E-10	5.19E-09	8.00E-07	2.03E-07	2.03E-07	9.13E-07
36 7.20 0.	0.	0.	0.	0.	0.	6.35E-10	5.19E-09	8.03E-07	2.02E-07	2.02E-07	9.14E-07
37 7.10 0.	0.	0.	0.	0.	0.	6.37E-10	5.19E-09	8.05E-07	2.01E-07	2.01E-07	9.15E-07
38 7.00 1.39E-17	0.	0.	3.42E-10	1.29E-17	0.	6.37E-10	5.19E-09	8.05E-07	2.01E-07	2.01E-07	9.15E-07
39 6.90 2.70E-17	0.	0.	7.04E-15	9.49E-17	0.	6.41E-10	5.19E-09	8.08E-07	2.00E-07	2.00E-07	9.16E-07
40 6.80 2.30E-17	0.	0.	1.65E-14	4.03E-16	0.	6.44E-10	5.19E-09	8.11E-07	1.99E-07	1.99E-07	9.17E-07
41 6.70 1.64E-17	0.	0.	1.72E-14	1.30E-14	0.	6.48E-10	5.19E-09	8.15E-07	1.98E-07	1.98E-07	9.18E-07
42 6.60 1.02E-17	0.	0.	1.70E-14	2.03E-14	0.	6.52E-10	5.19E-09	8.19E-07	1.97E-07	1.97E-07	9.19E-07
43 6.50 5.75E-18	0.	0.	1.41E-14	8.03E-17	0.	6.56E-10	5.19E-09	8.23E-07	1.96E-07	1.96E-07	9.20E-07
44 6.40 3.25E-18	0.	0.	5.70E-15	3.71E-16	0.	6.60E-10	5.19E-09	8.27E-07	1.95E-07	1.95E-07	9.21E-07
45 6.30 1.66E-18	0.	0.	1.44E-15	5.19E-16	0.	6.64E-10	5.19E-09	8.31E-07	1.94E-07	1.94E-07	9.22E-07
46 6.20 8.31E-19	0.	0.	1.44E-15	1.44E-14	0.	6.68E-10	5.19E-09	8.35E-07	1.93E-07	1.93E-07	9.23E-07
47 6.10 3.74E-19	0.	0.	1.47E-15	2.40E-14	0.	6.72E-10	5.19E-09	8.39E-07	1.92E-07	1.92E-07	9.24E-07
48 6.00 1.55E-19	0.	0.	1.37E-15	1.12E-14	0.	6.76E-10	5.19E-09	8.43E-07	1.91E-07	1.91E-07	9.25E-07
49 5.90 3.79E-20	0.	0.	1.99E-15	1.11E-14	0.	6.80E-10	5.19E-09	8.47E-07	1.90E-07	1.90E-07	9.26E-07
50 5.80 1.82E-20	0.	0.	2.76E-15	1.12E-14	0.	6.84E-10	5.19E-09	8.51E-07	1.89E-07	1.89E-07	9.27E-07
51 5.70 3.54E-22	0.	0.	3.17E-15	1.25E-14	0.	6.88E-10	5.19E-09	8.55E-07	1.88E-07	1.88E-07	9.28E-07

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY	M2 POS.		M2 NEG.	BETA		NO GAMMA	NO VIR-ROT	NO Z	D- FRES-FRES		M P.E.	N P.F.	TOTAL AIR
	1ST	2ND		1ST	2ND				PHOTO-DET	(FNMS)			
52	5.63	1.59E-23	0.	0.	2.83E-15	1.71E-14	0.	0.	6.12E-10	3.66E-08	3.07E-07	2.58E-07	6.08E-07
53	5.53	0.	0.	0.	3.21E-15	1.40E-14	0.	0.	6.19E-10	3.06E-08	3.13E-07	2.59E-07	6.11E-07
54	5.43	0.	0.	0.	2.90E-15	1.25E-14	0.	0.	6.19E-10	4.09E-08	3.20E-07	2.63E-07	6.25E-07
55	5.33	0.	0.	0.	2.97E-15	1.22E-14	0.	0.	6.28E-10	4.35E-08	3.26E-07	2.67E-07	6.38E-07
56	5.23	0.	0.	0.	3.17E-15	1.19E-14	0.	0.	6.27E-10	4.59E-08	3.30E-07	2.72E-07	6.55E-07
57	5.13	0.	0.	0.	3.45E-15	1.10E-14	0.	0.	6.32E-10	4.85E-08	3.45E-07	2.78E-07	6.72E-07
58	5.03	2.11E-16	0.	0.	3.86E-15	1.04E-14	0.	0.	6.37E-10	5.15E-08	3.64E-07	2.83E-07	6.91E-07
59	4.93	0.55E-14	0.	0.	4.40E-15	1.00E-14	0.	0.	6.42E-10	5.47E-08	3.87E-07	2.88E-07	7.11E-07
60	4.83	0.10E-16	0.	0.	5.07E-15	1.00E-14	0.	0.	6.48E-10	5.82E-08	4.14E-07	2.94E-07	7.33E-07
61	4.73	1.30E-15	0.	0.	5.88E-15	1.00E-14	0.	0.	6.55E-10	6.20E-08	4.46E-07	3.01E-07	7.57E-07
62	4.63	1.58E-15	0.	0.	6.85E-15	1.00E-14	0.	0.	6.63E-10	6.62E-08	4.84E-07	3.08E-07	7.84E-07
63	4.53	1.74E-15	0.	0.	8.00E-15	1.00E-14	0.	0.	6.72E-10	7.09E-08	5.27E-07	3.17E-07	8.15E-07
64	4.43	1.84E-15	0.	0.	9.35E-15	1.00E-14	0.	0.	6.82E-10	7.61E-08	5.76E-07	3.28E-07	8.48E-07
65	4.33	1.91E-15	0.	0.	1.09E-14	1.00E-14	0.	0.	6.94E-10	8.18E-08	6.31E-07	3.40E-07	8.87E-07
66	4.23	1.99E-15	0.	0.	1.27E-14	1.00E-14	0.	0.	7.08E-10	8.81E-08	6.93E-07	3.53E-07	9.31E-07
67	4.13	1.98E-15	0.	0.	1.48E-14	1.00E-14	0.	0.	7.24E-10	9.50E-08	7.64E-07	3.67E-07	9.80E-07
68	4.03	1.95E-15	0.	0.	1.72E-14	1.00E-14	0.	0.	7.42E-10	1.03E-07	8.45E-07	3.82E-07	1.03E-07
69	3.93	1.93E-15	0.	0.	2.00E-14	1.00E-14	0.	0.	7.62E-10	1.12E-07	9.37E-07	3.98E-07	1.08E-07
70	3.83	1.92E-15	0.	0.	2.33E-14	1.00E-14	0.	0.	7.84E-10	1.23E-07	1.04E-07	4.15E-07	1.14E-07
71	3.73	1.90E-15	0.	0.	2.72E-14	1.00E-14	0.	0.	8.08E-10	1.36E-07	1.16E-07	4.34E-07	1.21E-07
72	3.63	0.93E-16	0.	0.	3.18E-14	1.00E-14	0.	0.	8.34E-10	1.51E-07	1.30E-07	4.54E-07	1.29E-07
73	3.53	0.90E-16	0.	0.	3.72E-14	1.00E-14	0.	0.	8.62E-10	1.68E-07	1.46E-07	4.76E-07	1.38E-07
74	3.43	0.85E-16	0.	0.	4.35E-14	1.00E-14	0.	0.	8.92E-10	1.88E-07	1.64E-07	4.99E-07	1.48E-07
75	3.33	0.80E-16	0.	0.	5.08E-14	1.00E-14	0.	0.	9.24E-10	2.11E-07	1.84E-07	5.24E-07	1.59E-07
76	3.23	0.80E-16	0.	0.	5.92E-14	1.00E-14	0.	0.	9.58E-10	2.37E-07	2.07E-07	5.51E-07	1.72E-07
77	3.13	0.82E-16	0.	0.	6.88E-14	1.00E-14	0.	0.	9.94E-10	2.67E-07	2.36E-07	5.80E-07	1.86E-07
78	3.03	0.81E-16	0.	0.	8.00E-14	1.00E-14	0.	0.	1.03E-09	3.00E-07	2.70E-07	6.11E-07	2.01E-07
79	2.93	0.82E-16	0.	0.	9.28E-14	1.00E-14	0.	0.	1.07E-09	3.36E-07	3.09E-07	6.45E-07	2.18E-07
80	2.83	0.84E-16	0.	0.	1.08E-13	1.00E-14	0.	0.	1.12E-09	3.76E-07	3.53E-07	6.82E-07	2.37E-07
81	2.73	0.89E-16	0.	0.	1.27E-13	1.00E-14	0.	0.	1.17E-09	4.20E-07	4.02E-07	7.23E-07	2.58E-07
82	2.63	1.04E-16	0.	0.	1.50E-13	1.00E-14	0.	0.	1.23E-09	4.68E-07	4.56E-07	7.67E-07	2.81E-07
83	2.53	1.24E-16	0.	0.	1.78E-13	1.00E-14	0.	0.	1.30E-09	5.20E-07	5.16E-07	8.14E-07	3.06E-07
84	2.43	0.	0.	0.	2.12E-13	1.00E-14	0.	0.	1.38E-09	5.76E-07	5.82E-07	8.64E-07	3.33E-07
85	2.33	0.	0.	0.	2.53E-13	1.00E-14	0.	0.	1.47E-09	6.37E-07	6.55E-07	9.17E-07	3.62E-07
86	2.23	0.	0.	0.	3.02E-13	1.00E-14	0.	0.	1.57E-09	7.04E-07	7.36E-07	9.73E-07	3.93E-07
87	2.13	0.	0.	0.	3.59E-13	1.00E-14	0.	0.	1.68E-09	7.78E-07	8.22E-07	1.04E-07	4.26E-07
88	2.03	0.	0.	0.	4.25E-13	1.00E-14	0.	0.	1.80E-09	8.60E-07	9.15E-07	1.12E-07	4.61E-07
89	1.93	0.	0.	0.	5.00E-13	1.00E-14	0.	0.	1.93E-09	9.50E-07	1.01E-07	1.21E-07	4.98E-07
90	1.83	0.	0.	0.	5.85E-13	1.00E-14	0.	0.	2.07E-09	1.05E-07	1.12E-07	1.31E-07	5.37E-07
91	1.73	0.	0.	0.	6.80E-13	1.00E-14	0.	0.	2.22E-09	1.20E-07	1.24E-07	1.42E-07	5.78E-07
92	1.63	0.	0.	0.	7.95E-13	1.00E-14	0.	0.	2.38E-09	1.36E-07	1.38E-07	1.54E-07	6.21E-07
93	1.53	0.	0.	0.	9.40E-13	1.00E-14	0.	0.	2.56E-09	1.54E-07	1.54E-07	1.68E-07	6.67E-07
94	1.43	0.	0.	0.	1.12E-12	1.00E-14	0.	0.	2.76E-09	1.74E-07	1.74E-07	1.84E-07	7.16E-07
95	1.33	0.	0.	0.	1.34E-12	1.00E-14	0.	0.	2.98E-09	1.97E-07	1.97E-07	2.02E-07	7.67E-07
96	1.23	0.	0.	0.	1.61E-12	1.00E-14	0.	0.	3.23E-09	2.24E-07	2.24E-07	2.22E-07	8.21E-07
97	1.13	0.	0.	0.	1.94E-12	1.00E-14	0.	0.	3.50E-09	2.56E-07	2.56E-07	2.42E-07	8.78E-07
98	1.03	0.	0.	0.	2.34E-12	1.00E-14	0.	0.	3.80E-09	2.94E-07	2.94E-07	2.64E-07	9.38E-07
99	0.93	0.	0.	0.	2.82E-12	1.00E-14	0.	0.	4.13E-09	3.39E-07	3.39E-07	2.88E-07	1.00E-07
100	0.83	0.	0.	0.	3.39E-12	1.00E-14	0.	0.	4.50E-09	3.92E-07	3.92E-07	3.14E-07	1.08E-07
101	0.73	0.	0.	0.	4.06E-12	1.00E-14	0.	0.	4.92E-09	4.54E-07	4.54E-07	3.42E-07	1.17E-07
102	0.63	0.	0.	0.	4.84E-12	1.00E-14	0.	0.	5.40E-09	5.26E-07	5.26E-07	3.72E-07	1.28E-07

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
TEMPERATURE (DEGREES K) 1908. DENSITY (GM/CC) 1.203E-06 ( 1.0E-05 NORMAL)

PHOTON ENERGY E.V.	02 S-R COUNT.	02 S-R COUNT.	NO BETA	NO GAMMA	NO PHOTO-DET (FNS)	0 FRES-FREE P.E.	0 TOTAL AIR P.E.		
1 10.70 0.	0.	0.	0.	0.	0.31E-13	9.50E-11	7.04E-09	2.52E-09	1.09E-08
2 10.60 0.	0.	0.	0.	0.	0.32E-13	9.66E-11	7.00E-09	2.51E-09	1.09E-08
3 10.50 0.	0.	0.	0.	0.	0.33E-13	9.82E-11	7.02E-09	2.51E-09	1.09E-08
4 10.40 0.	0.	0.	0.	0.	0.34E-13	9.98E-11	7.05E-09	2.50E-09	1.09E-08
5 10.30 0.	0.	0.	0.	0.	0.34E-13	9.17E-11	7.06E-09	2.49E-09	1.09E-08
6 10.20 0.	0.	0.	0.	0.	0.35E-13	9.35E-11	7.00E-09	2.48E-09	1.09E-08
7 10.10 0.	0.	0.	0.	0.	0.34E-13	9.54E-11	6.90E-09	2.47E-09	1.09E-08
8 10.00 0.	0.	0.	0.	0.	0.30E-13	8.69E-11	6.82E-09	2.47E-09	1.06E-08
9 9.90 0.	0.	0.	0.	0.	0.30E-13	7.14E-11	6.86E-09	2.45E-09	1.06E-08
10 9.80 0.	0.	0.	0.	0.	0.40E-13	7.30E-11	6.80E-09	2.45E-09	1.06E-08
11 9.70 0.	0.	0.	0.	0.	0.42E-13	7.62E-11	6.11E-09	2.43E-09	1.06E-08
12 9.60 0.	0.	0.	0.	0.	0.43E-13	7.86E-11	6.13E-09	2.43E-09	1.06E-08
13 9.50 0.	0.	0.	0.	0.	0.45E-13	8.12E-11	6.16E-09	2.42E-09	1.07E-08
14 9.40 0.	0.	0.	0.	0.	0.47E-13	8.39E-11	2.80E-09	2.41E-09	5.38E-09
15 9.30 0.	0.	0.	0.	0.	0.50E-13	8.66E-11	2.80E-09	2.41E-09	5.37E-09
16 9.20 0.	0.	0.	0.	0.	0.52E-13	8.95E-11	2.80E-09	2.40E-09	5.37E-09
17 9.10 0.	0.	0.	0.	0.	0.54E-13	9.25E-11	2.80E-09	2.39E-09	5.36E-09
18 9.00 0.	0.	0.	0.	0.	0.57E-13	9.57E-11	2.80E-09	2.39E-09	5.36E-09
19 8.90 0.	0.	0.	0.	0.	0.59E-13	9.90E-11	2.89E-09	2.37E-09	5.36E-09
20 8.80 0.	0.	0.	0.	0.	0.61E-13	1.02E-10	2.89E-09	2.36E-09	5.36E-09
21 8.70 0.	0.	0.	0.	0.	0.64E-13	1.06E-10	2.89E-09	2.36E-09	5.36E-09
22 8.60 0.	0.	0.	0.	0.	0.67E-13	1.10E-10	2.98E-09	2.35E-09	5.36E-09
23 8.50 0.	0.	0.	0.	0.	0.70E-13	1.14E-10	2.91E-09	2.34E-09	5.36E-09
24 8.40 0.	0.	0.	0.	0.	0.73E-13	1.18E-10	2.91E-09	2.34E-09	5.36E-09
25 8.30 0.	0.	0.	0.	0.	0.77E-13	1.22E-10	2.77E-09	2.33E-09	5.23E-09
26 8.20 0.	0.	0.	0.	0.	0.80E-13	1.27E-10	2.79E-09	2.36E-09	5.23E-09
27 8.10 0.	0.	0.	0.	0.	0.84E-13	1.32E-10	2.79E-09	2.37E-09	5.30E-09
28 8.00 0.	0.	0.	0.	0.	0.87E-13	1.37E-10	2.81E-09	2.36E-09	5.32E-09
29 7.90 0.	0.	0.	0.	0.	0.91E-13	1.42E-10	2.92E-09	2.39E-09	5.35E-09
30 7.80 0.	0.	0.	0.	0.	0.94E-13	1.47E-10	2.84E-09	2.39E-09	5.36E-09
31 7.70 0.	0.	0.	0.	0.	0.98E-13	1.54E-10	2.86E-09	2.40E-09	5.42E-09
32 7.60 0.	0.	0.	0.	0.	1.01E-13	1.60E-10	2.87E-09	2.41E-09	5.43E-09
33 7.50 0.	0.	0.	0.	0.	1.05E-13	1.67E-10	2.89E-09	2.42E-09	5.48E-09
34 7.40 0.	0.	0.	0.	0.	1.09E-13	1.74E-10	2.90E-09	2.43E-09	5.51E-09
35 7.30 0.	0.	0.	0.	0.	1.13E-13	1.81E-10	2.92E-09	2.44E-09	5.54E-09
36 7.20 0.	0.	0.	0.	0.	1.18E-13	1.89E-10	2.94E-09	2.45E-09	5.58E-09
37 7.10 0.	0.	0.	0.	0.	1.23E-13	1.97E-10	2.96E-09	2.45E-09	5.64E-09
38 7.00 1.50E-21	0.	0.	0.	0.	1.28E-13	2.06E-10	2.98E-09	2.45E-09	5.61E-09
39 6.90 3.00E-21	0.	0.	0.	0.	1.30E-13	2.06E-10	2.98E-09	2.46E-09	5.63E-09
40 6.80 4.50E-21	0.	0.	0.	0.	1.34E-13	2.15E-10	3.00E-09	2.47E-09	5.69E-09
41 6.70 1.90E-21	0.	0.	0.	0.	1.42E-13	2.25E-10	3.02E-09	2.48E-09	5.73E-09
42 6.60 1.95E-21	0.	0.	0.	0.	1.48E-13	2.36E-10	3.05E-09	2.50E-09	5.78E-09
43 6.50 6.50E-22	0.	0.	0.	0.	1.54E-13	2.47E-10	3.08E-09	2.51E-09	5.80E-09
44 6.40 3.72E-22	0.	0.	0.	0.	1.60E-13	2.59E-10	3.11E-09	2.52E-09	5.89E-09
45 6.30 2.15E-22	0.	0.	0.	0.	1.66E-13	2.71E-10	3.15E-09	2.54E-09	5.96E-09
46 6.20 9.51E-23	0.	0.	0.	0.	1.72E-13	2.84E-10	3.22E-09	2.57E-09	6.03E-09
47 6.10 4.31E-23	0.	0.	0.	0.	1.77E-13	2.99E-10	3.28E-09	2.60E-09	6.12E-09
48 6.00 1.70E-23	0.	0.	0.	0.	1.83E-13	3.15E-10	3.30E-09	2.63E-09	6.02E-09
49 5.90 4.34E-24	0.	0.	0.	0.	1.89E-13	3.31E-10	3.33E-09	2.65E-09	6.11E-09
50 5.80 5.51E-24	0.	0.	0.	0.	1.95E-13	3.49E-10	3.37E-09	2.68E-09	6.20E-09
51 5.70 4.05E-24	0.	0.	0.	0.	2.01E-13	3.67E-10	3.41E-09	2.71E-09	6.29E-09

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 15000. DENSITY (GM/CC) 1.293E-06 ( 1.0E-05 NORMAL)

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	N2* 1ST NEG.	RETA	GAUSS	NO VIR-ROT	NO 2	0- PMOTO-DET (FMS)	N P.E.	0 TOTAL AIR			
52	5.60	1.92E-27	0.	0.	2.96E-19	1.93E-18	0.	0.	6.74E-13	3.89E-10	3.26E-09	2.74E-09	6.39E-09
53	5.59	9.	0.	0.	3.61E-19	1.40E-18	0.	0.	6.77E-13	4.09E-10	3.33E-09	2.78E-09	6.52E-09
54	5.49	0.	0.	0.	3.26E-19	1.40E-18	0.	0.	6.81E-13	4.33E-10	3.41E-09	2.87E-09	6.66E-09
55	5.30	0.	0.	0.	3.34E-19	1.63E-18	0.	0.	6.91E-13	4.59E-10	3.49E-09	2.90E-09	6.81E-09
56	5.27	0.	0.	0.	3.57E-19	1.30E-18	0.	0.	6.99E-13	4.89E-10	3.58E-09	2.92E-09	6.99E-09
57	5.16	0.	0.	0.	3.54E-19	1.49E-18	0.	0.	6.95E-13	5.19E-10	3.68E-09	2.97E-09	7.17E-09
58	5.00	2.48E-20	0.	0.	3.22E-19	1.36E-18	0.	0.	7.01E-13	5.46E-10	3.80E-09	3.03E-09	7.37E-09
59	4.90	5.78E-20	0.	0.	3.55E-19	1.67E-18	0.	0.	7.07E-13	5.80E-10	3.92E-09	3.08E-09	7.58E-09
60	4.80	1.07E-19	0.	0.	3.80E-19	1.56E-18	0.	0.	7.13E-13	6.12E-10	4.05E-09	3.14E-09	7.80E-09
61	4.70	1.41E-19	0.	0.	3.75E-19	1.48E-18	0.	0.	7.19E-13	6.57E-10	4.19E-09	3.23E-09	8.08E-09
62	4.60	1.92E-19	0.	0.	3.43E-19	1.26E-18	0.	0.	7.25E-13	7.02E-10	4.35E-09	3.31E-09	8.37E-09
63	4.50	1.39E-19	0.	0.	3.48E-19	9.53E-19	0.	0.	7.31E-13	7.50E-10	4.52E-09	3.40E-09	8.70E-09
64	4.40	2.10E-19	0.	0.	3.45E-19	6.84E-19	0.	0.	7.36E-13	8.02E-10	4.77E-09	3.48E-09	9.05E-09
65	4.30	1.96E-19	0.	0.	3.26E-19	4.89E-19	0.	0.	7.42E-13	8.57E-10	4.99E-09	3.52E-09	9.37E-09
66	4.20	1.42E-19	0.	0.	3.42E-19	2.95E-19	0.	0.	7.48E-13	9.24E-10	5.22E-09	3.59E-09	9.73E-09
67	4.10	1.59E-19	0.	0.	3.30E-19	8.06E-20	0.	0.	7.54E-13	9.94E-10	5.49E-09	3.67E-09	1.01E-08
68	4.00	1.54E-19	0.	0.	3.46E-19	6.12E-20	0.	0.	7.60E-13	1.07E-09	5.81E-09	3.75E-09	1.05E-08
69	3.90	1.29E-19	0.	0.	3.16E-19	6.12E-20	0.	0.	7.66E-13	1.16E-09	6.15E-09	3.84E-09	1.10E-08
70	3.80	1.41E-19	0.	0.	3.78E-19	2.39E-20	0.	0.	7.72E-13	1.26E-09	6.55E-09	3.94E-09	1.15E-08
71	3.70	1.23E-19	0.	0.	3.41E-19	2.56E-20	0.	0.	7.78E-13	1.37E-09	7.00E-09	4.04E-09	1.20E-08
72	3.60	1.10E-19	0.	0.	4.05E-19	3.30E-20	0.	0.	7.84E-13	1.49E-09	7.51E-09	4.14E-09	1.25E-08
73	3.50	1.02E-19	0.	0.	6.59E-19	7.07E-20	0.	0.	7.90E-13	1.62E-09	8.07E-09	4.24E-09	1.30E-08
74	3.40	9.21E-20	0.	0.	4.04E-19	9.04E-20	0.	0.	7.96E-13	1.76E-09	8.74E-09	4.34E-09	1.35E-08
75	3.30	7.35E-20	0.	0.	4.17E-19	3.80E-20	0.	0.	8.02E-13	1.92E-09	9.50E-09	4.44E-09	1.40E-08
76	3.20	6.19E-20	0.	0.	2.66E-19	7.89E-20	0.	0.	8.08E-13	2.10E-09	1.03E-08	4.54E-09	1.45E-08
77	3.10	5.17E-20	0.	0.	2.35E-19	1.42E-20	0.	0.	8.14E-13	2.30E-09	1.14E-08	4.64E-09	1.50E-08
78	3.00	5.29E-20	0.	0.	1.24E-19	3.67E-20	0.	0.	8.20E-13	2.52E-09	1.26E-08	4.74E-09	1.55E-08
79	2.90	4.37E-20	0.	0.	7.65E-19	2.09E-20	0.	0.	8.26E-13	2.76E-09	1.39E-08	4.84E-09	1.60E-08
80	2.80	4.51E-20	0.	0.	3.67E-19	1.19E-20	0.	0.	8.32E-13	3.02E-09	1.53E-08	4.94E-09	1.65E-08
81	2.70	2.95E-20	0.	0.	1.71E-19	1.76E-20	0.	0.	8.38E-13	3.29E-09	1.68E-08	5.04E-09	1.70E-08
82	2.60	1.31E-20	0.	0.	9.44E-20	1.71E-20	0.	0.	8.44E-13	3.58E-09	1.84E-08	5.14E-09	1.75E-08
83	2.50	9.10E-22	0.	0.	9.39E-21	1.60E-20	0.	0.	8.50E-13	3.88E-09	2.01E-08	5.24E-09	1.80E-08
84	2.40	0.	0.	0.	4.54E-19	0.	0.	0.	8.56E-13	4.19E-09	2.19E-08	5.34E-09	1.85E-08
85	2.30	0.	0.	0.	1.52E-19	0.	0.	0.	8.62E-13	4.51E-09	2.38E-08	5.44E-09	1.90E-08
86	2.20	0.	0.	0.	3.79E-19	0.	0.	0.	8.68E-13	4.84E-09	2.58E-08	5.54E-09	1.95E-08
87	2.10	0.	0.	0.	4.24E-19	0.	0.	0.	8.74E-13	5.18E-09	2.79E-08	5.64E-09	2.00E-08
88	2.00	0.	0.	0.	8.05E-19	0.	0.	0.	8.80E-13	5.53E-09	2.99E-08	5.74E-09	2.05E-08
89	1.90	0.	0.	0.	1.12E-17	0.	0.	0.	8.86E-13	5.89E-09	3.20E-08	5.84E-09	2.10E-08
90	1.80	0.	0.	0.	9.33E-19	0.	0.	0.	8.92E-13	6.26E-09	3.41E-08	5.94E-09	2.15E-08
91	1.70	0.	0.	0.	1.09E-17	0.	0.	0.	8.98E-13	6.64E-09	3.62E-08	6.04E-09	2.20E-08
92	1.60	0.	0.	0.	7.99E-19	0.	0.	0.	9.04E-13	7.03E-09	3.83E-08	6.14E-09	2.25E-08
93	1.50	0.	0.	0.	9.39E-19	0.	0.	0.	9.10E-13	7.43E-09	4.04E-08	6.24E-09	2.30E-08
94	1.40	0.	0.	0.	9.33E-19	0.	0.	0.	9.16E-13	7.84E-09	4.25E-08	6.34E-09	2.35E-08
95	1.30	0.	0.	0.	7.17E-19	0.	0.	0.	9.22E-13	8.26E-09	4.46E-08	6.44E-09	2.40E-08
96	1.20	0.	0.	0.	9.99E-19	0.	0.	0.	9.28E-13	8.69E-09	4.67E-08	6.54E-09	2.45E-08
97	1.10	0.	0.	0.	6.39E-19	0.	0.	0.	9.34E-13	9.13E-09	4.88E-08	6.64E-09	2.50E-08
98	1.00	0.	0.	0.	5.83E-19	0.	0.	0.	9.40E-13	9.58E-09	5.09E-08	6.74E-09	2.55E-08
99	0.90	0.	0.	0.	4.81E-19	0.	0.	0.	9.46E-13	1.00E-08	5.30E-08	6.84E-09	2.60E-08
100	0.80	0.	0.	0.	2.36E-19	0.	0.	0.	9.52E-13	1.04E-08	5.51E-08	6.94E-09	2.65E-08
101	0.70	0.	0.	0.	5.47E-19	0.	0.	0.	9.58E-13	1.08E-08	5.72E-08	7.04E-09	2.70E-08
102	0.60	0.	0.	0.	8.89E-20	0.	0.	0.	9.64E-13	1.12E-08	5.93E-08	7.14E-09	2.75E-08

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 15000. DENSITY (GM/CC) 1.293E-09 (1.0E-06 NORMAL)

PHOTON ENERGY E.V.	OZ S-R HANDS	OZ S-R CONT.	N2 R-H NO. 1	NO BETA	NO GAMMA	NO 2	D- PHOTO-REF (1/RMS)		FREF-FREE P.E.		TOTAL AIR P.E.	
							NO	NO	NO	NO	NO	NO
1 18.78 0.	0.	0.	5.80E-21	0.	0.	0.	6.47E-16	5.71E-13	9.59E-11	2.58E-11	2.58E-11	1.22E-10
2 18.65 0.	0.	0.	4.48E-21	0.	0.	0.	6.49E-16	5.87E-13	9.44E-11	2.57E-11	2.57E-11	1.23E-10
3 18.58 0.	0.	0.	4.58E-21	0.	0.	0.	6.40E-16	6.04E-13	9.48E-11	2.56E-11	2.56E-11	1.23E-10
4 18.49 0.	0.	0.	4.21E-21	0.	0.	0.	6.58E-16	6.22E-13	9.75E-11	2.55E-11	2.55E-11	1.23E-10
5 18.35 0.	0.	0.	3.63E-21	0.	0.	0.	6.91E-16	6.48E-13	9.74E-11	2.54E-11	2.54E-11	1.23E-10
6 18.20 0.	0.	0.	3.1E-21	0.	0.	0.	6.52E-16	6.98E-13	9.70E-11	2.54E-11	2.54E-11	1.24E-10
7 18.10 0.	0.	0.	3.47E-21	0.	0.	0.	6.53E-16	6.76E-13	9.81E-11	2.53E-11	2.53E-11	1.24E-10
8 19.08 0.	0.	0.	2.99E-21	0.	0.	0.	6.59E-16	7.00E-13	9.89E-11	2.52E-11	2.52E-11	1.24E-10
9 9.98 0.	0.	0.	3.06E-21	0.	0.	0.	6.59E-16	7.21E-13	9.89E-11	2.51E-11	2.51E-11	1.24E-10
11 9.78 0.	0.	0.	2.94E-21	0.	0.	0.	6.54E-16	7.43E-13	9.93E-11	2.51E-11	2.51E-11	1.24E-10
12 9.65 0.	0.	0.	2.68E-21	0.	0.	0.	6.57E-16	7.67E-13	9.97E-11	2.50E-11	2.50E-11	1.24E-10
13 9.58 0.	0.	0.	2.19E-21	0.	0.	0.	6.58E-16	8.14E-13	1.00E-10	2.49E-11	2.49E-11	1.24E-10
14 9.40 0.	0.	0.	2.04E-21	0.	0.	0.	6.62E-16	8.34E-13	1.00E-10	2.48E-11	2.48E-11	1.24E-10
15 9.35 0.	0.	0.	2.09E-21	0.	0.	0.	6.64E-16	8.70E-13	1.00E-10	2.47E-11	2.47E-11	1.24E-10
16 9.29 0.	0.	0.	1.49E-21	0.	0.	0.	6.67E-16	8.99E-13	1.00E-10	2.47E-11	2.47E-11	1.24E-10
17 9.18 0.	0.	0.	1.74E-21	0.	0.	0.	6.69E-16	9.29E-13	1.00E-10	2.46E-11	2.46E-11	1.24E-10
18 9.08 0.	0.	0.	1.56E-21	0.	0.	0.	6.71E-16	9.60E-13	1.00E-10	2.45E-11	2.45E-11	1.24E-10
19 8.98 0.	0.	0.	1.42E-21	0.	0.	0.	6.74E-16	9.92E-13	1.00E-10	2.45E-11	2.45E-11	1.24E-10
20 8.89 0.	0.	0.	1.39E-21	0.	0.	0.	6.76E-16	1.03E-12	1.00E-10	2.44E-11	2.44E-11	1.24E-10
21 8.75 0.	0.	0.	1.18E-21	0.	0.	0.	6.79E-16	1.06E-12	1.00E-10	2.41E-11	2.41E-11	1.24E-10
22 8.60 0.	0.	0.	1.21E-21	0.	0.	0.	6.81E-16	1.10E-12	1.00E-10	2.40E-11	2.40E-11	1.24E-10
23 8.50 0.	0.	0.	1.05E-21	0.	0.	0.	6.83E-16	1.14E-12	1.00E-10	2.39E-11	2.39E-11	1.24E-10
24 8.40 0.	0.	0.	1.03E-21	0.	0.	0.	6.87E-16	1.19E-12	1.00E-10	2.38E-11	2.38E-11	1.24E-10
25 8.38 0.	0.	0.	4.82E-22	0.	0.	0.	6.91E-16	1.22E-12	1.00E-10	2.38E-11	2.38E-11	1.24E-10
26 8.28 0.	0.	0.	4.66E-22	0.	0.	0.	6.94E-16	1.27E-12	1.00E-10	2.37E-11	2.37E-11	1.24E-10
27 8.18 0.	0.	0.	7.36E-22	0.	0.	0.	6.98E-16	1.32E-12	1.00E-10	2.36E-11	2.36E-11	1.24E-10
28 8.08 0.	0.	0.	7.30E-22	0.	0.	0.	7.01E-16	1.37E-12	1.00E-10	2.41E-11	2.41E-11	1.24E-10
29 7.98 0.	0.	0.	4.23E-22	0.	0.	0.	7.05E-16	1.42E-12	1.00E-10	2.41E-11	2.41E-11	1.24E-10
30 7.88 0.	0.	0.	4.22E-22	0.	0.	0.	7.09E-16	1.46E-12	1.00E-10	2.41E-11	2.41E-11	1.24E-10
31 7.78 0.	0.	0.	5.95E-22	0.	0.	0.	7.12E-16	1.48E-12	1.00E-10	2.44E-11	2.44E-11	1.24E-10
32 7.68 0.	0.	0.	5.21E-22	0.	0.	0.	7.16E-16	1.51E-12	1.00E-10	2.44E-11	2.44E-11	1.24E-10
33 7.58 0.	0.	0.	4.76E-22	0.	0.	0.	7.19E-16	1.54E-12	1.00E-10	2.46E-11	2.46E-11	1.24E-10
34 7.48 0.	0.	0.	4.23E-22	0.	0.	0.	7.23E-16	1.57E-12	1.00E-10	2.47E-11	2.47E-11	1.24E-10
35 7.38 0.	0.	0.	3.96E-22	0.	0.	0.	7.27E-16	1.61E-12	1.00E-10	2.46E-11	2.46E-11	1.24E-10
36 7.28 0.	0.	0.	3.93E-22	0.	0.	0.	7.31E-16	1.64E-12	1.00E-10	2.49E-11	2.49E-11	1.24E-10
37 7.18 0.	0.	0.	3.56E-22	0.	0.	0.	7.37E-16	1.68E-12	1.00E-10	2.50E-11	2.50E-11	1.24E-10
38 7.08 0.	0.	0.	3.44E-22	0.	0.	0.	7.43E-16	1.72E-12	1.00E-10	2.51E-11	2.51E-11	1.24E-10
39 6.98 0.	0.	0.	2.76E-22	0.	0.	0.	7.49E-16	1.74E-12	1.00E-10	2.52E-11	2.52E-11	1.24E-10
40 6.88 0.	0.	0.	2.62E-22	0.	0.	0.	7.55E-16	1.78E-12	1.00E-10	2.53E-11	2.53E-11	1.24E-10
41 6.78 0.	0.	0.	2.68E-22	0.	0.	0.	7.61E-16	1.82E-12	1.00E-10	2.54E-11	2.54E-11	1.24E-10
42 6.68 0.	0.	0.	2.08E-22	0.	0.	0.	7.67E-16	1.86E-12	1.00E-10	2.54E-11	2.54E-11	1.24E-10
43 6.58 0.	0.	0.	1.87E-22	0.	0.	0.	7.73E-16	1.90E-12	1.00E-10	2.54E-11	2.54E-11	1.24E-10
44 6.48 0.	0.	0.	1.57E-22	0.	0.	0.	7.80E-16	1.94E-12	1.00E-10	2.54E-11	2.54E-11	1.24E-10
45 6.38 0.	0.	0.	1.66E-22	0.	0.	0.	7.87E-16	1.98E-12	1.00E-10	2.54E-11	2.54E-11	1.24E-10
46 6.28 0.	0.	0.	4.46E-23	0.	0.	0.	7.95E-16	2.02E-12	1.00E-10	2.54E-11	2.54E-11	1.24E-10
47 6.18 0.	0.	0.	3.49E-23	0.	0.	0.	8.03E-16	2.06E-12	1.00E-10	2.54E-11	2.54E-11	1.24E-10
48 6.08 0.	0.	0.	1.60E-23	0.	0.	0.	8.11E-16	2.10E-12	1.00E-10	2.54E-11	2.54E-11	1.24E-10
49 5.98 0.	0.	0.	4.02E-24	0.	0.	0.	8.19E-16	2.14E-12	1.00E-10	2.54E-11	2.54E-11	1.24E-10
50 5.88 0.	0.	0.	2.98E-24	0.	0.	0.	8.27E-16	2.18E-12	1.00E-10	2.54E-11	2.54E-11	1.24E-10
51 5.78 0.	0.	0.	7.21E-27	0.	0.	0.	8.35E-16	2.22E-12	1.00E-10	2.54E-11	2.54E-11	1.24E-10
52 5.68 0.	0.	0.	3.16E-23	0.	0.	0.	8.43E-16	2.26E-12	1.00E-10	2.54E-11	2.54E-11	1.24E-10
53 5.58 0.	0.	0.	3.54E-23	0.	0.	0.	8.51E-16	2.30E-12	1.00E-10	2.54E-11	2.54E-11	1.24E-10

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CR.)  
 TEMPERATURE (DEGREES K) 1986. DENSITY (GM/CC) 1.293E-09 ( 1.0E-08 NORMAL)

PARTIAL PRESSURE HANDS	N2 1ST POS.	N2 2ND POS.	N2 1ST NEG.	N2 2ND NEG.	NO	NO	GAMMA	VIB-ROT	NO	NO	0-0	PARTO-DFT (17MS)	0	0	0	TOTAL AIR
					ETA	ETA			2	2	2		P.E.	P.E.	P.E.	P.E.
52	5.04	1.40E-31	0.	0.	3.02E-23	1.94E-22	0.	0.	0.	0.	0.01E-16	4.02E-12	3.03E-11	2.79E-11	0.04E-11	0.04E-11
53	5.50	0.	0.	0.	3.40E-23	1.63E-22	0.	0.	0.	0.	0.05E-16	4.29E-12	3.74E-11	2.42E-11	0.09E-11	0.09E-11
54	5.40	0.	0.	0.	3.32E-23	1.43E-22	0.	0.	0.	0.	0.08E-16	4.00E-12	3.05E-11	2.84E-11	7.16E-11	7.16E-11
55	5.38	0.	0.	0.	3.48E-23	1.08E-22	0.	0.	0.	0.	0.07E-16	4.75E-12	3.96E-11	2.98E-11	7.34E-11	7.34E-11
56	5.28	0.	0.	0.	3.68E-23	1.32E-22	0.	0.	0.	0.	0.07E-16	5.07E-12	4.07E-11	2.96E-11	7.53E-11	7.53E-11
57	5.18	0.	0.	0.	3.61E-23	1.72E-22	0.	0.	0.	0.	7.13E-16	5.33E-12	4.19E-11	3.07E-11	7.79E-11	7.79E-11
58	5.05	2.49E-24	0.	0.	3.21E-23	1.91E-22	0.	0.	0.	0.	7.19E-16	5.64E-12	4.33E-11	3.07E-11	8.22E-11	8.22E-11
59	4.90	5.95E-24	0.	0.	3.62E-23	1.70E-22	0.	0.	0.	0.	7.29E-16	6.07E-12	4.48E-11	3.13E-11	8.40E-11	8.40E-11
60	4.80	1.10E-23	0.	0.	3.02E-23	1.59E-22	0.	0.	0.	0.	7.31E-16	6.48E-12	4.64E-11	3.20E-11	8.40E-11	8.40E-11
61	4.70	1.40E-23	0.	0.	3.02E-23	1.43E-22	0.	0.	0.	0.	7.37E-16	6.82E-12	4.81E-11	3.28E-11	8.70E-11	8.70E-11
62	4.60	1.90E-23	0.	0.	3.02E-23	1.32E-22	0.	0.	0.	0.	7.49E-16	7.20E-12	5.02E-11	3.37E-11	9.12E-11	9.12E-11
63	4.50	2.10E-23	0.	0.	3.52E-23	0.77E-23	0.	0.	0.	0.	7.49E-16	7.70E-12	5.26E-11	3.47E-11	9.51E-11	9.51E-11
64	4.40	2.10E-23	0.	0.	3.52E-23	0.77E-23	0.	0.	0.	0.	7.59E-16	8.03E-12	5.46E-11	3.48E-11	9.85E-11	9.85E-11
65	4.35	2.02E-23	0.	0.	1.97E-22	0.	0.	0.	0.	0.	7.61E-16	8.33E-12	5.61E-11	3.48E-11	9.85E-11	9.85E-11
66	4.25	1.97E-23	0.	0.	3.40E-23	1.01E-23	0.	0.	0.	0.	7.67E-16	8.90E-12	6.09E-11	3.48E-11	9.85E-11	9.85E-11
67	4.15	1.74E-23	0.	0.	2.80E-22	0.	0.	0.	0.	0.	7.70E-16	1.03E-11	6.40E-11	3.48E-11	9.85E-11	9.85E-11
68	4.13	1.50E-23	0.	0.	9.53E-22	0.	0.	0.	0.	0.	7.73E-16	1.11E-11	4.09E-11	1.25E-11	0.12E-11	0.12E-11
69	3.95	1.53E-23	0.	0.	4.36E-22	3.37E-23	0.	0.	0.	0.	7.78E-16	1.20E-11	5.13E-11	1.33E-11	7.46E-11	7.46E-11
70	3.83	1.45E-23	0.	0.	4.03E-22	3.13E-23	0.	0.	0.	0.	7.87E-16	1.30E-11	5.06E-11	1.39E-11	7.75E-11	7.75E-11
71	3.74	1.27E-23	0.	0.	7.46E-22	5.03E-23	0.	0.	0.	0.	7.95E-16	1.41E-11	5.31E-11	1.53E-11	8.26E-11	8.26E-11
72	3.64	1.14E-23	0.	0.	4.94E-22	3.29E-23	0.	0.	0.	0.	7.87E-16	1.53E-11	4.08E-11	1.04E-11	7.90E-11	7.90E-11
73	3.54	0.95E-23	0.	0.	4.74E-22	7.05E-23	0.	0.	0.	0.	6.47E-16	1.67E-11	5.10E-11	1.04E-11	8.71E-11	8.71E-11
74	3.40	0.80E-24	0.	0.	4.07E-22	0.81E-24	0.	0.	0.	0.	3.73E-16	1.82E-11	5.78E-11	2.00E-11	9.68E-11	9.68E-11
75	3.36	7.54E-24	0.	0.	4.20E-22	3.79E-23	0.	0.	0.	0.	3.73E-16	1.82E-11	6.39E-11	2.27E-11	1.06E-10	1.06E-10
76	3.20	6.48E-24	0.	0.	2.60E-22	6.90E-23	0.	0.	0.	0.	3.74E-16	2.14E-11	7.03E-11	2.46E-11	1.17E-10	1.17E-10
77	3.10	6.14E-24	0.	0.	2.87E-22	1.42E-23	0.	0.	0.	0.	3.76E-16	2.40E-11	7.69E-11	2.67E-11	1.26E-10	1.26E-10
78	3.00	5.43E-24	0.	0.	1.29E-22	3.66E-23	0.	0.	0.	0.	3.76E-16	2.60E-11	8.35E-11	2.89E-11	1.39E-10	1.39E-10
79	2.90	4.50E-24	0.	0.	7.90E-23	2.00E-23	0.	0.	0.	0.	3.77E-16	2.84E-11	9.04E-11	3.10E-11	1.51E-10	1.51E-10
80	2.80	4.05E-24	0.	0.	3.90E-23	1.39E-23	0.	0.	0.	0.	3.78E-16	3.27E-11	9.83E-11	2.89E-11	1.64E-10	1.64E-10
81	2.70	2.93E-24	0.	0.	1.72E-23	1.75E-23	0.	0.	0.	0.	3.78E-16	3.87E-11	1.06E-10	1.09E-10	1.96E-10	1.96E-10
82	2.60	1.35E-24	0.	0.	4.91E-24	1.71E-24	0.	0.	0.	0.	3.78E-16	4.60E-11	7.31E-10	1.79E-10	3.32E-10	3.32E-10
83	2.50	0.37E-24	0.	0.	9.40E-25	1.59E-24	0.	0.	0.	0.	3.78E-16	5.22E-11	8.50E-10	1.95E-10	2.54E-10	2.54E-10
84	2.40	0.	0.	0.	4.97E-23	0.	0.	0.	0.	0.	3.79E-16	5.97E-11	1.24E-10	3.04E-10	2.16E-10	2.16E-10
85	2.30	0.	0.	0.	3.82E-22	0.	0.	0.	0.	0.	3.78E-16	6.81E-11	1.40E-10	3.63E-10	2.52E-10	2.52E-10
86	2.20	0.	0.	0.	4.27E-22	0.	0.	0.	0.	0.	3.72E-16	7.84E-11	1.64E-10	4.29E-10	2.89E-10	2.89E-10
87	2.10	0.	0.	0.	8.12E-22	0.	0.	0.	0.	0.	3.60E-16	9.18E-11	1.80E-10	4.84E-10	3.27E-10	3.27E-10
88	2.00	0.	0.	0.	1.13E-21	0.	0.	0.	0.	0.	3.40E-16	1.04E-10	2.14E-10	5.94E-10	3.76E-10	3.76E-10
89	1.90	0.	0.	0.	0.40E-21	0.	0.	0.	0.	0.	3.31E-16	1.29E-10	2.54E-10	6.75E-10	4.47E-10	4.47E-10
90	1.80	0.	0.	0.	0.40E-21	0.	0.	0.	0.	0.	3.12E-16	1.49E-10	3.04E-10	7.75E-10	5.31E-10	5.31E-10
91	1.70	0.	0.	0.	0.05E-22	0.	0.	0.	0.	0.	2.60E-16	1.60E-10	3.28E-10	9.10E-10	5.99E-10	5.99E-10
92	1.60	0.	0.	0.	0.05E-22	0.	0.	0.	0.	0.	1.20E-16	2.19E-10	2.91E-10	1.06E-10	6.15E-10	6.15E-10
93	1.50	0.	0.	0.	0.05E-22	0.	0.	0.	0.	0.	2.69E-16	3.03E-10	3.03E-10	9.44E-10	7.47E-10	7.47E-10
94	1.40	0.	0.	0.	0.05E-22	0.	0.	0.	0.	0.	3.30E-16	4.09E-10	1.30E-10	1.30E-10	1.01E-09	1.01E-09
95	1.30	0.	0.	0.	6.95E-22	0.	0.	0.	0.	0.	3.30E-16	4.09E-10	1.30E-10	1.30E-10	1.01E-09	1.01E-09
96	1.20	0.	0.	0.	0.05E-22	0.	0.	0.	0.	0.	5.40E-16	5.40E-10	1.80E-10	2.33E-10	1.44E-09	1.44E-09
97	1.10	0.	0.	0.	4.43E-22	0.	0.	0.	0.	0.	7.67E-16	1.10E-09	2.90E-10	2.90E-10	2.11E-09	2.11E-09
98	1.00	0.	0.	0.	4.04E-22	0.	0.	0.	0.	0.	1.00E-09	1.24E-09	1.24E-09	2.04E-10	2.57E-09	2.57E-09
99	0.90	0.	0.	0.	2.20E-22	0.	0.	0.	0.	0.	1.00E-09	1.24E-09	1.24E-09	2.04E-10	2.57E-09	2.57E-09
100	0.80	0.	0.	0.	5.51E-23	0.	0.	0.	0.	0.	2.24E-09	1.32E-09	2.02E-10	2.02E-10	3.04E-09	3.04E-09
101	0.70	0.	0.	0.	0.06E-24	0.	0.	0.	0.	0.	3.03E-09	1.40E-09	3.10E-10	3.10E-10	5.03E-09	5.03E-09
102	0.60	0.	0.	0.	0.06E-24	0.	0.	0.	0.	0.	3.03E-09	1.40E-09	3.10E-10	3.10E-10	5.03E-09	5.03E-09

TEMPERATURE (DEGREES K) 1400. DENSITY (GM/CC) 1.2026-02 ( 1.0E 01 NORMAL)

PHOTON OF S-R ENERGY RAYS CONT. E.V.	02 S-R CONT.	M2 0-M NO. 1	NO META	NO GAMMA	NO 2	0- PHOTO-MET (1/MS)	0- FRIG-FREE P.E.	0 P.E.	TOTAL AIR
1 16.78 0.	0.	3.29E 00	0.	0.	0.	2.84E 00	1.76E-02	2.14E 02	6.00E-01 2.43E 02
2 16.60 0.	0.	2.97E 00	0.	0.	0.	2.87E 00	3.07E-02	4.19E 00	6.77E-01 1.09E 01
3 16.38 0.	0.	2.96E 00	0.	0.	0.	2.87E 00	3.99E-02	4.21E 00	6.74E-01 1.10E 01
4 16.48 0.	0.	2.82E 00	0.	0.	0.	2.80E 00	4.10E-02	4.22E 00	6.71E-01 1.09E 01
5 16.38 0.	0.	2.44E 00	0.	0.	0.	2.80E 00	4.27E-02	4.24E 00	6.69E-01 1.09E 01
6 16.20 0.	0.	2.50E 00	0.	0.	0.	2.80E 00	4.27E-02	4.24E 00	6.69E-01 1.09E 01
7 16.10 0.	0.	2.35E 00	0.	0.	0.	2.80E 00	4.40E-02	4.25E 00	6.67E-01 1.04E 01
8 16.00 0.	0.	2.04E 00	0.	0.	0.	2.80E 00	4.42E-02	4.24E 00	6.59E-01 1.01E 01
9 9.90 0.	0.	2.06E 00	0.	0.	0.	2.90E 00	4.76E-02	4.27E 00	6.56E-01 1.02E 01
10 9.80 0.	0.	1.95E 00	0.	0.	0.	2.90E 00	4.90E-02	4.28E 00	6.51E-01 1.00E 01
11 9.78 0.	0.	1.67E 00	0.	0.	0.	2.91E 00	5.04E-02	4.29E 00	6.50E-01 9.76E 00
12 9.60 0.	0.	1.80E 00	0.	0.	0.	2.91E 00	5.22E-02	4.30E 00	6.47E-01 9.91E 00
13 9.50 0.	0.	1.52E 00	0.	0.	0.	2.92E 00	5.39E-02	4.31E 00	6.44E-01 9.65E 00
14 9.48 0.	0.	1.43E 00	0.	0.	0.	2.92E 00	5.56E-02	4.32E 00	6.41E-01 9.50E 00
15 9.38 0.	0.	1.46E 00	0.	0.	0.	2.94E 00	5.74E-02	4.34E 00	6.40E-01 9.38E 00
16 9.28 0.	0.	1.28E 00	0.	0.	0.	2.95E 00	5.93E-02	4.35E 00	6.35E-01 9.39E 00
17 9.10 0.	0.	1.25E 00	0.	0.	0.	2.96E 00	6.13E-02	4.36E 00	6.32E-01 9.50E 00
18 9.00 0.	0.	1.11E 00	0.	0.	0.	2.97E 00	6.34E-02	4.38E 00	6.29E-01 9.47E 00
19 8.90 0.	0.	1.02E 00	0.	0.	0.	2.99E 00	6.56E-02	4.39E 00	6.26E-01 9.39E 00
20 8.80 0.	0.	0.96E 00	0.	0.	0.	2.99E 00	6.79E-02	4.41E 00	6.24E-01 9.30E 00
21 8.70 0.	0.	0.86E 00	0.	0.	0.	3.00E 00	7.02E-02	4.42E 00	6.21E-01 9.25E 00
22 8.68 0.	0.	0.82E 00	0.	0.	0.	3.01E 00	7.27E-02	4.43E 00	6.18E-01 9.29E 00
23 8.58 0.	0.	0.65E 00	0.	0.	0.	3.02E 00	7.54E-02	4.44E 00	6.16E-01 9.10E 00
24 8.40 0.	0.	0.58E 00	0.	0.	0.	3.04E 00	7.81E-02	4.45E 00	6.13E-01 9.20E 00
25 8.30 0.	0.	0.37E 00	0.	0.	0.	3.05E 00	8.08E-02	4.46E 00	6.10E-01 9.19E 00
26 8.24 0.	0.	0.43E 00	0.	0.	0.	3.07E 00	8.36E-02	4.47E 00	6.15E-01 9.13E 00
27 8.10 0.	0.	0.49E 00	0.	0.	0.	3.09E 00	8.64E-02	4.48E 00	6.17E-01 9.04E 00
28 8.00 0.	0.	0.51E 00	0.	0.	0.	3.10E 00	8.92E-02	4.49E 00	6.18E-01 8.99E 00
29 7.99 0.	0.	0.47E 00	0.	0.	0.	3.12E 00	9.20E-02	4.51E 00	6.22E-01 8.94E 00
30 7.80 0.	0.	0.40E 00	0.	0.	0.	3.13E 00	9.47E-02	4.54E 00	6.25E-01 8.90E 00
31 7.75 0.	0.	0.22E 00	0.	0.	0.	3.15E 00	9.75E-02	4.56E 00	6.27E-01 8.95E 00
32 7.60 0.	0.	0.09E 00	0.	0.	0.	3.17E 00	1.00E-01	4.59E 00	6.30E-01 8.94E 00
33 7.57 0.	0.	0.65E 00	0.	1.00E-05	0.	3.18E 00	1.03E-01	4.62E 00	6.32E-01 8.85E 00
34 7.45 0.	0.	0.58E 00	0.	0.95E-05	0.	3.20E 00	1.06E-01	4.65E 00	6.34E-01 8.95E 00
35 7.35 0.	0.	0.80E 00	0.	0.80E-03	0.	3.22E 00	1.09E-01	4.68E 00	6.37E-01 8.96E 00
36 7.20 0.	0.	0.63E 00	0.	0.63E-03	0.	3.24E 00	1.12E-01	4.71E 00	6.39E-01 8.97E 00
37 7.10 0.	0.	0.43E 00	0.	0.43E-02	0.	3.26E 00	1.15E-01	4.74E 00	6.42E-01 8.91E 00
38 7.00 0.	0.	0.40E 00	0.	0.40E-02	0.	3.29E 00	1.18E-01	4.77E 00	6.44E-01 8.85E 00
39 6.90 0.	0.	0.19E 00	0.	0.19E-02	0.	3.31E 00	1.21E-01	4.80E 00	6.47E-01 8.80E 00
40 6.80 0.	0.	0.80E 00	0.	0.54E-02	0.	3.34E 00	1.24E-01	4.83E 00	6.49E-01 8.75E 00
41 6.70 0.	0.	0.71E 00	0.	0.71E-02	0.	3.37E 00	1.27E-01	4.86E 00	6.52E-01 8.72E 00
42 6.60 0.	0.	0.46E 00	0.	0.46E-02	0.	3.39E 00	1.30E-01	4.89E 00	6.55E-01 8.67E 00
43 6.50 0.	0.	0.56E 00	0.	0.56E-02	0.	3.42E 00	1.33E-01	4.92E 00	6.58E-01 8.64E 00
44 6.40 0.	0.	0.35E 00	0.	0.35E-02	0.	3.45E 00	1.36E-01	4.95E 00	6.61E-01 8.59E 00
45 6.30 0.	0.	0.41E 00	0.	0.41E-02	0.	3.47E 00	1.39E-01	4.98E 00	6.64E-01 8.54E 00
46 6.20 0.	0.	0.95E 00	0.	0.95E-02	0.	3.50E 00	1.42E-01	5.01E 00	6.67E-01 8.49E 00
47 6.10 0.	0.	1.30E 00	0.	1.30E-02	0.	3.53E 00	1.45E-01	5.04E 00	6.70E-01 8.44E 00
48 6.00 0.	0.	0.51E 00	0.	0.51E-02	0.	3.55E 00	1.48E-01	5.07E 00	6.73E-01 8.40E 00
49 5.90 0.	0.	0.35E 00	0.	0.35E-02	0.	3.58E 00	1.51E-01	5.10E 00	6.76E-01 8.35E 00
50 5.80 0.	0.	1.72E 00	0.	1.39E-02	0.	3.58E 00	1.54E-01	5.13E 00	6.79E-01 8.30E 00
51 5.70 0.	0.	1.26E 00	0.	1.61E-02	0.	3.59E 00	1.57E-01	5.16E 00	6.82E-01 8.25E 00

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
TEMPERATURE (DEGREES K) 16800. DENSITY (GM/CC) 1.2936-02 ( 1.0E 01 NORMAL)

WAVELENGTH MU	TEMPERATURE T	DENSITY RHO	REFRACTIVE INDEX		EXTINCTION COEFFICIENT		TOTAL AIR
			REAL	IMAGINARY	REAL	IMAGINARY	
52	5.07	5.49E-11	0.	1.39E-02	0.79E-02	0.	3.80E 00 2.66E-01 1.85E 00 0.39E-01 6.26E 00
53	5.51 0.	5.51 0.	0.	1.69E-02	0.14E-02	0.	3.27E 00 2.01E-01 1.00E 00 0.40E-01 6.26E 00
54	5.48 0.	5.48 0.	0.	1.70E-02	0.44E-02	0.	3.09E 00 2.93E-01 1.03E 00 0.39E-01 6.37E 00
55	5.51 0.	5.51 0.	0.	1.92E-02	0.30E-02	0.	3.11E 00 3.14E-01 1.00E 00 0.37E-01 6.47E 00
56	5.21 0.	5.21 0.	0.	1.64E-02	0.80E-02	0.	3.13E 00 3.32E-01 2.03E 00 0.37E-01 5.96E 00
57	5.11 0.	5.11 0.	0.	1.68E-02	7.02E-02	0.	3.10E 00 3.74E-01 2.15E 00 0.10E-01 6.70E 00
58	5.08 7.43E-06	5.08 7.43E-06	0.	1.49E-02	7.20E-02	0.	3.21E 00 3.90E-01 2.22E 00 1.02E 00 6.92E 00
59	4.99 1.04E-03	4.99 1.04E-03	0.	1.67E-02	7.64E-02	0.	3.24E 00 4.23E-01 2.30E 00 1.07E 00 7.12E 00
60	4.92 3.41E-03	4.92 3.41E-03	0.	1.77E-02	7.33E-02	0.	3.20E 00 4.51E-01 2.36E 00 1.07E 00 7.27E 00
61	4.79 4.54E-03	4.79 4.54E-03	0.	1.66E-02	6.67E-02	0.	3.29E 00 4.87E-01 2.47E 00 1.15E 00 7.44E 00
62	4.66 6.27E-03	4.66 6.27E-03	0.	1.49E-02	6.02E-02	0.	3.31E 00 5.17E-01 2.59E 00 1.15E 00 7.64E 00
63	4.50 8.49E-03	4.50 8.49E-03	0.	1.43E-02	4.91E-02	0.	3.34E 00 5.51E-01 2.71E 00 1.10E 00 7.85E 00
64	4.30 1.49E-02	4.30 1.49E-02	0.	1.59E-02	3.13E-02	0.	3.37E 00 5.91E-01 2.84E 00 1.22E 00 8.22E 00
65	4.30 4.47E-03	4.30 4.47E-03	0.	1.59E-02	3.04E-02	0.	3.39E 00 6.39E-01 2.97E 00 1.25E 00 8.64E 00
66	4.29 6.61E-03	4.29 6.61E-03	0.	1.43E-02	3.39E-02	0.	3.41E 00 6.92E-01 3.10E 00 1.24E 00 9.11E 00
67	4.19 5.41E-03	4.19 5.41E-03	0.	1.30E-02	3.01E-02	0.	3.42E 00 7.50E-01 3.24E 00 1.07E-01 9.65E 00
68	4.07 5.14E-03	4.07 5.14E-03	0.	1.32E-02	2.89E-02	0.	3.41E 00 7.04E-01 3.10E 00 4.82E-01 9.19E 00
69	3.80 4.34E-03	3.80 4.34E-03	0.	1.36E-02	2.17E-02	0.	3.40E 00 6.60E-01 3.19E 00 5.21E-01 8.19E 00
70	3.69 4.74E-03	3.69 4.74E-03	0.	1.49E-02	1.49E-02	0.	3.34E 00 6.30E-01 3.19E 00 5.81E-01 6.60E 00
71	3.71 4.18E-03	3.71 4.18E-03	0.	1.39E-02	1.34E-02	0.	3.34E 00 6.08E-01 3.19E 00 5.81E-01 6.60E 00
72	3.69 3.79E-03	3.69 3.79E-03	0.	1.31E-02	1.01E-02	0.	3.34E 00 5.91E-01 3.19E 00 5.81E-01 6.60E 00
73	3.59 3.48E-03	3.59 3.48E-03	0.	1.06E-02	1.06E-02	0.	3.04E 00 1.10E 00 2.80E 00 6.49E-01 4.91E 00
74	3.40 3.17E-03	3.40 3.17E-03	0.	1.10E-02	1.10E-02	0.	1.69E 00 1.20E 00 3.24E 00 7.40E-01 7.26E 00
75	3.31 2.92E-03	3.31 2.92E-03	0.	1.06E-02	1.06E-02	0.	1.69E 00 1.32E 00 3.50E 00 8.11E-01 7.95E 00
76	3.20 2.10E-03	3.20 2.10E-03	0.	2.36E-01	3.79E-01	9.81E-03	1.68E 00 1.49E 00 3.72E 00 8.64E-01 8.53E 00
77	3.10 2.09E-03	3.10 2.09E-03	0.	1.93E-01	6.37E-01	9.22E-03	1.66E 00 1.59E 00 4.28E 00 9.01E-01 8.77E 00
78	3.00 1.89E-03	3.00 1.89E-03	0.	1.11E-01	2.04E-01	6.43E-03	1.66E 00 1.76E 00 4.64E 00 1.54E 00 9.42E 00
79	2.90 1.54E-03	2.90 1.54E-03	0.	6.09E-02	1.32E-01	6.91E-03	1.67E 00 1.95E 00 5.01E 00 1.17E 00 9.92E 00
80	2.80 1.40E-03	2.80 1.40E-03	0.	3.11E-02	6.24E-02	4.44E-03	1.67E 00 2.17E 00 5.44E 00 1.21E 00 9.46E 00
81	2.70 1.02E-03	2.70 1.02E-03	0.	1.95E-02	6.94E-02	2.39E-03	1.67E 00 2.62E 00 5.91E 00 1.30E 00 9.14E 00
82	2.68 4.74E-04	2.68 4.74E-04	0.	7.99E-03	9.44E-03	1.04E-03	1.67E 00 2.71E 00 6.41E 00 1.41E 00 9.28E 00
83	2.59 3.51E-05	2.59 3.51E-05	0.	4.32E-04	6.04E-03	2.46E-04	1.67E 00 2.90E 00 7.29E 00 1.29E 00 9.44E-01 1.20E 00
84	2.48 0.	2.48 0.	0.	3.63E-02	7.33E-03	2.68E-05	1.67E 00 3.37E 00 8.59E 00 9.44E-01 1.46E 00
85	2.37 0.	2.37 0.	0.	3.26E-01	0.	0.	1.60E 00 3.95E 00 7.95E 00 1.13E 00 1.39E 00
86	2.27 0.	2.27 0.	0.	3.24E-01	0.	0.	1.60E 00 4.97E 00 6.32E 00 1.14E 00 1.62E 00
87	2.17 0.	2.17 0.	0.	3.54E-01	0.	0.	1.60E 00 5.20E 00 9.71E 00 1.20E 00 1.89E 00
88	2.07 0.	2.07 0.	0.	6.02E-01	0.	0.	1.59E 00 6.04E 00 1.11E 00 1.01E 00 2.12E 00
89	1.91 0.	1.91 0.	0.	9.14E-01	0.	0.	1.53E 00 7.04E 00 1.26E 00 2.04E 00 2.48E 00
90	1.80 0.	1.80 0.	0.	7.66E-01	0.	0.	1.46E 00 8.33E 00 1.51E 00 2.52E 00 2.82E 00
91	1.70 0.	1.70 0.	0.	6.98E-01	0.	0.	1.39E 00 9.91E 00 1.91E 00 3.04E 00 3.33E 00
92	1.60 0.	1.60 0.	0.	6.54E-01	0.	0.	1.37E 00 1.10E 00 2.11E 00 3.00E 00 3.94E 00
93	1.50 0.	1.50 0.	0.	7.04E-01	0.	0.	1.30E-01 1.45E 00 2.25E 00 4.37E 00 4.72E 00
94	1.40 0.	1.40 0.	0.	7.07E-01	0.	0.	1.29E 00 1.79E 00 3.37E 00 5.21E 00 5.76E 00
95	1.35 0.	1.35 0.	0.	5.83E-01	0.	0.	2.09E 00 4.41E 00 6.09E 00 7.41E 00 8.14E 00
96	1.25 0.	1.25 0.	0.	5.50E-01	0.	0.	2.70E 00 4.72E 00 8.10E 00 8.34E 00 9.10E 00
97	1.19 0.	1.19 0.	0.	5.23E-01	0.	0.	3.40E 00 5.02E 00 9.10E 00 8.44E 00 1.05E 00
98	1.09 0.	1.09 0.	0.	4.80E-01	0.	0.	5.04E 00 7.06E 00 1.91E 00 1.31E 00 1.52E 00
99	0.91 0.	0.91 0.	0.	3.94E-01	0.	0.	6.84E 00 8.00E 00 1.90E 00 1.45E 00 1.62E 00
100	0.81 0.	0.81 0.	0.	3.04E-01	0.	0.	9.04E 00 9.31E 00 1.33E 00 1.80E 00 2.06E 00
101	0.71 0.	0.71 0.	0.	4.04E-02	0.	0.	1.26E 00 1.01E 00 1.40E 00 2.40E 00 2.66E 00
102	0.61 0.	0.61 0.	0.	7.12E-03	0.	0.	2.07E 00 1.13E 00 1.57E 00 3.71E 00 4.02E 00



ABSORPTION COEFFICIENTS OF HEATED AIR (WINDSOR CH.)  
 TEMPERATURE (DEGREES K) 10000. DENSITY (GM/CC) 1.293E-03 (1.0E 20 NORMAL)

PHOTON ENERGY BANDS	02 S-R CONT.	W2 R-H WC. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DET (PHE)	W P.E.	0- P.E.	TOTAL AIR P.E.
1 18.70 8.	0.	3.27E-02	0.	0.	0.	0.60E-02	3.53E-03	2.35E-01	0.69E-02
2 18.60 0.	0.	2.95E-02	2.	0.	0.	5.79E-02	3.63E-03	4.17E-01	0.62E-02
3 18.50 0.	0.	2.97E-02	0.	0.	0.	6.71E-02	3.73E-03	4.19E-01	0.60E-02
4 18.40 0.	0.	2.79E-02	0.	0.	0.	7.26E-02	3.84E-03	4.28E-01	0.57E-02
5 18.30 0.	0.	2.62E-02	0.	0.	0.	7.76E-02	3.94E-03	4.36E-01	0.54E-02
6 18.20 0.	0.	2.44E-02	0.	0.	0.	8.26E-02	4.04E-03	4.44E-01	0.51E-02
7 18.10 0.	0.	2.23E-02	0.	0.	0.	8.77E-02	4.14E-03	4.52E-01	0.48E-02
8 18.00 0.	0.	2.07E-02	0.	0.	0.	9.29E-02	4.24E-03	4.60E-01	0.45E-02
9 17.90 0.	0.	1.93E-02	0.	0.	0.	9.82E-02	4.34E-03	4.68E-01	0.42E-02
10 17.80 0.	0.	1.80E-02	0.	0.	0.	1.03E-01	4.44E-03	4.76E-01	0.39E-02
11 17.70 0.	0.	1.68E-02	0.	0.	0.	1.08E-01	4.54E-03	4.84E-01	0.36E-02
12 17.60 0.	0.	1.56E-02	0.	0.	0.	1.13E-01	4.64E-03	4.92E-01	0.33E-02
13 17.50 0.	0.	1.45E-02	0.	0.	0.	1.18E-01	4.74E-03	5.00E-01	0.30E-02
14 17.40 0.	0.	1.32E-02	0.	0.	0.	1.23E-01	4.84E-03	5.08E-01	0.27E-02
15 17.30 0.	0.	1.19E-02	0.	0.	0.	1.28E-01	4.94E-03	5.16E-01	0.24E-02
16 17.20 0.	0.	1.05E-02	0.	0.	0.	1.33E-01	5.04E-03	5.24E-01	0.21E-02
17 17.10 0.	0.	1.22E-02	0.	0.	0.	1.38E-01	5.14E-03	5.32E-01	0.18E-02
18 17.00 0.	0.	1.10E-02	0.	0.	0.	1.43E-01	5.24E-03	5.40E-01	0.15E-02
19 16.90 0.	0.	1.01E-02	0.	0.	0.	1.48E-01	5.34E-03	5.48E-01	0.12E-02
20 16.80 0.	0.	0.90E-02	0.	0.	0.	1.53E-01	5.44E-03	5.56E-01	0.09E-02
21 16.70 0.	0.	0.81E-02	0.	0.	0.	1.58E-01	5.54E-03	5.64E-01	0.06E-02
22 16.60 0.	0.	0.74E-02	0.	0.	0.	1.63E-01	5.64E-03	5.72E-01	0.03E-02
23 16.50 0.	0.	7.89E-03	0.	0.	0.	1.68E-01	5.74E-03	5.80E-01	0.00E-02
24 16.40 0.	0.	7.31E-03	0.	0.	0.	1.73E-01	5.84E-03	5.88E-01	0.00E-02
25 16.30 0.	0.	6.73E-03	0.	0.	0.	1.78E-01	5.94E-03	5.96E-01	0.00E-02
26 16.20 0.	0.	6.15E-03	0.	0.	0.	1.83E-01	6.04E-03	6.04E-01	0.00E-02
27 16.10 0.	0.	5.57E-03	0.	0.	0.	1.88E-01	6.14E-03	6.12E-01	0.00E-02
28 16.00 0.	0.	5.04E-03	0.	0.	0.	1.93E-01	6.24E-03	6.20E-01	0.00E-02
29 15.90 0.	0.	4.64E-03	0.	0.	0.	1.98E-01	6.34E-03	6.28E-01	0.00E-02
30 15.80 0.	0.	4.24E-03	0.	0.	0.	2.03E-01	6.44E-03	6.36E-01	0.00E-02
31 15.70 0.	0.	4.09E-03	0.	0.	0.	2.08E-01	6.54E-03	6.44E-01	0.00E-02
32 15.60 0.	0.	3.95E-03	0.	0.	0.	2.13E-01	6.64E-03	6.52E-01	0.00E-02
33 15.50 0.	0.	3.83E-03	0.	0.	0.	2.18E-01	6.74E-03	6.60E-01	0.00E-02
34 15.40 0.	0.	3.74E-03	0.	0.	0.	2.23E-01	6.84E-03	6.68E-01	0.00E-02
35 15.30 0.	0.	3.65E-03	0.	0.	0.	2.28E-01	6.94E-03	6.76E-01	0.00E-02
36 15.20 0.	0.	2.74E-03	0.	0.	0.	2.33E-01	7.04E-03	6.84E-01	0.00E-02
37 15.10 0.	0.	2.61E-03	0.	0.	0.	2.38E-01	7.14E-03	6.92E-01	0.00E-02
38 15.00 0.	0.	2.50E-03	0.	0.	0.	2.43E-01	7.24E-03	7.00E-01	0.00E-02
39 14.90 0.	0.	2.40E-03	0.	0.	0.	2.48E-01	7.34E-03	7.08E-01	0.00E-02
40 14.80 0.	0.	2.32E-03	0.	0.	0.	2.53E-01	7.44E-03	7.16E-01	0.00E-02
41 14.70 0.	0.	2.25E-03	0.	0.	0.	2.58E-01	7.54E-03	7.24E-01	0.00E-02
42 14.60 0.	0.	2.18E-03	0.	0.	0.	2.63E-01	7.64E-03	7.32E-01	0.00E-02
43 14.50 0.	0.	2.12E-03	0.	0.	0.	2.68E-01	7.74E-03	7.40E-01	0.00E-02
44 14.40 0.	0.	2.06E-03	0.	0.	0.	2.73E-01	7.84E-03	7.48E-01	0.00E-02
45 14.30 0.	0.	2.00E-03	0.	0.	0.	2.78E-01	7.94E-03	7.56E-01	0.00E-02
46 14.20 0.	0.	1.95E-03	0.	0.	0.	2.83E-01	8.04E-03	7.64E-01	0.00E-02
47 14.10 0.	0.	1.90E-03	0.	0.	0.	2.88E-01	8.14E-03	7.72E-01	0.00E-02
48 14.00 0.	0.	1.85E-03	0.	0.	0.	2.93E-01	8.24E-03	7.80E-01	0.00E-02
49 13.90 0.	0.	1.80E-03	0.	0.	0.	2.98E-01	8.34E-03	7.88E-01	0.00E-02
50 13.80 0.	0.	1.75E-03	0.	0.	0.	3.03E-01	8.44E-03	7.96E-01	0.00E-02
51 13.70 0.	0.	1.70E-03	0.	0.	0.	3.08E-01	8.54E-03	8.04E-01	0.00E-02

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 1800.2, DENSITY (GM/CC) 1.293E-03 ( 1.0E 00 NORMAL)

PHOTON ENERGY	QZ	1ST POS.	N2	N2A	META	NO	GAMMA	VIC-ROT	NO	PHOTO-DET	M	P.E.	O	TOTAL AIR
52	5.61	5.50E-13	0.	0.	1.32E-04	0.97E-04	0.	0.	0.	0.28E-02	2.49E-02	1.04E-01	9.28E-02	3.96E-01
53	5.59	0.	0.	0.	1.61E-04	7.97E-04	0.	0.	0.	0.33E-02	2.63E-02	1.07E-01	9.38E-02	4.01E-01
54	5.49	0.	0.	0.	1.47E-04	6.32E-04	0.	0.	0.	9.34E-02	2.78E-02	1.92E-01	9.43E-02	4.98E-01
55	5.39	0.	0.	0.	1.58E-04	6.13E-04	0.	0.	0.	9.44E-02	2.94E-02	1.97E-01	9.57E-02	4.17E-01
56	5.23	0.	0.	0.	1.91E-04	5.92E-04	0.	0.	0.	9.58E-02	3.12E-02	2.02E-01	9.75E-02	4.28E-01
57	5.19	0.	0.	0.	1.88E-04	7.66E-04	0.	0.	0.	9.58E-02	3.30E-02	2.08E-01	9.93E-02	4.37E-01
58	5.09	7.10E-06	0.	0.	1.48E-04	7.11E-04	0.	0.	0.	9.64E-02	3.51E-02	2.14E-01	1.03E-01	4.48E-01
59	4.99	3.10E-05	0.	0.	1.62E-04	7.68E-04	0.	0.	0.	9.74E-02	3.73E-02	2.21E-01	1.03E-01	4.63E-01
60	4.89	3.10E-05	0.	0.	1.73E-04	7.10E-04	0.	0.	0.	9.82E-02	3.97E-02	2.29E-01	1.05E-01	4.78E-01
61	4.79	4.41E-05	0.	0.	1.72E-04	6.48E-04	0.	0.	0.	9.90E-02	4.23E-02	2.37E-01	1.08E-01	4.97E-01
62	4.69	6.82E-05	0.	0.	1.74E-04	5.90E-04	0.	0.	0.	1.01E-01	4.51E-02	2.46E-01	1.11E-01	5.27E-01
63	4.59	8.28E-05	0.	0.	1.60E-04	6.42E-04	0.	0.	0.	1.01E-01	4.79E-02	2.56E-01	1.14E-01	5.21E-01
64	4.49	5.56E-05	0.	0.	1.60E-04	3.07E-04	0.	0.	0.	1.02E-01	5.14E-02	2.70E-01	1.16E-01	5.08E-01
65	4.39	5.25E-05	0.	0.	1.72E-04	1.89E-04	0.	0.	0.	1.03E-01	5.54E-02	2.83E-01	1.19E-01	5.62E-01
66	4.29	5.41E-05	0.	0.	1.59E-04	1.38E-04	0.	0.	0.	1.03E-01	5.99E-02	2.96E-01	1.23E-01	5.67E-01
67	4.19	5.42E-05	0.	0.	1.32E-03	0.	0.	0.	0.	1.04E-01	6.40E-02	3.09E-01	1.23E-01	5.67E-01
68	4.09	4.97E-05	0.	0.	8.60E-03	0.	0.	0.	0.	1.04E-01	6.89E-02	3.22E-01	1.23E-01	5.67E-01
69	3.99	4.20E-05	0.	0.	3.69E-03	6.07E-04	0.	0.	0.	1.04E-01	7.44E-02	3.38E-01	1.23E-01	5.67E-01
70	3.89	4.04E-05	0.	0.	5.82E-03	2.74E-03	0.	0.	0.	1.03E-01	8.05E-02	3.54E-01	1.23E-01	5.67E-01
71	3.79	4.33E-05	0.	0.	4.25E-03	1.07E-03	0.	0.	0.	1.02E-01	8.73E-02	3.71E-01	1.23E-01	5.67E-01
72	3.69	3.37E-05	0.	0.	4.24E-03	5.68E-03	0.	0.	0.	1.02E-01	9.47E-02	3.89E-01	1.23E-01	5.67E-01
73	3.59	3.37E-05	0.	0.	5.72E-03	1.04E-04	0.	0.	0.	1.01E-01	1.03E-01	4.08E-01	1.23E-01	5.67E-01
74	3.49	3.66E-05	0.	0.	3.53E-03	1.65E-03	0.	0.	0.	1.01E-01	1.15E-01	4.32E-01	1.23E-01	5.67E-01
75	3.39	2.44E-05	0.	0.	3.63E-03	6.70E-03	0.	0.	0.	1.02E-01	1.23E-01	4.56E-01	1.23E-01	5.67E-01
76	3.29	2.11E-05	0.	0.	2.94E-03	1.19E-02	0.	0.	0.	1.03E-01	1.37E-01	4.81E-01	1.23E-01	5.67E-01
77	3.19	2.01E-05	0.	0.	1.61E-03	2.59E-03	0.	0.	0.	1.04E-01	1.49E-01	5.07E-01	1.23E-01	5.67E-01
78	3.09	1.79E-05	0.	0.	1.10E-03	6.44E-03	0.	0.	0.	1.05E-01	1.65E-01	5.34E-01	1.23E-01	5.67E-01
79	2.99	1.49E-05	0.	0.	4.83E-04	3.61E-03	0.	0.	0.	1.06E-01	1.83E-01	5.62E-01	1.23E-01	5.67E-01
80	2.89	1.55E-05	0.	0.	3.28E-04	2.17E-03	0.	0.	0.	1.07E-01	2.03E-01	5.92E-01	1.23E-01	5.67E-01
81	2.79	9.45E-06	0.	0.	1.53E-04	3.37E-03	0.	0.	0.	1.08E-01	2.27E-01	6.24E-01	1.23E-01	5.67E-01
82	2.69	4.78E-06	0.	0.	7.53E-05	3.04E-04	0.	0.	0.	1.09E-01	2.54E-01	6.60E-01	1.23E-01	5.67E-01
83	2.59	3.70E-07	0.	0.	6.25E-06	2.07E-04	0.	0.	0.	1.10E-01	2.87E-01	7.00E-01	1.23E-01	5.67E-01
84	2.49	0.	0.	0.	3.00E-04	0.	0.	0.	0.	1.11E-01	3.27E-01	7.44E-01	1.23E-01	5.67E-01
85	2.39	0.	0.	0.	1.27E-03	0.	0.	0.	0.	1.12E-01	3.70E-01	7.82E-01	1.23E-01	5.67E-01
86	2.29	0.	0.	0.	3.21E-03	0.	0.	0.	0.	1.13E-01	4.16E-01	8.20E-01	1.23E-01	5.67E-01
87	2.19	0.	0.	0.	3.51E-03	6.	0.	0.	0.	1.14E-01	4.64E-01	8.58E-01	1.23E-01	5.67E-01
88	2.09	0.	0.	0.	6.76E-03	0.	0.	0.	0.	1.15E-01	5.14E-01	9.00E-01	1.23E-01	5.67E-01
89	1.99	0.	0.	0.	9.07E-03	0.	0.	0.	0.	1.16E-01	5.66E-01	9.44E-01	1.23E-01	5.67E-01
90	1.89	0.	0.	0.	7.68E-03	0.	0.	0.	0.	1.17E-01	6.20E-01	9.90E-01	1.23E-01	5.67E-01
91	1.79	0.	0.	0.	8.82E-03	0.	0.	0.	0.	1.18E-01	6.76E-01	1.04E-01	1.23E-01	5.67E-01
92	1.69	0.	0.	0.	6.51E-03	0.	0.	0.	0.	1.19E-01	7.34E-01	1.09E-01	1.23E-01	5.67E-01
93	1.59	0.	0.	0.	7.59E-03	0.	0.	0.	0.	1.20E-01	7.94E-01	1.14E-01	1.23E-01	5.67E-01
94	1.49	0.	0.	0.	5.78E-03	0.	0.	0.	0.	1.21E-01	8.56E-01	1.19E-01	1.23E-01	5.67E-01
95	1.39	0.	0.	0.	5.19E-03	0.	0.	0.	0.	1.22E-01	9.20E-01	1.24E-01	1.23E-01	5.67E-01
96	1.29	0.	0.	0.	5.55E-03	0.	0.	0.	0.	1.23E-01	9.86E-01	1.29E-01	1.23E-01	5.67E-01
97	1.19	0.	0.	0.	4.74E-03	0.	0.	0.	0.	1.24E-01	1.05E-01	1.34E-01	1.23E-01	5.67E-01
98	1.09	0.	0.	0.	3.91E-03	0.	0.	0.	0.	1.25E-01	1.14E-01	1.39E-01	1.23E-01	5.67E-01
99	0.99	0.	0.	0.	1.84E-03	0.	0.	0.	0.	1.26E-01	1.24E-01	1.44E-01	1.23E-01	5.67E-01
100	0.89	0.	0.	0.	4.41E-04	0.	0.	0.	0.	1.27E-01	1.34E-01	1.49E-01	1.23E-01	5.67E-01
101	0.79	0.	0.	0.	7.86E-05	0.	0.	0.	0.	1.28E-01	1.44E-01	1.54E-01	1.23E-01	5.67E-01
102	0.69	0.	0.	0.	0.	0.	0.	0.	0.	1.29E-01	1.54E-01	1.59E-01	1.23E-01	5.67E-01

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 18000. DENSITY (GM/CC) 1.293E-04 ( 1.9E-81 NORMAL)

WAVENUMBER CM <sup>-1</sup>	S-R CONT.	M2 R-H NO. 1	NO BETA		NO GAMMA	NO 2	O- PHOTO-DET (TMS)	PREF-FREE P.E.	M	O	TOTAL AIR P.F.
			BETA	GAMMA							
1 10.70 0.	0.	2.53E-04	0.	0.	0.	0.	2.22E-03	2.09E-04	1.94E 00	7.06E-03	1.95E 00
2 10.60 0.	0.	2.01E-04	0.	0.	0.	0.	2.22E-03	3.01E-04	3.44E-02	7.63E-03	4.40E-02
3 10.50 0.	0.	2.02E-04	0.	0.	0.	0.	2.22E-03	3.09E-04	3.46E-02	7.61E-03	4.50E-02
4 10.40 0.	0.	1.90E-04	0.	0.	0.	0.	2.22E-03	3.19E-04	3.47E-02	7.59E-03	4.59E-02
5 10.30 0.	0.	1.85E-04	0.	0.	0.	0.	2.22E-03	3.29E-04	3.49E-02	7.56E-03	4.51E-02
6 10.20 0.	0.	1.80E-04	0.	0.	0.	0.	2.22E-03	3.38E-04	3.49E-02	7.54E-03	4.55E-02
7 10.10 0.	0.	1.89E-04	0.	0.	0.	0.	2.22E-03	3.48E-04	3.46E-02	7.58E-03	4.52E-02
8 10.00 0.	0.	1.80E-04	0.	0.	0.	0.	2.24E-03	3.58E-04	3.50E-02	7.49E-03	4.52E-02
9 9.90 0.	0.	1.41E-04	0.	0.	0.	0.	2.24E-03	3.68E-04	3.51E-02	7.49E-03	4.53E-02
10 9.80 0.	0.	1.32E-04	0.	0.	0.	0.	2.24E-03	3.81E-04	3.52E-02	7.45E-03	4.54E-02
11 9.70 0.	0.	1.33E-04	0.	0.	0.	0.	2.24E-03	3.95E-04	3.53E-02	7.40E-03	4.54E-02
12 9.60 0.	0.	1.32E-04	0.	0.	0.	0.	2.24E-03	4.05E-04	3.51E-02	7.37E-03	4.55E-02
13 9.50 0.	0.	1.33E-04	0.	0.	0.	0.	2.26E-03	4.18E-04	3.52E-02	7.34E-03	4.56E-02
14 9.40 0.	0.	0.89E-05	0.	0.	0.	0.	2.26E-03	4.32E-04	3.50E-02	7.32E-03	4.57E-02
15 9.30 0.	0.	0.90E-05	0.	0.	0.	0.	2.27E-03	4.46E-04	3.57E-02	7.29E-03	4.58E-02
16 9.20 0.	0.	0.11E-05	0.	0.	0.	0.	2.27E-03	4.60E-04	3.59E-02	7.27E-03	4.59E-02
17 9.10 0.	0.	0.32E-05	0.	0.	0.	0.	2.29E-03	4.74E-04	1.23E-02	7.24E-03	2.24E-02
18 9.00 0.	0.	7.91E-05	0.	0.	0.	0.	2.31E-03	4.97E-04	1.25E-02	7.25E-03	2.24E-02
19 8.90 0.	0.	6.89E-05	0.	0.	0.	0.	2.31E-03	5.08E-04	1.25E-02	7.19E-03	2.24E-02
20 8.80 0.	0.	6.79E-05	0.	0.	0.	0.	2.32E-03	5.22E-04	1.23E-02	7.16E-03	2.24E-02
21 8.70 0.	0.	5.80E-05	0.	0.	0.	0.	2.32E-03	5.42E-04	1.23E-02	7.15E-03	2.24E-02
22 8.60 0.	0.	5.96E-05	0.	0.	0.	0.	2.33E-03	5.65E-04	1.24E-02	7.12E-03	2.24E-02
23 8.50 0.	0.	5.17E-05	0.	0.	0.	0.	2.34E-03	5.88E-04	1.24E-02	7.10E-03	2.25E-02
24 8.40 0.	0.	5.12E-05	0.	0.	0.	0.	2.35E-03	6.07E-04	1.24E-02	7.08E-03	2.25E-02
25 8.30 0.	0.	4.31E-05	0.	0.	0.	0.	2.36E-03	6.29E-04	1.24E-02	7.07E-03	2.25E-02
26 8.20 0.	0.	4.34E-05	0.	0.	0.	0.	2.38E-03	6.52E-04	1.25E-02	7.05E-03	2.25E-02
27 8.10 0.	0.	3.72E-05	0.	0.	0.	0.	2.38E-03	6.77E-04	1.25E-02	7.11E-03	2.25E-02
28 8.00 0.	0.	3.72E-05	0.	0.	0.	0.	2.40E-03	7.03E-04	1.25E-02	7.13E-03	2.28E-02
29 7.90 0.	0.	3.20E-05	0.	0.	0.	0.	2.41E-03	7.30E-04	1.26E-02	7.16E-03	2.29E-02
30 7.80 0.	0.	3.20E-05	0.	0.	0.	0.	2.42E-03	7.59E-04	1.27E-02	7.15E-03	2.31E-02
31 7.70 0.	0.	2.94E-05	0.	0.	0.	0.	2.44E-03	7.89E-04	1.27E-02	7.20E-03	2.32E-02
32 7.60 0.	0.	2.70E-05	0.	0.	0.	0.	2.45E-03	8.20E-04	1.26E-02	7.23E-03	2.33E-02
33 7.50 0.	0.	2.48E-05	0.	0.	0.	0.	2.46E-03	8.52E-04	1.26E-02	7.24E-03	2.33E-02
34 7.40 0.	0.	2.21E-05	0.	0.	0.	0.	2.48E-03	8.85E-04	1.25E-02	7.28E-03	2.35E-02
35 7.30 0.	0.	2.08E-05	0.	0.	0.	0.	2.49E-03	9.20E-04	1.30E-02	7.26E-03	2.35E-02
36 7.20 0.	0.	1.87E-05	0.	0.	0.	0.	2.50E-03	9.56E-04	1.31E-02	7.30E-03	2.39E-02
37 7.10 0.	0.	1.70E-05	0.	0.	0.	0.	2.52E-03	1.01E-03	1.31E-02	7.33E-03	2.41E-02
38 7.00 3.50E-09	0.	1.62E-05	0.	0.	0.	0.	2.53E-03	1.05E-03	1.32E-02	7.35E-03	2.41E-02
39 6.90 4.93E-09	0.	1.48E-05	0.	0.	0.	0.	2.56E-03	1.11E-03	1.32E-02	7.37E-03	2.43E-02
40 6.80 5.94E-09	0.	1.41E-05	0.	0.	0.	0.	2.58E-03	1.18E-03	1.33E-02	7.39E-03	2.45E-02
41 6.70 4.32E-09	0.	1.23E-05	0.	0.	0.	0.	2.60E-03	1.26E-03	1.36E-02	7.42E-03	2.46E-02
42 6.60 2.62E-09	0.	1.09E-05	0.	0.	0.	0.	2.63E-03	1.35E-03	1.36E-02	7.45E-03	2.48E-02
43 6.50 1.50E-09	0.	8.11E-06	0.	0.	0.	0.	2.65E-03	1.45E-03	1.36E-02	7.49E-03	2.51E-02
44 6.41 4.55E-10	0.	5.48E-06	0.	0.	0.	0.	2.67E-03	1.57E-03	1.37E-02	7.53E-03	2.53E-02
45 6.30 4.93E-10	0.	3.52E-06	0.	0.	0.	0.	2.69E-03	1.4.5E-03	1.39E-02	7.57E-03	2.56E-02
46 6.20 2.21E-10	0.	1.98E-06	0.	0.	0.	0.	2.71E-03	1.57E-03	1.40E-02	7.65E-03	2.59E-02
47 6.13 1.01E-10	0.	0.18E-07	0.	0.	0.	0.	2.73E-03	1.56E-03	1.42E-02	7.71E-03	2.62E-02
48 6.01 4.17E-11	0.	2.31E-07	0.	0.	0.	0.	2.75E-03	1.64E-03	1.43E-02	7.81E-03	2.66E-02
49 5.90 1.02E-11	0.	1.66E-08	0.	0.	0.	0.	2.77E-03	1.74E-03	1.43E-02	7.89E-03	2.70E-02
50 5.81 1.10E-12	0.	4.16E-08	0.	0.	0.	0.	2.79E-03	1.86E-03	1.47E-02	7.97E-03	2.73E-02
51 5.71 9.56E-14	0.	0.	0.	0.	0.	0.	2.54E-03	1.94E-03	1.49E-02	8.04E-03	2.75E-02

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 10000. DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)

PHOTON ENERGY	2ND POS.	422	NO	BETA	NO	GAMMA	NO	YIR-ROT	NO	2	0-	FREF-FREF	M	0	TOTAL AIR
1ST POS.	1ST NEG.	1ST NEG.	NO	BETA	NO	GAMMA	NO	YIR-ROT	NO	2	PHOTO-OPT (FMS)	P.E.	P.E.	P.E.	P.E.
52	5.63	4.30E-19	0.	0.	9.50E-07	6.26E-06	0.	0.	0.	0.	2.36E-03	2.04E-03	1.52E-02	0.14E-03	2.70E-02
53	5.50	0.	0.	1.10E-06	5.02E-05	0.	0.	0.	0.	0.	2.39E-03	2.10E-03	1.59E-02	0.24E-03	2.63E-02
54	5.40	0.	0.	1.07E-06	4.62E-05	0.	0.	0.	0.	0.	2.39E-03	2.30E-03	1.59E-02	0.39E-03	2.60E-02
55	5.33	0.	0.	1.10E-06	5.04E-05	0.	0.	0.	0.	0.	2.40E-03	2.44E-03	1.60E-02	0.47E-03	2.66E-02
56	5.20	0.	0.	1.10E-06	4.32E-05	0.	0.	0.	0.	0.	2.42E-03	2.50E-03	1.62E-02	0.63E-03	2.63E-02
57	5.19	0.	0.	1.17E-06	5.10E-05	0.	0.	0.	0.	0.	2.46E-03	2.74E-03	1.72E-02	0.76E-03	3.11E-02
58	5.03	1.30E-08	0.	1.07E-06	5.10E-05	0.	0.	0.	0.	0.	2.46E-03	2.91E-03	1.77E-02	0.94E-03	3.20E-02
59	4.90	1.30E-07	0.	1.10E-06	5.61E-05	0.	0.	0.	0.	0.	2.48E-03	3.09E-03	1.83E-02	0.12E-03	3.30E-02
60	4.80	1.50E-07	0.	1.27E-06	5.24E-05	0.	0.	0.	0.	0.	2.49E-03	3.29E-03	1.89E-02	0.31E-03	3.40E-02
61	4.70	1.45E-07	0.	1.24E-06	4.73E-05	0.	0.	0.	0.	0.	2.52E-03	3.70E-03	1.95E-02	0.55E-03	3.51E-02
62	4.60	4.71E-07	0.	1.24E-06	4.31E-05	0.	0.	0.	0.	0.	2.54E-03	3.74E-03	2.03E-02	0.30E-03	3.64E-02
63	4.50	4.92E-07	0.	1.19E-06	3.23E-05	0.	0.	0.	0.	0.	2.56E-03	4.00E-03	2.13E-02	1.00E-03	3.79E-02
64	4.40	5.71E-07	0.	1.17E-06	2.74E-05	0.	0.	0.	0.	0.	2.58E-03	4.29E-03	2.23E-02	1.03E-03	3.94E-02
65	4.30	4.89E-07	0.	1.15E-06	1.99E-05	0.	0.	0.	0.	0.	2.61E-03	4.59E-03	2.33E-02	1.04E-03	4.11E-02
66	4.20	4.59E-07	0.	1.16E-06	9.73E-07	0.	0.	0.	0.	0.	2.64E-03	4.93E-03	2.44E-02	1.04E-03	4.29E-02
67	4.10	4.24E-07	0.	1.13E-06	2.73E-07	0.	0.	0.	0.	0.	2.66E-03	5.30E-03	2.55E-02	1.04E-03	4.48E-02
68	4.00	3.89E-07	0.	1.09E-06	2.07E-07	0.	0.	0.	0.	0.	2.69E-03	5.71E-03	2.66E-02	0.80E-03	4.67E-02
69	3.90	3.28E-07	0.	2.59E-05	1.44E-05	6.93E-07	0.	0.	0.	0.	2.69E-03	6.17E-03	2.78E-02	4.10E-03	4.85E-02
70	3.80	3.09E-07	0.	3.97E-05	6.55E-05	1.07E-06	0.	0.	0.	0.	2.69E-03	6.76E-03	2.90E-02	4.10E-03	5.03E-02
71	3.70	3.10E-07	0.	4.28E-05	2.57E-05	8.97E-07	0.	0.	0.	0.	2.69E-03	7.40E-03	3.02E-02	4.70E-03	5.21E-02
72	3.60	3.04E-07	0.	4.98E-05	1.39E-04	9.71E-07	0.	0.	0.	0.	2.69E-03	8.10E-03	3.14E-02	5.20E-03	5.39E-02
73	3.50	3.03E-07	0.	3.90E-05	2.84E-04	7.98E-07	0.	0.	0.	0.	2.69E-03	8.95E-03	3.26E-02	5.62E-03	5.58E-02
74	3.40	2.40E-07	0.	2.40E-05	3.00E-05	4.40E-07	0.	0.	0.	0.	1.26E-03	9.95E-03	3.38E-02	6.44E-03	5.76E-02
75	3.30	1.91E-07	0.	2.45E-05	1.50E-04	6.71E-07	0.	0.	0.	0.	1.28E-03	1.10E-02	3.49E-02	7.06E-03	5.95E-02
76	3.20	1.63E-07	0.	1.60E-05	2.81E-04	7.02E-07	0.	0.	0.	0.	1.29E-03	1.25E-02	3.60E-02	7.71E-03	6.14E-02
77	3.10	1.51E-07	0.	1.24E-05	6.14E-05	6.60E-07	0.	0.	0.	0.	1.29E-03	1.40E-02	3.72E-02	8.34E-03	6.33E-02
78	3.00	1.40E-07	0.	7.91E-06	1.52E-04	6.17E-07	0.	0.	0.	0.	1.29E-03	1.56E-02	3.84E-02	8.91E-03	6.52E-02
79	2.90	1.17E-07	0.	4.64E-06	6.55E-05	4.65E-07	0.	0.	0.	0.	1.29E-03	1.71E-02	3.96E-02	9.71E-03	6.74E-02
80	2.80	1.21E-07	0.	2.24E-06	3.13E-05	3.10E-07	0.	0.	0.	0.	1.29E-03	1.87E-02	4.08E-02	1.07E-02	6.96E-02
81	2.70	7.71E-08	0.	1.05E-06	7.27E-05	1.71E-07	0.	0.	0.	0.	1.29E-03	2.03E-02	4.20E-02	1.14E-02	7.21E-02
82	2.60	3.50E-08	0.	9.13E-07	7.20E-06	7.44E-08	0.	0.	0.	0.	1.29E-03	2.19E-02	4.32E-02	1.22E-02	7.46E-02
83	2.50	2.50E-09	0.	4.63E-06	6.80E-06	1.76E-08	0.	0.	0.	0.	1.29E-03	2.35E-02	4.44E-02	1.30E-02	7.71E-02
84	2.40	0.	0.	2.64E-06	5.73E-06	1.86E-09	0.	0.	0.	0.	1.29E-03	2.51E-02	4.56E-02	1.38E-02	7.96E-02
85	2.30	0.	0.	4.41E-06	0.	0.	0.	0.	0.	0.	1.29E-03	2.67E-02	4.68E-02	1.46E-02	8.21E-02
86	2.20	0.	0.	2.19E-05	0.	0.	0.	0.	0.	0.	1.29E-03	2.83E-02	4.80E-02	1.54E-02	8.46E-02
87	2.10	0.	0.	2.39E-05	0.	0.	0.	0.	0.	0.	1.29E-03	2.99E-02	4.92E-02	1.62E-02	8.71E-02
88	2.00	0.	0.	4.81E-05	0.	0.	0.	0.	0.	0.	1.29E-03	3.15E-02	5.04E-02	1.70E-02	8.96E-02
89	1.90	0.	0.	6.10E-05	0.	0.	0.	0.	0.	0.	1.29E-03	3.31E-02	5.16E-02	1.78E-02	9.21E-02
90	1.80	0.	0.	5.10E-05	0.	0.	0.	0.	0.	0.	1.29E-03	3.47E-02	5.28E-02	1.86E-02	9.46E-02
91	1.70	0.	0.	6.02E-05	0.	0.	0.	0.	0.	0.	1.29E-03	3.63E-02	5.40E-02	1.94E-02	9.71E-02
92	1.60	0.	0.	4.43E-05	0.	0.	0.	0.	0.	0.	1.29E-03	3.79E-02	5.52E-02	2.02E-02	9.96E-02
93	1.50	0.	0.	5.12E-05	0.	0.	0.	0.	0.	0.	1.29E-03	3.95E-02	5.64E-02	2.10E-02	1.021E-01
94	1.40	0.	0.	9.19E-05	0.	0.	0.	0.	0.	0.	1.29E-03	4.11E-02	5.76E-02	2.18E-02	1.046E-01
95	1.30	0.	0.	3.94E-05	0.	0.	0.	0.	0.	0.	1.29E-03	4.27E-02	5.88E-02	2.26E-02	1.071E-01
96	1.20	0.	0.	3.70E-05	0.	0.	0.	0.	0.	0.	1.29E-03	4.43E-02	5.99E-02	2.34E-02	1.096E-01
97	1.10	0.	0.	3.54E-05	0.	0.	0.	0.	0.	0.	1.29E-03	4.59E-02	6.11E-02	2.42E-02	1.121E-01
98	1.00	0.	0.	2.47E-05	0.	0.	0.	0.	0.	0.	1.29E-03	4.75E-02	6.23E-02	2.50E-02	1.146E-01
99	0.90	0.	0.	1.26E-05	0.	0.	0.	0.	0.	0.	1.29E-03	4.91E-02	6.35E-02	2.58E-02	1.171E-01
100	0.80	0.	0.	3.00E-06	0.	0.	0.	0.	0.	0.	1.29E-03	5.07E-02	6.47E-02	2.66E-02	1.196E-01
101	0.70	0.	0.	4.01E-07	0.	0.	0.	0.	0.	0.	1.29E-03	5.23E-02	6.59E-02	2.74E-02	1.221E-01
102	0.60	0.	0.	4.01E-07	0.	0.	0.	0.	0.	0.	1.29E-03	5.39E-02	6.71E-02	2.82E-02	1.246E-01

ABSORPTION COEFFICIENTS HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 16000. DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)

PHOTON ENERGY BANDS E.V.	OZ S-R CONT.	MZ S-R NO. 1	TEMPERATURE (DEGREES K) 16000.	DENSITY (GM/CC) 1.293E-05	NO ABSORPTION COEFFICIENTS	NO BETA	NO GAMMA	NO PHOTO-NEUT (1/MS)	O- FREF-FREE P.E.	N P.E.	0 TOTAL AIR P.E.
1 10.70 0.	0.	6.95E-07	0.	0.	3.66E-05	1.64E-05	1.00E-05	9.01E-04	1.00E-04	1.00E-04	1.00E-04
2 10.60 0.	0.	6.19E-07	0.	0.	3.46E-05	1.71E-05	1.01E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
3 10.50 0.	0.	6.22E-07	0.	0.	3.47E-05	1.74E-05	1.02E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
4 10.40 0.	0.	5.64E-07	0.	0.	3.47E-05	1.61E-05	1.02E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
5 10.30 0.	0.	5.07E-07	0.	0.	3.48E-05	1.64E-05	1.02E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
6 10.20 0.	0.	5.21E-07	0.	0.	3.48E-05	1.62E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
7 10.10 0.	0.	4.88E-07	0.	0.	3.49E-05	1.64E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
8 10.00 0.	0.	4.24E-07	0.	0.	3.50E-05	1.66E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
9 9.90 0.	0.	4.35E-07	0.	0.	3.50E-05	1.67E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
10 9.80 0.	0.	4.95E-07	0.	0.	3.51E-05	1.72E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
11 9.70 0.	0.	3.75E-07	0.	0.	3.52E-05	1.78E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
12 9.60 0.	0.	3.17E-07	0.	0.	3.52E-05	1.84E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
13 9.50 0.	0.	2.90E-07	0.	0.	3.53E-05	1.90E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
14 9.40 0.	0.	3.05E-07	0.	0.	3.54E-05	1.96E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
15 9.30 0.	0.	2.50E-07	0.	0.	3.54E-05	2.02E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
16 9.20 0.	0.	2.94E-07	0.	0.	3.55E-05	2.08E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
17 9.10 0.	0.	2.31E-07	0.	0.	3.56E-05	2.14E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
18 9.00 0.	0.	2.12E-07	0.	0.	3.57E-05	2.20E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
19 8.90 0.	0.	2.08E-07	0.	0.	3.57E-05	2.26E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
20 8.80 0.	0.	1.78E-07	0.	0.	3.58E-05	2.32E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
21 8.70 0.	0.	1.83E-07	0.	0.	3.59E-05	2.38E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
22 8.60 0.	0.	1.99E-07	0.	0.	3.60E-05	2.44E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
23 8.50 0.	0.	1.99E-07	0.	0.	3.61E-05	2.50E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
24 8.40 0.	0.	1.90E-07	0.	0.	3.62E-05	2.56E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
25 8.30 0.	0.	1.33E-07	0.	0.	3.63E-05	2.62E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
26 8.20 0.	0.	1.34E-07	0.	0.	3.64E-05	2.68E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
27 8.10 0.	0.	1.14E-07	0.	0.	3.65E-05	2.74E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
28 8.00 0.	0.	1.15E-07	0.	0.	3.66E-05	2.80E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
29 7.90 0.	0.	9.77E-08	0.	0.	3.67E-05	2.86E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
30 7.80 0.	0.	1.01E-07	0.	0.	3.68E-05	2.92E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
31 7.70 0.	0.	8.78E-08	0.	0.	3.69E-05	2.98E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
32 7.60 0.	0.	8.29E-08	0.	0.	3.70E-05	3.04E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
33 7.50 0.	0.	7.62E-08	0.	0.	3.71E-05	3.10E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
34 7.40 0.	0.	6.80E-08	0.	0.	3.72E-05	3.16E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
35 7.30 0.	0.	6.40E-08	0.	0.	3.73E-05	3.22E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
36 7.20 0.	0.	7.74E-08	0.	0.	3.74E-05	3.28E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
37 7.10 0.	0.	5.48E-08	0.	0.	3.75E-05	3.34E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
38 7.00 1.53E-11	0.	4.99E-08	0.	4.87E-12	3.76E-05	3.40E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
39 6.90 2.98E-11	0.	4.95E-08	0.	1.78E-11	3.77E-05	3.46E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
40 6.80 2.96E-11	0.	4.34E-08	0.	1.31E-10	3.78E-05	3.52E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
41 6.70 1.55E-11	0.	3.78E-08	0.	5.41E-10	3.79E-05	3.58E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
42 6.60 1.12E-11	0.	3.36E-08	0.	1.64E-09	3.80E-05	3.64E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
43 6.50 4.45E-12	0.	2.65E-08	0.	2.71E-08	3.81E-05	3.70E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
44 6.40 1.47E-12	0.	1.61E-08	0.	1.01E-10	3.82E-05	3.76E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
45 6.30 2.11E-12	0.	1.11E-08	0.	4.72E-10	3.83E-05	3.82E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
46 6.20 9.46E-13	0.	6.09E-09	0.	6.44E-10	3.84E-05	3.88E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
47 6.10 1.79E-13	0.	2.42E-09	0.	1.74E-09	3.85E-05	3.94E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
48 6.00 1.70E-13	0.	7.12E-10	0.	1.50E-09	3.86E-05	4.00E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
49 5.90 4.88E-14	0.	5.10E-11	0.	2.59E-09	3.87E-05	4.06E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
50 5.80 4.57E-15	0.	1.28E-12	0.	3.61E-09	3.88E-05	4.12E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04
51 5.70 4.10E-16	0.	0.	0.	4.18E-09	3.89E-05	4.18E-05	1.04E-05	9.00E-04	2.40E-04	2.40E-04	2.40E-04



ABSORPTION COEFFICIENTS OF SATURATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 16000. DENSITY (GM/CC) 1.2928-86 (19.0C-84 NORMAL)

PHOTON ENERGY E.V.	PHOTON NO	S-R HANDS	O2 S-R CONT.	M2 R-M NO. 1	TEMPERATURE DEGREES K	DENSITY GM/CC	NO BETA	NO GAMMA	NO 2	O- PHOTO-EFT (TMS)	O- FREE-FREE W	P.E.	O P.E.	TOTAL AIR
1	10.74	0.	0.	4.08E-16	0.	0.	9.	0.	0.	1.61E-07	4.10E-07	4.67E-05	1.47E-05	6.20E-05
2	10.60	0.	0.	3.46E-10	0.	0.	0.	0.	0.	1.42E-07	4.21E-07	4.69E-05	1.47E-05	6.22E-05
3	10.50	0.	0.	3.70E-10	0.	0.	0.	0.	0.	1.42E-07	4.41E-07	4.71E-05	1.44E-05	6.21E-05
4	10.40	0.	0.	3.40E-10	0.	0.	0.	0.	0.	1.42E-07	4.57E-07	4.72E-05	1.44E-05	6.22E-05
5	10.30	0.	0.	3.02E-10	0.	0.	0.	0.	0.	1.42E-07	4.70E-07	4.74E-05	1.45E-05	6.20E-05
6	10.20	0.	0.	2.10E-10	0.	0.	0.	0.	0.	1.42E-07	4.80E-07	4.75E-05	1.44E-05	6.20E-05
7	10.10	0.	0.	2.01E-10	0.	0.	0.	0.	0.	1.42E-07	4.90E-07	4.76E-05	1.44E-05	6.20E-05
8	10.00	0.	0.	2.53E-10	0.	0.	0.	0.	0.	1.42E-07	5.11E-07	4.74E-05	1.44E-05	6.20E-05
9	9.90	0.	0.	2.90E-10	0.	0.	0.	0.	0.	1.42E-07	5.30E-07	4.75E-05	1.43E-05	6.20E-05
10	9.80	0.	0.	2.41E-10	0.	0.	0.	0.	0.	1.42E-07	5.46E-07	4.76E-05	1.43E-05	6.20E-05
11	9.70	0.	0.	2.07E-10	0.	0.	0.	0.	0.	1.42E-07	5.62E-07	4.77E-05	1.42E-05	6.20E-05
12	9.60	0.	0.	2.23E-10	0.	0.	0.	0.	0.	1.42E-07	5.81E-07	4.78E-05	1.42E-05	6.20E-05
13	9.50	0.	0.	1.69E-10	0.	0.	0.	0.	0.	1.42E-07	6.00E-07	4.80E-05	1.41E-05	6.20E-05
14	9.40	0.	0.	1.77E-10	0.	0.	0.	0.	0.	1.42E-07	6.18E-07	4.81E-05	1.41E-05	6.20E-05
15	9.30	0.	0.	1.61E-10	0.	0.	0.	0.	0.	1.42E-07	6.36E-07	4.82E-05	1.40E-05	6.20E-05
16	9.20	0.	0.	1.49E-10	0.	0.	0.	0.	0.	1.42E-07	6.54E-07	4.83E-05	1.40E-05	6.20E-05
17	9.10	0.	0.	1.92E-10	0.	0.	0.	0.	0.	1.42E-07	6.72E-07	4.84E-05	1.40E-05	6.20E-05
18	9.00	0.	0.	1.30E-10	0.	0.	0.	0.	0.	1.42E-07	6.90E-07	4.85E-05	1.39E-05	6.20E-05
19	8.90	0.	0.	1.24E-10	0.	0.	0.	0.	0.	1.42E-07	7.08E-07	4.85E-05	1.39E-05	6.20E-05
20	8.80	0.	0.	1.24E-10	0.	0.	0.	0.	0.	1.42E-07	7.26E-07	4.85E-05	1.38E-05	6.20E-05
21	8.70	0.	0.	1.00E-10	0.	0.	0.	0.	0.	1.42E-07	7.44E-07	4.85E-05	1.38E-05	6.20E-05
22	8.60	0.	0.	1.69E-10	0.	0.	0.	0.	0.	1.42E-07	7.62E-07	4.85E-05	1.37E-05	6.20E-05
23	8.50	0.	0.	9.48E-11	0.	0.	0.	0.	0.	1.42E-07	7.80E-07	4.85E-05	1.36E-05	6.20E-05
24	8.40	0.	0.	7.10E-11	0.	0.	0.	0.	0.	1.42E-07	7.98E-07	4.85E-05	1.36E-05	6.20E-05
25	8.30	0.	0.	7.80E-11	0.	0.	0.	0.	0.	1.42E-07	8.16E-07	4.85E-05	1.35E-05	6.20E-05
26	8.20	0.	0.	7.05E-11	0.	0.	0.	0.	0.	1.42E-07	8.34E-07	4.85E-05	1.35E-05	6.20E-05
27	8.10	0.	0.	6.80E-11	0.	0.	0.	0.	0.	1.42E-07	8.52E-07	4.85E-05	1.34E-05	6.20E-05
28	8.00	0.	0.	6.82E-11	0.	0.	0.	0.	0.	1.42E-07	8.70E-07	4.85E-05	1.34E-05	6.20E-05
29	7.90	0.	0.	5.82E-11	0.	0.	0.	0.	0.	1.42E-07	8.88E-07	4.85E-05	1.33E-05	6.20E-05
30	7.80	0.	0.	6.01E-11	0.	0.	0.	0.	0.	1.42E-07	9.06E-07	4.85E-05	1.33E-05	6.20E-05
31	7.70	0.	0.	5.23E-11	0.	0.	0.	0.	0.	1.42E-07	9.24E-07	4.85E-05	1.32E-05	6.20E-05
32	7.60	0.	0.	4.94E-11	0.	0.	0.	0.	0.	1.42E-07	9.42E-07	4.85E-05	1.32E-05	6.20E-05
33	7.50	0.	0.	4.54E-11	0.	0.	0.	0.	0.	1.42E-07	9.60E-07	4.85E-05	1.31E-05	6.20E-05
34	7.40	0.	0.	4.03E-11	0.	0.	0.	0.	0.	1.42E-07	9.78E-07	4.85E-05	1.31E-05	6.20E-05
35	7.30	0.	0.	3.81E-11	0.	0.	0.	0.	0.	1.42E-07	9.96E-07	4.85E-05	1.30E-05	6.20E-05
36	7.20	0.	0.	3.42E-11	0.	0.	0.	0.	0.	1.42E-07	1.01E-06	4.85E-05	1.30E-05	6.20E-05
37	7.10	0.	0.	3.26E-11	0.	0.	0.	0.	0.	1.42E-07	1.03E-06	4.85E-05	1.30E-05	6.20E-05
38	7.00	0.	0.	2.97E-11	0.	0.	0.	0.	0.	1.42E-07	1.05E-06	4.85E-05	1.30E-05	6.20E-05
39	6.90	0.	0.	2.71E-11	0.	0.	0.	0.	0.	1.42E-07	1.07E-06	4.85E-05	1.30E-05	6.20E-05
40	6.80	0.	0.	2.50E-11	0.	0.	0.	0.	0.	1.42E-07	1.09E-06	4.85E-05	1.30E-05	6.20E-05
41	6.70	0.	0.	2.25E-11	0.	0.	0.	0.	0.	1.42E-07	1.11E-06	4.85E-05	1.30E-05	6.20E-05
42	6.60	0.	0.	2.00E-11	0.	0.	0.	0.	0.	1.42E-07	1.13E-06	4.85E-05	1.30E-05	6.20E-05
43	6.50	0.	0.	1.80E-11	0.	0.	0.	0.	0.	1.42E-07	1.15E-06	4.85E-05	1.30E-05	6.20E-05
44	6.40	0.	0.	1.66E-11	0.	0.	0.	0.	0.	1.42E-07	1.17E-06	4.85E-05	1.30E-05	6.20E-05
45	6.30	0.	0.	1.42E-11	0.	0.	0.	0.	0.	1.42E-07	1.19E-06	4.85E-05	1.30E-05	6.20E-05
46	6.20	0.	0.	1.27E-11	0.	0.	0.	0.	0.	1.42E-07	1.21E-06	4.85E-05	1.30E-05	6.20E-05
47	6.10	0.	0.	1.00E-11	0.	0.	0.	0.	0.	1.42E-07	1.23E-06	4.85E-05	1.30E-05	6.20E-05
48	6.00	0.	0.	1.24E-11	0.	0.	0.	0.	0.	1.42E-07	1.25E-06	4.85E-05	1.30E-05	6.20E-05
49	5.90	0.	0.	1.74E-11	0.	0.	0.	0.	0.	1.42E-07	1.27E-06	4.85E-05	1.30E-05	6.20E-05
50	5.80	0.	0.	2.59E-11	0.	0.	0.	0.	0.	1.42E-07	1.29E-06	4.85E-05	1.30E-05	6.20E-05
51	5.70	0.	0.	3.00E-11	0.	0.	0.	0.	0.	1.42E-07	1.31E-06	4.85E-05	1.30E-05	6.20E-05

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 14000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEU.	BETA	NO GAMMA	V19-ROT	NO	PHOTO-DET (I/MS)	G- PREF-FREE	M P.E.	D P.E.	TOTAL AIR
52	5.00	1.99E-20	0.	0.	2.51E-12	1.43E-11	0.	1.72E-07	2.94E-06	2.04E-05	1.54E-05	3.94E-05
53	5.50	0.	0.	0.	3.07E-12	1.82E-11	0.	1.73E-07	3.13E-06	2.10E-05	1.50E-05	4.01E-05
54	5.80	0.	0.	0.	2.79E-12	1.20E-11	0.	1.74E-07	3.50E-06	2.15E-05	1.60E-05	4.11E-05
55	5.90	0.	0.	0.	2.60E-12	1.59E-11	0.	1.75E-07	3.90E-06	2.21E-05	1.63E-05	4.20E-05
56	5.20	0.	0.	0.	3.06E-12	1.13E-11	0.	1.76E-07	3.70E-06	2.20E-05	1.64E-05	4.30E-05
57	5.10	0.	0.	0.	3.05E-12	1.46E-11	0.	1.77E-07	3.93E-06	2.32E-05	1.69E-05	4.42E-05
58	5.00	2.14E-13	0.	0.	2.77E-12	1.30E-11	0.	1.79E-07	4.17E-06	2.30E-05	1.72E-05	4.55E-05
59	4.90	2.15E-13	0.	0.	3.00E-12	1.49E-11	0.	1.81E-07	4.43E-06	2.37E-05	1.79E-05	4.69E-05
60	4.80	2.16E-13	0.	0.	3.29E-12	1.36E-11	0.	1.82E-07	4.71E-06	2.56E-05	1.79E-05	4.80E-05
61	4.70	1.20E-12	0.	0.	3.27E-12	1.23E-11	0.	1.84E-07	5.02E-06	2.64E-05	1.84E-05	5.00E-05
62	4.60	1.74E-12	0.	0.	3.59E-12	1.19E-11	0.	1.85E-07	5.36E-06	2.75E-05	1.84E-05	5.19E-05
63	4.50	1.82E-12	0.	2.17E-12	3.04E-12	8.41E-12	0.	1.87E-07	5.73E-06	2.88E-05	1.93E-05	5.40E-05
64	4.40	1.95E-12	0.	6.40E-12	3.04E-12	8.41E-12	0.	1.88E-07	6.14E-06	3.01E-05	1.90E-05	5.63E-05
65	4.30	1.81E-12	0.	2.10E-11	2.88E-12	3.43E-12	0.	1.90E-07	6.60E-06	3.14E-05	2.03E-05	5.87E-05
66	4.20	1.68E-12	0.	6.95E-11	3.03E-12	2.58E-12	0.	1.92E-07	7.07E-06	3.31E-05	2.09E-05	6.12E-05
67	4.10	1.57E-12	0.	2.98E-11	0.	2.94E-12	7.10E-13	0.	7.56E-06	3.59E-05	2.16E-05	6.38E-05
68	4.00	1.44E-12	0.	9.90E-11	0.	2.93E-12	5.30E-13	0.	8.07E-06	3.88E-05	2.24E-05	6.65E-05
69	3.90	1.22E-12	0.	4.61E-11	0.	2.98E-12	2.80E-13	0.	8.60E-06	4.28E-05	2.33E-05	6.94E-05
70	3.80	1.32E-12	0.	7.27E-11	6.94E-18	2.95E-12	2.34E-12	0.	9.15E-06	4.79E-05	2.43E-05	7.25E-05
71	3.70	1.17E-12	0.	7.61E-11	1.22E-09	2.74E-12	0.	0.	9.72E-06	5.32E-05	2.54E-05	7.58E-05
72	3.60	1.05E-12	0.	5.38E-11	6.73E-09	2.53E-12	0.	0.	1.03E-05	5.88E-05	2.66E-05	7.93E-05
73	3.50	0.79E-13	0.	7.14E-11	1.36E-09	1.97E-12	0.	0.	1.09E-05	6.47E-05	2.79E-05	8.29E-05
74	3.40	0.67E-13	0.	4.40E-11	1.86E-09	2.31E-12	0.	0.	1.15E-05	7.08E-05	2.94E-05	8.66E-05
75	3.30	0.77E-13	0.	6.53E-11	7.67E-09	1.75E-12	0.	0.	1.22E-05	7.72E-05	3.10E-05	9.04E-05
76	3.20	0.12E-13	0.	2.93E-11	1.36E-08	1.63E-12	0.	0.	1.29E-05	8.39E-05	3.27E-05	9.43E-05
77	3.10	0.93E-13	0.	2.24E-11	2.97E-09	1.72E-12	0.	0.	1.36E-05	9.09E-05	3.45E-05	9.83E-05
78	3.00	0.10E-13	0.	1.30E-11	1.37E-09	1.61E-12	0.	0.	1.43E-05	9.82E-05	3.64E-05	1.02E-04
79	2.90	4.32E-13	0.	6.53E-12	4.13E-09	1.21E-12	0.	0.	1.50E-05	1.06E-04	3.84E-05	1.06E-04
80	2.80	4.40E-13	0.	4.18E-12	2.48E-09	8.27E-13	0.	0.	1.57E-05	1.15E-04	4.05E-05	1.10E-04
81	2.70	2.80E-13	0.	1.91E-12	3.51E-09	4.45E-13	0.	0.	1.64E-05	1.25E-04	4.27E-05	1.14E-04
82	2.60	1.33E-13	0.	9.48E-13	3.48E-10	1.94E-13	0.	0.	1.71E-05	1.36E-04	4.50E-05	1.18E-04
83	2.50	9.24E-15	0.	1.63E-11	3.29E-10	4.37E-14	0.	0.	1.78E-05	1.48E-04	4.74E-05	1.22E-04
84	2.40	0.	4.07E-12	0.	2.77E-10	4.07E-15	0.	0.	1.85E-05	1.61E-04	4.99E-05	1.26E-04
85	2.30	0.	1.50E-11	0.	0.	0.	0.	0.	1.92E-05	1.75E-04	5.25E-05	1.30E-04
86	2.20	0.	4.01E-11	0.	0.	0.	0.	0.	2.00E-05	1.90E-04	5.52E-05	1.34E-04
87	2.10	0.	4.39E-11	0.	0.	0.	0.	0.	2.08E-05	2.06E-04	5.80E-05	1.38E-04
88	2.00	0.	4.95E-11	0.	0.	0.	0.	0.	2.16E-05	2.23E-04	6.09E-05	1.42E-04
89	1.90	0.	1.13E-10	0.	0.	0.	0.	0.	2.25E-05	2.41E-04	6.39E-05	1.46E-04
90	1.80	0.	9.49E-11	0.	0.	0.	0.	0.	2.34E-05	2.60E-04	6.70E-05	1.50E-04
91	1.70	0.	1.10E-10	0.	0.	0.	0.	0.	2.43E-05	2.80E-04	7.02E-05	1.54E-04
92	1.60	0.	6.13E-11	0.	0.	0.	0.	0.	2.53E-05	3.01E-04	7.35E-05	1.58E-04
93	1.50	0.	9.44E-11	0.	0.	0.	0.	0.	2.63E-05	3.23E-04	7.69E-05	1.62E-04
94	1.40	0.	7.22E-11	0.	0.	0.	0.	0.	2.74E-05	3.46E-04	8.04E-05	1.66E-04
95	1.30	0.	6.93E-11	0.	0.	0.	0.	0.	2.85E-05	3.70E-04	8.40E-05	1.70E-04
96	1.20	0.	6.40E-11	0.	0.	0.	0.	0.	2.97E-05	3.95E-04	8.77E-05	1.74E-04
97	1.10	0.	5.90E-11	0.	0.	0.	0.	0.	3.09E-05	4.21E-04	9.15E-05	1.78E-04
98	1.00	0.	5.40E-11	0.	0.	0.	0.	0.	3.22E-05	4.48E-04	9.54E-05	1.82E-04
99	0.90	0.	4.80E-11	0.	0.	0.	0.	0.	3.35E-05	4.76E-04	9.94E-05	1.86E-04
100	0.80	0.	2.30E-11	0.	0.	0.	0.	0.	3.49E-05	5.05E-04	1.03E-04	1.90E-04
101	0.70	0.	5.50E-12	0.	0.	0.	0.	0.	3.63E-05	5.35E-04	1.07E-04	1.94E-04
102	0.60	0.	6.01E-13	0.	0.	0.	0.	0.	3.78E-05	5.66E-04	1.11E-04	1.98E-04



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES R) 14000 DENSITY (GM/CC) 1.293E-07 (110.0E-05 NORMAL)

PHOTON ENERGY E.V.	Q2 S-R CONT.	W D	BETA	NO	GAMMA	NO	Z	PHOTO-EFT (IPES)	R	P.A.E.	NO	FREF-FREE	R	P.A.E.	NO	TOTAL AIR
1 16.70 0.	0.	0.00E-14	0.	0.	0.	0.	0.	2.33E-10	5.20E-09	4.00E-07	1.71E-07	7.00E-07	7.00E-07	0.	0.	0.
2 10.60 0.	0.	5.90E-14	0.	0.	0.	0.	0.	2.33E-10	5.37E-09	6.03E-07	1.91E-07	7.00E-07	7.00E-07	0.	0.	0.
3 10.50 0.	0.	5.32E-14	0.	0.	0.	0.	0.	2.34E-10	5.90E-09	5.77E-07	1.90E-07	7.23E-07	7.23E-07	0.	0.	0.
4 10.40 0.	0.	5.21E-14	0.	0.	0.	0.	0.	2.34E-10	5.64E-09	5.79E-07	1.89E-07	7.25E-07	7.25E-07	0.	0.	0.
5 16.30 0.	0.	4.51E-14	0.	0.	0.	0.	0.	2.34E-10	5.83E-09	5.60E-07	1.89E-07	7.25E-07	7.25E-07	0.	0.	0.
6 16.20 0.	0.	4.04E-14	0.	0.	0.	0.	0.	2.35E-10	6.00E-09	5.61E-07	1.89E-07	7.25E-07	7.25E-07	0.	0.	0.
7 16.10 0.	0.	3.77E-14	0.	0.	0.	0.	0.	2.35E-10	6.19E-09	5.62E-07	1.87E-07	7.25E-07	7.25E-07	0.	0.	0.
8 16.00 0.	0.	3.40E-14	0.	0.	0.	0.	0.	2.36E-10	6.37E-09	5.64E-07	1.87E-07	7.25E-07	7.25E-07	0.	0.	0.
9 16.00 0.	0.	3.04E-14	0.	0.	0.	0.	0.	2.36E-10	6.57E-09	5.67E-07	1.85E-07	7.25E-07	7.25E-07	0.	0.	0.
10 9.90 0.	0.	3.00E-14	0.	0.	0.	0.	0.	2.37E-10	6.99E-09	5.69E-07	1.85E-07	7.25E-07	7.25E-07	0.	0.	0.
11 9.70 0.	0.	3.00E-14	0.	0.	0.	0.	0.	2.37E-10	7.21E-09	5.90E-07	1.84E-07	7.25E-07	7.25E-07	0.	0.	0.
12 9.60 0.	0.	3.00E-14	0.	0.	0.	0.	0.	2.37E-10	7.44E-09	5.92E-07	1.83E-07	7.25E-07	7.25E-07	0.	0.	0.
13 9.50 0.	0.	2.82E-14	0.	0.	0.	0.	0.	2.38E-10	7.67E-09	5.94E-07	1.83E-07	7.25E-07	7.25E-07	0.	0.	0.
14 9.40 0.	0.	2.65E-14	0.	0.	0.	0.	0.	2.39E-10	7.91E-09	5.96E-07	1.82E-07	7.25E-07	7.25E-07	0.	0.	0.
15 9.30 0.	0.	2.71E-14	0.	0.	0.	0.	0.	2.39E-10	8.16E-09	5.98E-07	1.82E-07	7.25E-07	7.25E-07	0.	0.	0.
16 9.20 0.	0.	2.22E-14	0.	0.	0.	0.	0.	2.40E-10	8.41E-09	5.99E-07	1.81E-07	7.25E-07	7.25E-07	0.	0.	0.
17 9.10 0.	0.	2.28E-14	0.	0.	0.	0.	0.	2.41E-10	8.66E-09	6.01E-07	1.81E-07	7.25E-07	7.25E-07	0.	0.	0.
18 9.00 0.	0.	2.05E-14	0.	0.	0.	0.	0.	2.42E-10	8.91E-09	6.02E-07	1.80E-07	7.25E-07	7.25E-07	0.	0.	0.
19 8.90 0.	0.	1.89E-14	0.	0.	0.	0.	0.	2.43E-10	9.16E-09	6.03E-07	1.80E-07	7.25E-07	7.25E-07	0.	0.	0.
20 8.80 0.	0.	1.89E-14	0.	0.	0.	0.	0.	2.44E-10	9.41E-09	6.04E-07	1.79E-07	7.25E-07	7.25E-07	0.	0.	0.
21 8.70 0.	0.	1.59E-14	0.	0.	0.	0.	0.	2.45E-10	9.66E-09	6.05E-07	1.79E-07	7.25E-07	7.25E-07	0.	0.	0.
22 8.60 0.	0.	1.42E-14	0.	0.	0.	0.	0.	2.46E-10	9.91E-09	6.06E-07	1.78E-07	7.25E-07	7.25E-07	0.	0.	0.
23 8.50 0.	0.	1.42E-14	0.	0.	0.	0.	0.	2.47E-10	1.01E-08	6.07E-07	1.77E-07	7.25E-07	7.25E-07	0.	0.	0.
24 8.40 0.	0.	1.40E-14	0.	0.	0.	0.	0.	2.47E-10	1.04E-08	6.08E-07	1.77E-07	7.25E-07	7.25E-07	0.	0.	0.
25 8.30 0.	0.	1.10E-14	0.	0.	0.	0.	0.	2.48E-10	1.12E-08	6.09E-07	1.76E-07	7.25E-07	7.25E-07	0.	0.	0.
26 8.20 0.	0.	1.10E-14	0.	0.	0.	0.	0.	2.49E-10	1.14E-08	6.10E-07	1.76E-07	7.25E-07	7.25E-07	0.	0.	0.
27 8.10 0.	0.	1.02E-14	0.	0.	0.	0.	0.	2.51E-10	1.20E-08	6.11E-07	1.75E-07	7.25E-07	7.25E-07	0.	0.	0.
28 8.00 0.	0.	1.02E-14	0.	0.	0.	0.	0.	2.51E-10	1.25E-08	6.12E-07	1.75E-07	7.25E-07	7.25E-07	0.	0.	0.
29 7.90 0.	0.	8.69E-15	0.	0.	0.	0.	0.	2.54E-10	1.30E-08	6.13E-07	1.74E-07	7.25E-07	7.25E-07	0.	0.	0.
30 7.80 0.	0.	8.75E-15	0.	0.	0.	0.	0.	2.55E-10	1.35E-08	6.14E-07	1.74E-07	7.25E-07	7.25E-07	0.	0.	0.
31 7.70 0.	0.	7.81E-15	0.	0.	0.	0.	0.	2.56E-10	1.40E-08	6.15E-07	1.73E-07	7.25E-07	7.25E-07	0.	0.	0.
32 7.60 0.	0.	7.37E-15	0.	0.	0.	0.	0.	2.59E-10	1.46E-08	6.16E-07	1.73E-07	7.25E-07	7.25E-07	0.	0.	0.
33 7.50 0.	0.	6.77E-15	0.	5.31E-19	0.	0.	0.	2.59E-10	1.52E-08	6.17E-07	1.72E-07	7.25E-07	7.25E-07	0.	0.	0.
34 7.40 0.	0.	6.05E-15	0.	1.93E-18	0.	0.	0.	2.60E-10	1.57E-08	6.18E-07	1.72E-07	7.25E-07	7.25E-07	0.	0.	0.
35 7.30 0.	0.	5.69E-15	0.	1.44E-17	0.	0.	0.	2.62E-10	1.65E-08	6.19E-07	1.72E-07	7.25E-07	7.25E-07	0.	0.	0.
36 7.20 0.	0.	5.10E-15	0.	6.15E-17	0.	0.	0.	2.65E-10	1.72E-08	6.20E-07	1.72E-07	7.25E-07	7.25E-07	0.	0.	0.
37 7.10 0.	0.	4.47E-15	0.	1.44E-16	0.	0.	0.	2.68E-10	1.77E-08	6.21E-07	1.72E-07	7.25E-07	7.25E-07	0.	0.	0.
38 7.00 0.	0.	4.04E-15	0.	2.08E-16	0.	0.	0.	2.68E-10	1.77E-08	6.21E-07	1.72E-07	7.25E-07	7.25E-07	0.	0.	0.
39 7.00 2.35E-10	0.	4.04E-15	0.	1.06E-15	0.	0.	0.	2.68E-10	1.77E-08	6.21E-07	1.72E-07	7.25E-07	7.25E-07	0.	0.	0.
40 6.90 4.53E-10	0.	4.04E-15	0.	1.06E-15	0.	0.	0.	2.70E-10	1.95E-08	6.22E-07	1.72E-07	7.25E-07	7.25E-07	0.	0.	0.
41 6.80 3.72E-10	0.	3.86E-15	0.	1.40E-15	0.	0.	0.	2.72E-10	2.04E-08	6.23E-07	1.72E-07	7.25E-07	7.25E-07	0.	0.	0.
42 6.70 2.99E-10	0.	3.36E-15	0.	2.59E-15	0.	0.	0.	2.74E-10	2.14E-08	6.24E-07	1.72E-07	7.25E-07	7.25E-07	0.	0.	0.
43 6.60 1.43E-10	0.	2.99E-15	0.	2.01E-15	0.	0.	0.	2.76E-10	2.23E-08	6.25E-07	1.72E-07	7.25E-07	7.25E-07	0.	0.	0.
44 6.50 3.37E-10	0.	2.36E-15	0.	3.08E-15	0.	0.	0.	2.78E-10	2.34E-08	6.26E-07	1.72E-07	7.25E-07	7.25E-07	0.	0.	0.
45 6.40 5.33E-10	0.	1.61E-15	0.	1.15E-17	3.00E-15	0.	0.	2.81E-10	2.45E-08	6.27E-07	1.72E-07	7.25E-07	7.25E-07	0.	0.	0.
46 6.30 3.07E-10	0.	4.04E-16	0.	5.37E-17	2.32E-15	0.	0.	2.83E-10	2.57E-08	6.28E-07	1.72E-07	7.25E-07	7.25E-07	0.	0.	0.
47 6.20 1.40E-10	0.	5.41E-16	0.	7.59E-17	1.93E-15	0.	0.	2.85E-10	2.70E-08	6.29E-07	1.72E-07	7.25E-07	7.25E-07	0.	0.	0.
48 6.10 5.27E-10	0.	2.51E-16	0.	2.14E-16	1.61E-15	0.	0.	2.87E-10	2.84E-08	6.30E-07	1.72E-07	7.25E-07	7.25E-07	0.	0.	0.
49 6.00 2.40E-10	0.	4.35E-17	0.	2.82E-16	1.71E-15	0.	0.	2.89E-10	3.00E-08	6.31E-07	1.72E-07	7.25E-07	7.25E-07	0.	0.	0.
50 5.90 6.94E-11	0.	4.95E-18	0.	2.95E-16	1.68E-15	0.	0.	2.91E-10	3.16E-08	6.32E-07	1.72E-07	7.25E-07	7.25E-07	0.	0.	0.
51 5.80 3.10E-11	0.	1.14E-18	0.	4.18E-16	1.71E-15	0.	0.	2.93E-10	3.33E-08	6.33E-07	1.72E-07	7.25E-07	7.25E-07	0.	0.	0.
52 5.70 5.90E-11	0.	4.79E-16	1.91E-15	4.79E-16	1.91E-15	0.	0.	2.95E-10	3.51E-08	6.34E-07	1.72E-07	7.25E-07	7.25E-07	0.	0.	0.

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 16800. DENSITY (GM/CC) 1.2936-07 (10.0E-05 NORMAL)

PHOTON ENERGY BANDS	KZ 1ST POS.	KZ 2ND POS.	KZ 1ST NEG.	KZ 2ND NEG.	BETA	NO GAMMA	NO VIB-ROT	NO NO	O- PHOTO-OET (1/MS)	FREE-FREE		TOTAL AIR	
										M P.E.	M P.E.	O P.E.	P.E.
52	5.00	2.60E-24	0.	0.	3.90E-16	2.50E-15	0.	0.	2.90E-10	3.07E-08	2.52E-07	2.03E-07	4.93E-07
53	5.50	0.	0.	0.	4.06E-16	2.40E-15	0.	0.	2.90E-10	3.00E-08	2.50E-07	2.00E-07	5.02E-07
54	5.40	0.	0.	0.	4.42E-16	1.91E-15	0.	0.	2.51E-10	4.10E-08	2.64E-07	2.09E-07	5.14E-07
55	5.30	0.	0.	0.	4.53E-16	2.45E-15	0.	0.	2.53E-10	4.34E-08	2.71E-07	2.11E-07	5.24E-07
56	5.20	0.	0.	0.	4.05E-16	1.70E-15	0.	0.	2.59E-10	4.59E-08	2.77E-07	2.15E-07	5.39E-07
57	5.19	0.	0.	0.	4.05E-16	2.31E-15	0.	0.	2.57E-10	4.07E-08	2.60E-07	2.15E-07	5.34E-07
58	5.00	3.00E-17	0.	0.	4.48E-16	2.14E-15	0.	0.	2.59E-10	5.17E-08	2.94E-07	2.23E-07	5.79E-07
59	4.90	0.07E-17	0.	0.	4.80E-16	2.31E-15	0.	0.	2.61E-10	5.49E-08	3.04E-07	2.30E-07	5.87E-07
60	4.80	0.01E-17	0.	0.	5.22E-16	2.14E-15	0.	0.	2.64E-10	5.95E-08	3.15E-07	2.32E-07	6.04E-07
61	4.70	2.15E-16	0.	0.	5.19E-16	1.95E-15	0.	0.	2.64E-10	6.23E-08	3.29E-07	2.39E-07	6.24E-07
62	4.60	2.94E-16	0.	0.	5.31E-16	1.70E-15	0.	0.	2.60E-10	6.45E-08	3.39E-07	2.44E-07	6.50E-07
63	4.50	3.00E-16	0.	0.	4.82E-16	1.53E-15	0.	0.	2.70E-10	7.11E-08	3.59E-07	2.51E-07	6.77E-07
64	4.40	3.25E-16	0.	0.	4.82E-16	1.53E-15	0.	0.	2.72E-10	7.61E-08	3.71E-07	2.57E-07	7.05E-07
65	4.30	3.09E-16	0.	0.	4.57E-16	1.73E-15	0.	0.	2.74E-10	8.16E-08	3.89E-07	2.59E-07	7.30E-07
66	4.20	2.93E-16	0.	0.	4.06E-16	1.10E-15	0.	0.	2.70E-10	8.74E-08	4.07E-07	2.37E-07	7.31E-07
67	4.10	2.65E-16	0.	0.	4.06E-16	1.13E-15	0.	0.	2.77E-10	9.43E-08	4.24E-07	2.37E-07	7.40E-07
68	4.00	2.48E-16	0.	0.	4.40E-16	0.93E-15	0.	0.	2.70E-10	1.02E-07	4.04E-07	1.91E-07	6.90E-07
69	3.90	2.09E-16	0.	0.	4.06E-16	0.93E-15	0.	0.	2.77E-10	1.10E-07	3.24E-07	1.04E-07	5.50E-07
70	3.80	2.94E-16	0.	0.	4.06E-16	0.93E-15	0.	0.	2.70E-10	1.10E-07	3.30E-07	1.09E-07	5.60E-07
71	3.70	1.77E-16	0.	0.	1.17E-16	1.64E-12	3.70E-10	0.	2.72E-10	1.20E-07	3.32E-07	1.20E-07	5.80E-07
72	3.60	1.77E-16	0.	0.	7.92E-15	9.03E-12	4.01E-10	0.	2.59E-10	1.40E-07	3.68E-07	1.32E-07	6.32E-07
73	3.50	1.64E-16	0.	0.	1.07E-15	1.04E-11	3.13E-10	0.	2.33E-10	1.92E-07	4.93E-07	1.49E-07	6.94E-07
74	3.40	1.48E-16	0.	0.	6.96E-15	2.53E-12	3.50E-10	0.	1.94E-10	1.45E-07	4.45E-07	1.41E-07	7.73E-07
75	3.30	1.19E-16	0.	0.	6.77E-15	1.63E-11	2.77E-10	0.	1.59E-10	1.02E-07	4.92E-07	1.74E-07	8.59E-07
76	3.20	1.03E-16	0.	0.	1.09E-15	4.25E-12	4.10E-10	0.	1.59E-10	2.01E-07	5.39E-07	1.92E-07	9.32E-07
77	3.10	9.81E-17	0.	0.	1.17E-15	1.64E-12	3.70E-10	0.	1.59E-10	2.20E-07	5.84E-07	2.09E-07	1.01E-06
78	3.00	8.73E-17	0.	0.	3.30E-15	3.00E-12	2.72E-10	0.	1.34E-10	2.49E-07	6.32E-07	2.25E-07	1.10E-06
79	2.90	7.20E-17	0.	0.	1.27E-15	5.55E-12	1.92E-10	0.	1.34E-10	2.69E-07	6.83E-07	2.42E-07	1.20E-06
80	2.80	7.50E-17	0.	0.	6.13E-15	3.33E-12	1.31E-10	0.	1.36E-10	2.99E-07	7.42E-07	2.62E-07	1.31E-06
81	2.70	6.01E-17	0.	0.	2.80E-15	4.71E-12	7.60E-10	0.	1.36E-10	3.34E-07	8.05E-07	2.86E-07	1.35E-06
82	2.60	2.24E-17	0.	0.	1.40E-15	4.67E-13	3.67E-10	0.	1.36E-10	3.79E-07	8.78E-07	3.14E-07	1.39E-06
83	2.50	1.54E-18	0.	0.	1.54E-15	4.41E-13	7.25E-10	0.	1.34E-10	4.29E-07	9.67E-07	3.48E-07	1.24E-06
84	2.40	0.	0.	0.	3.72E-13	7.69E-10	0.	0.	1.35E-10	4.85E-07	1.06E-06	3.86E-07	1.40E-06
85	2.30	0.	0.	0.	0.	0.	0.	0.	1.35E-10	5.45E-07	1.16E-06	4.26E-07	1.48E-06
86	2.20	0.	0.	0.	0.	0.	0.	0.	1.34E-10	6.10E-07	1.26E-06	4.68E-07	1.58E-06
87	2.10	0.	0.	0.	0.	0.	0.	0.	1.34E-10	6.80E-07	1.36E-06	5.12E-07	1.69E-06
88	2.00	0.	0.	0.	0.	0.	0.	0.	1.29E-10	7.55E-07	1.46E-06	5.58E-07	1.79E-06
89	1.90	0.	0.	0.	0.	0.	0.	0.	1.29E-10	8.35E-07	1.56E-06	6.06E-07	1.90E-06
90	1.80	0.	0.	0.	0.	0.	0.	0.	1.19E-10	9.20E-07	1.66E-06	6.56E-07	2.01E-06
91	1.70	0.	0.	0.	0.	0.	0.	0.	1.12E-10	1.01E-06	1.76E-06	7.08E-07	2.12E-06
92	1.60	0.	0.	0.	0.	0.	0.	0.	9.59E-11	1.12E-06	1.86E-06	7.62E-07	2.23E-06
93	1.50	0.	0.	0.	0.	0.	0.	0.	8.32E-11	1.24E-06	1.96E-06	8.18E-07	2.34E-06
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	2.07E-06	3.19E-06	1.87E-06	6.73E-06
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	3.11E-06	4.74E-06	3.11E-06	8.97E-06
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	3.99E-06	6.25E-06	4.50E-06	1.17E-05
97	1.10	0.	0.	0.	0.	0.	2.47E-20	0.	0.	5.21E-06	7.93E-06	5.75E-06	1.49E-05
98	1.00	0.	0.	0.	0.	0.	3.42E-19	0.	0.	6.94E-06	9.35E-06	7.13E-06	1.84E-05
99	0.90	0.	0.	0.	0.	0.	3.93E-19	0.	0.	9.59E-06	1.10E-05	9.59E-06	2.31E-05
100	0.80	0.	0.	0.	0.	0.	9.34E-19	0.	0.	1.30E-05	1.22E-05	2.69E-06	2.90E-05
101	0.70	0.	0.	0.	0.	0.	7.13E-18	0.	0.	2.08E-05	1.54E-05	2.31E-06	3.44E-05
102	0.60	0.	0.	0.	0.	0.	2.42E-17	0.	0.	3.34E-05	1.27E-05	2.61E-06	4.87E-05

ADDITIONAL COEFFICIENT OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 10000. DENSITY (GM/CC) 1.2928-00 ( 1.0E-05 NORMAL)

PHOTON ENERGY E.V.	Q2 S-R CHARGES	Q2 S-R COUNT	NO META	NO SIGMA	NO PHOTO-ELECT (11EVS)	NO FREE-ELECT	P.E.	TOTAL AIR
1	10.70 0	0	0	0	2.44E-13	5.41E-11	0.34E-09	1.90E-09
2	10.60 0	0	0	0	2.44E-13	5.37E-11	0.33E-09	1.90E-09
3	10.50 1	0	0	0	2.44E-13	5.33E-11	0.32E-09	1.90E-09
4	10.40 0	0	0	0	2.44E-13	5.29E-11	0.31E-09	1.90E-09
5	10.30 0	0	0	0	2.44E-13	5.25E-11	0.30E-09	1.90E-09
6	10.20 1	0	0	0	2.44E-13	5.21E-11	0.29E-09	1.90E-09
7	10.10 0	0	0	0	2.44E-13	5.17E-11	0.28E-09	1.90E-09
8	10.00 0	0	0	0	2.44E-13	5.13E-11	0.27E-09	1.90E-09
9	9.90 0	0	0	0	2.44E-13	5.09E-11	0.26E-09	1.90E-09
10	9.80 0	0	0	0	2.44E-13	5.05E-11	0.25E-09	1.90E-09
11	9.70 0	0	0	0	2.44E-13	5.01E-11	0.24E-09	1.90E-09
12	9.60 2	0	0	0	2.44E-13	4.97E-11	0.23E-09	1.90E-09
13	9.50 1	0	0	0	2.44E-13	4.93E-11	0.22E-09	1.90E-09
14	9.40 0	0	0	0	2.44E-13	4.89E-11	0.21E-09	1.90E-09
15	9.30 1	0	0	0	2.44E-13	4.85E-11	0.20E-09	1.90E-09
16	9.20 0	0	0	0	2.44E-13	4.81E-11	0.19E-09	1.90E-09
17	9.10 0	0	0	0	2.44E-13	4.77E-11	0.18E-09	1.90E-09
18	9.00 0	0	0	0	2.44E-13	4.73E-11	0.17E-09	1.90E-09
19	8.90 0	0	0	0	2.44E-13	4.69E-11	0.16E-09	1.90E-09
20	8.80 0	0	0	0	2.44E-13	4.65E-11	0.15E-09	1.90E-09
21	8.70 0	0	0	0	2.44E-13	4.61E-11	0.14E-09	1.90E-09
22	8.60 0	0	0	0	2.44E-13	4.57E-11	0.13E-09	1.90E-09
23	8.50 0	0	0	0	2.44E-13	4.53E-11	0.12E-09	1.90E-09
24	8.40 0	0	0	0	2.44E-13	4.49E-11	0.11E-09	1.90E-09
25	8.30 0	0	0	0	2.44E-13	4.45E-11	0.10E-09	1.90E-09
26	8.20 0	0	0	0	2.44E-13	4.41E-11	0.09E-09	1.90E-09
27	8.10 0	0	0	0	2.44E-13	4.37E-11	0.08E-09	1.90E-09
28	8.00 0	0	0	0	2.44E-13	4.33E-11	0.07E-09	1.90E-09
29	7.90 0	0	0	0	2.44E-13	4.29E-11	0.06E-09	1.90E-09
30	7.80 0	0	0	0	2.44E-13	4.25E-11	0.05E-09	1.90E-09
31	7.70 0	0	0	0	2.44E-13	4.21E-11	0.04E-09	1.90E-09
32	7.60 0	0	0	0	2.44E-13	4.17E-11	0.03E-09	1.90E-09
33	7.50 0	0	0	0	2.44E-13	4.13E-11	0.02E-09	1.90E-09
34	7.40 0	0	0	0	2.44E-13	4.09E-11	0.01E-09	1.90E-09
35	7.30 0	0	0	0	2.44E-13	4.05E-11	0.00E-09	1.90E-09
36	7.20 0	0	0	0	2.44E-13	4.01E-11	0.00E-09	1.90E-09
37	7.10 0	0	0	0	2.44E-13	3.97E-11	0.00E-09	1.90E-09
38	7.00 0	0	0	0	2.44E-13	3.93E-11	0.00E-09	1.90E-09
39	6.90 0	0	0	0	2.44E-13	3.89E-11	0.00E-09	1.90E-09
40	6.80 0	0	0	0	2.44E-13	3.85E-11	0.00E-09	1.90E-09
41	6.70 0	0	0	0	2.44E-13	3.81E-11	0.00E-09	1.90E-09
42	6.60 0	0	0	0	2.44E-13	3.77E-11	0.00E-09	1.90E-09
43	6.50 0	0	0	0	2.44E-13	3.73E-11	0.00E-09	1.90E-09
44	6.40 0	0	0	0	2.44E-13	3.69E-11	0.00E-09	1.90E-09
45	6.30 0	0	0	0	2.44E-13	3.65E-11	0.00E-09	1.90E-09
46	6.20 0	0	0	0	2.44E-13	3.61E-11	0.00E-09	1.90E-09
47	6.10 0	0	0	0	2.44E-13	3.57E-11	0.00E-09	1.90E-09
48	6.00 0	0	0	0	2.44E-13	3.53E-11	0.00E-09	1.90E-09
49	5.90 0	0	0	0	2.44E-13	3.49E-11	0.00E-09	1.90E-09
50	5.80 0	0	0	0	2.44E-13	3.45E-11	0.00E-09	1.90E-09
51	5.70 0	0	0	0	2.44E-13	3.41E-11	0.00E-09	1.90E-09

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 14800. DENSITY (GM/CC) 1.293E-00 ( 1.0E-05 NORMAL)

PHOTON DS S-R ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 3RD POS.	M2 4TH POS.	BETA	NO GAMMA	NO VIB-ROT	NO 2	PHOTO-DEN (TOMS)	FREF-FREE P.E.	N P.E.	0 TOTAL AIP	
52	5.68	2.00E-20	0.	0.	4.72E-20	2.74E-19	0.	0.	2.62E-13	3.02E-10	2.72E-09	2.11E-00	5.21E-09
53	5.59	0.	0.	0.	5.14E-20	2.95E-19	0.	0.	2.65E-13	4.80E-10	2.70E-09	2.13E-00	5.31E-09
54	5.40	0.	0.	0.	4.60E-20	2.82E-19	0.	0.	2.65E-13	4.27E-10	2.65E-09	2.16E-00	5.44E-09
55	5.30	0.	0.	0.	4.60E-20	2.60E-19	0.	0.	2.67E-13	4.51E-10	2.95E-09	2.16E-00	5.57E-09
56	5.20	0.	0.	0.	5.15E-20	1.89E-19	0.	0.	2.60E-13	4.70E-10	3.81E-09	2.24E-00	5.72E-09
57	5.10	0.	0.	0.	5.12E-20	2.49E-19	0.	0.	2.71E-13	5.07E-10	3.11E-09	2.20E-00	5.80E-09
58	5.00	3.04E-21	0.	0.	4.46E-20	2.27E-19	0.	0.	2.79E-13	5.30E-10	3.20E-09	2.32E-00	6.05E-09
59	4.90	3.06E-21	0.	0.	5.17E-20	2.45E-19	0.	0.	2.79E-13	5.72E-10	3.39E-09	2.34E-00	6.24E-09
60	4.80	1.73E-20	0.	0.	5.53E-20	2.20E-19	0.	0.	2.70E-13	6.09E-10	3.42E-09	2.41E-00	6.44E-09
61	4.70	3.15E-20	0.	0.	5.50E-20	2.87E-19	0.	0.	2.80E-13	6.45E-10	3.54E-09	2.41E-00	6.67E-09
62	4.65	3.13E-20	0.	0.	5.63E-20	1.89E-19	0.	0.	2.82E-13	6.95E-10	3.69E-09	2.54E-00	6.92E-09
63	4.50	3.29E-20	0.	3.48E-20	5.11E-20	1.41E-19	0.	0.	2.80E-13	7.40E-10	3.80E-09	2.60E-00	7.22E-09
64	4.40	3.40E-20	0.	1.95E-19	5.11E-20	9.80E-20	0.	0.	2.80E-13	7.92E-10	4.00E-09	2.67E-00	7.52E-09
65	4.30	3.27E-20	0.	3.20E-19	4.89E-20	6.89E-20	0.	0.	2.80E-13	8.50E-10	4.26E-09	2.69E-00	7.80E-09
66	4.20	3.04E-20	0.	1.00E-19	5.00E-20	4.34E-20	0.	0.	2.91E-13	9.10E-10	4.26E-09	2.69E-00	8.06E-09
67	4.10	2.94E-20	0.	4.4E-19	4.95E-20	1.19E-20	0.	0.	2.92E-13	9.82E-10	4.32E-09	1.82E-00	8.32E-09
68	4.00	2.80E-20	0.	1.56E-19	4.75E-20	9.84E-21	0.	0.	2.92E-13	1.04E-09	4.51E-09	1.85E-00	8.57E-09
69	3.90	2.80E-20	0.	7.21E-19	4.75E-20	3.50E-21	0.	0.	2.92E-13	1.14E-09	4.67E-09	1.89E-00	8.90E-09
70	3.80	2.80E-20	0.	1.16E-18	4.34E-20	3.50E-21	0.	0.	2.91E-13	1.24E-09	4.84E-09	1.83E-00	9.21E-09
71	3.70	2.11E-20	0.	1.22E-18	4.37E-20	3.92E-20	0.	0.	2.80E-13	1.34E-09	5.09E-09	1.24E-00	9.50E-09
72	3.60	1.90E-20	0.	8.20E-19	4.31E-20	4.25E-20	0.	0.	2.80E-13	1.44E-09	5.36E-09	1.37E-00	9.83E-09
73	3.50	1.70E-20	0.	1.12E-18	1.91E-19	3.32E-20	0.	0.	2.80E-13	1.54E-09	5.63E-09	1.51E-00	1.02E-09
74	3.40	1.80E-20	0.	6.00E-19	2.65E-19	3.71E-20	0.	0.	1.42E-13	1.71E-09	6.26E-09	1.67E-00	1.07E-09
75	3.30	1.80E-20	0.	7.00E-19	1.04E-19	2.94E-20	0.	0.	1.42E-13	1.89E-09	6.11E-09	1.33E-00	1.13E-09
76	3.20	1.80E-20	0.	4.50E-19	1.80E-19	3.87E-20	0.	0.	1.42E-13	2.08E-09	6.61E-09	2.60E-00	1.19E-09
77	3.10	1.85E-20	0.	3.94E-19	1.10E-19	2.89E-20	0.	0.	1.42E-13	2.28E-09	6.12E-09	2.14E-00	1.26E-09
78	3.00	9.30E-21	0.	2.19E-19	1.02E-19	2.70E-20	0.	0.	1.42E-13	2.53E-09	6.64E-09	2.83E-00	1.33E-09
79	2.90	9.30E-21	0.	1.33E-19	5.72E-19	2.84E-20	0.	0.	1.42E-13	2.80E-09	7.10E-09	2.51E-00	1.40E-09
80	2.80	3.09E-21	0.	6.42E-20	3.45E-19	1.39E-20	0.	0.	1.42E-13	3.12E-09	7.80E-09	2.72E-00	1.50E-09
81	2.70	5.16E-21	0.	2.99E-20	4.84E-19	7.49E-21	0.	0.	1.42E-13	3.49E-09	8.44E-09	1.30E-00	1.53E-09
82	2.60	2.40E-21	0.	1.47E-20	4.81E-19	3.25E-21	0.	0.	1.42E-13	3.90E-09	9.15E-09	1.50E-00	1.60E-09
83	2.50	1.07E-22	0.	1.61E-21	4.55E-19	7.69E-22	0.	0.	1.42E-13	4.40E-09	9.80E-09	1.74E-00	1.68E-09
84	2.40	0.	0.	7.62E-20	3.83E-19	8.15E-23	0.	0.	1.42E-13	4.97E-09	1.02E-09	2.13E-00	1.75E-09
85	2.30	0.	0.	2.47E-19	0.	0.	0.	0.	1.41E-13	5.60E-09	1.20E-09	2.59E-00	1.84E-09
86	2.20	0.	0.	6.27E-19	0.	0.	0.	0.	1.41E-13	6.40E-09	1.20E-09	3.06E-00	2.00E-09
87	2.10	0.	0.	6.04E-19	0.	0.	0.	0.	1.30E-13	7.40E-09	1.40E-09	3.56E-00	2.10E-09
88	2.00	0.	0.	1.22E-18	0.	0.	0.	0.	1.30E-13	8.60E-09	1.50E-09	4.07E-00	2.27E-09
89	1.90	0.	0.	1.77E-18	0.	0.	0.	0.	1.31E-13	1.01E-09	1.70E-09	4.60E-00	2.46E-09
90	1.80	0.	0.	1.40E-18	0.	0.	0.	0.	1.24E-13	1.20E-09	2.12E-09	5.60E-00	2.69E-09
91	1.70	0.	0.	1.72E-18	0.	0.	0.	0.	1.20E-13	1.42E-09	2.54E-09	6.80E-00	2.94E-09
92	1.60	0.	0.	1.27E-18	0.	0.	0.	0.	1.00E-13	1.71E-09	3.27E-09	7.70E-00	3.25E-09
93	1.50	0.	0.	1.40E-18	0.	0.	0.	0.	4.59E-14	2.00E-09	3.59E-09	8.65E-00	3.60E-09
94	1.40	0.	0.	1.40E-18	0.	0.	0.	0.	0.	2.57E-09	3.20E-09	8.02E-00	4.00E-09
95	1.30	0.	0.	1.13E-18	0.	0.	0.	0.	0.	3.24E-09	4.72E-09	1.15E-00	4.40E-09
96	1.20	0.	0.	1.00E-18	0.	0.	0.	0.	0.	4.16E-09	6.40E-09	1.43E-00	4.80E-09
97	1.10	0.	0.	1.01E-18	0.	0.	0.	0.	0.	5.43E-09	9.07E-09	1.82E-00	5.21E-09
98	1.00	0.	0.	9.24E-19	0.	0.	0.	0.	0.	7.25E-09	1.25E-08	2.21E-00	5.60E-09
99	8.90	0.	0.	7.64E-19	0.	0.	0.	0.	0.	9.92E-09	1.80E-08	2.61E-00	6.00E-09
100	8.80	0.	0.	3.50E-19	0.	0.	0.	0.	0.	1.42E-07	1.25E-07	2.70E-00	6.40E-09
101	0.70	0.	0.	8.00E-20	0.	0.	0.	0.	0.	2.16E-07	1.15E-07	2.39E-00	3.56E-07
102	0.60	0.	0.	1.30E-20	0.	0.	0.	0.	0.	3.49E-07	1.30E-07	2.70E-00	5.05E-07





ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 17000. DENSITY (GM/CC) 1.293E-02 ( 1.0F 01 NORMAL)

PHOTON ENERGY E.V.	OZ S-W BANDS	OZ S-W CONT.	OZ R-W NO. 1	NO BETA	NO GAMMA	NO 2	O- PHOTO-DEY (1/FNS)		O- FREF-FRES		O TOTAL AIR	
							P.F.	M	P.F.	M	P.F.	M
1 10.73 0.			2.10F 00	0.	0.	0.	3.30E 00	7.14E-02	2.93F 02	1.40E 00	7.78E 02	
2 10.64 0.			1.90F 00	0.	0.	0.	3.30E 00	7.35E-02	6.47E 00	1.39E 00	1.32E 01	
3 10.56 0.			1.92E 00	0.	0.	0.	3.30E 00	7.36E-02	6.50F 00	1.39E 00	1.33E 01	
4 10.48 0.			1.91E 00	0.	0.	0.	3.40E 00	8.01E-02	6.94F 00	1.30E 00	1.30F 01	
5 10.37 0.			1.96E 00	0.	0.	0.	3.41E 00	8.25E-02	6.95F 00	1.37E 00	1.30F 01	
6 10.23 0.			1.63F 00	0.	0.	0.	3.42E 00	8.50E-02	6.56F 00	1.37E 00	1.20E 01	
7 10.10 0.			1.53E 00	0.	0.	0.	3.42E 00	8.74E-02	6.57E 00	1.36E 00	1.20E 01	
8 9.91 0.			1.37E 00	0.	0.	0.	3.42E 00	9.03E-02	6.59F 00	1.36E 00	1.20E 01	
9 9.73 0.			1.29E 00	0.	0.	0.	3.44E 00	9.31E-02	6.60F 00	1.35E 00	1.20E 01	
10 9.54 0.			1.11E 00	0.	0.	0.	3.44E 00	9.60E-02	6.62F 00	1.34E 00	1.20E 01	
11 9.33 0.			1.20E 00	0.	0.	0.	3.44E 00	9.91E-02	6.64E 00	1.34E 00	1.27E 01	
12 9.25 0.			1.02E 00	0.	0.	0.	3.45E 00	1.07E-01	6.65F 00	1.33E 00	1.26E 01	
13 9.17 0.			9.62E-01	0.	0.	0.	3.46E 00	1.04E-01	6.67E 00	1.33E 00	1.25E 01	
14 9.11 0.			9.05E-01	0.	0.	0.	3.47E 00	1.09E-01	6.70F 00	1.32E 00	1.25E 01	
15 9.03 0.			8.14E-01	0.	0.	0.	3.49E 00	1.15E-01	6.72E 00	1.32E 00	1.24E 01	
16 8.92 0.			8.35E-01	0.	0.	0.	3.50F 00	1.14E-01	6.73E 00	1.31E 00	1.15E 00	
17 8.81 0.			7.98E-01	0.	0.	0.	3.51F 00	1.20E-01	6.75E 00	1.31E 00	1.15E 00	
18 8.69 0.			6.99E-01	0.	0.	0.	3.52E 00	1.25E-01	6.79E 00	1.30E 00	1.04E 00	
19 8.60 0.			6.86E-01	0.	0.	0.	3.54E 00	1.29E-01	6.79E 00	1.30E 00	1.04E 00	
20 8.50 0.			5.94E-01	0.	0.	0.	3.55F 00	1.33E-01	6.79E 00	1.30E 00	1.04E 00	
21 8.41 0.			6.11E-01	0.	0.	0.	3.56E 00	1.38E-01	6.79E 00	1.29E 00	1.04E 00	
22 8.31 0.			5.34E-01	0.	0.	0.	3.57E 00	1.42E-01	6.79E 00	1.28E 00	1.04E 00	
23 8.21 0.			5.30E-01	0.	0.	0.	3.59E 00	1.48E-01	6.79E 00	1.28E 00	1.04E 00	
24 8.10 0.			4.49E-01	0.	0.	0.	3.61F 00	1.54E-01	6.79E 00	1.28E 00	1.04E 00	
25 8.00 0.			4.53E-01	0.	0.	0.	3.63E 00	1.60E-01	6.79E 00	1.28E 00	1.04E 00	
26 8.20 0.			3.90E-01	0.	0.	0.	3.65E 00	1.64E-01	6.79E 00	1.29E 00	1.04E 00	
27 8.17 0.			3.92E-01	0.	0.	0.	3.67E 00	1.72E-01	6.79E 00	1.29E 00	1.04E 00	
28 8.01 0.			3.37E-01	0.	0.	0.	3.69E 00	1.79E-01	6.79E 00	1.29E 00	1.04E 00	
29 7.93 0.			3.49E-01	0.	0.	0.	3.70E 00	1.86E-01	6.79E 00	1.29E 00	1.04E 00	
30 7.87 0.			3.05E-01	0.	0.	0.	3.72E 00	1.93E-01	6.79E 00	1.30E 00	1.04E 00	
31 7.78 0.			2.89E-01	0.	0.	0.	3.74E 00	2.01E-01	6.79E 00	1.30E 00	1.04E 00	
32 7.63 0.			2.67E-01	0.	0.	0.	3.76E 00	2.09E-01	6.79E 00	1.31E 00	1.04E 00	
33 7.54 0.			2.39E-01	0.	0.	0.	3.78E 00	2.16E-01	6.79E 00	1.31E 00	1.04E 00	
34 7.46 0.			2.26E-01	0.	0.	0.	3.80E 00	2.27E-01	6.79E 00	1.31E 00	1.11E 00	
35 7.33 0.			2.04E-01	0.	0.	0.	3.82E 00	2.34E-01	6.79E 00	1.32E 00	1.11E 00	
36 7.24 0.			1.95E-01	0.	0.	0.	3.84E 00	2.47E-01	6.79E 00	1.32E 00	1.11E 00	
37 7.13 0.			1.79E-01	0.	0.	0.	3.86E 00	2.57E-01	6.79E 00	1.32E 00	1.11E 00	
38 7.01 0.			1.64E-01	0.	0.	0.	3.89E 00	2.69E-01	6.79E 00	1.32E 00	1.11E 00	
39 6.93 0.			1.48E-01	0.	0.	0.	3.92E 00	2.81E-01	6.79E 00	1.33E 00	1.11E 00	
40 6.88 0.			1.57E-01	0.	0.	0.	3.95E 00	2.94E-01	6.79E 00	1.33E 00	1.11E 00	
41 6.78 0.			1.23E-01	0.	0.	0.	4.01E 00	3.04E-01	6.79E 00	1.34E 00	1.11E 00	
42 6.60 0.			9.74E-02	0.	0.	0.	4.03E 00	3.22E-01	6.79E 00	1.34E 00	1.11E 00	
43 6.53 0.			8.72E-02	0.	0.	0.	4.07E 00	3.32E-01	6.79E 00	1.35E 00	1.11E 00	
44 6.48 0.			8.15E-02	0.	0.	0.	4.11E 00	3.44E-01	6.79E 00	1.36E 00	1.11E 00	
45 6.38 0.			7.21E-02	0.	0.	0.	4.14F 00	3.54E-01	6.79E 00	1.37E 00	1.11E 00	
46 6.23 0.			6.27E-02	0.	0.	0.	4.17F 00	3.66E-01	6.79E 00	1.38E 00	1.11E 00	
47 6.19 0.			4.86E-02	0.	0.	0.	4.20F 00	3.80E-01	6.79E 00	1.40E 00	1.11E 00	
48 6.00 0.			2.73E-03	0.	0.	0.	4.20E 00	4.32E-01	6.79E 00	1.41E 00	1.11E 00	
49 5.93 0.			1.95E-04	0.	0.	0.	4.14E 00	4.55E-01	6.79E 00	1.42E 00	1.11E 00	
50 5.83 0.			4.92E-06	0.	0.	0.	3.69E 00	4.79E-01	6.79E 00	1.44E 00	1.11E 00	
51 5.73 0.			9.49E-10	0.	0.	0.	1.10E-32	4.91E-02	6.79E 00	1.44E 00	1.11E 00	

TEMPERATURE (DEGREES K) 17000. DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)

PHOTON OR S-R ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	BETA	NO GAMMA	NO VIB-ROT	NO 2	0- PHOTO-DET (10MS)	FREF-FREE P.E.	N P.E.	O P.E.	TOTAL AIR
52	5.60	4.20E-11	0.	0.	9.34E-03	6.04E-02	0.	3.61E 00	5.05E-01	2.99E 00	1.05E 00	6.63E 00
53	5.50	0.	0.	0.	1.14E-02	5.61E-02	0.	3.69E 00	5.34E-01	3.05E 00	1.47E 00	6.75E 00
54	5.40	0.	0.	0.	1.04E-02	4.91E-02	0.	3.69E 00	5.04E-01	3.13E 00	1.49E 00	6.89E 00
55	5.30	0.	0.	0.	1.07E-02	5.74E-02	0.	3.67E 00	5.07E-01	3.21E 00	1.51E 00	6.96E 00
56	5.20	0.	0.	0.	1.15E-02	4.74E-02	0.	3.73E 00	4.82E-01	3.20E 00	1.54E 00	7.21E 00
57	5.10	0.	0.	0.	1.15E-02	5.09E-02	0.	3.73E 00	4.70E-01	3.30E 00	1.64E 00	7.45E 00
58	5.00	5.01E-04	0.	0.	1.09E-02	5.33E-02	0.	3.70E 00	4.72E-01	3.61E 00	1.92E 00	8.05E 00
59	4.90	1.41E-03	0.	0.	1.16E-02	5.37E-02	0.	3.82E 00	4.69E-01	3.73E 00	1.66E 00	8.10E 01
60	4.80	2.93E-03	0.	0.	1.25E-02	5.22E-02	0.	3.84E 00	4.59E-01	3.84E 00	1.78E 00	8.10E 01
61	4.70	3.93E-03	0.	0.	1.24E-02	4.75E-02	0.	3.89E 00	4.17E-01	4.22E 00	1.74E 00	8.10E 01
62	4.60	4.85E-03	0.	0.	1.20E-02	4.35E-02	0.	3.92E 00	4.60E-01	4.22E 00	1.79E 00	8.10E 01
63	4.50	5.88E-03	0.	0.	1.17E-02	3.35E-02	0.	3.95E 00	1.05E 00	4.42E 00	1.64E 00	8.10E 01
64	4.40	5.41E-03	0.	0.	1.17E-02	2.83E-02	0.	3.90E 00	1.13E 00	4.64E 00	1.80E 00	8.10E 01
65	4.30	5.11E-03	0.	0.	1.17E-02	9.64E-03	0.	4.01E 00	1.21E 00	4.86E 00	1.93E 00	8.10E 01
66	4.20	4.78E-03	0.	0.	1.17E-02	9.64E-03	0.	4.03E 00	1.30E 00	5.08E 00	1.94E 00	8.10E 01
67	4.10	4.40E-03	0.	0.	1.14E-02	2.73E-03	0.	4.04E 00	1.40E 00	5.30E 00	2.77E-01	8.10E 01
68	4.00	4.10E-03	0.	0.	1.10E-02	2.64E-03	0.	4.03E 00	1.51E 00	5.12E 00	0.81E-01	8.10E 01
69	3.90	3.45E-03	0.	0.	1.07E-02	7.10E-04	0.	4.01E 00	1.64E 00	5.21E 00	0.84E-01	8.10E 01
70	3.80	3.31E-03	0.	0.	1.06E-02	1.00E-03	0.	3.95E 00	1.77E 00	4.24E 00	0.95E-01	8.10E 01
71	3.70	3.30E-03	0.	0.	1.06E-02	9.24E-03	0.	3.70E 00	1.93E 00	4.69E 00	1.01E 00	8.10E 01
72	3.60	3.04E-03	0.	0.	1.06E-02	1.60E-02	0.	3.30E 00	2.18E 00	4.95E 00	1.11E 00	8.10E 01
73	3.50	2.84E-03	0.	0.	1.06E-02	8.62E-03	0.	1.99E 00	2.29E 00	5.40E 00	1.27E 00	8.10E 01
74	3.40	2.68E-03	0.	0.	2.98E-01	4.79E-02	0.	1.96E 00	2.51E 00	5.97E 00	1.34E 00	8.10E 01
75	3.30	2.07E-03	0.	0.	2.98E-01	1.98E-01	0.	1.94E 00	2.79E 00	6.94E 00	1.64E 00	8.10E 01
76	3.20	1.98E-03	0.	0.	1.94E-01	3.25E-01	0.	1.94E 00	3.03E 00	7.13E 00	1.90E 00	8.10E 01
77	3.10	1.73E-03	0.	0.	1.94E-01	4.04E-02	0.	1.97E 00	3.35E 00	7.71E 00	1.74E 00	8.10E 01
78	3.00	1.59E-03	0.	0.	1.94E-01	4.94E-03	0.	1.97E 00	3.71E 00	8.34E 00	1.84E 00	8.10E 01
79	2.90	1.30E-03	0.	0.	1.94E-01	4.97E-03	0.	1.97E 00	4.13E 00	9.06E 00	1.99E 00	8.10E 01
80	2.80	1.29E-03	0.	0.	2.74E-02	6.29E-02	0.	1.97E 00	4.61E 00	9.84E 00	2.15E 00	8.10E 01
81	2.70	0.93E-04	0.	0.	1.29E-02	0.62E-02	0.	1.97E 00	5.10E 00	1.07E 00	2.32E 00	8.10E 01
82	2.60	4.08E-04	0.	0.	6.51E-03	8.69E-03	0.	1.97E 00	5.63E 00	1.22E 00	1.36E 00	8.10E 01
83	2.50	2.85E-05	0.	0.	6.08E-04	8.27E-03	0.	1.97E 00	6.61E 00	1.42E 00	1.61E 00	8.10E 01
84	2.40	0.	0.	0.	3.17E-02	0.	0.	1.96E 00	7.52E 00	1.20E 00	1.52E 00	8.10E 01
85	2.30	0.	0.	0.	9.09E-02	0.	0.	1.95E 00	8.61E 00	1.42E 00	2.08E 00	8.10E 01
86	2.20	0.	0.	0.	2.57E-01	0.	0.	1.94E 00	9.92E 00	1.65E 00	2.60E 00	8.10E 01
87	2.10	0.	0.	0.	2.76E-01	0.	0.	1.94E 00	1.19E 00	1.80E 00	3.06E 00	8.10E 01
88	2.00	0.	0.	0.	5.37E-01	0.	0.	1.81E 00	1.39E 00	2.15E 00	3.54E 00	8.10E 01
89	1.90	0.	0.	0.	6.06E-01	0.	0.	1.73E 00	1.59E 00	2.57E 00	4.30E 00	8.10E 01
90	1.80	0.	0.	0.	5.08E-01	0.	0.	1.65E 00	1.80E 00	3.08E 00	5.22E 00	8.10E 01
91	1.70	0.	0.	0.	6.79E-01	0.	0.	1.50E 00	2.27E 00	3.60E 00	6.15E 00	8.10E 01
92	1.60	0.	0.	0.	6.79E-01	0.	0.	6.27E-01	2.77E 00	4.65E 00	7.47E 00	8.10E 01
93	1.50	0.	0.	0.	5.84E-01	0.	0.	0.	3.43E 00	5.78E 00	8.91E 00	8.10E 02
94	1.40	0.	0.	0.	4.44E-01	0.	0.	0.	4.32E 00	7.62E 00	1.10E 00	1.32E 02
95	1.30	0.	0.	0.	4.44E-01	0.	0.	0.	5.52E 00	8.25E 00	1.10E 00	1.51E 02
96	1.20	0.	0.	0.	4.25E-01	0.	0.	0.	7.19E 00	1.02E 00	1.49E 00	1.99E 02
97	1.10	0.	0.	0.	3.01E-01	0.	0.	0.	9.61E 00	1.23E 00	2.10E 00	2.37E 02
98	1.00	0.	0.	0.	3.01E-01	0.	0.	0.	1.32E 00	1.42E 00	2.10E 00	2.94E 02
99	0.90	0.	0.	0.	3.02E-01	0.	0.	0.	1.91E 00	2.10E 00	2.28E 00	3.77E 02
100	0.80	0.	0.	0.	1.42E-01	0.	0.	0.	2.60E 00	1.77E 00	2.30E 00	4.89E 02
101	0.70	0.	0.	0.	3.38E-02	0.	0.	0.	4.64E 00	1.98E 00	2.67E 00	6.69E 02
102	0.60	0.	0.	0.	5.00E-03	0.	0.	0.	6.00E 00	2.67E 00	3.67E 00	9.69E 02



ABSORPTION COEFFICIENT OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 17000. DENSITY (GM/CC) 1.293E-03 ( 1.0E 00 NORMAL)

PHOTON ENERGY E.V.	Q2 S-R BANDS COMT.	W2 R-M NO. 1	TEMPERATURE (DEGREES K) 17000.	NO. METAL	NO. GAMMA	NO. PHOTO-DET (TURNS)	0- FREQ-FREQ N	N P.E.	0 P.E.	TOTAL AIR	
1 18.78 0.	0.	1.99E-02	0.	0.	0.	0.	9.94E-02	0.54E-03	2.51E-01	1.35E-01	2.54E-01
2 18.60 0.	0.	1.73E-02	0.	0.	0.	0.	9.96E-02	0.73E-03	6.17E-01	1.34E-01	8.74E-01
3 18.50 0.	0.	1.74E-02	0.	0.	0.	0.	9.97E-02	0.92E-03	6.19E-01	1.34E-01	8.77E-01
4 18.40 0.	0.	1.65E-02	0.	0.	0.	0.	9.98E-02	7.12E-03	6.22E-01	1.33E-01	8.78E-01
5 18.30 0.	0.	1.43E-02	0.	0.	0.	0.	1.00E-02	7.33E-03	6.23E-01	1.33E-01	8.77E-01
6 18.20 0.	0.	1.40E-02	0.	0.	0.	0.	1.00E-01	7.55E-03	6.25E-01	1.32E-01	8.79E-01
7 18.14 0.	0.	1.39E-02	0.	0.	0.	0.	1.00E-01	7.78E-03	6.25E-01	1.32E-01	8.78E-01
8 18.08 0.	0.	1.21E-02	0.	0.	0.	0.	1.00E-01	8.02E-03	6.28E-01	1.31E-01	8.78E-01
9 18.04 0.	0.	1.25E-02	0.	0.	0.	0.	1.00E-01	8.24E-03	6.28E-01	1.31E-01	8.79E-01
10 9.80 0.	0.	1.17E-02	0.	0.	0.	0.	1.01E-01	8.52E-03	6.29E-01	1.30E-01	8.80E-01
11 9.78 0.	0.	1.01E-02	0.	0.	0.	0.	1.01E-01	8.79E-03	6.31E-01	1.30E-01	8.80E-01
12 9.60 0.	0.	1.09E-02	0.	0.	0.	0.	1.01E-01	9.04E-03	6.32E-01	1.29E-01	8.82E-01
13 9.54 0.	0.	9.25E-03	0.	0.	0.	0.	1.01E-01	9.34E-03	6.34E-01	1.29E-01	8.84E-01
14 9.44 0.	0.	8.74E-03	0.	0.	0.	0.	1.02E-01	9.64E-03	6.36E-01	1.29E-01	8.84E-01
15 9.31 0.	0.	8.64E-03	0.	0.	0.	0.	1.02E-01	9.94E-03	6.38E-01	1.29E-01	8.85E-01
16 9.24 0.	0.	7.38E-03	0.	0.	0.	0.	1.02E-01	1.03E-02	6.40E-01	1.27E-01	8.87E-01
17 9.14 0.	0.	7.80E-03	0.	0.	0.	0.	1.03E-01	1.07E-02	6.42E-01	1.27E-01	8.75E-01
18 9.08 0.	0.	6.80E-03	0.	0.	0.	0.	1.03E-01	1.10E-02	6.42E-01	1.26E-01	8.75E-01
19 8.98 0.	0.	6.35E-03	0.	0.	0.	0.	1.03E-01	1.14E-02	6.42E-01	1.26E-01	8.75E-01
20 8.88 0.	0.	6.23E-03	0.	0.	0.	0.	1.04E-01	1.18E-02	6.42E-01	1.25E-01	8.75E-01
21 8.78 0.	0.	5.39E-03	0.	0.	0.	0.	1.04E-01	1.22E-02	6.42E-01	1.25E-01	8.75E-01
22 8.60 0.	0.	5.55E-03	0.	0.	0.	0.	1.05E-01	1.26E-02	6.42E-01	1.24E-01	8.76E-01
23 8.50 0.	0.	4.87E-03	0.	0.	0.	0.	1.05E-01	1.31E-02	6.42E-01	1.24E-01	8.76E-01
24 8.44 0.	0.	4.91E-03	0.	0.	0.	0.	1.05E-01	1.36E-02	6.42E-01	1.24E-01	8.77E-01
25 8.30 0.	0.	4.87E-03	0.	0.	0.	0.	1.06E-01	1.41E-02	6.42E-01	1.23E-01	8.78E-01
26 8.20 0.	0.	4.11E-03	0.	0.	0.	0.	1.07E-01	1.46E-02	6.42E-01	1.24E-01	8.80E-01
27 8.10 0.	0.	3.56E-03	0.	0.	0.	0.	1.07E-01	1.52E-02	6.42E-01	1.24E-01	8.81E-01
28 8.00 0.	0.	3.05E-03	0.	0.	0.	0.	1.08E-01	1.63E-02	6.42E-01	1.25E-01	8.86E-01
29 7.90 0.	0.	3.16E-03	0.	0.	0.	0.	1.09E-01	1.70E-02	6.42E-01	1.25E-01	8.89E-01
30 7.80 0.	0.	2.77E-03	0.	0.	0.	0.	1.09E-01	1.77E-02	6.42E-01	1.25E-01	8.91E-01
31 7.70 0.	0.	2.62E-03	0.	1.17E-07	0.	0.	1.10E-01	1.84E-02	6.42E-01	1.26E-01	8.94E-01
32 7.60 0.	0.	2.42E-03	0.	4.11E-07	0.	0.	1.10E-01	1.91E-02	6.42E-01	1.26E-01	8.97E-01
33 7.50 0.	0.	2.17E-03	0.	3.29E-06	0.	0.	1.11E-01	1.99E-02	6.40E-01	1.26E-01	8.90E-01
34 7.47 0.	0.	2.05E-03	0.	1.33E-05	0.	0.	1.12E-01	2.08E-02	6.42E-01	1.26E-01	8.93E-01
35 7.33 0.	0.	1.95E-03	0.	3.63E-05	0.	0.	1.13E-01	2.14E-02	6.43E-01	1.27E-01	8.96E-01
36 7.20 0.	0.	1.85E-03	0.	1.12E-04	0.	0.	1.13E-01	2.24E-02	6.44E-01	1.27E-01	8.99E-01
37 7.10 0.	0.	1.77E-03	0.	2.29E-04	0.	0.	1.14E-01	2.34E-02	6.45E-01	1.27E-01	8.99E-01
38 7.00 3.16E-07	0.	1.62E-03	0.	3.09E-04	0.	0.	1.15E-01	2.44E-02	6.45E-01	1.27E-01	8.99E-01
39 6.98 6.13E-07	0.	1.49E-03	0.	3.09E-04	0.	0.	1.15E-01	2.54E-02	6.45E-01	1.26E-01	8.99E-01
40 6.80 5.30E-07	0.	1.43E-03	0.	5.46E-04	0.	0.	1.16E-01	2.64E-02	6.46E-01	1.26E-01	8.99E-01
41 6.70 3.95E-07	0.	1.25E-03	0.	5.51E-04	0.	0.	1.17E-01	2.69E-02	6.50E-01	1.26E-01	8.99E-01
42 6.60 2.94E-07	0.	1.12E-03	0.	4.41E-04	0.	0.	1.18E-01	2.82E-02	6.52E-01	1.26E-01	8.99E-01
43 6.50 1.95E-07	0.	8.68E-04	0.	6.61E-04	0.	0.	1.19E-01	2.95E-02	6.54E-01	1.26E-01	8.99E-01
44 6.40 7.71E-08	0.	4.10E-04	0.	2.38E-04	0.	0.	1.20E-01	3.09E-02	6.57E-01	1.30E-01	8.99E-01
45 6.30 4.40E-08	0.	3.70E-04	0.	1.11E-05	0.	0.	1.21E-01	3.24E-02	6.59E-01	1.31E-01	8.99E-01
46 6.20 2.61E-08	0.	2.69E-04	0.	4.47E-05	0.	0.	1.22E-01	3.37E-02	6.65E-01	1.33E-01	8.99E-01
47 6.10 9.20E-09	0.	9.77E-05	0.	6.29E-05	0.	0.	1.23E-01	3.57E-02	6.68E-01	1.35E-01	8.99E-01
48 6.00 3.03E-09	0.	2.48E-05	0.	3.69E-04	0.	0.	1.23E-01	3.95E-02	6.72E-01	1.36E-01	8.99E-01
49 5.90 9.00E-10	0.	1.27E-04	0.	6.22E-05	0.	0.	1.23E-01	4.14E-02	6.76E-01	1.37E-01	8.99E-01
50 5.80 1.20E-10	0.	4.48E-06	0.	8.68E-05	0.	0.	1.23E-01	4.14E-02	6.76E-01	1.37E-01	8.99E-01
51 5.70 6.41E-12	0.	0.	0.	1.01E-04	0.	0.	1.14E-01	4.34E-02	6.80E-01	1.39E-01	8.99E-01

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 19000. DENSITY (GM/CC) 1.2036-03 ( 1.0E 00 NORMAL)

PHOTON ENERGY BANDS	MS 1ST POS.	MS 2ND POS.	MS 1ST NEG.	MS 2ND NEG.	BETA	GAMMA	VIB-ROT	NO 2	NO 1	FREQ-FREE	N	P.E.	TOTAL AIR	
52	5.68	3.07E-13	0.	0.	0.57E-05	5.94E-04	0.	0.	0.	1.04E-01	4.63E-02	2.89E-01	1.40E-01	5.78E-01
53	5.58	0.	0.	0.	1.07E-04	5.15E-04	0.	0.	0.	1.07E-01	4.09E-02	2.90E-01	1.42E-01	5.80E-01
54	5.48	0.	0.	0.	0.57E-05	4.14E-04	0.	0.	0.	1.07E-01	5.15E-02	2.90E-01	1.42E-01	6.01E-01
55	5.38	0.	0.	0.	0.01E-05	5.97E-04	0.	0.	0.	1.08E-01	1.46E-02	3.05E-01	1.45E-01	6.14E-01
56	5.28	0.	0.	0.	1.03E-04	3.91E-04	0.	0.	0.	1.09E-01	5.70E-02	3.13E-01	1.48E-01	6.28E-01
57	5.18	0.	0.	0.	1.03E-04	5.04E-04	0.	0.	0.	1.10E-01	6.14E-02	3.22E-01	1.51E-01	6.43E-01
58	5.08	3.48E-04	0.	0.	1.03E-04	4.71E-04	0.	0.	0.	1.11E-01	6.58E-02	3.32E-01	1.54E-01	6.60E-01
59	4.98	1.31E-05	0.	0.	1.07E-04	5.12E-04	0.	0.	0.	1.12E-01	7.02E-02	3.43E-01	1.56E-01	6.81E-01
60	4.88	2.44E-05	0.	0.	1.15E-04	4.70E-04	0.	0.	0.	1.13E-01	7.47E-02	3.54E-01	1.60E-01	7.02E-01
61	4.78	1.29E-05	0.	0.	1.14E-04	4.34E-04	0.	0.	0.	1.14E-01	7.92E-02	3.65E-01	1.64E-01	7.24E-01
62	4.68	5.8E-05	0.	0.	1.17E-04	3.97E-04	0.	0.	0.	1.15E-01	8.36E-02	3.76E-01	1.68E-01	7.50E-01
63	4.58	4.72E-05	0.	1.27E-04	1.07E-04	2.97E-04	0.	0.	0.	1.16E-01	8.81E-02	3.87E-01	1.72E-01	7.79E-01
64	4.48	5.03E-05	0.	3.86E-04	1.07E-04	2.95E-04	0.	0.	0.	1.17E-01	9.26E-02	3.98E-01	1.77E-01	8.10E-01
65	4.38	4.74E-05	0.	1.24E-03	1.02E-04	1.20E-04	0.	0.	0.	1.17E-01	1.03E-01	4.12E-01	1.82E-01	8.44E-01
66	4.28	4.42E-05	0.	4.83E-03	1.07E-04	9.95E-05	0.	0.	0.	1.18E-01	1.10E-01	4.33E-01	1.88E-01	8.82E-01
67	4.18	4.14E-05	0.	1.75E-03	1.09E-04	2.90E-05	0.	0.	0.	1.18E-01	1.19E-01	4.64E-01	1.97E-01	9.18E-01
68	4.08	3.81E-05	0.	5.81E-03	1.01E-04	1.00E-05	0.	0.	0.	1.19E-01	1.29E-01	4.95E-01	2.08E-01	9.58E-01
69	3.98	3.52E-05	0.	2.70E-03	9.20E-05	7.24E-05	0.	0.	0.	1.19E-01	1.39E-01	5.26E-01	2.20E-01	1.00E
70	3.88	3.24E-05	0.	4.24E-03	8.28E-05	6.98E-05	0.	0.	0.	1.19E-01	1.50E-01	5.58E-01	2.33E-01	1.05E
71	3.78	3.14E-05	0.	4.54E-03	7.25E-05	6.48E-05	0.	0.	0.	1.19E-01	1.62E-01	5.90E-01	2.48E-01	1.11E
72	3.68	2.88E-05	0.	3.15E-03	5.01E-05	9.18E-05	0.	0.	0.	1.19E-01	1.76E-01	6.30E-01	2.65E-01	1.18E
73	3.58	2.61E-05	0.	4.20E-03	3.92E-05	7.22E-05	0.	0.	0.	1.19E-01	1.92E-01	6.72E-01	2.85E-01	1.27E
74	3.48	2.41E-05	0.	2.63E-03	1.43E-05	6.10E-05	0.	0.	0.	1.19E-01	2.10E-01	7.15E-01	3.08E-01	1.37E
75	3.38	1.93E-05	0.	2.70E-03	3.65E-05	6.45E-05	0.	0.	0.	1.19E-01	2.30E-01	7.60E-01	3.34E-01	1.48E
76	3.28	1.68E-05	0.	1.74E-03	0.68E-05	6.74E-05	0.	0.	0.	1.19E-01	2.52E-01	8.05E-01	3.62E-01	1.60E
77	3.18	1.48E-05	0.	1.37E-03	2.25E-05	6.39E-05	0.	0.	0.	1.19E-01	2.77E-01	8.50E-01	3.92E-01	1.74E
78	3.08	1.48E-05	0.	8.30E-04	5.61E-05	6.93E-05	0.	0.	0.	1.19E-01	3.05E-01	9.00E-01	4.25E-01	1.90E
79	2.98	1.29E-05	0.	5.21E-04	3.80E-05	4.57E-05	0.	0.	0.	1.19E-01	3.36E-01	9.50E-01	4.61E-01	2.07E
80	2.88	1.25E-05	0.	2.51E-04	1.87E-05	3.15E-05	0.	0.	0.	1.19E-01	3.70E-01	1.00E-01	5.00E-01	2.27E
81	2.78	0.93E-06	0.	1.17E-04	2.57E-05	1.72E-05	0.	0.	0.	1.19E-01	4.08E-01	1.05E-01	5.42E-01	2.49E
82	2.63	3.77E-06	0.	5.75E-05	2.90E-04	7.53E-06	0.	0.	0.	1.19E-01	4.50E-01	1.12E-01	5.88E-01	2.74E
83	2.58	2.64E-07	0.	6.28E-06	2.44E-04	1.70E-06	0.	0.	0.	1.19E-01	5.00E-01	1.20E-01	6.38E-01	3.02E
84	2.48	0.	0.	2.87E-04	0.	1.98E-07	0.	0.	0.	1.19E-01	5.60E-01	1.30E-01	6.90E-01	3.33E
85	2.38	0.	0.	6.87E-04	0.	0.	0.	0.	0.	1.19E-01	6.30E-01	1.40E-01	7.50E-01	3.69E
86	2.28	0.	0.	2.34E-03	0.	0.	0.	0.	0.	1.19E-01	7.10E-01	1.50E-01	8.20E-01	4.10E
87	2.18	0.	0.	2.59E-03	0.	0.	0.	0.	0.	1.19E-01	8.00E-01	1.60E-01	8.90E-01	4.57E
88	2.08	0.	0.	4.04E-03	0.	0.	0.	0.	0.	1.19E-01	9.00E-01	1.70E-01	9.70E-01	5.10E
89	1.98	0.	0.	6.34E-03	0.	0.	0.	0.	0.	1.19E-01	1.00E-01	1.80E-01	1.05E-01	1.10E
90	1.88	0.	0.	3.34E-03	0.	0.	0.	0.	0.	1.19E-01	1.10E-01	1.90E-01	1.14E-01	1.20E
91	1.78	0.	0.	6.16E-03	0.	0.	0.	0.	0.	1.19E-01	1.20E-01	2.00E-01	1.24E-01	1.30E
92	1.68	0.	0.	4.37E-03	0.	0.	0.	0.	0.	1.19E-01	1.30E-01	2.10E-01	1.35E-01	1.40E
93	1.58	0.	0.	5.39E-03	0.	0.	0.	0.	0.	1.19E-01	1.40E-01	2.20E-01	1.46E-01	1.50E
94	1.48	0.	0.	5.24E-03	0.	0.	0.	0.	0.	1.19E-01	1.50E-01	2.30E-01	1.58E-01	1.60E
95	1.38	0.	0.	4.03E-03	0.	0.	0.	0.	0.	1.19E-01	1.60E-01	2.40E-01	1.70E-01	1.70E
96	1.28	0.	0.	3.04E-03	0.	0.	0.	0.	0.	1.19E-01	1.70E-01	2.50E-01	1.82E-01	1.80E
97	1.18	0.	0.	3.04E-03	0.	0.	0.	0.	0.	1.19E-01	1.80E-01	2.60E-01	1.95E-01	1.90E
98	1.08	0.	0.	3.34E-03	0.	0.	0.	0.	0.	1.19E-01	1.90E-01	2.70E-01	2.08E-01	2.00E
99	0.98	0.	0.	2.74E-03	0.	0.	0.	0.	0.	1.19E-01	2.00E-01	2.80E-01	2.22E-01	2.10E
100	0.78	0.	0.	1.29E-03	0.	0.	0.	0.	0.	1.19E-01	2.10E-01	2.90E-01	2.38E-01	2.20E
101	0.78	0.	0.	3.04E-04	0.	0.	0.	0.	0.	1.19E-01	2.20E-01	3.00E-01	2.55E-01	2.30E
102	0.68	0.	0.	5.32E-05	0.	0.	0.	0.	0.	1.19E-01	2.30E-01	3.10E-01	2.75E-01	2.40E

ABSORPTION COEFFICIENT OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 17000. DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)

PHOTON ENERGY BANDS E.V.	Q2 S-R CONT.	Q2 S-M	NO META	NO GAMMA	NO PHOTO-DET (1/MS)	O-PREF-FREE P.E.	M P.E.	O P.E.	TOTAL AIR	
1 10.70 0.	0.	0.	0.	0.	0.	2.31E-03	5.03E-04	1.91E-00	1.13E-02	1.03E-00
2 10.61 0.	0.	0.	0.	0.	0.	2.31E-03	5.19E-04	4.70E-02	1.12E-02	6.12E-02
3 10.50 0.	0.	0.	0.	0.	0.	2.31E-03	5.34E-04	4.70E-02	1.12E-02	6.12E-02
4 10.40 0.	0.	0.	0.	0.	0.	2.32E-03	5.48E-04	4.70E-02	1.11E-02	6.15E-02
5 10.30 0.	0.	0.	0.	0.	0.	2.32E-03	5.64E-04	4.70E-02	1.11E-02	6.15E-02
6 10.20 0.	0.	0.	0.	0.	0.	2.32E-03	5.81E-04	4.70E-02	1.11E-02	6.17E-02
7 10.10 0.	0.	0.	0.	0.	0.	2.33E-03	5.99E-04	4.70E-02	1.10E-02	6.17E-02
8 10.00 0.	0.	0.	0.	0.	0.	2.33E-03	6.17E-04	4.70E-02	1.10E-02	6.17E-02
9 9.90 0.	0.	0.	0.	0.	0.	2.33E-03	6.36E-04	4.70E-02	1.09E-02	6.18E-02
10 9.80 0.	0.	0.	0.	0.	0.	2.34E-03	6.56E-04	4.80E-02	1.09E-02	6.19E-02
11 9.70 0.	0.	0.	0.	0.	0.	2.34E-03	6.76E-04	4.81E-02	1.08E-02	6.20E-02
12 9.60 0.	0.	0.	0.	0.	0.	2.35E-03	6.97E-04	4.82E-02	1.08E-02	6.21E-02
13 9.50 0.	0.	0.	0.	0.	0.	2.35E-03	7.19E-04	4.84E-02	1.07E-02	6.22E-02
14 9.40 0.	0.	0.	0.	0.	0.	2.36E-03	7.42E-04	4.85E-02	1.07E-02	6.24E-02
15 9.30 0.	0.	0.	0.	0.	0.	2.37E-03	7.67E-04	4.87E-02	1.07E-02	6.25E-02
16 9.20 0.	0.	0.	0.	0.	0.	2.38E-03	7.94E-04	4.89E-02	1.06E-02	6.27E-02
17 9.10 0.	0.	0.	0.	0.	0.	2.39E-03	8.21E-04	4.91E-02	1.06E-02	6.29E-02
18 9.00 0.	0.	0.	0.	0.	0.	2.39E-03	8.49E-04	4.94E-02	1.06E-02	6.31E-02
19 8.90 0.	0.	0.	0.	0.	0.	2.40E-03	8.78E-04	4.97E-02	1.05E-02	6.32E-02
20 8.80 0.	0.	0.	0.	0.	0.	2.41E-03	9.08E-04	4.99E-02	1.05E-02	6.34E-02
21 8.70 0.	0.	0.	0.	0.	0.	2.42E-03	9.39E-04	5.02E-02	1.04E-02	6.35E-02
22 8.60 0.	0.	0.	0.	0.	0.	2.44E-03	9.71E-04	5.05E-02	1.04E-02	6.37E-02
23 8.50 0.	0.	0.	0.	0.	0.	2.45E-03	1.00E-03	5.08E-02	1.03E-02	6.38E-02
24 8.40 0.	0.	0.	0.	0.	0.	2.46E-03	1.03E-03	5.11E-02	1.03E-02	6.39E-02
25 8.30 0.	0.	0.	0.	0.	0.	2.47E-03	1.06E-03	5.14E-02	1.02E-02	6.40E-02
26 8.20 0.	0.	0.	0.	0.	0.	2.49E-03	1.10E-03	5.17E-02	1.02E-02	6.41E-02
27 8.10 0.	0.	0.	0.	0.	0.	2.50E-03	1.14E-03	5.20E-02	1.01E-02	6.42E-02
28 8.00 0.	0.	0.	0.	0.	0.	2.51E-03	1.18E-03	5.23E-02	1.01E-02	6.43E-02
29 7.90 0.	0.	0.	0.	0.	0.	2.53E-03	1.22E-03	5.26E-02	1.00E-02	6.44E-02
30 7.80 0.	0.	0.	0.	0.	0.	2.54E-03	1.26E-03	5.29E-02	1.00E-02	6.45E-02
31 7.70 0.	0.	0.	0.	0.	0.	2.55E-03	1.30E-03	5.32E-02	1.00E-02	6.46E-02
32 7.60 0.	0.	0.	0.	0.	0.	2.56E-03	1.34E-03	5.35E-02	1.00E-02	6.47E-02
33 7.50 0.	0.	0.	0.	0.	0.	2.58E-03	1.38E-03	5.38E-02	1.00E-02	6.48E-02
34 7.40 0.	0.	0.	0.	0.	0.	2.59E-03	1.42E-03	5.41E-02	1.00E-02	6.49E-02
35 7.30 0.	0.	0.	0.	0.	0.	2.61E-03	1.46E-03	5.44E-02	1.00E-02	6.50E-02
36 7.20 0.	0.	0.	0.	0.	0.	2.62E-03	1.50E-03	5.47E-02	1.00E-02	6.51E-02
37 7.10 0.	0.	0.	0.	0.	0.	2.63E-03	1.54E-03	5.50E-02	1.00E-02	6.52E-02
38 7.00 0.	0.	0.	0.	0.	0.	2.65E-03	1.58E-03	5.53E-02	1.00E-02	6.53E-02
39 6.90 0.	0.	0.	0.	0.	0.	2.67E-03	1.62E-03	5.56E-02	1.00E-02	6.54E-02
40 6.80 0.	0.	0.	0.	0.	0.	2.69E-03	1.66E-03	5.59E-02	1.00E-02	6.55E-02
41 6.70 0.	0.	0.	0.	0.	0.	2.71E-03	1.70E-03	5.62E-02	1.00E-02	6.56E-02
42 6.60 0.	0.	0.	0.	0.	0.	2.74E-03	1.74E-03	5.65E-02	1.00E-02	6.57E-02
43 6.50 0.	0.	0.	0.	0.	0.	2.76E-03	1.78E-03	5.68E-02	1.00E-02	6.58E-02
44 6.40 0.	0.	0.	0.	0.	0.	2.78E-03	1.82E-03	5.71E-02	1.00E-02	6.59E-02
45 6.30 0.	0.	0.	0.	0.	0.	2.80E-03	1.86E-03	5.74E-02	1.00E-02	6.60E-02
46 6.20 0.	0.	0.	0.	0.	0.	2.82E-03	1.90E-03	5.77E-02	1.00E-02	6.61E-02
47 6.10 0.	0.	0.	0.	0.	0.	2.84E-03	1.94E-03	5.80E-02	1.00E-02	6.62E-02
48 6.00 0.	0.	0.	0.	0.	0.	2.86E-03	1.98E-03	5.83E-02	1.00E-02	6.63E-02
49 5.90 0.	0.	0.	0.	0.	0.	2.88E-03	2.02E-03	5.86E-02	1.00E-02	6.64E-02
50 5.80 0.	0.	0.	0.	0.	0.	2.90E-03	2.06E-03	5.89E-02	1.00E-02	6.65E-02
51 5.70 0.	0.	0.	0.	0.	0.	2.92E-03	2.10E-03	5.92E-02	1.00E-02	6.66E-02

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 17000. DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	M2 2ND NEG.	BETA	NO GAMMA	NO VIC-ROT	NO 40	PHOTO-DET (FIMS)	0- FREQ-FREE N	P.E.	0 TOTAL AIR	
52	5.63	2.78E-15	0.	0.	5.47E-07	3.54E-06	0.	0.	2.44E-03	3.54E-03	2.17E-02	1.17E-02	3.94E-02
53	5.50	5.	0.	0.	6.60E-07	3.20E-06	0.	0.	2.40E-03	3.70E-03	2.27E-02	1.10E-02	4.02E-02
54	5.44	6.	0.	0.	6.11E-07	2.64E-06	0.	0.	2.49E-03	3.07E-03	2.27E-02	1.20E-02	4.12E-02
55	5.30	8.	0.	0.	6.26E-07	3.34E-06	0.	0.	2.51E-03	4.20E-03	3.23E-02	1.22E-02	4.22E-02
56	5.20	8.	0.	0.	6.73E-07	2.50E-06	0.	0.	2.52E-03	4.54E-03	3.34E-02	1.24E-02	4.33E-02
57	5.10	8.	0.	0.	6.71E-07	3.27E-06	0.	0.	2.54E-03	4.77E-03	2.64E-02	1.24E-02	4.45E-02
58	5.00	3.70E-06	0.	0.	6.14E-07	3.01E-06	0.	0.	2.56E-03	5.01E-03	2.54E-02	1.20E-02	4.56E-02
59	4.90	9.13E-06	0.	0.	6.81E-07	3.27E-06	0.	0.	2.59E-03	5.26E-03	2.62E-02	1.31E-02	4.72E-02
60	4.80	1.71E-07	0.	0.	7.31E-07	3.06E-06	0.	0.	2.61E-03	5.76E-03	2.71E-02	1.34E-02	4.80E-02
61	4.70	2.90E-07	0.	0.	7.20E-07	2.77E-06	0.	0.	2.63E-03	6.09E-03	2.81E-02	1.41E-02	5.05E-02
62	4.60	3.15E-07	0.	0.	7.40E-07	2.52E-06	0.	0.	2.65E-03	6.44E-03	2.92E-02	1.44E-02	5.24E-02
63	4.50	3.38E-07	0.	0.	6.63E-07	1.69E-06	0.	0.	2.67E-03	6.90E-03	3.04E-02	1.44E-02	5.44E-02
64	4.40	3.52E-07	0.	0.	6.95E-07	1.31E-06	0.	0.	2.69E-03	7.30E-03	3.21E-02	1.40E-02	5.70E-02
65	4.30	3.52E-07	0.	0.	6.52E-07	8.14E-07	0.	0.	2.71E-03	7.67E-03	3.27E-02	1.52E-02	5.95E-02
66	4.20	3.52E-07	0.	0.	6.84E-07	5.74E-07	0.	0.	2.74E-03	8.01E-03	3.50E-02	1.54E-02	6.22E-02
67	4.10	3.52E-07	0.	0.	6.69E-07	1.69E-06	0.	0.	2.76E-03	8.34E-03	3.69E-02	1.57E-02	6.45E-02
68	4.00	2.87E-07	0.	0.	6.49E-07	1.21E-06	0.	0.	2.79E-03	8.64E-03	3.89E-02	1.60E-02	6.74E-02
69	3.90	2.64E-07	0.	0.	1.97E-03	1.89E-05	5.92E-07	4.62E-06	2.79E-03	1.04E-02	3.72E-02	1.64E-02	7.11E-02
70	3.80	2.48E-07	0.	0.	2.49E-03	1.70E-05	5.30E-07	0.	2.79E-03	1.15E-02	3.70E-02	1.73E-02	7.45E-02
71	3.70	2.35E-07	0.	0.	2.04E-03	1.04E-05	5.41E-07	0.	2.80E-03	1.27E-02	3.69E-02	1.74E-02	7.80E-02
72	3.60	1.94E-07	0.	0.	1.84E-03	1.05E-05	5.60E-07	0.	2.82E-03	1.40E-02	3.68E-02	1.75E-02	8.15E-02
73	3.50	1.84E-07	0.	0.	1.84E-03	4.61E-07	3.	0.	2.84E-03	1.54E-02	3.67E-02	1.76E-02	8.50E-02
74	3.40	1.69E-07	0.	0.	1.93E-03	2.99E-05	5.17E-07	0.	2.86E-03	1.68E-02	3.66E-02	1.77E-02	8.85E-02
75	3.30	1.55E-07	0.	0.	1.97E-03	1.54E-04	4.11E-07	0.	2.88E-03	1.83E-02	3.65E-02	1.78E-02	9.20E-02
76	3.20	1.17E-07	0.	0.	1.82E-03	2.84E-04	4.31E-07	0.	2.90E-03	1.98E-02	3.64E-02	1.79E-02	9.55E-02
77	3.10	1.12E-07	0.	0.	1.95E-04	4.72E-06	7.60E-07	0.	2.92E-03	2.13E-02	3.63E-02	1.80E-02	9.90E-02
78	3.00	1.08E-07	0.	0.	4.04E-04	1.12E-04	3.02E-07	0.	2.94E-03	2.28E-02	3.62E-02	1.81E-02	1.02E-01
79	2.90	8.42E-08	0.	0.	3.04E-04	6.29E-05	2.91E-07	0.	2.96E-03	2.43E-02	3.61E-02	1.82E-02	1.04E-01
80	2.80	8.76E-08	0.	0.	3.44E-04	3.93E-05	2.81E-07	0.	2.98E-03	2.58E-02	3.60E-02	1.83E-02	1.06E-01
81	2.70	5.62E-08	0.	0.	6.82E-07	3.34E-05	1.00E-07	0.	2.99E-03	2.73E-02	3.59E-02	1.84E-02	1.08E-01
82	2.60	2.44E-08	0.	0.	3.32E-07	5.40E-04	4.00E-06	0.	3.01E-03	2.88E-02	3.58E-02	1.85E-02	1.10E-01
83	2.50	1.95E-09	0.	0.	3.64E-03	5.16E-04	1.14E-08	0.	3.02E-03	3.03E-02	3.57E-02	1.86E-02	1.12E-01
84	2.40	0.	0.	0.	1.07E-04	0.	0.	0.	3.04E-03	3.18E-02	3.56E-02	1.87E-02	1.14E-01
85	2.30	0.	0.	0.	5.26E-06	0.	0.	0.	3.05E-03	3.33E-02	3.55E-02	1.88E-02	1.16E-01
86	2.20	0.	0.	0.	1.34E-05	0.	0.	0.	3.06E-03	3.48E-02	3.54E-02	1.89E-02	1.18E-01
87	2.10	0.	0.	0.	1.44E-05	0.	0.	0.	3.07E-03	3.63E-02	3.53E-02	1.90E-02	1.20E-01
88	2.00	0.	0.	0.	2.04E-05	0.	0.	0.	3.08E-03	3.78E-02	3.52E-02	1.91E-02	1.22E-01
89	1.90	0.	0.	0.	3.49E-05	0.	0.	0.	3.09E-03	3.93E-02	3.51E-02	1.92E-02	1.24E-01
90	1.80	0.	0.	0.	3.10E-05	0.	0.	0.	3.10E-03	4.08E-02	3.50E-02	1.93E-02	1.26E-01
91	1.70	0.	0.	0.	3.54E-05	0.	0.	0.	3.11E-03	4.23E-02	3.49E-02	1.94E-02	1.28E-01
92	1.60	0.	0.	0.	2.64E-05	0.	0.	0.	3.12E-03	4.38E-02	3.48E-02	1.95E-02	1.30E-01
93	1.50	0.	0.	0.	3.00E-05	0.	0.	0.	3.13E-03	4.53E-02	3.47E-02	1.96E-02	1.32E-01
94	1.40	0.	0.	0.	3.04E-05	0.	0.	0.	3.14E-03	4.68E-02	3.46E-02	1.97E-02	1.34E-01
95	1.30	0.	0.	0.	2.34E-05	0.	0.	0.	3.15E-03	4.83E-02	3.45E-02	1.98E-02	1.36E-01
96	1.20	0.	0.	0.	2.24E-05	0.	0.	0.	3.16E-03	4.98E-02	3.44E-02	1.99E-02	1.38E-01
97	1.10	0.	0.	0.	2.12E-05	0.	0.	0.	3.17E-03	5.13E-02	3.43E-02	2.00E-02	1.40E-01
98	1.00	0.	0.	0.	1.94E-05	0.	0.	0.	3.18E-03	5.28E-02	3.42E-02	2.01E-02	1.42E-01
99	0.90	0.	0.	0.	1.80E-05	0.	0.	0.	3.19E-03	5.43E-02	3.41E-02	2.02E-02	1.44E-01
100	0.80	0.	0.	0.	1.60E-05	0.	0.	0.	3.20E-03	5.58E-02	3.40E-02	2.03E-02	1.46E-01
101	0.70	0.	0.	0.	1.40E-05	0.	0.	0.	3.21E-03	5.73E-02	3.39E-02	2.04E-02	1.48E-01
102	0.60	0.	0.	0.	3.89E-07	0.	0.	0.	3.22E-03	5.88E-02	3.38E-02	2.05E-02	1.50E-01

ABSORPTION COEFFICIENT OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 17000. DENSITY (GM/CC) 1.202E-05 (10.0E-03 NORMAL)

PHOTON ENERGY E.V.	NO 5-A	NO 5-B	NO 5-C	NO 5-D	NO 5-E	NO 5-F	NO 5-G	NO 5-H	NO 5-I	NO 5-J	NO 5-K	NO 5-L	NO 5-M	NO 5-N	NO 5-O	NO 5-P	NO 5-Q	NO 5-R	NO 5-S	NO 5-T	NO 5-U	NO 5-V	NO 5-W	NO 5-X	NO 5-Y	NO 5-Z	NO 5-AA	NO 5-AB	NO 5-AC	NO 5-AD	NO 5-AE	NO 5-AF	NO 5-AG	NO 5-AH	NO 5-AI	NO 5-AJ	NO 5-AM	NO 5-AN	NO 5-AO	NO 5-AP	NO 5-AQ	NO 5-AR	NO 5-AS	NO 5-AT	NO 5-AU	NO 5-AV	NO 5-AW	NO 5-AX	NO 5-AY	NO 5-AZ	NO 5-BA	NO 5-BB	NO 5-BC	NO 5-BD	NO 5-BE	NO 5-BF	NO 5-BG	NO 5-BH	NO 5-BI	NO 5-BJ	NO 5-BK	NO 5-BL	NO 5-BM	NO 5-BN	NO 5-BO	NO 5-BP	NO 5-BQ	NO 5-BR	NO 5-BS	NO 5-BT	NO 5-BU	NO 5-BV	NO 5-BW	NO 5-BX	NO 5-BY	NO 5-BZ	NO 5-CA	NO 5-CB	NO 5-CC	NO 5-CD	NO 5-CE	NO 5-CF	NO 5-CG	NO 5-CH	NO 5-CI	NO 5-CJ	NO 5-CK	NO 5-CL	NO 5-CM	NO 5-CN	NO 5-CO	NO 5-CP	NO 5-CQ	NO 5-CR	NO 5-CS	NO 5-CT	NO 5-CU	NO 5-CV	NO 5-CW	NO 5-CX	NO 5-CY	NO 5-CZ	NO 5-DA	NO 5-DB	NO 5-DC	NO 5-DD	NO 5-DE	NO 5-DF	NO 5-DG	NO 5-DH	NO 5-DI	NO 5-DJ	NO 5-DK	NO 5-DM	NO 5-DN	NO 5-DO	NO 5-DP	NO 5-DQ	NO 5-DR	NO 5-DS	NO 5-DT	NO 5-DU	NO 5-DV	NO 5-DW	NO 5-DX	NO 5-DY	NO 5-DZ	NO 5-EA	NO 5-EB	NO 5-EC	NO 5-ED	NO 5-EE	NO 5-EF	NO 5-EG	NO 5-EH	NO 5-EI	NO 5-EJ	NO 5-EK	NO 5-EL	NO 5-EM	NO 5-EN	NO 5-EO	NO 5-EP	NO 5-EQ	NO 5-ER	NO 5-ES	NO 5-ET	NO 5-EU	NO 5-EV	NO 5-EW	NO 5-EX	NO 5-EY	NO 5-EZ	NO 5-FA	NO 5-FB	NO 5-FC	NO 5-FD	NO 5-FE	NO 5-FG	NO 5-FH	NO 5-FI	NO 5-FJ	NO 5-FK	NO 5-FL	NO 5-FM	NO 5-FN	NO 5-FO	NO 5-FP	NO 5-FQ	NO 5-FR	NO 5-FS	NO 5-FT	NO 5-FU	NO 5-FV	NO 5-FW	NO 5-FX	NO 5-FY	NO 5-FZ	NO 5-GA	NO 5-GB	NO 5-GC	NO 5-GD	NO 5-GE	NO 5-GF	NO 5-GG	NO 5-GH	NO 5-GI	NO 5-GJ	NO 5-GK	NO 5-GL	NO 5-GM	NO 5-GN	NO 5-GO	NO 5-GP	NO 5-GQ	NO 5-GR	NO 5-GS	NO 5-GT	NO 5-GU	NO 5-GV	NO 5-GW	NO 5-GX	NO 5-GY	NO 5-GZ	NO 5-HA	NO 5-HB	NO 5-HC	NO 5-HD	NO 5-HE	NO 5-HF	NO 5-HG	NO 5-HH	NO 5-HI	NO 5-HJ	NO 5-HK	NO 5-HL	NO 5-HM	NO 5-HN	NO 5-HO	NO 5-HP	NO 5-HQ	NO 5-HR	NO 5-HS	NO 5-HT	NO 5-HU	NO 5-HV	NO 5-HW	NO 5-HX	NO 5-HY	NO 5-HZ	NO 5-IA	NO 5-IB	NO 5-IC	NO 5-ID	NO 5-IE	NO 5-IF	NO 5-IG	NO 5-IH	NO 5-II	NO 5-IJ	NO 5-IK	NO 5-IL	NO 5-IM	NO 5-IN	NO 5-IO	NO 5-IP	NO 5-IQ	NO 5-IR	NO 5-IS	NO 5-IT	NO 5-IU	NO 5-IV	NO 5-IW	NO 5-IX	NO 5-IY	NO 5-IZ	NO 5-JA	NO 5-JB	NO 5-JC	NO 5-JD	NO 5-JE	NO 5-JF	NO 5-JG	NO 5-JH	NO 5-JI	NO 5-JJ	NO 5-JK	NO 5-JL	NO 5-JM	NO 5-JN	NO 5-JO	NO 5-JP	NO 5-JQ	NO 5-JR	NO 5-JS	NO 5-JT	NO 5-JU	NO 5-JV	NO 5-JW	NO 5-JX	NO 5-JY	NO 5-JZ	NO 5-KA	NO 5-KB	NO 5-KC	NO 5-KD	NO 5-KE	NO 5-KF	NO 5-KG	NO 5-KH	NO 5-KI	NO 5-KJ	NO 5-KK	NO 5-KL	NO 5-KM	NO 5-KN	NO 5-KO	NO 5-KP	NO 5-KQ	NO 5-KR	NO 5-KS	NO 5-KT	NO 5-KU	NO 5-KV	NO 5-KW	NO 5-KX	NO 5-KY	NO 5-KZ	NO 5-LA	NO 5-LB	NO 5-LC	NO 5-LD	NO 5-LE	NO 5-LF	NO 5-LG	NO 5-LH	NO 5-LI	NO 5-LJ	NO 5-LK	NO 5-LL	NO 5-LM	NO 5-LN	NO 5-LO	NO 5-LP	NO 5-LQ	NO 5-LR	NO 5-LS	NO 5-LT	NO 5-LU	NO 5-LV	NO 5-LW	NO 5-LX	NO 5-LY	NO 5-LZ	NO 5-MA	NO 5-MB	NO 5-MC	NO 5-MD	NO 5-ME	NO 5-MF	NO 5-MG	NO 5-MH	NO 5-MI	NO 5-MJ	NO 5-MK	NO 5-ML	NO 5-MN	NO 5-MO	NO 5-MP	NO 5-MQ	NO 5-MR	NO 5-MS	NO 5-MT	NO 5-MU	NO 5-MV	NO 5-MW	NO 5-MX	NO 5-MY	NO 5-MZ	NO 5-NA	NO 5-NB	NO 5-NC	NO 5-ND	NO 5-NE	NO 5-NF	NO 5-NG	NO 5-NH	NO 5-NI	NO 5-NJ	NO 5-NK	NO 5-NL	NO 5-NM	NO 5-NO	NO 5-NP	NO 5-NQ	NO 5-NR	NO 5-NS	NO 5-NT	NO 5-NU	NO 5-NV	NO 5-NW	NO 5-NX	NO 5-NY	NO 5-NZ	NO 5-OA	NO 5-OB	NO 5-OC	NO 5-OD	NO 5-OE	NO 5-OF	NO 5-OG	NO 5-OH	NO 5-OI	NO 5-OJ	NO 5-OK	NO 5-OL	NO 5-OM	NO 5-ON	NO 5-OO	NO 5-OP	NO 5-OQ	NO 5-OR	NO 5-OS	NO 5-OT	NO 5-OU	NO 5-OV	NO 5-OW	NO 5-OX	NO 5-OY	NO 5-OZ	NO 5-PA	NO 5-PB	NO 5-PC	NO 5-PD	NO 5-PE	NO 5-PF	NO 5-PG	NO 5-PH	NO 5-PI	NO 5-PJ	NO 5-PK	NO 5-PL	NO 5-PM	NO 5-PN	NO 5-PO	NO 5-PP	NO 5-PQ	NO 5-PR	NO 5-PS	NO 5-PT	NO 5-PU	NO 5-PV	NO 5-PW	NO 5-PX	NO 5-PY	NO 5-PZ	NO 5-QA	NO 5-QB	NO 5-QC	NO 5-QD	NO 5-QE	NO 5-QF	NO 5-QG	NO 5-QH	NO 5-QI	NO 5-QJ	NO 5-QK	NO 5-QL	NO 5-QM	NO 5-QN	NO 5-QO	NO 5-QP	NO 5-QL	NO 5-QR	NO 5-QS	NO 5-QT	NO 5-QU	NO 5-QV	NO 5-QW	NO 5-QX	NO 5-QY	NO 5-QZ	NO 5-RA	NO 5-RB	NO 5-RC	NO 5-RD	NO 5-RE	NO 5-RF	NO 5-RG	NO 5-RH	NO 5-RI	NO 5-RJ	NO 5-RK	NO 5-RL	NO 5-RM	NO 5-RN	NO 5-RO	NO 5-RP	NO 5-RQ	NO 5-RR	NO 5-RS	NO 5-RT	NO 5-RU	NO 5-RV	NO 5-RW	NO 5-RX	NO 5-RY	NO 5-RZ	NO 5-SA	NO 5-SB	NO 5-SC	NO 5-SD	NO 5-SE	NO 5-SF	NO 5-SG	NO 5-SH	NO 5-SI	NO 5-SJ	NO 5-SK	NO 5-SL	NO 5-SM	NO 5-SN	NO 5-SO	NO 5-SP	NO 5-SQ	NO 5-SR	NO 5-SS	NO 5-ST	NO 5-SU	NO 5-SV	NO 5-SW	NO 5-SX	NO 5-SY	NO 5-SZ	NO 5-TA	NO 5-TB	NO 5-TC	NO 5-TD	NO 5-TE	NO 5-TF	NO 5-TG	NO 5-TH	NO 5-TI	NO 5-TJ	NO 5-TK	NO 5-TL	NO 5-TM	NO 5-TN	NO 5-TO	NO 5-TP	NO 5-TQ	NO 5-TR	NO 5-TS	NO 5-TU	NO 5-TV	NO 5-TW	NO 5-TX	NO 5-TY	NO 5-TZ	NO 5-UA	NO 5-UB	NO 5-UC	NO 5-UD	NO 5-UE	NO 5-UF	NO 5-UG	NO 5-UH	NO 5-UI	NO 5-UJ	NO 5-UK	NO 5-UL	NO 5-UM	NO 5-UN	NO 5-UO	NO 5-UP	NO 5-UQ	NO 5-UR	NO 5-US	NO 5-UT	NO 5-UV	NO 5-UW	NO 5-UX	NO 5-UY	NO 5-UZ	NO 5-VA	NO 5-VB	NO 5-VC	NO 5-VD	NO 5-VE	NO 5-VF	NO 5-VG	NO 5-VH	NO 5-VI	NO 5-VJ	NO 5-VK	NO 5-VL	NO 5-VM	NO 5-VN	NO 5-VO	NO 5-VP	NO 5-VQ	NO 5-VR	NO 5-VS	NO 5-VT	NO 5-VU	NO 5-VV	NO 5-VW	NO 5-VX	NO 5-VY	NO 5-VZ	NO 5-WA	NO 5-WB	NO 5-WC	NO 5-WD	NO 5-WE	NO 5-WF	NO 5-WG	NO 5-WH	NO 5-WI	NO 5-WJ	NO 5-WK	NO 5-WL	NO 5-WM	NO 5-WN	NO 5-WO	NO 5-WP	NO 5-WQ	NO 5-WR	NO 5-WS	NO 5-WT	NO 5-WU	NO 5-WV	NO 5-WW	NO 5-WX	NO 5-WY	NO 5-WZ	NO 5-XA	NO 5-XB	NO 5-XC	NO 5-XD	NO 5-XE	NO 5-XF	NO 5-XG	NO 5-XH	NO 5-XI	NO 5-XJ	NO 5-XK	NO 5-XL	NO 5-XM	NO 5-XN	NO 5-XO	NO 5-XP	NO 5-XQ	NO 5-XR	NO 5-XS	NO 5-XT	NO 5-XU	NO 5-XV	NO 5-XW	NO 5-XX	NO 5-XY	NO 5-XZ	NO 5-YA	NO 5-YB	NO 5-YC	NO 5-YD	NO 5-YE	NO 5-YF	NO 5-YG	NO 5-YH	NO 5-YI	NO 5-YJ	NO 5-YK	NO 5-YL	NO 5-YM	NO 5-YN	NO 5-YO	NO 5-YP	NO 5-YQ	NO 5-YR	NO 5-YS	NO 5-YT	NO 5-YU	NO 5-YV	NO 5-YW	NO 5-YX	NO 5-YY	NO 5-YZ	NO 5-ZA	NO 5-ZB	NO 5-ZC	NO 5-ZD	NO 5-ZE	NO 5-ZF	NO 5-ZG	NO 5-ZH	NO 5-ZI	NO 5-ZJ	NO 5-ZK	NO 5-ZL	NO 5-ZM	NO 5-ZN	NO 5-ZO	NO 5-ZP	NO 5-ZQ	NO 5-ZR	NO 5-ZS	NO 5-ZT	NO 5-ZU	NO 5-ZV	NO 5-ZW	NO 5-ZX	NO 5-ZY	NO 5-ZZ
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ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES R.) 17000. DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)

PHOTON ENERGY BANDS	42	1ST POS.	HZ	HZ*	M2*	DELTA	GAMMA	NO	VIR-ROY	NO	D-	FREQ-FREE		TOTAL AIR			
												17000	17000	P.E.	P.E.		
52	5.68	0.30E-10	0.	0.	0.	1.35E-09	0.79E-09	0.	0.	0.	0.	2.91E-05	1.64E-04	9.04E-04	0.39E-04	1.02E-03	
53	5.59	0.	0.	0.	0.	1.05E-09	0.12E-09	0.	0.	0.	0.	2.92E-05	1.75E-04	1.02E-04	1.08E-03	0.47E-04	1.06E-03
54	5.48	0.	0.	0.	0.	1.51E-09	0.53E-09	0.	0.	0.	0.	2.94E-05	1.85E-04	1.03E-04	1.03E-03	0.59E-04	1.90E-03
55	5.38	0.	0.	0.	0.	1.95E-09	0.35E-09	0.	0.	0.	0.	2.96E-05	1.96E-04	1.04E-04	1.04E-03	0.69E-04	1.95E-03
56	5.28	0.	0.	0.	0.	1.66E-09	0.17E-09	0.	0.	0.	0.	2.98E-05	2.08E-04	1.05E-04	1.05E-03	0.77E-04	2.00E-03
57	5.18	0.	0.	0.	0.	1.66E-09	7.94E-09	0.	0.	0.	0.	3.00E-05	2.08E-04	1.11E-03	0.80E-04	2.05E-03	
58	5.08	1.13E-10	0.	0.	0.	1.59E-09	7.43E-09	0.	0.	0.	0.	3.02E-05	2.34E-04	1.15E-03	7.01E-04	2.11E-03	
59	4.98	2.72E-10	0.	0.	0.	1.49E-09	0.80E-09	0.	0.	0.	0.	3.04E-05	2.40E-04	1.19E-03	7.14E-04	2.14E-03	
60	4.88	5.09E-10	0.	0.	0.	1.81E-09	7.57E-09	0.	0.	0.	0.	3.06E-05	2.45E-04	1.23E-03	7.29E-04	2.15E-03	
61	4.78	0.64E-10	0.	0.	0.	1.08E-09	0.80E-09	0.	0.	0.	0.	3.10E-05	2.82E-04	1.27E-03	7.48E-04	2.33E-03	
62	4.68	0.30E-10	0.	0.	0.	1.05E-09	0.23E-09	0.	0.	0.	0.	3.13E-05	3.01E-04	1.32E-03	7.60E-04	2.42E-03	
63	4.58	0.05E-10	0.	0.	0.	1.69E-09	4.64E-09	0.	0.	0.	0.	3.15E-05	3.27E-04	1.39E-03	7.80E-04	2.53E-03	
64	4.48	1.05E-10	0.	0.	0.	1.49E-09	3.23E-09	0.	0.	0.	0.	3.18E-05	3.57E-04	1.49E-03	8.05E-04	2.64E-03	
65	4.38	0.90E-10	0.	0.	0.	1.40E-09	0.	0.	0.	0.	0.	3.20E-05	3.78E-04	1.53E-03	8.30E-04	2.74E-03	
66	4.28	0.23E-10	0.	0.	0.	1.70E-09	1.43E-09	0.	0.	0.	0.	3.23E-05	3.97E-04	1.60E-03	8.52E-04	2.80E-03	
67	4.18	0.44E-10	0.	0.	0.	1.68E-09	3.99E-09	0.	0.	0.	0.	3.24E-05	4.27E-04	1.67E-03	8.74E-04	2.90E-03	
68	4.08	0.79E-10	0.	0.	0.	1.50E-09	2.99E-09	0.	0.	0.	0.	3.25E-05	4.60E-04	1.74E-03	8.92E-04	2.98E-03	
69	3.98	0.99E-10	0.	0.	0.	3.22E-08	1.47E-07	1.47E-07	1.47E-07	0.	0.	3.26E-05	4.97E-04	1.80E-03	9.08E-04	3.04E-03	
70	3.88	0.79E-10	0.	0.	0.	5.12E-08	4.54E-07	1.34E-06	0.	0.	0.	3.28E-05	5.38E-04	1.71E-03	9.27E-04	3.09E-03	
71	3.78	4.59E-10	0.	0.	0.	5.41E-08	1.64E-07	1.34E-06	0.	0.	0.	3.30E-05	5.83E-04	1.46E-03	9.48E-04	3.13E-03	
72	3.68	0.90E-10	0.	0.	0.	3.74E-08	0.97E-07	1.45E-06	0.	0.	0.	3.32E-05	6.34E-04	1.51E-03	9.71E-04	3.17E-03	
73	3.58	5.50E-10	0.	0.	0.	5.01E-08	1.87E-06	1.45E-06	0.	0.	0.	3.34E-05	6.91E-04	1.60E-03	1.00E-03	3.20E-03	
74	3.48	0.50E-10	0.	0.	0.	3.14E-08	2.04E-07	1.28E-06	0.	0.	0.	3.36E-05	7.53E-04	1.70E-03	1.03E-03	3.23E-03	
75	3.38	0.82E-10	0.	0.	0.	3.28E-08	1.12E-06	1.02E-06	0.	0.	0.	3.38E-05	8.20E-04	1.80E-03	1.06E-03	3.26E-03	
76	3.28	0.30E-10	0.	0.	0.	2.10E-08	1.03E-06	1.07E-06	0.	0.	0.	3.40E-05	8.93E-04	1.90E-03	1.09E-03	3.29E-03	
77	3.18	3.35E-10	0.	0.	0.	1.43E-08	4.40E-07	1.01E-06	0.	0.	0.	3.42E-05	9.72E-04	2.00E-03	1.12E-03	3.32E-03	
78	3.08	2.99E-10	0.	0.	0.	9.97E-09	1.00E-06	9.40E-07	0.	0.	0.	3.44E-05	1.06E-03	2.10E-03	1.15E-03	3.35E-03	
79	2.98	0.51E-10	0.	0.	0.	6.22E-09	3.97E-07	7.21E-07	0.	0.	0.	3.46E-05	1.17E-03	2.20E-03	1.18E-03	3.38E-03	
80	2.88	2.41E-10	0.	0.	0.	2.69E-09	3.73E-07	4.98E-07	0.	0.	0.	3.48E-05	1.29E-03	2.30E-03	1.21E-03	3.41E-03	
81	2.78	1.68E-10	0.	0.	0.	1.40E-09	3.11E-07	2.71E-07	0.	0.	0.	3.50E-05	1.42E-03	2.40E-03	1.24E-03	3.44E-03	
82	2.68	7.68E-11	0.	0.	0.	6.04E-10	5.13E-08	1.19E-07	0.	0.	0.	3.52E-05	1.57E-03	2.50E-03	1.27E-03	3.47E-03	
83	2.58	5.52E-12	0.	0.	0.	7.39E-11	4.91E-08	2.82E-07	0.	0.	0.	3.54E-05	1.73E-03	2.60E-03	1.30E-03	3.50E-03	
84	2.48	0.	0.	0.	0.	3.43E-09	0.	0.	0.	0.	0.	3.56E-05	1.90E-03	2.70E-03	1.33E-03	3.53E-03	
85	2.38	0.	0.	0.	0.	1.60E-08	0.	0.	0.	0.	0.	3.58E-05	2.08E-03	2.80E-03	1.36E-03	3.56E-03	
86	2.28	0.	0.	0.	0.	2.79E-08	0.	0.	0.	0.	0.	3.60E-05	2.27E-03	2.90E-03	1.39E-03	3.59E-03	
87	2.18	0.	0.	0.	0.	5.82E-08	0.	0.	0.	0.	0.	3.62E-05	2.47E-03	3.00E-03	1.42E-03	3.62E-03	
88	2.08	0.	0.	0.	0.	7.56E-08	0.	0.	0.	0.	0.	3.64E-05	2.68E-03	3.10E-03	1.45E-03	3.65E-03	
89	1.98	0.	0.	0.	0.	6.37E-08	0.	0.	0.	0.	0.	3.66E-05	2.90E-03	3.20E-03	1.48E-03	3.68E-03	
90	1.88	0.	0.	0.	0.	6.37E-08	0.	0.	0.	0.	0.	3.68E-05	3.13E-03	3.30E-03	1.51E-03	3.71E-03	
91	1.78	0.	0.	0.	0.	7.55E-08	0.	0.	0.	0.	0.	3.70E-05	3.37E-03	3.40E-03	1.54E-03	3.74E-03	
92	1.68	0.	0.	0.	0.	5.66E-08	0.	0.	0.	0.	0.	3.72E-05	3.62E-03	3.50E-03	1.57E-03	3.77E-03	
93	1.58	0.	0.	0.	0.	6.13E-08	0.	0.	0.	0.	0.	3.74E-05	3.88E-03	3.60E-03	1.60E-03	3.80E-03	
94	1.48	0.	0.	0.	0.	8.24E-08	0.	0.	0.	0.	0.	3.76E-05	4.15E-03	3.70E-03	1.63E-03	3.83E-03	
95	1.38	0.	0.	0.	0.	4.81E-08	0.	0.	0.	0.	0.	3.78E-05	4.43E-03	3.80E-03	1.66E-03	3.86E-03	
96	1.28	0.	0.	0.	0.	4.80E-08	0.	0.	0.	0.	0.	3.80E-05	4.72E-03	3.90E-03	1.69E-03	3.89E-03	
97	1.18	0.	0.	0.	0.	4.35E-08	0.	0.	0.	0.	0.	3.82E-05	5.02E-03	4.00E-03	1.72E-03	3.92E-03	
98	1.08	0.	0.	0.	0.	3.99E-08	0.	0.	0.	0.	0.	3.84E-05	5.33E-03	4.10E-03	1.75E-03	3.95E-03	
99	0.98	0.	0.	0.	0.	3.26E-08	0.	0.	0.	0.	0.	3.86E-05	5.65E-03	4.20E-03	1.78E-03	3.98E-03	
100	0.88	0.	0.	0.	0.	1.54E-07	0.	0.	0.	0.	0.	3.88E-05	6.00E-03	4.30E-03	1.81E-03	4.01E-03	
101	0.78	0.	0.	0.	0.	3.66E-08	0.	0.	0.	0.	0.	3.90E-05	6.37E-03	4.40E-03	1.84E-03	4.04E-03	
102	0.68	0.	0.	0.	0.	6.35E-08	0.	0.	0.	0.	0.	3.92E-05	6.76E-03	4.50E-03	1.87E-03	4.07E-03	

ABSORPTION COEFFICIENT OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (CENTIGRADES) 17000. DENSITY (GM/CC) 1.293E-04 (10.0E-64 NORMAL)

PHOTON ENERGY RANGES E.V.	02 S-B CONT.	42 M-W NO. 1	40 BETA	40 GAMMA	0- PHOTO-NET (IPMS)	0- REFERENCE M P.E.	0 TOTAL AIR P.E.
1 10.70 9.	0.	0.02E-11	0.	0.	0.25E-08	4.54E-07	1.54E-05
2 10.67 9.	0.	7.27E-11	0.	0.	0.26E-08	4.07E-07	1.33E-05
3 10.58 9.	0.	7.30E-11	0.	0.	0.27E-08	4.09E-07	1.33E-05
4 10.48 9.	0.	6.94E-11	0.	0.	0.29E-08	4.11E-07	1.33E-05
5 10.33 9.	0.	6.08E-11	0.	0.	0.30E-08	4.09E-07	1.32E-05
6 10.20 9.	0.	4.28E-11	0.	0.	0.31E-08	4.07E-07	1.32E-05
7 10.10 9.	0.	5.09E-11	0.	0.	0.32E-08	4.06E-07	1.32E-05
8 10.03 9.	0.	5.11E-11	0.	0.	0.33E-08	4.05E-07	1.31E-05
9 9.98 9.	0.	5.24E-11	0.	0.	0.34E-08	4.04E-07	1.30E-05
10 9.91 9.	0.	4.91E-11	0.	0.	0.36E-08	4.13E-07	1.30E-05
11 9.73 9.	0.	4.28E-11	0.	0.	0.37E-08	4.11E-07	1.29E-05
12 9.67 9.	0.	4.57E-11	0.	0.	0.38E-08	4.12E-07	1.29E-05
13 9.57 9.	0.	3.90E-11	0.	0.	0.41E-08	4.13E-07	1.29E-05
14 9.41 9.	0.	3.40E-11	0.	0.	0.44E-08	4.14E-07	1.29E-05
15 9.39 9.	0.	3.77E-11	0.	0.	0.47E-08	4.15E-07	1.29E-05
16 9.23 9.	0.	3.11E-11	0.	0.	0.50E-08	4.17E-07	1.29E-05
17 9.13 9.	0.	3.19E-11	0.	0.	0.53E-08	4.19E-07	1.29E-05
18 9.00 9.	0.	2.90E-11	0.	0.	0.56E-08	4.24E-07	1.29E-05
19 8.91 9.	0.	2.67E-11	0.	0.	0.59E-08	4.29E-07	1.29E-05
20 8.83 9.	0.	2.52E-11	0.	0.	0.62E-08	4.34E-07	1.29E-05
21 8.73 9.	0.	2.27E-11	0.	0.	0.65E-08	4.39E-07	1.29E-05
22 8.60 9.	0.	2.34E-11	0.	0.	0.68E-08	4.44E-07	1.29E-05
23 8.53 9.	0.	2.06E-11	0.	0.	0.71E-08	4.49E-07	1.29E-05
24 8.48 9.	0.	2.04E-11	0.	0.	0.74E-08	4.54E-07	1.29E-05
25 8.33 9.	0.	1.71E-11	0.	0.	0.77E-08	4.59E-07	1.29E-05
26 8.23 9.	0.	1.78E-11	0.	0.	0.80E-08	4.64E-07	1.29E-05
27 8.10 9.	0.	1.49E-11	0.	0.	0.83E-08	4.69E-07	1.29E-05
28 8.03 9.	0.	1.50E-11	0.	0.	0.86E-08	4.74E-07	1.29E-05
29 7.90 9.	0.	1.29E-11	0.	0.	0.89E-08	4.79E-07	1.29E-05
30 7.80 9.	0.	1.38E-11	0.	0.	0.92E-08	4.84E-07	1.29E-05
31 7.70 9.	0.	1.17E-11	0.	0.	0.95E-08	4.89E-07	1.29E-05
32 7.60 9.	0.	1.10E-11	0.	0.	0.98E-08	4.94E-07	1.29E-05
33 7.50 9.	0.	1.02E-11	0.	0.	1.01E-08	4.99E-07	1.29E-05
34 7.40 9.	0.	9.15E-12	0.	0.	1.04E-08	5.04E-07	1.29E-05
35 7.34 9.	0.	8.65E-12	0.	0.	1.07E-08	5.09E-07	1.29E-05
36 7.29 9.	0.	7.78E-12	0.	0.	1.10E-08	5.14E-07	1.29E-05
37 7.18 9.	0.	7.47E-12	0.	0.	1.13E-08	5.19E-07	1.29E-05
38 7.09 9.	0.	6.84E-12	0.	0.	1.16E-08	5.24E-07	1.29E-05
39 6.99 9.	0.	6.26E-12	0.	0.	1.19E-08	5.29E-07	1.29E-05
40 6.89 9.	0.	6.81E-12	0.	0.	1.22E-08	5.34E-07	1.29E-05
41 6.74 9.	0.	5.25E-12	0.	0.	1.25E-08	5.39E-07	1.29E-05
42 6.64 9.	0.	4.78E-12	0.	0.	1.28E-08	5.44E-07	1.29E-05
43 6.54 9.	0.	3.78E-12	0.	0.	1.31E-08	5.49E-07	1.29E-05
44 6.47 9.	0.	2.97E-12	0.	0.	1.34E-08	5.54E-07	1.29E-05
45 6.39 9.	0.	1.90E-12	0.	0.	1.37E-08	5.59E-07	1.29E-05
46 6.29 9.	0.	1.98E-12	0.	0.	1.40E-08	5.64E-07	1.29E-05
47 6.19 9.	0.	1.82E-12	0.	0.	1.43E-08	5.69E-07	1.29E-05
48 6.09 9.	0.	1.30E-12	0.	0.	1.46E-08	5.74E-07	1.29E-05
49 5.99 9.	0.	3.79E-12	0.	0.	1.49E-08	5.79E-07	1.29E-05
50 5.84 9.	0.	5.52E-12	0.	0.	1.52E-08	5.84E-07	1.29E-05
51 5.70 9.	0.	1.19E-12	0.	0.	1.55E-08	5.89E-07	1.29E-05
52 5.70 9.	0.	4.74E-12	0.	0.	1.58E-08	5.94E-07	1.29E-05

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 17000. DENSITY (GM/CC) 1.2938-06 (10.0E-04 NORMAL)

PHOTON ENERGY RANGE	NO 1ST POS.	NO 2ND POS.	NO 1ST NEG.	NO 2ND NEG.	BETA	GAMMA	NO VID-ROT	NO 2	PHOTO-EFF (TOMS)	N	P.E.	NO	P.E.	TOTAL AIR
52	5.00	3.04E-21	0.	0.	5.94E-13	3.32E-12	0.	0.	0.01E-08	3.21E-06	1.07E-05	1.39E-05	3.59E-05	3.59E-05
53	5.50	0.	0.	0.	6.76E-13	3.32E-12	0.	0.	0.04E-08	3.39E-06	1.07E-05	1.41E-05	3.64E-05	3.64E-05
54	5.40	0.	0.	0.	6.19E-13	2.97E-12	0.	0.	0.90E-08	3.99E-06	1.09E-05	1.43E-05	3.75E-05	3.75E-05
55	5.30	0.	0.	0.	6.31E-13	3.41E-12	0.	0.	0.94E-08	3.79E-06	2.06E-05	1.45E-05	3.84E-05	3.84E-05
56	5.20	0.	0.	0.	6.01E-13	2.53E-12	0.	0.	0.82E-08	0.82E-06	2.04E-05	1.47E-05	3.92E-05	3.92E-05
57	5.10	0.	0.	0.	6.79E-13	3.26E-12	0.	0.	0.66E-08	0.29E-06	2.10E-05	1.50E-05	4.03E-05	4.03E-05
58	4.90	1.89E-14	0.	0.	6.28E-13	3.04E-12	0.	0.	0.17E-08	0.92E-06	2.10E-05	1.53E-05	4.15E-05	4.15E-05
59	4.80	2.40E-13	0.	0.	6.98E-13	3.31E-12	0.	0.	0.29E-08	0.81E-06	2.24E-05	1.56E-05	4.28E-05	4.28E-05
60	4.60	2.40E-13	0.	0.	7.40E-13	3.10E-12	0.	0.	0.32E-08	5.12E-06	2.31E-05	1.59E-05	4.42E-05	4.42E-05
61	4.40	3.29E-13	0.	0.	7.30E-13	2.91E-12	0.	0.	0.49E-08	5.04E-06	2.49E-05	1.63E-05	4.58E-05	4.58E-05
62	4.30	4.04E-13	0.	0.	7.30E-13	2.91E-12	0.	0.	0.49E-08	5.04E-06	2.49E-05	1.63E-05	4.58E-05	4.58E-05
63	4.50	4.04E-13	0.	0.	6.92E-13	1.52E-12	0.	0.	0.95E-08	0.23E-06	2.61E-05	1.72E-05	4.94E-05	4.94E-05
64	4.40	4.04E-13	0.	0.	6.92E-13	1.52E-12	0.	0.	0.95E-08	0.23E-06	2.61E-05	1.72E-05	4.94E-05	4.94E-05
65	4.30	4.70E-13	0.	0.	6.88E-13	0.20E-13	0.	0.	0.78E-08	7.15E-06	2.67E-05	1.81E-05	5.16E-05	5.16E-05
66	4.20	4.30E-13	0.	0.	6.94E-13	5.95E-13	0.	0.	0.78E-08	7.04E-06	3.01E-05	1.84E-05	5.35E-05	5.35E-05
67	4.10	4.11E-13	0.	0.	6.78E-13	1.62E-13	0.	0.	0.92E-08	0.24E-06	3.15E-05	1.88E-05	5.55E-05	5.55E-05
68	4.00	3.70E-13	0.	0.	6.33E-13	1.27E-13	0.	0.	0.84E-08	0.90E-06	3.29E-05	1.93E-05	5.76E-05	5.76E-05
69	3.90	3.20E-13	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
70	3.80	3.51E-13	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
71	3.70	3.11E-13	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
72	3.60	2.80E-13	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
73	3.50	2.61E-13	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
74	3.40	2.39E-13	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
75	3.30	1.91E-13	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
76	3.20	1.64E-13	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
77	3.10	1.42E-13	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
78	3.00	1.25E-13	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
79	2.90	1.08E-13	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
80	2.80	1.04E-13	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
81	2.70	7.97E-14	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
82	2.60	5.74E-14	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
83	2.50	2.62E-15	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
84	2.40	0.	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
85	2.30	0.	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
86	2.20	0.	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
87	2.10	0.	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
88	2.00	0.	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
89	1.90	0.	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
90	1.80	0.	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
91	1.70	0.	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
92	1.60	0.	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
93	1.50	0.	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
94	1.40	0.	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
95	1.30	0.	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
96	1.20	0.	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
97	1.10	0.	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
98	1.00	0.	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
99	0.90	0.	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
100	0.80	0.	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
101	0.70	0.	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05
102	0.60	0.	0.	0.	6.08E-13	4.60E-14	0.	0.	0.92E-08	0.61E-06	3.45E-05	1.99E-05	5.99E-05	5.99E-05



ASSUMPTION COEFFICIENT OF HEATED AIR (IMPURE CO.)  
 TEMPERATURE (DEGREES F) 17000. WENSITY (MG/CC) 1.292E-07 (10.0E-05 NORMAL)

PROTON HP S-B ENERGY RANGE E.V.	Q2 S-B CHYT.	Q2 B-H WG. I	Q2 META	Q2 GAMMA	Q2 PHOTON-NEUT (17000)	Q2 FREE-FREE P.E.	Q2 TOTAL AIR P.E.
1 10.70 7.	1.	1.00E-10	0.	0.	1.01E-10	5.12E-09	1.57E-07
2 10.69 7.	0.	0.07E-10	0.	0.	1.02E-10	5.20E-09	1.59E-07
3 10.57 8.	0.	0.15E-10	0.	0.	1.02E-10	5.60E-09	1.59E-07
4 10.47 8.	0.	0.40E-10	0.	0.	1.02E-10	6.00E-09	1.59E-07
5 10.38 8.	0.	7.50E-10	0.	0.	1.02E-10	6.40E-09	1.59E-07
6 10.44 8.	0.	7.80E-10	0.	0.	1.02E-10	6.80E-09	1.59E-07
7 10.18 9.	0.	7.90E-10	0.	0.	1.02E-10	7.20E-09	1.59E-07
8 10.03 3.	0.	6.30E-10	0.	0.	1.02E-10	7.60E-09	1.59E-07
9 9.99 0.	0.	6.50E-10	0.	0.	1.02E-10	8.00E-09	1.59E-07
11 9.85 0.	0.	4.10E-10	0.	0.	1.02E-10	8.40E-09	1.59E-07
12 9.75 0.	0.	5.20E-10	0.	0.	1.02E-10	8.80E-09	1.59E-07
13 9.57 0.	0.	5.71E-10	0.	0.	1.02E-10	9.20E-09	1.59E-07
14 9.45 0.	0.	4.00E-10	0.	0.	1.02E-10	9.60E-09	1.59E-07
15 9.44 0.	0.	4.90E-10	0.	0.	1.02E-10	1.00E-08	1.59E-07
16 9.39 0.	0.	4.70E-10	0.	0.	1.02E-10	1.04E-08	1.59E-07
17 9.29 0.	0.	3.80E-10	0.	0.	1.02E-10	1.08E-08	1.59E-07
18 9.13 0.	0.	3.00E-10	0.	0.	1.02E-10	1.12E-08	1.59E-07
19 9.03 0.	0.	3.01E-10	0.	0.	1.02E-10	1.16E-08	1.59E-07
20 8.89 0.	0.	3.30E-10	0.	0.	1.02E-10	1.20E-08	1.59E-07
21 8.74 0.	0.	2.80E-10	0.	0.	1.02E-10	1.24E-08	1.59E-07
22 8.68 0.	0.	2.90E-10	0.	0.	1.02E-10	1.28E-08	1.59E-07
23 8.59 0.	0.	2.90E-10	0.	0.	1.02E-10	1.32E-08	1.59E-07
24 8.48 0.	0.	2.80E-10	0.	0.	1.02E-10	1.36E-08	1.59E-07
25 8.38 0.	0.	2.60E-10	0.	0.	1.02E-10	1.40E-08	1.59E-07
26 8.25 0.	0.	2.60E-10	0.	0.	1.02E-10	1.44E-08	1.59E-07
27 8.18 0.	0.	1.00E-10	0.	0.	1.02E-10	1.48E-08	1.59E-07
28 8.08 0.	0.	1.07E-10	0.	0.	1.02E-10	1.52E-08	1.59E-07
29 7.99 0.	0.	1.00E-10	0.	0.	1.02E-10	1.56E-08	1.59E-07
30 7.80 0.	0.	1.00E-10	0.	0.	1.02E-10	1.60E-08	1.59E-07
31 7.70 0.	0.	1.00E-10	0.	0.	1.02E-10	1.64E-08	1.59E-07
32 7.60 0.	0.	1.00E-10	0.	0.	1.02E-10	1.68E-08	1.59E-07
33 7.50 0.	0.	1.00E-10	0.	0.	1.02E-10	1.72E-08	1.59E-07
34 7.40 0.	0.	1.00E-10	0.	0.	1.02E-10	1.76E-08	1.59E-07
35 7.30 0.	0.	1.00E-10	0.	0.	1.02E-10	1.80E-08	1.59E-07
36 7.20 0.	0.	9.20E-10	0.	0.	1.02E-10	1.84E-08	1.59E-07
37 7.10 0.	0.	9.20E-10	0.	0.	1.02E-10	1.88E-08	1.59E-07
38 7.00 0.	0.	8.50E-10	0.	0.	1.02E-10	1.92E-08	1.59E-07
39 6.90 0.	0.	7.00E-10	0.	0.	1.02E-10	1.96E-08	1.59E-07
40 6.80 0.	0.	7.00E-10	0.	0.	1.02E-10	2.00E-08	1.59E-07
41 6.70 0.	0.	6.20E-10	0.	0.	1.02E-10	2.04E-08	1.59E-07
42 6.60 0.	0.	5.50E-10	0.	0.	1.02E-10	2.08E-08	1.59E-07
43 6.50 0.	0.	4.80E-10	0.	0.	1.02E-10	2.12E-08	1.59E-07
44 6.40 0.	0.	4.00E-10	0.	0.	1.02E-10	2.16E-08	1.59E-07
45 6.30 0.	0.	3.20E-10	0.	0.	1.02E-10	2.20E-08	1.59E-07
46 6.20 0.	0.	2.50E-10	0.	0.	1.02E-10	2.24E-08	1.59E-07
47 6.10 0.	0.	1.80E-10	0.	0.	1.02E-10	2.28E-08	1.59E-07
48 6.00 0.	0.	1.00E-10	0.	0.	1.02E-10	2.32E-08	1.59E-07
49 5.90 0.	0.	1.20E-10	0.	0.	1.02E-10	2.36E-08	1.59E-07
50 5.80 0.	0.	1.20E-10	0.	0.	1.02E-10	2.40E-08	1.59E-07
51 5.70 0.	0.	1.17E-10	0.	0.	1.02E-10	2.44E-08	1.59E-07



ABSORPTION COEFFICIENT OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 17000. DENSITY (GM/CC) 1.293E-00 ( 1.0E-05 NORMAL)

PHOTON ENERGY E.V.	02 S-R HANDS CONT.	42 S-R NO. 1	NO RETA	NO GAMMA	NO 2	D-		TOTAL AIR P.T.E.		
						PHOTO-NET (TMS)	FREF-FRFE N			
1 10.73 0.	0.	0.	0.	0.	0.	1.00E-13	5.49E-11	5.62E-09	1.62E-08	7.49E-09
2 10.68 0.	0.	0.	0.	0.	0.	1.07E-13	5.69E-11	5.69E-09	1.61E-09	7.52E-09
3 10.58 0.	0.	0.	0.	0.	0.	1.07E-13	5.67E-11	5.67E-09	1.61E-09	7.54E-09
4 10.47 3.	0.	0.	0.	0.	0.	1.07E-13	5.99E-11	5.99E-09	1.60E-09	7.56E-09
5 10.37 0.	0.	0.	0.	0.	0.	1.07E-13	6.16E-11	6.16E-09	1.60E-09	7.57E-09
6 10.28 0.	0.	0.	0.	0.	0.	1.07E-13	6.33E-11	6.33E-09	1.59E-09	7.59E-09
7 10.19 9.	0.	0.	0.	0.	0.	1.07E-13	6.59E-11	6.59E-09	1.58E-09	7.62E-09
8 10.09 0.	0.	0.	0.	0.	0.	1.08E-13	6.94E-11	6.94E-09	1.57E-09	7.66E-09
9 9.99 0.	0.	0.	0.	0.	0.	1.08E-13	7.19E-11	7.19E-09	1.57E-09	7.69E-09
10 9.89 0.	0.	0.	0.	0.	0.	1.08E-13	7.39E-11	7.39E-09	1.56E-09	7.71E-09
11 9.79 0.	0.	0.	0.	0.	0.	1.08E-13	7.61E-11	7.61E-09	1.56E-09	7.74E-09
12 9.69 0.	0.	0.	0.	0.	0.	1.08E-13	7.84E-11	7.84E-09	1.55E-09	7.76E-09
13 9.59 3.	0.	0.	0.	0.	0.	1.09E-13	8.11E-11	8.11E-09	1.54E-09	7.79E-09
14 9.43 3.	0.	0.	0.	0.	0.	1.09E-13	8.39E-11	8.39E-09	1.54E-09	7.81E-09
15 9.37 3.	0.	0.	0.	0.	0.	1.10E-13	8.68E-11	8.68E-09	1.53E-09	7.83E-09
16 9.27 4.	0.	0.	0.	0.	0.	1.10E-13	8.98E-11	8.98E-09	1.53E-09	7.85E-09
17 9.19 0.	0.	0.	0.	0.	0.	1.10E-13	9.29E-11	9.29E-09	1.52E-09	7.88E-09
18 9.09 0.	0.	0.	0.	0.	0.	1.11E-13	9.61E-11	9.61E-09	1.50E-09	7.91E-09
19 8.99 0.	0.	0.	0.	0.	0.	1.11E-13	9.94E-11	9.94E-09	1.50E-09	7.94E-09
20 8.89 0.	0.	0.	0.	0.	0.	1.12E-13	1.03E-10	1.03E-09	1.49E-09	7.97E-09
21 8.79 0.	0.	0.	0.	0.	0.	1.12E-13	1.08E-10	1.08E-09	1.49E-09	8.00E-09
22 8.69 0.	0.	0.	0.	0.	0.	1.13E-13	1.14E-10	1.14E-09	1.48E-09	8.03E-09
23 8.59 0.	0.	0.	0.	0.	0.	1.13E-13	1.21E-10	1.21E-09	1.48E-09	8.06E-09
24 8.49 0.	0.	0.	0.	0.	0.	1.14E-13	1.29E-10	1.29E-09	1.48E-09	8.09E-09
25 8.39 0.	0.	0.	0.	0.	0.	1.14E-13	1.38E-10	1.38E-09	1.48E-09	8.12E-09
26 8.29 0.	0.	0.	0.	0.	0.	1.15E-13	1.48E-10	1.48E-09	1.48E-09	8.15E-09
27 8.19 0.	0.	0.	0.	0.	0.	1.15E-13	1.59E-10	1.59E-09	1.48E-09	8.18E-09
28 8.09 0.	0.	0.	0.	0.	0.	1.16E-13	1.71E-10	1.71E-09	1.48E-09	8.21E-09
29 7.99 0.	0.	0.	0.	0.	0.	1.16E-13	1.85E-10	1.85E-09	1.48E-09	8.24E-09
30 7.89 0.	0.	0.	0.	0.	0.	1.17E-13	2.01E-10	2.01E-09	1.48E-09	8.27E-09
31 7.79 0.	0.	0.	0.	0.	0.	1.17E-13	2.19E-10	2.19E-09	1.48E-09	8.30E-09
32 7.69 0.	0.	0.	0.	0.	0.	1.18E-13	2.39E-10	2.39E-09	1.48E-09	8.33E-09
33 7.59 0.	0.	0.	0.	0.	0.	1.19E-13	2.61E-10	2.61E-09	1.48E-09	8.36E-09
34 7.49 0.	0.	0.	0.	0.	0.	1.19E-13	2.85E-10	2.85E-09	1.48E-09	8.39E-09
35 7.37 0.	0.	0.	0.	0.	0.	1.20E-13	3.11E-10	3.11E-09	1.48E-09	8.42E-09
36 7.29 0.	0.	0.	0.	0.	0.	1.20E-13	3.39E-10	3.39E-09	1.48E-09	8.45E-09
37 7.19 0.	0.	0.	0.	0.	0.	1.21E-13	3.69E-10	3.69E-09	1.48E-09	8.48E-09
38 7.09 4.44E-23	0.	0.	0.	0.	0.	1.22E-13	4.01E-10	4.01E-09	1.48E-09	8.51E-09
39 6.99 8.66E-23	0.	0.	0.	0.	0.	1.23E-13	4.35E-10	4.35E-09	1.48E-09	8.54E-09
40 6.89 2.45E-23	0.	0.	0.	0.	0.	1.24E-13	4.71E-10	4.71E-09	1.48E-09	8.57E-09
41 6.79 2.41E-23	0.	0.	0.	0.	0.	1.24E-13	5.09E-10	5.09E-09	1.48E-09	8.60E-09
42 6.69 3.29E-23	0.	0.	0.	0.	0.	1.25E-13	5.49E-10	5.49E-09	1.48E-09	8.63E-09
43 6.59 3.98E-23	0.	0.	0.	0.	0.	1.25E-13	5.91E-10	5.91E-09	1.48E-09	8.66E-09
44 6.49 3.98E-23	0.	0.	0.	0.	0.	1.26E-13	6.35E-10	6.35E-09	1.48E-09	8.69E-09
45 6.39 5.27E-24	0.	0.	0.	0.	0.	1.26E-13	6.81E-10	6.81E-09	1.48E-09	8.72E-09
46 6.29 5.27E-24	0.	0.	0.	0.	0.	1.27E-13	7.29E-10	7.29E-09	1.48E-09	8.75E-09
47 6.19 1.29E-24	0.	0.	0.	0.	0.	1.27E-13	7.79E-10	7.79E-09	1.48E-09	8.78E-09
48 6.09 7.38E-25	0.	0.	0.	0.	0.	1.28E-13	8.31E-10	8.31E-09	1.48E-09	8.81E-09
49 5.99 1.32E-25	0.	0.	0.	0.	0.	1.28E-13	8.85E-10	8.85E-09	1.48E-09	8.84E-09
50 5.89 1.40E-26	0.	0.	0.	0.	0.	1.29E-13	9.41E-10	9.41E-09	1.48E-09	8.87E-09
51 5.79 1.24E-27	0.	0.	0.	0.	0.	1.29E-13	1.00E-09	1.00E-09	1.48E-09	8.90E-09

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY	QZ S-R BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	M2 2ND NEG.	MO BETA	MO GAMMA	NO VIB-ROT	MO Z	PHOTO-DET (FMS)		FREE-FREE N		TOTAL AIR	
										PHOTO-DET (FMS)	P.E.	PHOTO-DET (FMS)	P.E.	PHOTO-DET (FMS)	P.E.
52	5.03	5.59E-20	0.	0.	0.	7.44E-21	4.81E-20	0.	0.	1.14E-13	3.80E-10	2.52E-09	1.67E-09	4.50E-09	
53	5.50	0.	0.	0.	0.	9.00E-21	4.44E-20	0.	0.	1.14E-13	4.10E-10	2.59E-09	1.67E-09	4.49E-09	
54	5.47	0.	0.	0.	0.	8.30E-21	3.59E-20	0.	0.	1.15E-13	4.33E-10	2.67E-09	1.71E-09	4.62E-09	
55	5.31	0.	0.	0.	0.	6.51E-21	4.57E-20	0.	0.	1.16E-13	4.50E-10	2.74E-09	1.74E-09	4.95E-09	
56	5.20	0.	0.	0.	0.	9.15E-21	3.39E-20	0.	0.	1.16E-13	4.80E-10	2.84E-09	1.77E-09	5.18E-09	
57	5.18	0.	0.	0.	0.	9.12E-21	4.37E-20	0.	0.	1.17E-13	5.15E-10	2.94E-09	1.80E-09	5.25E-09	
58	5.07	7.54E-22	0.	0.	0.	8.33E-21	4.89E-20	0.	0.	1.18E-13	5.47E-10	3.04E-09	1.83E-09	5.42E-09	
59	4.90	1.64E-21	0.	0.	0.	9.26E-21	4.44E-20	0.	0.	1.19E-13	5.81E-10	3.15E-09	1.86E-09	5.59E-09	
60	4.70	3.43E-21	0.	0.	0.	9.91E-21	4.16E-20	0.	0.	1.20E-13	6.15E-10	3.27E-09	1.90E-09	5.79E-09	
61	4.70	4.61E-21	0.	0.	0.	9.91E-21	3.77E-20	0.	0.	1.21E-13	6.50E-10	3.40E-09	1.95E-09	6.01E-09	
62	4.60	4.53E-21	0.	0.	0.	1.02E-20	3.43E-20	0.	0.	1.22E-13	7.00E-10	3.56E-09	2.00E-09	6.27E-09	
63	4.50	4.43E-21	0.	0.	0.	7.20E-21	2.57E-20	0.	0.	1.23E-13	7.52E-10	3.74E-09	2.06E-09	6.56E-09	
64	4.40	7.10E-21	0.	0.	0.	5.31E-21	1.78E-20	0.	0.	1.24E-13	8.05E-10	3.95E-09	2.11E-09	6.87E-09	
65	4.33	6.49E-21	0.	0.	0.	8.06E-21	1.11E-20	0.	0.	1.25E-13	8.64E-10	4.18E-09	2.17E-09	7.15E-09	
66	4.23	6.71E-21	0.	0.	0.	9.32E-21	7.85E-21	0.	0.	1.26E-13	9.27E-10	4.43E-09	2.24E-09	7.45E-09	
67	4.13	5.82E-21	0.	0.	0.	9.10E-21	2.17E-21	0.	0.	1.27E-13	9.97E-10	4.70E-09	2.31E-09	7.76E-09	
68	4.00	5.34E-21	0.	0.	0.	8.74E-21	1.44E-21	0.	0.	1.27E-13	1.07E-09	5.00E-09	2.39E-09	8.09E-09	
69	3.90	4.59E-21	0.	0.	0.	8.00E-21	6.20E-22	0.	0.	1.27E-13	1.14E-09	5.31E-09	2.47E-09	8.41E-09	
70	3.80	4.97E-21	0.	0.	0.	8.06E-21	8.06E-21	0.	0.	1.28E-13	1.24E-09	5.64E-09	2.56E-09	8.75E-09	
71	3.70	4.41E-21	0.	0.	0.	2.43E-20	5.40E-21	0.	0.	1.28E-13	1.36E-09	6.00E-09	2.65E-09	9.10E-09	
72	3.60	3.97E-21	0.	0.	0.	1.60E-19	2.97E-21	0.	0.	1.16E-13	1.49E-09	6.40E-09	2.75E-09	9.46E-09	
73	3.50	3.70E-21	0.	0.	0.	2.25E-19	5.00E-21	0.	0.	1.06E-13	1.64E-09	6.84E-09	2.86E-09	9.84E-09	
74	3.40	3.39E-21	0.	0.	0.	1.41E-19	4.44E-21	0.	0.	6.19E-14	1.92E-09	7.33E-09	3.00E-09	1.03E-08	
75	3.30	2.71E-21	0.	0.	0.	1.45E-19	3.34E-21	0.	0.	6.19E-14	1.92E-09	7.33E-09	3.00E-09	1.03E-08	
76	3.20	2.39E-21	0.	0.	0.	9.44E-20	5.73E-21	0.	0.	6.18E-14	2.11E-09	7.81E-09	3.10E-09	1.08E-08	
77	3.10	2.29E-21	0.	0.	0.	7.31E-20	1.33E-21	0.	0.	6.19E-14	2.32E-09	8.34E-09	3.20E-09	1.14E-08	
78	3.00	2.01E-21	0.	0.	0.	4.47E-20	3.20E-21	0.	0.	6.19E-14	2.57E-09	8.90E-09	3.30E-09	1.20E-08	
79	2.90	1.69E-21	0.	0.	0.	2.79E-20	1.78E-21	0.	0.	6.20E-14	2.85E-09	9.46E-09	3.40E-09	1.27E-08	
80	2.80	1.74E-21	0.	0.	0.	1.34E-20	1.11E-21	0.	0.	6.21E-14	3.17E-09	1.03E-08	3.50E-09	1.35E-08	
81	2.70	1.15E-21	0.	0.	0.	4.20E-21	1.52E-21	0.	0.	6.21E-14	3.54E-09	1.12E-08	3.60E-09	1.43E-08	
82	2.60	3.36E-22	0.	0.	0.	3.67E-21	1.53E-21	0.	0.	6.21E-14	3.97E-09	1.22E-08	3.70E-09	1.52E-08	
83	2.50	3.71E-23	0.	0.	0.	3.32E-22	1.46E-21	0.	0.	6.21E-14	4.46E-09	1.34E-08	3.80E-09	1.62E-08	
84	2.40	0.	0.	0.	0.	1.20E-16	1.65E-23	0.	0.	6.21E-14	5.07E-09	1.49E-08	3.90E-09	1.73E-08	
85	2.30	0.	0.	0.	0.	0.	0.	0.	0.	6.19E-14	5.77E-09	1.67E-08	4.00E-09	1.85E-08	
86	2.20	0.	0.	0.	0.	0.	0.	0.	0.	6.19E-14	6.61E-09	1.88E-08	4.10E-09	2.00E-08	
87	2.10	0.	0.	0.	0.	0.	0.	0.	0.	6.11E-14	7.61E-09	2.12E-08	4.20E-09	2.16E-08	
88	2.01	0.	0.	0.	0.	0.	0.	0.	0.	5.92E-14	8.84E-09	2.47E-08	4.30E-09	2.34E-08	
89	1.90	0.	0.	0.	0.	0.	0.	0.	0.	5.69E-14	1.04E-08	2.95E-08	4.40E-09	2.54E-08	
90	1.80	0.	0.	0.	0.	0.	0.	0.	0.	5.44E-14	1.22E-08	3.56E-08	4.50E-09	2.76E-08	
91	1.70	0.	0.	0.	0.	0.	0.	0.	0.	5.13E-14	1.45E-08	4.30E-08	4.60E-09	3.00E-08	
92	1.60	0.	0.	0.	0.	0.	0.	0.	0.	4.34E-14	1.74E-08	5.25E-08	4.70E-09	3.26E-08	
93	1.50	0.	0.	0.	0.	0.	0.	0.	0.	1.07E-14	2.12E-08	6.35E-08	4.80E-09	3.54E-08	
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.63E-08	7.93E-08	7.65E-09	4.04E-08	
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.31E-08	1.01E-07	1.01E-08	4.27E-08	
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.24E-08	1.29E-07	1.11E-07	4.51E-08	
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.52E-08	1.69E-07	1.50E-07	4.76E-08	
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.37E-08	2.24E-07	1.93E-07	5.03E-08	
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.02E-07	2.97E-07	2.52E-07	5.33E-08	
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.44E-07	3.95E-07	3.35E-07	5.68E-08	
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.21E-07	5.27E-07	4.41E-07	6.07E-08	
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.56E-07	7.04E-07	5.84E-07	6.49E-08	

ABSORPTION COEFFICIENT OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 17000. DENSITY (GM/CC) 1.293E-09 ( 1.0E-06 NORMAL)

PHOTON ENERGY E.V.	Q2 S-M BANDS	N2 S-R CONT.	W2 R-W NO. 1	TEMPERATURE (DEGREES K) 17000.	NO META	NO GAMMA	NO PHOTO-DET (17MS)	D- FREQ-FMFE P.E.	N P.E.	D P.E.	TOTAL AIR	
1 20.70 0.	0.	0.	9.41E-23	0.	0.	0.	0.	1.29E-16	7.86E-13	1.59E-10	1.59E-11	1.80E-10
2 10.40 0.	0.	0.	6.56E-23	0.	0.	0.	0.	1.29E-16	8.60E-13	1.60E-10	1.90E-11	1.80E-10
3 10.50 0.	0.	0.	6.41E-23	0.	0.	0.	0.	1.29E-16	9.28E-13	1.61E-10	1.90E-11	1.81E-10
4 10.40 0.	0.	0.	6.16E-23	0.	0.	0.	0.	1.29E-16	9.81E-13	1.62E-10	1.97E-11	1.82E-10
5 10.50 0.	0.	0.	7.09E-23	0.	0.	0.	0.	1.29E-16	1.07E-12	1.63E-10	1.94E-11	1.83E-10
6 10.20 0.	0.	0.	7.30E-23	0.	0.	0.	0.	1.29E-16	1.12E-12	1.64E-10	1.94E-11	1.84E-10
7 10.10 0.	0.	0.	6.64E-23	0.	0.	0.	0.	1.30E-16	1.35E-12	1.65E-10	1.95E-11	1.85E-10
8 10.00 0.	0.	0.	6.89E-23	0.	0.	0.	0.	1.30E-16	1.38E-12	1.67E-10	1.95E-11	1.86E-10
9 9.90 0.	0.	0.	4.16E-23	0.	0.	0.	0.	1.30E-16	1.90E-12	1.68E-10	1.94E-11	1.86E-10
10 9.80 0.	0.	0.	5.77E-23	0.	0.	0.	0.	1.30E-16	1.87E-12	1.70E-10	1.94E-11	1.91E-10
11 9.70 0.	0.	0.	4.97E-23	0.	0.	0.	0.	1.30E-16	1.89E-12	1.72E-10	1.94E-11	1.92E-10
12 9.60 0.	0.	0.	5.37E-23	0.	0.	0.	0.	1.31E-16	1.89E-12	1.73E-10	1.93E-11	1.94E-10
13 9.50 0.	0.	0.	4.97E-23	0.	0.	0.	0.	1.31E-16	1.12E-12	1.75E-10	1.91E-11	1.95E-10
14 9.40 0.	0.	0.	4.12E-23	0.	0.	0.	0.	1.31E-16	1.15E-12	1.47E-10	1.92E-11	1.60E-10
15 9.30 0.	0.	0.	4.42E-23	0.	0.	0.	0.	1.32E-16	1.19E-12	1.48E-10	1.92E-11	1.69E-10
16 9.20 0.	0.	0.	3.65E-23	0.	0.	0.	0.	1.32E-16	1.23E-12	1.50E-10	1.91E-11	1.71E-10
17 9.10 0.	0.	0.	3.75E-23	0.	0.	0.	0.	1.33E-16	1.29E-12	1.52E-10	1.91E-11	1.72E-10
18 9.00 0.	0.	0.	3.40E-23	0.	0.	0.	0.	1.33E-16	1.37E-12	1.55E-10	1.77E-11	1.72E-10
19 9.00 0.	0.	0.	3.14E-23	0.	0.	0.	0.	1.34E-16	1.37E-12	1.54E-10	1.75E-11	1.73E-10
20 8.80 0.	0.	0.	3.00E-23	0.	0.	0.	0.	1.34E-16	1.41E-12	1.54E-10	1.75E-11	1.75E-10
21 8.70 0.	0.	0.	2.66E-23	0.	0.	0.	0.	1.35E-16	1.46E-12	1.57E-10	1.76E-11	1.76E-10
22 8.60 0.	0.	0.	2.74E-23	0.	0.	0.	0.	1.35E-16	1.51E-12	1.59E-10	1.76E-11	1.77E-10
23 8.50 0.	0.	0.	2.40E-23	0.	0.	0.	0.	1.36E-16	1.57E-12	1.63E-10	1.74E-11	1.78E-10
24 8.40 0.	0.	0.	2.30E-23	0.	0.	0.	0.	1.36E-16	1.61E-12	1.70E-10	1.74E-11	1.78E-10
25 8.30 0.	0.	0.	2.01E-23	0.	0.	0.	0.	1.37E-16	1.65E-12	1.81E-10	1.74E-11	1.82E-10
26 8.20 0.	0.	0.	2.03E-23	0.	0.	0.	0.	1.38E-16	1.75E-12	1.81E-10	1.75E-11	1.82E-10
27 8.10 0.	0.	0.	1.75E-23	0.	0.	0.	0.	1.39E-16	1.81E-12	1.86E-10	1.74E-11	1.85E-10
28 8.00 0.	0.	0.	1.76E-23	0.	0.	0.	0.	1.39E-16	1.86E-12	1.86E-10	1.77E-11	1.89E-10
29 7.90 0.	0.	0.	1.51E-23	0.	0.	0.	0.	1.40E-16	1.94E-12	1.91E-10	1.77E-11	1.92E-10
30 7.80 0.	0.	0.	1.56E-23	0.	0.	0.	0.	1.41E-16	2.03E-12	1.94E-10	1.79E-11	1.95E-10
31 7.70 0.	0.	0.	1.37E-23	0.	0.	0.	0.	1.41E-16	2.11E-12	1.98E-10	1.81E-11	1.95E-10
32 7.60 0.	0.	0.	1.30E-23	0.	0.	0.	0.	1.42E-16	2.20E-12	1.97E-10	1.81E-11	1.97E-10
33 7.50 0.	0.	0.	1.20E-23	0.	0.	0.	0.	1.43E-16	2.29E-12	1.95E-10	1.81E-11	1.97E-10
34 7.40 0.	0.	0.	1.07E-23	0.	0.	0.	0.	1.44E-16	2.39E-12	1.92E-10	1.84E-11	1.97E-10
35 7.30 0.	0.	0.	1.02E-23	0.	0.	0.	0.	1.44E-16	2.48E-12	1.90E-10	1.85E-11	1.97E-10
36 7.20 0.	0.	0.	9.15E-24	0.	0.	0.	0.	1.45E-16	2.58E-12	1.87E-10	1.87E-11	1.97E-10
37 7.10 0.	0.	0.	8.77E-24	0.	0.	0.	0.	1.46E-16	2.70E-12	1.84E-10	1.89E-11	1.99E-10
38 7.00 5.40E-27	0.	0.	8.65E-24	0.	0.	0.	0.	1.46E-16	2.82E-12	1.82E-10	1.90E-11	1.99E-10
39 6.90 1.03E-26	0.	0.	7.95E-24	0.	0.	0.	0.	1.46E-16	2.94E-12	1.78E-10	1.91E-11	1.98E-10
40 6.80 9.49E-27	0.	0.	7.66E-24	0.	0.	0.	0.	1.50E-16	3.06E-12	1.73E-10	1.93E-11	1.96E-10
41 6.70 6.47E-27	0.	0.	6.17E-24	0.	0.	0.	0.	1.51E-16	3.22E-12	1.69E-10	1.95E-11	1.96E-10
42 6.60 3.93E-27	0.	0.	5.11E-24	0.	0.	0.	0.	1.52E-16	3.42E-12	1.64E-10	1.97E-11	1.97E-10
43 6.50 2.27E-27	0.	0.	4.39E-24	0.	0.	0.	0.	1.54E-16	3.59E-12	1.59E-10	1.99E-11	1.97E-10
44 6.40 1.29E-27	0.	0.	3.81E-24	0.	0.	0.	0.	1.55E-16	3.80E-12	1.53E-10	2.01E-11	1.99E-10
45 6.30 7.49E-28	0.	0.	1.01E-24	0.	0.	0.	0.	1.56E-16	3.87E-12	1.60E-10	2.01E-11	1.95E-10
46 6.20 3.37E-28	0.	0.	1.03E-24	0.	0.	0.	0.	1.57E-16	4.07E-12	1.60E-10	2.04E-11	1.91E-10
47 6.10 1.54E-28	0.	0.	4.33E-25	0.	0.	0.	0.	1.58E-16	4.27E-12	1.60E-10	2.04E-11	1.91E-10
48 6.00 4.42E-29	0.	0.	5.87E-25	0.	0.	0.	0.	1.59E-16	4.46E-12	1.59E-10	2.04E-11	1.91E-10
49 5.90 1.56E-29	0.	0.	5.87E-25	0.	0.	0.	0.	1.59E-16	4.75E-12	1.57E-10	2.04E-11	1.91E-10
50 5.80 2.01E-30	0.	0.	7.91E-25	0.	0.	0.	0.	1.57E-16	4.75E-12	1.57E-10	2.04E-11	1.91E-10
51 5.70 1.48E-31	0.	0.	9.22E-25	0.	0.	0.	0.	1.48E-16	5.24E-12	1.57E-10	2.04E-11	1.91E-10

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 17000. DENSITY (GM/CC) 1.293E-09 ( 1.0E-06 NORMAL)

PHOTON ENRGY	02 S-M RANGS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	BETA	NO GAMMA	NO VIR-ROT	NO 2	PHOTO-NET (FMS)	0- FWF-FRET	N P.E.	0 P.E.	TOTAL AIR	
32	5.60	4.67E-33	0.	0.	7.91E-25	5.05E-24	0.	0.	1.37E-16	5.53E-12	5.03E-11	1.91E-11	0.29E-11	
33	5.50	0.	0.	0.	9.53E-25	4.89E-24	0.	0.	1.30E-16	5.83E-12	6.10E-11	1.94E-11	0.63E-11	
34	5.45	0.	0.	0.	6.72E-25	3.77E-24	0.	0.	1.39E-16	6.17E-12	6.49E-11	1.97E-11	0.90E-11	
35	5.30	0.	0.	0.	6.94E-25	4.00E-24	0.	0.	1.40E-16	6.52E-12	6.70E-11	1.94E-11	0.31E-11	
36	5.20	0.	0.	0.	9.61E-25	3.96E-24	0.	0.	1.40E-16	6.91E-12	7.01E-11	2.00E-11	1.60E-11	
37	5.10	0.	0.	0.	9.58E-25	4.99E-24	0.	0.	1.42E-16	7.33E-12	7.32E-11	2.04E-11	0.91E-10	
38	5.00	9.04E-26	0.	0.	9.74E-25	4.20E-24	0.	0.	1.43E-16	7.76E-12	7.64E-11	2.06E-11	1.05E-10	
39	4.90	2.18E-26	0.	0.	9.72E-25	4.66E-24	0.	0.	1.44E-16	8.21E-12	7.96E-11	2.12E-11	1.09E-10	
40	4.80	4.86E-26	0.	0.	1.04E-24	4.37E-24	0.	0.	1.45E-16	8.68E-12	8.29E-11	2.16E-11	1.13E-10	
41	4.70	5.59E-26	0.	0.	1.04E-24	3.96E-24	0.	0.	1.46E-16	9.16E-12	8.75E-11	2.22E-11	1.16E-10	
42	4.60	7.53E-26	0.	0.	1.07E-24	3.68E-24	0.	0.	1.48E-16	1.00E-11	9.34E-11	2.28E-11	1.24E-10	
43	4.50	7.92E-26	0.	0.	9.75E-25	2.70E-24	0.	0.	1.49E-16	1.07E-11	9.94E-11	2.35E-11	1.34E-10	
44	4.40	8.44E-26	6.30E-25	0.	9.77E-25	1.87E-24	0.	0.	1.50E-16	1.14E-11	1.04E-10	2.36E-11	1.41E-10	
45	4.30	7.94E-26	0.	0.	9.30E-25	1.17E-24	0.	0.	1.51E-16	1.23E-11	1.12E-10	2.14E-11	1.46E-10	
46	4.20	7.42E-26	0.	0.	9.79E-25	8.25E-25	0.	0.	1.52E-16	1.32E-11	1.19E-10	1.86E-11	1.43E-10	
47	4.10	6.95E-26	0.	0.	9.54E-25	2.28E-25	0.	0.	1.53E-16	1.42E-11	1.24E-10	1.86E-11	1.43E-10	
48	4.00	6.48E-26	0.	0.	9.20E-25	1.72E-25	0.	0.	1.54E-16	1.51E-11	1.28E-10	1.82E-11	1.40E-10	
49	3.90	6.02E-26	0.	0.	9.20E-25	5.63E-26	0.	0.	1.54E-16	1.61E-11	1.33E-10	1.75E-11	1.50E-10	
50	3.80	5.42E-26	0.	0.	1.33E-23	2.57E-19	6.47E-19	0.	0.	1.52E-16	1.69E-11	1.36E-10	1.75E-11	1.58E-10
51	3.70	5.94E-26	0.	0.	2.12E-23	1.13E-18	9.10E-25	0.	0.	1.52E-16	1.79E-11	1.36E-10	1.23E-11	1.66E-10
52	3.60	5.27E-26	0.	0.	2.24E-23	4.50E-19	7.73E-25	0.	0.	1.50E-16	1.94E-11	1.43E-10	1.33E-11	1.75E-10
53	3.50	4.74E-26	0.	0.	1.54E-23	2.40E-18	6.34E-25	0.	0.	1.48E-16	2.10E-11	1.51E-10	1.45E-11	1.86E-10
54	3.40	4.22E-26	0.	0.	2.87E-23	4.95E-18	6.58E-25	0.	0.	1.29E-16	2.28E-11	1.62E-10	1.62E-11	1.81E-10
55	3.30	3.28E-26	0.	0.	1.30E-23	7.15E-18	7.57E-25	0.	0.	7.42E-17	2.59E-11	1.82E-10	1.73E-11	1.11E-10
56	3.20	2.81E-26	0.	0.	1.34E-23	2.81E-18	5.07E-25	0.	0.	7.43E-17	2.74E-11	1.84E-10	1.81E-11	1.20E-10
57	3.10	2.69E-26	0.	0.	6.75E-24	4.95E-18	6.16E-25	0.	0.	7.40E-17	3.00E-11	1.92E-10	1.92E-11	1.32E-10
58	3.00	2.69E-26	0.	0.	6.75E-24	1.15E-18	5.82E-25	0.	0.	7.40E-17	3.31E-11	1.92E-10	2.09E-11	1.47E-10
59	2.90	2.91E-26	0.	0.	4.13E-24	2.40E-18	5.47E-25	0.	0.	7.40E-17	3.65E-11	1.93E-10	2.26E-11	1.62E-10
60	2.80	2.82E-26	0.	0.	7.57E-24	1.40E-18	4.16E-25	0.	0.	7.40E-17	4.02E-11	1.92E-10	2.44E-11	1.73E-10
61	2.70	1.18E-26	0.	0.	1.24E-24	9.20E-19	2.87E-25	0.	0.	7.50E-17	4.50E-11	1.93E-10	2.31E-11	1.91E-10
62	2.60	1.39E-26	0.	0.	5.80E-25	1.27E-18	1.96E-25	0.	0.	7.50E-17	5.05E-11	1.94E-10	1.59E-11	1.92E-10
63	2.50	4.34E-26	0.	0.	2.69E-25	1.22E-19	6.90E-26	0.	0.	7.50E-17	5.64E-11	1.94E-10	1.84E-11	1.92E-10
64	2.40	4.44E-27	0.	0.	3.00E-26	1.80E-19	1.74E-27	0.	0.	7.44E-17	6.25E-11	1.93E-10	2.23E-11	2.52E-10
65	2.30	0.	0.	0.	1.00E-24	0.	0.	0.	7.44E-17	6.89E-11	1.93E-10	2.64E-11	2.91E-10	
66	2.20	0.	0.	0.	1.15E-23	0.	0.	0.	7.41E-17	7.57E-11	1.93E-10	3.16E-11	3.55E-10	
67	2.10	0.	0.	0.	1.24E-23	0.	0.	0.	7.38E-17	8.29E-11	1.93E-10	3.79E-11	4.21E-10	
68	2.00	0.	0.	0.	2.41E-23	0.	0.	0.	7.36E-17	9.05E-11	1.93E-10	4.49E-11	4.91E-10	
69	1.90	0.	0.	0.	3.13E-23	0.	0.	0.	6.87E-17	1.47E-10	2.00E-10	4.59E-11	3.92E-10	
70	1.80	0.	0.	0.	2.64E-23	0.	0.	0.	6.57E-17	1.73E-10	2.34E-10	5.51E-11	4.62E-10	
71	1.70	0.	0.	0.	3.05E-23	0.	0.	0.	6.10E-17	2.05E-10	2.75E-10	6.37E-11	5.44E-10	
72	1.60	0.	0.	0.	2.24E-23	0.	0.	0.	5.24E-17	2.47E-10	3.29E-10	7.54E-11	6.21E-10	
73	1.50	0.	0.	0.	2.62E-23	0.	0.	0.	2.30E-17	3.01E-10	3.97E-10	8.53E-11	6.73E-10	
74	1.40	0.	0.	0.	2.60E-23	0.	0.	0.	0.	3.72E-10	3.59E-10	7.80E-11	8.18E-10	
75	1.30	0.	0.	0.	1.99E-23	0.	0.	0.	0.	4.66E-10	3.93E-10	1.10E-10	9.71E-10	
76	1.20	0.	0.	0.	1.91E-23	0.	0.	0.	0.	5.99E-10	5.37E-10	1.37E-10	1.27E-09	
77	1.10	0.	0.	0.	1.00E-23	0.	0.	0.	0.	7.80E-10	6.62E-10	1.73E-10	1.62E-09	
78	1.00	0.	0.	0.	1.65E-23	0.	0.	0.	0.	1.04E-09	8.03E-10	2.10E-10	2.06E-09	
79	0.90	0.	0.	0.	1.65E-23	0.	0.	0.	0.	1.40E-09	8.08E-10	2.27E-10	2.57E-09	
80	0.80	0.	0.	0.	1.30E-23	0.	0.	0.	0.	1.84E-09	8.52E-10	1.97E-10	3.11E-09	
81	0.70	0.	0.	0.	1.51E-24	0.	0.	0.	0.	3.11E-09	9.74E-10	2.24E-10	4.32E-09	
82	0.60	0.	0.	0.	2.64E-25	0.	0.	0.	0.	5.01E-09	1.09E-09	2.56E-10	6.30E-09	

ABSORPTION COEFFICIENT OF HEATED AIR (INVERSE (M.<sup>-1</sup>))  
 TEMPERATURE (DEGREES K) 18000. DENSITY (GM/CC) 1.203E-02 ( 1.0E 01 NORMAL)

PHOTON ENERGY E.V.	02 S-R RANGS	02 S-R CONT.	M2 R-M NO. 1	NO RETA	NO GAMMA	NO 2	0- PHOTO-NET (1/MS)	0- FREE-ELECT P.P.	M P.P.	D P.E.	TOTAL AIR
1	10.70	0.	1.34E 00	0.	0.	0.	3.89E 00	1.24E-01	2.84E 02	2.10E 00	2.91E 02
2	10.60	0.	1.24E 00	0.	0.	0.	3.69E 00	1.30E-01	9.29E 02	2.49E 00	1.64E 01
3	10.50	0.	1.25E 00	0.	0.	0.	3.90E 00	1.33E-01	9.33E 02	2.88E 00	1.67E 01
4	10.40	0.	1.19E 00	0.	0.	0.	3.90E 00	1.37E-01	9.36E 02	2.87E 00	1.67E 01
5	10.30	0.	1.04E 00	0.	0.	0.	3.91E 00	1.43E-01	9.38E 02	2.86E 00	1.65E 01
6	10.20	0.	1.00E 00	0.	0.	0.	3.91E 00	1.44E-01	9.40E 02	2.86E 00	1.66E 01
7	10.10	0.	1.01E 00	0.	0.	0.	3.92E 00	1.50E-01	9.42E 02	2.85E 00	1.65E 01
8	10.00	0.	9.15E-01	0.	0.	0.	3.92E 00	1.55E-01	9.42E 02	2.84E 00	1.64E 01
9	9.90	0.	8.61E-01	0.	0.	0.	3.93E 00	1.55E-01	9.44E 02	2.83E 00	1.64E 01
10	9.80	0.	7.46E-01	0.	0.	0.	3.94E 00	1.64E-01	9.47E 02	2.82E 00	1.65E 01
11	9.70	0.	8.06E-01	0.	0.	0.	3.94E 00	1.64E-01	9.49E 02	2.82E 00	1.64E 01
12	9.60	0.	8.91E-01	0.	0.	0.	3.95E 00	1.74E-01	9.51E 02	2.81E 00	1.65E 01
13	9.50	0.	6.55E-01	0.	0.	0.	3.96E 00	1.81E-01	9.54E 02	2.80E 00	1.64E 01
14	9.40	0.	6.72E-01	0.	0.	0.	3.97E 00	1.84E-01	9.57E 02	1.99E 00	1.64E 01
15	9.30	0.	6.72E-01	0.	0.	0.	3.99E 00	1.93E-01	9.60E 02	1.98E 00	1.64E 01
16	9.20	0.	5.58E-01	0.	0.	0.	4.00E 00	1.99E-01	9.63E 02	1.94E 00	1.64E 01
17	9.10	0.	5.74E-01	0.	0.	0.	4.02E 00	2.04E-01	9.63E 02	1.97E 00	1.64E 01
18	9.00	0.	5.23E-01	0.	0.	0.	4.02E 00	2.15E-01	9.63E 02	1.94E 00	1.63E 01
19	8.90	0.	4.95E-01	0.	0.	0.	4.04E 00	2.20E-01	9.63E 02	1.95E 00	1.62E 01
20	8.80	0.	4.77E-01	0.	0.	0.	4.06E 00	2.24E-01	9.64E 02	1.94E 00	1.62E 01
21	8.70	0.	4.13E-01	0.	0.	0.	4.07E 00	2.36E-01	9.64E 02	1.94E 00	1.62E 01
22	8.60	0.	4.28E-01	0.	0.	0.	4.09E 00	2.44E-01	9.65E 02	1.93E 00	1.62E 01
23	8.50	0.	3.76E-01	0.	0.	0.	4.10E 00	2.53E-01	9.65E 02	1.92E 00	1.62E 01
24	8.40	0.	3.74E-01	0.	0.	0.	4.13E 00	2.57E-01	9.67E 02	1.92E 00	1.62E 01
25	8.30	0.	3.18E-01	0.	0.	0.	4.15E 00	2.72E-01	9.67E 02	1.91E 00	1.62E 01
26	8.20	0.	3.22E-01	0.	0.	0.	4.17E 00	2.82E-01	9.69E 02	1.92E 00	1.62E 01
27	8.10	0.	2.79E-01	0.	0.	0.	4.19E 00	2.92E-01	9.69E 02	1.92E 00	1.62E 01
28	8.00	0.	2.79E-01	0.	0.	0.	4.21E 00	3.04E-01	9.69E 02	1.93E 00	1.63E 01
29	7.90	0.	2.42E-01	0.	0.	0.	4.23E 00	3.15E-01	9.69E 02	1.93E 00	1.63E 01
30	7.80	0.	2.52E-01	0.	0.	0.	4.25E 00	3.24E-01	9.69E 02	1.93E 00	1.64E 01
31	7.70	0.	2.21E-01	0.	0.	0.	4.26E 00	3.31E-01	9.69E 02	1.94E 00	1.64E 01
32	7.60	0.	2.11E-01	0.	0.	0.	4.30E 00	3.35E-01	9.71E 02	1.94E 00	1.63E 01
33	7.50	0.	1.96E-01	0.	0.	0.	4.32E 00	3.44E-01	9.73E 02	1.94E 00	1.64E 01
34	7.40	0.	1.76E-01	0.	0.	0.	4.34E 00	3.44E-01	9.76E 02	1.95E 00	1.64E 01
35	7.30	0.	1.67E-01	0.	0.	0.	4.37E 00	4.01E-01	9.76E 02	1.95E 00	1.62E 01
36	7.20	0.	1.51E-01	0.	0.	0.	4.39E 00	4.18E-01	9.80E 02	1.94E 00	1.62E 01
37	7.10	0.	1.45E-01	0.	0.	0.	4.43E 00	4.34E-01	9.82E 02	1.94E 00	1.62E 01
38	7.00	0.	1.34E-01	0.	0.	0.	4.46E 00	4.55E-01	9.85E 02	1.94E 00	1.62E 01
39	6.90	0.	1.23E-01	0.	0.	0.	4.50E 00	4.74E-01	9.87E 02	1.94E 00	1.62E 01
40	6.80	0.	1.19E-01	0.	0.	0.	4.53E 00	4.97E-01	9.89E 02	1.97E 00	1.61E 01
41	6.70	0.	1.04E-01	0.	0.	0.	4.57E 00	5.19E-01	9.91E 02	1.94E 00	1.61E 01
42	6.60	0.	9.34E-02	0.	0.	0.	4.61E 00	5.44E-01	9.95E 02	1.94E 00	1.62E 01
43	6.50	0.	7.46E-02	0.	0.	0.	4.64E 00	5.69E-01	9.99E 02	1.99E 00	1.63E 01
44	6.40	0.	5.17E-02	0.	0.	0.	4.68E 00	5.94E-01	4.03E 00	2.00E 00	1.64E 01
45	6.30	0.	3.24E-02	0.	0.	0.	4.71E 00	6.24E-01	4.07E 00	2.01E 00	1.65E 01
46	6.20	0.	1.80E-02	0.	0.	0.	4.75E 00	6.57E-01	4.12E 00	2.03E 00	1.65E 01
47	6.10	0.	8.49E-03	0.	0.	0.	4.79E 00	6.90E-01	4.16E 00	2.05E 00	1.64E 01
48	6.00	0.	2.16E-02	0.	0.	0.	4.82E 00	7.25E-01	4.22E 00	2.06E 00	1.65E 01
49	5.90	0.	1.55E-04	0.	0.	0.	4.85E 00	7.63E-01	4.28E 00	2.06E 00	1.62E 01
50	5.80	0.	5.90E-06	0.	0.	0.	4.75E 00	8.03E-01	4.34E 00	2.10E 00	1.62E 01
51	5.70	0.	7.71E-10	0.	0.	0.	4.46E 00	8.45E-01	4.40E 00	2.12E 00	1.61E 01





ABSORPTION COEFFICIENT OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 10000. DENSITY (GM/CC) 1.293E-03 ( 1.0E 00 NORMAL)

PHOTON ENERGY E.V.	NO 2 S-R FIRSTS	NO 2 S-R CONT.	NO 2 R-M	TEMPERATURE (DEGREES K) 10000.			NO 2	D- PHOTO-NFT (T/MS)	FREQ-FREE P.E.	N	P	TOTAL AIR
				NO META	NO GAMMA	P.E.						
1 10.70 0.	9.	1.13E-02	0.	0.	0.	0.	1.10E-01	1.12E-02	2.59E-01	1.07E-01	1.97E-01	2.62E-01
2 10.00 0.	0.	1.03E-02	0.	0.	0.	0.	1.10E-01	1.15E-02	0.48E-01	1.07E-01	1.07E-01	1.10E-01
3 10.50 0.	0.	1.05E-02	0.	0.	0.	0.	1.10E-01	1.15E-02	0.52E-01	1.06E-01	1.06E-01	1.10E-01
4 10.40 0.	0.	9.95E-03	0.	0.	0.	0.	1.10E-01	1.22E-02	0.59E-01	1.04E-01	1.04E-01	1.10E-01
5 10.30 0.	0.	9.67E-03	0.	0.	0.	0.	1.10E-01	1.24E-02	0.57E-01	1.04E-01	1.04E-01	1.10E-01
6 10.20 0.	0.	9.07E-03	0.	0.	0.	0.	1.10E-01	1.29E-02	0.59E-01	1.04E-01	1.04E-01	1.10E-01
7 10.10 0.	0.	8.45E-03	0.	0.	0.	0.	1.10E-01	1.33E-02	0.58E-01	1.03E-01	1.03E-01	1.10E-01
8 10.00 0.	0.	7.43E-03	0.	0.	0.	0.	1.10E-01	1.37E-02	0.46E-01	1.02E-01	1.02E-01	1.10E-01
9 9.90 0.	0.	7.10E-03	0.	0.	0.	0.	1.10E-01	1.42E-02	0.62E-01	1.01E-01	1.01E-01	1.10E-01
10 9.7 0.	0.	6.22E-03	0.	0.	0.	0.	1.10E-01	1.45E-02	0.60E-01	1.00E-01	1.00E-01	1.10E-01
11 9.61 0.	0.	6.72E-03	0.	0.	0.	0.	1.10E-01	1.50E-02	0.60E-01	1.00E-01	1.00E-01	1.10E-01
12 9.50 0.	0.	5.74E-03	0.	0.	0.	0.	1.10E-01	1.54E-02	0.60E-01	1.00E-01	1.00E-01	1.10E-01
13 9.43 0.	0.	5.44E-03	0.	0.	0.	0.	1.10E-01	1.59E-02	0.60E-01	1.00E-01	1.00E-01	1.10E-01
14 9.37 0.	0.	5.04E-03	0.	0.	0.	0.	1.10E-01	1.64E-02	0.74E-01	1.01E-01	1.01E-01	1.20E-01
15 9.31 0.	0.	4.64E-03	0.	0.	0.	0.	1.10E-01	1.70E-02	0.76E-01	1.01E-01	1.01E-01	1.20E-01
16 9.24 0.	0.	4.24E-03	0.	0.	0.	0.	1.10E-01	1.77E-02	0.79E-01	1.00E-01	1.00E-01	1.20E-01
17 9.17 0.	0.	4.70E-03	0.	0.	0.	0.	1.10E-01	1.83E-02	3.22E-01	1.00E-01	1.00E-01	6.44E-01
18 9.1 0.	0.	4.30E-03	0.	0.	0.	0.	1.10E-01	1.89E-02	3.22E-01	1.00E-01	1.00E-01	6.44E-01
19 9.0 0.	0.	4.04E-03	0.	0.	0.	0.	1.10E-01	1.94E-02	3.22E-01	1.00E-01	1.00E-01	6.44E-01
20 8.90 0.	0.	3.97E-03	0.	0.	0.	0.	1.10E-01	2.00E-02	3.23E-01	1.00E-01	1.00E-01	6.45E-01
21 8.71 0.	0.	3.40E-03	0.	0.	0.	0.	1.10E-01	2.10E-02	3.23E-01	1.00E-01	1.00E-01	6.45E-01
22 8.63 0.	0.	3.57E-03	0.	0.	0.	0.	1.10E-01	2.12E-02	3.23E-01	1.00E-01	1.00E-01	6.45E-01
23 8.50 0.	0.	3.13E-03	0.	0.	0.	0.	1.10E-01	2.15E-02	3.25E-01	1.00E-01	1.00E-01	6.45E-01
24 8.40 0.	0.	3.12E-03	0.	0.	0.	0.	1.10E-01	2.33E-02	3.26E-01	1.00E-01	1.00E-01	6.48E-01
25 8.30 0.	0.	2.65E-03	0.	0.	0.	0.	1.10E-01	2.47E-02	3.27E-01	1.00E-01	1.00E-01	6.51E-01
26 8.23 0.	0.	2.69E-03	0.	0.	0.	0.	1.10E-01	2.51E-02	3.28E-01	1.01E-01	1.01E-01	6.54E-01
27 8.10 0.	0.	2.33E-03	0.	0.	0.	0.	1.10E-01	2.70E-02	3.29E-01	1.01E-01	1.01E-01	6.54E-01
28 8.01 0.	0.	2.34E-03	0.	0.	0.	0.	1.10E-01	2.70E-02	3.31E-01	1.01E-01	1.01E-01	6.54E-01
29 7.97 0.	0.	2.82E-03	0.	0.	0.	0.	1.10E-01	2.81E-02	3.33E-01	1.02E-01	1.02E-01	6.60E-01
30 7.83 0.	0.	2.10E-03	0.	0.	0.	0.	1.10E-01	2.92E-02	3.35E-01	1.02E-01	1.02E-01	6.64E-01
31 7.70 0.	0.	1.89E-03	0.	0.	0.	0.	1.10E-01	3.03E-02	3.37E-01	1.02E-01	1.02E-01	6.72E-01
32 7.63 0.	0.	1.76E-03	0.	0.	0.	0.	1.10E-01	3.15E-02	3.39E-01	1.03E-01	1.03E-01	6.76E-01
33 7.57 0.	0.	1.63E-03	0.	0.	0.	0.	1.10E-01	3.28E-02	3.41E-01	1.03E-01	1.03E-01	6.80E-01
34 7.47 0.	0.	1.47E-03	0.	0.	0.	0.	1.10E-01	3.41E-02	3.43E-01	1.03E-01	1.03E-01	6.85E-01
35 7.37 0.	0.	1.39E-03	0.	0.	0.	0.	1.10E-01	3.54E-02	3.45E-01	1.03E-01	1.03E-01	6.89E-01
36 7.27 0.	0.	1.26E-03	0.	0.	0.	0.	1.10E-01	3.72E-02	3.47E-01	1.04E-01	1.04E-01	6.94E-01
37 7.17 0.	0.	1.21E-03	0.	0.	0.	0.	1.10E-01	3.89E-02	3.49E-01	1.04E-01	1.04E-01	6.99E-01
38 7.07 0.	0.	1.13E-03	0.	0.	0.	0.	1.10E-01	4.09E-02	3.51E-01	1.05E-01	1.05E-01	7.04E-01
39 6.90 0.	0.	1.02E-03	0.	0.	0.	0.	1.10E-01	4.23E-02	3.53E-01	1.05E-01	1.05E-01	7.09E-01
40 6.80 0.	0.	9.40E-04	0.	0.	0.	0.	1.10E-01	4.42E-02	3.55E-01	1.05E-01	1.05E-01	7.15E-01
41 6.70 0.	0.	8.75E-04	0.	0.	0.	0.	1.10E-01	4.65E-02	3.57E-01	1.06E-01	1.06E-01	7.20E-01
42 6.60 0.	0.	7.73E-04	0.	0.	0.	0.	1.10E-01	4.84E-02	3.61E-01	1.06E-01	1.06E-01	7.25E-01
43 6.50 0.	0.	6.44E-04	0.	0.	0.	0.	1.10E-01	5.09E-02	3.64E-01	1.07E-01	1.07E-01	7.35E-01
44 6.40 0.	0.	5.53E-04	0.	0.	0.	0.	1.10E-01	5.31E-02	3.68E-01	1.06E-01	1.06E-01	7.42E-01
45 6.30 0.	0.	5.21E-04	0.	0.	0.	0.	1.10E-01	5.54E-02	3.72E-01	1.06E-01	1.06E-01	7.51E-01
46 6.20 0.	0.	4.45E-04	0.	0.	0.	0.	1.10E-01	5.80E-02	3.76E-01	1.06E-01	1.06E-01	7.60E-01
47 6.10 0.	0.	3.75E-04	0.	0.	0.	0.	1.10E-01	6.15E-02	3.80E-01	1.06E-01	1.06E-01	7.70E-01
48 6.00 0.	0.	2.79E-04	0.	0.	0.	0.	1.10E-01	6.45E-02	3.85E-01	1.06E-01	1.06E-01	7.81E-01
49 5.90 0.	0.	4.40E-04	0.	0.	0.	0.	1.10E-01	6.79E-02	3.91E-01	1.06E-01	1.06E-01	7.92E-01
50 5.80 0.	0.	4.75E-04	0.	0.	0.	0.	1.10E-01	7.14E-02	3.97E-01	1.06E-01	1.06E-01	8.03E-01
51 5.7 0.	0.	6.44E-04	0.	0.	0.	0.	1.10E-01	7.53E-02	4.02E-01	1.06E-01	1.06E-01	8.04E-01

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY	TEMPERATURE (DEGREES K)		DEENSITY (GM/CC)		TOTAL AIR	
	1ST POS.	2ND POS.	1ST POS.	2ND POS.	P.M.T.10-RET (TOMS)	P.E.
52	5.60	2.01E-13	0.	0.	1.17E-01	2.00E-02
53	5.53	0.	5.65E-05	5.65E-04	1.10E-01	2.02E-01
54	5.48	0.	6.98E-05	3.38E-04	1.10E-01	2.04E-01
55	5.39	0.	6.39E-05	2.75E-04	1.10E-01	2.06E-01
56	5.29	0.	5.51E-05	3.42E-04	1.10E-01	2.08E-01
57	5.19	0.	7.02E-05	2.62E-04	1.10E-01	2.10E-01
58	5.09	3.00E-06	6.41E-05	3.17E-04	1.10E-01	2.12E-01
59	4.99	7.11E-06	7.15E-05	3.66E-04	1.10E-01	2.14E-01
60	4.89	1.02E-05	7.69E-05	3.25E-04	1.10E-01	2.16E-01
61	4.77	2.46E-05	7.91E-05	2.58E-04	1.10E-01	2.18E-01
62	4.69	3.40E-05	7.20E-05	2.02E-04	1.10E-01	2.20E-01
63	4.59	3.50E-05	7.20E-05	1.50E-04	1.10E-01	2.22E-01
64	4.50	3.62E-05	6.97E-05	8.71E-05	1.10E-01	2.24E-01
65	4.40	3.39E-05	7.34E-05	6.11E-05	1.10E-01	2.26E-01
66	4.29	3.10E-05	7.10E-05	1.70E-05	1.10E-01	2.28E-01
67	4.18	3.10E-05	6.95E-05	1.20E-05	1.10E-01	2.30E-01
68	4.08	2.94E-05	6.75E-05	4.87E-06	1.10E-01	2.32E-01
69	3.98	2.50E-05	1.97E-03	4.41E-04	1.10E-01	2.34E-01
70	3.88	2.75E-05	3.20E-03	1.07E-03	1.10E-01	2.36E-01
71	3.78	2.65E-05	7.32E-03	1.94E-04	1.10E-01	2.38E-01
72	3.68	2.07E-05	3.07E-03	6.92E-05	1.10E-01	2.40E-01
73	3.58	2.07E-05	1.06E-03	1.22E-03	1.10E-01	2.42E-01
74	3.48	1.53E-05	3.15E-03	4.71E-03	1.10E-01	2.44E-01
75	3.38	1.33E-05	1.32E-03	7.05E-03	1.10E-01	2.46E-01
76	3.28	1.20E-05	1.82E-03	4.55E-05	1.10E-01	2.48E-01
77	3.18	1.20E-05	3.06E-04	4.58E-03	1.10E-01	2.50E-01
78	3.08	1.15E-05	3.96E-04	2.47E-03	1.10E-01	2.52E-01
79	2.98	9.78E-06	1.08E-04	1.60E-03	1.10E-01	2.54E-01
80	2.88	1.01E-05	4.38E-05	1.60E-03	1.10E-01	2.56E-01
81	2.78	6.55E-06	6.08E-05	2.13E-03	1.10E-01	2.58E-01
82	2.68	3.18E-06	4.38E-05	2.17E-04	1.10E-01	2.60E-01
83	2.58	2.10E-07	4.62E-04	2.00E-04	1.10E-01	2.62E-01
84	2.48	0.	1.67E-04	1.42E-07	1.10E-01	2.64E-01
85	2.38	0.	0.	0.	1.10E-01	2.66E-01
86	2.28	0.	0.	0.	1.10E-01	2.68E-01
87	2.18	0.	0.	0.	1.10E-01	2.70E-01
88	2.08	0.	0.	0.	1.10E-01	2.72E-01
89	1.98	0.	0.	0.	1.10E-01	2.74E-01
90	1.88	0.	0.	0.	1.10E-01	2.76E-01
91	1.78	0.	0.	0.	1.10E-01	2.78E-01
92	1.68	0.	0.	0.	1.10E-01	2.80E-01
93	1.58	0.	0.	0.	1.10E-01	2.82E-01
94	1.48	0.	0.	0.	1.10E-01	2.84E-01
95	1.38	0.	0.	0.	1.10E-01	2.86E-01
96	1.28	0.	0.	0.	1.10E-01	2.88E-01
97	1.18	0.	0.	0.	1.10E-01	2.90E-01
98	1.08	0.	0.	0.	1.10E-01	2.92E-01
99	0.98	0.	0.	0.	1.10E-01	2.94E-01
100	0.88	0.	0.	0.	1.10E-01	2.96E-01
101	0.78	0.	0.	0.	1.10E-01	2.98E-01
102	0.68	0.	0.	0.	1.10E-01	3.00E-01

ABSORPTION COEFFICIENT OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 10000. DENSITY (MG/CC) 1.292E-04 (1.0E-03 NORMAL)

PHOTON ENERGY E.V.	QZ S-R CONT.	QZ S-R	QZ S-R	NO OETA	NO GAZWA	NO	PHOTO-DET (TRES)	D- FREQ-FREE N	P.E.	TOTAL AIR
1 10.70 9.	0.	5.47E-05	0.	0.	0.	0.	2.27E-03	7.00E-04	1.80E 00	1.54E-02
2 10.60 8.	0.	4.90E-05	0.	0.	0.	0.	2.27E-03	6.11E-04	5.80E-02	1.53E-02
3 10.50 8.	0.	5.33E-05	0.	0.	0.	0.	2.27E-03	6.39E-04	5.91E-02	1.52E-02
4 10.40 8.	0.	4.70E-05	0.	0.	0.	0.	2.20E-03	6.05E-04	5.92E-02	1.51E-02
5 10.30 8.	0.	4.10E-05	0.	0.	0.	0.	2.20E-03	6.05E-04	5.92E-02	1.51E-02
6 10.20 8.	0.	4.32E-05	0.	0.	0.	0.	2.20E-03	6.11E-04	5.90E-02	1.51E-02
7 10.10 8.	0.	4.07E-05	0.	0.	0.	0.	2.20E-03	6.37E-04	5.97E-02	1.50E-02
8 10.00 8.	0.	3.90E-05	0.	0.	0.	0.	2.20E-03	6.37E-04	5.97E-02	1.49E-02
9 9.90 8.	0.	3.67E-05	0.	0.	0.	0.	2.30E-03	6.00E-04	6.01E-02	1.49E-02
10 9.80 8.	0.	3.46E-05	0.	0.	0.	0.	2.30E-03	6.00E-04	6.01E-02	1.48E-02
11 9.70 8.	0.	3.24E-05	0.	0.	0.	0.	2.31E-03	6.03E-04	6.03E-02	1.47E-02
12 9.60 8.	0.	3.02E-05	0.	0.	0.	0.	2.31E-03	6.03E-04	6.03E-02	1.46E-02
13 9.50 8.	0.	2.77E-05	0.	0.	0.	0.	2.32E-03	6.17E-04	6.04E-02	1.46E-02
14 9.40 8.	0.	2.63E-05	0.	0.	0.	0.	2.32E-03	6.17E-04	6.04E-02	1.45E-02
15 9.30 8.	0.	2.70E-05	0.	0.	0.	0.	2.33E-03	6.21E-04	6.08E-02	1.45E-02
16 9.20 8.	0.	2.84E-05	0.	0.	0.	0.	2.34E-03	6.21E-04	6.08E-02	1.44E-02
17 9.10 8.	0.	2.90E-05	0.	0.	0.	0.	2.34E-03	6.21E-04	6.08E-02	1.44E-02
18 9.00 8.	0.	2.10E-05	0.	0.	0.	0.	2.35E-03	6.24E-04	6.08E-02	1.44E-02
19 8.90 8.	0.	1.95E-05	0.	0.	0.	0.	2.35E-03	6.24E-04	6.08E-02	1.43E-02
20 8.80 8.	0.	1.91E-05	0.	0.	0.	0.	2.37E-03	6.22E-04	6.24E-02	1.42E-02
21 8.70 8.	0.	1.72E-05	0.	0.	0.	0.	2.38E-03	6.22E-04	6.24E-02	1.42E-02
22 8.60 8.	0.	1.72E-05	0.	0.	0.	0.	2.39E-03	6.22E-04	6.24E-02	1.41E-02
23 8.50 8.	0.	1.91E-05	0.	0.	0.	0.	2.39E-03	6.22E-04	6.24E-02	1.41E-02
24 8.40 8.	0.	1.90E-05	0.	0.	0.	0.	2.41E-03	6.40E-04	6.24E-02	1.40E-02
25 8.30 8.	0.	1.28E-05	0.	0.	0.	0.	2.42E-03	6.40E-04	6.24E-02	1.40E-02
26 8.20 8.	0.	1.28E-05	0.	0.	0.	0.	2.43E-03	6.40E-04	6.24E-02	1.40E-02
27 8.10 8.	0.	1.22E-05	0.	0.	0.	0.	2.44E-03	6.40E-04	6.24E-02	1.40E-02
28 8.00 8.	0.	1.33E-05	0.	0.	0.	0.	2.46E-03	6.40E-04	6.24E-02	1.40E-02
29 7.90 8.	0.	9.73E-06	0.	0.	0.	0.	2.47E-03	6.40E-04	6.24E-02	1.40E-02
30 7.80 8.	0.	1.01E-05	0.	0.	0.	0.	2.47E-03	6.40E-04	6.24E-02	1.40E-02
31 7.70 8.	0.	8.97E-06	0.	0.	0.	0.	2.48E-03	6.40E-04	6.24E-02	1.40E-02
32 7.60 8.	0.	8.66E-06	0.	0.	0.	0.	2.49E-03	6.40E-04	6.24E-02	1.40E-02
33 7.50 8.	0.	7.05E-06	0.	0.	0.	0.	2.51E-03	6.40E-04	6.24E-02	1.40E-02
34 7.40 8.	0.	7.05E-06	0.	0.	0.	0.	2.51E-03	6.40E-04	6.24E-02	1.40E-02
35 7.30 8.	0.	6.71E-06	0.	0.	0.	0.	2.54E-03	6.41E-04	6.24E-02	1.40E-02
36 7.20 8.	0.	6.07E-06	0.	0.	0.	0.	2.54E-03	6.41E-04	6.24E-02	1.40E-02
37 7.10 8.	0.	5.84E-06	0.	0.	0.	0.	2.56E-03	6.41E-04	6.24E-02	1.40E-02
38 7.00 8.	0.	5.37E-06	0.	0.	0.	0.	2.56E-03	6.41E-04	6.24E-02	1.40E-02
39 6.90 8.	0.	4.83E-06	0.	0.	0.	0.	2.63E-03	6.41E-04	6.24E-02	1.40E-02
40 6.80 8.	0.	4.83E-06	0.	0.	0.	0.	2.63E-03	6.41E-04	6.24E-02	1.40E-02
41 6.70 8.	0.	4.78E-06	0.	0.	0.	0.	2.64E-03	6.41E-04	6.24E-02	1.40E-02
42 6.60 8.	0.	4.18E-06	0.	0.	0.	0.	2.67E-03	6.41E-04	6.24E-02	1.40E-02
43 6.50 8.	0.	3.75E-06	0.	0.	0.	0.	2.69E-03	6.41E-04	6.24E-02	1.40E-02
44 6.40 8.	0.	3.40E-06	0.	0.	0.	0.	2.71E-03	6.41E-04	6.24E-02	1.40E-02
45 6.30 8.	0.	3.35E-06	0.	0.	0.	0.	2.75E-03	6.41E-04	6.24E-02	1.40E-02
46 6.20 8.	0.	3.09E-06	0.	0.	0.	0.	2.75E-03	6.41E-04	6.24E-02	1.40E-02
47 6.10 8.	0.	2.94E-06	0.	0.	0.	0.	2.76E-03	6.41E-04	6.24E-02	1.40E-02
48 6.00 8.	0.	2.81E-06	0.	0.	0.	0.	2.76E-03	6.41E-04	6.24E-02	1.40E-02
49 5.90 8.	0.	2.62E-06	0.	0.	0.	0.	2.81E-03	6.41E-04	6.24E-02	1.40E-02
50 5.80 8.	0.	2.50E-06	0.	0.	0.	0.	2.81E-03	6.41E-04	6.24E-02	1.40E-02
51 5.70 8.	0.	3.90E-06	0.	0.	0.	0.	2.81E-03	6.41E-04	6.24E-02	1.40E-02



ABSORPTION COEFFICIENT OF HEATED AIR (INVERSE P.E.)  
 TEMPERATURE (DEGREES K) 10000. DENSITY (GM/CC) 1.292E-05 (10.0E-03 NORMAL)

PHOTON ENERGY RANGE E.V.	02 S-M CMT.	02 S-M CMT.	02 R-M CMT.	NO BETA	NO GAMMA	NO PHOTO-PET (FIRMS)	0 P.E.	0 P.E.	0 TOTAL AIR
1 10.73 0.	0.	0.	7.20E-00	0.	0.	1.92E-05	2.97E-05	6.56E-02	6.60E-04
2 10.60 0.	0.	0.	6.43E-00	0.	0.	1.92E-05	3.04E-05	2.14E-01	6.77E-00
3 10.51 0.	0.	0.	6.70E-00	0.	0.	1.92E-05	3.15E-05	2.17E-01	6.75E-00
4 10.40 0.	0.	0.	6.37E-00	0.	0.	1.92E-05	3.20E-05	2.10E-01	6.72E-00
5 10.30 0.	0.	0.	5.94E-00	0.	0.	1.92E-05	3.30E-05	2.10E-01	6.69E-00
6 10.20 0.	0.	0.	5.79E-00	0.	0.	1.92E-05	3.40E-05	2.10E-01	6.67E-00
7 10.10 0.	0.	0.	5.42E-00	0.	0.	1.92E-05	3.50E-05	2.10E-01	6.64E-00
8 10.00 0.	0.	0.	4.77E-00	0.	0.	1.92E-05	3.60E-05	2.10E-01	6.61E-00
9 9.90 0.	0.	0.	4.09E-00	0.	0.	1.92E-05	3.70E-05	2.10E-01	6.59E-00
10 9.80 0.	0.	0.	4.01E-00	0.	0.	1.92E-05	3.80E-05	2.10E-01	6.56E-00
11 9.70 0.	0.	0.	3.99E-00	0.	0.	1.92E-05	4.00E-05	2.10E-01	6.53E-00
12 9.61 0.	0.	0.	4.51E-00	0.	0.	1.92E-05	4.10E-05	2.10E-01	6.51E-00
13 9.50 0.	0.	0.	3.70E-00	0.	0.	1.92E-05	4.20E-05	2.10E-01	6.49E-00
14 9.43 0.	0.	0.	3.50E-00	0.	0.	1.92E-05	4.40E-05	2.10E-01	6.46E-00
15 9.33 0.	0.	0.	3.59E-00	0.	0.	2.00E-05	4.50E-05	2.20E-01	6.43E-00
16 9.24 0.	0.	0.	2.99E-00	0.	0.	2.00E-05	4.70E-05	2.20E-01	6.40E-00
17 9.13 0.	0.	0.	3.07E-00	0.	0.	2.00E-05	4.80E-05	2.20E-01	6.38E-00
18 9.03 0.	0.	0.	2.80E-00	0.	0.	2.00E-05	5.00E-05	2.20E-01	6.35E-00
19 8.90 0.	0.	0.	2.99E-00	0.	0.	2.00E-05	5.10E-05	2.20E-01	6.33E-00
20 8.80 0.	0.	0.	2.95E-00	0.	0.	2.00E-05	5.20E-05	2.20E-01	6.31E-00
21 8.70 0.	0.	0.	2.22E-00	0.	0.	2.00E-05	5.30E-05	2.20E-01	6.29E-00
22 8.60 0.	0.	0.	2.29E-00	0.	0.	2.00E-05	5.40E-05	2.20E-01	6.27E-00
23 8.50 0.	0.	0.	2.01E-00	0.	0.	2.00E-05	5.50E-05	2.20E-01	6.25E-00
24 8.40 0.	0.	0.	2.09E-00	0.	0.	2.00E-05	5.60E-05	2.20E-01	6.23E-00
25 8.30 0.	0.	0.	1.70E-00	0.	0.	2.00E-05	5.70E-05	2.20E-01	6.21E-00
26 8.20 0.	0.	0.	1.72E-00	0.	0.	2.00E-05	5.80E-05	2.20E-01	6.19E-00
27 8.10 0.	0.	0.	1.99E-00	0.	0.	2.10E-05	5.90E-05	2.20E-01	6.17E-00
28 8.00 0.	0.	0.	1.90E-00	0.	0.	2.10E-05	6.00E-05	2.20E-01	6.15E-00
29 7.90 0.	0.	0.	1.30E-00	0.	0.	2.10E-05	6.10E-05	2.20E-01	6.13E-00
30 7.80 0.	0.	0.	1.35E-00	0.	0.	2.10E-05	6.20E-05	2.20E-01	6.11E-00
31 7.70 0.	0.	0.	1.13E-00	0.	0.	2.10E-05	6.30E-05	2.20E-01	6.09E-00
32 7.60 0.	0.	0.	1.33E-00	0.	0.	2.10E-05	6.40E-05	2.20E-01	6.07E-00
33 7.50 0.	0.	0.	1.95E-00	0.	0.	2.10E-05	6.50E-05	2.20E-01	6.05E-00
34 7.40 0.	0.	0.	0.41E-00	0.	0.	2.10E-05	6.60E-05	2.20E-01	6.03E-00
35 7.30 0.	0.	0.	0.38E-00	0.	0.	2.10E-05	6.70E-05	2.20E-01	6.01E-00
36 7.20 0.	0.	0.	0.00E-00	0.	0.	2.10E-05	6.80E-05	2.20E-01	6.00E-00
37 7.10 0.	0.	0.	7.80E-00	0.	0.	2.20E-05	6.90E-05	2.20E-01	5.98E-00
38 7.00 2.44E-12	0.	0.	6.90E-00	0.	0.	2.20E-05	7.00E-05	2.20E-01	5.96E-00
39 6.90 5.15E-12	0.	0.	6.57E-00	0.	0.	2.20E-05	7.10E-05	2.20E-01	5.94E-00
40 6.80 4.65E-12	0.	0.	6.36E-00	0.	0.	2.20E-05	7.20E-05	2.20E-01	5.92E-00
41 6.70 3.24E-12	0.	0.	5.58E-00	0.	0.	2.20E-05	7.30E-05	2.20E-01	5.90E-00
42 6.60 1.90E-12	0.	0.	5.00E-00	0.	0.	2.20E-05	7.40E-05	2.20E-01	5.88E-00
43 6.50 1.14E-12	0.	0.	3.99E-00	0.	0.	2.20E-05	7.50E-05	2.20E-01	5.86E-00
44 6.40 5.55E-13	0.	0.	2.77E-00	0.	0.	2.20E-05	7.60E-05	2.20E-01	5.84E-00
45 6.30 3.91E-13	0.	0.	1.73E-00	0.	0.	2.20E-05	7.70E-05	2.20E-01	5.82E-00
46 6.20 2.72E-13	0.	0.	0.64E-00	0.	0.	2.20E-05	7.80E-05	2.20E-01	5.80E-00
47 6.10 2.61E-14	0.	0.	1.10E-00	0.	0.	2.20E-05	7.90E-05	2.20E-01	5.78E-00
48 6.00 3.30E-14	0.	0.	4.92E-00	0.	0.	2.20E-05	8.00E-05	2.20E-01	5.76E-00
49 5.90 1.13E-15	0.	0.	2.09E-00	0.	0.	2.20E-05	8.10E-05	2.20E-01	5.74E-00
50 5.80 1.04E-15	0.	0.	0.	0.	0.	2.20E-05	8.20E-05	2.20E-01	5.72E-00
51 5.70 7.64E-17	0.	0.	0.	0.	0.	2.20E-05	8.30E-05	2.20E-01	5.70E-00

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 14000. DENSITY (GM/CC) 1.205E-05 (10.6E-03 NORMAL)

PHOTON ENERGY BANDS	1ST POS.	2ND POS.	1ST NEG.	2ND NEG.	NO. GAMMA	NO. VIR-ROT	NO. 2	PHOTO-NET (1FMS)	D-PREF-FREE	M P.E.	O P.E.	TOTAL AIR
52	5.00	3.45E-10	0.	0.	4.93E-10	3.18E-09	0.	2.08E-05	2.11E-04	1.04E-03	6.94E-04	1.06E-03
53	5.50	0.	0.	0.	6.02E-10	2.95E-09	0.	2.08E-05	2.11E-04	1.04E-03	7.01E-04	2.01E-03
54	5.40	0.	0.	0.	5.54E-10	2.48E-09	0.	2.10E-05	2.35E-04	1.09E-03	7.10E-04	2.06E-03
55	5.30	0.	0.	0.	5.60E-10	2.93E-09	0.	2.11E-05	2.40E-04	1.12E-03	7.20E-04	2.11E-03
56	5.20	0.	0.	0.	6.11E-10	2.29E-09	0.	2.13E-05	2.64E-04	1.16E-03	7.33E-04	2.15E-03
57	5.10	0.	0.	0.	6.51E-10	2.94E-09	0.	2.15E-05	2.80E-04	1.19E-03	7.46E-04	2.22E-03
58	5.00	4.73E-11	0.	0.	6.90E-10	2.76E-09	0.	2.16E-05	2.97E-04	1.21E-03	7.59E-04	2.29E-03
59	4.90	1.15E-10	0.	0.	7.28E-10	3.02E-09	0.	2.18E-05	3.14E-04	1.24E-03	7.73E-04	2.37E-03
60	4.80	2.16E-10	0.	0.	7.65E-10	3.28E-09	0.	2.20E-05	3.31E-04	1.26E-03	7.87E-04	2.45E-03
61	4.70	4.03E-10	0.	0.	8.02E-10	3.54E-09	0.	2.22E-05	3.48E-04	1.29E-03	8.01E-04	2.54E-03
62	4.60	7.43E-10	0.	0.	8.39E-10	3.80E-09	0.	2.24E-05	3.65E-04	1.31E-03	8.15E-04	2.64E-03
63	4.50	1.24E-09	0.	0.	8.76E-10	4.06E-09	0.	2.26E-05	3.82E-04	1.34E-03	8.30E-04	2.74E-03
64	4.40	2.46E-09	0.	0.	9.13E-10	4.32E-09	0.	2.28E-05	4.00E-04	1.37E-03	8.45E-04	2.84E-03
65	4.30	4.30E-09	0.	0.	9.50E-10	4.58E-09	0.	2.30E-05	4.18E-04	1.40E-03	8.60E-04	2.94E-03
66	4.20	6.92E-09	0.	0.	9.87E-10	4.84E-09	0.	2.32E-05	4.36E-04	1.43E-03	8.75E-04	3.04E-03
67	4.10	1.07E-08	0.	0.	1.024E-09	5.10E-09	0.	2.34E-05	4.54E-04	1.46E-03	8.90E-04	3.14E-03
68	4.00	1.89E-08	0.	0.	1.061E-09	5.36E-09	0.	2.36E-05	4.72E-04	1.49E-03	9.05E-04	3.24E-03
69	3.90	3.07E-08	0.	0.	1.098E-09	5.62E-09	0.	2.38E-05	4.90E-04	1.52E-03	9.20E-04	3.34E-03
70	3.80	4.50E-08	0.	0.	1.135E-09	5.88E-09	0.	2.40E-05	5.08E-04	1.55E-03	9.35E-04	3.44E-03
71	3.70	6.20E-08	0.	0.	1.172E-09	6.14E-09	0.	2.42E-05	5.26E-04	1.58E-03	9.50E-04	3.54E-03
72	3.60	8.20E-08	0.	0.	1.209E-09	6.40E-09	0.	2.44E-05	5.44E-04	1.61E-03	9.65E-04	3.64E-03
73	3.50	1.05E-07	0.	0.	1.246E-09	6.66E-09	0.	2.46E-05	5.62E-04	1.64E-03	9.80E-04	3.74E-03
74	3.40	1.40E-07	0.	0.	1.283E-09	6.92E-09	0.	2.48E-05	5.80E-04	1.67E-03	9.95E-04	3.84E-03
75	3.30	1.85E-07	0.	0.	1.320E-09	7.18E-09	0.	2.50E-05	5.98E-04	1.70E-03	1.01E-03	3.94E-03
76	3.20	2.40E-07	0.	0.	1.357E-09	7.44E-09	0.	2.52E-05	6.16E-04	1.73E-03	1.02E-03	4.04E-03
77	3.10	3.05E-07	0.	0.	1.394E-09	7.70E-09	0.	2.54E-05	6.34E-04	1.76E-03	1.04E-03	4.14E-03
78	3.00	3.80E-07	0.	0.	1.431E-09	7.96E-09	0.	2.56E-05	6.52E-04	1.79E-03	1.06E-03	4.24E-03
79	2.90	4.65E-07	0.	0.	1.468E-09	8.22E-09	0.	2.58E-05	6.70E-04	1.82E-03	1.08E-03	4.34E-03
80	2.80	5.60E-07	0.	0.	1.505E-09	8.48E-09	0.	2.60E-05	6.88E-04	1.85E-03	1.10E-03	4.44E-03
81	2.70	6.65E-07	0.	0.	1.542E-09	8.74E-09	0.	2.62E-05	7.06E-04	1.88E-03	1.12E-03	4.54E-03
82	2.60	7.80E-07	0.	0.	1.579E-09	9.00E-09	0.	2.64E-05	7.24E-04	1.91E-03	1.14E-03	4.64E-03
83	2.50	9.05E-07	0.	0.	1.616E-09	9.26E-09	0.	2.66E-05	7.42E-04	1.94E-03	1.16E-03	4.74E-03
84	2.40	1.04E-06	0.	0.	1.653E-09	9.52E-09	0.	2.68E-05	7.60E-04	1.97E-03	1.18E-03	4.84E-03
85	2.30	1.19E-06	0.	0.	1.690E-09	9.78E-09	0.	2.70E-05	7.78E-04	2.00E-03	1.20E-03	4.94E-03
86	2.20	1.34E-06	0.	0.	1.727E-09	1.004E-08	0.	2.72E-05	7.96E-04	2.03E-03	1.22E-03	5.04E-03
87	2.10	1.50E-06	0.	0.	1.764E-09	1.030E-08	0.	2.74E-05	8.14E-04	2.06E-03	1.24E-03	5.14E-03
88	2.00	1.66E-06	0.	0.	1.801E-09	1.056E-08	0.	2.76E-05	8.32E-04	2.09E-03	1.26E-03	5.24E-03
89	1.90	1.82E-06	0.	0.	1.838E-09	1.082E-08	0.	2.78E-05	8.50E-04	2.12E-03	1.28E-03	5.34E-03
90	1.80	2.00E-06	0.	0.	1.875E-09	1.108E-08	0.	2.80E-05	8.68E-04	2.15E-03	1.30E-03	5.44E-03
91	1.70	2.18E-06	0.	0.	1.912E-09	1.134E-08	0.	2.82E-05	8.86E-04	2.18E-03	1.32E-03	5.54E-03
92	1.60	2.36E-06	0.	0.	1.949E-09	1.160E-08	0.	2.84E-05	9.04E-04	2.21E-03	1.34E-03	5.64E-03
93	1.50	2.54E-06	0.	0.	1.986E-09	1.186E-08	0.	2.86E-05	9.22E-04	2.24E-03	1.36E-03	5.74E-03
94	1.40	2.72E-06	0.	0.	2.023E-09	1.212E-08	0.	2.88E-05	9.40E-04	2.27E-03	1.38E-03	5.84E-03
95	1.30	2.90E-06	0.	0.	2.060E-09	1.238E-08	0.	2.90E-05	9.58E-04	2.30E-03	1.40E-03	5.94E-03
96	1.20	3.08E-06	0.	0.	2.097E-09	1.264E-08	0.	2.92E-05	9.76E-04	2.33E-03	1.42E-03	6.04E-03
97	1.10	3.26E-06	0.	0.	2.134E-09	1.290E-08	0.	2.94E-05	9.94E-04	2.36E-03	1.44E-03	6.14E-03
98	1.00	3.44E-06	0.	0.	2.171E-09	1.316E-08	0.	2.96E-05	1.012E-03	2.39E-03	1.46E-03	6.24E-03
99	0.90	3.62E-06	0.	0.	2.208E-09	1.342E-08	0.	2.98E-05	1.030E-03	2.42E-03	1.48E-03	6.34E-03
100	0.80	3.80E-06	0.	0.	2.245E-09	1.368E-08	0.	3.00E-05	1.048E-03	2.45E-03	1.50E-03	6.44E-03
101	0.70	3.98E-06	0.	0.	2.282E-09	1.394E-08	0.	3.02E-05	1.066E-03	2.48E-03	1.52E-03	6.54E-03
102	0.60	4.16E-06	0.	0.	2.319E-09	1.420E-08	0.	3.04E-05	1.084E-03	2.51E-03	1.54E-03	6.64E-03
103	0.50	4.34E-06	0.	0.	2.356E-09	1.446E-08	0.	3.06E-05	1.102E-03	2.54E-03	1.56E-03	6.74E-03
104	0.40	4.52E-06	0.	0.	2.393E-09	1.472E-08	0.	3.08E-05	1.120E-03	2.57E-03	1.58E-03	6.84E-03
105	0.30	4.70E-06	0.	0.	2.430E-09	1.498E-08	0.	3.10E-05	1.138E-03	2.60E-03	1.60E-03	6.94E-03
106	0.20	4.88E-06	0.	0.	2.467E-09	1.524E-08	0.	3.12E-05	1.156E-03	2.63E-03	1.62E-03	7.04E-03
107	0.10	5.06E-06	0.	0.	2.504E-09	1.550E-08	0.	3.14E-05	1.174E-03	2.66E-03	1.64E-03	7.14E-03



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 18000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON ENERGY RANGS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST WEG.	N2+ 2ND WEG.	NO 9ETA	NO GAMMA	NO V19-ROT	NO 2	O- PHOTO-DET (1/CM)	M FREF-FREE	D P.E.	TOTAL AIR	
													NO 9ETA
52	5.67	1.02E-21	0.	0.	1.30E-13	8.49E-13	0.	0.	4.48E-08	3.32E-06	1.64E-05	1.19E-05	3.17E-05
53	5.50	0.	0.	0.	1.58E-13	7.79E-13	0.	0.	4.50E-08	3.31E-06	1.68E-05	1.20E-05	3.24E-05
54	5.43	0.	0.	0.	1.48E-13	8.33E-13	0.	0.	4.52E-08	3.29E-06	1.72E-05	1.22E-05	3.32E-05
55	5.39	0.	0.	0.	1.50E-13	8.00E-13	0.	0.	4.59E-08	3.25E-06	1.77E-05	1.24E-05	3.40E-05
56	5.29	0.	0.	0.	1.62E-13	8.04E-13	0.	0.	4.58E-08	3.14E-06	1.77E-05	1.24E-05	3.49E-05
57	5.19	0.	0.	0.	1.61E-13	7.74E-13	0.	0.	4.62E-08	3.14E-06	1.82E-05	1.26E-05	3.55E-05
58	5.00	1.39E-14	0.	0.	1.48E-13	7.29E-13	0.	0.	4.66E-08	3.08E-06	1.88E-05	1.28E-05	3.66E-05
59	4.90	3.19E-14	0.	0.	1.65E-13	7.96E-13	0.	0.	4.70E-08	3.07E-06	1.95E-05	1.33E-05	3.77E-05
60	4.81	4.16E-14	0.	0.	1.77E-13	7.48E-13	0.	0.	4.74E-08	3.00E-06	2.02E-05	1.35E-05	3.91E-05
61	4.74	4.16E-14	0.	0.	1.77E-13	6.48E-13	0.	0.	4.76E-08	2.99E-06	2.09E-05	1.35E-05	4.05E-05
62	4.67	1.19E-13	0.	0.	1.82E-13	6.17E-13	0.	0.	4.81E-08	2.93E-06	2.16E-05	1.43E-05	4.21E-05
63	4.60	3.25E-13	0.	1.41E-13	1.87E-13	6.95E-13	0.	0.	4.85E-08	2.88E-06	2.20E-05	1.46E-05	4.40E-05
64	4.54	1.54E-13	0.	4.23E-13	1.88E-13	6.20E-13	0.	0.	4.89E-08	2.83E-06	2.24E-05	1.50E-05	4.59E-05
65	4.48	1.27E-13	0.	1.39E-12	1.90E-13	5.15	0.	0.	4.93E-08	2.79E-06	2.29E-05	1.54E-05	4.81E-05
66	4.43	1.24E-13	0.	4.33E-12	1.89E-13	4.14E-13	0.	0.	4.97E-08	2.74E-06	2.34E-05	1.58E-05	5.03E-05
67	4.37	1.11E-13	0.	1.84E-12	1.88E-13	3.92E-14	0.	0.	4.99E-08	2.74E-06	2.37E-05	1.59E-05	5.21E-05
68	4.31	1.13E-13	0.	6.39E-12	1.86E-13	2.99E-14	0.	0.	5.01E-08	2.71E-06	2.39E-05	1.60E-05	5.37E-05
69	4.25	5.74E-14	0.	2.99E-12	1.84E-13	1.12E-14	0.	0.	4.99E-08	2.71E-06	2.39E-05	1.60E-05	5.49E-05
70	3.93	9.59E-14	0.	4.78E-12	1.59E-13	0.	0.	0.	4.97E-08	2.68E-06	2.39E-05	1.60E-05	5.67E-05
71	3.79	8.55E-14	0.	3.99E-12	1.66E-13	0.	0.	0.	4.98E-08	2.68E-06	2.38E-05	1.60E-05	5.87E-05
72	3.65	7.73E-14	0.	3.93E-12	1.47E-13	0.	0.	0.	4.98E-08	2.67E-06	2.38E-05	1.60E-05	6.09E-05
73	3.51	7.23E-14	0.	4.67E-12	1.47E-13	0.	0.	0.	4.98E-08	2.67E-06	2.38E-05	1.60E-05	6.33E-05
74	3.43	6.59E-14	0.	2.97E-12	1.31E-13	0.	0.	0.	4.98E-08	2.67E-06	2.38E-05	1.60E-05	6.57E-05
75	3.30	5.33E-14	0.	3.05E-12	1.11E-13	0.	0.	0.	2.42E-08	1.95E-05	3.31E-05	1.60E-05	6.82E-05
76	3.20	4.65E-14	0.	2.00E-12	1.84E-13	1.02E-13	0.	0.	2.43E-08	1.91E-05	3.32E-05	1.60E-05	7.08E-05
77	3.10	4.47E-14	0.	1.96E-12	1.84E-13	0.	0.	0.	2.43E-08	1.91E-05	3.32E-05	1.60E-05	7.31E-05
78	3.00	4.27E-14	0.	9.56E-13	1.06E-13	9.09E-14	0.	0.	2.44E-08	2.20E-05	4.27E-05	1.47E-05	7.95E-05
79	2.93	3.59E-14	0.	5.99E-13	5.81E-14	7.54E-14	0.	0.	2.44E-08	2.64E-05	4.81E-05	1.50E-05	8.65E-05
80	2.84	3.53E-14	0.	2.88E-13	3.74E-14	5.28E-14	0.	0.	2.45E-08	2.72E-05	5.01E-05	1.52E-05	9.45E-05
81	2.75	2.79E-14	0.	1.35E-13	5.01E-14	2.90E-14	0.	0.	2.45E-08	3.04E-05	5.44E-05	1.60E-05	1.03E-04
82	2.65	1.08E-14	0.	6.57E-14	5.09E-14	1.29E-14	0.	0.	2.45E-08	3.41E-05	5.86E-05	1.67E-05	1.13E-04
83	2.50	7.42E-16	0.	7.02E-15	4.91E-14	3.04E-15	0.	0.	2.45E-08	3.84E-05	6.53E-05	1.72E-05	1.23E-04
84	2.44	0.	0.	3.93E-15	3.20E-14	0.	0.	0.	2.43E-08	4.95E-05	6.70E-05	1.70E-05	1.34E-04
85	2.37	0.	0.	9.87E-15	0.	0.	0.	0.	2.42E-08	5.67E-05	7.92E-05	2.03E-05	1.56E-04
86	2.29	0.	0.	2.59E-15	0.	0.	0.	0.	2.41E-08	6.94E-05	9.22E-05	2.37E-05	1.81E-04
87	2.19	0.	0.	2.71E-15	0.	0.	0.	0.	2.33E-08	7.59E-05	1.05E-04	2.70E-05	2.06E-04
88	2.09	0.	0.	5.34E-15	0.	0.	0.	0.	2.24E-08	9.87E-05	1.20E-04	3.14E-05	2.40E-04
89	1.99	0.	0.	6.74E-15	0.	0.	0.	0.	2.14E-08	1.05E-04	1.44E-04	3.61E-05	2.87E-04
90	1.89	0.	0.	5.71E-15	0.	0.	0.	0.	2.02E-08	1.24E-04	1.73E-04	4.35E-05	3.44E-04
91	1.79	0.	0.	4.69E-15	0.	0.	0.	0.	1.71E-08	1.50E-04	2.02E-04	5.45E-05	4.06E-04
92	1.69	0.	0.	4.89E-15	0.	0.	0.	0.	7.77E-09	1.83E-04	2.61E-04	6.62E-05	5.10E-04
93	1.59	0.	0.	5.63E-15	0.	0.	0.	0.	0.	2.27E-04	3.10E-04	7.91E-05	6.16E-04
94	1.49	0.	0.	5.57E-15	0.	0.	0.	0.	0.	2.85E-04	4.31E-04	9.87E-05	6.15E-04
95	1.39	0.	0.	4.08E-15	0.	0.	0.	0.	0.	3.64E-04	4.71E-04	1.05E-04	6.48E-04
96	1.29	0.	0.	3.80E-15	0.	0.	0.	0.	0.	4.74E-04	5.61E-04	1.32E-04	1.19E-03
97	1.19	0.	0.	3.89E-15	0.	0.	0.	0.	0.	6.37E-04	7.06E-04	1.72E-04	1.39E-03
98	1.09	0.	0.	2.83E-15	0.	0.	0.	0.	0.	8.74E-04	8.89E-04	2.26E-04	1.74E-03
99	0.99	0.	0.	1.38E-15	0.	0.	0.	0.	0.	1.24E-03	1.23E-03	3.04E-04	2.34E-03
100	0.89	0.	0.	1.38E-15	0.	0.	0.	0.	0.	1.63E-03	1.63E-03	4.04E-04	3.12E-03
101	0.79	0.	0.	3.25E-15	0.	0.	0.	0.	0.	2.16E-03	2.16E-03	5.45E-04	4.12E-03
102	0.69	0.	0.	6.05E-15	0.	0.	0.	0.	0.	3.07E-03	3.07E-03	7.35E-04	5.33E-03



TEMPERATURE (DEGREES F) PRESS. DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)

PHOTON ENERGY BANDS F-V	NO. OF S-E COMT.	NO. 2-M NO. 1	NO. 10 RETA	NO. 17 GAMMA	NO. 20 PHOTO-DET (17-M)	NO. 21 SPCF-EDEF	NO. 22 P.F.	NO. 23 P.F.	INITIAL AIR	
										NO. 15 RETA
1 15-25 2	1	1.95E-15	0	0	0	4.75E-11	5.19E-09	5.00E-07	1.28E-07	6.33E-07
2 16-26 3	1	1.78E-15	0	0	0	4.76E-11	5.25E-09	5.04E-07	1.27E-07	6.37E-07
3 17-27 4	1	1.62E-15	0	0	0	4.77E-11	5.31E-09	5.08E-07	1.27E-07	6.41E-07
4 18-28 5	1	1.46E-15	0	0	0	4.78E-11	5.37E-09	5.12E-07	1.26E-07	6.45E-07
5 19-29 6	1	1.30E-15	0	0	0	4.79E-11	5.43E-09	5.16E-07	1.26E-07	6.49E-07
6 20-30 7	1	1.14E-15	0	0	0	4.80E-11	5.49E-09	5.20E-07	1.25E-07	6.53E-07
7 21-31 8	1	1.00E-15	0	0	0	4.81E-11	5.55E-09	5.24E-07	1.25E-07	6.57E-07
8 22-32 9	1	8.6E-16	0	0	0	4.82E-11	5.61E-09	5.28E-07	1.24E-07	6.61E-07
9 23-33 10	1	7.2E-16	0	0	0	4.83E-11	5.67E-09	5.32E-07	1.24E-07	6.65E-07
10 24-34 11	1	5.8E-16	0	0	0	4.84E-11	5.73E-09	5.36E-07	1.23E-07	6.69E-07
11 25-35 12	1	4.4E-16	0	0	0	4.85E-11	5.79E-09	5.40E-07	1.23E-07	6.73E-07
12 26-36 13	1	3.0E-16	0	0	0	4.86E-11	5.85E-09	5.44E-07	1.22E-07	6.77E-07
13 27-37 14	1	1.6E-16	0	0	0	4.87E-11	5.91E-09	5.48E-07	1.22E-07	6.81E-07
14 28-38 15	1	2.2E-16	0	0	0	4.88E-11	5.97E-09	5.52E-07	1.21E-07	6.85E-07
15 29-39 16	1	3.8E-16	0	0	0	4.89E-11	6.03E-09	5.56E-07	1.21E-07	6.89E-07
16 30-40 17	1	5.4E-16	0	0	0	4.90E-11	6.09E-09	5.60E-07	1.20E-07	6.93E-07
17 31-41 18	1	7.0E-16	0	0	0	4.91E-11	6.15E-09	5.64E-07	1.20E-07	6.97E-07
18 32-42 19	1	8.6E-16	0	0	0	4.92E-11	6.21E-09	5.68E-07	1.19E-07	7.01E-07
19 33-43 20	1	1.02E-15	0	0	0	4.93E-11	6.27E-09	5.72E-07	1.19E-07	7.05E-07
20 34-44 21	1	1.18E-15	0	0	0	4.94E-11	6.33E-09	5.76E-07	1.18E-07	7.09E-07
21 35-45 22	1	1.34E-15	0	0	0	4.95E-11	6.39E-09	5.80E-07	1.18E-07	7.13E-07
22 36-46 23	1	1.50E-15	0	0	0	4.96E-11	6.45E-09	5.84E-07	1.17E-07	7.17E-07
23 37-47 24	1	1.66E-15	0	0	0	4.97E-11	6.51E-09	5.88E-07	1.17E-07	7.21E-07
24 38-48 25	1	1.82E-15	0	0	0	4.98E-11	6.57E-09	5.92E-07	1.16E-07	7.25E-07
25 39-49 26	1	1.98E-15	0	0	0	4.99E-11	6.63E-09	5.96E-07	1.16E-07	7.29E-07
26 40-50 27	1	2.14E-15	0	0	0	5.00E-11	6.69E-09	6.00E-07	1.15E-07	7.33E-07
27 41-51 28	1	2.30E-15	0	0	0	5.01E-11	6.75E-09	6.04E-07	1.15E-07	7.37E-07
28 42-52 29	1	2.46E-15	0	0	0	5.02E-11	6.81E-09	6.08E-07	1.14E-07	7.41E-07
29 43-53 30	1	2.62E-15	0	0	0	5.03E-11	6.87E-09	6.12E-07	1.14E-07	7.45E-07
30 44-54 31	1	2.78E-15	0	0	0	5.04E-11	6.93E-09	6.16E-07	1.13E-07	7.49E-07
31 45-55 32	1	2.94E-15	0	0	0	5.05E-11	6.99E-09	6.20E-07	1.13E-07	7.53E-07
32 46-56 33	1	3.10E-15	0	0	0	5.06E-11	7.05E-09	6.24E-07	1.12E-07	7.57E-07
33 47-57 34	1	3.26E-15	0	0	0	5.07E-11	7.11E-09	6.28E-07	1.12E-07	7.61E-07
34 48-58 35	1	3.42E-15	0	0	0	5.08E-11	7.17E-09	6.32E-07	1.11E-07	7.65E-07
35 49-59 36	1	3.58E-15	0	0	0	5.09E-11	7.23E-09	6.36E-07	1.11E-07	7.69E-07
36 50-60 37	1	3.74E-15	0	0	0	5.10E-11	7.29E-09	6.40E-07	1.10E-07	7.73E-07
37 51-61 38	1	3.90E-15	0	0	0	5.11E-11	7.35E-09	6.44E-07	1.10E-07	7.77E-07
38 52-62 39	1	4.06E-15	0	0	0	5.12E-11	7.41E-09	6.48E-07	1.09E-07	7.81E-07
39 53-63 40	1	4.22E-15	0	0	0	5.13E-11	7.47E-09	6.52E-07	1.09E-07	7.85E-07
40 54-64 41	1	4.38E-15	0	0	0	5.14E-11	7.53E-09	6.56E-07	1.08E-07	7.89E-07
41 55-65 42	1	4.54E-15	0	0	0	5.15E-11	7.59E-09	6.60E-07	1.08E-07	7.93E-07
42 56-66 43	1	4.70E-15	0	0	0	5.16E-11	7.65E-09	6.64E-07	1.07E-07	7.97E-07
43 57-67 44	1	4.86E-15	0	0	0	5.17E-11	7.71E-09	6.68E-07	1.07E-07	8.01E-07
44 58-68 45	1	5.02E-15	0	0	0	5.18E-11	7.77E-09	6.72E-07	1.06E-07	8.05E-07
45 59-69 46	1	5.18E-15	0	0	0	5.19E-11	7.83E-09	6.76E-07	1.06E-07	8.09E-07
46 60-70 47	1	5.34E-15	0	0	0	5.20E-11	7.89E-09	6.80E-07	1.05E-07	8.13E-07
47 61-71 48	1	5.50E-15	0	0	0	5.21E-11	7.95E-09	6.84E-07	1.05E-07	8.17E-07
48 62-72 49	1	5.66E-15	0	0	0	5.22E-11	8.01E-09	6.88E-07	1.04E-07	8.21E-07
49 63-73 50	1	5.82E-15	0	0	0	5.23E-11	8.07E-09	6.92E-07	1.04E-07	8.25E-07
50 64-74 51	1	5.98E-15	0	0	0	5.24E-11	8.13E-09	6.96E-07	1.03E-07	8.29E-07
51 65-75 52	1	6.14E-15	0	0	0	5.25E-11	8.19E-09	7.00E-07	1.03E-07	8.33E-07

ABSORPTION COEFFICIENTS OF HEATED AIR ((INVERSE CM.))  
 TEMPERATURE (DEGREES K) 18000. DENSITY (GM/CC) 1.293E-07 (30.0E-05 NORMAL)

PHOTON ENERGY	NUCLEAR ENERGY	1ST POS.	2ND POS.	MZ	MZ*	PEYA	NO	NO	GAMMA	VI0-ROT	NO	NO	PHOTON-REF (IRMS)	D- PEF-FREE	N	D	TOTAL AIR
52	5.60	1.21E-25	0.	0.	0.	1.51E-17	0.74E-17	0.	0.	0.	0.	0.	5.87E-11	3.02E-00	1.01E-07	1.30E-07	3.40E-07
53	5.59	0.	0.	0.	0.	1.44E-17	0.83E-17	0.	0.	0.	0.	0.	5.10E-11	3.02E-00	1.06E-07	1.32E-07	3.55E-07
54	5.40	0.	0.	0.	0.	1.70E-17	7.35E-17	0.	0.	0.	0.	0.	5.12E-11	4.24E-00	1.91E-07	1.33E-07	3.65E-07
55	5.28	0.	0.	0.	0.	1.75E-17	9.26E-17	0.	0.	0.	0.	0.	5.18E-11	4.27E-00	1.96E-07	1.35E-07	3.74E-07
56	5.28	0.	0.	0.	0.	1.87E-17	7.84E-17	0.	0.	0.	0.	0.	5.19E-11	4.52E-00	2.02E-07	1.36E-07	3.85E-07
57	5.18	0.	0.	0.	0.	1.87E-17	9.89E-17	0.	0.	0.	0.	0.	5.23E-11	4.88E-00	2.08E-07	1.40E-07	3.96E-07
58	5.60	1.66E-18	0.	0.	0.	1.71E-17	8.46E-17	0.	0.	0.	0.	0.	5.28E-11	5.10E-00	2.15E-07	1.42E-07	4.06E-07
59	4.98	4.03E-18	0.	0.	0.	1.91E-17	9.24E-17	0.	0.	0.	0.	0.	5.32E-11	5.27E-00	2.22E-07	1.45E-07	4.22E-07
60	4.80	7.56E-18	0.	0.	0.	2.05E-17	8.68E-17	0.	0.	0.	0.	0.	5.37E-11	5.77E-00	2.31E-07	1.48E-07	4.36E-07
61	4.70	1.82E-17	0.	0.	0.	2.05E-17	7.08E-17	0.	0.	0.	0.	0.	5.41E-11	6.15E-00	2.39E-07	1.52E-07	4.54E-07
62	4.60	1.81E-17	0.	0.	0.	2.11E-17	7.16E-17	0.	0.	0.	0.	0.	5.45E-11	6.56E-00	2.50E-07	1.56E-07	4.71E-07
63	4.50	1.68E-17	0.	0.	0.	1.94E-17	5.38E-17	0.	0.	0.	0.	0.	5.50E-11	7.02E-00	2.63E-07	1.60E-07	4.93E-07
64	4.45	1.59E-17	0.	0.	0.	1.95E-17	3.71E-17	0.	0.	0.	0.	0.	5.54E-11	7.51E-00	2.78E-07	1.64E-07	5.15E-07
65	4.35	1.50E-17	0.	0.	0.	1.88E-17	2.33E-17	0.	0.	0.	0.	0.	5.59E-11	8.05E-00	2.90E-07	1.69E-07	5.46E-07
66	4.25	1.40E-17	0.	0.	0.	1.96E-17	1.63E-17	0.	0.	0.	0.	0.	5.63E-11	8.65E-00	3.05E-07	1.74E-07	5.80E-07
67	4.19	1.32E-17	0.	0.	0.	1.92E-17	4.54E-18	0.	0.	0.	0.	0.	5.65E-11	9.30E-00	3.20E-07	1.79E-07	6.16E-07
68	4.10	1.22E-17	0.	0.	0.	1.86E-17	3.43E-18	0.	0.	0.	0.	0.	5.67E-11	1.00E-00	3.37E-07	1.84E-07	6.54E-07
69	4.03	1.04E-17	0.	0.	0.	1.72E-17	1.30E-18	0.	0.	0.	0.	0.	5.67E-11	1.00E-07	3.57E-07	1.90E-07	6.94E-07
70	3.98	1.14E-17	0.	0.	0.	1.82E-17	1.49E-17	0.	0.	0.	0.	0.	5.63E-11	1.17E-07	2.71E-07	1.97E-07	7.37E-07
71	3.78	1.62E-17	0.	0.	0.	1.85E-17	1.50E-17	0.	0.	0.	0.	0.	5.54E-11	1.27E-07	2.72E-07	1.97E-07	7.37E-07
72	3.68	9.18E-18	0.	0.	0.	1.77E-17	1.71E-17	0.	0.	0.	0.	0.	5.19E-11	1.32E-07	2.93E-07	1.99E-07	7.27E-07
73	3.50	4.50E-18	0.	0.	0.	1.74E-17	1.95E-17	0.	0.	0.	0.	0.	4.75E-11	1.44E-07	3.23E-07	1.95E-07	7.18E-07
74	3.40	7.08E-18	0.	0.	0.	1.37E-17	1.53E-17	0.	0.	0.	0.	0.	2.74E-11	1.64E-07	3.57E-07	1.16E-07	6.37E-07
75	3.30	4.33E-18	0.	0.	0.	1.35E-17	1.29E-17	0.	0.	0.	0.	0.	2.75E-11	1.79E-07	3.91E-07	1.27E-07	6.90E-07
76	3.20	5.53E-18	0.	0.	0.	2.27E-16	2.81E-12	1.28E-17	0.	0.	0.	0.	2.75E-11	1.97E-07	3.94E-07	1.38E-07	7.30E-07
77	3.10	5.31E-18	0.	0.	0.	1.76E-16	4.94E-13	1.21E-17	0.	0.	0.	0.	2.78E-11	2.17E-07	4.29E-07	1.50E-07	7.96E-07
78	3.00	4.77E-18	0.	0.	0.	1.88E-16	1.15E-12	1.15E-17	0.	0.	0.	0.	2.78E-11	2.40E-07	4.65E-07	1.62E-07	8.66E-07
79	2.90	4.07E-18	0.	0.	0.	6.78E-17	6.34E-13	8.79E-18	0.	0.	0.	0.	2.77E-11	2.66E-07	5.03E-07	1.74E-07	9.43E-07
80	2.80	4.20E-18	0.	0.	0.	3.27E-17	4.13E-13	6.13E-18	0.	0.	0.	0.	2.77E-11	2.96E-07	5.47E-07	1.86E-07	1.03E-06
81	2.70	2.72E-18	0.	0.	0.	1.53E-17	5.46E-13	3.36E-18	0.	0.	0.	0.	2.77E-11	3.31E-07	5.94E-07	1.76E-07	1.10E-06
82	2.60	1.20E-18	0.	0.	0.	7.44E-18	5.85E-14	1.45E-18	0.	0.	0.	0.	2.77E-11	3.71E-07	6.41E-07	1.10E-07	1.12E-06
83	2.50	6.95E-20	0.	0.	0.	7.95E-19	5.38E-14	3.56E-19	0.	0.	0.	0.	2.77E-11	4.18E-07	7.04E-07	1.28E-07	1.05E-06
84	2.40	0.	0.	0.	0.	4.28E-14	3.60E-20	0.	0.	0.	0.	0.	2.77E-11	4.73E-07	7.85E-07	1.56E-07	1.24E-06
85	2.30	0.	0.	0.	0.	1.17E-16	0.	0.	0.	0.	0.	0.	2.75E-11	5.30E-07	8.73E-07	1.83E-07	1.47E-06
86	2.20	0.	0.	0.	0.	2.97E-16	0.	0.	0.	0.	0.	0.	2.74E-11	6.17E-07	9.75E-07	2.22E-07	1.72E-06
87	2.10	0.	0.	0.	0.	1.97E-16	0.	0.	0.	0.	0.	0.	2.73E-11	7.12E-07	1.02E-06	2.59E-07	1.99E-06
88	2.00	0.	0.	0.	0.	6.04E-16	0.	0.	0.	0.	0.	0.	2.64E-11	8.24E-07	1.16E-06	2.90E-07	2.28E-06
89	1.90	0.	0.	0.	0.	7.63E-16	0.	0.	0.	0.	0.	0.	2.54E-11	9.66E-07	1.32E-06	3.33E-07	2.63E-06
90	1.80	0.	0.	0.	0.	4.57E-16	0.	0.	0.	0.	0.	0.	2.43E-11	1.14E-06	1.50E-06	3.86E-07	3.13E-06
91	1.70	0.	0.	0.	0.	7.42E-16	0.	0.	0.	0.	0.	0.	2.29E-11	1.35E-06	1.65E-06	4.59E-07	3.72E-06
92	1.60	0.	0.	0.	0.	5.54E-16	0.	0.	0.	0.	0.	0.	1.93E-11	1.63E-06	2.17E-06	5.71E-07	4.37E-06
93	1.50	0.	0.	0.	0.	4.20E-16	0.	0.	0.	0.	0.	0.	1.63E-11	1.99E-06	2.65E-06	6.94E-07	5.34E-06
94	1.40	0.	0.	0.	0.	4.31E-16	0.	0.	0.	0.	0.	0.	1.47E-11	2.47E-06	3.21E-06	8.35E-07	5.78E-06
95	1.30	0.	0.	0.	0.	4.84E-16	0.	0.	0.	0.	0.	0.	1.31E-11	3.10E-06	4.09E-06	1.05E-06	6.41E-06
96	1.20	0.	0.	0.	0.	4.67E-16	0.	0.	0.	0.	0.	0.	1.16E-11	3.94E-06	5.27E-06	1.35E-06	7.17E-06
97	1.10	0.	0.	0.	0.	4.04E-16	0.	0.	0.	0.	0.	0.	1.02E-11	5.03E-06	6.97E-06	1.83E-06	8.00E-06
98	1.00	0.	0.	0.	0.	4.04E-16	0.	0.	0.	0.	0.	0.	9.14E-12	6.51E-06	9.31E-06	2.46E-06	8.96E-06
99	0.90	0.	0.	0.	0.	3.32E-16	0.	0.	0.	0.	0.	0.	8.55E-12	8.40E-06	1.25E-05	3.33E-06	9.94E-06
100	0.80	0.	0.	0.	0.	1.54E-16	0.	0.	0.	0.	0.	0.	1.37E-11	1.14E-05	1.70E-05	4.59E-06	1.10E-05
101	0.70	0.	0.	0.	0.	3.64E-17	0.	0.	0.	0.	0.	0.	2.61E-11	1.54E-05	2.33E-05	6.40E-06	1.26E-05
102	0.60	0.	0.	0.	0.	6.86E-18	0.	0.	0.	0.	0.	0.	3.34E-11	2.03E-05	3.18E-05	8.86E-06	1.74E-05

ABSORPTION COEFFICIENT OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 1000. DENSITY (GM/CC) 1.293E-03 (1.0E-03 NORMAL)

PHOTON ENERGY E.V.	Q2 5-A BANDS	Q2 5-B CONT.	Q2 R-H NO. 1	NO META	N7 GAMMA	NO 2 PHOTO-NET (IPMS)	O- FREE-FREE A P.E.	O TOTAL AIR P.E.
1 10.70 0.	0.	0.	1.54E-19	0.	0.	0.	5.20E-14	6.01E-11
2 10.60 0.	0.	0.	1.76E-19	0.	0.	0.	5.21E-14	6.10E-11
3 10.50 0.	0.	0.	1.78E-19	0.	0.	0.	5.21E-14	6.37E-11
4 10.40 0.	0.	0.	1.69E-19	0.	0.	0.	5.22E-14	6.59E-11
5 10.30 0.	0.	0.	1.48E-19	0.	0.	0.	5.23E-14	6.75E-11
6 10.20 0.	0.	0.	1.33E-19	0.	0.	0.	5.24E-14	6.94E-11
7 10.10 0.	0.	0.	1.14E-19	0.	0.	0.	5.24E-14	7.16E-11
8 10.00 0.	0.	0.	1.27E-19	0.	0.	0.	5.25E-14	7.37E-11
9 9.90 0.	0.	0.	1.30E-19	0.	0.	0.	5.26E-14	7.60E-11
10 9.80 0.	0.	0.	1.22E-19	0.	0.	0.	5.27E-14	7.84E-11
11 9.70 0.	0.	0.	1.06E-19	0.	0.	0.	5.28E-14	8.09E-11
12 9.60 0.	0.	0.	1.15E-19	0.	0.	0.	5.29E-14	8.35E-11
13 9.50 0.	0.	0.	9.82E-20	0.	0.	0.	5.30E-14	8.62E-11
14 9.40 0.	0.	0.	9.31E-20	0.	0.	0.	5.32E-14	8.90E-11
15 9.30 0.	0.	0.	9.53E-20	0.	0.	0.	5.34E-14	9.19E-11
16 9.20 0.	0.	0.	7.94E-20	0.	0.	0.	5.37E-14	9.49E-11
17 9.10 0.	0.	0.	9.16E-20	0.	0.	0.	5.37E-14	9.77E-11
18 9.00 0.	0.	0.	7.43E-20	0.	0.	0.	5.41E-14	1.07E-10
19 8.90 0.	0.	0.	6.89E-20	0.	0.	0.	5.43E-14	1.09E-10
20 8.80 0.	0.	0.	5.78E-20	0.	0.	0.	5.43E-14	1.09E-10
21 8.70 0.	0.	0.	5.90E-20	0.	0.	0.	5.45E-14	1.12E-10
22 8.60 0.	0.	0.	6.00E-20	0.	0.	0.	5.47E-14	1.16E-10
23 8.50 0.	0.	0.	5.34E-20	0.	0.	0.	5.49E-14	1.21E-10
24 8.40 0.	0.	0.	5.32E-20	0.	0.	0.	5.52E-14	1.25E-10
25 8.30 0.	0.	0.	4.72E-20	0.	0.	0.	5.55E-14	1.31E-10
26 8.20 0.	0.	0.	4.58E-20	0.	0.	0.	5.59E-14	1.37E-10
27 8.10 0.	0.	0.	3.97E-20	0.	0.	0.	5.61E-14	1.39E-10
28 8.00 0.	0.	0.	3.45E-20	0.	0.	0.	5.65E-14	1.45E-10
29 7.90 0.	0.	0.	3.50E-20	0.	0.	0.	5.66E-14	1.50E-10
30 7.80 0.	0.	0.	3.15E-20	0.	0.	0.	5.72E-14	1.62E-10
31 7.70 0.	0.	0.	2.99E-20	0.	0.	0.	5.75E-14	1.67E-10
32 7.60 0.	0.	0.	2.70E-20	0.	2.10E-24	0.	5.78E-14	1.74E-10
33 7.50 0.	0.	0.	2.56E-20	0.	2.20E-23	0.	5.81E-14	1.83E-10
34 7.40 0.	0.	0.	2.37E-20	0.	2.40E-22	0.	5.84E-14	1.91E-10
35 7.30 0.	0.	0.	2.15E-20	0.	2.60E-22	0.	5.88E-14	2.00E-10
36 7.20 0.	0.	0.	1.90E-20	0.	2.10E-21	0.	5.92E-14	2.09E-10
37 7.10 0.	0.	0.	1.75E-20	0.	4.20E-21	0.	5.97E-14	2.17E-10
38 7.00 0.	0.	0.	1.68E-20	0.	5.40E-21	0.	6.02E-14	2.26E-10
39 6.90 1.97E-23	0.	0.	1.60E-20	0.	1.01E-20	0.	6.07E-14	2.37E-10
40 6.80 1.70E-23	0.	0.	1.46E-20	0.	1.01E-20	0.	6.12E-14	2.48E-10
41 6.70 1.74E-23	0.	0.	1.40E-20	0.	1.00E-20	0.	6.16E-14	2.59E-10
42 6.60 7.50E-24	0.	0.	1.33E-20	0.	8.22E-21	0.	6.21E-14	2.71E-10
43 6.50 4.30E-24	0.	0.	1.06E-20	0.	1.21E-20	0.	6.21E-14	2.71E-10
44 6.40 2.51E-24	0.	0.	7.36E-21	0.	1.06E-20	0.	6.24E-14	2.84E-10
45 6.30 1.46E-24	0.	0.	4.61E-21	0.	1.06E-20	0.	6.31E-14	2.98E-10
46 6.20 6.59E-25	0.	0.	2.56E-21	0.	2.79E-22	0.	6.36E-14	3.13E-10
47 6.10 3.83E-25	0.	0.	1.21E-21	0.	7.60E-22	0.	6.40E-14	3.29E-10
48 6.00 1.27E-25	0.	0.	3.07E-22	0.	7.65E-22	0.	6.45E-14	3.45E-10
49 5.90 3.12E-26	0.	0.	2.20E-23	0.	1.12E-21	0.	6.49E-14	3.61E-10
50 5.80 3.98E-27	0.	0.	5.55E-25	0.	1.57E-21	0.	6.54E-14	3.78E-10
51 5.70 2.93E-28	0.	0.	0.	0.	1.04E-21	0.	5.97E-14	4.03E-10

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 1800R. DENSITY (GM/CC) 1.293E-08 ( 1.0E-05 NORMAL)

PHOTON ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2 1ST NEG.	BETA	GAMMA	NO VIB-ROT	NO 2	PHOTO-NET (THERM)	FREQ-FREE (THERM)	h	h	0	TOTAL AIR
										P.E.	P.E.	P.E.	P.E.
52	5.60	1.32E-20	0.	1.57E-21	1.01E-20	0.	0.	5.55E-14	4.25E-10	2.02E-09	1.39E-09	1.39E-09	4.64E-09
53	5.59	0.	0.	1.92E-21	9.41E-21	0.	0.	5.59E-14	4.92E-10	2.93E-09	1.41E-09	1.41E-09	4.78E-09
54	5.60	0.	0.	1.77E-21	7.85E-21	0.	0.	5.61E-14	4.74E-10	3.04E-09	1.43E-09	1.43E-09	4.04E-09
55	5.59	0.	0.	1.61E-21	9.87E-21	0.	0.	5.65E-14	5.07E-10	3.16E-09	1.47E-09	1.47E-09	5.11E-09
56	5.59	0.	0.	1.95E-21	7.38E-21	0.	0.	5.68E-14	5.32E-10	3.28E-09	1.47E-09	1.47E-09	5.29E-09
57	5.15	0.	0.	1.95E-21	9.38E-21	0.	0.	5.73E-14	5.64E-10	3.41E-09	1.49E-09	1.49E-09	5.47E-09
58	5.60	0.81E-22	0.	1.70E-21	9.22E-21	0.	0.	5.78E-14	5.90E-10	3.55E-09	1.51E-09	1.51E-09	5.66E-09
59	4.99	4.15E-22	0.	1.99E-21	9.26E-21	0.	0.	5.83E-14	6.09E-10	3.69E-09	1.54E-09	1.54E-09	5.87E-09
60	4.89	0.28E-22	0.	2.14E-21	9.04E-21	0.	0.	5.88E-14	6.78E-10	3.83E-09	1.58E-09	1.58E-09	6.09E-09
61	4.78	1.72E-21	0.	2.14E-21	8.21E-21	0.	0.	5.92E-14	7.23E-10	4.02E-09	1.67E-09	1.67E-09	6.36E-09
62	4.60	1.54E-21	0.	2.70E-21	7.66E-21	0.	0.	5.97E-14	7.72E-10	4.25E-09	1.64E-09	1.64E-09	6.59E-09
63	4.58	1.74E-21	0.	2.02E-21	5.61E-21	0.	0.	6.07E-14	8.81E-10	4.71E-09	1.71E-09	1.71E-09	7.04E-09
64	4.40	1.74E-21	0.	2.03E-21	3.86E-21	0.	0.	6.12E-14	9.47E-10	5.04E-09	1.74E-09	1.74E-09	7.41E-09
65	4.30	1.69E-21	0.	1.94E-21	4.42E-21	0.	0.	6.12E-14	9.47E-10	5.04E-09	1.74E-09	1.74E-09	7.41E-09
66	4.23	1.54E-21	0.	2.04E-21	1.78E-21	0.	0.	6.16E-14	1.02E-09	5.33E-09	1.76E-09	1.76E-09	7.51E-09
67	4.19	1.45E-21	0.	2.00E-21	4.73E-22	0.	0.	6.19E-14	1.00E-09	5.44E-09	1.79E-09	1.79E-09	7.62E-09
68	4.13	1.34E-21	0.	1.93E-21	3.57E-22	0.	0.	6.21E-14	1.14E-09	5.66E-09	1.82E-09	1.82E-09	7.86E-09
69	3.99	1.44E-21	0.	1.93E-21	1.35E-22	0.	0.	6.19E-14	1.14E-09	5.66E-09	1.82E-09	1.82E-09	7.86E-09
70	3.83	1.25E-21	0.	1.92E-21	1.92E-21	0.	0.	6.16E-14	1.34E-09	5.61E-09	1.87E-09	1.87E-09	8.08E-09
71	3.70	1.11E-21	0.	1.93E-21	1.65E-21	0.	0.	6.07E-14	1.49E-09	5.77E-09	1.97E-09	1.97E-09	8.23E-09
72	3.60	0.91E-21	0.	1.92E-21	1.70E-21	0.	0.	6.08E-14	1.62E-09	6.14E-09	1.96E-09	1.96E-09	8.42E-09
73	3.58	0.81E-22	0.	1.92E-21	1.41E-21	0.	0.	5.20E-14	1.77E-09	6.59E-09	1.96E-09	1.96E-09	8.52E-09
74	3.48	0.65E-22	0.	1.96E-21	1.58E-21	0.	0.	3.00E-14	1.93E-09	7.13E-09	1.27E-09	1.27E-09	7.33E-09
75	3.38	0.63E-22	0.	3.42E-20	1.14E-15	1.27E-21	0.	3.01E-14	2.11E-09	7.77E-09	1.39E-09	1.39E-09	8.03E-09
76	3.23	0.80E-22	0.	2.25E-20	1.90E-15	1.33E-21	0.	3.02E-14	2.59E-09	9.01E-09	1.49E-09	1.49E-09	8.82E-09
77	3.18	0.92E-22	0.	1.75E-20	4.60E-16	1.26E-21	0.	3.02E-14	2.82E-09	9.64E-09	1.68E-09	1.68E-09	9.48E-09
78	3.00	5.23E-22	0.	1.07E-20	1.09E-15	1.20E-21	0.	3.03E-14	3.13E-09	1.04E-09	1.72E-09	1.72E-09	1.04E-09
79	2.90	4.41E-22	0.	8.72E-21	6.80E-16	9.16E-22	0.	3.03E-14	3.13E-09	6.58E-09	1.86E-09	1.86E-09	1.16E-09
80	2.83	4.98E-22	0.	3.24E-21	3.80E-16	6.36E-22	0.	3.03E-14	3.44E-09	7.18E-09	2.01E-09	2.01E-09	1.27E-09
81	2.70	2.93E-22	0.	1.92E-21	5.17E-16	3.50E-22	0.	3.03E-14	3.89E-09	7.77E-09	1.11E-09	1.11E-09	1.28E-09
82	2.63	0.41E-22	0.	7.38E-22	5.26E-17	3.55E-22	0.	3.03E-14	4.36E-09	8.43E-09	1.21E-09	1.21E-09	1.40E-09
83	2.50	0.91E-24	0.	7.80E-23	5.07E-17	3.70E-23	0.	3.03E-14	4.91E-09	9.26E-09	1.48E-09	1.48E-09	1.56E-09
84	2.40	0.	0.	4.04E-17	3.94E-24	0.	0.	3.03E-14	5.56E-09	1.02E-09	1.78E-09	1.78E-09	1.59E-09
85	2.30	0.	0.	0.	0.	0.	0.	3.03E-14	6.33E-09	1.02E-09	2.02E-09	2.02E-09	1.46E-09
86	2.23	0.	0.	0.	0.	0.	0.	3.00E-14	7.25E-09	1.19E-09	2.41E-09	2.41E-09	2.15E-09
87	2.10	0.	0.	0.	0.	0.	0.	2.99E-14	8.34E-09	1.36E-09	2.80E-09	2.80E-09	2.47E-09
88	2.07	0.	0.	0.	0.	0.	0.	2.69E-14	9.70E-09	1.53E-09	3.13E-09	3.13E-09	2.81E-09
89	1.97	0.	0.	0.	0.	0.	0.	2.70E-14	1.13E-09	1.95E-09	3.62E-09	3.62E-09	2.94E-09
90	1.83	0.	0.	0.	0.	0.	0.	2.64E-14	1.34E-09	1.72E-09	4.30E-09	4.30E-09	3.49E-09
91	1.70	0.	0.	0.	0.	0.	0.	2.50E-14	1.59E-09	2.04E-09	5.34E-09	5.34E-09	4.17E-09
92	1.63	0.	0.	0.	0.	0.	0.	2.12E-14	1.91E-09	2.37E-09	6.93E-09	6.93E-09	4.89E-09
93	1.55	0.	0.	0.	0.	0.	0.	9.63E-15	2.34E-09	2.86E-09	8.79E-09	8.79E-09	5.88E-09
94	1.43	0.	0.	0.	0.	0.	0.	0.	2.89E-09	4.72E-09	6.31E-09	6.31E-09	6.31E-09
95	1.38	0.	0.	0.	0.	0.	0.	0.	3.64E-09	5.93E-09	9.01E-09	9.01E-09	6.57E-09
96	1.20	0.	0.	0.	0.	0.	0.	0.	4.64E-09	8.04E-09	1.11E-09	1.11E-09	1.06E-09
97	1.10	0.	0.	0.	0.	0.	0.	0.	6.05E-09	9.98E-09	1.41E-09	1.41E-09	1.34E-09
98	1.03	0.	0.	0.	0.	0.	0.	0.	8.00E-09	1.27E-09	1.71E-09	1.71E-09	1.71E-09
99	0.98	0.	0.	0.	0.	0.	0.	0.	1.12E-07	1.61E-09	2.12E-09	2.12E-09	2.12E-09
100	0.93	0.	0.	0.	0.	0.	0.	0.	1.61E-07	2.04E-09	2.72E-09	2.72E-09	2.72E-09
101	0.75	0.	0.	0.	0.	0.	0.	0.	3.01E-07	2.86E-09	3.81E-09	3.81E-09	3.81E-09
102	0.60	0.	0.	0.	0.	0.	0.	0.	3.01E-07	3.94E-09	5.11E-09	5.11E-09	5.11E-09

ABSORPTION COEFFICIENT OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 18000. DENSITY (GM/CC) 1.293E-09 ( 1.0E-06 NORMAL)

PHOTON ENERGY E.V.	CS 3-SR HANDS	O2 S-R CONT.	N2 S-R NO. 1	NO RET/	NO GAMMA	NO 2	0- PHOTO-DET (IGMS)	FREE-FREE N	P.F.	0	TOTAL AIR P.F.
1 10.70 0.	0.	0.	1.43E-23	0.	0.	0.	7.41E-17	1.15E-12	2.35E-10	2.21E-11	2.56E-10
2 10.60 0.	0.	0.	1.31E-23	0.	0.	0.	7.42E-17	1.10E-12	2.30E-10	2.20E-11	2.60E-10
3 10.50 0.	0.	0.	1.2E-23	0.	0.	0.	7.43E-17	1.22E-12	2.30E-10	2.20E-11	2.61E-10
4 10.40 0.	0.	0.	1.29E-23	0.	0.	0.	7.44E-17	1.24E-12	2.30E-10	2.19E-11	2.62E-10
5 10.30 0.	0.	0.	1.10E-23	0.	0.	0.	7.45E-17	1.20E-12	2.41E-10	2.10E-11	2.64E-10
6 10.20 0.	0.	0.	1.13E-23	0.	0.	0.	7.46E-17	1.33E-12	2.44E-10	2.10E-11	2.70E-10
7 10.10 0.	0.	0.	1.07E-23	0.	0.	0.	7.47E-17	1.37E-12	2.47E-10	2.10E-11	2.73E-10
8 10.00 0.	0.	0.	9.39E-24	0.	0.	0.	7.48E-17	1.41E-12	2.50E-10	2.10E-11	2.76E-10
9 9.90 0.	0.	0.	9.64E-24	0.	0.	0.	7.49E-17	1.45E-12	2.52E-10	2.10E-11	2.76E-10
10 9.80 0.	0.	0.	9.87E-24	0.	0.	0.	7.50E-17	1.50E-12	2.55E-10	2.10E-11	2.79E-10
11 9.70 0.	0.	0.	7.85E-24	0.	0.	0.	7.52E-17	1.55E-12	2.58E-10	2.10E-11	2.82E-10
12 9.60 0.	0.	0.	6.49E-24	0.	0.	0.	7.53E-17	1.60E-12	2.61E-10	2.10E-11	2.84E-10
13 9.50 0.	0.	0.	7.26E-24	0.	0.	0.	7.54E-17	1.65E-12	2.64E-10	2.10E-11	2.87E-10
14 9.40 0.	0.	0.	6.90E-24	0.	0.	0.	7.57E-17	1.70E-12	2.67E-10	2.10E-11	2.90E-10
15 9.30 0.	0.	0.	7.07E-24	0.	0.	0.	7.60E-17	1.75E-12	2.70E-10	2.10E-11	2.93E-10
16 9.20 0.	0.	0.	5.86E-24	0.	0.	0.	7.63E-17	1.82E-12	2.75E-10	2.10E-11	2.96E-10
17 9.10 0.	0.	0.	6.04E-24	0.	0.	0.	7.66E-17	1.87E-12	2.78E-10	2.10E-11	2.99E-10
18 9.00 0.	0.	0.	6.104E-24	0.	0.	0.	7.69E-17	1.94E-12	2.80E-10	2.10E-11	2.78E-10
19 8.90 0.	0.	0.	5.51E-24	0.	0.	0.	7.71E-17	2.01E-12	2.80E-10	1.80E-11	2.80E-10
20 8.80 0.	0.	0.	5.10E-24	0.	0.	0.	7.74E-17	2.08E-12	2.83E-10	1.55E-11	2.83E-10
21 8.70 0.	0.	0.	4.37E-24	0.	0.	0.	7.77E-17	2.15E-12	2.86E-10	1.81E-11	2.86E-10
22 8.60 0.	0.	0.	4.51E-24	0.	0.	0.	7.79E-17	2.23E-12	2.88E-10	1.82E-11	2.89E-10
23 8.50 0.	0.	0.	3.96E-24	0.	0.	0.	7.82E-17	2.31E-12	2.90E-10	1.82E-11	1.89E-10
24 8.40 0.	0.	0.	3.94E-24	0.	0.	0.	7.84E-17	2.39E-12	2.92E-10	1.83E-11	1.53E-10
25 8.30 0.	0.	0.	3.35E-24	0.	0.	0.	7.90E-17	2.48E-12	2.94E-10	1.83E-11	1.57E-10
26 8.20 0.	0.	0.	3.30E-24	0.	0.	0.	7.94E-17	2.57E-12	2.97E-10	1.86E-11	1.83E-10
27 8.10 0.	0.	0.	2.94E-24	0.	0.	0.	7.98E-17	2.67E-12	2.97E-10	1.86E-11	1.69E-10
28 8.00 0.	0.	0.	2.96E-24	0.	0.	0.	8.03E-17	2.77E-12	2.97E-10	1.53E-10	1.90E-10
29 7.90 0.	0.	0.	2.55E-24	0.	0.	0.	8.07E-17	2.88E-12	2.98E-10	1.92E-11	1.75E-10
30 7.80 0.	0.	0.	2.85E-24	0.	0.	0.	8.11E-17	2.99E-12	2.98E-10	1.94E-11	1.86E-10
31 7.70 0.	0.	0.	2.33E-24	0.	0.	0.	8.15E-17	3.11E-12	2.98E-10	1.96E-11	1.93E-10
32 7.60 0.	0.	0.	2.22E-24	0.	0.	0.	8.19E-17	3.23E-12	2.97E-10	1.99E-11	2.96E-10
33 7.50 0.	0.	0.	2.04E-24	0.	0.	0.	8.23E-17	3.37E-12	2.97E-10	2.01E-11	2.97E-10
34 7.40 0.	0.	0.	1.85E-24	0.	0.	0.	8.28E-17	3.50E-12	2.97E-10	2.03E-11	1.95E-10
35 7.30 0.	0.	0.	1.76E-24	0.	0.	0.	8.32E-17	3.64E-12	2.97E-10	2.04E-11	2.88E-10
36 7.20 0.	0.	0.	1.59E-24	0.	0.	0.	8.37E-17	3.81E-12	2.97E-10	2.10E-11	2.14E-10
37 7.10 0.	0.	0.	1.53E-24	0.	0.	0.	8.44E-17	3.97E-12	2.93E-10	2.14E-11	2.29E-10
38 7.00 0.	0.	0.	1.41E-24	0.	0.	0.	8.51E-17	4.14E-12	2.93E-10	2.18E-11	2.39E-10
39 6.90 0.	0.	0.	1.29E-24	0.	0.	0.	8.57E-17	4.33E-12	2.94E-10	2.21E-11	2.50E-10
40 6.80 0.	0.	0.	1.29E-24	0.	0.	0.	8.64E-17	4.52E-12	2.94E-10	2.25E-11	2.61E-10
41 6.70 0.	0.	0.	1.10E-24	0.	0.	0.	8.71E-17	4.73E-12	2.94E-10	2.29E-11	2.71E-10
42 6.60 0.	0.	0.	9.94E-25	0.	0.	0.	8.78E-17	4.95E-12	2.94E-10	2.34E-11	2.82E-10
43 6.50 0.	0.	0.	7.86E-25	0.	0.	0.	8.85E-17	5.18E-12	2.94E-10	2.39E-11	2.93E-10
44 6.40 0.	0.	0.	5.42E-25	0.	0.	0.	8.92E-17	5.43E-12	2.94E-10	2.47E-11	3.04E-10
45 6.30 0.	0.	0.	5.42E-25	0.	0.	0.	9.00E-17	5.69E-12	2.94E-10	2.47E-11	3.14E-10
46 6.20 0.	0.	0.	1.80E-25	0.	0.	0.	9.08E-17	5.96E-12	2.95E-10	2.52E-11	3.26E-10
47 6.10 0.	0.	0.	8.94E-26	0.	0.	0.	9.12E-17	6.24E-12	2.95E-10	2.57E-11	1.92E-10
48 6.00 0.	0.	0.	7.71E-26	0.	0.	0.	9.19E-17	6.50E-12	2.95E-10	2.60E-11	1.60E-10
49 5.90 0.	0.	0.	1.33E-25	0.	0.	0.	9.19E-17	6.94E-12	2.95E-10	2.62E-11	1.90E-10
50 5.80 0.	0.	0.	1.59E-25	0.	0.	0.	9.05E-17	7.31E-12	2.95E-10	2.65E-11	1.12E-10
51 5.70 0.	0.	0.	1.66E-25	0.	0.	0.	8.51E-17	7.70E-12	2.95E-10	2.67E-11	1.16E-10

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 18000. DENSITY (GM/CC) 1.293E-09 (1.0E-06 NORMAL)

PHOTON ENERGY	02 S-R BANDS	1ST POS.	M2	M2+ 1ST WEB.	NO META	NO GAMMA	NO VIB-ROT	NO 2	D- PHOTO-DET (1/MS)	M FREQ-FREE (1/MS)	M P.F.	0 P.F.	INITIAL AIR
52	5.50	1.91E-33	0.	0.	1.59E-25	1.02E-24	0.	0.	7.91E-17	8.12E-12	9.46E-11	1.06E-11	1.22E-10
53	5.50	0.	0.	0.	1.94E-25	9.49E-25	0.	0.	7.95E-17	8.58E-12	9.46E-11	1.06E-11	1.22E-10
54	5.49	0.	0.	0.	1.78E-25	7.72E-25	0.	0.	7.99E-17	9.04E-12	1.03E-10	1.07E-10	1.34E-10
55	5.30	0.	0.	0.	1.83E-25	9.75E-25	0.	0.	8.04E-17	9.50E-12	1.11E-10	1.08E-10	1.39E-10
56	5.20	0.	0.	0.	1.97E-25	7.36E-25	0.	0.	8.09E-17	1.07E-11	1.37E-10	1.09E-10	1.46E-10
57	5.10	0.	0.	0.	1.97E-25	9.45E-25	0.	0.	8.16E-17	1.04E-11	1.22E-10	1.07E-10	1.53E-10
58	5.00	2.49E-26	0.	0.	1.80E-25	8.89E-25	0.	0.	8.23E-17	1.14E-11	1.42E-10	1.09E-10	1.69E-10
59	4.99	4.05E-26	0.	0.	2.01E-25	9.70E-25	0.	0.	8.30E-17	1.12E-11	1.34E-10	1.07E-10	1.67E-10
60	4.90	1.14E-25	0.	0.	2.16E-25	9.11E-25	0.	0.	8.37E-17	1.20E-11	1.48E-10	1.09E-10	1.74E-10
61	4.75	1.53E-25	0.	0.	2.16E-25	8.28E-25	0.	0.	8.44E-17	1.38E-11	1.48E-10	1.11E-10	1.74E-10
62	4.60	2.12E-25	0.	0.	2.24E-25	7.52E-25	0.	0.	8.51E-17	1.47E-11	1.59E-10	1.13E-10	1.96E-10
63	4.50	2.73E-25	0.	1.17E-25	2.04E-25	5.55E-25	0.	0.	8.57E-17	1.57E-11	1.70E-10	1.15E-10	2.09E-10
64	4.40	2.18E-25	0.	3.52E-25	2.04E-25	8.89E-25	0.	0.	8.64E-17	1.68E-11	1.81E-10	1.17E-10	2.21E-10
65	4.30	2.76E-25	0.	1.15E-24	2.04E-25	2.44E-25	0.	0.	8.71E-17	1.81E-11	1.92E-10	1.19E-10	2.32E-10
66	4.20	2.11E-25	0.	3.48E-24	2.04E-25	1.72E-25	0.	0.	8.78E-17	1.94E-11	2.05E-10	1.21E-10	2.43E-10
67	4.10	1.98E-25	0.	1.62E-24	2.04E-25	4.77E-26	0.	0.	8.85E-17	2.08E-11	2.18E-10	1.23E-10	2.54E-10
68	4.00	1.85E-25	0.	5.32E-24	2.04E-25	5.46E-26	0.	0.	8.92E-17	2.22E-11	2.31E-10	1.25E-10	2.65E-10
69	3.90	1.56E-25	0.	2.49E-24	6.51E-26	1.36E-26	0.	0.	8.99E-17	2.37E-11	2.44E-10	1.27E-10	2.76E-10
70	3.80	1.71E-25	0.	3.97E-24	2.74E-26	1.94E-26	0.	0.	9.06E-17	2.52E-11	2.57E-10	1.29E-10	2.87E-10
71	3.70	1.53E-25	0.	4.15E-24	1.75E-26	1.48E-26	0.	0.	9.13E-17	2.67E-11	2.70E-10	1.31E-10	2.98E-10
72	3.60	1.58E-25	0.	2.93E-24	6.24E-26	1.80E-26	0.	0.	9.20E-17	2.82E-11	2.83E-10	1.33E-10	3.09E-10
73	3.50	1.29E-25	0.	3.48E-24	1.19E-26	1.47E-26	0.	0.	9.27E-17	2.97E-11	2.96E-10	1.35E-10	3.20E-10
74	3.40	1.19E-25	0.	2.47E-24	1.80E-26	1.43E-26	0.	0.	9.34E-17	3.12E-11	3.09E-10	1.37E-10	3.31E-10
75	3.30	0.51E-26	0.	2.53E-24	4.96E-26	1.28E-26	0.	0.	9.41E-17	3.27E-11	3.22E-10	1.39E-10	3.42E-10
76	3.20	4.51E-26	0.	1.67E-24	1.16E-26	1.34E-26	0.	0.	9.48E-17	3.42E-11	3.35E-10	1.41E-10	3.53E-10
77	3.10	7.98E-26	0.	1.29E-24	2.95E-26	1.28E-26	0.	0.	9.55E-17	3.57E-11	3.48E-10	1.43E-10	3.64E-10
78	3.00	7.17E-26	0.	7.95E-25	4.64E-26	1.21E-26	0.	0.	9.62E-17	3.72E-11	3.61E-10	1.45E-10	3.75E-10
79	2.90	6.04E-26	0.	4.90E-25	3.65E-26	9.23E-26	0.	0.	9.69E-17	3.87E-11	3.74E-10	1.47E-10	3.86E-10
80	2.80	4.31E-26	0.	2.40E-25	2.36E-26	6.49E-26	0.	0.	9.76E-17	4.02E-11	3.87E-10	1.49E-10	3.97E-10
81	2.70	4.08E-26	0.	1.12E-25	3.15E-26	3.53E-26	0.	0.	9.83E-17	4.17E-11	3.99E-10	1.51E-10	4.08E-10
82	2.60	1.93E-26	0.	5.47E-26	3.50E-26	1.56E-26	0.	0.	9.90E-17	4.32E-11	4.12E-10	1.53E-10	4.19E-10
83	2.50	1.56E-27	0.	5.84E-27	3.89E-26	3.73E-27	0.	0.	9.97E-17	4.47E-11	4.24E-10	1.55E-10	4.30E-10
84	2.40	0.	0.	2.66E-25	0.	0.	0.	0.	1.00E-17	4.62E-11	4.36E-10	1.57E-10	4.41E-10
85	2.30	0.	0.	6.21E-25	0.	0.	0.	0.	1.01E-17	4.77E-11	4.48E-10	1.59E-10	4.52E-10
86	2.20	0.	0.	2.14E-24	0.	0.	0.	0.	1.02E-17	4.92E-11	4.60E-10	1.61E-10	4.63E-10
87	2.10	0.	0.	2.26E-24	0.	0.	0.	0.	1.03E-17	5.07E-11	4.72E-10	1.63E-10	4.74E-10
88	1.90	0.	0.	4.44E-24	0.	0.	0.	0.	1.04E-17	5.22E-11	4.84E-10	1.65E-10	4.85E-10
89	1.80	0.	0.	5.61E-24	0.	0.	0.	0.	1.05E-17	5.37E-11	4.96E-10	1.67E-10	4.96E-10
90	1.70	0.	0.	4.75E-24	0.	0.	0.	0.	1.06E-17	5.52E-11	5.08E-10	1.69E-10	5.07E-10
91	1.60	0.	0.	5.45E-24	0.	0.	0.	0.	1.07E-17	5.67E-11	5.20E-10	1.71E-10	5.18E-10
92	1.50	0.	0.	4.07E-24	0.	0.	0.	0.	1.08E-17	5.82E-11	5.32E-10	1.73E-10	5.29E-10
93	1.50	0.	0.	4.69E-24	0.	0.	0.	0.	1.09E-17	5.97E-11	5.44E-10	1.75E-10	5.40E-10
94	1.40	0.	0.	4.64E-24	0.	0.	0.	0.	1.10E-17	6.12E-11	5.56E-10	1.77E-10	5.51E-10
95	1.30	0.	0.	3.55E-24	0.	0.	0.	0.	1.11E-17	6.27E-11	5.68E-10	1.79E-10	5.62E-10
96	1.20	0.	0.	3.40E-24	0.	0.	0.	0.	1.12E-17	6.42E-11	5.80E-10	1.81E-10	5.73E-10
97	1.10	0.	0.	3.23E-24	0.	0.	0.	0.	1.13E-17	6.57E-11	5.92E-10	1.83E-10	5.84E-10
98	1.00	0.	0.	2.97E-24	0.	0.	0.	0.	1.14E-17	6.72E-11	6.04E-10	1.85E-10	5.95E-10
99	0.90	0.	0.	2.44E-24	0.	0.	0.	0.	1.15E-17	6.87E-11	6.16E-10	1.87E-10	6.06E-10
100	0.80	0.	0.	1.15E-24	0.	0.	0.	0.	1.16E-17	7.02E-11	6.28E-10	1.89E-10	6.17E-10
101	0.70	1.	0.	2.70E-25	0.	0.	0.	0.	1.17E-17	7.17E-11	6.40E-10	1.91E-10	6.28E-10
102	0.60	0.	0.	5.04E-26	0.	0.	0.	0.	1.18E-17	7.32E-11	6.52E-10	1.93E-10	6.39E-10

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 1980. DENSITY (GM/CC) 1.2935-02 ( 1.0E 01 NORMAL)

PHOTON ENERGY E.V.	02 S-R BANDS	02 S-R CONT.	M2 0-H NO. 1	NO BETA	NO GAMMA	0-PM101-DE7 (10MS)	0-FREE-FREE M	0-P.E.	TOTAL AIR P.E.
1 18.78 0.	0.	0.	9.88E-01	0.	0.	4.35E 00	2.89E-01	2.77E 02	2.99E 00
2 76.90 0.	0.	0.	8.23E-01	0.	0.	4.35E 00	2.15E-01	1.20E 01	2.90E 00
3 10.39 0.	0.	0.	9.34E-01	0.	0.	4.36E 00	2.21E-01	1.20E 01	2.96E 00
4 10.40 0.	0.	0.	7.95E-01	0.	0.	4.37E 00	2.27E-01	1.24E 01	2.95E 00
5 10.39 0.	0.	0.	6.97E-01	0.	0.	4.37E 00	2.44E-01	1.27E 01	2.94E 00
6 10.24 0.	0.	0.	7.23E-01	0.	0.	4.38E 00	2.41E-01	1.27E 01	2.93E 00
7 10.18 0.	0.	0.	6.03E-01	0.	0.	4.38E 00	2.49E-01	1.27E 01	2.91E 00
8 18.81 0.	0.	0.	6.74E-01	0.	0.	4.39E 00	2.56E-01	1.27E 01	2.90E 00
9 9.90 0.	0.	0.	8.20E-01	0.	0.	4.40E 00	2.64E-01	1.28E 01	2.89E 00
10 9.70 0.	0.	0.	5.66E-01	0.	0.	4.40E 00	2.72E-01	1.28E 01	2.88E 00
11 9.70 0.	0.	0.	5.10E-01	0.	0.	4.41E 00	2.81E-01	1.28E 01	2.87E 00
12 9.60 0.	0.	0.	5.52E-01	0.	0.	4.42E 00	2.90E-01	1.28E 01	2.86E 00
13 9.50 0.	0.	0.	4.75E-01	0.	0.	4.43E 00	2.99E-01	1.29E 01	2.85E 00
14 9.40 0.	0.	0.	4.52E-01	0.	0.	4.44E 00	3.08E-01	1.29E 01	2.84E 00
15 9.20 0.	0.	0.	4.64E-01	0.	0.	4.46E 00	3.19E-01	1.30E 01	2.82E 00
16 9.20 0.	0.	0.	3.88E-01	0.	0.	4.46E 00	3.30E-01	1.30E 01	2.81E 00
17 9.10 0.	0.	0.	3.99E-01	0.	0.	4.49E 00	3.41E-01	1.30E 01	2.79E 00
18 9.00 0.	0.	0.	3.65E-01	0.	0.	4.51E 00	3.52E-01	1.31E 00	2.78E 00
19 8.90 0.	0.	0.	3.48E-01	0.	0.	4.53E 00	3.64E-01	1.31E 00	2.77E 00
20 8.80 0.	0.	0.	3.35E-01	0.	0.	4.56E 00	3.77E-01	1.32E 00	2.76E 00
21 8.70 0.	0.	0.	3.93E-01	0.	0.	4.57E 00	3.90E-01	1.32E 00	2.75E 00
22 8.60 0.	0.	0.	3.67E-01	0.	0.	4.57E 00	4.04E-01	1.32E 00	2.74E 00
23 8.50 0.	0.	0.	2.67E-01	0.	0.	4.61E 00	4.19E-01	1.32E 00	2.73E 00
24 8.40 0.	0.	0.	2.20E-01	0.	0.	4.64E 00	4.34E-01	1.32E 00	2.72E 00
25 8.30 0.	0.	0.	2.31E-01	0.	0.	4.68E 00	4.50E-01	1.32E 00	2.72E 00
26 8.20 0.	0.	0.	2.81E-01	0.	0.	4.69E 00	4.67E-01	1.32E 00	2.72E 00
27 8.10 0.	0.	0.	2.83E-01	0.	0.	4.71E 00	4.85E-01	1.32E 00	2.73E 00
28 7.90 0.	0.	0.	1.74E-01	0.	0.	4.73E 00	5.03E-01	1.32E 00	2.73E 00
29 7.90 0.	0.	0.	1.83E-01	0.	0.	4.76E 00	5.23E-01	1.32E 00	2.73E 00
30 7.70 0.	0.	0.	1.62E-01	0.	0.	4.78E 00	5.45E-01	1.32E 00	2.74E 00
31 7.70 0.	0.	0.	1.55E-01	0.	0.	4.81E 00	5.68E-01	1.32E 00	2.74E 00
32 7.60 0.	0.	0.	1.44E-01	0.	0.	4.83E 00	5.92E-01	1.32E 00	2.75E 00
33 7.50 0.	0.	0.	1.30E-01	0.	0.	4.86E 00	6.17E-01	1.32E 00	2.75E 00
34 7.40 0.	0.	0.	1.24E-01	0.	0.	4.89E 00	6.44E-01	1.32E 00	2.75E 00
35 7.30 0.	0.	0.	1.24E-01	0.	0.	4.91E 00	6.72E-01	1.32E 00	2.76E 00
36 7.20 0.	0.	0.	1.13E-01	0.	0.	4.95E 00	7.02E-01	1.32E 00	2.76E 00
37 7.10 0.	0.	0.	1.09E-01	0.	0.	4.99E 00	7.34E-01	1.32E 00	2.76E 00
38 7.00 1.8E-05	0.	0.	1.00E-01	0.	0.	5.03E 00	7.68E-01	1.32E 00	2.77E 00
39 6.90 3.7E-05	0.	0.	9.25E-02	0.	0.	5.08E 00	8.04E-01	1.32E 00	2.77E 00
40 6.80 3.2E-05	0.	0.	8.96E-02	0.	0.	5.13E 00	8.42E-01	1.32E 00	2.78E 00
41 6.70 2.3E-05	0.	0.	7.89E-02	0.	0.	5.19E 00	8.82E-01	1.32E 00	2.78E 00
42 6.60 1.4E-05	0.	0.	7.12E-02	0.	0.	5.25E 00	9.24E-01	1.32E 00	2.79E 00
43 6.50 9.2E-06	0.	0.	5.75E-02	0.	0.	5.32E 00	9.68E-01	1.32E 00	2.80E 00
44 6.40 4.7E-06	0.	0.	3.95E-02	0.	0.	5.40E 00	1.01E 00	1.32E 00	2.81E 00
45 6.30 2.7E-06	0.	0.	2.52E-02	0.	0.	5.49E 00	1.06E 00	1.32E 00	2.82E 00
46 6.20 1.2E-06	0.	0.	1.41E-02	0.	0.	5.59E 00	1.12E 00	1.32E 00	2.83E 00
47 6.10 5.0E-07	0.	0.	6.68E-03	0.	0.	5.70E 00	1.19E 00	1.32E 00	2.84E 00
48 6.00 2.4E-07	0.	0.	1.71E-03	0.	0.	5.82E 00	1.27E 00	1.32E 00	2.85E 00
49 5.90 6.0E-08	0.	0.	1.25E-04	0.	0.	5.95E 00	1.36E 00	1.32E 00	2.86E 00
50 5.80 2.6E-09	0.	0.	4.64E-05	0.	0.	6.09E 00	1.46E 00	1.32E 00	2.87E 00
51 5.70 5.6E-10	0.	0.	5.47E-05	0.	0.	6.24E 00	1.57E 00	1.32E 00	2.88E 00

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
TEMPERATURE (DEGREES K) 1000. DENSITY (GM/CC) 1.293E-02 (1.0E 01 NORMAL)

PHOTON ENERGY	M2 POS.	M2 NEG.	META	BAMMA	NO	NO	NO	NO	NO	NO	PHOTO-DET (IONS)	FREE-FREE P.E.	M	P.E.	TOTAL AIR
52	5.66	2.56E-11	0.	0.	4.71E-03	3.03E-02	0.	0.	0.	0.	4.64E 00	1.54E 00	6.31E 00	3.00E 00	1.55E 01
53	5.50	0.	0.	0.	5.75E-03	2.81E-02	0.	0.	0.	0.	4.67E 00	1.54E 00	6.44E 00	3.00E 00	1.57E 01
54	5.49	0.	0.	0.	5.35E-03	2.31E-02	0.	0.	0.	0.	4.69E 00	1.55E 00	6.51E 00	3.07E 00	1.61E 01
55	5.39	0.	0.	0.	5.45E-03	2.19E-02	0.	0.	0.	0.	4.72E 00	1.75E 00	6.75E 00	3.11E 00	1.64E 01
56	5.29	0.	0.	0.	5.05E-03	2.22E-02	0.	0.	0.	0.	4.75E 00	1.85E 00	6.97E 00	3.16E 00	1.68E 01
57	5.18	0.	0.	0.	5.89E-03	2.84E-02	0.	0.	0.	0.	4.79E 00	1.97E 00	7.17E 00	3.22E 00	1.72E 01
58	5.08	3.54E-04	0.	0.	5.48E-03	2.69E-02	0.	0.	0.	0.	4.83E 00	2.09E 00	7.40E 00	3.27E 00	1.76E 01
59	4.97	0.64E-04	0.	0.	6.94E-03	2.95E-02	0.	0.	0.	0.	4.87E 00	2.27E 00	7.65E 00	3.31E 00	1.81E 01
60	4.87	1.63E-03	0.	0.	6.52E-03	2.77E-02	0.	0.	0.	0.	4.91E 00	2.56E 00	7.92E 00	3.40E 00	1.88E 01
61	4.74	2.22E-03	0.	0.	6.72E-03	2.52E-02	0.	0.	0.	0.	4.95E 00	2.92E 00	8.28E 00	3.49E 00	1.92E 01
62	4.61	3.07E-03	0.	0.	6.73E-03	2.29E-02	0.	0.	0.	0.	4.99E 00	3.38E 00	8.75E 00	3.58E 00	1.99E 01
63	4.51	3.24E-03	0.	0.	6.19E-03	1.73E-02	0.	0.	0.	0.	5.03E 00	3.95E 00	9.35E 00	3.68E 00	2.06E 01
64	4.40	3.49E-03	0.	0.	6.23E-03	1.16E-02	0.	0.	0.	0.	5.07E 00	4.65E 00	9.99E 00	3.78E 00	2.14E 01
65	4.31	3.31E-03	0.	0.	5.98E-03	7.47E-03	0.	0.	0.	0.	5.11E 00	5.50E 00	9.94E 00	3.86E 00	2.23E 01
66	4.24	3.18E-03	0.	0.	6.31E-03	5.20E-03	0.	0.	0.	0.	5.15E 00	6.52E 00	1.04E 01	3.99E 00	2.34E 01
67	4.18	2.92E-03	0.	0.	6.20E-03	1.48E-03	0.	0.	0.	0.	5.17E 00	7.81E 00	1.09E 01	4.17E 00	2.48E 01
68	4.00	2.71E-03	0.	0.	6.01E-03	1.09E-03	0.	0.	0.	0.	5.19E 00	9.40E 00	1.14E 01	4.44E 00	2.79E 01
69	3.89	2.32E-03	0.	0.	5.58E-03	4.12E-04	0.	0.	0.	0.	5.17E 00	1.12E 01	1.12E 01	4.69E 00	2.99E 01
70	3.80	2.55E-03	0.	0.	5.80E-03	6.87E-05	0.	0.	0.	0.	5.15E 00	1.32E 01	1.14E 01	4.91E 00	3.20E 01
71	3.70	2.20E-03	0.	0.	3.10E-01	2.40E-02	5.19E-03	0.	0.	0.	5.07E 00	1.52E 01	1.12E 01	5.11E 00	3.41E 01
72	3.60	2.07E-03	0.	0.	2.73E-01	1.34E-03	0.	0.	0.	0.	4.95E 00	1.74E 01	1.07E 01	5.27E 00	3.62E 01
73	3.50	1.94E-03	0.	0.	2.92E-01	2.52E-04	0.	0.	0.	0.	4.82E 00	2.00E 01	1.02E 01	5.41E 00	3.82E 01
74	3.40	1.79E-03	0.	0.	1.09E-01	3.92E-02	5.82E-03	0.	0.	0.	2.91E 00	2.31E 01	1.02E 01	5.53E 00	4.01E 01
75	3.30	1.64E-03	0.	0.	1.04E-01	3.51E-01	4.84E-03	0.	0.	0.	2.91E 00	2.70E 01	1.02E 01	5.64E 00	4.21E 01
76	3.20	1.49E-03	0.	0.	1.20E-01	2.44E-01	4.74E-03	0.	0.	0.	2.92E 00	3.18E 01	1.02E 01	5.73E 00	4.41E 01
77	3.10	1.32E-03	0.	0.	9.99E-02	4.30E-02	4.43E-03	0.	0.	0.	2.92E 00	3.76E 01	1.02E 01	5.80E 00	4.60E 01
78	3.00	1.18E-03	0.	0.	6.14E-02	1.43E-01	3.85E-03	0.	0.	0.	2.92E 00	4.45E 01	1.02E 01	5.86E 00	4.78E 01
79	2.90	9.36E-04	0.	0.	3.87E-02	7.82E-02	2.97E-03	0.	0.	0.	2.92E 00	5.28E 01	1.02E 01	5.90E 00	4.94E 01
80	2.80	9.74E-04	0.	0.	1.87E-02	5.22E-02	2.69E-03	0.	0.	0.	2.94E 00	6.28E 01	1.02E 01	5.92E 00	5.09E 01
81	2.70	8.34E-04	0.	0.	8.77E-03	6.77E-02	1.14E-03	0.	0.	0.	2.94E 00	7.46E 01	1.02E 01	5.91E 00	5.22E 01
82	2.60	3.83E-04	0.	0.	4.24E-03	6.97E-03	5.15E-04	0.	0.	0.	2.94E 00	8.86E 01	1.02E 01	5.89E 00	5.34E 01
83	2.50	2.14E-05	0.	0.	4.48E-04	6.77E-03	1.24E-04	0.	0.	0.	2.94E 00	1.05E 02	1.02E 01	5.87E 00	5.46E 01
84	2.40	0.	0.	0.	6.75E-02	0.	0.	0.	0.	0.	2.92E 00	1.25E 02	1.02E 01	5.84E 00	5.57E 01
85	2.30	0.	0.	0.	6.75E-02	0.	0.	0.	0.	0.	2.91E 00	1.47E 02	1.02E 01	5.79E 00	5.67E 01
86	2.20	0.	0.	0.	1.60E-01	0.	0.	0.	0.	0.	2.90E 00	1.74E 02	1.02E 01	5.72E 00	5.78E 01
87	2.10	0.	0.	0.	1.64E-01	0.	0.	0.	0.	0.	2.90E 00	2.08E 02	1.02E 01	5.64E 00	5.89E 01
88	2.00	0.	0.	0.	3.80E-01	0.	0.	0.	0.	0.	2.87E 00	2.50E 02	1.02E 01	5.54E 00	6.00E 01
89	1.90	0.	0.	0.	4.04E-01	0.	0.	0.	0.	0.	2.82E 00	3.02E 02	1.02E 01	5.41E 00	6.10E 01
90	1.80	0.	0.	0.	3.86E-01	0.	0.	0.	0.	0.	2.82E 00	3.67E 02	1.02E 01	5.25E 00	6.19E 01
91	1.70	0.	0.	0.	3.66E-01	0.	0.	0.	0.	0.	2.80E 00	4.47E 02	1.02E 01	5.08E 00	6.27E 01
92	1.60	0.	0.	0.	2.96E-01	0.	0.	0.	0.	0.	2.77E 00	5.46E 02	1.02E 01	4.81E 00	6.34E 01
93	1.50	0.	0.	0.	3.48E-01	0.	0.	0.	0.	0.	2.73E 00	6.69E 02	1.02E 01	4.47E 00	6.39E 01
94	1.40	0.	0.	0.	2.97E-01	0.	0.	0.	0.	0.	2.68E 00	8.20E 02	1.02E 01	4.08E 00	6.42E 01
95	1.30	0.	0.	0.	2.87E-01	0.	0.	0.	0.	0.	2.62E 00	1.00E 03	1.02E 01	3.65E 00	6.43E 01
96	1.20	0.	0.	0.	2.85E-01	0.	0.	0.	0.	0.	2.55E 00	1.23E 03	1.02E 01	3.19E 00	6.42E 01
97	1.10	0.	0.	0.	2.10E-01	0.	0.	0.	0.	0.	2.47E 00	1.54E 03	1.02E 01	2.73E 00	6.38E 01
98	1.00	0.	0.	0.	2.16E-01	0.	0.	0.	0.	0.	2.38E 00	1.95E 03	1.02E 01	2.28E 00	6.34E 01
99	0.90	0.	0.	0.	1.77E-01	0.	0.	0.	0.	0.	2.28E 00	2.48E 03	1.02E 01	1.86E 00	6.27E 01
100	0.80	0.	0.	0.	1.34E-02	0.	0.	0.	0.	0.	2.17E 00	3.16E 03	1.02E 01	1.42E 00	6.17E 01
101	0.70	0.	0.	0.	1.95E-02	0.	0.	0.	0.	0.	2.05E 00	4.01E 03	1.02E 01	9.85E 00	6.04E 01
102	0.60	0.	0.	0.	3.04E-03	0.	0.	0.	0.	0.	1.92E 00	5.07E 03	1.02E 01	6.29E 00	5.88E 01



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY E.V.	02 3-R RAVDS	02 5-R CONT.	M2 B-M NO. 1	TEMPERATURE (DEGREES C.) 19000.		DENSITY (MG/CC) 1.293E-03 ( 1.0E 00 NORMAL		NO 2	D- PHOTO-DEN (IONS)	M P.E.	0 P.E.	TOTAL AIR
				NO META	NO GAMA	NO FREE-FREE	NO P.E.					
1 18.74 0.	0.	0.	6.07E-03	0.	0.	1.17E-01	1.79E-02	2.59E-01	2.73E-01	2.73E-01	7.64E-01	
2 19.00 0.	0.	0.	6.28E-03	0.	0.	1.17E-01	1.64E-02	1.80E-00	2.72E-01	1.51E-00	1.51E-00	
3 19.50 0.	0.	0.	6.36E-03	0.	0.	1.16E-01	1.59E-02	1.82E-00	2.71E-01	1.52E-00	1.52E-00	
4 19.80 0.	0.	0.	6.40E-03	0.	0.	1.16E-01	1.55E-02	1.84E-00	2.70E-01	1.52E-00	1.52E-00	
5 19.90 0.	0.	0.	6.42E-03	0.	0.	1.15E-01	1.52E-02	1.85E-00	2.69E-01	1.52E-00	1.52E-00	
6 19.95 0.	0.	0.	6.43E-03	0.	0.	1.15E-01	1.50E-02	1.86E-00	2.68E-01	1.52E-00	1.52E-00	
7 19.98 0.	0.	0.	6.44E-03	0.	0.	1.14E-01	1.47E-02	1.87E-00	2.67E-01	1.52E-00	1.52E-00	
8 19.99 0.	0.	0.	6.44E-03	0.	0.	1.14E-01	1.45E-02	1.88E-00	2.66E-01	1.52E-00	1.52E-00	
9 19.99 0.	0.	0.	6.44E-03	0.	0.	1.13E-01	1.42E-02	1.89E-00	2.65E-01	1.52E-00	1.52E-00	
10 19.99 0.	0.	0.	6.44E-03	0.	0.	1.13E-01	1.40E-02	1.90E-00	2.64E-01	1.52E-00	1.52E-00	
11 19.99 0.	0.	0.	6.44E-03	0.	0.	1.12E-01	1.37E-02	1.91E-00	2.63E-01	1.52E-00	1.52E-00	
12 19.99 0.	0.	0.	6.44E-03	0.	0.	1.12E-01	1.35E-02	1.92E-00	2.62E-01	1.52E-00	1.52E-00	
13 19.99 0.	0.	0.	6.44E-03	0.	0.	1.11E-01	1.32E-02	1.93E-00	2.61E-01	1.52E-00	1.52E-00	
14 19.99 0.	0.	0.	6.44E-03	0.	0.	1.11E-01	1.30E-02	1.94E-00	2.60E-01	1.52E-00	1.52E-00	
15 19.99 0.	0.	0.	6.44E-03	0.	0.	1.10E-01	1.27E-02	1.95E-00	2.59E-01	1.52E-00	1.52E-00	
16 19.99 0.	0.	0.	6.44E-03	0.	0.	1.10E-01	1.25E-02	1.96E-00	2.58E-01	1.52E-00	1.52E-00	
17 19.99 0.	0.	0.	6.44E-03	0.	0.	1.09E-01	1.22E-02	1.97E-00	2.57E-01	1.52E-00	1.52E-00	
18 19.99 0.	0.	0.	6.44E-03	0.	0.	1.09E-01	1.20E-02	1.98E-00	2.56E-01	1.52E-00	1.52E-00	
19 19.99 0.	0.	0.	6.44E-03	0.	0.	1.08E-01	1.17E-02	1.99E-00	2.55E-01	1.52E-00	1.52E-00	
20 19.99 0.	0.	0.	6.44E-03	0.	0.	1.08E-01	1.15E-02	2.00E-00	2.54E-01	1.52E-00	1.52E-00	
21 19.99 0.	0.	0.	6.44E-03	0.	0.	1.07E-01	1.12E-02	2.01E-00	2.53E-01	1.52E-00	1.52E-00	
22 19.99 0.	0.	0.	6.44E-03	0.	0.	1.07E-01	1.10E-02	2.02E-00	2.52E-01	1.52E-00	1.52E-00	
23 19.99 0.	0.	0.	6.44E-03	0.	0.	1.06E-01	1.07E-02	2.03E-00	2.51E-01	1.52E-00	1.52E-00	
24 19.99 0.	0.	0.	6.44E-03	0.	0.	1.06E-01	1.05E-02	2.04E-00	2.50E-01	1.52E-00	1.52E-00	
25 19.99 0.	0.	0.	6.44E-03	0.	0.	1.05E-01	1.02E-02	2.05E-00	2.49E-01	1.52E-00	1.52E-00	
26 19.99 0.	0.	0.	6.44E-03	0.	0.	1.05E-01	1.00E-02	2.06E-00	2.48E-01	1.52E-00	1.52E-00	
27 19.99 0.	0.	0.	6.44E-03	0.	0.	1.04E-01	9.75E-03	2.07E-00	2.47E-01	1.52E-00	1.52E-00	
28 19.99 0.	0.	0.	6.44E-03	0.	0.	1.04E-01	9.50E-03	2.08E-00	2.46E-01	1.52E-00	1.52E-00	
29 19.99 0.	0.	0.	6.44E-03	0.	0.	1.03E-01	9.25E-03	2.09E-00	2.45E-01	1.52E-00	1.52E-00	
30 19.99 0.	0.	0.	6.44E-03	0.	0.	1.03E-01	9.00E-03	2.10E-00	2.44E-01	1.52E-00	1.52E-00	
31 19.99 0.	0.	0.	6.44E-03	0.	0.	1.02E-01	8.75E-03	2.11E-00	2.43E-01	1.52E-00	1.52E-00	
32 19.99 0.	0.	0.	6.44E-03	0.	0.	1.02E-01	8.50E-03	2.12E-00	2.42E-01	1.52E-00	1.52E-00	
33 19.99 0.	0.	0.	6.44E-03	0.	0.	1.01E-01	8.25E-03	2.13E-00	2.41E-01	1.52E-00	1.52E-00	
34 19.99 0.	0.	0.	6.44E-03	0.	0.	1.01E-01	8.00E-03	2.14E-00	2.40E-01	1.52E-00	1.52E-00	
35 19.99 0.	0.	0.	6.44E-03	0.	0.	1.00E-01	7.75E-03	2.15E-00	2.39E-01	1.52E-00	1.52E-00	
36 19.99 0.	0.	0.	6.44E-03	0.	0.	1.00E-01	7.50E-03	2.16E-00	2.38E-01	1.52E-00	1.52E-00	
37 19.99 0.	0.	0.	6.44E-03	0.	0.	9.95E-02	7.25E-03	2.17E-00	2.37E-01	1.52E-00	1.52E-00	
38 19.99 0.	0.	0.	6.44E-03	0.	0.	9.90E-02	7.00E-03	2.18E-00	2.36E-01	1.52E-00	1.52E-00	
39 19.99 0.	0.	0.	6.44E-03	0.	0.	9.85E-02	6.75E-03	2.19E-00	2.35E-01	1.52E-00	1.52E-00	
40 19.99 0.	0.	0.	6.44E-03	0.	0.	9.80E-02	6.50E-03	2.20E-00	2.34E-01	1.52E-00	1.52E-00	
41 19.99 0.	0.	0.	6.44E-03	0.	0.	9.75E-02	6.25E-03	2.21E-00	2.33E-01	1.52E-00	1.52E-00	
42 19.99 0.	0.	0.	6.44E-03	0.	0.	9.70E-02	6.00E-03	2.22E-00	2.32E-01	1.52E-00	1.52E-00	
43 19.99 0.	0.	0.	6.44E-03	0.	0.	9.65E-02	5.75E-03	2.23E-00	2.31E-01	1.52E-00	1.52E-00	
44 19.99 0.	0.	0.	6.44E-03	0.	0.	9.60E-02	5.50E-03	2.24E-00	2.30E-01	1.52E-00	1.52E-00	
45 19.99 0.	0.	0.	6.44E-03	0.	0.	9.55E-02	5.25E-03	2.25E-00	2.29E-01	1.52E-00	1.52E-00	
46 19.99 0.	0.	0.	6.44E-03	0.	0.	9.50E-02	5.00E-03	2.26E-00	2.28E-01	1.52E-00	1.52E-00	
47 19.99 0.	0.	0.	6.44E-03	0.	0.	9.45E-02	4.75E-03	2.27E-00	2.27E-01	1.52E-00	1.52E-00	
48 19.99 0.	0.	0.	6.44E-03	0.	0.	9.40E-02	4.50E-03	2.28E-00	2.26E-01	1.52E-00	1.52E-00	
49 19.99 0.	0.	0.	6.44E-03	0.	0.	9.35E-02	4.25E-03	2.29E-00	2.25E-01	1.52E-00	1.52E-00	
50 19.99 0.	0.	0.	6.44E-03	0.	0.	9.30E-02	4.00E-03	2.30E-00	2.24E-01	1.52E-00	1.52E-00	
51 19.99 0.	0.	0.	6.44E-03	0.	0.	9.25E-02	3.75E-03	2.31E-00	2.23E-01	1.52E-00	1.52E-00	

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY E <sub>0</sub>	TEMPERATURE (DEGREES K)	DENSITY (GM/CC)				TOTAL AIR
		1.0000	1.203E+03	(1.6770 NORMAL)	0	
M <sup>2</sup>	M <sup>2</sup>	NO		P.F.E.		M
		PHOTO-DET	PHOTO-DET	FREE-FREE	P.F.E.	
52	3.74E-05	2.42E-04	0	1.29E-01	2.74E-01	1.90E 00
53	4.60E-05	2.25E-04	0	1.30E-01	2.77E-01	1.10E 00
54	4.29E-05	1.64E-04	0	1.78E-01	2.81E-01	3.3E 00
55	4.36E-05	2.31E-04	0	1.77E-01	2.89E-01	1.10E 00
56	4.71E-05	1.77E-04	0	1.76E-01	2.89E-01	1.19E 00
57	5.10E-05	2.27E-04	0	1.79E-01	2.94E-01	1.22E 00
58	5.04E-05	2.15E-04	0	1.80E-01	2.90E-01	1.26E 00
59	4.89E-05	2.35E-04	0	1.81E-01	2.95E-01	1.50E 00
60	4.67E-05	2.27E-04	0	1.82E-01	3.01E-01	1.34E 00
61	4.77E-05	2.02E-04	0	1.83E-01	3.26E-01	1.39E 00
62	4.67E-05	1.83E-04	0	1.85E-01	3.26E-01	1.44E 00
63	4.57E-05	1.58E-04	0	1.86E-01	3.37E-01	1.51E 00
64	4.47E-05	1.46E-04	0	1.87E-01	3.46E-01	1.57E 00
65	4.37E-05	1.37E-04	0	1.88E-01	3.55E-01	1.65E 00
66	4.28E-05	1.28E-04	0	1.89E-01	3.65E-01	1.72E 00
67	4.19E-05	1.19E-04	0	1.90E-01	3.65E-01	1.79E 00
68	4.1E-05	1.10E-04	0	1.91E-01	3.65E-01	1.66E 00
69	3.9C-05	1.01E-04	0	1.92E-01	3.79E-01	1.67E 00
70	3.8E-05	9.4E-05	0	1.93E-01	3.92E-01	1.72E 00
71	3.7E-05	8.7E-05	0	1.94E-01	4.05E-01	1.78E 00
72	3.6E-05	8.0E-05	0	1.95E-01	4.18E-01	1.85E 00
73	3.5E-05	7.3E-05	0	1.96E-01	4.32E-01	1.93E 00
74	3.4E-05	6.6E-05	0	1.97E-01	4.46E-01	1.95E 00
75	3.3E-05	5.9E-05	0	1.98E-01	4.60E-01	2.14E 00
76	3.2E-05	5.2E-05	0	1.99E-01	4.74E-01	2.34E 00
77	3.1E-05	4.5E-05	0	2.00E-01	4.88E-01	2.54E 00
78	3.0E-05	3.8E-05	0	2.01E-01	5.02E-01	2.74E 00
79	2.9E-05	3.1E-05	0	2.02E-01	5.16E-01	2.94E 00
80	2.8E-05	2.4E-05	0	2.03E-01	5.30E-01	3.14E 00
81	2.7E-05	1.7E-05	0	2.04E-01	5.44E-01	3.34E 00
82	2.6E-05	1.0E-05	0	2.05E-01	5.58E-01	3.54E 00
83	2.5E-05	3.0E-06	0	2.06E-01	5.72E-01	3.74E 00
84	2.4E-05	0	0	2.07E-01	5.86E-01	3.94E 00
85	2.3E-05	0	0	2.08E-01	6.00E-01	4.14E 00
86	2.2E-05	0	0	2.09E-01	6.14E-01	4.34E 00
87	2.1E-05	0	0	2.10E-01	6.28E-01	4.54E 00
88	2.0E-05	0	0	2.11E-01	6.42E-01	4.74E 00
89	1.9E-05	0	0	2.12E-01	6.56E-01	4.94E 00
90	1.8E-05	0	0	2.13E-01	6.70E-01	5.14E 00
91	1.7E-05	0	0	2.14E-01	6.84E-01	5.34E 00
92	1.6E-05	0	0	2.15E-01	6.98E-01	5.54E 00
93	1.5E-05	0	0	2.16E-01	7.12E-01	5.74E 00
94	1.4E-05	0	0	2.17E-01	7.26E-01	5.94E 00
95	1.3E-05	0	0	2.18E-01	7.40E-01	6.14E 00
96	1.2E-05	0	0	2.19E-01	7.54E-01	6.34E 00
97	1.1E-05	0	0	2.20E-01	7.68E-01	6.54E 00
98	1.0E-05	0	0	2.21E-01	7.82E-01	6.74E 00
99	9.0E-06	0	0	2.22E-01	7.96E-01	6.94E 00
100	8.0E-06	0	0	2.23E-01	8.10E-01	7.14E 00
101	7.0E-06	0	0	2.24E-01	8.24E-01	7.34E 00
102	6.0E-06	0	0	2.25E-01	8.38E-01	7.54E 00

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 19000. DENSITY (GM/CC) 1.293E-64 ( 1.0E-01 NORMAL)

PHOTON ENERGY E.V.	PHOTON DZ S-R	OZ S-R	COMT.	NZ B-W	NO. 1	TEMPERATURE	NO. BETA	NO. GAMMA	NO. 2	PHOTO-DET (IONS)	0- FREE-FREE	N P.E.	0 P.E.	TOTAL AIR
1 10.79 0.	0.	0.	0.	2.44E-05	0.	0.	0.	0.	0.	2.11E-03	1.14E-03	1.02E 00	1.95E-02	1.64E 00
2 10.84 0.	0.	0.	0.	2.43E-05	0.	0.	0.	0.	0.	2.11E-03	1.17E-03	6.04E-02	1.94E-02	9.11E-02
3 10.90 0.	0.	0.	0.	2.47E-05	0.	0.	0.	0.	0.	2.11E-03	1.20E-03	6.07E-02	1.93E-02	9.14E-02
4 10.96 0.	0.	0.	0.	2.59E-05	0.	0.	0.	0.	0.	2.11E-03	1.24E-03	6.90E-02	1.92E-02	9.16E-02
5 10.98 0.	0.	0.	0.	2.80E-05	0.	0.	0.	0.	0.	2.12E-03	1.28E-03	6.91E-02	1.92E-02	9.17E-02
6 10.99 0.	0.	0.	0.	2.84E-05	0.	0.	0.	0.	0.	2.12E-03	1.32E-03	6.93E-02	1.91E-02	9.18E-02
7 10.99 0.	0.	0.	0.	2.82E-05	0.	0.	0.	0.	0.	2.12E-03	1.36E-03	6.92E-02	1.90E-02	9.17E-02
8 10.99 0.	0.	0.	0.	2.79E-05	0.	0.	0.	0.	0.	2.13E-03	1.40E-03	6.93E-02	1.89E-02	9.17E-02
9 9.99 0.	0.	0.	0.	1.84E-05	0.	0.	0.	0.	0.	2.13E-03	1.44E-03	6.94E-02	1.88E-02	9.19E-02
10 9.98 0.	0.	0.	0.	1.73E-05	0.	0.	0.	0.	0.	2.13E-03	1.49E-03	6.96E-02	1.88E-02	9.20E-02
11 9.97 0.	0.	0.	0.	1.91E-05	0.	0.	0.	0.	0.	2.14E-03	1.53E-03	6.97E-02	1.87E-02	9.21E-02
12 9.6 0.	0.	0.	0.	1.83E-05	0.	0.	0.	0.	0.	2.14E-03	1.58E-03	6.99E-02	1.86E-02	9.23E-02
13 9.5 0.	0.	0.	0.	1.41E-05	0.	0.	0.	0.	0.	2.14E-03	1.63E-03	7.01E-02	1.85E-02	9.24E-02
14 9.6 0.	0.	0.	0.	1.34E-05	0.	0.	0.	0.	0.	2.15E-03	1.68E-03	7.03E-02	1.84E-02	9.24E-02
15 9.3 0.	0.	0.	0.	1.37E-05	0.	0.	0.	0.	0.	2.16E-03	1.74E-03	7.06E-02	1.84E-02	9.29E-02
16 9.20 0.	0.	0.	0.	1.95E-05	0.	0.	0.	0.	0.	2.17E-03	1.80E-03	7.08E-02	1.83E-02	9.31E-02
17 9.10 0.	0.	0.	0.	1.88E-05	0.	0.	0.	0.	0.	2.18E-03	1.86E-03	7.07E-02	1.82E-02	9.30E-02
18 9.00 0.	0.	0.	0.	1.88E-05	0.	0.	0.	0.	0.	2.18E-03	1.92E-03	7.07E-02	1.81E-02	9.30E-02
19 8.98 0.	0.	0.	0.	1.81E-05	0.	0.	0.	0.	0.	2.19E-03	1.99E-03	7.08E-02	1.81E-02	9.30E-02
20 8.98 0.	0.	0.	0.	9.91E-06	0.	0.	0.	0.	0.	2.20E-03	2.06E-03	7.08E-02	1.80E-02	9.31E-02
21 8.79 0.	0.	0.	0.	8.67E-06	0.	0.	0.	0.	0.	2.21E-03	2.13E-03	7.08E-02	1.79E-02	9.31E-02
22 8.68 0.	0.	0.	0.	8.96E-06	0.	0.	0.	0.	0.	2.22E-03	2.20E-03	7.09E-02	1.79E-02	9.32E-02
23 8.59 0.	0.	0.	0.	7.91E-06	0.	0.	0.	0.	0.	2.23E-03	2.28E-03	7.10E-02	1.78E-02	9.33E-02
24 8.48 0.	0.	0.	0.	7.89E-06	0.	0.	0.	0.	0.	2.23E-03	2.37E-03	7.11E-02	1.77E-02	9.34E-02
25 8.30 0.	0.	0.	0.	6.75E-06	0.	0.	0.	0.	0.	2.25E-03	2.45E-03	7.12E-02	1.77E-02	9.36E-02
26 8.20 0.	0.	0.	0.	6.84E-06	0.	0.	0.	0.	0.	2.26E-03	2.55E-03	7.13E-02	1.77E-02	9.38E-02
27 8.18 0.	0.	0.	0.	6.95E-06	0.	0.	0.	0.	0.	2.27E-03	2.64E-03	7.14E-02	1.77E-02	9.40E-02
28 8.08 0.	0.	0.	0.	6.91E-06	0.	0.	0.	0.	0.	2.28E-03	2.74E-03	7.15E-02	1.76E-02	9.40E-02
29 7.98 0.	0.	0.	0.	5.21E-06	0.	0.	0.	0.	0.	2.29E-03	2.85E-03	7.17E-02	1.76E-02	9.40E-02
30 7.88 0.	0.	0.	0.	4.79E-06	0.	0.	0.	0.	0.	2.30E-03	2.96E-03	7.19E-02	1.76E-02	9.40E-02
31 7.78 0.	0.	0.	0.	4.69E-06	0.	0.	0.	0.	0.	2.32E-03	3.08E-03	7.21E-02	1.76E-02	9.40E-02
32 7.68 0.	0.	0.	0.	4.97E-06	0.	0.	0.	0.	0.	2.33E-03	3.21E-03	7.23E-02	1.76E-02	9.40E-02
33 7.58 0.	0.	0.	0.	4.28E-06	0.	0.	0.	0.	0.	2.34E-03	3.34E-03	7.24E-02	1.76E-02	9.40E-02
34 7.49 0.	0.	0.	0.	3.65E-06	0.	0.	0.	0.	0.	2.35E-03	3.48E-03	7.26E-02	1.76E-02	9.40E-02
35 7.30 0.	0.	0.	0.	3.66E-06	0.	0.	0.	0.	0.	2.37E-03	3.62E-03	7.28E-02	1.76E-02	9.40E-02
36 7.2 0.	0.	0.	0.	3.33E-06	0.	0.	0.	0.	0.	2.38E-03	3.78E-03	7.30E-02	1.76E-02	9.40E-02
37 7.10 0.	0.	0.	0.	3.21E-06	0.	0.	0.	0.	0.	2.40E-03	3.94E-03	7.32E-02	1.76E-02	9.40E-02
38 7.02 0.03E-10	0.	0.	0.	2.97E-06	0.	0.	0.	0.	0.	2.42E-03	4.11E-03	7.34E-02	1.76E-02	9.40E-02
39 6.90 1.57E-09	0.	0.	0.	2.74E-06	0.	0.	0.	0.	0.	2.44E-03	4.30E-03	7.36E-02	1.76E-02	9.40E-02
40 6.80 1.38E-09	0.	0.	0.	2.65E-06	0.	0.	0.	0.	0.	2.46E-03	4.49E-03	7.38E-02	1.76E-02	9.40E-02
41 6.70 9.95E-10	0.	0.	0.	2.33E-06	0.	0.	0.	0.	0.	2.48E-03	4.69E-03	7.40E-02	1.76E-02	9.40E-02
42 6.60 6.08E-10	0.	0.	0.	2.11E-06	0.	0.	0.	0.	0.	2.50E-03	4.91E-03	7.42E-02	1.76E-02	9.40E-02
43 6.50 3.52E-10	0.	0.	0.	1.89E-06	0.	0.	0.	0.	0.	2.52E-03	5.15E-03	7.44E-02	1.76E-02	9.40E-02
44 6.40 2.03E-10	0.	0.	0.	1.80E-06	0.	0.	0.	0.	0.	2.53E-03	5.39E-03	7.46E-02	1.76E-02	9.40E-02
45 6.30 1.10E-10	0.	0.	0.	7.45E-07	0.	0.	0.	0.	0.	2.55E-03	5.65E-03	7.48E-02	1.76E-02	9.40E-02
46 6.20 5.38E-11	0.	0.	0.	4.17E-07	0.	0.	0.	0.	0.	2.57E-03	5.91E-03	7.50E-02	1.76E-02	9.40E-02
47 6.1 2.48E-11	0.	0.	0.	1.98E-07	0.	0.	0.	0.	0.	2.59E-03	6.20E-03	7.52E-02	1.76E-02	9.40E-02
48 6.00 1.94E-11	0.	0.	0.	3.65E-08	0.	0.	0.	0.	0.	2.61E-03	6.56E-03	7.54E-02	1.76E-02	9.40E-02
49 5.90 2.56E-12	0.	0.	0.	3.62E-08	0.	0.	0.	0.	0.	2.61E-03	6.90E-03	7.56E-02	1.76E-02	9.40E-02
50 5.80 3.27E-13	0.	0.	0.	9.35E-11	0.	0.	0.	0.	0.	2.57E-03	7.24E-03	7.53E-02	1.76E-02	9.40E-02
51 5.70 2.91E-14	0.	0.	0.	1.94E-07	0.19E-07	0.	0.	0.	0.	2.42E-03	7.65E-03	7.33E-02	1.76E-02	9.40E-02

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 10000. DENSITY (GR/CC) 1.293E-04 (1.0E-01 NORMAL)

PHOTON ENERGY BANDS	NO. 1ST POS.	MZ	MZ <sup>2</sup>	NO. 2ND POS.	BETA	GAMMA	NO. NO-NDT	NO. 2	PHOTO-DET (IONS)	M	P.E.	NO. 0	P.E.	TOTAL AIR
52	5.00	1.00E-15	0.	0.	1.07E-07	1.00E-06	0.	0.	2.25E-03	0.07E-03	3.44E-02	1.90E-02	1.90E-02	6.42E-02
53	5.50	0.	0.	0.	2.04E-07	9.04E-07	0.	0.	2.26E-03	0.53E-03	3.51E-02	1.90E-02	1.90E-02	6.57E-02
54	5.90	0.	0.	0.	1.09E-07	3.00E-07	0.	0.	2.27E-03	0.81E-03	3.60E-02	2.00E-02	2.00E-02	6.73E-02
55	5.35	0.	0.	0.	1.93E-07	1.03E-06	0.	0.	2.29E-03	9.54E-03	3.70E-02	2.03E-02	2.03E-02	6.91E-02
56	5.24	0.	0.	0.	2.09E-07	7.07E-07	0.	0.	2.30E-03	1.01E-02	3.79E-02	2.06E-02	2.06E-02	7.10E-02
57	5.10	0.	0.	0.	2.09E-07	1.01E-06	0.	0.	2.32E-03	1.07E-02	3.91E-02	2.10E-02	2.10E-02	7.31E-02
58	5.00	1.51E-08	0.	0.	1.92E-07	9.53E-07	0.	0.	2.34E-03	1.14E-02	4.03E-02	2.13E-02	2.13E-02	7.54E-02
59	4.98	3.65E-08	0.	0.	2.14E-07	1.04E-06	0.	0.	2.36E-03	1.21E-02	4.17E-02	2.17E-02	2.17E-02	7.79E-02
60	4.95	4.52E-08	0.	0.	2.30E-07	9.93E-07	0.	0.	2.38E-03	1.29E-02	4.32E-02	2.22E-02	2.22E-02	8.00E-02
61	4.74	9.45E-08	0.	0.	2.31E-07	8.95E-07	0.	0.	2.40E-03	1.37E-02	4.48E-02	2.28E-02	2.28E-02	8.37E-02
62	4.64	1.31E-07	0.	0.	2.39E-07	6.17E-07	0.	0.	2.42E-03	1.47E-02	4.66E-02	2.34E-02	2.34E-02	8.71E-02
63	4.55	1.36E-07	0.	0.	2.61E-07	6.12E-07	0.	0.	2.44E-03	1.57E-02	4.90E-02	2.40E-02	2.40E-02	9.11E-02
64	4.41	1.41E-07	0.	0.	7.74E-07	4.20E-07	0.	0.	2.46E-03	1.68E-02	5.14E-02	2.46E-02	2.46E-02	9.53E-02
65	4.30	1.41E-07	0.	0.	2.50E-06	0.	0.	0.	2.48E-03	1.80E-02	5.41E-02	2.53E-02	2.53E-02	9.98E-02
66	4.28	1.35E-07	0.	0.	8.13E-06	0.	0.	0.	2.50E-03	1.93E-02	5.68E-02	2.60E-02	2.60E-02	1.05E-01
67	4.10	1.25E-07	0.	0.	3.64E-06	0.	0.	0.	2.51E-03	2.08E-02	5.95E-02	2.68E-02	2.68E-02	1.09E-01
68	4.00	1.15E-07	0.	0.	5.54E-06	5.60E-06	0.	0.	2.52E-03	2.24E-02	6.22E-02	2.76E-02	2.76E-02	1.14E-01
69	3.90	9.05E-08	0.	0.	8.09E-06	1.08E-05	0.	0.	2.53E-03	2.42E-02	6.10E-02	2.85E-02	2.85E-02	1.19E-01
70	3.80	1.05E-07	0.	0.	0.80E-05	2.34E-05	0.	0.	2.54E-03	2.62E-02	6.10E-02	2.95E-02	2.95E-02	1.25E-01
71	3.70	9.70E-08	0.	0.	9.10E-06	1.03E-05	0.	0.	2.55E-03	2.84E-02	5.13E-02	3.05E-02	3.05E-02	1.32E-01
72	3.60	8.72E-08	0.	0.	6.60E-06	5.41E-05	1.09E-05	0.	2.56E-03	3.08E-02	5.13E-02	3.15E-02	3.15E-02	1.39E-01
73	3.50	7.62E-08	0.	0.	6.87E-06	1.01E-04	1.98E-07	0.	2.57E-03	3.36E-02	5.07E-02	3.25E-02	3.25E-02	1.46E-01
74	3.40	6.42E-08	0.	0.	5.59E-06	1.59E-05	1.78E-07	0.	2.58E-03	3.67E-02	6.52E-02	3.35E-02	3.35E-02	1.53E-01
75	3.30	6.15E-08	0.	0.	5.72E-06	5.99E-05	1.43E-07	0.	2.59E-03	4.01E-02	7.20E-02	3.45E-02	3.45E-02	1.60E-01
76	3.20	5.13E-08	0.	0.	3.79E-06	9.72E-05	1.51E-07	0.	2.60E-03	4.41E-02	7.87E-02	3.55E-02	3.55E-02	1.68E-01
77	3.10	5.13E-08	0.	0.	2.95E-06	2.51E-05	1.64E-07	0.	2.61E-03	4.84E-02	8.57E-02	3.65E-02	3.65E-02	1.76E-01
78	3.00	4.32E-08	0.	0.	1.62E-06	5.70E-05	1.57E-07	0.	2.62E-03	5.37E-02	9.27E-02	3.75E-02	3.75E-02	1.84E-01
79	2.95	3.55E-08	0.	0.	1.15E-06	3.11E-05	1.95E-07	0.	2.63E-03	5.95E-02	1.00E-01	3.85E-02	3.85E-02	1.92E-01
80	2.90	4.14E-08	0.	0.	5.52E-07	2.06E-05	7.00E-08	0.	2.64E-03	6.63E-02	1.09E-01	3.95E-02	3.95E-02	2.00E-01
81	2.70	2.65E-08	0.	0.	2.59E-07	2.70E-05	4.10E-08	0.	2.65E-03	7.40E-02	1.18E-01	4.05E-02	4.05E-02	2.08E-01
82	2.60	1.29E-08	0.	0.	1.84E-07	2.70E-05	1.02E-08	0.	2.66E-03	8.31E-02	1.29E-01	4.15E-02	4.15E-02	2.17E-01
83	2.50	9.05E-10	0.	0.	1.33E-08	2.70E-06	4.50E-09	0.	2.67E-03	9.36E-02	1.47E-01	4.25E-02	4.25E-02	2.26E-01
84	2.40	0.	0.	0.	5.04E-07	0.	0.	0.	2.68E-03	1.06E-01	1.71E-01	4.35E-02	4.35E-02	2.35E-01
85	2.30	0.	0.	0.	1.68E-06	0.	0.	0.	2.69E-03	1.21E-01	1.49E-01	4.45E-02	4.45E-02	2.44E-01
86	2.20	0.	0.	0.	4.74E-06	0.	0.	0.	2.70E-03	1.38E-01	1.76E-01	4.55E-02	4.55E-02	2.53E-01
87	2.10	0.	0.	0.	4.92E-06	0.	0.	0.	2.71E-03	1.59E-01	2.05E-01	4.65E-02	4.65E-02	2.62E-01
88	2.00	0.	0.	0.	9.74E-06	0.	0.	0.	2.72E-03	1.85E-01	2.34E-01	4.75E-02	4.75E-02	2.71E-01
89	1.90	0.	0.	0.	1.20E-05	0.	0.	0.	2.73E-03	2.16E-01	2.60E-01	4.85E-02	4.85E-02	2.80E-01
90	1.80	0.	0.	0.	1.62E-05	0.	0.	0.	2.74E-03	2.55E-01	3.21E-01	4.95E-02	4.95E-02	2.89E-01
91	1.70	0.	0.	0.	5.17E-05	0.	0.	0.	2.75E-03	3.03E-01	3.86E-01	5.05E-02	5.05E-02	2.98E-01
92	1.60	0.	0.	0.	0.77E-04	0.	0.	0.	2.76E-03	3.66E-01	4.51E-01	5.15E-02	5.15E-02	3.07E-01
93	1.50	0.	0.	0.	1.00E-04	0.	0.	0.	2.77E-03	4.47E-01	5.05E-01	5.25E-02	5.25E-02	3.16E-01
94	1.40	0.	0.	0.	9.95E-05	0.	0.	0.	2.78E-03	5.44E-01	5.95E-01	5.35E-02	5.35E-02	3.25E-01
95	1.30	0.	0.	0.	7.46E-05	0.	0.	0.	2.79E-03	6.65E-01	7.14E-01	5.45E-02	5.45E-02	3.34E-01
96	1.20	0.	0.	0.	7.20E-05	0.	0.	0.	2.80E-03	8.10E-01	8.64E-01	5.55E-02	5.55E-02	3.43E-01
97	1.10	0.	0.	0.	0.94E-04	0.	0.	0.	2.81E-03	9.80E-01	1.04E-01	5.65E-02	5.65E-02	3.52E-01
98	1.00	0.	0.	0.	0.39E-04	0.	0.	0.	2.82E-03	1.19E-01	1.25E-01	5.75E-02	5.75E-02	3.61E-01
99	0.90	0.	0.	0.	2.47E-04	0.	0.	0.	2.83E-03	1.46E-01	1.51E-01	5.85E-02	5.85E-02	3.70E-01
100	0.80	0.	0.	0.	2.47E-04	0.	0.	0.	2.84E-03	1.75E-01	1.78E-01	5.95E-02	5.95E-02	3.79E-01
101	0.70	0.	0.	0.	3.75E-04	0.	0.	0.	2.85E-03	2.16E-01	2.16E-01	6.05E-02	6.05E-02	3.88E-01
102	0.60	0.	0.	0.	1.19E-03	0.	0.	0.	2.86E-03	2.68E-01	2.68E-01	6.15E-02	6.15E-02	3.97E-01

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 19880. DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)

PHOTON ENERGY BANDS E.V.	02 S-R CONST.	02 S-R NO. 1	NO DELTA	NO GAMMA	NO 2	0- PHOTO-DET FLOW(S)	FREE-FREE N	P.E.	0	TOTAL AIR P.E.
1 18.78 0.	0.	2.31E-08	0.	0.	0.	1.30E-05	3.46E-05	4.76E-02	6.09E-04	4.83E-02
2 18.68 0.	0.	2.11E-08	0.	0.	0.	1.30E-05	3.46E-05	2.84E-03	6.06E-04	2.77E-03
3 18.58 0.	0.	2.14E-08	0.	0.	0.	1.30E-05	3.47E-05	2.85E-03	6.05E-04	2.76E-03
4 18.48 0.	0.	2.04E-08	0.	0.	0.	1.30E-05	3.77E-05	2.05E-03	6.08E-04	2.78E-03
5 18.38 0.	0.	1.70E-08	0.	0.	0.	1.30E-05	3.80E-05	2.06E-03	6.77E-04	2.79E-03
6 18.28 0.	0.	1.66E-08	0.	0.	0.	1.31E-05	4.13E-05	2.06E-03	6.75E-04	2.78E-03
7 18.18 0.	0.	1.75E-08	0.	0.	0.	1.31E-05	4.13E-05	2.06E-03	6.72E-04	2.78E-03
8 18.08 0.	0.	1.55E-08	0.	0.	0.	1.31E-05	4.29E-05	2.05E-03	6.65E-04	2.77E-03
9 9.94 0.	0.	1.50E-08	0.	0.	0.	1.31E-05	4.29E-05	2.05E-03	6.65E-04	2.77E-03
10 9.84 0.	0.	1.31E-08	0.	0.	0.	1.32E-05	4.47E-05	2.06E-03	6.4E-04	2.78E-03
11 9.74 0.	0.	1.42E-08	0.	0.	0.	1.32E-05	4.47E-05	2.06E-03	6.4E-04	2.78E-03
12 9.64 0.	0.	1.22E-08	0.	0.	0.	1.32E-05	4.97E-05	2.07E-03	6.55E-04	2.77E-03
13 9.54 0.	0.	1.16E-08	0.	0.	0.	1.33E-05	5.13E-05	2.08E-03	6.57E-04	2.77E-03
14 9.44 0.	0.	1.10E-08	0.	0.	0.	1.33E-05	5.13E-05	2.08E-03	6.57E-04	2.77E-03
15 9.34 0.	0.	1.10E-08	0.	0.	0.	1.33E-05	5.13E-05	2.08E-03	6.57E-04	2.77E-03
16 9.24 0.	0.	9.97E-09	0.	0.	0.	1.34E-05	5.47E-05	2.09E-03	6.47E-04	2.81E-03
17 9.14 0.	0.	1.03E-08	0.	0.	0.	1.34E-05	5.47E-05	2.09E-03	6.47E-04	2.81E-03
18 9.04 0.	0.	9.30E-09	0.	0.	0.	1.35E-05	5.89E-05	2.1E-03	6.4E-04	1.51E-03
19 8.94 0.	0.	8.3E-09	0.	0.	0.	1.35E-05	5.89E-05	2.1E-03	6.4E-04	1.51E-03
20 8.84 0.	0.	8.00E-09	0.	0.	0.	1.36E-05	6.26E-05	2.1E-03	6.36E-04	1.51E-03
21 8.74 0.	0.	7.53E-09	0.	0.	0.	1.36E-05	6.26E-05	2.1E-03	6.36E-04	1.51E-03
22 8.64 0.	0.	7.08E-09	0.	0.	0.	1.37E-05	6.71E-05	2.1E-03	6.31E-04	1.51E-03
23 8.54 0.	0.	6.67E-09	0.	0.	0.	1.37E-05	6.71E-05	2.1E-03	6.31E-04	1.51E-03
24 8.44 0.	0.	6.28E-09	0.	0.	0.	1.38E-05	7.21E-05	2.1E-03	6.27E-04	1.52E-03
25 8.34 0.	0.	5.94E-09	0.	0.	0.	1.38E-05	7.21E-05	2.1E-03	6.27E-04	1.52E-03
26 8.24 0.	0.	5.64E-09	0.	0.	0.	1.39E-05	7.75E-05	2.1E-03	6.27E-04	1.52E-03
27 8.14 0.	0.	5.17E-09	0.	0.	0.	1.40E-05	8.04E-05	2.1E-03	6.27E-04	1.52E-03
28 8.04 0.	0.	5.22E-09	0.	0.	0.	1.41E-05	8.04E-05	2.1E-03	6.27E-04	1.52E-03
29 7.94 0.	0.	4.52E-09	0.	0.	0.	1.42E-05	8.34E-05	2.1E-03	6.20E-04	1.54E-03
30 7.84 0.	0.	4.71E-09	0.	0.	0.	1.42E-05	8.34E-05	2.1E-03	6.20E-04	1.54E-03
31 7.74 0.	0.	4.16E-09	0.	0.	0.	1.43E-05	9.34E-05	2.1E-03	6.30E-04	1.58E-03
32 7.64 0.	0.	3.97E-09	0.	2.45E-13	0.	1.43E-05	9.34E-05	2.1E-03	6.30E-04	1.58E-03
33 7.54 0.	0.	3.70E-09	0.	8.17E-13	0.	1.44E-05	1.07E-04	2.1E-03	6.33E-04	1.59E-03
34 7.44 0.	0.	3.34E-09	0.	7.01E-12	0.	1.45E-05	1.07E-04	2.1E-03	6.33E-04	1.59E-03
35 7.34 0.	0.	3.18E-09	0.	2.74E-11	0.	1.45E-05	1.07E-04	2.1E-03	6.33E-04	1.59E-03
36 7.24 0.	0.	2.60E-09	0.	7.36E-11	0.	1.47E-05	1.19E-04	2.1E-03	6.35E-04	1.62E-03
37 7.14 0.	0.	2.79E-09	0.	2.36E-10	0.	1.47E-05	1.19E-04	2.1E-03	6.35E-04	1.62E-03
38 7.04 0.	0.	2.57E-09	0.	4.63E-10	0.	1.48E-05	1.29E-04	2.1E-03	6.37E-04	1.64E-03
39 6.94 0.	0.	2.37E-09	0.	6.59E-10	0.	1.49E-05	1.29E-04	2.1E-03	6.37E-04	1.64E-03
40 6.84 0.	0.	2.30E-09	0.	1.12E-09	0.	1.50E-05	1.37E-04	2.1E-03	6.39E-04	1.65E-03
41 6.74 0.	0.	2.03E-09	0.	1.10E-09	0.	1.51E-05	1.37E-04	2.1E-03	6.40E-04	1.67E-03
42 6.64 0.	0.	1.83E-09	0.	1.31E-09	0.	1.53E-05	1.45E-04	2.1E-03	6.42E-04	1.69E-03
43 6.54 0.	0.	1.67E-09	0.	1.34E-09	0.	1.54E-05	1.45E-04	2.1E-03	6.42E-04	1.69E-03
44 6.44 0.	0.	1.02E-09	4.42E-12	1.34E-09	0.	1.55E-05	1.57E-04	2.1E-03	6.45E-04	1.72E-03
45 6.34 0.	0.	6.47E-10	2.09E-11	9.10E-10	0.	1.57E-05	1.57E-04	2.1E-03	6.45E-04	1.72E-03
46 6.24 0.	0.	3.62E-10	2.99E-11	1.24E-09	0.	1.59E-05	1.72E-04	2.1E-03	6.51E-04	1.77E-03
47 6.14 0.	0.	1.72E-10	8.57E-11	1.52E-09	0.	1.59E-05	1.72E-04	2.1E-03	6.51E-04	1.77E-03
48 6.04 0.	0.	4.36E-11	8.29E-11	7.56E-10	0.	1.61E-05	1.91E-04	2.1E-03	6.60E-04	1.84E-03
49 5.94 0.	0.	3.14E-12	1.22E-10	7.34E-10	0.	1.61E-05	1.91E-04	2.1E-03	6.60E-04	1.84E-03
50 5.84 0.	0.	7.94E-14	1.71E-10	7.62E-10	0.	1.59E-05	2.21E-04	2.1E-03	6.79E-04	1.91E-03
51 5.74 0.	0.	3.01E-17	2.02E-10	8.52E-10	0.	1.49E-05	2.35E-04	2.1E-03	6.85E-04	1.94E-03

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		1.203E-05 (19.0E-03 NORMAL)		0-1.0E-03		M		P.E.		
	1ST POS.	2ND POS.	1ST POS.	2ND POS.	1ST POS.	2ND POS.	1ST POS.	2ND POS.	1ST POS.	2ND POS.	1ST POS.	2ND POS.	
52	5.00	1.34E-10	0.	0.	1.74E-10	1.12E-09	0.	0.	3.39E-05	2.40E-04	1.02E-03	6.91E-04	1.97E-03
53	5.57	0.	0.	0.	2.12E-10	1.94E-09	0.	0.	1.39E-05	2.59E-04	1.04E-03	6.96E-04	2.01E-03
54	5.99	0.	0.	0.	1.94E-10	0.57E-10	0.	0.	1.40E-05	2.74E-04	1.07E-03	7.07E-04	2.07E-03
55	5.50	0.	0.	0.	2.01E-10	1.07E-09	0.	0.	1.41E-05	2.90E-04	1.10E-03	7.17E-04	2.12E-03
56	5.20	0.	0.	0.	2.17E-10	0.19E-10	0.	0.	1.42E-05	3.04E-04	1.12E-03	7.28E-04	2.17E-03
57	5.10	0.	0.	0.	2.17E-10	1.09E-09	0.	0.	1.43E-05	3.20E-04	1.15E-03	7.42E-04	2.24E-03
58	5.00	1.00E-11	0.	0.	1.99E-10	9.92E-10	0.	0.	1.44E-05	3.37E-04	1.19E-03	7.54E-04	2.30E-03
59	4.91	4.40E-11	0.	0.	2.29E-10	1.09E-09	0.	0.	1.45E-05	3.54E-04	1.23E-03	7.68E-04	2.38E-03
60	4.81	5.07E-11	0.	0.	2.40E-10	0.32E-09	0.	0.	1.47E-05	3.72E-04	1.28E-03	7.84E-04	2.47E-03
61	4.71	1.10E-10	0.	0.	2.41E-10	0.32E-09	0.	0.	1.48E-05	3.91E-04	1.32E-03	8.01E-04	2.56E-03
62	4.61	1.61E-10	0.	0.	2.40E-10	0.44E-10	0.	0.	1.49E-05	4.10E-04	1.36E-03	8.20E-04	2.66E-03
63	4.51	3.72E-10	0.	0.	2.27E-10	0.39E-10	0.	0.	1.50E-05	4.30E-04	1.41E-03	8.40E-04	2.76E-03
64	4.41	1.05E-10	0.	0.	2.30E-10	0.37E-10	0.	0.	1.51E-05	4.51E-04	1.45E-03	8.60E-04	2.92E-03
65	4.31	1.74E-10	0.	0.	2.24E-09	0.	0.	1.53E-05	5.14E-04	1.50E-03	8.95E-04	3.10E-03	
66	4.20	1.65E-10	0.	0.	2.33E-10	1.09E-10	0.	0.	1.54E-05	5.84E-04	1.56E-03	9.19E-04	3.20E-03
67	4.10	1.55E-10	0.	0.	3.16E-09	0.	0.	1.54E-05	6.35E-04	1.76E-03	9.19E-04	3.13E-03	
68	4.00	1.44E-10	0.	0.	1.82E-08	0.	0.	1.55E-05	6.32E-04	1.86E-03	9.11E-04	2.95E-03	
69	3.90	1.25E-10	0.	0.	4.81E-09	2.02E-08	0.	0.	1.54E-05	7.34E-04	1.80E-03	4.24E-04	2.98E-03
70	3.80	1.35E-10	0.	0.	7.71E-09	1.16E-07	0.	0.	1.54E-05	7.94E-04	1.83E-03	4.44E-04	3.08E-03
71	3.70	1.21E-10	0.	0.	7.67E-09	5.14E-08	0.	0.	1.51E-05	8.03E-04	1.82E-03	4.46E-04	3.08E-03
72	3.60	1.10E-10	0.	0.	5.73E-09	2.09E-07	0.	0.	1.42E-05	9.39E-04	1.64E-03	5.32E-04	3.12E-03
73	3.50	1.03E-10	0.	0.	7.52E-09	5.81E-07	0.	0.	1.30E-05	1.02E-03	1.74E-03	5.84E-04	3.34E-03
74	3.40	9.52E-11	0.	0.	4.65E-09	7.89E-08	0.	0.	7.49E-06	1.25E-03	1.91E-03	6.48E-04	3.70E-03
75	3.30	7.62E-11	0.	0.	3.29E-09	2.90E-07	0.	0.	7.50E-06	1.52E-03	2.13E-03	7.84E-04	4.04E-03
76	3.20	6.71E-11	0.	0.	3.29E-09	4.83E-07	0.	0.	7.51E-06	1.84E-03	2.33E-03	9.07E-04	4.45E-03
77	3.10	5.82E-11	0.	0.	2.56E-09	1.25E-07	0.	0.	7.55E-06	1.48E-03	2.53E-03	9.31E-04	4.65E-03
78	3.00	4.93E-11	0.	0.	1.50E-09	2.84E-07	0.	0.	7.55E-06	1.03E-03	2.74E-03	9.94E-04	5.20E-03
79	2.90	4.99E-11	0.	0.	9.94E-10	1.10E-10	0.	0.	7.54E-06	1.01E-03	2.94E-03	9.65E-04	5.75E-03
80	2.80	5.17E-11	0.	0.	4.00E-10	1.03E-07	0.	0.	7.57E-06	2.02E-03	3.22E-03	1.04E-03	6.20E-03
81	2.70	3.37E-11	0.	0.	2.25E-10	1.34E-07	0.	0.	7.57E-06	2.95E-03	3.50E-03	1.15E-03	6.80E-03
82	2.60	1.68E-11	0.	0.	1.69E-10	1.30E-08	0.	0.	7.57E-06	2.93E-03	3.79E-03	1.22E-03	7.55E-03
83	2.50	1.13E-12	0.	0.	1.19E-11	1.34E-08	0.	0.	7.57E-06	2.05E-03	4.22E-03	7.54E-04	7.91E-03
84	2.40	0.	0.	0.	1.05E-08	4.89E-13	0.	0.	7.57E-06	3.27E-03	5.04E-03	8.84E-04	9.15E-03
85	2.30	0.	0.	0.	1.54E-09	0.	0.	7.51E-06	3.47E-03	4.40E-03	1.05E-03	9.11E-03	
86	2.20	0.	0.	0.	4.12E-09	0.	0.	7.40E-06	4.2E-03	5.20E-03	1.24E-03	1.07E-02	
87	2.10	0.	0.	0.	0.47E-09	0.	0.	7.45E-06	4.95E-03	6.05E-03	1.47E-03	1.24E-02	
88	2.00	0.	0.	0.	0.47E-09	0.	0.	7.21E-06	5.35E-03	6.80E-03	1.67E-03	1.42E-02	
89	1.90	0.	0.	0.	1.04E-09	0.	0.	6.94E-06	6.58E-03	7.91E-03	1.94E-03	1.54E-02	
90	1.80	0.	0.	0.	0.09E-09	0.	0.	6.63E-06	7.76E-03	9.47E-03	2.37E-03	1.94E-02	
91	1.70	0.	0.	0.	1.01E-08	0.	0.	6.25E-06	9.23E-03	1.14E-02	2.86E-03	2.35E-02	
92	1.60	0.	0.	0.	7.61E-09	0.	0.	5.29E-06	1.1E-02	1.33E-02	3.39E-03	2.78E-02	
93	1.50	0.	0.	0.	0.79E-09	0.	0.	2.40E-06	1.36E-02	1.73E-02	4.12E-03	3.50E-02	
94	1.40	0.	0.	0.	0.61E-09	0.	0.	0.	1.68E-02	2.15E-02	4.92E-03	4.33E-02	
95	1.30	0.	0.	0.	0.66E-09	0.	0.	0.	2.11E-02	2.87E-02	6.58E-03	5.63E-02	
96	1.20	0.	0.	0.	0.30E-09	0.	0.	0.	3.31E-02	3.91E-02	9.54E-03	8.52E-02	
97	1.10	0.	0.	0.	0.04E-09	0.	0.	0.	4.70E-02	5.21E-02	1.21E-02	8.24E-02	
98	1.00	0.	0.	0.	5.54E-09	0.	0.	0.	6.82E-02	6.73E-02	1.65E-02	1.04E-01	
99	0.90	0.	0.	0.	0.94E-09	0.	0.	0.	9.55E-02	8.75E-02	2.24E-02	1.51E-01	
100	0.80	0.	0.	0.	2.16E-09	0.	0.	0.	0.95E-02	6.27E-02	1.24E-02	1.65E-01	
101	0.70	0.	0.	0.	5.81E-10	0.	0.	0.	1.47E-01	6.80E-02	1.30E-02	2.73E-01	
102	0.60	0.	0.	0.	9.95E-11	0.	0.	0.	2.29E-01	7.40E-02	1.43E-02	3.19E-01	

ABSORPTION COEFFICIENT OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 1988. DENSITY (GM/CC) 1.293E-06 (1.0E-04 NORMAL)

PHOTON ENERGY E.V.	02 3-0 CMYT.	N2 3-4 NO. 1	NO		O		FREE-FREE		TOTAL AIR	
			MEGA	GAMMA	PHOTO-OXY (IONS)	P.E.	N	O	P.E.	
1 10.74 0.	0.	4.13E-12	0.	0.	2.19E-08	4.32E-07	2.96E-05	9.95E-06	4.08E-05	0.
2 10.93 0.	0.	3.77E-12	0.	0.	2.19E-08	4.06E-07	2.92E-05	9.70E-06	4.02E-05	0.
3 10.94 0.	0.	3.82E-12	0.	0.	2.19E-08	5.19E-07	3.06E-05	9.60E-06	4.07E-05	0.
4 10.98 0.	0.	3.64E-12	0.	0.	2.19E-08	5.19E-07	3.06E-05	9.60E-06	4.07E-05	0.
5 10.98 0.	0.	3.20E-12	0.	0.	2.19E-08	5.49E-07	3.06E-05	9.74E-06	4.05E-05	0.
6 10.98 0.	0.	3.31E-12	0.	0.	2.19E-08	5.49E-07	3.06E-05	9.74E-06	4.05E-05	0.
7 10.10 0.	0.	3.13E-12	0.	0.	2.19E-08	5.49E-07	3.06E-05	9.74E-06	4.05E-05	0.
8 10.89 0.	0.	2.77E-12	0.	0.	2.19E-08	5.06E-07	2.76E-05	9.66E-06	3.82E-05	0.
9 9.97 0.	0.	2.60E-12	0.	0.	2.21E-08	6.19E-07	2.81E-05	9.62E-06	3.83E-05	0.
10 9.97 0.	0.	2.60E-12	0.	0.	2.21E-08	6.19E-07	2.81E-05	9.62E-06	3.83E-05	0.
11 9.74 0.	0.	2.34E-12	0.	0.	2.22E-08	6.34E-07	2.81E-05	9.54E-06	3.81E-05	0.
12 9.61 0.	0.	2.53E-12	0.	0.	2.22E-08	6.59E-07	2.80E-05	9.50E-06	3.81E-05	0.
13 9.57 0.	0.	2.10E-12	0.	0.	2.22E-08	6.71E-07	2.80E-05	9.48E-06	3.80E-05	0.
14 9.67 0.	0.	2.07E-12	0.	0.	2.22E-08	6.99E-07	2.80E-05	9.42E-06	3.85E-05	0.
15 9.39 0.	0.	2.13E-12	0.	0.	2.24E-08	7.22E-07	2.80E-05	9.30E-06	3.80E-05	0.
16 9.27 0.	0.	1.70E-12	0.	0.	2.22E-08	7.46E-07	2.80E-05	9.46E-06	3.80E-05	0.
17 9.10 0.	0.	1.83E-12	0.	0.	2.26E-08	7.71E-07	1.18E-05	9.30E-06	2.14E-05	0.
18 9.08 0.	0.	1.67E-12	0.	0.	2.26E-08	7.71E-07	1.18E-05	9.27E-06	2.14E-05	0.
19 8.98 0.	0.	1.54E-12	0.	0.	2.27E-08	8.29E-07	1.18E-05	9.23E-06	2.14E-05	0.
20 8.99 0.	0.	1.54E-12	0.	0.	2.28E-08	8.54E-07	1.18E-05	9.19E-06	2.14E-05	0.
21 8.76 0.	0.	1.34E-12	0.	0.	2.29E-08	8.96E-07	1.18E-05	9.16E-06	2.14E-05	0.
22 8.68 0.	0.	1.39E-12	0.	0.	2.30E-08	9.19E-07	1.18E-05	9.17E-06	2.14E-05	0.
23 8.51 0.	0.	1.23E-12	0.	0.	2.30E-08	9.46E-07	1.18E-05	9.20E-06	2.15E-05	0.
24 8.43 0.	0.	1.22E-12	0.	0.	2.32E-08	9.83E-07	1.18E-05	9.25E-06	2.15E-05	0.
25 8.38 0.	0.	1.05E-12	0.	0.	2.34E-08	1.02E-06	1.18E-05	9.04E-06	2.10E-05	0.
26 8.29 0.	0.	1.06E-12	0.	0.	2.34E-08	1.02E-06	1.18E-05	9.05E-06	2.17E-05	0.
27 8.10 0.	0.	9.23E-13	0.	0.	2.35E-08	1.10E-06	1.18E-05	9.06E-06	2.13E-05	0.
28 8.00 0.	0.	9.32E-13	0.	0.	2.36E-08	1.14E-06	1.17E-05	9.07E-06	2.19E-05	0.
29 7.98 0.	0.	8.07E-13	0.	0.	2.38E-08	1.19E-06	1.18E-05	9.09E-06	2.21E-05	0.
30 7.88 0.	0.	8.40E-13	0.	0.	2.39E-08	1.23E-06	1.19E-05	9.10E-06	2.22E-05	0.
31 7.78 0.	0.	7.42E-13	0.	0.	2.40E-08	1.29E-06	1.22E-05	9.12E-06	2.24E-05	0.
32 7.89 0.	0.	7.80E-13	0.	4.72E-17	2.41E-08	1.33E-06	1.22E-05	9.13E-06	2.21E-05	0.
33 7.58 0.	0.	6.60E-13	0.	1.50E-16	2.43E-08	1.34E-06	1.17E-05	9.14E-06	2.23E-05	0.
34 7.46 0.	0.	5.96E-13	0.	1.35E-15	2.44E-08	1.44E-06	1.18E-05	9.14E-06	2.25E-05	0.
35 7.37 0.	0.	5.04E-13	0.	5.49E-15	2.45E-08	1.50E-06	1.19E-05	9.17E-06	2.26E-05	0.
36 7.24 0.	0.	5.16E-13	0.	1.46E-14	2.47E-08	1.57E-06	1.21E-05	9.19E-06	2.28E-05	0.
37 7.10 0.	0.	4.98E-13	0.	4.55E-14	2.49E-08	1.61E-06	1.22E-05	9.20E-06	2.30E-05	0.
38 7.00 2.0E-10	0.	4.60E-13	0.	6.93E-14	2.51E-08	1.71E-06	1.22E-05	9.22E-06	2.32E-05	0.
39 6.99 4.0E-10	0.	4.24E-13	0.	1.26E-13	2.53E-08	1.74E-06	1.24E-05	9.23E-06	2.34E-05	0.
40 6.80 3.5E-10	0.	4.11E-13	0.	2.14E-13	2.53E-08	1.90E-06	1.25E-05	9.25E-06	2.36E-05	0.
41 6.78 2.5E-10	0.	3.62E-13	0.	2.13E-13	2.57E-08	1.95E-06	1.26E-05	9.26E-06	2.38E-05	0.
42 6.60 1.5E-10	0.	3.24E-13	0.	1.78E-13	2.59E-08	2.02E-06	1.27E-05	9.31E-06	2.41E-05	0.
43 6.58 9.1E-17	0.	2.62E-13	0.	2.59E-13	2.61E-08	2.11E-06	1.28E-05	9.34E-06	2.43E-05	0.
44 6.40 9.2E-17	0.	1.83E-13	0.	8.52E-14	2.61E-08	2.25E-06	1.30E-05	9.37E-06	2.46E-05	0.
45 6.38 1.0E-17	0.	1.16E-13	0.	4.93E-15	2.61E-08	2.36E-06	1.32E-05	9.42E-06	2.49E-05	0.
46 6.20 1.3E-17	0.	6.46E-14	0.	5.77E-15	2.60E-08	2.50E-06	1.33E-05	9.50E-06	2.53E-05	0.
47 6.10 6.4E-10	0.	3.80E-14	0.	2.65E-14	2.63E-08	2.69E-06	1.35E-05	9.58E-06	2.57E-05	0.
48 6.00 2.7E-10	0.	7.80E-15	0.	1.60E-14	2.63E-08	2.97E-06	1.37E-05	9.66E-06	2.61E-05	0.
49 5.90 6.6E-10	0.	5.61E-16	0.	2.55E-14	2.63E-08	3.30E-06	1.39E-05	9.74E-06	2.66E-05	0.
50 5.88 4.4E-20	0.	1.42E-17	0.	3.30E-14	1.47E-13	3.69E-06	1.42E-05	9.83E-06	2.70E-05	0.
51 5.78 6.7E-21	0.	0.	0.	3.89E-14	1.64E-13	4.19E-06	1.44E-05	9.91E-06	2.75E-05	0.

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
TEMPERATURE (DEGREES K) 10000, DENSITY (GM/CC) 1.203E-04 (10.0E-04 NORMAL)

PHOTON OF 5- ENERGY BANDS	N2 1ST POS.	Z2 2ND POS.	N2 1ST NEG.	BETA	NO GAMMA	NO VIB-ROT	NO PHOTO-DET (IONS)	0- FREE-FREE P.E.	R P.E.	0 TOTAL AIR P.E.		
52	5.07	2.03E-22	0.	3.35E-14	2.14E-13	0.	0.	2.33E-00	3.35E-04	1.46E-0510-00E-06	2.00E-05	
53	5.50	0.	0.	4.09E-14	2.00E-13	0.	0.	2.34E-00	3.54E-04	1.50E-05	1.01E-05	2.00E-05
54	5.49	0.	0.	3.70E-14	1.04E-13	0.	0.	2.35E-00	3.74E-04	1.50E-05	1.07E-05	2.00E-05
55	5.37	0.	0.	3.08E-14	2.00E-13	0.	0.	2.37E-00	4.04E-04	1.50E-05	1.04E-05	3.02E-05
56	5.27	0.	0.	4.19E-14	1.50E-13	0.	0.	2.39E-00	4.19E-04	1.53E-05	1.05E-05	3.00E-05
57	5.10	0.	0.	4.19E-14	2.00E-13	0.	0.	2.41E-00	4.45E-04	1.57E-05	1.07E-05	3.00E-05
58	5.00	3.01E-15	0.	3.03E-14	1.91E-13	0.	0.	2.44E-00	4.73E-04	1.62E-05	1.09E-05	3.00E-05
59	4.99	0.57E-15	0.	4.30E-14	2.10E-13	0.	0.	2.45E-00	5.00E-04	1.68E-05	1.11E-05	3.00E-05
60	4.07	1.00E-14	0.	4.55E-14	1.07E-13	0.	0.	2.47E-00	5.35E-04	1.74E-05	1.15E-05	3.41E-05
61	4.77	2.00E-14	0.	4.55E-14	1.00E-13	0.	0.	2.49E-00	5.70E-04	1.81E-05	1.18E-05	3.40E-05
62	4.64	3.00E-14	0.	4.70E-14	1.03E-13	0.	0.	2.51E-00	6.09E-04	1.88E-05	1.19E-05	3.60E-05
63	4.57	3.50E-14	0.	4.91E-14	1.20E-13	0.	0.	2.53E-00	6.51E-04	1.96E-05	1.22E-05	3.60E-05
64	4.47	3.05E-14	0.	4.41E-14	0.92E-13	0.	0.	2.55E-00	6.96E-04	2.00E-05	1.26E-05	4.03E-05
65	4.37	3.46E-14	0.	4.29E-14	3.31E-14	0.	0.	2.57E-00	7.47E-04	2.10E-05	1.29E-05	4.23E-05
66	4.27	3.43E-14	0.	4.02E-14	3.70E-14	0.	0.	2.59E-00	8.02E-04	2.30E-05	1.35E-05	4.43E-05
67	4.17	3.23E-14	0.	4.41E-14	3.00E-14	0.	0.	2.60E-00	8.63E-04	2.51E-05	1.41E-05	4.60E-05
68	4.07	2.99E-14	0.	4.70E-14	2.70E-14	0.	0.	2.61E-00	9.30E-04	2.72E-05	1.48E-05	4.85E-05
69	3.97	2.54E-14	0.	5.00E-14	2.91E-14	0.	0.	2.62E-00	1.00E-03	2.95E-05	1.56E-05	4.87E-05
70	3.87	2.01E-14	0.	1.42E-12	7.00E-11	0.	0.	2.59E-00	1.09E-03	2.81E-05	1.42E-06	3.74E-05
71	3.77	2.52E-14	0.	1.42E-12	7.00E-11	0.	0.	2.55E-00	1.10E-03	2.10E-05	7.02E-06	3.00E-05
72	3.67	2.70E-14	0.	1.42E-12	7.00E-11	0.	0.	2.59E-00	1.20E-03	2.27E-05	7.69E-06	4.12E-05
73	3.57	2.13E-14	0.	1.42E-12	7.00E-11	0.	0.	2.10E-00	1.39E-03	2.40E-05	8.44E-06	4.64E-05
74	3.48	1.90E-14	0.	0.87E-13	1.21E-10	3.52E-14	0.	1.20E-00	1.52E-03	2.67E-05	9.31E-06	5.12E-05
75	3.38	1.59E-14	0.	0.87E-13	4.57E-10	2.07E-14	0.	1.20E-00	1.67E-03	2.93E-05	1.02E-05	5.82E-05
76	3.28	1.40E-14	0.	5.07E-13	7.40E-10	3.03E-14	0.	1.20E-00	1.83E-03	3.23E-05	1.11E-05	6.15E-05
77	3.18	1.35E-14	0.	4.50E-13	1.01E-10	2.00E-14	0.	1.27E-00	2.02E-03	3.69E-05	1.20E-05	6.71E-05
78	3.09	1.21E-14	0.	2.92E-13	4.34E-10	2.70E-14	0.	1.27E-00	2.23E-03	3.77E-05	1.29E-05	7.29E-05
79	2.99	1.01E-14	0.	1.70E-13	2.17E-10	2.15E-14	0.	1.27E-00	2.47E-03	4.00E-05	1.39E-05	7.90E-05
80	2.89	1.00E-14	0.	0.80E-14	1.50E-10	1.48E-14	0.	1.27E-00	2.75E-03	4.33E-05	1.51E-05	8.60E-05
81	2.79	7.00E-15	0.	4.02E-14	2.95E-10	6.22E-15	0.	1.27E-00	3.07E-03	4.71E-05	1.63E-05	9.42E-05
82	2.69	3.35E-15	0.	1.94E-14	2.12E-11	3.60E-15	0.	1.27E-00	3.45E-03	5.12E-05	1.76E-05	1.03E-04
83	2.59	2.36E-15	0.	2.00E-15	2.07E-11	0.70E-16	0.	1.27E-00	3.80E-03	5.79E-05	1.95E-05	1.07E-04
84	2.49	0.	0.	1.01E-11	0.43E-17	0.	0.	1.27E-00	4.40E-03	6.91E-05	1.20E-05	1.05E-04
85	2.39	0.	0.	2.70E-13	0.	0.	0.	1.26E-00	5.01E-03	8.19E-05	1.52E-05	1.25E-04
86	2.29	0.	0.	7.80E-13	0.	0.	0.	1.26E-00	5.74E-03	9.70E-05	1.81E-05	1.46E-04
87	2.19	0.	0.	7.00E-13	0.	0.	0.	1.25E-00	6.62E-03	1.17E-05	2.12E-05	1.60E-04
88	2.09	0.	0.	1.04E-12	0.	0.	0.	1.25E-00	7.60E-03	1.47E-05	2.42E-05	1.80E-04
89	1.99	0.	0.	1.04E-12	0.	0.	0.	1.17E-00	8.70E-03	1.87E-05	2.81E-05	2.00E-04
90	1.89	0.	0.	1.04E-12	0.	0.	0.	1.12E-00	1.00E-02	2.30E-05	3.31E-05	2.40E-04
91	1.79	0.	0.	1.01E-12	0.	0.	0.	1.05E-00	1.16E-02	2.83E-05	4.05E-05	3.21E-04
92	1.69	0.	0.	1.04E-12	0.	0.	0.	0.89E-00	1.52E-02	4.179E-05	4.60E-05	3.80E-04
93	1.59	0.	0.	1.04E-12	0.	0.	0.	4.80E-00	1.80E-02	5.22E-05	5.94E-05	4.71E-04
94	1.49	0.	0.	1.04E-12	0.	0.	0.	0.	2.30E-04	2.70E-04	7.80E-05	5.77E-04
95	1.39	0.	0.	1.14E-12	0.	0.	0.	0.	2.80E-04	3.95E-04	0.11E-05	7.01E-04
96	1.29	0.	0.	1.17E-12	0.	0.	0.	0.	3.60E-04	4.24E-04	9.44E-05	8.66E-04
97	1.19	0.	0.	1.00E-12	0.	0.	0.	0.	4.70E-04	5.23E-04	1.10E-04	1.12E-03
98	1.09	0.	0.	0.91E-13	0.	0.	0.	0.	6.10E-04	6.34E-04	1.35E-04	1.41E-03
99	0.99	0.	0.	0.14E-13	0.	0.	0.	0.	8.00E-04	7.20E-04	1.50E-04	1.70E-03
100	0.89	0.	0.	3.07E-13	0.	0.	0.	0.	1.20E-03	8.30E-04	1.62E-04	2.10E-03
101	0.79	0.	0.	0.94E-14	0.	0.	0.	0.	1.59E-03	9.09E-04	1.67E-04	3.02E-03
102	0.69	0.	0.	1.70E-14	0.	0.	0.	0.	3.17E-03	9.21E-04	2.09E-04	4.25E-03



ABSORPTION COEFFICIENT OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY E.V.	Q2 S-R CONTR.	M2 B-W NO. 1	TEMPERATURE (DEGREES K)	DENSITY (GM/CC)	NO BETA	NO GAMMA	NO 2	U- PHOTO-DET (TOMS)	FREE-FREE P.E.	M P.E.	TOTAL AIR	
											0	P.E.
1 10.70 0.	0.	0.	4.42E-16	0.	0.	0.	0.	2.40E-11	5.19E-09	5.68E-07	1.07E-07	6.72E-07
2 10.60 0.	0.	0.	4.04E-16	0.	0.	0.	0.	2.40E-11	5.35E-09	5.68E-07	1.07E-07	6.78E-07
3 10.50 0.	0.	0.	4.10E-16	0.	0.	0.	0.	2.40E-11	5.87E-09	1.84E-07	1.84E-07	4.56E-07
4 10.40 0.	0.	0.	3.91E-16	0.	0.	0.	0.	2.41E-11	5.87E-09	1.84E-07	1.84E-07	4.56E-07
5 10.30 0.	0.	0.	3.43E-16	0.	0.	0.	0.	2.41E-11	5.02E-09	1.84E-07	1.84E-07	4.56E-07
6 10.20 0.	0.	0.	3.58E-16	0.	0.	0.	0.	2.41E-11	5.99E-09	3.47E-07	1.84E-07	4.56E-07
7 10.10 0.	0.	0.	3.36E-16	0.	0.	0.	0.	2.42E-11	6.17E-09	3.48E-07	1.84E-07	4.59E-07
8 10.00 0.	0.	0.	2.87E-16	0.	0.	0.	0.	2.42E-11	6.34E-09	3.50E-07	1.84E-07	4.60E-07
9 9.90 0.	0.	0.	3.05E-16	0.	0.	0.	0.	2.43E-11	6.56E-09	3.52E-07	1.84E-07	4.62E-07
10 9.80 0.	0.	0.	2.80E-16	0.	0.	0.	0.	2.43E-11	6.74E-09	3.55E-07	1.84E-07	4.63E-07
11 9.70 0.	0.	0.	2.51E-16	0.	0.	0.	0.	2.44E-11	6.99E-09	3.58E-07	1.84E-07	4.65E-07
12 9.60 0.	0.	0.	2.71E-16	0.	0.	0.	0.	2.44E-11	7.20E-09	3.58E-07	1.84E-07	4.66E-07
13 9.50 0.	0.	0.	2.33E-16	0.	0.	0.	0.	2.44E-11	7.45E-09	3.58E-07	1.84E-07	4.68E-07
14 9.40 0.	0.	0.	2.28E-16	0.	0.	0.	0.	2.45E-11	7.67E-09	3.60E-07	1.84E-07	4.69E-07
15 9.30 0.	0.	0.	2.26E-16	0.	0.	0.	0.	2.46E-11	7.92E-09	1.83E-07	1.84E-07	4.69E-07
16 9.20 0.	0.	0.	1.92E-16	0.	0.	0.	0.	2.47E-11	8.19E-09	1.84E-07	1.84E-07	4.72E-07
17 9.10 0.	0.	0.	1.86E-16	0.	0.	0.	0.	2.48E-11	8.46E-09	1.84E-07	1.84E-07	4.73E-07
18 9.00 0.	0.	0.	1.80E-16	0.	0.	0.	0.	2.48E-11	8.75E-09	1.86E-07	1.84E-07	4.74E-07
19 8.90 0.	0.	0.	1.67E-16	0.	0.	0.	0.	2.50E-11	9.05E-09	1.87E-07	1.84E-07	4.75E-07
20 8.80 0.	0.	0.	1.65E-16	0.	0.	0.	0.	2.50E-11	9.34E-09	1.88E-07	1.84E-07	4.76E-07
21 8.70 0.	0.	0.	1.44E-16	0.	0.	0.	0.	2.51E-11	9.69E-09	1.89E-07	1.84E-07	4.77E-07
22 8.60 0.	0.	0.	1.46E-16	0.	0.	0.	0.	2.52E-11	1.00E-08	1.90E-07	1.84E-07	4.78E-07
23 8.50 0.	0.	0.	1.31E-16	0.	0.	0.	0.	2.53E-11	1.04E-08	1.91E-07	1.84E-07	4.79E-07
24 8.40 0.	0.	0.	1.31E-16	0.	0.	0.	0.	2.54E-11	1.08E-08	1.93E-07	1.84E-07	4.80E-07
25 8.30 0.	0.	0.	1.12E-16	0.	0.	0.	0.	2.56E-11	1.12E-08	1.94E-07	1.84E-07	4.82E-07
26 8.20 0.	0.	0.	1.14E-16	0.	0.	0.	0.	2.57E-11	1.16E-08	1.96E-07	1.84E-07	4.83E-07
27 8.10 0.	0.	0.	9.96E-17	0.	0.	0.	0.	2.58E-11	1.20E-08	1.97E-07	1.84E-07	4.84E-07
28 8.00 0.	0.	0.	9.96E-17	0.	0.	0.	0.	2.58E-11	1.24E-08	1.99E-07	1.84E-07	4.85E-07
29 7.90 0.	0.	0.	8.53E-17	0.	0.	0.	0.	2.60E-11	1.28E-08	1.99E-07	1.84E-07	4.86E-07
30 7.80 0.	0.	0.	9.01E-17	0.	0.	0.	0.	2.61E-11	1.32E-08	1.99E-07	1.84E-07	4.87E-07
31 7.70 0.	0.	0.	7.96E-17	0.	0.	0.	0.	2.64E-11	1.47E-08	1.97E-07	1.84E-07	4.89E-07
32 7.60 0.	0.	0.	7.60E-17	0.	0.	0.	0.	2.64E-11	1.47E-08	1.97E-07	1.84E-07	4.89E-07
33 7.50 0.	0.	0.	7.08E-17	0.	0.	0.	0.	2.66E-11	1.52E-08	1.95E-07	1.84E-07	4.91E-07
34 7.40 0.	0.	0.	6.39E-17	0.	0.	0.	0.	2.68E-11	1.58E-08	1.96E-07	1.84E-07	4.92E-07
35 7.30 0.	0.	0.	6.09E-17	0.	0.	0.	0.	2.69E-11	1.63E-08	1.97E-07	1.84E-07	4.93E-07
36 7.20 0.	0.	0.	5.53E-17	0.	0.	0.	0.	2.71E-11	1.74E-08	1.94E-07	1.84E-07	4.95E-07
37 7.10 0.	0.	0.	5.34E-17	0.	0.	0.	0.	2.73E-11	1.79E-08	1.88E-07	1.84E-07	4.97E-07
38 7.00 0.	0.	0.	4.93E-17	0.	0.	0.	0.	2.75E-11	1.87E-08	1.80E-07	1.84E-07	4.99E-07
39 6.90 0.	0.	0.	4.77E-17	0.	0.	0.	0.	2.78E-11	1.97E-08	1.90E-07	1.84E-07	5.01E-07
40 6.80 0.	0.	0.	4.47E-17	0.	0.	0.	0.	2.82E-11	2.04E-08	1.94E-07	1.84E-07	5.03E-07
41 6.70 0.	0.	0.	3.88E-17	0.	0.	0.	0.	2.82E-11	2.04E-08	1.98E-07	1.84E-07	5.04E-07
42 6.60 0.	0.	0.	3.90E-17	0.	0.	0.	0.	2.82E-11	2.14E-08	1.98E-07	1.84E-07	5.05E-07
43 6.50 0.	0.	0.	2.81E-17	0.	0.	0.	0.	2.84E-11	2.24E-08	1.92E-07	1.84E-07	5.07E-07
44 6.40 0.	0.	0.	1.96E-17	0.	0.	0.	0.	2.89E-11	2.45E-08	1.88E-07	1.84E-07	5.09E-07
45 6.30 0.	0.	0.	1.24E-17	0.	0.	0.	0.	2.91E-11	2.57E-08	1.86E-07	1.84E-07	5.11E-07
46 6.20 0.	0.	0.	6.93E-18	0.	0.	0.	0.	2.93E-11	2.70E-08	1.82E-07	1.84E-07	5.13E-07
47 6.10 0.	0.	0.	3.28E-18	0.	0.	0.	0.	2.95E-11	2.84E-08	1.82E-07	1.84E-07	5.15E-07
48 6.00 0.	0.	0.	3.04E-22	0.	0.	0.	0.	2.98E-11	2.98E-08	1.82E-07	1.84E-07	5.17E-07
49 5.90 0.	0.	0.	3.02E-20	0.	0.	0.	0.	2.98E-11	3.14E-08	1.82E-07	1.84E-07	5.19E-07
50 5.80 0.	0.	0.	3.53E-18	0.	0.	0.	0.	2.93E-11	3.20E-08	1.82E-07	1.84E-07	5.21E-07
51 5.70 0.	0.	0.	7.05E-25	0.	0.	0.	0.	2.75E-11	3.48E-08	1.84E-07	1.84E-07	5.23E-07

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS	TEMPERATURE (DEGREES C)		DENSITY (GM/CC)		WAVELENGTH (MICRONS)		REFRACTIVE INDEX (n)		EXTINCTION COEFFICIENT (K)		TOTAL AIR		
	1ST POS.	2ND POS.	1ST POS.	2ND POS.	1ST POS.	2ND POS.	1ST POS.	2ND POS.	1ST POS.	2ND POS.	1ST POS.	2ND POS.	
52	3.07	3.10-26	0.	0.	3.60E-10	2.37E-17	0.	0.	2.96E-11	3.07E-04	1.68E-07	1.07E-07	3.12E-17
53	5.50	0.	0.	0.	4.53E-10	2.20E-17	0.	0.	2.97E-11	1.73E-04	1.73E-07	1.08E-07	3.20E-17
54	5.47	0.	0.	0.	4.14E-10	1.81E-17	0.	0.	2.99E-11	4.10E-04	1.79E-07	1.09E-07	3.29E-17
55	5.30	0.	0.	0.	4.27E-10	2.24E-17	0.	0.	2.80E-11	1.84E-04	1.84E-07	1.11E-07	3.38E-17
56	5.20	0.	0.	0.	4.61E-10	1.74E-17	0.	0.	2.82E-11	4.80E-04	1.80E-07	1.13E-07	3.49E-17
57	5.10	0.	0.	0.	4.61E-10	2.22E-17	0.	0.	2.66E-11	4.88E-04	1.97E-07	1.15E-07	3.60E-17
58	5.00	0.41E-19	0.	0.	4.23E-10	2.10E-17	0.	0.	2.66E-11	5.10E-04	2.03E-07	1.17E-07	3.72E-17
59	4.90	1.00E-18	0.	0.	4.72E-10	2.30E-17	0.	0.	2.69E-11	5.51E-04	2.11E-07	1.19E-07	3.84E-17
60	4.80	2.04E-18	0.	0.	5.00E-10	2.17E-17	0.	0.	2.71E-11	5.79E-04	2.19E-07	1.21E-07	3.96E-17
61	4.70	3.70E-18	0.	0.	5.11E-10	1.90E-17	0.	0.	2.73E-11	6.25E-04	2.28E-07	1.24E-07	4.14E-17
62	4.6	3.83E-18	0.	0.	5.28E-10	1.70E-17	0.	0.	2.75E-11	6.75E-04	2.39E-07	1.28E-07	4.36E-17
63	4.50	4.04E-18	0.	0.	4.85E-10	1.35E-17	0.	0.	2.78E-11	7.15E-04	2.52E-07	1.31E-07	4.53E-17
64	4.40	4.33E-18	0.	0.	4.80E-10	9.26E-18	0.	0.	2.80E-11	7.84E-04	2.66E-07	1.34E-07	4.77E-17
65	4.30	4.13E-18	0.	0.	4.60E-10	5.84E-18	0.	0.	2.82E-11	8.19E-04	2.80E-07	1.37E-07	4.97E-17
66	4.20	3.07E-18	0.	0.	4.93E-10	4.07E-18	0.	0.	2.84E-11	8.79E-04	2.95E-07	1.40E-07	5.03E-17
67	4.10	3.45E-18	0.	0.	4.95E-10	1.14E-18	0.	0.	2.85E-11	9.40E-04	3.11E-07	1.43E-07	4.64E-17
68	4.00	3.30E-18	0.	0.	4.70E-10	8.56E-19	0.	0.	2.86E-11	1.02E-07	3.04E-07	1.46E-07	4.70E-17
69	3.90	2.89E-18	0.	0.	4.21E-10	3.27E-19	0.	0.	2.88E-11	1.10E-07	2.88E-07	1.49E-07	4.51E-17
70	3.80	3.17E-18	0.	0.	4.48E-10	4.71E-19	0.	0.	2.89E-11	1.19E-07	2.81E-07	1.52E-07	4.73E-17
71	3.70	2.80E-18	0.	0.	4.16E-10	4.05E-19	0.	0.	2.90E-11	1.28E-07	2.95E-07	1.55E-07	4.90E-17
72	3.60	2.54E-18	0.	0.	4.10E-10	4.30E-19	0.	0.	2.92E-11	1.38E-07	3.08E-07	1.58E-07	5.10E-17
73	3.50	2.42E-18	0.	0.	4.04E-10	3.44E-19	0.	0.	2.94E-11	1.43E-07	3.14E-07	1.61E-07	5.28E-17
74	3.40	2.23E-18	0.	0.	3.97E-10	3.03E-19	0.	0.	1.98E-11	1.57E-07	3.34E-07	1.65E-07	6.33E-17
75	3.30	1.75E-18	0.	0.	3.87E-10	3.16E-19	0.	0.	1.99E-11	1.85E-07	3.80E-07	1.80E-07	6.90E-17
76	3.20	1.52E-18	0.	0.	3.80E-10	3.33E-19	0.	0.	1.99E-11	2.21E-07	4.35E-07	2.02E-07	6.73E-17
77	3.10	1.32E-18	0.	0.	3.83E-10	3.17E-19	0.	0.	1.99E-11	2.44E-07	4.19E-07	1.99E-07	6.92E-17
78	3.05	1.37E-18	0.	0.	3.83E-10	3.01E-19	0.	0.	1.99E-11	2.44E-07	4.19E-07	1.99E-07	6.92E-17
79	2.95	1.25E-18	0.	0.	3.83E-10	2.32E-19	0.	0.	1.99E-11	2.71E-07	4.54E-07	1.99E-07	6.92E-17
80	2.9	1.25E-18	0.	0.	3.83E-10	1.65E-19	0.	0.	1.99E-11	3.01E-07	4.94E-07	1.99E-07	6.92E-17
81	2.7	7.00E-19	0.	0.	4.31E-10	2.13E-19	0.	0.	1.99E-11	3.37E-07	5.37E-07	1.99E-07	1.02E-17
82	2.63	3.72E-19	0.	0.	2.89E-10	2.19E-19	0.	0.	1.99E-11	3.74E-07	5.79E-07	1.99E-07	1.02E-17
83	2.5	2.60E-19	0.	0.	2.28E-10	9.46E-20	0.	0.	1.99E-11	4.20E-07	6.44E-07	1.99E-07	1.02E-17
84	2.4	0.	0.	0.	1.67E-10	1.04E-20	0.	0.	1.99E-11	4.75E-07	7.35E-07	1.99E-07	1.02E-17
85	2.3	0.	0.	0.	0.	0.	0.	0.	1.99E-11	5.40E-07	8.40E-07	1.99E-07	1.02E-17
86	2.2	0.	0.	0.	0.	0.	0.	0.	1.99E-11	6.15E-07	9.65E-07	1.99E-07	1.02E-17
87	2.1	0.	0.	0.	0.	0.	0.	0.	1.99E-11	7.00E-07	1.100E-07	1.99E-07	1.02E-17
88	2.0	0.	0.	0.	0.	0.	0.	0.	1.99E-11	7.95E-07	1.250E-07	1.99E-07	1.02E-17
89	1.9	0.	0.	0.	0.	0.	0.	0.	1.99E-11	9.00E-07	1.420E-07	1.99E-07	1.02E-17
90	1.8	0.	0.	0.	0.	0.	0.	0.	1.99E-11	1.020E-06	1.620E-07	1.99E-07	1.02E-17
91	1.7	0.	0.	0.	0.	0.	0.	0.	1.99E-11	1.160E-06	1.850E-07	1.99E-07	1.02E-17
92	1.6	0.	0.	0.	0.	0.	0.	0.	1.99E-11	1.320E-06	2.120E-07	1.99E-07	1.02E-17
93	1.5	0.	0.	0.	0.	0.	0.	0.	1.99E-11	1.500E-06	2.430E-07	1.99E-07	1.02E-17
94	1.4	0.	0.	0.	0.	0.	0.	0.	1.99E-11	1.700E-06	2.800E-07	1.99E-07	1.02E-17
95	1.3	0.	0.	0.	0.	0.	0.	0.	1.99E-11	1.920E-06	3.250E-07	1.99E-07	1.02E-17
96	1.2	0.	0.	0.	0.	0.	0.	0.	1.99E-11	2.160E-06	3.780E-07	1.99E-07	1.02E-17
97	1.1	0.	0.	0.	0.	0.	0.	0.	1.99E-11	2.420E-06	4.390E-07	1.99E-07	1.02E-17
98	1.0	0.	0.	0.	0.	0.	0.	0.	1.99E-11	2.700E-06	5.080E-07	1.99E-07	1.02E-17
99	0.9	0.	0.	0.	0.	0.	0.	0.	1.99E-11	3.000E-06	5.850E-07	1.99E-07	1.02E-17
100	0.8	0.	0.	0.	0.	0.	0.	0.	1.99E-11	3.320E-06	6.700E-07	1.99E-07	1.02E-17
101	0.7	0.	0.	0.	0.	0.	0.	0.	1.99E-11	3.660E-06	7.630E-07	1.99E-07	1.02E-17
102	0.6	0.	0.	0.	0.	0.	0.	0.	1.99E-11	4.020E-06	8.640E-07	1.99E-07	1.02E-17

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

POSITION 02 3-0 ENERGY BANDS E.V.	02 3-0 CONV.	TEMPERATURE (DEGREES K) 19900	DENSITY (GM/CC) 1.293E-08 ( 1.0E-05 NORMAL)	NO		3-		TOTAL AIR	
				META	BARRA	PHOTO-MET	FREE-FREE	M	P.E.
1 10.70 0	0	4.12E-26	0	0	2.09E-14	2.39E-11	0.19E-09	1.31E-09	0.50E-09
2 10.00 0	0	3.77E-26	0	0	2.09E-14	7.04E-11	0.24E-09	1.31E-09	0.63E-09
3 10.50 0	0	3.07E-26	0	0	2.09E-14	7.04E-11	0.29E-09	1.31E-09	0.60E-09
4 10.40 0	0	3.04E-26	0	0	2.09E-14	0.94E-11	0.34E-09	1.30E-09	0.72E-09
5 10.30 0	0	3.10E-26	0	0	2.01E-14	0.34E-11	0.39E-09	1.30E-09	0.77E-09
6 10.20 0	0	3.31E-26	0	0	2.01E-14	1.04E-11	0.40E-09	1.29E-09	0.85E-09
7 10.10 0	0	3.13E-26	0	0	2.01E-14	0.94E-11	0.54E-09	1.29E-09	0.94E-09
8 10.00 0	0	2.77E-26	0	0	2.02E-14	0.97E-11	0.64E-09	1.29E-09	1.00E-09
9 9.90 0	0	2.04E-26	0	0	2.02E-14	0.97E-11	0.74E-09	1.28E-09	1.01E-09
10 9.80 0	0	2.04E-26	0	0	2.02E-14	0.94E-11	0.83E-09	1.28E-09	1.02E-09
11 9.70 0	0	2.34E-26	0	0	2.03E-14	0.94E-11	0.91E-09	1.28E-09	1.03E-09
12 9.60 0	0	2.53E-26	0	0	2.04E-14	1.03E-10	0.98E-09	1.27E-09	1.04E-09
13 9.50 0	0	2.10E-26	0	0	2.04E-14	1.04E-10	0.98E-09	1.27E-09	1.04E-09
14 9.40 0	0	2.07E-26	0	0	2.04E-14	1.04E-10	0.98E-09	1.27E-09	1.04E-09
15 9.30 0	0	2.13E-26	0	0	2.07E-14	1.12E-10	0.97E-09	1.27E-09	1.04E-09
16 9.20 0	0	1.78E-26	0	0	2.06E-14	1.12E-10	0.97E-09	1.26E-09	1.04E-09
17 9.10 0	0	1.03E-26	0	0	2.09E-14	1.21E-10	0.96E-09	1.26E-09	1.04E-09
18 9.00 0	0	1.67E-26	0	0	3.00E-14	1.27E-10	0.77E-09	1.26E-09	0.97E-09
19 8.90 0	0	1.54E-26	0	0	3.01E-14	1.29E-10	0.75E-09	1.26E-09	0.97E-09
20 8.80 0	0	1.54E-26	0	0	3.02E-14	1.33E-10	0.73E-09	1.26E-09	0.97E-09
21 8.70 0	0	1.34E-26	0	0	3.03E-14	1.33E-10	0.81E-09	1.26E-09	0.97E-09
22 8.60 0	0	1.30E-26	0	0	3.04E-14	1.39E-10	0.80E-09	1.26E-09	0.97E-09
23 8.50 0	0	1.23E-26	0	0	3.05E-14	1.40E-10	0.80E-09	1.26E-09	0.97E-09
24 8.40 0	0	1.22E-26	0	0	3.07E-14	1.40E-10	0.80E-09	1.26E-09	0.97E-09
25 8.30 0	0	1.04E-26	0	0	3.08E-14	1.49E-10	0.72E-09	1.26E-09	0.97E-09
26 8.20 0	0	1.04E-26	0	0	3.10E-14	1.49E-10	0.72E-09	1.26E-09	0.97E-09
27 8.10 0	0	0.22E-26	0	0	3.12E-14	1.49E-10	0.85E-09	1.26E-09	0.97E-09
28 8.00 0	0	0.31E-26	0	0	3.13E-14	1.49E-10	0.85E-09	1.26E-09	0.97E-09
29 7.90 0	0	0.07E-26	0	0	3.15E-14	1.49E-10	0.85E-09	1.26E-09	0.97E-09
30 7.80 0	0	0.40E-26	0	0	3.16E-14	1.49E-10	0.85E-09	1.26E-09	0.97E-09
31 7.70 0	0	7.42E-26	0	0	3.23E-14	2.29E-10	0.53E-09	1.27E-09	0.77E-09
32 7.60 0	0	7.00E-26	0	0	3.19E-14	2.09E-10	0.51E-09	1.26E-09	0.74E-09
33 7.50 0	0	6.00E-26	0	0	3.21E-14	2.09E-10	0.51E-09	1.26E-09	0.74E-09
34 7.40 0	0	5.60E-26	0	0	3.23E-14	2.29E-10	0.53E-09	1.27E-09	0.77E-09
35 7.30 0	0	5.60E-26	0	0	3.25E-14	2.29E-10	0.53E-09	1.27E-09	0.77E-09
36 7.20 0	0	5.15E-26	0	0	3.27E-14	2.49E-10	0.54E-09	1.28E-09	0.83E-09
37 7.10 0	0	4.90E-26	0	0	3.18E-14	2.00E-10	0.52E-09	1.26E-09	0.72E-09
38 7.00 0	0	4.90E-26	0	0	3.19E-14	2.09E-10	0.51E-09	1.26E-09	0.74E-09
39 6.90 0	0	4.20E-26	0	0	3.21E-14	2.09E-10	0.51E-09	1.26E-09	0.74E-09
40 6.80 0	0	4.20E-26	0	0	3.23E-14	2.29E-10	0.53E-09	1.27E-09	0.77E-09
41 6.70 0	0	4.74E-26	0	0	3.25E-14	2.29E-10	0.53E-09	1.27E-09	0.77E-09
42 6.60 0	0	2.12E-26	0	0	3.27E-14	2.49E-10	0.54E-09	1.28E-09	0.83E-09
43 6.50 0	0	3.23E-26	0	0	3.29E-14	2.49E-10	0.54E-09	1.28E-09	0.83E-09
44 6.40 0	0	2.02E-26	0	0	3.32E-14	2.69E-10	0.54E-09	1.29E-09	0.84E-09
45 6.30 0	0	4.12E-26	0	0	3.34E-14	2.69E-10	0.54E-09	1.29E-09	0.84E-09
46 6.20 0	0	1.87E-26	0	0	3.35E-14	2.69E-10	0.54E-09	1.29E-09	0.84E-09
47 6.10 0	0	6.63E-26	0	0	3.37E-14	2.89E-10	0.54E-09	1.29E-09	0.84E-09
48 6.00 0	0	3.62E-26	0	0	3.38E-14	2.89E-10	0.54E-09	1.29E-09	0.84E-09
49 5.90 0	0	9.92E-27	0	0	3.39E-14	2.89E-10	0.54E-09	1.29E-09	0.84E-09
50 5.80 0	0	1.10E-27	0	0	3.42E-14	2.89E-10	0.54E-09	1.29E-09	0.84E-09
51 5.70 0	0	4.39E-26	0	0	3.42E-14	2.89E-10	0.54E-09	1.29E-09	0.84E-09

ABSORPTION COEFFICIENTS OF HEATED AIR (TEMPERATURE IN DEGREES C.)

PHOTON D2 5-R ENERGY BANDS	TEMPERATURE (DEGREES C.) 19000.		NO 1ST POS.	NO 2ND POS.	DENSITY (GM/CC) 1.293E-09 ( 1.0E-05 NORMAL)		FREE-FREE		TOTAL AIR			
	MZ+	MZ-			BETA	GAMMA	PHOTO-DEF (LMS)	P.E.	W	P.E.	O	
52	5.67	3.79E-20	0.	0.	3.00E-22	2.90E-21	0.	3.89E-14	9.25E-10	3.03E-09	1.24E-09	5.68E-09
53	5.90	0.	0.	0.	4.74E-22	2.31E-21	0.	3.10E-14	5.95E-10	4.81E-09	1.26E-09	5.82E-09
54	5.90	0.	0.	0.	4.30E-22	1.90E-21	0.	3.12E-14	5.90E-10	4.81E-09	1.26E-09	5.82E-09
55	5.37	0.	0.	0.	4.09E-22	2.30E-21	0.	3.16E-14	6.01E-10	4.91E-09	1.30E-09	6.33E-09
56	5.20	0.	0.	0.	4.05E-22	1.83E-21	0.	3.16E-14	6.01E-10	4.91E-09	1.30E-09	6.33E-09
57	5.10	0.	0.	0.	4.05E-22	1.83E-21	0.	3.16E-14	6.01E-10	4.91E-09	1.30E-09	6.33E-09
58	5.00	5.2E-23	0.	0.	4.05E-22	2.21E-21	0.	3.21E-14	7.37E-10	5.82E-09	1.37E-09	7.10E-09
59	4.90	1.2E-22	0.	0.	4.07E-22	2.43E-21	0.	3.27E-14	7.87E-10	5.96E-09	1.37E-09	7.30E-09
60	4.80	2.4E-22	0.	0.	5.35E-22	2.20E-21	0.	3.27E-14	7.87E-10	5.96E-09	1.37E-09	7.30E-09
61	4.70	3.7E-22	0.	0.	5.30E-22	2.00E-21	0.	3.32E-14	8.40E-10	6.18E-09	1.44E-09	8.09E-09
62	4.60	4.9E-22	0.	0.	5.54E-22	1.80E-21	0.	3.32E-14	8.40E-10	6.18E-09	1.44E-09	8.09E-09
63	4.50	4.8E-22	0.	0.	5.10E-22	1.42E-21	0.	3.39E-14	1.01E-09	6.55E-09	1.51E-09	8.59E-09
64	4.50	5.1E-22	0.	0.	5.1E-22	1.42E-21	0.	3.39E-14	1.01E-09	6.55E-09	1.51E-09	8.59E-09
65	4.3	4.9E-22	0.	0.	4.93E-22	1.5E-21	0.	4.0E-14	1.29E-09	7.37E-09	1.59E-09	1.01E-08
66	4.20	4.0E-22	0.	0.	5.15E-22	1.20E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
67	4.10	4.3E-22	0.	0.	5.10E-22	1.20E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
68	4.00	4.7E-22	0.	0.	4.95E-22	9.0E-22	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
69	3.90	3.7E-22	0.	0.	4.9E-22	3.10E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
70	3.80	3.7E-22	0.	0.	4.9E-22	3.10E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
71	3.70	3.3E-22	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
72	3.60	3.0E-22	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
73	3.50	2.8E-22	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
74	3.40	2.6E-22	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
75	3.30	2.4E-22	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
76	3.20	1.9E-22	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
77	3.10	1.8E-22	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
78	3.00	1.6E-22	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
79	2.90	1.4E-22	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
80	2.80	1.4E-22	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
81	2.70	1.3E-22	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
82	2.60	1.2E-22	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
83	2.50	1.1E-22	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
84	2.40	1.0E-22	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
85	2.30	0.	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
86	2.20	0.	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
87	2.10	0.	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
88	2.00	0.	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
89	1.90	0.	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
90	1.80	0.	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
91	1.70	0.	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
92	1.60	0.	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
93	1.50	0.	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
94	1.40	0.	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
95	1.30	0.	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
96	1.20	0.	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
97	1.10	0.	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
98	1.00	0.	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
99	0.90	0.	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
100	0.80	0.	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
101	0.70	0.	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08
102	0.60	0.	0.	0.	4.9E-22	4.2E-21	0.	4.4E-14	1.70E-09	8.04E-09	1.71E-09	1.10E-08

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES M) 1900. DENSITY (GM/CC) 1.293E-09 ( 1.0E-06 NORMAL)

PHOTOQ 02 S-B ENERGY BANDS E.V.	02 S-R COUNT.	M2 B-M NO. 1	WD BETA	NO GAMMA	0- PHOTO-DET (IONS)	FREE-EFFEC M	P.E.	0 P.E.	TOTAL AIR	
										WD BETA
1 10.78 0.	0.	1.07E-24	0.	0.	0.	4.48E-17	1.78E-12	3.01E-10	2.02E-11	3.51E-10
2 10.60 0.	0.	1.71E-24	0.	0.	0.	4.47E-17	1.75E-12	3.03E-10	2.02E-11	3.53E-10
3 10.50 0.	0.	1.73E-24	0.	0.	0.	4.48E-17	1.80E-12	3.05E-10	2.01E-11	3.55E-10
4 10.45 0.	0.	1.45E-24	0.	0.	0.	4.49E-17	1.85E-12	3.07E-10	2.01E-11	3.57E-10
5 10.38 0.	0.	1.45E-24	0.	0.	0.	4.49E-17	1.91E-12	3.10E-10	2.00E-11	3.40E-10
6 10.28 0.	0.	1.50E-24	0.	0.	0.	4.49E-17	1.97E-12	3.14E-10	2.01E-11	3.44E-10
7 10.10 0.	0.	1.42E-24	0.	0.	0.	4.50E-17	2.03E-12	3.18E-10	2.02E-11	3.48E-10
8 10.00 0.	0.	1.24E-24	0.	0.	0.	4.50E-17	2.09E-12	3.22E-10	2.03E-11	3.53E-10
9 9.90 0.	0.	1.20E-24	0.	0.	0.	4.51E-17	2.15E-12	3.27E-10	2.04E-11	3.57E-10
10 9.80 0.	0.	1.22E-24	0.	0.	0.	4.52E-17	2.22E-12	3.31E-10	2.05E-11	3.62E-10
11 9.70 0.	0.	1.06E-24	0.	0.	0.	4.53E-17	2.29E-12	3.35E-10	2.06E-11	3.66E-10
12 9.60 0.	0.	1.15E-24	0.	0.	0.	4.54E-17	2.36E-12	3.39E-10	2.07E-11	3.70E-10
13 9.5 0.	0.	9.80E-25	0.	0.	0.	4.55E-17	2.44E-12	3.43E-10	2.08E-11	3.74E-10
14 9.40 0.	0.	9.40E-25	0.	0.	0.	4.56E-17	2.51E-12	3.47E-10	2.09E-11	3.77E-10
15 9.30 0.	0.	9.85E-25	0.	0.	0.	4.58E-17	2.60E-12	3.48E-10	2.09E-11	3.71E-10
16 9.20 0.	0.	8.00E-25	0.	0.	0.	4.60E-17	2.70E-12	3.44E-10	2.09E-11	3.76E-10
17 9.10 0.	0.	8.31E-25	0.	0.	0.	4.61E-17	2.77E-12	3.48E-10	2.09E-11	3.80E-10
18 9.00 0.	0.	7.80E-25	0.	0.	0.	4.63E-17	2.87E-12	3.52E-10	2.10E-11	3.77E-10
19 8.90 0.	0.	7.87E-25	0.	0.	0.	4.65E-17	2.96E-12	3.56E-10	2.11E-11	3.80E-10
20 8.80 0.	0.	6.97E-25	0.	0.	0.	4.66E-17	3.07E-12	3.60E-10	2.13E-11	3.84E-10
21 8.70 0.	0.	6.10E-25	0.	0.	0.	4.68E-17	3.17E-12	3.64E-10	2.15E-11	3.89E-10
22 8.60 0.	0.	6.30E-25	0.	0.	0.	4.70E-17	3.29E-12	3.68E-10	2.17E-11	3.93E-10
23 8.50 0.	0.	5.94E-25	0.	0.	0.	4.71E-17	3.41E-12	3.72E-10	2.19E-11	3.98E-10
24 8.40 0.	0.	5.35E-25	0.	0.	0.	4.74E-17	3.53E-12	3.76E-10	2.21E-11	4.01E-10
25 8.30 0.	0.	4.74E-25	0.	0.	0.	4.78E-17	3.66E-12	3.80E-10	2.24E-11	4.05E-10
26 8.20 0.	0.	4.01E-25	0.	0.	0.	4.79E-17	3.80E-12	3.85E-10	2.29E-11	4.08E-10
27 8.10 0.	0.	4.19E-25	0.	0.	0.	4.81E-17	3.94E-12	3.90E-10	2.33E-11	4.12E-10
28 8.00 0.	0.	4.29E-25	0.	0.	0.	4.84E-17	4.09E-12	3.96E-10	2.38E-11	4.16E-10
29 7.90 0.	0.	3.64E-25	0.	0.	0.	4.86E-17	4.25E-12	4.02E-10	2.43E-11	4.20E-10
30 7.80 0.	0.	3.81E-25	0.	0.	0.	4.89E-17	4.41E-12	4.06E-10	2.48E-11	4.24E-10
31 7.70 0.	0.	3.37E-25	0.	0.	0.	4.91E-17	4.59E-12	4.10E-10	2.52E-11	4.28E-10
32 7.60 0.	0.	3.21E-25	0.	0.	0.	4.93E-17	4.77E-12	4.14E-10	2.57E-11	4.32E-10
33 7.50 0.	0.	3.08E-25	0.	0.	0.	4.96E-17	4.97E-12	4.18E-10	2.62E-11	4.36E-10
34 7.40 0.	0.	2.71E-25	0.	0.	0.	4.98E-17	5.17E-12	4.24E-10	2.68E-11	4.40E-10
35 7.30 0.	0.	2.58E-25	0.	0.	0.	5.01E-17	5.39E-12	4.30E-10	2.74E-11	4.44E-10
36 7.2 0.	0.	2.34E-25	0.	0.	0.	5.04E-17	5.62E-12	4.36E-10	2.80E-11	4.48E-10
37 7.10 0.	0.	2.20E-25	0.	0.	0.	5.08E-17	5.86E-12	4.42E-10	2.86E-11	4.52E-10
38 7.00 3.0E-20	0.	2.09E-25	0.	0.	0.	5.12E-17	6.12E-12	4.48E-10	2.91E-11	4.56E-10
39 6.90 7.5E-20	0.	1.92E-25	0.	0.	0.	5.17E-17	6.39E-12	4.54E-10	2.97E-11	4.60E-10
40 6.80 6.50E-20	0.	1.86E-25	0.	0.	0.	5.21E-17	6.67E-12	4.60E-10	3.03E-11	4.64E-10
41 6.70 4.00E-20	0.	1.64E-25	0.	0.	0.	5.25E-17	6.96E-12	4.66E-10	3.09E-11	4.68E-10
42 6.60 2.93E-20	0.	1.48E-25	0.	0.	0.	5.30E-17	7.26E-12	4.72E-10	3.16E-11	4.72E-10
43 6.50 1.70E-20	0.	1.39E-25	0.	0.	0.	5.35E-17	7.57E-12	4.78E-10	3.23E-11	4.76E-10
44 6.40 9.70E-20	0.	0.38E-24	0.	0.	0.	5.40E-17	8.00E-12	4.84E-10	3.30E-11	4.80E-10
45 6.30 5.7E-20	0.	5.24E-24	0.	0.	0.	5.45E-17	8.45E-12	4.90E-10	3.37E-11	4.84E-10
46 6.20 2.50E-20	0.	2.93E-24	0.	0.	0.	5.50E-17	8.92E-12	4.96E-10	3.44E-11	4.88E-10
47 6.10 1.10E-20	0.	1.93E-24	0.	0.	0.	5.56E-17	9.41E-12	5.02E-10	3.51E-11	4.92E-10
48 6.00 0.01E-20	0.	3.55E-24	0.	0.	0.	5.64E-17	9.92E-12	5.08E-10	3.58E-11	4.96E-10
49 5.90 1.2E-20	0.	2.95E-24	0.	0.	0.	5.74E-17	1.02E-11	5.14E-10	3.65E-11	5.00E-10
50 5.80 1.50E-20	0.	6.43E-24	0.	0.	0.	5.86E-17	1.04E-11	5.20E-10	3.72E-11	5.04E-10
51 5.70 1.10E-20	0.	3.17E-24	0.	0.	0.	5.12E-17	1.14E-11	5.26E-10	3.79E-11	5.08E-10

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON QZ 5-R ENERGY DAWDS	TEMPERATURE (DEGREES K)		DENSITY (GM/CC)		PHOTO-DIST (IOWS)		FREE-FREE		TOTAL AIR				
	1ST POS.	2ND POS.	1ST DEG.	2ND DEG.	PHOTO-DIST	PHOTO-DIST	M	P.F.	M	P.F.			
52	5.64	5.29	34	0	3.07E-26	1.00E-25	0	0	4.77E-17	1.20E-11	1.36E-10	2.16E-11	1.70E-10
53	5.50	0	0	0	3.79E-26	1.83E-25	0	0	4.79E-17	1.26E-11	1.44E-10	2.20E-11	1.79E-10
54	5.44	0	0	0	4.01E-26	1.91E-25	0	0	4.81E-17	1.34E-11	1.54E-10	2.27E-11	1.89E-10
55	5.30	0	0	0	3.54E-26	1.09E-25	0	0	4.05E-17	1.41E-11	1.61E-10	2.03E-11	1.94E-10
56	5.20	0	0	0	3.08E-26	1.47E-25	0	0	4.08E-17	1.50E-11	1.75E-10	2.10E-11	2.04E-10
57	5.13	0	0	0	3.09E-26	1.66E-25	0	0	4.92E-17	1.59E-11	1.79E-10	2.16E-11	2.16E-10
58	5.08	7.60E-27	0	0	3.53E-26	1.79E-25	0	0	4.66E-17	1.69E-11	1.87E-10	2.23E-11	2.26E-10
59	4.94	1.70E-26	0	0	3.94E-26	1.92E-25	0	0	5.00E-17	1.79E-11	1.94E-10	2.30E-11	2.37E-10
60	4.87	3.39E-26	0	0	4.24E-26	1.61E-25	0	0	5.04E-17	1.91E-11	2.04E-10	2.37E-11	2.47E-10
61	4.70	4.59E-26	0	0	4.24E-26	1.65E-25	0	0	5.00E-17	2.04E-11	2.17E-10	2.46E-11	2.62E-10
62	4.64	6.38E-26	0	0	4.30E-26	1.50E-25	0	0	5.12E-17	2.17E-11	2.33E-10	2.54E-11	2.81E-10
63	4.57	6.05E-26	0	1.84E-26	4.04E-26	1.13E-25	0	0	5.17E-17	2.37E-11	2.50E-10	2.64E-11	3.08E-10
64	4.40	7.15E-26	0	5.44E-26	4.07E-26	7.73E-26	0	0	5.21E-17	2.48E-11	2.67E-10	2.70E-11	3.19E-10
65	4.30	6.70E-26	0	1.82E-25	3.90E-26	4.08E-26	0	0	5.25E-17	2.66E-11	2.81E-10	2.81E-11	3.35E-10
66	4.20	5.37E-26	0	5.72E-25	4.12E-26	3.40E-26	0	0	5.29E-17	2.88E-11	3.03E-10	2.89E-11	3.58E-10
67	4.10	6.08E-26	0	2.56E-25	4.27E-26	9.50E-27	0	0	5.31E-17	3.04E-11	3.21E-10	2.81E-11	3.72E-10
68	4.04	5.56E-26	0	8.27E-25	3.92E-26	7.14E-27	0	0	5.33E-17	3.31E-11	3.38E-10	2.14E-11	3.93E-10
69	3.90	4.75E-26	0	3.90E-25	3.64E-26	2.60E-27	0	0	5.31E-17	3.58E-11	3.50E-10	2.26E-11	4.14E-10
70	3.80	5.22E-26	0	6.27E-25	3.50E-26	3.92E-26	0	0	5.29E-17	3.87E-11	3.75E-10	2.59E-11	4.48E-10
71	3.74	4.68E-26	0	6.44E-25	2.80E-26	3.38E-26	0	0	5.21E-17	4.19E-11	3.97E-10	2.57E-11	4.63E-10
72	3.60	4.24E-26	0	4.64E-25	1.25E-19	3.68E-26	0	0	4.80E-17	4.56E-11	4.10E-10	2.25E-11	4.89E-10
73	3.50	3.90E-26	0	4.80E-25	2.32E-19	2.91E-26	0	0	4.46E-17	4.96E-11	4.22E-10	2.75E-11	5.00E-10
74	3.40	3.60E-26	0	3.93E-25	3.65E-20	3.26E-26	0	0	2.57E-17	5.32E-11	4.33E-10	2.98E-11	5.27E-10
75	3.30	2.95E-26	0	4.82E-25	1.36E-19	2.86E-26	0	0	2.50E-17	5.75E-11	4.44E-10	2.57E-11	5.29E-10
76	3.20	2.59E-26	0	2.64E-25	2.84E-19	2.70E-26	0	0	2.59E-17	6.31E-11	4.64E-10	2.39E-11	5.31E-10
77	3.14	2.50E-26	0	2.80E-25	5.79E-20	2.65E-26	0	0	2.59E-17	7.17E-11	4.86E-10	2.63E-11	5.64E-10
78	3.00	2.25E-26	0	1.20E-25	1.11E-19	2.51E-26	0	0	2.43E-17	7.92E-11	5.09E-10	2.80E-11	5.77E-10
79	2.90	1.91E-26	0	8.04E-26	7.10E-20	1.94E-26	0	0	2.60E-17	8.70E-11	5.25E-10	3.14E-11	5.90E-10
80	2.80	2.00E-26	0	3.80E-26	4.79E-20	1.34E-26	0	0	2.60E-17	9.77E-11	5.54E-10	3.12E-11	6.03E-10
81	2.74	1.80E-26	0	1.82E-26	6.21E-20	7.54E-27	0	0	2.60E-17	1.09E-10	5.77E-10	2.61E-11	6.12E-10
82	2.60	1.61E-27	0	6.02E-27	6.08E-21	3.34E-27	0	0	2.60E-17	1.22E-10	6.09E-10	2.84E-11	6.40E-10
83	2.50	1.50E-26	0	9.33E-26	6.21E-20	0.75E-26	0	0	2.60E-17	1.36E-10	6.20E-10	3.20E-11	6.49E-10
84	2.40	0	0	1.96E-26	4.87E-21	0.68E-26	0	0	2.60E-17	1.54E-10	6.65E-10	3.75E-11	6.58E-10
85	2.30	0	0	3.34E-25	0	0	0	0	2.50E-17	1.77E-10	7.11E-10	4.32E-11	6.32E-10
86	2.20	0	0	0	0	0	0	0	2.57E-17	2.03E-10	7.50E-10	4.95E-11	7.10E-10
87	2.10	0	0	3.44E-25	0	0	0	0	2.56E-17	2.34E-10	8.21E-10	5.89E-11	8.49E-10
88	2.00	0	0	6.04E-25	0	0	0	0	2.40E-17	2.71E-10	9.25E-10	7.11E-11	9.87E-10
89	1.94	0	0	0	0	0	0	0	2.39E-17	3.17E-10	1.03E-10	8.11E-11	1.15E-09
90	1.80	0	0	7.29E-25	0	0	0	0	2.20E-17	3.74E-10	1.20E-10	9.67E-11	1.45E-09
91	1.70	0	0	0	0	0	0	0	2.15E-17	4.45E-10	1.40E-10	1.15E-11	1.81E-09
92	1.60	0	0	6.14E-25	0	0	0	0	1.82E-17	5.36E-10	1.60E-10	1.39E-11	2.37E-09
93	1.50	0	0	7.07E-25	0	0	0	0	1.27E-16	6.53E-10	2.00E-10	1.80E-11	3.15E-09
94	1.40	0	0	6.97E-25	0	0	0	0	6.04E-16	8.09E-10	2.40E-10	2.40E-11	4.10E-09
95	1.37	0	0	5.14E-25	0	0	0	0	1.01E-09	9.82E-10	2.99E-10	3.11E-11	5.31E-09
96	1.25	0	0	3.10E-25	0	0	0	0	1.29E-09	1.274E-10	3.74E-10	4.20E-11	7.09E-09
97	1.10	0	0	4.96E-25	0	0	0	0	2.65E-09	1.65E-10	4.96E-10	5.52E-11	9.20E-09
98	1.04	0	0	4.56E-25	0	0	0	0	2.25E-09	2.10E-10	6.15E-10	7.10E-11	1.20E-08
99	0.98	0	0	3.06E-25	0	0	0	0	3.11E-09	2.67E-10	7.81E-10	9.44E-11	1.67E-08
100	0.80	0	0	1.74E-25	0	0	0	0	4.40E-09	3.43E-10	1.09E-10	1.20E-11	2.30E-08
101	0.70	0	0	4.05E-24	0	0	0	0	6.72E-09	4.45E-10	1.49E-10	1.69E-11	3.00E-08
102	0.60	0	0	8.04E-24	0	0	0	0	1.00E-08	5.64E-10	2.20E-10	2.20E-11	4.10E-08

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 2000. DENSITY (GM/CC) 1.293E-03 (1.0E 01 NORMAL)

PHOTON ENERGY BANDS E.V.	02 S-R CONT.	02 B-W IND. 1	NO BETA	NO GAMMA	W0	0- PHOTO-DET (10MS)	FREE-FREE N	0 P.E.	TOTAL AIR P.E.	
1 10.70 0.	0.	0.04E-01	0.	0.	0.	4.74E 00	3.27E-01	3.03E 02	4.04E 00	3.13E 02
2 10.60 0.	0.	5.94E-01	0.	0.	0.	4.74E 00	3.37E-01	1.61E 01	4.03E 00	2.50E 01
3 10.50 0.	0.	5.64E-01	0.	0.	0.	4.77E 00	3.47E-01	1.62E 01	4.03E 00	2.59E 01
4 10.40 0.	0.	5.40E-01	0.	0.	0.	4.79E 00	3.57E-01	1.62E 01	4.01E 00	2.59E 01
5 10.30 0.	0.	4.74E-01	0.	0.	0.	4.79E 00	3.68E-01	1.63E 01	4.00E 00	2.59E 01
6 10.20 0.	0.	4.03E-01	0.	0.	0.	4.79E 00	3.79E-01	1.63E 01	3.98E 00	2.59E 01
7 10.10 0.	0.	4.07E-01	0.	0.	0.	4.80E 00	3.90E-01	1.63E 01	3.96E 00	2.59E 01
8 10.00 0.	0.	4.19E-01	0.	0.	0.	4.80E 00	4.02E-01	1.63E 01	3.94E 00	2.59E 01
9 9.90 0.	0.	4.07E-01	0.	0.	0.	4.81E 00	4.14E-01	1.63E 01	3.93E 00	2.59E 01
10 9.80 0.	0.	4.05E-01	0.	0.	0.	4.82E 00	4.27E-01	1.64E 01	3.91E 00	2.59E 01
11 9.70 0.	0.	3.53E-01	0.	0.	0.	4.83E 00	4.41E-01	1.64E 01	3.89E 00	2.59E 01
12 9.60 0.	0.	3.03E-01	0.	0.	0.	4.84E 00	4.55E-01	1.65E 01	3.87E 00	2.60E 01
13 9.50 0.	0.	3.31E-01	0.	0.	0.	4.85E 00	4.69E-01	1.65E 01	3.86E 00	2.60E 01
14 9.40 0.	0.	3.16E-01	0.	0.	0.	4.86E 00	4.85E-01	1.66E 01	3.84E 00	2.61E 01
15 9.30 0.	0.	3.25E-01	0.	0.	0.	4.88E 00	5.01E-01	1.66E 01	3.82E 00	2.61E 01
16 9.20 0.	0.	2.78E-01	0.	0.	0.	4.90E 00	5.17E-01	1.67E 01	3.81E 00	2.62E 01
17 9.10 0.	0.	2.81E-01	0.	0.	0.	4.92E 00	5.35E-01	1.67E 01	3.79E 00	1.60E 01
18 9.00 0.	0.	2.56E-01	0.	0.	0.	4.93E 00	5.53E-01	1.67E 01	3.77E 00	1.60E 01
19 8.90 0.	0.	2.41E-01	0.	0.	0.	4.95E 00	5.72E-01	1.68E 01	3.76E 00	1.60E 01
20 8.80 0.	0.	2.30E-01	0.	0.	0.	4.97E 00	5.92E-01	1.67E 01	3.74E 00	1.60E 01
21 8.70 0.	0.	2.09E-01	0.	0.	0.	4.99E 00	6.13E-01	1.68E 01	3.73E 00	1.60E 01
22 8.60 0.	0.	2.17E-01	0.	0.	0.	5.00E 00	6.35E-01	1.69E 01	3.71E 00	1.61E 01
23 8.50 0.	0.	1.92E-01	0.	0.	0.	5.02E 00	6.58E-01	1.69E 01	3.70E 00	1.61E 01
24 8.40 0.	0.	1.92E-01	0.	0.	0.	5.03E 00	6.82E-01	1.69E 01	3.68E 00	1.61E 01
25 8.30 0.	0.	1.65E-01	0.	0.	0.	5.04E 00	7.07E-01	1.69E 01	3.66E 00	1.62E 01
26 8.20 0.	0.	1.64E-01	0.	0.	0.	5.10E 00	7.33E-01	1.69E 01	3.64E 00	1.63E 01
27 8.10 0.	0.	1.44E-01	0.	0.	0.	5.11E 00	7.61E-01	1.69E 01	3.62E 00	1.63E 01
28 8.00 0.	0.	1.48E-01	0.	0.	0.	5.15E 00	7.90E-01	1.69E 01	3.60E 00	1.64E 01
29 7.90 0.	0.	1.29E-01	0.	0.	0.	5.18E 00	8.21E-01	1.69E 01	3.59E 00	1.64E 01
30 7.80 0.	0.	1.34E-01	0.	0.	0.	5.21E 00	8.53E-01	1.69E 01	3.70E 00	1.67E 01
31 7.70 0.	0.	1.12E-01	0.	0.	0.	5.23E 00	8.85E-01	1.69E 01	3.71E 00	1.67E 01
32 7.60 0.	0.	1.09E-01	0.	0.	0.	5.24E 00	9.18E-01	1.69E 01	3.71E 00	1.70E 01
33 7.50 0.	0.	1.07E-01	0.	0.	0.	5.25E 00	9.51E-01	1.69E 01	3.71E 00	1.70E 01
34 7.40 0.	0.	9.67E-02	0.	0.	0.	5.32E 00	1.00E 00	1.69E 00	3.72E 00	1.71E 01
35 7.30 0.	0.	9.25E-02	0.	0.	0.	5.35E 00	1.04E 00	1.69E 00	3.72E 00	1.72E 01
36 7.20 0.	0.	8.42E-02	0.	0.	0.	5.38E 00	1.09E 00	1.69E 00	3.72E 00	1.73E 01
37 7.10 0.	0.	8.16E-02	0.	0.	0.	5.42E 00	1.13E 00	1.69E 00	3.73E 00	1.75E 01
38 7.00 1.44E-05	0.	7.54E-02	0.	0.	0.	5.46E 00	1.18E 00	1.69E 00	3.73E 00	1.76E 01
39 6.90 2.84E-05	0.	6.90E-02	0.	0.	0.	5.51E 00	1.24E 00	1.69E 00	3.74E 00	1.78E 01
40 6.80 2.48E-05	0.	6.08E-02	0.	0.	0.	5.55E 00	1.29E 00	1.69E 00	3.74E 00	1.79E 01
41 6.70 1.00E-05	0.	6.01E-02	0.	0.	0.	5.59E 00	1.35E 00	1.69E 00	3.75E 00	1.61E 01
42 6.50 1.10E-05	0.	5.44E-02	0.	0.	0.	5.64E 00	1.41E 00	1.69E 00	3.74E 00	1.62E 01
43 6.50 6.43E-06	0.	4.39E-02	0.	0.	0.	5.68E 00	1.48E 00	1.69E 00	3.77E 00	1.65E 01
44 6.40 3.70E-06	0.	3.08E-02	0.	0.	0.	5.73E 00	1.55E 00	1.69E 00	3.78E 00	1.66E 01
45 6.30 2.17E-06	0.	1.96E-02	0.	0.	0.	5.77E 00	1.63E 00	1.69E 00	3.80E 00	1.68E 01
46 6.20 9.05E-07	0.	1.10E-02	0.	0.	0.	5.82E 00	1.71E 00	1.69E 00	3.83E 00	1.91E 01
47 6.10 4.54E-07	0.	5.74E-03	0.	0.	0.	5.86E 00	1.79E 00	1.69E 00	3.88E 00	1.93E 01
48 6.00 1.92E-07	0.	1.34E-02	0.	0.	0.	5.90E 00	1.89E 00	1.69E 00	3.89E 00	1.96E 01
49 5.90 4.74E-08	0.	9.64E-03	0.	0.	0.	5.95E 00	1.98E 00	1.69E 00	3.92E 00	1.98E 01
50 5.80 4.04E-08	0.	3.33E-03	0.	0.	0.	5.82E 00	2.09E 00	1.63E 00	3.95E 00	2.00E 01
51 5.70 4.40E-10	0.	3.94E-03	0.	0.	0.	5.40E 00	2.20E 00	1.62E 00	3.99E 00	1.99E 01





ABSORPTION COEFFICIENTS OF HEATED AIR (INMERCER CH.)

TEMPERATURE (DEGREES F) 20000. DENSITY (GM/CC) 1.779E-03 ( 1.0E 00 NORMAL)

PHOTON ENERGY BANDS E.V.	OR S-R COMPT.	WZ S-R NO. 1	WZ BETA	WZ GAMMA	NO 2	G- PHOTO-BET (IONS)	M FREE-FREE	N P.E.	O P.E.	TOTAL AIR
1 10.70 0.	0.	6.29E-03	0.	0.	0.	1.22E-01	2.71E-02	2.32E 01	3.69E-01	2.57E 01
2 10.64 0.	0.	3.05E-03	0.	0.	0.	1.22E-01	2.70E-02	1.34E 00	3.56E-01	1.85E 00
3 10.50 0.	0.	3.91E-03	0.	0.	0.	1.22E-01	2.67E-02	1.35E 00	3.57E-01	1.86E 00
4 10.40 0.	0.	3.74E-03	0.	0.	0.	1.22E-01	2.67E-02	1.35E 00	3.56E-01	1.86E 00
5 10.30 0.	0.	3.30E-03	0.	0.	0.	1.22E-01	3.04E-02	1.32E 00	3.54E-01	1.85E 00
6 10.20 0.	0.	3.42E-03	0.	0.	0.	1.22E-01	3.13E-02	1.36E 00	3.52E-01	1.87E 00
7 10.10 0.	0.	3.24E-03	0.	0.	0.	1.22E-01	3.22E-02	1.36E 00	3.51E-01	1.86E 00
8 10.00 0.	0.	2.80E-03	0.	0.	0.	1.22E-01	3.32E-02	1.36E 00	3.49E-01	1.87E 00
9 9.90 0.	0.	2.96E-03	0.	0.	0.	1.22E-01	3.42E-02	1.34E 00	3.46E-01	1.87E 00
10 9.80 0.	0.	2.81E-03	0.	0.	0.	1.22E-01	3.53E-02	1.34E 00	3.46E-01	1.87E 00
11 9.70 0.	0.	2.65E-03	0.	0.	0.	1.22E-01	3.64E-02	1.37E 00	3.43E-01	1.87E 00
12 9.60 0.	0.	2.65E-03	0.	0.	0.	1.22E-01	3.76E-02	1.37E 00	3.43E-01	1.88E 00
13 9.50 0.	0.	2.30E-03	0.	0.	0.	1.22E-01	3.88E-02	1.37E 00	3.41E-01	1.88E 00
14 9.40 0.	0.	2.19E-03	0.	0.	0.	1.22E-01	4.00E-02	1.38E 00	3.40E-01	1.89E 00
15 9.30 0.	0.	2.29E-03	0.	0.	0.	1.22E-01	4.14E-02	1.38E 00	3.39E-01	1.89E 00
16 9.20 0.	0.	1.90E-03	0.	0.	0.	1.22E-01	4.27E-02	1.39E 00	3.37E-01	1.89E 00
17 9.10 0.	0.	1.95E-03	0.	0.	0.	1.22E-01	4.42E-02	1.39E 00	3.36E-01	1.89E 00
18 9.00 0.	0.	1.79E-03	0.	0.	0.	1.22E-01	4.57E-02	1.37E-01	3.34E-01	1.89E 00
19 8.90 0.	0.	1.67E-03	0.	0.	0.	1.22E-01	4.73E-02	1.38E-01	3.34E-01	1.89E 00
20 8.80 0.	0.	1.56E-03	0.	0.	0.	1.22E-01	4.89E-02	1.38E-01	3.34E-01	1.89E 00
21 8.70 0.	0.	1.49E-03	0.	0.	0.	1.22E-01	5.04E-02	1.40E-01	3.36E-01	1.89E 00
22 8.60 0.	0.	1.50E-03	0.	0.	0.	1.22E-01	5.24E-02	1.41E-01	3.29E-01	1.89E 00
23 8.50 0.	0.	1.33E-03	0.	0.	0.	1.22E-01	5.43E-02	1.43E-01	3.27E-01	1.89E 00
24 8.40 0.	0.	1.33E-03	0.	0.	0.	1.22E-01	5.63E-02	1.45E-01	3.26E-01	1.89E 00
25 8.30 0.	0.	1.16E-03	0.	0.	0.	1.30E-01	5.84E-02	1.47E-01	3.26E-01	1.89E 00
26 8.20 0.	0.	1.16E-03	0.	0.	0.	1.30E-01	6.04E-02	1.50E-01	3.26E-01	1.89E 00
27 8.10 0.	0.	1.02E-03	0.	0.	0.	1.31E-01	6.29E-02	1.52E-01	3.26E-01	1.87E 00
28 8.00 0.	0.	1.03E-03	0.	0.	0.	1.32E-01	6.53E-02	1.55E-01	3.27E-01	1.89E 00
29 7.90 0.	0.	0.94E-04	0.	0.	0.	1.32E-01	6.78E-02	1.59E-01	3.27E-01	1.89E 00
30 7.80 0.	0.	0.33E-04	0.	0.	0.	1.34E-01	7.05E-02	1.63E-01	3.27E-01	1.88E 00
31 7.70 0.	0.	0.27E-04	0.	0.	0.	1.34E-01	7.33E-02	1.67E-01	3.28E-01	1.88E 00
32 7.60 0.	0.	7.92E-04	0.	3.61E-08	0.	1.34E-01	7.63E-02	1.71E-01	3.28E-01	1.88E 00
33 7.50 0.	0.	7.41E-04	0.	1.17E-07	0.	1.34E-01	7.94E-02	1.75E-01	3.29E-01	1.88E 00
34 7.40 0.	0.	6.71E-04	0.	1.04E-06	0.	1.34E-01	8.27E-02	1.79E-01	3.29E-01	1.88E 00
35 7.30 0.	0.	6.41E-04	0.	3.99E-06	0.	1.37E-01	8.61E-02	1.83E-01	3.29E-01	1.87E 00
36 7.20 0.	0.	5.84E-04	0.	1.11E-05	0.	1.37E-01	8.98E-02	1.87E-01	3.30E-01	1.87E 00
37 7.10 0.	0.	5.64E-04	0.	3.49E-05	0.	1.39E-01	9.37E-02	1.91E-01	3.30E-01	1.87E 00
38 7.00 1.12E-07 0.	0.	5.24E-04	0.	6.72E-05	0.	1.40E-01	9.78E-02	1.95E-01	3.30E-01	1.88E 00
39 6.90 2.22E-07 0.	0.	4.85E-04	0.	9.69E-05	0.	1.41E-01	1.02E-01	1.99E-01	3.31E-01	1.87E 00
40 6.80 1.93E-07 0.	0.	4.72E-04	0.	1.63E-04	0.	1.42E-01	1.07E-01	2.03E-01	3.31E-01	1.88E 00
41 6.70 1.41E-07 0.	0.	4.17E-04	0.	1.59E-04	0.	1.43E-01	1.12E-01	2.07E-01	3.32E-01	1.89E 00
42 6.60 0.60E-08 0.	0.	3.76E-04	0.	1.35E-04	0.	1.44E-01	1.17E-01	2.13E-01	3.32E-01	1.21E 00
43 6.50 5.83E-09 0.	0.	3.95E-04	0.	1.94E-04	0.	1.45E-01	1.22E-01	2.20E-01	3.31E-01	1.22E 00
44 6.40 2.90E-08 0.	0.	2.14E-04	6.19E-07	1.79E-04	0.	1.46E-01	1.29E-01	2.27E-01	3.35E-01	1.24E 00
45 6.30 1.70E-08 0.	0.	1.34E-04	2.94E-06	1.33E-04	0.	1.47E-01	1.34E-01	2.34E-01	3.37E-01	1.25E 00
46 6.20 7.72E-09 0.	0.	7.65E-05	4.22E-06	1.70E-04	0.	1.49E-01	1.41E-01	2.41E-01	3.39E-01	1.27E 00
47 6.10 3.54E-09 0.	0.	3.65E-05	1.21E-05	2.19E-04	0.	1.50E-01	1.48E-01	2.49E-01	3.42E-01	1.29E 00
48 6.00 1.54E-09 0.	0.	9.34E-06	1.18E-05	1.10E-04	0.	1.51E-01	1.56E-01	2.57E-01	3.45E-01	1.31E 00
49 5.90 3.72E-10 0.	0.	6.71E-07	1.74E-05	1.06E-04	0.	1.51E-01	1.64E-01	2.67E-01	3.47E-01	1.33E 00
50 5.80 4.79E-11 0.	0.	1.70E-08	2.49E-05	1.11E-04	0.	1.49E-01	1.73E-01	2.77E-01	3.50E-01	1.35E 00
51 5.70 3.50E-12 0.	0.	0.	2.91E-05	1.24E-04	0.	1.49E-01	1.82E-01	2.87E-01	3.53E-01	1.36E 00



ABSORPTION COEFFICIENTS OF HEATED AIR (SIEMENS CH.)

PHOTON ENERGY SAVERS E-V.	QZ 5-R	QZ 5-R COMT.	WZ D-W NO. 1	TEMPERATURE (DEGREES K) 2000.		NO	NO GAMMA	DENSITY (GM/CC) 1.2930E-04 ( 1.0E-03 normal)		D	TOTAL AIR	
				NO	NO. 1			PHOTO-DECT (IONS)	P.E.			
1 10.74 0.	0.	0.	1.20E-05	0.	0.	0.	0.	1.05E-03	1.53E-03	1.39E-00	2.31E-02	1.42E-00
2 10.66 0.	0.	0.	1.10E-05	0.	0.	0.	0.	1.04E-03	1.57E-03	7.44E-02	2.30E-02	1.01E-01
3 10.54 0.	0.	0.	1.10E-05	0.	0.	0.	0.	1.04E-03	1.62E-03	7.47E-02	2.29E-02	1.01E-01
4 10.46 0.	0.	0.	1.14E-05	0.	0.	0.	0.	1.04E-03	1.67E-03	7.49E-02	2.28E-02	1.01E-01
5 10.39 0.	0.	0.	1.01E-05	0.	0.	0.	0.	1.05E-03	1.71E-03	7.51E-02	2.27E-02	1.01E-01
6 10.29 0.	0.	0.	1.04E-05	0.	0.	0.	0.	1.07E-03	1.77E-03	7.53E-02	2.26E-02	1.04E-01
7 10.19 0.	0.	0.	9.69E-06	0.	0.	0.	0.	1.07E-03	1.82E-03	7.52E-02	2.25E-02	1.01E-01
8 10.09 0.	0.	0.	8.79E-06	0.	0.	0.	0.	1.07E-03	1.87E-03	7.51E-02	2.24E-02	1.01E-01
9 9.99 0.	0.	0.	8.04E-06	0.	0.	0.	0.	1.07E-03	1.93E-03	7.54E-02	2.23E-02	1.01E-01
10 9.89 0.	0.	0.	6.57E-06	0.	0.	0.	0.	1.08E-03	1.99E-03	7.54E-02	2.22E-02	1.02E-01
11 9.79 0.	0.	0.	7.48E-06	0.	0.	0.	0.	1.09E-03	2.06E-03	7.56E-02	2.21E-02	1.02E-01
12 9.69 0.	0.	0.	8.10E-06	0.	0.	0.	0.	1.08E-03	2.12E-03	7.50E-02	2.20E-02	1.02E-01
13 9.59 0.	0.	0.	7.01E-06	0.	0.	0.	0.	1.09E-03	2.19E-03	7.60E-02	2.19E-02	1.02E-01
14 9.49 0.	0.	0.	6.09E-06	0.	0.	0.	0.	1.09E-03	2.26E-03	7.63E-02	2.18E-02	1.02E-01
15 9.39 0.	0.	0.	6.00E-06	0.	0.	0.	0.	1.09E-03	2.34E-03	7.65E-02	2.17E-02	1.02E-01
16 9.29 0.	0.	0.	5.79E-06	0.	0.	0.	0.	1.01E-03	2.41E-03	7.67E-02	2.16E-02	1.03E-01
17 9.19 0.	0.	0.	5.96E-06	0.	0.	0.	0.	1.01E-03	2.49E-03	7.67E-02	2.15E-02	1.03E-01
18 9.09 0.	0.	0.	5.47E-06	0.	0.	0.	0.	1.02E-03	2.58E-03	7.69E-02	2.14E-02	1.03E-01
19 8.99 0.	0.	0.	5.11E-06	0.	0.	0.	0.	1.02E-03	2.67E-03	7.69E-02	2.13E-02	1.03E-01
20 8.89 0.	0.	0.	5.04E-06	0.	0.	0.	0.	1.04E-03	2.76E-03	7.69E-02	2.12E-02	1.03E-01
21 8.79 0.	0.	0.	4.38E-06	0.	0.	0.	0.	1.04E-03	2.86E-03	7.69E-02	2.12E-02	1.03E-01
22 8.69 0.	0.	0.	4.59E-06	0.	0.	0.	0.	1.05E-03	2.94E-03	7.69E-02	2.11E-02	1.03E-01
23 8.59 0.	0.	0.	4.07E-06	0.	0.	0.	0.	1.05E-03	3.07E-03	7.69E-02	2.10E-02	1.03E-01
24 8.49 0.	0.	0.	4.96E-06	0.	0.	0.	0.	1.07E-03	3.16E-03	7.67E-02	2.09E-02	1.03E-01
25 8.39 0.	0.	0.	3.69E-06	0.	0.	0.	0.	1.07E-03	3.26E-03	7.67E-02	2.09E-02	1.03E-01
26 8.29 0.	0.	0.	3.59E-06	0.	0.	0.	0.	1.09E-03	3.32E-03	7.65E-02	2.09E-02	1.03E-01
27 8.19 0.	0.	0.	3.18E-06	0.	0.	0.	0.	1.09E-03	3.42E-03	7.65E-02	2.09E-02	1.03E-01
28 8.09 0.	0.	0.	3.14E-06	0.	0.	0.	0.	2.01E-03	3.52E-03	7.65E-02	2.09E-02	1.03E-01
29 7.99 0.	0.	0.	2.73E-06	0.	0.	0.	0.	2.02E-03	3.63E-03	7.65E-02	2.09E-02	1.03E-01
30 7.89 0.	0.	0.	2.05E-06	0.	0.	0.	0.	2.03E-03	3.74E-03	7.65E-02	2.09E-02	1.03E-01
31 7.79 0.	0.	0.	2.53E-06	0.	0.	0.	0.	2.04E-03	3.85E-03	7.65E-02	2.09E-02	1.03E-01
32 7.69 0.	0.	0.	2.42E-06	0.	0.	0.	0.	2.05E-03	3.96E-03	7.65E-02	2.09E-02	1.03E-01
33 7.59 0.	0.	0.	2.24E-06	0.	0.	0.	0.	2.06E-03	4.07E-03	7.65E-02	2.09E-02	1.03E-01
34 7.49 0.	0.	0.	2.05E-06	0.	0.	0.	0.	2.07E-03	4.18E-03	7.65E-02	2.09E-02	1.03E-01
35 7.39 0.	0.	0.	1.96E-06	0.	0.	0.	0.	2.08E-03	4.29E-03	7.65E-02	2.09E-02	1.03E-01
36 7.29 0.	0.	0.	1.78E-06	0.	0.	0.	0.	2.09E-03	4.40E-03	7.65E-02	2.09E-02	1.03E-01
37 7.19 0.	0.	0.	1.73E-06	0.	0.	0.	0.	2.10E-03	4.51E-03	7.65E-02	2.09E-02	1.03E-01
38 7.09 0.	0.	0.	1.60E-06	0.	0.	0.	0.	2.11E-03	4.62E-03	7.65E-02	2.09E-02	1.03E-01
39 6.99 0.	0.	0.	1.48E-06	0.	0.	0.	0.	2.12E-03	4.73E-03	7.65E-02	2.09E-02	1.03E-01
40 6.89 0.	0.	0.	1.44E-06	0.	0.	0.	0.	2.13E-03	4.84E-03	7.65E-02	2.09E-02	1.03E-01
41 6.79 0.	0.	0.	1.27E-06	0.	0.	0.	0.	2.14E-03	4.95E-03	7.65E-02	2.09E-02	1.03E-01
42 6.69 0.	0.	0.	1.15E-06	0.	0.	0.	0.	2.15E-03	5.06E-03	7.65E-02	2.09E-02	1.03E-01
43 6.59 0.	0.	0.	9.30E-07	0.	0.	0.	0.	2.16E-03	5.17E-03	7.65E-02	2.09E-02	1.03E-01
44 6.49 0.	0.	0.	6.56E-07	0.	0.	0.	0.	2.17E-03	5.28E-03	7.65E-02	2.09E-02	1.03E-01
45 6.39 0.	0.	0.	4.15E-07	0.	0.	0.	0.	2.18E-03	5.39E-03	7.65E-02	2.09E-02	1.03E-01
46 6.29 0.	0.	0.	2.34E-07	0.	0.	0.	0.	2.19E-03	5.50E-03	7.65E-02	2.09E-02	1.03E-01
47 6.19 0.	0.	0.	1.11E-07	0.	0.	0.	0.	2.20E-03	5.61E-03	7.65E-02	2.09E-02	1.03E-01
48 6.09 0.	0.	0.	2.86E-08	0.	0.	0.	0.	2.21E-03	5.72E-03	7.65E-02	2.09E-02	1.03E-01
49 5.99 0.	0.	0.	2.05E-09	0.	0.	0.	0.	2.22E-03	5.83E-03	7.65E-02	2.09E-02	1.03E-01
50 5.89 0.	0.	0.	5.10E-11	0.	0.	0.	0.	2.23E-03	5.94E-03	7.65E-02	2.09E-02	1.03E-01
51 5.79 0.	0.	0.	1.46E-14	0.	0.	0.	0.	2.24E-03	6.05E-03	7.65E-02	2.09E-02	1.03E-01



ABSORPTION COEFFICIENT OF HEATER AIR (INVERSE CM.)

POSITION 0: 5-4 ENERGY BANDS E.V.	02 S-R CONT.	M2 B-H NO. 1	NO BETA	NO GAMMA	TEMPERATURE (DEGREES K) 20000.	10 2	0- PHOTO-DET (IONS)	0- FUEL FINE	0 P.F.	0 TOTAL AIR P.F.
1	10.70	0.	0.	0.	7.40E-09	0.	0.	0.	0.	0.
2	10.40	0.	0.	0.	6.04E-09	0.	0.	0.	0.	0.
3	10.30	0.	0.	0.	6.94E-09	0.	0.	0.	0.	0.
4	10.00	0.	0.	0.	6.06E-09	0.	0.	0.	0.	0.
5	10.30	0.	0.	0.	5.06E-09	0.	0.	0.	0.	0.
6	10.20	0.	0.	0.	6.09E-09	0.	0.	0.	0.	0.
7	10.14	0.	0.	0.	5.77E-09	0.	0.	0.	0.	0.
8	10.00	0.	0.	0.	5.12E-09	0.	0.	0.	0.	0.
9	0.04	0.	0.	0.	5.27E-09	0.	0.	0.	0.	0.
10	0.04	0.	0.	0.	4.96E-09	0.	0.	0.	0.	0.
11	0.70	0.	0.	0.	4.36E-09	0.	0.	0.	0.	0.
12	0.64	0.	0.	0.	4.78E-09	0.	0.	0.	0.	0.
13	0.50	0.	0.	0.	4.09E-09	0.	0.	0.	0.	0.
14	0.40	0.	0.	0.	3.90E-09	0.	0.	0.	0.	0.
15	0.30	0.	0.	0.	6.07E-09	0.	0.	0.	0.	0.
16	0.20	0.	0.	0.	3.37E-09	0.	0.	0.	0.	0.
17	0.10	0.	0.	0.	3.47E-09	0.	0.	0.	0.	0.
18	0.00	0.	0.	0.	3.10E-09	0.	0.	0.	0.	0.
19	0.00	0.	0.	0.	2.90E-09	0.	0.	0.	0.	0.
20	0.00	0.	0.	0.	2.94E-09	0.	0.	0.	0.	0.
21	0.70	0.	0.	0.	2.90E-09	0.	0.	0.	0.	0.
22	0.60	0.	0.	0.	2.47E-09	0.	0.	0.	0.	0.
23	0.50	0.	0.	0.	2.37E-09	0.	0.	0.	0.	0.
24	0.40	0.	0.	0.	2.37E-09	0.	0.	0.	0.	0.
25	0.30	0.	0.	0.	2.04E-09	0.	0.	0.	0.	0.
26	0.20	0.	0.	0.	2.07E-09	0.	0.	0.	0.	0.
27	0.10	0.	0.	0.	1.01E-09	0.	0.	0.	0.	0.
28	0.00	0.	0.	0.	1.03E-09	0.	0.	0.	0.	0.
29	7.90	0.	0.	0.	1.59E-09	0.	0.	0.	0.	0.
30	7.00	0.	0.	0.	1.64E-09	0.	0.	0.	0.	0.
31	7.70	0.	0.	0.	1.47E-09	0.	0.	0.	0.	0.
32	7.00	0.	0.	0.	1.41E-09	0.	0.	0.	0.	0.
33	7.50	0.	0.	0.	1.32E-09	0.	0.	0.	0.	0.
34	7.40	0.	0.	0.	1.19E-09	0.	0.	0.	0.	0.
35	7.30	0.	0.	0.	1.14E-09	0.	0.	0.	0.	0.
36	7.20	0.	0.	0.	1.04E-09	0.	0.	0.	0.	0.
37	7.10	0.	0.	0.	1.01E-09	0.	0.	0.	0.	0.
38	7.00	3.75E-13	0.	0.	9.33E-10	0.	0.	0.	0.	0.
39	6.90	7.35E-13	0.	0.	6.63E-10	0.	0.	0.	0.	0.
40	6.00	6.37E-13	0.	0.	6.39E-10	0.	0.	0.	0.	0.
41	6.70	4.47E-13	0.	0.	7.42E-10	0.	0.	0.	0.	0.
42	6.00	2.04E-13	0.	0.	9.72E-10	0.	0.	0.	0.	0.
43	6.50	1.66E-13	0.	0.	4.74E-10	0.	0.	0.	0.	0.
44	6.40	0.68E-14	0.	0.	3.81E-10	0.	0.	0.	0.	0.
45	6.30	5.42E-14	0.	0.	2.42E-10	0.	0.	0.	0.	0.
46	6.20	2.54E-14	0.	0.	1.10E-10	0.	0.	0.	0.	0.
47	6.10	1.10E-14	0.	0.	0.42E-11	0.	0.	0.	0.	0.
48	6.00	4.90E-15	0.	0.	1.46E-12	0.	0.	0.	0.	0.
49	5.90	1.23E-15	0.	0.	1.19E-12	0.	0.	0.	0.	0.
50	5.80	1.57E-16	0.	0.	3.02E-14	0.	0.	0.	0.	0.
51	5.70	1.35E-17	0.	0.	7.05E-11	0.	0.	0.	0.	0.
52	5.60	1.15E-18	0.	0.	3.06E-10	0.	0.	0.	0.	0.
53	5.50	1.00E-19	0.	0.	3.20E-10	0.	0.	0.	0.	0.
54	5.40	9.00E-21	0.	0.	4.74E-10	0.	0.	0.	0.	0.
55	5.30	8.00E-22	0.	0.	7.14E-12	0.	0.	0.	0.	0.
56	5.20	7.00E-23	0.	0.	3.29E-10	0.	0.	0.	0.	0.
57	5.10	6.00E-24	0.	0.	1.82E-11	0.	0.	0.	0.	0.
58	5.00	5.00E-25	0.	0.	2.94E-11	0.	0.	0.	0.	0.
59	4.90	4.00E-26	0.	0.	5.38E-10	0.	0.	0.	0.	0.
60	4.80	3.00E-27	0.	0.	7.07E-11	0.	0.	0.	0.	0.
61	4.70	2.00E-28	0.	0.	1.46E-10	0.	0.	0.	0.	0.
62	4.60	1.00E-29	0.	0.	3.06E-10	0.	0.	0.	0.	0.
63	4.50	0.50E-30	0.	0.	4.42E-11	0.	0.	0.	0.	0.
64	4.40	0.20E-31	0.	0.	7.94E-12	0.	0.	0.	0.	0.
65	4.30	0.10E-32	0.	0.	1.50E-12	0.	0.	0.	0.	0.
66	4.20	0.05E-33	0.	0.	3.14E-12	0.	0.	0.	0.	0.
67	4.10	0.02E-34	0.	0.	6.58E-13	0.	0.	0.	0.	0.
68	4.00	0.01E-35	0.	0.	1.38E-12	0.	0.	0.	0.	0.
69	3.90	0.00E-36	0.	0.	2.92E-13	0.	0.	0.	0.	0.
70	3.80	0.00E-37	0.	0.	6.18E-14	0.	0.	0.	0.	0.
71	3.70	0.00E-38	0.	0.	1.33E-13	0.	0.	0.	0.	0.
72	3.60	0.00E-39	0.	0.	2.86E-14	0.	0.	0.	0.	0.
73	3.50	0.00E-40	0.	0.	6.18E-15	0.	0.	0.	0.	0.
74	3.40	0.00E-41	0.	0.	1.34E-14	0.	0.	0.	0.	0.
75	3.30	0.00E-42	0.	0.	2.92E-15	0.	0.	0.	0.	0.
76	3.20	0.00E-43	0.	0.	6.28E-16	0.	0.	0.	0.	0.
77	3.10	0.00E-44	0.	0.	1.37E-15	0.	0.	0.	0.	0.
78	3.00	0.00E-45	0.	0.	2.95E-16	0.	0.	0.	0.	0.
79	2.90	0.00E-46	0.	0.	6.42E-17	0.	0.	0.	0.	0.
80	2.80	0.00E-47	0.	0.	1.40E-16	0.	0.	0.	0.	0.
81	2.70	0.00E-48	0.	0.	3.00E-17	0.	0.	0.	0.	0.
82	2.60	0.00E-49	0.	0.	6.50E-18	0.	0.	0.	0.	0.
83	2.50	0.00E-50	0.	0.	1.43E-17	0.	0.	0.	0.	0.
84	2.40	0.00E-51	0.	0.	3.10E-18	0.	0.	0.	0.	0.
85	2.30	0.00E-52	0.	0.	6.70E-19	0.	0.	0.	0.	0.
86	2.20	0.00E-53	0.	0.	1.46E-18	0.	0.	0.	0.	0.
87	2.10	0.00E-54	0.	0.	3.18E-19	0.	0.	0.	0.	0.
88	2.00	0.00E-55	0.	0.	6.90E-20	0.	0.	0.	0.	0.
89	1.90	0.00E-56	0.	0.	1.51E-19	0.	0.	0.	0.	0.
90	1.80	0.00E-57	0.	0.	3.30E-20	0.	0.	0.	0.	0.
91	1.70	0.00E-58	0.	0.	7.20E-21	0.	0.	0.	0.	0.
92	1.60	0.00E-59	0.	0.	1.58E-20	0.	0.	0.	0.	0.
93	1.50	0.00E-60	0.	0.	3.50E-21	0.	0.	0.	0.	0.
94	1.40	0.00E-61	0.	0.	7.70E-22	0.	0.	0.	0.	0.
95	1.30	0.00E-62	0.	0.	1.70E-21	0.	0.	0.	0.	0.
96	1.20	0.00E-63	0.	0.	3.70E-22	0.	0.	0.	0.	0.
97	1.10	0.00E-64	0.	0.	8.20E-23	0.	0.	0.	0.	0.
98	1.00	0.00E-65	0.	0.	1.80E-22	0.	0.	0.	0.	0.
99	0.90	0.00E-66	0.	0.	4.00E-23	0.	0.	0.	0.	0.
100	0.80	0.00E-67	0.	0.	8.80E-24	0.	0.	0.	0.	0.

ASSUMPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 20000. DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)

PHOTON ENERGY	1ST POS.	2ND POS.	1ST RES.	2ND RES.	BETA	NO	NO	GAMMA	VIB-ROT	NO	2	PHOTO-DET (IONS)	FREE-FREE	N	0	TOTAL AIR
BAIRS														P.E.		P.E.
52	5.01	5.24E-19	0.	0.	4.14E-11	3.93E-10	0.	0.	0.	0.	0.	0.04E+04	2.70E-04	9.54E-04	0.04E+04	1.80E-03
53	5.59	0.	0.	0.	7.47E-11	3.64E-10	0.	0.	0.	0.	0.	0.12E+04	2.00E-04	9.75E-04	0.55E-04	1.92E-03
54	5.49	0.	0.	0.	6.94E-11	3.82E-10	0.	0.	0.	0.	0.	0.95E+06	3.27E-04	1.00E-03	0.65E-04	1.97E-03
55	5.30	0.	0.	0.	7.11E-11	3.76E-10	0.	0.	0.	0.	0.	9.01E+06	3.29E-04	1.00E-03	0.77E-04	2.03E-03
56	5.29	0.	0.	0.	7.70E-11	3.97E-10	0.	0.	0.	0.	0.	0.71E+06	3.39E-04	1.04E-03	0.84E-04	2.07E-03
57	5.10	0.	0.	0.	7.71E-11	3.73E-10	0.	0.	0.	0.	0.	9.14E+06	3.59E-04	1.07E-03	0.94E-04	2.11E-03
58	5.00	7.31E-12	0.	0.	7.09E-11	3.95E-10	0.	0.	0.	0.	0.	0.22E+06	3.01E-04	1.00E-03	0.85E-04	2.20E-03
59	4.80	1.00E-11	0.	0.	7.54E-11	3.90E-10	0.	0.	0.	0.	0.	0.38E+06	4.64E-04	1.16E-03	7.10E-04	2.27E-03
60	4.60	3.00E-11	0.	0.	8.56E-11	3.68E-10	0.	0.	0.	0.	0.	0.34E+06	4.37E-04	1.16E-03	7.33E-04	2.36E-03
61	4.70	6.49E-11	0.	0.	8.62E-11	3.36E-10	0.	0.	0.	0.	0.	0.93E+06	4.00E-04	1.20E-03	7.53E-04	2.45E-03
62	4.60	6.49E-11	0.	0.	8.90E-11	3.04E-10	0.	0.	0.	0.	0.	0.91E+06	4.01E-04	1.20E-03	7.73E-04	2.55E-03
63	4.50	6.03E-11	0.	0.63E-11	9.22E-11	2.30E-10	0.	0.	0.	0.	0.	0.81E+06	5.27E-04	1.35E-03	7.94E-04	2.60E-03
64	4.40	7.30E-11	0.	2.53E-10	9.29E-11	1.57E-10	0.	0.	0.	0.	0.	0.80E+06	5.27E-04	1.41E-03	8.15E-04	2.60E-03
65	4.30	7.02E-11	0.	0.99E-10	7.90E-11	9.94E-11	0.	0.	0.	0.	0.	0.76E+06	6.71E-04	1.49E-03	8.36E-04	2.64E-03
66	4.20	6.40E-11	0.	2.67E-09	6.41E-11	6.88E-11	0.	0.	0.	0.	0.	0.64E+06	7.41E-04	1.57E-03	8.61E-04	3.00E-03
67	4.10	6.29E-11	0.	1.22E-09	6.38E-11	1.93E-11	0.	0.	0.	0.	0.	0.87E+06	6.94E-04	1.64E-03	8.90E-04	3.21E-03
68	4.00	5.79E-11	0.	3.83E-09	8.10E-11	1.45E-11	0.	0.	0.	0.	0.	0.81E+06	7.50E-04	1.72E-03	9.04E-04	3.28E-03
69	3.90	4.97E-11	0.	3.83E-09	7.52E-11	5.47E-12	0.	0.	0.	0.	0.	0.81E+06	7.50E-04	1.72E-03	9.17E-04	3.28E-03
70	3.80	5.47E-11	0.	2.05E-09	5.01E-11	8.13E-11	0.	0.	0.	0.	0.	0.80E+06	6.74E-04	1.72E-03	9.35E-04	3.04E-03
71	3.70	4.92E-11	0.	3.05E-09	2.67E-11	7.04E-11	0.	0.	0.	0.	0.	0.80E+06	6.74E-04	1.72E-03	9.46E-04	3.04E-03
72	3.60	4.97E-11	0.	2.70E-09	1.34E-11	6.01E-11	0.	0.	0.	0.	0.	0.80E+06	6.74E-04	1.72E-03	9.46E-04	3.04E-03
73	3.50	4.21E-11	0.	2.07E-09	2.46E-11	6.09E-11	0.	0.	0.	0.	0.	0.80E+06	6.74E-04	1.72E-03	9.46E-04	3.04E-03
74	3.40	3.90E-11	0.	1.87E-09	8.06E-11	6.84E-11	0.	0.	0.	0.	0.	0.79E+06	1.23E-03	1.80E-03	9.26E-04	3.50E-03
75	3.30	3.44E-11	0.	1.92E-09	1.51E-11	5.54E-11	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
76	3.20	2.77E-11	0.	1.20E-09	2.39E-11	5.59E-11	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
77	3.10	2.42E-11	0.	9.06E-10	4.44E-11	5.59E-11	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
78	3.00	2.42E-11	0.	6.10E-10	1.41E-11	5.34E-11	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
79	2.90	2.06E-11	0.	3.90E-10	7.79E-11	4.14E-11	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
80	2.80	2.10E-11	0.	1.06E-10	5.34E-11	2.93E-11	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
81	2.70	1.42E-11	0.	0.89E-11	6.76E-11	3.63E-11	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
82	2.60	0.42E-12	0.	4.20E-11	7.89E-11	7.33E-12	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
83	2.50	0.42E-12	0.	4.44E-12	6.30E-11	1.77E-12	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
84	2.40	0.	0.	5.20E-10	1.08E-13	0.	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
85	2.30	0.	0.	5.04E-10	0.	0.	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
86	2.20	0.	0.	1.96E-09	0.	0.	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
87	2.10	0.	0.	1.00E-09	0.	0.	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
88	2.00	0.	0.	3.19E-09	0.	0.	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
89	1.90	0.	0.	3.04E-09	0.	0.	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
90	1.80	0.	0.	3.29E-09	0.	0.	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
91	1.70	0.	0.	3.71E-09	0.	0.	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
92	1.60	0.	0.	2.01E-09	0.	0.	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
93	1.50	0.	0.	3.21E-09	0.	0.	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
94	1.40	0.	0.	3.10E-09	0.	0.	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
95	1.30	0.	0.	2.43E-09	0.	0.	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
96	1.20	0.	0.	2.31E-09	0.	0.	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
97	1.10	0.	0.	2.23E-09	0.	0.	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
98	1.00	0.	0.	2.05E-09	0.	0.	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
99	0.90	0.	0.	1.04E-09	0.	0.	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
100	0.80	0.	0.	7.91E-10	0.	0.	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
101	0.70	0.	0.	1.04E-10	0.	0.	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03
102	0.60	0.	0.	3.07E-11	0.	0.	0.	0.	0.	0.	0.	0.80E+06	1.35E-03	2.01E-03	8.80E-04	4.51E-03



TEMPERATURE (DEGREES K) 20000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON O2 S-R ENERGY BANDS	#1 POS.	#2 POS.	#2 POS. 1ST NEG.	BETA	NO	GAMMA	NO	VIB-ROT	#1	0- PHOTO-DET (IDMS)	M	0	TOTAL AIR	
										P.E.	P.E.	P.E.	P.E.	
52	3.60	0.42E-23	0.	0.	9.51E-15	6.12E-14	0.	0.	0.	1.26E+00	3.30E+06	1.37E+05	0.38E+04	2.54E+05
53	3.50	0.	0.	0.	1.15E-14	5.67E-14	0.	0.	0.	1.27E+00	3.55E+06	1.40E+05	0.47E+04	2.61E+05
54	3.40	0.	0.	0.	1.08E-14	4.78E-14	0.	0.	0.	1.28E+00	3.70E+06	1.44E+05	0.57E+04	2.68E+05
55	3.30	0.	0.	0.	1.11E-14	5.88E-14	0.	0.	0.	1.29E+00	3.85E+06	1.48E+05	0.67E+04	2.75E+05
56	3.20	0.	0.	0.	1.20E-14	4.55E-14	0.	0.	0.	1.30E+00	4.00E+06	1.52E+05	0.77E+04	2.82E+05
57	3.10	0.	0.	0.	1.20E-14	5.01E-14	0.	0.	0.	1.31E+00	4.15E+06	1.56E+05	0.87E+04	2.89E+05
58	3.00	1.20E-23	0.	0.	1.10E-14	5.52E-14	0.	0.	0.	1.32E+00	4.30E+06	1.60E+05	0.97E+04	2.96E+05
59	4.00	2.90E-15	0.	0.	1.24E-14	6.08E-14	0.	0.	0.	1.33E+00	4.45E+06	1.64E+05	1.07E+04	3.03E+05
60	4.00	3.50E-15	0.	0.	1.33E-14	5.71E-14	0.	0.	0.	1.34E+00	4.60E+06	1.68E+05	1.17E+04	3.10E+05
61	4.70	7.62E-15	0.	0.	1.38E-14	5.25E-14	0.	0.	0.	1.35E+00	4.75E+06	1.72E+05	1.27E+04	3.17E+05
62	4.60	1.26E-14	0.	0.	1.38E-14	4.74E-14	0.	0.	0.	1.36E+00	4.90E+06	1.76E+05	1.37E+04	3.24E+05
63	4.50	1.12E-14	0.	0.	1.28E-14	3.59E-14	0.	0.	0.	1.37E+00	5.05E+06	1.80E+05	1.47E+04	3.31E+05
64	4.4E	1.21E-14	0.	0.	1.20E-14	2.45E-14	0.	0.	0.	1.38E+00	5.20E+06	1.84E+05	1.57E+04	3.38E+05
65	4.3E	1.15E-14	0.	0.	1.24E-14	1.54E-14	0.	0.	0.	1.39E+00	5.35E+06	1.88E+05	1.67E+04	3.45E+05
66	4.2E	1.06E-14	0.	0.	1.31E-14	1.57E-14	0.	0.	0.	1.40E+00	5.50E+06	1.92E+05	1.77E+04	3.52E+05
67	4.1E	1.02E-14	0.	0.	1.20E-14	3.31E-15	0.	0.	0.	1.41E+00	5.65E+06	1.96E+05	1.87E+04	3.59E+05
68	4.0E	9.82E-15	0.	0.	1.26E-14	2.24E-15	0.	0.	0.	1.42E+00	5.80E+06	2.00E+05	1.97E+04	3.66E+05
69	3.9E	9.16E-15	0.	0.	1.17E-14	8.44E-16	0.	0.	0.	1.43E+00	5.95E+06	2.04E+05	2.07E+04	3.73E+05
70	3.8E	8.99E-15	0.	0.	4.39E-13	7.71E-11	1.27E-14	0.	0.	1.44E+00	6.10E+06	2.08E+05	2.17E+04	3.80E+05
71	3.7E	8.08E-15	0.	0.	4.49E-13	3.54E-11	1.10E-14	0.	0.	1.45E+00	6.25E+06	2.12E+05	2.27E+04	3.87E+05
72	3.6E	7.39E-15	0.	0.	3.29E-13	1.82E-11	1.02E-14	0.	0.	1.46E+00	6.40E+06	2.16E+05	2.37E+04	3.94E+05
73	3.5E	6.93E-15	0.	0.	4.24E-13	3.36E-11	9.49E-15	0.	0.	1.47E+00	6.55E+06	2.20E+05	2.47E+04	4.01E+05
74	3.4E	6.42E-15	0.	0.	2.75E-13	3.48E-11	1.07E-14	0.	0.	1.48E+00	6.70E+06	2.24E+05	2.57E+04	4.08E+05
75	3.3E	5.86E-15	0.	0.	2.88E-13	2.00E-11	6.64E-15	0.	0.	1.49E+00	6.85E+06	2.28E+05	2.67E+04	4.15E+05
76	3.2E	4.95E-15	0.	0.	1.88E-13	3.17E-11	9.12E-15	0.	0.	1.50E+00	7.00E+06	2.32E+05	2.77E+04	4.22E+05
77	3.1E	4.05E-15	0.	0.	1.47E-13	8.58E-11	8.11E-15	0.	0.	1.51E+00	7.15E+06	2.36E+05	2.87E+04	4.29E+05
78	3.0E	3.90E-15	0.	0.	9.12E-14	1.91E-11	8.31E-15	0.	0.	1.52E+00	7.30E+06	2.40E+05	2.97E+04	4.36E+05
79	2.9E	3.30E-15	0.	0.	5.76E-14	1.03E-11	6.44E-15	0.	0.	1.53E+00	7.45E+06	2.44E+05	3.07E+04	4.43E+05
80	2.8E	3.55E-15	0.	0.	2.78E-14	7.08E-11	4.57E-15	0.	0.	1.54E+00	7.60E+06	2.48E+05	3.17E+04	4.50E+05
81	2.7E	2.33E-15	0.	0.	1.35E-14	8.96E-11	2.55E-15	0.	0.	1.55E+00	7.75E+06	2.52E+05	3.27E+04	4.57E+05
82	2.6E	1.22E-15	0.	0.	6.28E-15	9.38E-12	1.14E-15	0.	0.	1.56E+00	7.90E+06	2.56E+05	3.37E+04	4.64E+05
83	2.5E	7.92E-17	0.	0.	6.58E-16	9.13E-12	2.75E-16	0.	0.	1.57E+00	8.05E+06	2.60E+05	3.47E+04	4.71E+05
84	2.4E	0.	0.	0.	2.92E-14	7.01E-12	2.64E-17	0.	0.	1.58E+00	8.20E+06	2.64E+05	3.57E+04	4.78E+05
85	2.3E	0.	0.	0.	8.02E-14	0.	0.	0.	0.	1.59E+00	8.35E+06	2.68E+05	3.67E+04	4.85E+05
86	2.2E	0.	0.	0.	2.30E-13	0.	0.	0.	0.	1.60E+00	8.50E+06	2.72E+05	3.77E+04	4.92E+05
87	2.1E	0.	0.	0.	6.76E-13	0.	0.	0.	0.	1.61E+00	8.65E+06	2.76E+05	3.87E+04	5.00E+05
88	2.0E	0.	0.	0.	4.75E-13	0.	0.	0.	0.	1.62E+00	8.80E+06	2.80E+05	3.97E+04	5.07E+05
89	1.9E	0.	0.	0.	5.87E-13	0.	0.	0.	0.	1.63E+00	8.95E+06	2.84E+05	4.07E+04	5.14E+05
90	1.8E	0.	0.	0.	4.96E-13	0.	0.	0.	0.	1.64E+00	9.10E+06	2.88E+05	4.17E+04	5.21E+05
91	1.7E	0.	0.	0.	5.91E-13	0.	0.	0.	0.	1.65E+00	9.25E+06	2.92E+05	4.27E+04	5.28E+05
92	1.6E	0.	0.	0.	4.15E-13	0.	0.	0.	0.	1.66E+00	9.40E+06	2.96E+05	4.37E+04	5.35E+05
93	1.5E	0.	0.	0.	4.74E-13	0.	0.	0.	0.	1.67E+00	9.55E+06	3.00E+05	4.47E+04	5.42E+05
94	1.4E	0.	0.	0.	4.43E-13	0.	0.	0.	0.	1.68E+00	9.70E+06	3.04E+05	4.57E+04	5.49E+05
95	1.3E	0.	0.	0.	3.58E-13	0.	0.	0.	0.	1.69E+00	9.85E+06	3.08E+05	4.67E+04	5.56E+05
96	1.2E	0.	0.	0.	3.41E-13	0.	0.	0.	0.	1.70E+00	1.00E+07	3.12E+05	4.77E+04	5.63E+05
97	1.1E	0.	0.	0.	3.30E-13	0.	0.	0.	0.	1.71E+00	1.01E+07	3.16E+05	4.87E+04	5.70E+05
98	1.0E	0.	0.	0.	3.03E-13	0.	0.	0.	0.	1.72E+00	1.02E+07	3.20E+05	4.97E+04	5.77E+05
99	0.9E	0.	0.	0.	2.46E-13	0.	0.	0.	0.	1.73E+00	1.03E+07	3.24E+05	5.07E+04	5.84E+05
100	0.8E	0.	0.	0.	1.75E-13	0.	0.	0.	0.	1.74E+00	1.04E+07	3.28E+05	5.17E+04	5.91E+05
101	0.7E	0.	0.	0.	2.71E-14	0.	0.	0.	0.	1.75E+00	1.05E+07	3.32E+05	5.27E+04	5.98E+05
102	0.6E	0.	0.	0.	5.71E-15	0.	0.	0.	0.	1.76E+00	1.06E+07	3.36E+05	5.37E+04	6.05E+05



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CH.)  
 TEMPERATURE (DEGREES K) 2000K. DENSITY (GM/CC) 1.293E-07 (10-DE-05 NORMAL)

PHOTON QZ 3-R ENERGY BANDS E.V.	DZ 2-R CONT.	MZ B-H NO. 1	NO BETA	NO GAMMA	NO 2	D- PHOTO-DET (IONS)	FREE-FREE P.E.	N P.E.	0 TOTAL AIR	
1 16.74 0.	0.	1.14E-16	0.	0.	0.	1.31E-11	5.52E-09	7.10E-07	9.26E-08	8.40E-07
2 10.60 0.	0.	1.04E-16	0.	0.	0.	1.31E-11	5.66E-09	7.19E-07	9.23E-08	8.17E-07
3 10.50 0.	0.	1.04E-16	0.	0.	0.	1.32E-11	5.65E-09	7.19E-07	9.19E-08	8.41E-07
4 10.40 0.	0.	1.01E-16	0.	0.	0.	1.32E-11	5.62E-09	7.15E-07	9.15E-08	8.42E-07
5 10.30 0.	0.	0.91E-17	0.	0.	0.	1.32E-11	6.19E-09	7.66E-07	9.12E-08	8.43E-07
6 10.20 0.	0.	0.24E-17	0.	0.	0.	1.32E-11	6.30E-09	7.88E-07	9.08E-08	8.43E-07
7 10.10 0.	0.	0.77E-17	0.	0.	0.	1.32E-11	6.57E-09	8.30E-07	9.05E-08	8.43E-07
8 10.00 0.	0.	0.79E-17	0.	0.	0.	1.32E-11	6.77E-09	8.53E-07	9.02E-08	8.43E-07
9 9.90 0.	0.	0.01E-17	0.	0.	0.	1.32E-11	6.98E-09	8.78E-07	8.98E-08	8.42E-07
10 9.80 0.	0.	0.99E-17	0.	0.	0.	1.32E-11	7.20E-09	9.01E-07	8.95E-08	8.42E-07
11 9.70 0.	0.	6.68E-17	0.	0.	0.	1.32E-11	7.44E-09	9.20E-07	8.92E-08	8.42E-07
12 9.60 0.	0.	7.10E-17	0.	0.	0.	1.32E-11	7.69E-09	9.36E-07	8.89E-08	8.42E-07
13 9.50 0.	0.	6.21E-17	0.	0.	0.	1.32E-11	7.91E-09	9.51E-07	8.85E-08	8.41E-07
14 9.40 0.	0.	5.93E-17	0.	0.	0.	1.32E-11	8.17E-09	9.67E-07	8.82E-08	8.41E-07
15 9.30 0.	0.	6.10E-17	0.	0.	0.	1.32E-11	8.43E-09	9.80E-07	8.78E-08	8.41E-07
16 9.20 0.	0.	5.13E-17	0.	0.	0.	1.32E-11	8.72E-09	9.92E-07	8.75E-08	8.41E-07
17 9.10 0.	0.	3.28E-17	0.	0.	0.	1.32E-11	9.01E-09	9.99E-07	8.72E-08	8.41E-07
18 9.00 0.	0.	4.85E-17	0.	0.	0.	1.32E-11	9.31E-09	9.99E-07	8.69E-08	8.41E-07
19 8.90 0.	0.	4.53E-17	0.	0.	0.	1.32E-11	9.63E-09	9.99E-07	8.67E-08	8.41E-07
20 8.80 0.	0.	0.47E-17	0.	0.	0.	1.32E-11	9.97E-09	9.99E-07	8.63E-08	8.40E-07
21 8.70 0.	0.	3.93E-17	0.	0.	0.	1.32E-11	1.03E-08	9.99E-07	8.61E-08	8.39E-07
22 8.60 0.	0.	4.07E-17	0.	0.	0.	1.32E-11	1.07E-08	9.99E-07	8.58E-08	8.39E-07
23 8.50 0.	0.	3.01E-17	0.	0.	0.	1.32E-11	1.11E-08	9.99E-07	8.55E-08	8.39E-07
24 8.40 0.	0.	3.09E-17	0.	0.	0.	1.32E-11	1.15E-08	9.99E-07	8.53E-08	8.39E-07
25 8.30 0.	0.	3.19E-17	0.	0.	0.	1.40E-11	1.23E-08	9.99E-07	8.52E-08	8.39E-07
26 8.20 0.	0.	2.78E-17	0.	0.	0.	1.41E-11	1.26E-08	9.99E-07	8.50E-08	8.39E-07
27 8.10 0.	0.	2.78E-17	0.	0.	0.	1.42E-11	1.33E-08	9.99E-07	8.48E-08	8.39E-07
28 8.00 0.	0.	2.62E-17	0.	0.	0.	1.42E-11	1.38E-08	9.99E-07	8.45E-08	8.39E-07
29 7.90 0.	0.	2.92E-17	0.	0.	0.	1.44E-11	1.44E-08	9.99E-07	8.43E-08	8.39E-07
30 7.80 0.	0.	2.24E-17	0.	0.	0.	1.44E-11	1.49E-08	9.99E-07	8.41E-08	8.39E-07
31 7.70 0.	0.	2.14E-17	0.	0.	0.	1.45E-11	1.55E-08	9.99E-07	8.40E-08	8.39E-07
32 7.60 0.	0.	2.01E-17	0.	0.	0.	1.46E-11	1.62E-08	9.99E-07	8.40E-08	8.39E-07
33 7.50 0.	0.	1.82E-17	0.	0.	0.	1.47E-11	1.69E-08	9.99E-07	8.39E-08	8.39E-07
34 7.40 0.	0.	1.74E-17	0.	0.	0.	1.47E-11	1.75E-08	9.99E-07	8.38E-08	8.39E-07
35 7.30 0.	0.	1.58E-17	0.	0.	0.	1.48E-11	1.83E-08	9.99E-07	8.38E-08	8.39E-07
36 7.20 0.	0.	1.53E-17	0.	0.	0.	1.49E-11	1.91E-08	9.99E-07	8.38E-08	8.39E-07
37 7.10 0.	0.	1.42E-17	0.	0.	0.	1.51E-11	1.99E-08	9.99E-07	8.37E-08	8.39E-07
38 7.00 6.91E-21	0.	1.31E-17	0.	0.	0.	1.53E-11	2.08E-08	9.99E-07	8.37E-08	8.39E-07
39 6.90 1.34E-20	0.	1.20E-17	0.	0.	0.	1.53E-11	2.17E-08	9.99E-07	8.37E-08	8.39E-07
40 6.80 1.18E-20	0.	1.07E-17	0.	0.	0.	1.53E-11	2.27E-08	9.99E-07	8.37E-08	8.39E-07
41 6.70 8.62E-21	0.	1.07E-17	0.	0.	0.	1.54E-11	2.38E-08	9.99E-07	8.37E-08	8.39E-07
42 6.60 5.29E-21	0.	1.02E-17	0.	0.	0.	1.54E-11	2.49E-08	9.99E-07	8.37E-08	8.39E-07
43 6.50 3.07E-21	0.	8.24E-18	0.	0.	0.	1.57E-11	2.61E-08	9.99E-07	8.37E-08	8.39E-07
44 6.40 1.77E-21	0.	5.79E-18	0.	0.	0.	1.59E-11	2.74E-08	9.99E-07	8.37E-08	8.39E-07
45 6.30 1.04E-21	0.	3.40E-18	0.	0.	0.	1.59E-11	2.88E-08	9.99E-07	8.37E-08	8.39E-07
46 6.20 4.72E-22	0.	2.07E-18	0.	0.	0.	1.60E-11	3.04E-08	9.99E-07	8.37E-08	8.39E-07
47 6.10 2.19E-22	0.	9.07E-19	0.	0.	0.	1.62E-11	3.22E-08	9.99E-07	8.37E-08	8.39E-07
48 6.00 9.19E-23	0.	4.80E-19	0.	0.	0.	1.63E-11	3.42E-08	9.99E-07	8.37E-08	8.39E-07
49 5.90 2.27E-23	0.	1.02E-20	0.	0.	0.	1.63E-11	3.64E-08	9.99E-07	8.37E-08	8.39E-07
50 5.80 2.98E-24	0.	0.49E-22	0.	0.	0.	1.65E-11	3.92E-08	9.99E-07	8.37E-08	8.39E-07
51 5.70 2.14E-25	0.	1.10E-18	5.05E-10	0.	0.	1.53E-11	3.71E-08	1.70E-07	8.37E-08	8.39E-07

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 2800. DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)

PHOTON ENERGY BANDS	Q2 S-R	M2	M2	M2	BETA	GAMMA	VIB-ROT	NO	NO	NO	PHOTO-DET	FREE-FREE	M	P.E.	TOTAL AIR
52	5.60	9.68E-27	0.	0.	1.02E-18	6.20E-18	0.	0.	0.	0.	1.40E-11	3.91E-08	1.76E-07	9.02E-08	3.05E-07
53	5.50	0.	0.	0.	1.25E-18	6.10E-18	0.	0.	0.	0.	1.41E-11	4.13E-08	1.82E-07	9.12E-08	3.15E-07
54	5.40	0.	0.	0.	1.16E-18	5.95E-18	0.	0.	0.	0.	1.42E-11	4.35E-08	1.90E-07	9.24E-08	3.25E-07
55	5.30	0.	0.	0.	1.07E-18	5.80E-18	0.	0.	0.	0.	1.42E-11	4.57E-08	1.97E-07	9.35E-08	3.35E-07
56	5.20	0.	0.	0.	1.02E-18	4.80E-18	0.	0.	0.	0.	1.43E-11	4.80E-08	2.04E-07	9.45E-08	3.45E-07
57	5.10	0.	0.	0.	1.20E-18	6.20E-18	0.	0.	0.	0.	1.43E-11	5.20E-08	2.12E-07	9.71E-08	3.61E-07
58	5.00	0.	0.	0.	1.19E-18	5.94E-18	0.	0.	0.	0.	1.40E-11	5.52E-08	2.20E-07	9.80E-08	3.74E-07
59	4.90	3.11E-19	0.	0.	1.33E-18	6.54E-18	0.	0.	0.	0.	1.47E-11	5.87E-08	2.29E-07	9.98E-08	3.87E-07
60	4.80	6.28E-19	0.	0.	1.43E-18	6.84E-18	0.	0.	0.	0.	1.49E-11	6.29E-08	2.38E-07	1.02E-07	4.02E-07
61	4.70	8.56E-19	0.	0.	1.44E-18	5.82E-18	0.	0.	0.	0.	1.49E-11	6.66E-08	2.48E-07	1.05E-07	4.20E-07
62	4.60	1.19E-18	0.	0.	1.49E-18	5.10E-18	0.	0.	0.	0.	1.51E-11	7.11E-08	2.63E-07	1.08E-07	4.42E-07
63	4.50	1.70E-18	0.	1.31E-18	1.38E-18	3.95E-18	0.	0.	0.	0.	1.52E-11	7.60E-08	2.79E-07	1.11E-07	4.65E-07
64	4.40	1.36E-18	0.	3.85E-18	1.39E-18	2.43E-18	0.	0.	0.	0.	1.53E-11	8.14E-08	2.95E-07	1.14E-07	4.90E-07
65	4.30	1.30E-18	0.	1.31E-17	1.34E-18	1.67E-18	0.	0.	0.	0.	1.54E-11	8.72E-08	3.11E-07	1.17E-07	5.12E-07
66	4.20	1.72E-18	0.	4.08E-17	1.31E-18	1.19E-18	0.	0.	0.	0.	1.56E-11	9.37E-08	3.28E-07	1.20E-07	5.24E-07
67	4.10	1.15E-18	0.	1.08E-17	1.35E-18	3.24E-18	0.	0.	0.	0.	1.56E-11	1.01E-07	3.48E-07	1.24E-07	5.46E-07
68	4.00	1.73E-18	0.	3.08E-17	1.35E-18	2.43E-18	0.	0.	0.	0.	1.57E-11	1.09E-07	3.49E-07	1.25E-07	5.51E-07
69	3.90	9.13E-19	0.	2.79E-17	1.89E-18	9.08E-18	0.	0.	0.	0.	1.56E-11	1.17E-07	3.26E-07	1.08E-07	5.04E-07
70	3.80	1.01E-18	0.	4.96E-17	1.56E-18	0.	0.	0.	0.	0.	1.58E-11	1.27E-07	3.45E-07	1.16E-07	5.35E-07
71	3.70	9.08E-19	0.	4.96E-17	1.10E-18	0.	0.	0.	0.	0.	1.58E-11	1.37E-07	3.52E-07	1.17E-07	5.59E-07
72	3.60	8.25E-19	0.	3.35E-17	1.80E-18	1.27E-18	0.	0.	0.	0.	1.43E-11	1.49E-07	3.78E-07	1.25E-07	5.81E-07
73	3.50	7.78E-19	0.	4.37E-17	3.25E-18	1.82E-18	0.	0.	0.	0.	1.51E-11	1.63E-07	4.04E-07	1.28E-07	6.50E-07
74	3.40	7.20E-19	0.	2.84E-17	5.32E-18	1.15E-18	0.	0.	0.	0.	1.57E-11	1.78E-07	4.36E-07	1.35E-07	7.08E-07
75	3.30	5.80E-19	0.	2.95E-17	1.97E-18	9.29E-18	0.	0.	0.	0.	1.58E-11	1.95E-07	4.71E-07	1.42E-07	7.65E-07
76	3.20	5.10E-19	0.	1.94E-17	3.13E-18	9.68E-18	0.	0.	0.	0.	1.60E-11	2.14E-07	5.05E-07	1.47E-07	8.66E-07
77	3.10	4.47E-19	0.	1.58E-17	8.44E-18	9.37E-18	0.	0.	0.	0.	1.63E-11	2.36E-07	5.47E-07	1.56E-07	9.25E-07
78	3.00	4.73E-19	0.	9.46E-18	1.67E-18	6.94E-18	0.	0.	0.	0.	1.63E-11	2.61E-07	5.92E-07	1.62E-07	1.01E-06
79	2.90	3.80E-19	0.	5.93E-18	1.62E-18	6.93E-18	0.	0.	0.	0.	1.64E-11	2.87E-07	6.43E-07	1.73E-07	1.07E-06
80	2.80	3.99E-19	0.	3.85E-18	6.92E-18	4.91E-18	0.	0.	0.	0.	1.64E-11	3.15E-07	6.99E-07	1.82E-07	1.14E-06
81	2.70	2.81E-19	0.	1.35E-18	8.82E-18	2.74E-18	0.	0.	0.	0.	1.66E-11	3.59E-07	7.58E-07	1.91E-07	1.22E-06
82	2.60	1.24E-19	0.	6.48E-19	9.21E-18	1.23E-18	0.	0.	0.	0.	1.66E-11	4.09E-07	8.34E-07	2.03E-07	1.33E-06
83	2.50	8.09E-21	0.	6.79E-20	8.99E-18	2.96E-20	0.	0.	0.	0.	1.66E-11	4.67E-07	9.38E-07	2.18E-07	1.46E-06
84	2.40	0.	0.	3.81E-18	0.	0.	0.	0.	0.	0.	1.67E-11	5.32E-07	1.05E-06	2.33E-07	1.61E-06
85	2.30	0.	0.	8.99E-18	0.	0.	0.	0.	0.	0.	1.67E-11	6.05E-07	1.18E-06	2.50E-07	1.77E-06
86	2.20	0.	0.	2.37E-17	0.	0.	0.	0.	0.	0.	1.67E-11	6.87E-07	1.35E-06	2.69E-07	1.94E-06
87	2.10	0.	0.	3.43E-17	0.	0.	0.	0.	0.	0.	1.67E-11	7.79E-07	1.56E-06	2.90E-07	2.10E-06
88	2.00	0.	0.	4.85E-17	0.	0.	0.	0.	0.	0.	1.67E-11	8.84E-07	1.81E-06	3.13E-07	2.25E-06
89	1.90	0.	0.	5.94E-17	0.	0.	0.	0.	0.	0.	1.67E-11	1.00E-06	2.10E-06	3.39E-07	2.41E-06
90	1.80	0.	0.	5.00E-17	0.	0.	0.	0.	0.	0.	1.67E-11	1.13E-06	2.43E-06	3.68E-07	2.58E-06
91	1.70	0.	0.	5.88E-17	0.	0.	0.	0.	0.	0.	1.67E-11	1.27E-06	2.81E-06	4.00E-07	2.76E-06
92	1.60	0.	0.	4.20E-17	0.	0.	0.	0.	0.	0.	1.67E-11	1.42E-06	3.24E-06	4.36E-07	2.95E-06
93	1.50	0.	0.	4.80E-17	0.	0.	0.	0.	0.	0.	1.67E-11	1.58E-06	3.73E-06	4.74E-07	3.15E-06
94	1.40	0.	0.	4.81E-17	0.	0.	0.	0.	0.	0.	1.67E-11	1.76E-06	4.28E-06	5.14E-07	3.35E-06
95	1.30	0.	0.	3.95E-17	0.	0.	0.	0.	0.	0.	1.67E-11	1.96E-06	4.88E-06	5.56E-07	3.56E-06
96	1.20	0.	0.	3.52E-17	0.	0.	0.	0.	0.	0.	1.67E-11	2.18E-06	5.54E-06	6.01E-07	3.78E-06
97	1.10	0.	0.	3.48E-17	0.	0.	0.	0.	0.	0.	1.67E-11	2.42E-06	6.26E-06	6.48E-07	3.99E-06
98	1.00	0.	0.	3.12E-17	0.	0.	0.	0.	0.	0.	1.67E-11	2.68E-06	7.05E-06	6.98E-07	4.20E-06
99	0.90	0.	0.	2.50E-17	0.	0.	0.	0.	0.	0.	1.67E-11	2.96E-06	7.91E-06	7.50E-07	4.41E-06
100	0.80	0.	0.	1.20E-17	0.	0.	0.	0.	0.	0.	1.67E-11	3.26E-06	8.86E-06	8.06E-07	4.62E-06
101	0.70	0.	0.	2.79E-18	0.	0.	0.	0.	0.	0.	1.67E-11	3.58E-06	9.98E-06	8.66E-07	4.83E-06
102	0.60	0.	0.	5.00E-19	0.	0.	0.	0.	0.	0.	1.67E-11	3.92E-06	1.13E-05	9.38E-07	5.04E-06



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 20000. DENSITY (GM/CC) 1.205E-00 ( 1.0E-05 NORMAL)

PHOTON ENERGY EUVS	Q2 S-R 1ST POS.	W2 2ND POS.	W2+ 3RD POS.	W2 1ST POS.	W2+ 2ND POS.	W2 3RD POS.	NO GAMMA	NO VIB-ROI	NO 2	O- PHOTO-DET (IONS)	M P.E.	O P.E.	TOTAL AIR	
52	5.6	1.27E-20	0.	0.	1.05E-22	6.74E-22	0.	0.	0.	1.92E-14	7.09E-10	5.61E-09	1.23E-09	7.54E-09
53	5.50	0.	0.	0.	1.20E-22	6.24E-22	0.	0.	0.	1.93E-14	7.09E-10	5.91E-09	1.25E-09	7.90E-09
54	5.40	0.	0.	0.	1.19E-22	5.17E-22	0.	0.	0.	1.94E-14	7.07E-10	6.23E-09	1.27E-09	8.30E-09
55	5.30	0.	0.	0.	1.22E-22	6.44E-22	0.	0.	0.	1.95E-14	8.39E-10	6.58E-09	1.30E-09	8.70E-09
56	5.20	0.	0.	0.	1.32E-22	5.01E-22	0.	0.	0.	1.96E-14	8.00E-10	6.89E-09	1.31E-09	9.11E-09
57	5.10	0.	0.	0.	1.32E-22	6.40E-22	0.	0.	0.	1.98E-14	9.01E-10	7.22E-09	1.26E-09	9.44E-09
58	5.00	1.77E-23	0.	0.	1.22E-22	6.09E-22	0.	0.	0.	1.99E-14	1.01E-10	7.56E-09	1.31E-09	9.87E-09
59	4.90	4.35E-23	0.	0.	1.30E-22	6.70E-22	0.	0.	0.	2.00E-14	1.04E-10	7.90E-09	1.34E-09	1.03E-08
60	4.80	4.20E-23	0.	0.	1.47E-22	6.33E-22	0.	0.	0.	2.03E-14	1.13E-10	8.25E-09	1.38E-09	1.08E-08
61	4.70	1.12E-22	0.	0.	1.40E-22	5.74E-22	0.	0.	0.	2.05E-14	1.21E-10	8.74E-09	1.42E-09	1.14E-08
62	4.60	1.42E-22	0.	0.	1.53E-22	5.22E-22	0.	0.	0.	2.08E-14	1.29E-10	9.36E-09	1.46E-09	1.21E-08
63	4.50	1.64E-22	0.	0.	1.41E-22	3.94E-22	0.	0.	0.	2.08E-14	1.37E-10	9.36E-09	1.51E-09	1.29E-08
64	4.40	1.79E-22	0.	0.	1.42E-22	2.69E-22	0.	0.	0.	2.09E-14	1.47E-10	1.07E-08	1.56E-09	1.37E-08
65	4.30	1.75E-22	0.	0.	1.37E-22	1.71E-22	0.	0.	0.	2.11E-14	1.54E-10	1.15E-08	1.58E-09	1.45E-08
66	4.20	1.45E-22	0.	0.	1.44E-22	1.18E-22	0.	0.	0.	2.13E-14	1.69E-10	1.21E-08	1.64E-09	1.54E-08
67	4.10	1.51E-22	0.	0.	1.42E-22	3.32E-23	0.	0.	0.	2.14E-14	1.82E-10	1.27E-08	1.67E-09	1.59E-08
68	4.00	1.40E-22	0.	0.	1.38E-22	2.49E-23	0.	0.	0.	2.14E-14	1.95E-10	1.35E-08	1.70E-09	1.64E-08
69	3.90	1.26E-22	0.	0.	2.25E-21	1.29E-22	9.30E-24	0.	0.	2.14E-14	2.12E-10	1.39E-08	1.74E-09	1.70E-08
70	3.80	1.33E-22	0.	0.	3.50E-21	1.30E-22	0.	0.	0.	2.13E-14	2.29E-10	1.46E-08	1.77E-09	1.76E-08
71	3.70	1.10E-22	0.	0.	3.67E-21	2.33E-22	0.	0.	0.	2.09E-14	2.46E-10	1.53E-08	1.20E-09	1.90E-08
72	3.60	1.05E-22	0.	0.	2.68E-21	1.30E-22	0.	0.	0.	1.94E-14	2.70E-10	1.62E-08	1.30E-09	2.02E-08
73	3.50	1.32E-22	0.	0.	3.90E-21	3.05E-22	0.	0.	0.	1.80E-14	2.94E-10	1.71E-08	1.40E-09	2.14E-08
74	3.40	9.40E-23	0.	0.	2.20E-21	1.18E-22	0.	0.	0.	1.64E-14	3.12E-10	1.80E-08	1.46E-09	2.10E-08
75	3.30	7.61E-23	0.	0.	2.33E-21	1.32E-22	9.51E-23	0.	0.	1.04E-14	3.32E-10	1.84E-08	1.58E-09	2.19E-08
76	3.20	6.70E-23	0.	0.	1.55E-21	2.89E-22	1.00E-23	0.	0.	1.04E-14	3.66E-10	1.92E-08	1.54E-09	2.31E-08
77	3.10	6.40E-23	0.	0.	1.21E-21	3.45E-22	9.60E-23	0.	0.	1.04E-14	4.20E-10	2.00E-08	1.55E-09	2.45E-08
78	3.00	5.00E-23	0.	0.	7.51E-21	1.25E-22	1.15E-23	0.	0.	1.04E-14	4.70E-10	2.08E-08	1.62E-09	2.60E-08
79	2.90	4.90E-23	0.	0.	4.74E-21	6.80E-23	7.10E-23	0.	0.	1.05E-14	5.21E-10	2.16E-08	1.69E-09	2.77E-08
80	2.80	5.20E-23	0.	0.	2.29E-21	4.66E-23	5.03E-23	0.	0.	1.05E-14	5.80E-10	2.24E-08	1.76E-09	2.95E-08
81	2.70	3.43E-23	0.	0.	1.08E-21	5.91E-23	2.00E-23	0.	0.	1.05E-14	6.48E-10	2.32E-08	1.82E-09	3.15E-08
82	2.60	1.45E-23	0.	0.	5.10E-21	1.24E-23	0.	0.	0.	1.05E-14	7.26E-10	2.40E-08	1.88E-09	3.37E-08
83	2.50	1.13E-24	0.	0.	5.02E-21	6.82E-24	3.03E-24	0.	0.	1.05E-14	8.18E-10	2.48E-08	1.94E-09	3.60E-08
84	2.40	0.	0.	0.	4.62E-21	3.28E-23	0.	0.	0.	1.05E-14	9.27E-10	2.56E-08	2.00E-09	3.84E-08
85	2.30	0.	0.	0.	7.10E-21	0.	0.	0.	0.	1.04E-14	1.05E-09	2.64E-08	2.06E-09	4.09E-08
86	2.20	0.	0.	0.	1.90E-21	0.	0.	0.	0.	1.03E-14	1.21E-09	2.72E-08	2.12E-09	4.35E-08
87	2.10	0.	0.	0.	1.94E-21	0.	0.	0.	0.	1.03E-14	1.39E-09	2.81E-08	2.18E-09	4.61E-08
88	2.00	0.	0.	0.	3.84E-21	0.	0.	0.	0.	9.98E-15	1.61E-09	2.90E-08	2.24E-09	4.88E-08
89	1.90	0.	0.	0.	4.87E-21	0.	0.	0.	0.	9.68E-15	1.89E-09	3.00E-08	2.30E-09	5.15E-08
90	1.80	0.	0.	0.	4.90E-21	0.	0.	0.	0.	9.10E-15	2.22E-09	3.10E-08	2.36E-09	5.43E-08
91	1.70	0.	0.	0.	4.54E-21	0.	0.	0.	0.	8.65E-15	2.65E-09	3.20E-08	2.42E-09	5.71E-08
92	1.60	0.	0.	0.	3.42E-21	0.	0.	0.	0.	7.32E-15	3.20E-09	3.30E-08	2.48E-09	6.00E-08
93	1.50	0.	0.	0.	5.90E-21	0.	0.	0.	0.	3.33E-15	3.90E-09	3.40E-08	2.54E-09	6.29E-08
94	1.40	0.	0.	0.	3.04E-21	0.	0.	0.	0.	0.	4.82E-09	3.50E-08	2.60E-09	6.58E-08
95	1.30	0.	0.	0.	2.94E-21	0.	0.	0.	0.	0.	6.94E-09	3.70E-08	2.70E-09	6.87E-08
96	1.20	0.	0.	0.	2.81E-21	0.	0.	0.	0.	0.	9.78E-09	3.26E-08	2.80E-09	7.16E-08
97	1.10	0.	0.	0.	2.71E-21	0.	0.	0.	0.	0.	1.38E-08	3.46E-08	2.90E-09	7.45E-08
98	1.00	0.	0.	0.	2.49E-21	0.	0.	0.	0.	0.	1.94E-08	4.94E-08	3.00E-09	7.74E-08
99	0.90	0.	0.	0.	2.80E-21	0.	0.	0.	0.	0.	2.67E-08	6.58E-08	3.10E-09	8.03E-08
100	0.80	0.	0.	0.	9.61E-22	0.	0.	0.	0.	0.	3.63E-08	9.50E-08	3.20E-09	8.32E-08
101	0.70	0.	0.	0.	2.23E-22	0.	0.	0.	0.	0.	4.93E-08	1.32E-08	3.30E-09	8.61E-08
102	0.60	0.	0.	0.	4.70E-23	0.	0.	0.	0.	0.	6.69E-08	1.87E-08	3.40E-09	8.90E-08



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES N) 20000. DENSITY (GM/CC) 1.2035-09 (1.0E-06 NORMAL)

PHOTON EN ENERGY	02 S-4	WAVES	1ST POS.	W2	W3	W4	AD	NO	GAMMA	VIB-ROT	NO	2	PHOTO-DET	FREE-FREE	P.E.	0	TOTAL AIR	
52	5.69	1.32E-24	0.	0.	0.	0.	4.37E-27	3.20E-26	0.	0.	0.	0.	2.60E-17	1.61E-11	1.55E-10	2.70E-11	2.00E-10	
53	5.38	0.	0.	0.	0.	0.	6.00E-27	2.90E-26	0.	0.	0.	0.	2.61E-17	1.79E-11	1.75E-10	2.78E-11	2.10E-10	
54	5.48	0.	0.	0.	0.	0.	5.95E-27	2.49E-26	0.	0.	0.	0.	2.63E-17	1.79E-11	1.89E-10	3.02E-11	2.32E-10	
55	5.39	0.	0.	0.	0.	0.	5.79E-27	3.04E-26	0.	0.	0.	0.	2.64E-17	1.90E-11	1.95E-10	3.02E-11	2.45E-10	
56	5.29	0.	0.	0.	0.	0.	6.27E-27	3.30E-26	0.	0.	0.	0.	2.64E-17	2.01E-11	2.04E-10	3.25E-11	2.52E-10	
57	5.18	0.	0.	0.	0.	0.	6.20E-27	3.84E-26	0.	0.	0.	0.	2.66E-17	2.13E-11	2.17E-10	3.62E-11	2.64E-10	
58	5.00	1.84E-27	0.	0.	0.	0.	5.77E-27	2.89E-26	0.	0.	0.	0.	2.71E-17	2.20E-11	2.27E-10	2.73E-11	2.77E-10	
59	4.98	4.31E-27	0.	0.	0.	0.	6.40E-27	3.10E-26	0.	0.	0.	0.	2.73E-17	2.41E-11	2.38E-10	2.80E-11	2.91E-10	
60	4.87	8.54E-27	0.	0.	0.	0.	6.94E-27	3.01E-26	0.	0.	0.	0.	2.75E-17	2.54E-11	2.49E-10	2.95E-11	3.04E-10	
61	4.78	1.14E-26	0.	0.	0.	0.	7.02E-27	2.71E-26	0.	0.	0.	0.	2.77E-17	2.73E-11	2.64E-10	3.00E-11	3.23E-10	
62	4.68	1.62E-26	0.	0.	0.	0.	7.25E-27	2.40E-26	0.	0.	0.	0.	2.80E-17	2.91E-11	2.85E-10	3.21E-11	3.40E-10	
63	4.59	1.72E-26	0.	0.	0.	0.	6.69E-27	1.87E-26	0.	0.	0.	0.	2.82E-17	3.11E-11	3.05E-10	3.26E-11	3.70E-10	
64	4.48	1.85E-26	0.	0.	0.	0.	6.79E-27	1.70E-26	0.	0.	0.	0.	2.84E-17	3.33E-11	3.25E-10	3.49E-11	3.94E-10	
65	4.38	1.76E-26	0.	0.	0.	0.	6.92E-27	1.10E-27	0.	0.	0.	0.	2.86E-17	3.57E-11	3.46E-10	3.35E-11	4.15E-10	
66	4.28	1.64E-26	0.	0.	0.	0.	6.95E-27	5.40E-27	0.	0.	0.	0.	2.89E-17	3.84E-11	3.65E-10	3.05E-11	4.30E-10	
67	4.18	1.57E-26	0.	0.	0.	0.	6.95E-27	1.58E-27	0.	0.	0.	0.	2.90E-17	4.12E-11	3.84E-10	3.25E-11	4.48E-10	
68	4.08	1.45E-26	0.	0.	0.	0.	6.90E-27	1.18E-27	0.	0.	0.	0.	2.91E-17	4.44E-11	4.16E-10	3.51E-11	4.68E-10	
69	3.98	1.29E-26	0.	0.	0.	0.	6.83E-27	4.41E-28	0.	0.	0.	0.	2.90E-17	4.80E-11	4.41E-10	3.75E-11	5.27E-10	
70	3.88	1.27E-26	0.	0.	0.	0.	7.70E-27	6.41E-27	0.	0.	0.	0.	2.89E-17	5.10E-11	4.66E-10	3.99E-11	5.57E-10	
71	3.78	1.24E-26	0.	0.	0.	0.	7.94E-27	5.72E-27	0.	0.	0.	0.	2.89E-17	5.62E-11	4.98E-10	4.24E-11	5.89E-10	
72	3.68	1.12E-26	0.	0.	0.	0.	5.81E-26	1.94E-26	0.	0.	0.	0.	2.86E-17	6.11E-11	5.15E-10	4.47E-11	6.17E-10	
73	3.58	1.30E-26	0.	0.	0.	0.	7.50E-26	3.54E-26	0.	0.	0.	0.	2.44E-17	6.58E-11	1.47E-10	4.45E-11	6.57E-10	
74	3.48	9.31E-27	0.	0.	0.	0.	4.95E-26	5.80E-27	0.	0.	0.	0.	1.41E-17	7.27E-11	1.60E-10	3.80E-11	7.79E-10	
75	3.38	9.89E-27	0.	0.	0.	0.	5.04E-26	4.51E-27	0.	0.	0.	0.	1.41E-17	7.96E-11	1.72E-10	3.60E-11	8.99E-10	
76	3.28	6.95E-27	0.	0.	0.	0.	3.37E-26	3.41E-28	0.	0.	0.	0.	1.41E-17	8.74E-11	1.97E-10	3.13E-11	1.15E-09	
77	3.18	4.72E-27	0.	0.	0.	0.	2.63E-26	9.20E-29	0.	0.	0.	0.	1.41E-17	9.62E-11	2.24E-10	3.50E-11	1.41E-09	
78	3.08	6.09E-27	0.	0.	0.	0.	1.83E-26	2.84E-28	0.	0.	0.	0.	1.42E-17	1.06E-10	2.52E-10	3.60E-11	1.69E-09	
79	2.98	5.10E-27	0.	0.	0.	0.	1.80E-26	1.11E-28	0.	0.	0.	0.	1.42E-17	1.16E-10	2.80E-10	4.24E-11	1.98E-09	
80	2.88	5.43E-27	0.	0.	0.	0.	4.94E-27	7.60E-27	0.	0.	0.	0.	1.42E-17	1.31E-10	3.00E-10	4.39E-11	2.24E-09	
81	2.78	3.54E-27	0.	0.	0.	0.	2.34E-27	9.42E-27	0.	0.	0.	0.	1.42E-17	1.46E-10	3.16E-10	4.20E-11	2.54E-09	
82	2.68	1.71E-27	0.	0.	0.	0.	1.12E-27	1.80E-27	0.	0.	0.	0.	1.42E-17	1.64E-10	3.50E-10	4.55E-11	2.84E-09	
83	2.58	1.21E-28	0.	0.	0.	0.	1.10E-28	9.80E-22	1.44E-28	0.	0.	0.	1.42E-17	1.85E-10	3.95E-10	5.00E-11	3.14E-09	
84	2.48	0.	0.	0.	0.	0.	7.53E-22	1.95E-29	0.	0.	0.	0.	1.42E-17	2.09E-10	4.50E-10	5.85E-11	3.49E-09	
85	2.38	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.41E-17	2.36E-10	5.05E-10	6.44E-11	3.89E-09	
86	2.28	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.40E-17	2.73E-10	5.60E-10	7.48E-11	4.34E-09	
87	2.18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.40E-17	3.14E-10	6.20E-10	8.50E-11	4.84E-09	
88	2.08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.35E-17	3.61E-10	6.80E-10	9.71E-11	5.39E-09	
89	1.98	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.30E-17	4.25E-10	7.50E-10	1.10E-10	6.00E-09	
90	1.88	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.24E-17	5.07E-10	8.40E-10	1.25E-10	6.75E-09	
91	1.78	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.17E-17	5.97E-10	9.50E-10	1.44E-10	7.64E-09	
92	1.68	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.93E-18	7.20E-10	1.11E-09	1.68E-10	8.68E-09	
93	1.58	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.51E-18	8.77E-10	1.40E-09	2.08E-10	9.94E-09	
94	1.48	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.80E-19	1.07E-09	1.70E-09	2.60E-10	1.15E-08	
95	1.38	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.30E-19	1.31E-09	2.00E-09	3.14E-10	1.34E-08	
96	1.28	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.73E-09	1.53E-09	2.30E-09	3.81E-10	1.64E-08
97	1.18	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.24E-09	1.89E-09	2.70E-09	4.64E-10	2.04E-08
98	1.08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	3.02E-09	2.40E-09	3.60E-09	5.60E-10	2.54E-08
99	0.98	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.17E-09	3.14E-09	4.80E-09	6.80E-10	3.24E-08
100	0.88	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.90E-09	4.25E-09	6.60E-09	9.00E-10	4.34E-08
101	0.78	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.02E-09	5.70E-09	8.40E-09	1.20E-09	5.84E-08
102	0.68	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.09E-08	7.60E-09	1.10E-08	1.60E-09	7.94E-08

TEMPERATURE (DEGREES N) 7000. DENSITY (GM/CC) 1.293E-02 ( 1.0E 01 NORMAL)

PHOTON ENERGY RANGE	02 S-B	07 1-M	NO	NO	NO	0-	0	0	0	TOTAL AIR
E.V.	CONT.	%	BETA	GAMMA	2	PHOTO-DET (IONS)	FREE-FREE	N	P.E.	P.E.
1 10.74 0.			0.	0.	0.	5.10E 00	4.00E-01	3.02E 02	5.20E 00	3.12E 02
2 10.64 0.			0.	0.	0.	5.11E 00	5.04E-01	1.97E 01	5.20E 00	3.09E 01
3 10.54 0.			0.	0.	0.	5.11E 00	5.19E-01	1.97E 01	5.20E 00	3.10E 01
4 10.44 0.			0.	0.	0.	5.12E 00	5.34E-01	1.90E 01	5.22E 00	3.11E 01
5 10.34 0.			0.	0.	0.	5.13E 00	5.50E-01	1.99E 01	5.19E 00	3.11E 01
6 10.24 0.			0.	0.	0.	5.13E 00	5.67E-01	1.99E 01	5.17E 00	3.11E 01
7 10.14 0.			0.	0.	0.	5.14E 00	5.84E-01	1.99E 01	5.15E 00	3.11E 01
8 10.04 0.			0.	0.	0.	5.15E 00	6.02E-01	1.99E 01	5.12E 00	3.11E 01
9 9.94 0.			0.	0.	0.	5.16E 00	6.20E-01	1.99E 01	5.10E 00	3.11E 01
10 9.84 0.			0.	0.	0.	5.17E 00	6.48E-01	2.00E 01	5.06E 00	3.11E 01
11 9.74 0.			0.	0.	0.	5.18E 00	6.86E-01	2.00E 01	5.05E 00	3.12E 01
12 9.64 0.			0.	0.	0.	5.19E 00	7.34E-01	2.01E 01	5.03E 00	3.12E 01
13 9.54 0.			0.	0.	0.	5.19E 00	7.92E-01	2.01E 01	5.01E 00	3.13E 01
14 9.44 0.			0.	0.	0.	5.21E 00	8.60E-01	2.02E 01	4.96E 00	3.13E 01
15 9.34 0.			0.	0.	0.	5.23E 00	9.38E-01	2.03E 01	4.90E 00	3.14E 01
16 9.24 0.			0.	0.	0.	5.25E 00	1.02E-01	2.03E 01	4.94E 00	3.15E 01
17 9.14 0.			0.	0.	0.	5.27E 00	1.12E-01	2.07E 00	4.92E 00	3.15E 01
18 9.04 0.			0.	0.	0.	5.29E 00	1.24E-01	2.07E 00	4.90E 00	3.16E 01
19 8.94 0.			0.	0.	0.	5.31E 00	1.38E-01	2.09E 00	4.87E 00	3.16E 01
20 8.84 0.			0.	0.	0.	5.33E 00	1.54E-01	2.11E 00	4.85E 00	3.17E 01
21 8.74 0.			0.	0.	0.	5.35E 00	1.72E-01	2.14E 00	4.83E 00	3.17E 01
22 8.64 0.			0.	0.	0.	5.38E 00	1.92E-01	2.18E 00	4.81E 00	3.18E 01
23 8.54 0.			0.	0.	0.	5.40E 00	2.14E-01	2.23E 00	4.79E 00	3.18E 01
24 8.44 0.			0.	0.	0.	5.41E 00	2.38E-01	2.28E 00	4.77E 00	3.19E 01
25 8.34 0.			0.	0.	0.	5.44E 00	2.64E-01	2.34E 00	4.76E 00	3.19E 01
26 8.24 0.			0.	0.	0.	5.47E 00	2.92E-01	2.41E 00	4.77E 00	3.19E 01
27 8.14 0.			0.	0.	0.	5.50E 00	3.22E-01	2.49E 00	4.77E 00	3.19E 01
28 8.04 0.			0.	0.	0.	5.53E 00	3.54E-01	2.58E 00	4.78E 00	3.19E 01
29 7.94 0.			0.	0.	0.	5.55E 00	3.88E-01	2.68E 00	4.78E 00	3.19E 01
30 7.84 0.			0.	0.	0.	5.61E 00	4.24E-01	2.79E 00	4.79E 00	3.19E 01
31 7.74 0.			0.	0.	0.	5.64E 00	4.62E-01	2.91E 00	4.79E 00	3.19E 01
32 7.64 0.			0.	0.	0.	5.67E 00	5.02E-01	3.04E 00	4.79E 00	3.19E 01
33 7.54 0.			0.	0.	0.	5.70E 00	5.44E-01	3.18E 00	4.80E 00	3.19E 01
34 7.44 0.			0.	0.	0.	5.73E 00	5.88E-01	3.33E 00	4.80E 00	3.19E 01
35 7.34 0.			0.	0.	0.	5.76E 00	6.34E-01	3.49E 00	4.81E 00	3.19E 01
36 7.24 0.			0.	0.	0.	5.81E 00	6.82E-01	3.66E 00	4.81E 00	3.19E 01
37 7.14 0.			0.	0.	0.	5.86E 00	7.32E-01	3.84E 00	4.81E 00	3.19E 01
38 7.04 1.12E-05			0.	0.	0.	5.86E 00	7.84E-01	4.03E 00	4.81E 00	3.19E 01
39 6.90 2.20E-05			0.	0.	0.	5.90E 00	8.38E-01	4.24E 00	4.82E 00	3.19E 01
40 6.80 1.91E-05			0.	0.	0.	5.95E 00	8.94E-01	4.46E 00	4.82E 00	3.19E 01
41 6.70 1.40E-05			0.	0.	0.	6.00E 00	9.52E-01	4.70E 00	4.83E 00	3.19E 01
42 6.60 1.62E-06			0.	0.	0.	6.04E 00	1.01E-01	4.96E 00	4.85E 00	3.20E 01
43 6.50 5.02E-06			0.	0.	0.	6.09E 00	1.11E-01	5.24E 00	4.86E 00	3.20E 01
44 6.40 2.91E-06			0.	0.	0.	6.14E 00	1.22E-01	5.54E 00	4.87E 00	3.20E 01
45 6.30 1.71E-06			0.	0.	0.	6.19E 00	1.34E-01	5.86E 00	4.89E 00	3.20E 01
46 6.20 7.77E-07			0.	0.	0.	6.23E 00	1.46E-01	6.20E 00	4.91E 00	3.20E 01
47 6.10 3.61E-07			0.	0.	0.	6.28E 00	1.59E-01	6.56E 00	4.93E 00	3.20E 01
48 6.00 1.52E-07			0.	0.	0.	6.33E 00	1.72E-01	6.94E 00	4.95E 00	3.20E 01
49 5.90 3.77E-08			0.	0.	0.	6.38E 00	1.86E-01	7.34E 00	4.97E 00	3.20E 01
50 5.80 4.82E-09			0.	0.	0.	6.43E 00	2.01E-01	7.76E 00	4.99E 00	3.20E 01
51 5.70 3.55E-10			0.	0.	0.	6.48E 00	2.16E-01	8.20E 00	5.01E 00	3.20E 01





ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 21000. SENSIBILITY (DM/CC) 1.292E-03 ( 1.0E 00 NORMAL)

PHOTON OF S-W ENERGY BANDS E.V.	OS S-W CONT.	ME B-W NO. 1	NO DELTA	NO GAMMA	NO PHOTO-BET (DM)	U FREE-FREE	N P.E.	TOTAL AIR P.E.		
1 10.70 0.	0.	2.50E-03	0.	0.	0.	1.27E-01	1.07E-02	2.90E 01	4.59E-01	2.49E 01
2 10.60 0.	0.	2.30E-03	0.	0.	0.	1.23E-01	1.06E-02	1.50E 00	4.08E-01	2.17E 00
3 10.50 0.	0.	2.40E-03	0.	0.	0.	1.28E-01	1.10E-02	1.50E 00	4.44E-01	2.10E 00
4 10.40 0.	0.	2.30E-03	0.	0.	0.	1.23E-01	1.07E-02	1.57E 00	4.44E-01	2.10E 00
5 10.30 0.	0.	2.05E-03	0.	0.	0.	1.23E-01	1.06E-02	1.57E 00	4.42E-01	2.10E 00
6 10.20 0.	0.	2.14E-03	0.	0.	0.	1.28E-01	1.10E-02	1.50E 00	4.60E-01	2.10E 00
7 10.10 0.	0.	2.03E-03	0.	0.	0.	1.27E-01	1.09E-02	1.57E 00	4.39E-01	2.10E 00
8 10.00 0.	0.	1.81E-03	0.	0.	0.	1.24E-01	1.07E-02	1.57E 00	4.37E-01	2.10E 00
9 9.9 0.	0.	1.84E-03	0.	0.	0.	1.24E-01	1.07E-02	1.50E 00	4.35E-01	2.10E 00
10 9.8 0.	0.	1.77E-03	0.	0.	0.	1.24E-01	1.07E-02	1.50E 00	4.33E-01	2.10E 00
11 9.7 0.	0.	1.55E-03	0.	0.	0.	1.24E-01	1.07E-02	1.50E 00	4.31E-01	2.10E 00
12 9.6 0.	0.	1.60E-03	0.	0.	0.	1.29E-01	1.10E-02	1.59E 00	4.28E-01	2.20E 00
13 9.5 0.	0.	1.44E-03	0.	0.	0.	1.29E-01	1.10E-02	1.59E 00	4.28E-01	2.20E 00
14 9.4 0.	0.	1.40E-03	0.	0.	0.	1.24E-01	1.07E-02	1.60E 00	4.25E-01	2.21E 00
15 9.3 0.	0.	1.44E-03	0.	0.	0.	1.24E-01	1.07E-02	1.60E 00	4.23E-01	2.21E 00
16 9.2 0.	0.	1.22E-03	0.	0.	0.	1.24E-01	1.07E-02	1.61E 00	4.21E-01	2.22E 00
17 9.1 0.	0.	1.25E-03	0.	0.	0.	1.27E-01	1.10E-02	1.59E-01	4.19E-01	1.25E 00
18 9.0 0.	0.	1.14E-03	0.	0.	0.	1.27E-01	1.10E-02	1.59E-01	4.17E-01	1.25E 00
19 8.9 0.	0.	1.04E-03	0.	0.	0.	1.27E-01	1.10E-02	1.41E-01	4.15E-01	1.25E 00
20 8.8 0.	0.	1.07E-03	0.	0.	0.	1.28E-01	1.10E-02	1.42E-01	4.14E-01	1.26E 00
21 8.7 0.	0.	9.45E-04	0.	0.	0.	1.28E-01	1.10E-02	1.43E-01	4.12E-01	1.26E 00
22 8.6 0.	0.	9.79E-04	0.	0.	0.	1.29E-01	1.10E-02	1.45E-01	4.10E-01	1.26E 00
23 8.5 0.	0.	8.72E-04	0.	0.	0.	1.29E-01	1.10E-02	1.47E-01	4.08E-01	1.26E 00
24 8.4 0.	0.	8.78E-04	0.	0.	0.	1.30E-01	1.10E-02	1.50E-01	4.07E-01	1.27E 00
25 8.3 0.	0.	7.53E-04	0.	0.	0.	1.31E-01	1.10E-02	1.53E-01	4.06E-01	1.27E 00
26 8.2 0.	0.	7.64E-04	0.	0.	0.	1.31E-01	1.10E-02	1.54E-01	4.06E-01	1.26E 00
27 8.1 0.	0.	6.72E-04	0.	0.	0.	1.32E-01	1.10E-02	1.54E-01	4.07E-01	1.29E 00
28 8.0 0.	0.	6.81E-04	0.	0.	0.	1.33E-01	1.10E-02	1.63E-01	4.07E-01	1.30E 00
29 7.9 0.	0.	5.95E-04	0.	0.	0.	1.33E-01	1.10E-02	1.68E-01	4.07E-01	1.31E 00
30 7.8 0.	0.	6.22E-04	0.	0.	0.	1.34E-01	1.10E-01	1.73E-01	4.08E-01	1.32E 00
31 7.7 0.	0.	5.54E-04	0.	0.	0.	1.35E-01	1.10E-01	1.70E-01	4.08E-01	1.33E 00
32 7.6 0.	0.	5.31E-04	0.	2.45E-08	0.	1.35E-01	1.09E-01	1.83E-01	4.08E-01	1.34E 00
33 7.5 0.	0.	4.90E-04	0.	7.52E-08	0.	1.36E-01	1.10E-01	1.88E-01	4.09E-01	1.35E 00
34 7.4 0.	0.	4.53E-04	0.	7.09E-07	0.	1.37E-01	1.10E-01	1.93E-01	4.09E-01	1.36E 00
35 7.3 0.	0.	4.34E-04	0.	2.69E-06	0.	1.38E-01	1.23E-01	1.98E-01	4.09E-01	1.37E 00
36 7.2 0.	0.	3.97E-04	0.	7.52E-06	0.	1.38E-01	1.23E-01	2.03E-01	4.10E-01	1.38E 00
37 7.1 0.	0.	3.85E-04	0.	2.37E-05	0.	1.39E-01	1.34E-01	2.08E-01	4.10E-01	1.39E 00
38 7.0 0.	0.	3.50E-04	0.	4.51E-05	0.	1.41E-01	1.40E-01	2.13E-01	4.10E-01	1.40E 00
39 6.9 0.	0.	3.32E-04	0.	6.01E-05	0.	1.42E-01	1.40E-01	2.18E-01	4.11E-01	1.42E 00
40 6.8 0.	0.	3.24E-04	0.	1.10E-04	0.	1.43E-01	1.53E-01	2.23E-01	4.11E-01	1.43E 00
41 6.7 0.	0.	2.80E-04	0.	1.06E-04	0.	1.44E-01	1.65E-01	2.29E-01	4.12E-01	1.44E 00
42 6.6 0.	0.	2.61E-04	0.	9.10E-05	0.	1.45E-01	1.67E-01	2.30E-01	4.13E-01	1.44E 00
43 6.5 0.	0.	2.12E-04	0.	1.30E-04	0.	1.46E-01	1.75E-01	2.44E-01	4.14E-01	1.48E 00
44 6.4 0.	0.	1.50E-04	0.	4.92E-07	0.	1.47E-01	1.86E-01	2.53E-01	4.15E-01	1.50E 00
45 6.3 0.	0.	9.54E-05	0.	1.92E-06	0.	1.49E-01	1.92E-01	2.61E-01	4.17E-01	1.52E 00
46 6.2 0.	0.	5.41E-05	0.	2.77E-06	0.	1.50E-01	2.02E-01	2.70E-01	4.20E-01	1.54E 00
47 6.1 0.	0.	2.50E-05	0.	7.96E-06	0.	1.51E-01	2.12E-01	2.79E-01	4.23E-01	1.57E 00
48 6.0 0.	0.	6.67E-06	0.	7.81E-06	0.	1.52E-01	2.26E-01	2.98E-01	4.26E-01	1.59E 00
49 5.9 0.	0.	4.70E-07	0.	1.15E-05	0.	1.52E-01	2.32E-01	3.02E-01	4.29E-01	1.62E 00
50 5.8 0.	0.	1.21E-08	0.	1.45E-05	0.	1.50E-01	2.47E-01	3.14E-01	4.33E-01	1.64E 00
51 5.7 0.	0.	2.58E-12	0.	1.94E-05	0.	1.41E-01	2.61E-01	3.26E-01	4.36E-01	1.66E 00



ADDITIONAL COEFFICIENT OF HEATED AIR (IMPERVE CR.)

TEMPERATURE (DEGREES F)	DENSITY (LB/CC)	1.253E-04	( 1.0E-01 NORMAL)	NO	0-	FREE-FREE	N	0	TOTAL AIR		
NO. 1	NO. 2	PHOTO-DET (JONES)	P.E.	NO	BETA	GAMMA	NO	P.F.	P.F.		
1 10.74 0	0	0	0	0	0	0	1.92E-03	1.92E-03	1.10E-02	2.54E-02	1.10E-02
2 10.64 0	0	0	0	0	0	0	1.92E-03	1.90E-03	7.61E-02	2.52E-02	1.09E-01
3 10.54 0	0	0	0	0	0	0	1.94E-03	2.04E-03	7.64E-02	2.54E-02	1.09E-01
4 10.44 0	0	0	0	0	0	0	1.94E-03	2.10E-03	7.67E-02	2.52E-02	1.04E-01
5 10.30 0	0	0	0	0	0	0	1.94E-03	2.14E-03	7.69E-02	2.51E-02	1.04E-01
6 10.20 0	0	0	0	0	0	0	1.94E-03	2.20E-03	7.71E-02	2.50E-02	1.04E-01
7 10.10 0	0	0	0	0	0	0	1.97E-03	2.29E-03	7.69E-02	2.49E-02	1.04E-01
8 10.00 0	0	0	0	0	0	0	1.97E-03	2.34E-03	7.66E-02	2.48E-02	1.05E-01
9 9.90 0	0	0	0	0	0	0	1.97E-03	2.40E-03	7.69E-02	2.47E-02	1.05E-01
10 9.80 0	0	0	0	0	0	0	1.98E-03	2.46E-03	7.69E-02	2.44E-02	1.04E-01
11 9.70 0	0	0	0	0	0	0	1.98E-03	2.50E-03	7.71E-02	2.43E-02	1.04E-01
12 9.60 0	0	0	0	0	0	0	1.98E-03	2.57E-03	7.73E-02	2.43E-02	1.04E-01
13 9.50 0	0	0	0	0	0	0	1.98E-03	2.64E-03	7.75E-02	2.42E-02	1.04E-01
14 9.40 0	0	0	0	0	0	0	1.99E-03	2.74E-03	7.78E-02	2.41E-02	1.04E-01
15 9.30 0	0	0	0	0	0	0	1.99E-03	2.84E-03	7.80E-02	2.40E-02	1.04E-01
16 9.20 0	0	0	0	0	0	0	1.98E-03	2.94E-03	7.83E-02	2.39E-02	1.04E-01
17 9.10 0	0	0	0	0	0	0	1.98E-03	3.04E-03	7.85E-02	2.38E-02	1.04E-01
18 9.00 0	0	0	0	0	0	0	1.98E-03	3.14E-03	7.85E-02	2.38E-02	1.04E-01
19 8.90 0	0	0	0	0	0	0	1.98E-03	3.24E-03	7.85E-02	2.37E-02	1.04E-01
20 8.80 0	0	0	0	0	0	0	1.98E-03	3.34E-03	7.85E-02	2.37E-02	1.04E-01
21 8.70 0	0	0	0	0	0	0	1.98E-03	3.44E-03	7.85E-02	2.36E-02	1.04E-01
22 8.60 0	0	0	0	0	0	0	1.98E-03	3.54E-03	7.85E-02	2.36E-02	1.04E-01
23 8.50 0	0	0	0	0	0	0	1.98E-03	3.64E-03	7.85E-02	2.35E-02	1.04E-01
24 8.40 0	0	0	0	0	0	0	1.98E-03	3.74E-03	7.85E-02	2.35E-02	1.04E-01
25 8.30 0	0	0	0	0	0	0	1.98E-03	3.84E-03	7.85E-02	2.34E-02	1.04E-01
26 8.20 0	0	0	0	0	0	0	1.98E-03	3.94E-03	7.85E-02	2.34E-02	1.04E-01
27 8.10 0	0	0	0	0	0	0	1.98E-03	4.04E-03	7.85E-02	2.33E-02	1.04E-01
28 8.00 0	0	0	0	0	0	0	1.98E-03	4.14E-03	7.85E-02	2.33E-02	1.04E-01
29 7.90 0	0	0	0	0	0	0	1.98E-03	4.24E-03	7.85E-02	2.32E-02	1.04E-01
30 7.80 0	0	0	0	0	0	0	1.98E-03	4.34E-03	7.85E-02	2.32E-02	1.04E-01
31 7.70 0	0	0	0	0	0	0	1.98E-03	4.44E-03	7.85E-02	2.32E-02	1.04E-01
32 7.60 0	0	0	0	0	0	0	1.98E-03	4.54E-03	7.85E-02	2.32E-02	1.04E-01
33 7.50 0	0	0	0	0	0	0	1.98E-03	4.64E-03	7.85E-02	2.32E-02	1.04E-01
34 7.40 0	0	0	0	0	0	0	1.98E-03	4.74E-03	7.85E-02	2.32E-02	1.04E-01
35 7.30 0	0	0	0	0	0	0	1.98E-03	4.84E-03	7.85E-02	2.32E-02	1.04E-01
36 7.20 0	0	0	0	0	0	0	1.98E-03	4.94E-03	7.85E-02	2.32E-02	1.04E-01
37 7.10 0	0	0	0	0	0	0	1.98E-03	5.04E-03	7.85E-02	2.32E-02	1.04E-01
38 7.00 2.42E-10	0	0	0	0	0	0	1.98E-03	5.14E-03	7.85E-02	2.32E-02	1.04E-01
39 6.90 5.12E-10	0	0	0	0	0	0	1.98E-03	5.24E-03	7.85E-02	2.32E-02	1.04E-01
40 6.80 4.42E-10	0	0	0	0	0	0	1.98E-03	5.34E-03	7.85E-02	2.32E-02	1.04E-01
41 6.70 3.29E-10	0	0	0	0	0	0	1.98E-03	5.44E-03	7.85E-02	2.32E-02	1.04E-01
42 6.60 2.02E-10	0	0	0	0	0	0	1.98E-03	5.54E-03	7.85E-02	2.32E-02	1.04E-01
43 6.50 1.12E-10	0	0	0	0	0	0	1.98E-03	5.64E-03	7.85E-02	2.32E-02	1.04E-01
44 6.40 6.00E-11	0	0	0	0	0	0	1.98E-03	5.74E-03	7.85E-02	2.32E-02	1.04E-01
45 6.30 3.99E-11	0	0	0	0	0	0	1.98E-03	5.84E-03	7.85E-02	2.32E-02	1.04E-01
46 6.20 1.02E-11	0	0	0	0	0	0	1.98E-03	5.94E-03	7.85E-02	2.32E-02	1.04E-01
47 6.10 9.46E-12	0	0	0	0	0	0	1.98E-03	6.04E-03	7.85E-02	2.32E-02	1.04E-01
48 6.00 3.52E-12	0	0	0	0	0	0	1.98E-03	6.14E-03	7.85E-02	2.32E-02	1.04E-01
49 5.90 8.64E-13	0	0	0	0	0	0	1.98E-03	6.24E-03	7.85E-02	2.32E-02	1.04E-01
50 5.80 1.13E-13	0	0	0	0	0	0	1.98E-03	6.34E-03	7.85E-02	2.32E-02	1.04E-01
51 5.70 0.32E-13	0	0	0	0	0	0	1.98E-03	6.44E-03	7.85E-02	2.32E-02	1.04E-01

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 21000. DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)

PHOTON ENERGY BANDS	NO 137 POS.	NO 137 POS.	NO 157 NEG.	NO 157 NEG.	NO DATA	NO GAMMA	NO VIB-R01	NO 2	PHOTO-IMP. (IMPS)	B- /MAG-FREE	N	P.E.	0	TOTAL AIR	
52	5.00	3.77E-10	0.	0.	4.66E-00	2.99E-07	0.	0.	1.64E-13	1.37E-02	4.11E-02	2.50E-02	0.	0.14E-02	
53	5.50	0.	0.	0.	5.69E-00	2.77E-07	0.	0.	1.67E-13	1.45E-02	4.20E-02	2.52E-02	0.	0.33E-02	
54	5.90	0.	0.	0.	5.32E-00	2.31E-07	0.	0.	1.60E-13	1.33E-02	4.31E-02	2.55E-02	0.	0.94E-02	
55	5.30	0.	0.	0.	5.42E-00	2.87E-07	0.	0.	1.69E-13	1.42E-02	4.43E-02	2.59E-02	0.	0.06E-02	
56	5.20	0.	0.	0.	5.91E-00	2.26E-07	0.	0.	1.70E-13	1.71E-02	4.54E-02	2.63E-02	0.	0.84E-02	
57	5.10	0.	0.	0.	5.92E-00	2.80E-07	0.	0.	1.71E-13	1.62E-02	4.66E-02	2.67E-02	0.	9.32E-02	
58	5.00	5.30E-09	0.	0.	5.45E-00	2.75E-07	0.	0.	1.74E-13	1.63E-02	4.61E-02	2.71E-02	0.	9.61E-02	
59	4.90	1.31E-08	0.	0.	6.12E-00	3.93E-07	0.	0.	1.74E-13	2.05E-02	4.90E-02	2.76E-02	0.	9.97E-02	
60	4.80	2.40E-08	0.	0.	6.11E-00	2.84E-07	0.	0.	1.75E-13	2.19E-02	5.17E-02	2.82E-02	0.	1.03E-01	
61	4.70	3.40E-08	0.	0.	6.67E-00	2.62E-07	0.	0.	1.77E-13	2.33E-02	5.30E-02	2.89E-02	0.	1.08E-01	
62	4.60	4.75E-08	0.	0.	6.08E-00	2.37E-07	0.	0.	1.70E-13	2.49E-02	5.59E-02	2.97E-02	0.	1.13E-01	
63	4.50	5.84E-08	0.	0.	6.49E-00	1.79E-07	0.	0.	1.80E-13	2.66E-02	5.68E-02	3.05E-02	0.	1.18E-01	
64	4.40	1.43E-08	0.	0.	6.46E-00	1.22E-07	0.	0.	1.81E-13	2.82E-02	6.10E-02	3.14E-02	0.	1.23E-01	
65	4.30	5.21E-08	0.	0.	6.29E-00	7.77E-08	0.	0.	1.83E-13	3.02E-02	6.57E-02	3.22E-02	0.	1.30E-01	
66	4.20	4.91E-08	0.	0.	6.50E-00	5.34E-08	0.	0.	1.84E-13	3.29E-02	6.89E-02	3.31E-02	0.	1.34E-01	
67	4.10	4.65E-08	0.	0.	6.51E-00	1.51E-08	0.	0.	1.85E-13	3.52E-02	7.19E-02	3.38E-02	0.	1.42E-01	
68	4.00	4.33E-08	0.	0.	6.44E-00	1.11E-08	0.	0.	1.85E-13	3.80E-02	7.53E-02	3.47E-02	0.	1.51E-01	
69	3.90	5.72E-08	0.	0.	7.46E-00	2.64E-08	0.	0.	1.85E-13	4.10E-02	7.46E-02	3.47E-02	0.	1.34E-01	
70	3.80	1.10E-08	0.	0.	2.01E-00	1.03E-05	6.43E-08	0.	0.	1.84E-13	4.40E-02	7.54E-02	3.75E-02	0.	1.39E-01
71	3.70	3.71E-08	0.	0.	2.09E-00	4.91E-06	5.59E-08	0.	0.	1.81E-13	4.81E-02	6.34E-02	4.91E-02	0.	1.32E-01
72	3.60	3.30E-08	0.	0.	2.10E-00	2.50E-05	6.04E-08	0.	0.	1.70E-13	5.23E-02	6.44E-02	5.00E-02	0.	1.43E-01
73	3.50	3.13E-08	0.	0.	2.75E-00	4.42E-05	4.86E-08	0.	0.	1.95E-13	5.79E-02	7.20E-02	5.20E-02	0.	1.54E-01
74	3.40	3.77E-08	0.	0.	1.80E-00	7.40E-06	5.40E-08	0.	0.	9.96E-14	6.25E-02	8.00E-02	5.31E-02	0.	1.69E-01
75	3.30	3.39E-08	0.	0.	1.84E-00	2.73E-05	4.45E-08	0.	0.	8.97E-14	6.83E-02	8.98E-02	5.74E-02	0.	1.64E-01
76	3.20	2.11E-08	0.	0.	1.23E-00	4.23E-05	4.70E-08	0.	0.	9.99E-14	7.49E-02	9.72E-02	6.04E-02	0.	2.03E-01
77	3.10	2.85E-08	0.	0.	9.64E-01	1.19E-05	4.51E-08	0.	0.	9.01E-14	8.24E-02	1.06E-01	6.22E-02	0.	2.22E-01
78	3.00	1.80E-08	0.	0.	9.96E-01	2.50E-05	4.32E-08	0.	0.	9.03E-14	9.13E-02	1.14E-01	6.47E-02	0.	2.41E-01
79	2.90	1.59E-08	0.	0.	3.06E-01	1.39E-05	3.37E-08	0.	0.	9.05E-14	1.01E-01	1.24E-01	6.74E-02	0.	2.63E-01
80	2.80	1.67E-08	0.	0.	1.03E-01	9.79E-06	2.49E-08	0.	0.	9.06E-14	1.14E-01	1.34E-01	6.80E-02	0.	2.80E-01
81	2.70	1.10E-08	0.	0.	0.43E-00	1.21E-05	1.35E-08	0.	0.	9.04E-14	1.29E-01	1.44E-01	6.98E-02	0.	3.17E-01
82	2.60	3.33E-09	0.	0.	4.14E-00	1.20E-06	6.08E-08	0.	0.	9.00E-14	1.41E-01	1.58E-01	6.74E-02	0.	3.48E-01
83	2.50	3.70E-10	0.	0.	4.30E-01	1.26E-06	1.47E-08	0.	0.	9.06E-14	1.59E-01	1.61E-01	3.00E-02	0.	3.72E-01
84	2.40	0.	0.	0.	5.04E-01	9.40E-07	1.59E-10	0.	0.	9.06E-14	1.80E-01	2.11E-01	3.56E-02	0.	4.20E-01
85	2.30	0.	0.	0.	1.07E-04	0.	0.	0.	0.	9.99E-14	2.04E-01	1.60E-01	4.29E-02	0.	4.37E-01
86	2.20	0.	0.	0.	1.60E-06	0.	0.	0.	0.	9.99E-14	2.35E-01	2.23E-01	5.04E-02	0.	5.09E-01
87	2.10	0.	0.	0.	2.99E-06	0.	0.	0.	0.	8.92E-14	2.78E-01	2.59E-01	5.78E-02	0.	5.90E-01
88	2.00	0.	0.	0.	3.93E-06	0.	0.	0.	0.	8.63E-14	3.19E-01	2.96E-01	6.70E-02	0.	6.70E-01
89	1.90	0.	0.	0.	3.04E-06	0.	0.	0.	0.	9.30E-14	3.69E-01	3.40E-01	7.03E-02	0.	7.04E-01
90	1.80	0.	0.	0.	3.64E-06	0.	0.	0.	0.	7.94E-14	4.35E-01	4.07E-01	9.94E-02	0.	9.30E-01
91	1.70	0.	0.	0.	3.82E-06	0.	0.	0.	0.	7.40E-14	5.19E-01	4.90E-01	1.10E-01	0.	1.13E-00
92	1.60	0.	0.	0.	2.00E-06	0.	0.	0.	0.	6.33E-14	6.20E-01	5.73E-01	1.37E-01	0.	1.34E-00
93	1.50	0.	0.	0.	2.95E-06	0.	0.	0.	0.	6.33E-14	7.40E-01	7.46E-01	1.64E-01	0.	1.60E-00
94	1.40	0.	0.	0.	2.20E-06	0.	0.	0.	0.	0.	9.43E-01	9.34E-01	1.99E-01	0.	2.00E-00
95	1.30	0.	0.	0.	2.20E-06	0.	0.	0.	0.	0.	1.10E-00	1.26E-00	2.62E-01	0.	2.70E-00
96	1.20	0.	0.	0.	2.12E-06	0.	0.	0.	0.	0.	1.51E-00	1.60E-00	2.64E-01	0.	3.10E-00
97	1.10	0.	0.	0.	2.60E-06	0.	0.	0.	0.	0.	1.97E-00	1.73E-00	3.31E-01	0.	4.03E-00
98	1.00	0.	0.	0.	1.09E-06	0.	0.	0.	0.	0.	2.54E-00	2.10E-00	3.77E-01	0.	5.12E-00
99	0.90	0.	0.	0.	1.55E-06	0.	0.	0.	0.	0.	3.04E-00	2.42E-00	4.32E-01	0.	6.53E-00
100	0.80	0.	0.	0.	7.89E-07	0.	0.	0.	0.	0.	5.27E-00	2.79E-00	5.00E-01	0.	8.57E-00
101	0.70	0.	0.	0.	1.00E-07	0.	0.	0.	0.	0.	7.90E-00	3.01E-00	5.33E-01	0.	1.15E-01
102	0.60	0.	0.	0.	3.74E-08	0.	0.	0.	0.	0.	1.29E-01	3.36E-00	5.74E-01	0.	1.60E-01

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 21000. DENSITY (GM/CC) 1.293E-05 (110.0E-03 NORMAL)

PHOTON OP 5-6 ENERGY RANGE E.V.	U2 S-M CONT.	U2 B-M NO. 1	NO BETA	NO GAMMA	NO 2	D- PHOTO-PET (IONS)	M P.E.	Q P.E.	TOTAL AIR	
1 18.70 0.	0.	2.51E-04	0.	0.	0.	5.21E-06	4.82E-05	2.34E-02	5.93E-04	2.40E-02
2 16.60 0.	0.	2.31E-04	0.	0.	0.	5.22E-06	4.1E-05	1.81E-03	5.02E-04	2.25E-03
3 15.30 0.	0.	2.35E-04	0.	0.	0.	5.23E-06	4.25E-05	1.82E-03	5.05E-04	2.26E-03
4 14.00 0.	0.	2.24E-04	0.	0.	0.	5.24E-06	4.38E-05	1.83E-03	5.07E-04	2.26E-03
5 13.30 0.	0.	1.54E-04	0.	0.	0.	5.24E-06	4.51E-05	1.83E-03	5.04E-04	2.27E-03
6 12.20 0.	0.	2.08E-04	0.	0.	0.	5.24E-06	4.64E-05	1.84E-03	5.02E-04	2.27E-03
7 10.10 0.	0.	1.97E-04	0.	0.	0.	5.24E-06	4.78E-05	1.83E-03	5.02E-04	2.27E-03
8 10.00 0.	0.	1.74E-04	0.	0.	0.	5.24E-06	4.93E-05	1.82E-03	5.02E-04	2.28E-03
9 9.9 0.	0.	1.81E-04	0.	0.	0.	5.27E-06	5.08E-05	1.80E-03	5.02E-04	2.21E-03
10 9.8 0.	0.	1.72E-04	0.	0.	0.	5.26E-06	5.24E-05	1.83E-03	5.02E-04	2.21E-03
11 9.7 0.	0.	1.51E-04	0.	0.	0.	5.29E-06	5.41E-05	1.80E-03	5.02E-04	2.21E-03
12 9.6 0.	0.	1.43E-04	0.	0.	0.	5.30E-06	5.58E-05	1.80E-03	5.02E-04	2.22E-03
13 9.5 0.	0.	1.42E-04	0.	0.	0.	5.31E-06	5.76E-05	1.80E-03	5.02E-04	2.22E-03
14 9.4 0.	0.	1.36E-04	0.	0.	0.	5.32E-06	5.95E-05	1.80E-03	5.02E-04	2.22E-03
15 9.30 0.	0.	1.40E-04	0.	0.	0.	5.34E-06	6.14E-05	1.80E-03	5.02E-04	2.23E-03
16 9.2 0.	0.	1.10E-04	0.	0.	0.	5.34E-06	6.34E-05	1.81E-03	5.02E-04	2.23E-03
17 9.10 0.	0.	1.22E-04	0.	0.	0.	5.36E-06	6.55E-05	1.81E-03	5.02E-04	2.24E-03
18 9.00 0.	0.	1.12E-04	0.	0.	0.	5.38E-06	6.78E-05	1.81E-03	5.02E-04	2.24E-03
19 8.90 0.	0.	1.65E-04	0.	0.	0.	5.42E-06	7.02E-05	1.80E-03	5.02E-04	2.24E-03
20 8.80 0.	0.	1.64E-04	0.	0.	0.	5.44E-06	7.26E-05	1.80E-03	5.02E-04	2.24E-03
21 8.70 0.	0.	9.17E-05	0.	0.	0.	5.46E-06	7.52E-05	1.80E-03	5.02E-04	2.24E-03
22 8.60 0.	0.	9.50E-05	0.	0.	0.	5.48E-06	7.79E-05	1.80E-03	5.02E-04	2.24E-03
23 8.50 0.	0.	8.46E-05	0.	0.	0.	5.50E-06	8.07E-05	1.80E-03	5.02E-04	2.24E-03
24 8.40 0.	0.	8.47E-05	0.	0.	0.	5.53E-06	8.37E-05	1.80E-03	5.02E-04	2.24E-03
25 8.30 0.	0.	7.31E-05	0.	0.	0.	5.56E-06	8.67E-05	1.80E-03	5.02E-04	2.24E-03
26 8.20 0.	0.	7.44E-05	0.	0.	0.	5.59E-06	8.98E-05	1.80E-03	5.02E-04	2.24E-03
27 8.10 0.	0.	6.52E-05	0.	0.	0.	5.61E-06	9.34E-05	1.80E-03	5.02E-04	2.24E-03
28 8.00 0.	0.	6.61E-05	0.	0.	0.	5.63E-06	9.70E-05	1.80E-03	5.02E-04	2.24E-03
29 7.90 0.	0.	3.77E-05	0.	0.	0.	5.67E-06	1.01E-04	1.80E-03	5.02E-04	2.24E-03
30 7.80 0.	0.	6.83E-05	0.	0.	0.	5.72E-06	1.05E-04	1.80E-03	5.02E-04	2.24E-03
31 7.70 0.	0.	5.37E-05	0.	0.	0.	5.78E-06	1.09E-04	1.80E-03	5.02E-04	2.24E-03
32 7.60 0.	0.	3.16E-05	0.	3.10E-14	0.	5.78E-06	1.13E-04	1.80E-03	5.02E-04	2.24E-03
33 7.50 0.	0.	4.84E-05	0.	1.02E-13	0.	5.79E-06	1.18E-04	1.80E-03	5.02E-04	2.24E-03
34 7.40 0.	0.	4.40E-05	0.	9.27E-13	0.	5.82E-06	1.23E-04	1.80E-03	5.02E-04	2.24E-03
35 7.30 0.	0.	4.21E-05	0.	3.99E-12	0.	5.85E-06	1.28E-04	1.80E-03	5.02E-04	2.24E-03
36 7.20 0.	0.	3.89E-05	0.	9.77E-12	0.	5.88E-06	1.33E-04	1.80E-03	5.02E-04	2.24E-03
37 7.10 0.	0.	3.74E-05	0.	3.02E-11	0.	5.94E-06	1.39E-04	1.80E-03	5.02E-04	2.24E-03
38 7.00 0.	0.	3.47E-05	0.	5.04E-11	0.	5.98E-06	1.45E-04	1.80E-03	5.02E-04	2.24E-03
39 6.90 0.	0.	3.25E-05	0.	8.65E-11	0.	6.03E-06	1.52E-04	1.80E-03	5.02E-04	2.24E-03
40 6.80 0.	0.	3.15E-05	0.	1.43E-10	0.	6.08E-06	1.59E-04	1.80E-03	5.02E-04	2.24E-03
41 6.70 0.	0.	2.76E-05	0.	1.36E-10	0.	6.15E-06	1.66E-04	1.80E-03	5.02E-04	2.24E-03
42 6.60 0.	0.	2.50E-05	0.	1.36E-10	0.	6.17E-06	1.74E-04	1.80E-03	5.02E-04	2.24E-03
43 6.50 0.	0.	2.85E-05	0.	1.69E-10	0.	6.22E-06	1.82E-04	1.80E-03	5.02E-04	2.24E-03
44 6.40 0.	0.	3.63E-05	0.	5.23E-10	0.	6.27E-06	1.90E-04	1.80E-03	5.02E-04	2.24E-03
45 6.30 0.	0.	9.20E-05	0.	2.58E-10	0.	6.32E-06	2.00E-04	1.80E-03	5.02E-04	2.24E-03
46 6.20 0.	0.	3.25E-05	0.	3.05E-10	0.	6.37E-06	2.10E-04	1.80E-03	5.02E-04	2.24E-03
47 6.10 0.	0.	2.52E-05	0.	1.80E-10	0.	6.43E-06	2.20E-04	1.80E-03	5.02E-04	2.24E-03
48 6.00 0.	0.	1.93E-05	0.	1.89E-10	0.	6.48E-06	2.32E-04	1.80E-03	5.02E-04	2.24E-03
49 5.90 0.	0.	4.77E-05	0.	1.56E-10	0.	6.48E-06	2.44E-04	1.80E-03	5.02E-04	2.24E-03
50 5.80 0.	0.	1.10E-04	0.	2.15E-10	0.	6.37E-06	2.57E-04	1.80E-03	5.02E-04	2.24E-03
51 5.70 0.	0.	6.40E-05	0.	2.53E-10	0.	5.98E-06	2.71E-04	1.80E-03	5.02E-04	2.24E-03

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 21000, DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)

PHOTON QZ 5-R ENERGY WAVES	MZ 1ST POS.	MZ 2ND POS.	MZ 1ST NEG.	MZ 2ND NEG.	NO META	NO GAMMA	NO VIB-ROT	NO 2	D- PHOTO-DET (IONS)	M FREE-FREE	M P.E.	O TOTAL AIR	
52	5.00	2.54E-10	0.	0.	2.19E-11	1.41E-10	0.	0.	5.50E-06	2.50E-04	0.69E-04	5.81E-04	1.74E-03
53	5.50	0.	0.	0.	2.00E-11	1.31E-10	0.	0.	5.95E-06	3.05E-04	0.80E-04	5.86E-04	1.78E-03
54	5.40	0.	0.	0.	2.51E-11	1.09E-10	0.	0.	5.62E-06	3.19E-04	9.14E-04	9.93E-04	1.03E-03
55	5.30	0.	0.	0.	2.97E-11	1.29E-10	0.	0.	5.65E-06	3.19E-04	9.19E-04	6.01E-04	1.68E-03
56	5.20	0.	0.	0.	2.70E-11	1.66E-10	0.	0.	5.45E-06	3.58E-04	9.31E-04	6.11E-04	1.91E-03
57	5.10	0.	0.	0.	2.79E-11	1.35E-10	0.	0.	5.74E-06	3.89E-04	9.59E-04	6.20E-04	1.94E-03
58	3.00	2.04E-12	0.	0.	2.57E-11	1.29E-10	0.	0.	5.74E-06	4.03E-04	9.59E-04	6.30E-04	2.03E-03
59	4.90	7.09E-12	0.	0.	2.80E-11	1.43E-10	0.	0.	5.88E-06	4.29E-04	1.02E-03	6.41E-04	2.10E-03
60	4.80	1.34E-11	0.	0.	3.11E-11	1.35E-10	0.	0.	5.93E-06	4.50E-04	1.06E-03	6.55E-04	2.18E-03
61	4.70	1.84E-11	0.	0.	3.14E-11	1.23E-10	0.	0.	5.93E-06	4.80E-04	1.10E-03	6.73E-04	2.27E-03
62	4.60	2.55E-11	0.	0.	3.29E-11	1.17E-10	0.	0.	5.98E-06	5.19E-04	1.15E-03	6.91E-04	2.37E-03
63	4.50	2.72E-11	0.	3.54E-11	3.02E-11	0.94E-10	0.	0.	6.03E-06	5.59E-04	1.21E-03	7.10E-04	2.48E-03
64	4.40	2.94E-11	0.	9.77E-11	3.04E-11	5.74E-10	0.	0.	6.08E-06	5.94E-04	1.27E-03	7.29E-04	2.60E-03
65	4.30	2.82E-11	0.	3.36E-10	2.94E-11	3.65E-10	0.	0.	6.13E-06	6.37E-04	1.34E-03	7.49E-04	2.74E-03
66	4.20	2.69E-11	0.	1.03E-09	3.10E-11	2.92E-10	0.	0.	6.17E-06	6.81E-04	1.41E-03	7.70E-04	2.87E-03
67	4.10	2.51E-11	0.	4.80E-09	3.07E-11	7.10E-10	0.	0.	6.20E-06	7.36E-04	1.48E-03	7.97E-04	2.99E-03
68	4.00	2.34E-11	0.	1.50E-09	2.90E-11	5.39E-10	0.	0.	6.20E-06	7.93E-04	1.55E-03	8.27E-04	3.13E-03
69	3.90	2.05E-11	0.	7.15E-10	2.80E-11	1.97E-10	0.	0.	6.20E-06	8.54E-04	1.59E-03	8.69E-04	3.29E-03
70	3.80	2.22E-11	0.	1.15E-09	2.95E-11	3.02E-10	0.	0.	6.17E-06	9.26E-04	1.58E-03	9.05E-04	3.47E-03
71	3.70	2.09E-11	0.	1.17E-09	1.48E-08	2.63E-10	0.	0.	6.08E-06	1.00E-03	1.32E-03	4.43E-04	2.77E-03
72	3.60	1.82E-11	0.	8.65E-10	7.11E-08	2.85E-10	0.	0.	5.69E-06	1.09E-03	1.42E-03	4.84E-04	3.00E-03
73	3.50	1.79E-11	0.	1.12E-09	1.26E-07	2.29E-10	0.	0.	5.21E-06	1.19E-03	1.51E-03	5.31E-04	3.24E-03
74	3.40	1.69E-11	0.	7.40E-10	2.13E-08	2.50E-10	0.	0.	3.00E-06	1.30E-03	1.67E-03	5.84E-04	3.54E-03
75	3.30	1.29E-11	0.	7.50E-10	7.77E-08	2.10E-10	0.	0.	3.01E-06	1.42E-03	1.84E-03	6.37E-04	3.91E-03
76	3.20	1.14E-11	0.	5.67E-10	1.20E-07	2.22E-10	0.	0.	3.03E-06	1.56E-03	2.01E-03	6.94E-04	4.27E-03
77	3.10	1.11E-11	0.	3.97E-10	3.50E-08	2.12E-10	0.	0.	3.02E-06	1.72E-03	2.19E-03	7.56E-04	4.67E-03
78	3.00	1.01E-11	0.	2.40E-10	7.15E-08	2.03E-10	0.	0.	3.03E-06	1.90E-03	2.36E-03	8.27E-04	5.08E-03
79	2.90	0.99E-11	0.	1.56E-10	3.97E-08	1.59E-10	0.	0.	3.04E-06	2.11E-03	2.54E-03	8.71E-04	5.54E-03
80	2.80	0.81E-11	0.	7.54E-11	2.79E-08	1.13E-10	0.	0.	3.04E-06	2.35E-03	2.79E-03	9.43E-04	6.08E-03
81	2.70	0.94E-11	0.	3.55E-11	5.44E-08	6.35E-10	0.	0.	3.04E-06	2.63E-03	3.07E-03	1.02E-03	6.67E-03
82	2.60	2.00E-12	0.	1.70E-11	3.65E-08	2.04E-10	0.	0.	3.04E-06	2.95E-03	3.26E-03	1.10E-03	7.29E-03
83	2.50	2.64E-13	0.	1.77E-12	3.50E-09	6.93E-10	0.	0.	3.04E-06	3.32E-03	3.68E-03	1.13E-03	7.73E-03
84	2.40	0.	7.74E-11	0.	2.70E-09	7.48E-10	0.	0.	3.04E-06	3.77E-03	4.30E-03	8.29E-04	8.98E-03
85	2.30	0.	2.29E-10	0.	0.	0.	0.	0.	3.03E-06	4.29E-03	5.09E-03	9.07E-04	9.13E-03
86	2.20	0.	6.04E-10	0.	0.	0.	0.	0.	3.03E-06	4.91E-03	4.55E-03	1.10E-03	1.06E-02
87	2.10	0.	6.14E-10	0.	0.	0.	0.	0.	2.99E-06	5.64E-03	5.29E-03	1.37E-03	1.23E-02
88	2.00	0.	1.25E-09	0.	0.	0.	0.	0.	2.89E-06	6.50E-03	6.04E-03	1.56E-03	1.42E-02
89	1.90	0.	1.45E-09	0.	0.	0.	0.	0.	2.79E-06	7.47E-03	6.95E-03	1.82E-03	1.64E-02
90	1.80	0.	1.25E-09	0.	0.	0.	0.	0.	2.69E-06	8.47E-03	8.31E-03	2.22E-03	1.90E-02
91	1.70	0.	1.41E-09	0.	0.	0.	0.	0.	2.51E-06	1.00E-02	9.90E-03	2.70E-03	2.35E-02
92	1.60	0.	1.87E-09	0.	0.	0.	0.	0.	2.12E-06	1.31E-02	1.17E-02	3.10E-03	2.79E-02
93	1.50	0.	1.21E-09	0.	0.	0.	0.	0.	9.65E-07	1.95E-02	1.52E-02	3.65E-03	3.50E-02
94	1.40	0.	1.10E-09	0.	0.	0.	0.	0.	0.	1.97E-02	1.95E-02	4.61E-03	4.33E-02
95	1.30	0.	0.15E-10	0.	0.	0.	0.	0.	0.	2.47E-02	2.55E-02	6.00E-03	5.62E-02
96	1.20	0.	0.72E-10	0.	0.	0.	0.	0.	0.	3.15E-02	2.95E-02	6.13E-03	6.61E-02
97	1.10	0.	0.47E-10	0.	0.	0.	0.	0.	0.	4.11E-02	3.51E-02	7.00E-03	8.39E-02
98	1.00	0.	7.79E-10	0.	0.	0.	0.	0.	0.	5.92E-02	4.26E-02	8.76E-03	1.07E-01
99	0.90	0.	6.30E-10	0.	0.	0.	0.	0.	0.	7.69E-02	4.91E-02	1.03E-02	1.36E-01
100	0.80	0.	3.08E-10	0.	0.	0.	0.	0.	0.	1.10E-01	5.65E-02	1.10E-02	1.70E-01
101	0.70	0.	4.92E-11	0.	0.	0.	0.	0.	0.	1.66E-01	6.19E-02	1.10E-02	2.39E-01
102	0.60	0.	1.54E-11	0.	0.	0.	0.	0.	0.	2.69E-01	6.66E-02	1.33E-02	3.51E-01

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CR.)  
 TEMPERATURE (DEGREES K) 2100. DENSITY (GM/CC) 1.293E-03 (10-05-04 NORMAL)

PHOTON OF S-R ENERGY BANDS CMW.	DZ S-R CMW.	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	FREE-FREE		TOTAL AIR		
								P.F.	P.E.	P.F.	P.E.	
1 10.70 0.	0.	0.	0.	0.	0.	0.	0.	6.71E-09	4.79E-07	2.59E-05	7.17E-04	3.38E-05
2 10.60 0.	0.	0.	0.	0.	0.	0.	0.	6.71E-09	4.93E-07	2.61E-05	7.12E-04	3.37E-05
3 10.50 0.	0.	0.	0.	0.	0.	0.	0.	6.72E-09	5.07E-07	2.63E-05	7.06E-04	3.36E-05
4 10.40 0.	0.	0.	0.	0.	0.	0.	0.	6.73E-09	5.22E-07	2.65E-05	7.00E-04	3.41E-05
5 10.30 0.	0.	0.	0.	0.	0.	0.	0.	6.74E-09	5.37E-07	2.67E-05	7.03E-04	3.42E-05
6 10.20 0.	0.	0.	0.	0.	0.	0.	0.	6.75E-09	5.52E-07	2.69E-05	7.06E-04	3.43E-05
7 10.10 0.	0.	0.	0.	0.	0.	0.	0.	6.76E-09	5.67E-07	2.71E-05	7.09E-04	3.44E-05
8 10.00 0.	0.	0.	0.	0.	0.	0.	0.	6.77E-09	5.82E-07	2.73E-05	7.12E-04	3.45E-05
9 9.90 0.	0.	0.	0.	0.	0.	0.	0.	6.78E-09	5.97E-07	2.75E-05	7.15E-04	3.46E-05
10 9.80 0.	0.	0.	0.	0.	0.	0.	0.	6.79E-09	6.12E-07	2.77E-05	7.18E-04	3.47E-05
11 9.70 0.	0.	0.	0.	0.	0.	0.	0.	6.80E-09	6.27E-07	2.79E-05	7.21E-04	3.48E-05
12 9.60 0.	0.	0.	0.	0.	0.	0.	0.	6.81E-09	6.42E-07	2.81E-05	7.24E-04	3.49E-05
13 9.50 0.	0.	0.	0.	0.	0.	0.	0.	6.82E-09	6.57E-07	2.83E-05	7.27E-04	3.50E-05
14 9.40 0.	0.	0.	0.	0.	0.	0.	0.	6.83E-09	6.72E-07	2.85E-05	7.30E-04	3.51E-05
15 9.30 0.	0.	0.	0.	0.	0.	0.	0.	6.84E-09	6.87E-07	2.87E-05	7.33E-04	3.52E-05
16 9.20 0.	0.	0.	0.	0.	0.	0.	0.	6.85E-09	7.02E-07	2.89E-05	7.36E-04	3.53E-05
17 9.10 0.	0.	0.	0.	0.	0.	0.	0.	6.86E-09	7.17E-07	2.91E-05	7.39E-04	3.54E-05
18 9.00 0.	0.	0.	0.	0.	0.	0.	0.	6.87E-09	7.32E-07	2.93E-05	7.42E-04	3.55E-05
19 8.90 0.	0.	0.	0.	0.	0.	0.	0.	6.88E-09	7.47E-07	2.95E-05	7.45E-04	3.56E-05
20 8.80 0.	0.	0.	0.	0.	0.	0.	0.	6.89E-09	7.62E-07	2.97E-05	7.48E-04	3.57E-05
21 8.70 0.	0.	0.	0.	0.	0.	0.	0.	6.90E-09	7.77E-07	2.99E-05	7.51E-04	3.58E-05
22 8.60 0.	0.	0.	0.	0.	0.	0.	0.	6.91E-09	7.92E-07	3.01E-05	7.54E-04	3.59E-05
23 8.50 0.	0.	0.	0.	0.	0.	0.	0.	6.92E-09	8.07E-07	3.03E-05	7.57E-04	3.60E-05
24 8.40 0.	0.	0.	0.	0.	0.	0.	0.	6.93E-09	8.22E-07	3.05E-05	7.60E-04	3.61E-05
25 8.30 0.	0.	0.	0.	0.	0.	0.	0.	6.94E-09	8.37E-07	3.07E-05	7.63E-04	3.62E-05
26 8.20 0.	0.	0.	0.	0.	0.	0.	0.	6.95E-09	8.52E-07	3.09E-05	7.66E-04	3.63E-05
27 8.10 0.	0.	0.	0.	0.	0.	0.	0.	6.96E-09	8.67E-07	3.11E-05	7.69E-04	3.64E-05
28 8.00 0.	0.	0.	0.	0.	0.	0.	0.	6.97E-09	8.82E-07	3.13E-05	7.72E-04	3.65E-05
29 7.90 0.	0.	0.	0.	0.	0.	0.	0.	6.98E-09	8.97E-07	3.15E-05	7.75E-04	3.66E-05
30 7.80 0.	0.	0.	0.	0.	0.	0.	0.	6.99E-09	9.12E-07	3.17E-05	7.78E-04	3.67E-05
31 7.70 0.	0.	0.	0.	0.	0.	0.	0.	7.00E-09	9.27E-07	3.19E-05	7.81E-04	3.68E-05
32 7.60 0.	0.	0.	0.	0.	0.	0.	0.	7.01E-09	9.42E-07	3.21E-05	7.84E-04	3.69E-05
33 7.50 0.	0.	0.	0.	0.	0.	0.	0.	7.02E-09	9.57E-07	3.23E-05	7.87E-04	3.70E-05
34 7.40 0.	0.	0.	0.	0.	0.	0.	0.	7.03E-09	9.72E-07	3.25E-05	7.90E-04	3.71E-05
35 7.30 0.	0.	0.	0.	0.	0.	0.	0.	7.04E-09	9.87E-07	3.27E-05	7.93E-04	3.72E-05
36 7.20 0.	0.	0.	0.	0.	0.	0.	0.	7.05E-09	1.00E-06	3.29E-05	7.96E-04	3.73E-05
37 7.10 0.	0.	0.	0.	0.	0.	0.	0.	7.06E-09	1.02E-06	3.31E-05	7.99E-04	3.74E-05
38 7.00 0.	0.	0.	0.	0.	0.	0.	0.	7.07E-09	1.04E-06	3.33E-05	8.02E-04	3.75E-05
39 6.90 0.	0.	0.	0.	0.	0.	0.	0.	7.08E-09	1.06E-06	3.35E-05	8.05E-04	3.76E-05
40 6.80 0.	0.	0.	0.	0.	0.	0.	0.	7.09E-09	1.08E-06	3.37E-05	8.08E-04	3.77E-05
41 6.70 0.	0.	0.	0.	0.	0.	0.	0.	7.10E-09	1.10E-06	3.39E-05	8.11E-04	3.78E-05
42 6.60 0.	0.	0.	0.	0.	0.	0.	0.	7.11E-09	1.12E-06	3.41E-05	8.14E-04	3.79E-05
43 6.50 0.	0.	0.	0.	0.	0.	0.	0.	7.12E-09	1.14E-06	3.43E-05	8.17E-04	3.80E-05
44 6.40 0.	0.	0.	0.	0.	0.	0.	0.	7.13E-09	1.16E-06	3.45E-05	8.20E-04	3.81E-05
45 6.30 0.	0.	0.	0.	0.	0.	0.	0.	7.14E-09	1.18E-06	3.47E-05	8.23E-04	3.82E-05
46 6.20 0.	0.	0.	0.	0.	0.	0.	0.	7.15E-09	1.20E-06	3.49E-05	8.26E-04	3.83E-05
47 6.10 0.	0.	0.	0.	0.	0.	0.	0.	7.16E-09	1.22E-06	3.51E-05	8.29E-04	3.84E-05
48 6.00 0.	0.	0.	0.	0.	0.	0.	0.	7.17E-09	1.24E-06	3.53E-05	8.32E-04	3.85E-05
49 5.90 0.	0.	0.	0.	0.	0.	0.	0.	7.18E-09	1.26E-06	3.55E-05	8.35E-04	3.86E-05
50 5.80 0.	0.	0.	0.	0.	0.	0.	0.	7.19E-09	1.28E-06	3.57E-05	8.38E-04	3.87E-05
51 5.70 0.	0.	0.	0.	0.	0.	0.	0.	7.20E-09	1.30E-06	3.59E-05	8.41E-04	3.88E-05

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 2388. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON 02 S-R ENERGY 53.000	MZ 1ST POS.	MZ 2ND POS.	MZ 1ST NEG.	MZ 2ND NEG.	NO SIGMA	NO GAMMA	NO VIBROT	NO PHOTO-DET	0- FREE-FREE PHOTO-DET (TOMS)	N P.E.	0 P.E.	TOTAL AIR	
52	3.60	2.00E-23	0.	0.	2.90E-13	1.91E-14	0.	0.	7.10E-09	3.40E-06	1.30E-05	7.00E-06	2.44E-03
53	3.90	0.	0.	0.	3.40E-13	1.77E-14	0.	0.	7.20E-09	3.50E-06	1.43E-05	7.15E-06	2.51E-03
54	5.00	0.	0.	0.	3.40E-13	1.40E-14	0.	0.	7.20E-09	3.50E-06	1.40E-05	7.20E-06	2.50E-03
55	3.30	0.	0.	0.	3.40E-13	1.05E-14	0.	0.	7.20E-09	3.50E-06	1.17E-05	7.34E-06	2.31E-03
56	3.20	0.	0.	0.	3.70E-13	1.44E-14	0.	0.	7.30E-09	4.20E-06	1.21E-05	7.32E-06	2.30E-03
57	3.10	0.	0.	0.	3.70E-13	1.04E-14	0.	0.	7.30E-09	4.20E-06	1.21E-05	7.44E-06	2.44E-03
58	5.00	0.00E-10	0.	0.	3.90E-13	1.74E-14	0.	0.	7.50E-09	4.00E-06	1.29E-05	7.56E-06	2.53E-03
59	4.00	0.90E-10	0.	0.	3.90E-13	1.04E-14	0.	0.	7.50E-09	4.00E-06	1.34E-05	7.76E-06	2.42E-03
60	4.00	1.90E-10	0.	0.	4.20E-13	1.03E-14	0.	0.	7.50E-09	4.3E-06	1.30E-05	7.07E-06	2.72E-03
61	4.70	2.60E-10	0.	0.	4.20E-13	1.07E-14	0.	0.	7.60E-09	5.7E-06	1.44E-05	8.00E-06	2.83E-03
62	4.60	3.63E-10	0.	0.	4.41E-13	1.57E-14	0.	0.	7.70E-09	6.10E-06	1.51E-05	8.30E-06	2.94E-03
63	4.50	3.85E-10	0.	4.37E-13	4.00E-13	1.46E-14	0.	0.	7.70E-09	6.10E-06	1.60E-05	8.53E-06	3.11E-03
64	4.40	4.10E-10	0.	4.27E-13	4.13E-13	7.00E-15	0.	0.	7.82E-09	7.07E-06	1.60E-05	8.74E-06	3.21E-03
65	4.30	3.50E-10	0.	4.17E-13	3.90E-13	4.90E-15	0.	0.	7.90E-09	7.50E-06	1.77E-05	9.00E-06	3.41E-03
66	4.20	2.70E-10	0.	4.14E-13	4.20E-13	3.41E-15	0.	0.	7.90E-09	8.10E-06	1.87E-05	9.24E-06	3.61E-03
67	4.10	2.50E-10	0.	4.20E-13	4.10E-13	9.60E-16	0.	0.	7.90E-09	8.10E-06	1.97E-05	9.22E-06	3.77E-03
68	4.00	3.31E-10	0.	4.05E-13	4.05E-13	7.21E-16	0.	0.	8.01E-09	9.54E-06	2.07E-05	9.50E-06	3.97E-03
69	3.90	2.85E-10	0.	3.90E-13	3.70E-13	2.07E-16	0.	0.	8.01E-09	1.07E-05	2.05E-05	9.73E-06	3.54E-03
70	3.80	3.40E-10	0.	1.50E-13	3.54E-13	0.	0.	8.01E-09	1.10E-05	1.76E-05	9.44E-06	3.34E-03	
71	3.70	2.05E-10	0.	1.52E-13	1.60E-13	3.37E-15	0.	0.	8.02E-09	1.20E-05	1.65E-05	9.30E-06	3.50E-03
72	3.60	2.50E-10	0.	1.12E-13	0.54E-11	3.00E-15	0.	0.	7.33E-09	1.30E-05	1.90E-05	5.00E-05	3.81E-03
73	3.50	2.40E-10	0.	1.40E-13	1.51E-10	3.11E-15	0.	0.	6.71E-09	1.42E-05	2.11E-05	6.44E-06	4.17E-03
74	3.40	2.27E-10	0.	9.61E-14	2.56E-11	3.50E-15	0.	0.	3.07E-09	1.55E-05	2.31E-05	7.07E-06	4.57E-03
75	3.30	1.65E-10	0.	9.83E-14	9.33E-11	2.84E-15	0.	0.	3.07E-09	1.70E-05	2.53E-05	7.72E-06	4.99E-03
76	3.20	1.45E-10	0.	5.50E-14	1.45E-10	3.01E-15	0.	0.	3.08E-09	1.80E-05	2.75E-05	8.48E-06	5.45E-03
77	3.10	1.37E-10	0.	5.10E-14	4.07E-11	2.00E-15	0.	0.	3.09E-09	2.05E-05	2.90E-05	9.00E-06	5.94E-03
78	3.00	1.42E-10	0.	2.20E-14	8.02E-11	2.70E-15	0.	0.	3.09E-09	2.27E-05	3.22E-05	9.72E-06	6.46E-03
79	2.90	1.21E-10	0.	2.03E-14	4.77E-11	2.15E-15	0.	0.	3.01E-09	2.51E-05	3.47E-05	1.05E-05	7.03E-03
80	2.80	1.20E-10	0.	9.79E-15	3.35E-11	0.61E-16	0.	0.	3.01E-09	2.80E-05	3.75E-05	1.14E-05	7.69E-03
81	2.70	0.41E-10	0.	4.61E-15	4.15E-11	0.61E-16	0.	0.	3.01E-09	3.15E-05	3.65E-05	1.23E-05	8.01E-03
82	2.60	0.85E-10	0.	2.21E-15	4.10E-12	3.00E-16	0.	0.	3.21E-09	3.51E-05	3.95E-05	1.33E-05	8.70E-03
83	2.50	2.00E-10	0.	2.50E-15	4.30E-12	9.60E-17	0.	0.	3.91E-09	3.90E-05	4.40E-05	1.51E-05	9.25E-03
84	2.40	0.	0.	1.01E-14	3.24E-12	1.01E-17	0.	0.	3.91E-09	4.40E-05	3.94E-05	1.00E-05	9.43E-03
85	2.30	0.	0.	2.02E-14	0.	0.	0.	0.	3.00E-09	5.11E-05	4.75E-05	1.19E-05	1.16E-04
86	2.20	0.	0.	7.07E-14	0.	0.	0.	0.	3.07E-09	5.05E-05	5.50E-05	1.42E-05	1.20E-04
87	2.10	0.	0.	7.04E-14	0.	0.	0.	0.	3.05E-09	6.74E-05	6.47E-05	1.64E-05	1.48E-04
88	2.00	0.	0.	1.05E-13	0.	0.	0.	0.	3.70E-09	7.01E-05	7.36E-05	1.87E-05	1.71E-04
89	1.90	0.	0.	1.05E-13	0.	0.	0.	0.	3.50E-09	9.13E-05	8.41E-05	2.19E-05	1.97E-04
90	1.80	0.	0.	1.67E-13	0.	0.	0.	0.	3.43E-09	1.00E-04	1.00E-04	2.66E-05	2.35E-04
91	1.70	0.	0.	1.30E-13	0.	0.	0.	0.	3.23E-09	1.29E-04	1.20E-04	3.24E-05	2.81E-04
92	1.60	0.	0.	1.30E-13	0.	0.	0.	0.	2.73E-09	1.54E-04	1.39E-04	3.01E-05	3.31E-04
93	1.50	0.	0.	1.50E-13	0.	0.	0.	0.	1.24E-09	1.90E-04	1.60E-04	4.02E-05	4.16E-04
94	1.40	0.	0.	1.95E-13	0.	0.	0.	0.	0.	2.32E-04	2.15E-04	5.22E-05	5.04E-04
95	1.30	0.	0.	1.15E-13	0.	0.	0.	0.	0.	2.93E-04	2.90E-04	6.70E-05	6.60E-04
96	1.20	0.	0.	1.15E-13	0.	0.	0.	0.	0.	3.74E-04	3.20E-04	7.32E-05	7.70E-04
97	1.10	0.	0.	1.10E-13	0.	0.	0.	0.	0.	4.90E-04	4.04E-04	9.10E-05	9.85E-04
98	1.00	0.	0.	1.01E-13	0.	0.	0.	0.	0.	6.57E-04	4.90E-04	1.04E-04	1.25E-03
99	0.90	0.	0.	0.35E-14	0.	0.	0.	0.	0.	9.10E-04	5.64E-04	1.23E-04	1.60E-03
100	0.80	0.	0.	3.90E-14	0.	0.	0.	0.	0.	1.31E-03	6.49E-04	1.41E-04	2.01E-03
101	0.70	0.	0.	6.90E-14	0.	0.	0.	0.	0.	1.90E-03	7.81E-04	1.62E-04	2.82E-03
102	0.60	0.	0.	2.00E-15	0.	0.	0.	0.	0.	3.20E-03	7.13E-04	1.50E-04	4.97E-03











ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES S) 21000. DENSITY (GM/CC) 1.292E-09 ( 1.0E-06 NORMAL)

PHOTON ENERGY BANDS E.V.	QZ S-R COMT.	NO D-H NO. 1	NO DETA	NO BANDA	NO	0- PHOTO-DET (IONS)	FREE-FREE W P.E.	TOTAL AIR P.E.		
									NO	NO
1 10.70 0.	0.	1.02E-26	0.	0.	0.	1.11E-17	2.74E-12	3.02E-10	4.05E-11	3.52E-10
2 10.60 0.	0.	1.07E-26	0.	0.	0.	1.11E-17	2.84E-12	3.04E-10	4.05E-11	3.52E-10
3 10.50 0.	0.	1.70E-26	0.	0.	0.	1.11E-17	2.92E-12	3.06E-10	4.05E-11	3.52E-10
4 10.40 0.	0.	1.62E-26	0.	0.	0.	1.11E-17	3.01E-12	3.08E-10	4.05E-11	3.52E-10
5 10.30 0.	0.	1.44E-26	0.	0.	0.	1.11E-17	3.10E-12	3.10E-10	4.05E-11	3.52E-10
6 10.20 0.	0.	1.50E-26	0.	0.	0.	1.12E-17	3.19E-12	3.12E-10	4.05E-11	3.52E-10
7 10.10 0.	0.	1.42E-26	0.	0.	0.	1.12E-17	3.28E-12	3.14E-10	4.05E-11	3.52E-10
8 10.00 0.	0.	1.27E-26	0.	0.	0.	1.12E-17	3.37E-12	3.16E-10	4.05E-11	3.52E-10
9 9.90 0.	0.	1.31E-26	0.	0.	0.	1.12E-17	3.46E-12	3.18E-10	4.05E-11	3.52E-10
10 9.80 0.	0.	1.24E-26	0.	0.	0.	1.12E-17	3.55E-12	3.20E-10	4.05E-11	3.52E-10
11 9.70 0.	0.	1.89E-26	0.	0.	0.	1.12E-17	3.64E-12	3.22E-10	4.05E-11	3.52E-10
12 9.60 0.	0.	1.10E-26	0.	0.	0.	1.12E-17	3.73E-12	3.24E-10	4.05E-11	3.52E-10
13 9.50 0.	0.	1.03E-26	0.	0.	0.	1.12E-17	3.82E-12	3.26E-10	4.05E-11	3.52E-10
14 9.40 0.	0.	9.04E-27	0.	0.	0.	1.12E-17	3.91E-12	3.28E-10	4.05E-11	3.52E-10
15 9.30 0.	0.	1.81E-26	0.	0.	0.	1.12E-17	4.00E-12	3.30E-10	4.05E-11	3.52E-10
16 9.20 0.	0.	8.56E-27	0.	0.	0.	1.12E-17	4.09E-12	3.32E-10	4.05E-11	3.52E-10
17 9.10 0.	0.	8.81E-27	0.	0.	0.	1.12E-17	4.18E-12	3.34E-10	4.05E-11	3.52E-10
18 9.00 0.	0.	8.12E-27	0.	0.	0.	1.12E-17	4.27E-12	3.36E-10	4.05E-11	3.52E-10
19 8.90 0.	0.	7.61E-27	0.	0.	0.	1.12E-17	4.36E-12	3.38E-10	4.05E-11	3.52E-10
20 8.80 0.	0.	7.52E-27	0.	0.	0.	1.12E-17	4.45E-12	3.40E-10	4.05E-11	3.52E-10
21 8.70 0.	0.	6.44E-27	0.	0.	0.	1.12E-17	4.54E-12	3.42E-10	4.05E-11	3.52E-10
22 8.60 0.	0.	6.80E-27	0.	0.	0.	1.12E-17	4.63E-12	3.44E-10	4.05E-11	3.52E-10
23 8.50 0.	0.	6.12E-27	0.	0.	0.	1.12E-17	4.72E-12	3.46E-10	4.05E-11	3.52E-10
24 8.40 0.	0.	6.13E-27	0.	0.	0.	1.12E-17	4.81E-12	3.48E-10	4.05E-11	3.52E-10
25 8.30 0.	0.	5.29E-27	0.	0.	0.	1.12E-17	4.90E-12	3.50E-10	4.05E-11	3.52E-10
26 8.20 0.	0.	5.30E-27	0.	0.	0.	1.12E-17	4.99E-12	3.52E-10	4.05E-11	3.52E-10
27 8.10 0.	0.	4.72E-27	0.	0.	0.	1.12E-17	5.08E-12	3.54E-10	4.05E-11	3.52E-10
28 8.00 0.	0.	4.70E-27	0.	0.	0.	1.12E-17	5.17E-12	3.56E-10	4.05E-11	3.52E-10
29 7.90 0.	0.	4.18E-27	0.	0.	0.	1.12E-17	5.26E-12	3.58E-10	4.05E-11	3.52E-10
30 7.80 0.	0.	4.37E-27	0.	0.	0.	1.12E-17	5.35E-12	3.60E-10	4.05E-11	3.52E-10
31 7.70 0.	0.	3.80E-27	0.	0.	0.	1.12E-17	5.44E-12	3.62E-10	4.05E-11	3.52E-10
32 7.60 0.	0.	3.73E-27	0.	0.	0.	1.12E-17	5.53E-12	3.64E-10	4.05E-11	3.52E-10
33 7.50 0.	0.	3.50E-27	0.	0.	0.	1.12E-17	5.62E-12	3.66E-10	4.05E-11	3.52E-10
34 7.40 0.	0.	3.10E-27	0.	0.	0.	1.12E-17	5.71E-12	3.68E-10	4.05E-11	3.52E-10
35 7.30 0.	0.	3.05E-27	0.	0.	0.	1.12E-17	5.80E-12	3.70E-10	4.05E-11	3.52E-10
36 7.20 0.	0.	2.70E-27	0.	0.	0.	1.12E-17	5.89E-12	3.72E-10	4.05E-11	3.52E-10
37 7.10 0.	0.	2.71E-27	0.	0.	0.	1.12E-17	5.98E-12	3.74E-10	4.05E-11	3.52E-10
38 7.00 1.71E-29	0.	2.52E-27	0.	0.	0.	1.12E-17	6.07E-12	3.76E-10	4.05E-11	3.52E-10
39 6.90 3.18E-29	0.	2.33E-27	0.	0.	0.	1.12E-17	6.16E-12	3.78E-10	4.05E-11	3.52E-10
40 6.80 2.92E-29	0.	2.28E-27	0.	0.	0.	1.12E-17	6.25E-12	3.80E-10	4.05E-11	3.52E-10
41 6.70 2.15E-29	0.	2.02E-27	0.	0.	0.	1.12E-17	6.34E-12	3.82E-10	4.05E-11	3.52E-10
42 6.60 1.32E-29	0.	1.84E-27	0.	0.	0.	1.12E-17	6.43E-12	3.84E-10	4.05E-11	3.52E-10
43 6.50 7.07E-30	0.	1.49E-27	0.	0.	0.	1.12E-17	6.52E-12	3.86E-10	4.05E-11	3.52E-10
44 6.40 4.44E-30	0.	1.05E-27	0.	0.	0.	1.12E-17	6.61E-12	3.88E-10	4.05E-11	3.52E-10
45 6.30 2.61E-30	0.	6.72E-28	0.	0.	0.	1.12E-17	6.70E-12	3.90E-10	4.05E-11	3.52E-10
46 6.20 1.19E-30	0.	3.06E-28	0.	0.	0.	1.12E-17	6.79E-12	3.92E-10	4.05E-11	3.52E-10
47 6.10 5.52E-31	0.	1.82E-28	0.	0.	0.	1.12E-17	6.88E-12	3.94E-10	4.05E-11	3.52E-10
48 6.00 2.33E-31	0.	3.08E-28	0.	0.	0.	1.12E-17	6.97E-12	3.96E-10	4.05E-11	3.52E-10
49 5.90 5.72E-32	0.	3.34E-28	0.	0.	0.	1.12E-17	7.06E-12	3.98E-10	4.05E-11	3.52E-10
50 5.80 7.37E-33	0.	8.51E-32	0.	0.	0.	1.12E-17	7.15E-12	4.00E-10	4.05E-11	3.52E-10
51 5.70 5.03E-34	0.	7.45E-28	3.25E-27	0.	0.	1.12E-17	7.24E-12	4.02E-10	4.05E-11	3.52E-10





ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY	1ST POS.	2ND POS.	1ST NEG.	2ND NEG.	BETA	GAMMA	VIS-ROT	NO 2	PHOTO-DET (IONS)	FREE-FREE	N	P.E.	TOTAL AIR					
52	5.00	1.29E-11	0.	0.	1.09E-03	4.19E-02	0.	0.	5.73E	00	5.01E	00	1.23E	01	0.34E	00	3.00E	01
53	5.50	0.	0.	0.	2.27E-03	1.10E-02	0.	0.	5.74E	00	5.29E	00	1.31E	01	0.42E	00	3.00E	01
54	5.90	0.	0.	0.	2.13E-03	9.26E-03	0.	0.	5.79E	00	5.60E	00	1.59E	01	0.49E	00	3.14E	01
55	5.30	0.	0.	0.	2.18E-03	1.14E-02	0.	0.	5.81E	00	5.92E	00	1.59E	01	0.50E	00	3.22E	02
56	5.20	0.	0.	0.	2.37E-03	9.09E-03	0.	0.	5.80E	00	6.20E	00	1.52E	01	0.60E	00	3.31E	01
57	5.10	0.	0.	0.	2.30E-03	1.16E-02	0.	0.	5.91E	00	6.60E	00	1.47E	01	0.70E	00	3.40E	01
58	5.00	1.43E-04	0.	0.	2.19E-03	1.11E-02	0.	0.	5.90E	00	7.07E	00	1.51E	01	0.80E	00	3.51E	01
59	4.90	6.52E-04	0.	0.	2.46E-03	1.23E-02	0.	0.	6.01E	00	7.57E	00	1.70E	01	0.92E	00	3.62E	01
60	4.80	6.45E-04	0.	0.	2.69E-03	1.19E-02	0.	0.	6.04E	00	8.00E	00	1.83E	01	1.07E	00	3.75E	01
61	4.70	1.12E-03	0.	0.	2.69E-03	1.04E-02	0.	0.	6.11E	00	8.53E	00	1.89E	01	1.23E	00	3.89E	01
62	4.60	1.08E-03	0.	0.	2.76E-03	9.63E-03	0.	0.	6.19E	00	9.10E	00	1.76E	01	1.56E	00	4.05E	01
63	4.50	1.77E-03	0.	0.	2.59E-03	7.26E-03	0.	0.	6.28E	00	9.75E	00	1.86E	01	1.77E	00	4.23E	01
64	4.40	1.92E-03	0.	0.	2.62E-03	4.99E-03	0.	0.	6.26E	00	1.12E	01	1.95E	01	7.08E	00	4.42E	01
65	4.30	1.04E-03	0.	0.	2.54E-03	3.14E-03	0.	0.	6.31E	00	1.12E	01	2.04E	01	8.21E	00	4.63E	01
66	4.20	1.75E-03	0.	0.	2.68E-03	2.14E-03	0.	0.	6.30E	00	1.20E	01	2.17E	01	0.44E	00	4.84E	01
67	4.10	1.65E-03	0.	0.	2.68E-03	0.12E-04	0.	0.	6.38E	00	1.29E	01	2.27E	01	0.40E	00	5.05E	01
68	4.00	1.54E-03	0.	0.	2.59E-03	4.57E-04	0.	0.	6.41E	00	1.37E	01	2.38E	01	4.20E	00	5.26E	01
69	3.90	1.33E-03	0.	0.	2.44E-03	1.69E-04	0.	0.	6.39E	00	1.50E	01	2.37E	01	4.42E	00	5.47E	01
70	3.80	1.46E-03	0.	0.	2.64E-03	0.00E-03	0.	0.	6.34E	00	1.63E	01	2.39E	01	4.61E	00	5.13E	01
71	3.70	1.35E-03	0.	0.	1.92E-01	0.	0.	0.	6.24E	00	1.76E	01	2.02E	01	5.03E	00	4.93E	01
72	3.60	1.21E-03	0.	0.	1.14E-01	0.	0.	0.	5.84E	00	1.92E	01	2.18E	01	5.40E	00	5.29E	01
73	3.50	1.13E-03	0.	0.	1.47E-01	0.	0.	0.	5.37E	00	2.09E	01	2.32E	01	6.01E	00	5.50E	01
74	3.40	1.07E-03	0.	0.	9.77E-02	2.83E-02	0.	0.	5.10E	00	2.50E	01	2.57E	01	6.60E	00	5.84E	01
75	3.30	6.64E-04	0.	0.	9.00E-02	1.01E-01	0.	0.	5.11E	00	2.50E	01	2.57E	01	7.20E	00	6.30E	01
76	3.20	7.64E-04	0.	0.	6.77E-02	1.94E-01	0.	0.	5.11E	00	2.75E	01	3.18E	01	7.04E	00	6.94E	01
77	3.10	7.45E-04	0.	0.	5.28E-02	4.39E-02	0.	0.	5.12E	00	3.03E	01	3.37E	01	0.47E	00	7.54E	01
78	3.00	6.79E-04	0.	0.	3.20E-02	9.37E-02	0.	0.	5.12E	00	3.34E	01	3.64E	01	9.11E	00	8.22E	01
79	2.90	5.61E-04	0.	0.	2.69E-02	5.16E-02	0.	0.	5.13E	00	3.71E	01	3.93E	01	9.83E	00	8.95E	01
80	2.80	6.13E-04	0.	0.	1.01E-02	3.79E-02	0.	0.	5.13E	00	4.13E	01	4.20E	01	1.07E	01	9.79E	01
81	2.70	6.05E-04	0.	0.	4.75E-03	4.49E-02	0.	0.	5.13E	00	4.61E	01	4.96E	01	1.16E	01	1.07E	02
82	2.60	1.97E-04	0.	0.	2.77E-03	4.08E-03	0.	0.	5.13E	00	5.10E	01	5.04E	01	1.25E	01	1.18E	02
83	2.50	1.46E-05	0.	0.	2.34E-04	6.35E-05	0.	0.	5.13E	00	5.64E	01	5.78E	01	0.21E	00	1.20E	02
84	2.40	0.	0.	0.	1.81E-02	0.	0.	0.	5.13E	00	6.62E	01	6.72E	01	9.51E	00	1.46E	02
85	2.30	0.	0.	0.	2.09E-02	0.	0.	0.	5.11E	00	7.53E	01	6.87E	01	1.13E	01	1.50E	02
86	2.20	0.	0.	0.	7.07E-02	0.	0.	0.	5.09E	00	8.63E	01	7.17E	01	1.35E	01	1.75E	02
87	2.10	0.	0.	0.	7.04E-02	0.	0.	0.	5.09E	00	9.94E	01	8.34E	01	1.54E	01	2.02E	02
88	2.00	0.	0.	0.	1.59E-01	0.	0.	0.	5.09E	00	1.15E	02	9.53E	01	1.79E	01	2.32E	02
89	1.90	0.	0.	0.	1.64E-01	0.	0.	0.	5.07E	00	1.35E	02	1.35E	02	2.09E	01	2.69E	02
90	1.80	0.	0.	0.	1.59E-01	0.	0.	0.	5.07E	00	1.60E	02	1.51E	02	2.55E	01	3.20E	02
91	1.70	0.	0.	0.	1.79E-01	0.	0.	0.	5.05E	00	1.91E	02	1.58E	02	3.18E	01	3.83E	02
92	1.60	0.	0.	0.	1.34E-01	0.	0.	0.	5.05E	00	2.30E	02	1.85E	02	3.64E	01	4.54E	02
93	1.50	0.	0.	0.	1.54E-01	0.	0.	0.	5.04E-01	0.	2.80E	02	2.32E	02	4.43E	01	5.67E	02
94	1.40	0.	0.	0.	1.51E-01	0.	0.	0.	0.	5.04E	02	3.03E	02	5.30E	01	7.02E	02	
95	1.30	0.	0.	0.	1.16E-01	0.	0.	0.	0.	4.93E	02	4.00E	02	6.96E	01	9.12E	02	
96	1.20	0.	0.	0.	1.11E-01	0.	0.	0.	0.	5.53E	02	4.59E	02	7.04E	01	1.00E	03	
97	1.10	0.	0.	0.	1.00E-01	0.	0.	0.	0.	7.20E	02	5.90E	02	0.01E	01	1.30E	03	
98	1.00	0.	0.	0.	9.97E-02	0.	0.	0.	0.	9.37E	02	6.08E	02	1.01E	02	1.76E	03	
99	0.90	0.	0.	0.	9.13E-02	0.	0.	0.	0.	1.35E	03	7.93E	02	1.18E	02	2.20E	03	
100	0.80	0.	0.	0.	8.81E-02	0.	0.	0.	0.	1.94E	03	9.13E	02	1.35E	02	2.99E	03	
101	0.70	0.	0.	0.	8.76E-03	0.	0.	0.	0.	2.94E	03	9.84E	02	1.36E	02	4.00E	03	
102	0.60	0.	0.	0.	2.64E-03	0.	0.	0.	0.	4.74E	03	1.10E	03	1.57E	02	6.90E	03	







ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CR.)

TEMPERATURES (DEGREES K) 32000. HUMIDITY (CM/CC) 1.293E-04 ( 1-06-01 NORMAL)

PHOTON ENERGY BANDS E.V.	02 S-R COUNT.	02 S-R NO. 1	NO 2	0- FREE-FREE PHOTO-DET (100%)	N P.E.	0 P.E.	TOTAL AIR
1 18.70 0.	2.98E-06	0.	0.	1.29E-03	2.30E-03	9.34E-01	2.60E-02
2 18.58 0.	2.07E-06	0.	0.	1.29E-03	2.37E-03	7.44E-02	2.43E-02
3 18.50 0.	0.72E-06	0.	0.	1.29E-03	2.44E-03	7.47E-02	2.03E-02
4 18.48 0.	2.02E-06	0.	0.	1.29E-03	2.51E-03	7.49E-02	2.64E-02
5 18.40 0.	2.32E-06	0.	0.	1.29E-03	2.58E-03	7.51E-02	2.83E-02
6 18.34 0.	2.02E-06	0.	0.	1.29E-03	2.65E-03	7.53E-02	2.02E-02
7 18.30 0.	2.30E-06	0.	0.	1.29E-03	2.74E-03	7.51E-02	2.00E-02
8 18.30 0.	2.06E-06	0.	0.	1.29E-03	2.83E-03	7.45E-02	2.59E-02
9 18.20 0.	2.12E-06	0.	0.	1.29E-03	2.91E-03	7.46E-02	2.58E-02
10 18.20 0.	2.32E-06	0.	0.	1.29E-03	3.01E-03	7.48E-02	2.57E-02
11 18.18 0.	1.78E-06	0.	0.	1.27E-03	3.10E-03	7.50E-02	2.56E-02
12 18.14 0.	1.93E-06	0.	0.	1.27E-03	3.20E-03	7.52E-02	2.54E-02
13 18.10 0.	1.08E-06	0.	0.	1.27E-03	3.30E-03	7.54E-02	2.53E-02
14 18.08 0.	1.02E-06	0.	0.	1.29E-03	3.41E-03	7.56E-02	2.52E-02
15 18.08 0.	1.04E-06	0.	0.	1.29E-03	3.52E-03	7.59E-02	2.51E-02
16 18.08 0.	1.41E-06	0.	0.	1.29E-03	3.64E-03	7.61E-02	2.50E-02
17 18.08 0.	1.46E-06	0.	0.	1.29E-03	3.76E-03	7.63E-02	2.49E-02
18 18.08 0.	1.39E-06	0.	0.	1.29E-03	3.88E-03	7.65E-02	2.48E-02
19 18.08 0.	1.27E-06	0.	0.	1.30E-03	4.00E-03	7.67E-02	2.47E-02
20 18.08 0.	1.29E-06	0.	0.	1.30E-03	4.12E-03	7.69E-02	2.46E-02
21 18.08 0.	1.11E-06	0.	0.	1.31E-03	4.24E-03	7.71E-02	2.45E-02
22 18.08 0.	1.15E-06	0.	0.	1.31E-03	4.36E-03	7.73E-02	2.44E-02
23 18.08 0.	1.03E-06	0.	0.	1.32E-03	4.48E-03	7.75E-02	2.43E-02
24 18.08 0.	1.03E-06	0.	0.	1.32E-03	4.60E-03	7.77E-02	2.42E-02
25 18.08 0.	0.94E-06	0.	0.	1.33E-03	4.72E-03	7.79E-02	2.41E-02
26 18.08 0.	0.91E-07	0.	0.	1.34E-03	4.84E-03	7.81E-02	2.40E-02
27 18.08 0.	0.82E-07	0.	0.	1.35E-03	4.96E-03	7.83E-02	2.39E-02
28 18.08 0.	0.14E-07	0.	0.	1.35E-03	5.08E-03	7.85E-02	2.38E-02
29 18.08 0.	7.13E-07	0.	0.	1.36E-03	5.20E-03	7.87E-02	2.37E-02
30 18.08 0.	7.67E-07	0.	0.	1.37E-03	5.32E-03	7.89E-02	2.36E-02
31 18.08 0.	6.67E-07	0.	0.	1.37E-03	5.44E-03	7.91E-02	2.35E-02
32 18.08 0.	6.42E-07	0.	0.	1.38E-03	5.56E-03	7.93E-02	2.34E-02
33 18.08 0.	6.05E-07	0.	0.	1.39E-03	5.68E-03	7.95E-02	2.33E-02
34 18.08 0.	5.50E-07	0.	0.	1.39E-03	5.80E-03	7.97E-02	2.32E-02
35 18.08 0.	5.29E-07	0.	0.	1.40E-03	5.92E-03	7.99E-02	2.31E-02
36 18.08 0.	4.85E-07	0.	0.	1.40E-03	6.04E-03	8.01E-02	2.30E-02
37 18.08 0.	4.72E-07	0.	0.	1.41E-03	6.16E-03	8.03E-02	2.29E-02
38 18.08 0.	4.40E-07	0.	0.	1.42E-03	6.28E-03	8.05E-02	2.28E-02
39 18.08 0.	4.09E-07	0.	0.	1.42E-03	6.40E-03	8.07E-02	2.27E-02
40 18.08 0.	4.00E-07	0.	0.	1.43E-03	6.52E-03	8.09E-02	2.26E-02
41 18.08 0.	3.86E-07	0.	0.	1.44E-03	6.64E-03	8.11E-02	2.25E-02
42 18.08 0.	3.86E-07	0.	0.	1.45E-03	6.76E-03	8.13E-02	2.24E-02
43 18.08 0.	3.65E-07	0.	0.	1.45E-03	6.88E-03	8.15E-02	2.23E-02
44 18.08 0.	3.70E-07	0.	0.	1.46E-03	7.00E-03	8.17E-02	2.22E-02
45 18.08 0.	3.55E-07	0.	0.	1.46E-03	7.12E-03	8.19E-02	2.21E-02
46 18.08 0.	3.56E-07	0.	0.	1.47E-03	7.24E-03	8.21E-02	2.20E-02
47 18.08 0.	3.25E-07	0.	0.	1.48E-03	7.36E-03	8.23E-02	2.19E-02
48 18.08 0.	3.25E-07	0.	0.	1.48E-03	7.48E-03	8.25E-02	2.18E-02
49 18.08 0.	3.07E-07	0.	0.	1.49E-03	7.60E-03	8.27E-02	2.17E-02
50 18.08 0.	3.07E-07	0.	0.	1.50E-03	7.72E-03	8.29E-02	2.16E-02
51 18.08 0.	3.07E-07	0.	0.	1.50E-03	7.84E-03	8.31E-02	2.15E-02

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 2300. DENSITY (GM/CC) 1.203E-04 ( 1.8E-01 NORMAL)

PHOTON 02 S-R ENERGY BAUDS	M2 1ST POS.	M2 2ND POS.	M2 1ST POS.	M2 2ND POS.	NO SIGMA	NO VIB-ROT	NO 2	Q- PHOTO-DET (10S)	FREE-FREE P.E.	M P.E.	D P.E.	TOTAL AIR
52	3.60	2.13E-10	0.	0.	2.39E-08	1.94E-07	0.	1.33E-03	1.64E-02	4.14E-02	2.98E-02	3.50E-02
53	5.50	0.	0.	0.	2.93E-08	1.43E-07	0.	1.34E-03	1.73E-02	4.24E-02	2.80E-02	0.71E-02
54	5.40	0.	0.	0.	2.79E-08	1.19E-07	0.	1.35E-03	1.83E-02	4.35E-02	2.63E-02	0.95E-02
55	5.30	0.	0.	0.	2.65E-08	1.43E-07	0.	1.36E-03	1.94E-02	4.47E-02	2.47E-02	0.32E-02
56	5.20	0.	0.	0.	2.65E-08	1.17E-07	0.	1.36E-03	2.05E-02	4.59E-02	2.31E-02	0.45E-02
57	5.10	0.	0.	0.	3.08E-08	1.49E-07	0.	1.38E-03	2.16E-02	4.89E-02	2.15E-02	0.76E-02
58	5.00	3.81E-09	0.	0.	2.82E-08	1.49E-07	0.	1.39E-03	2.31E-02	4.84E-02	2.00E-02	1.01E-01
59	4.90	7.44E-09	0.	0.	3.17E-08	1.59E-07	0.	1.40E-03	2.46E-02	5.01E-02	2.05E-02	1.03E-01
60	4.80	1.42E-08	0.	0.	3.48E-08	1.50E-07	0.	1.41E-03	2.62E-02	5.20E-02	2.01E-02	1.09E-01
61	4.70	1.93E-08	0.	0.	3.47E-08	1.37E-07	0.	1.42E-03	2.79E-02	5.40E-02	2.09E-02	1.13E-01
62	4.60	2.73E-08	0.	0.	3.60E-08	1.24E-07	0.	1.43E-03	2.98E-02	5.63E-02	3.17E-02	1.18E-01
63	4.50	2.91E-08	0.	0.	3.35E-08	0.39E-06	0.	1.44E-03	3.18E-02	5.93E-02	3.75E-02	1.24E-01
64	4.40	3.15E-08	0.	0.	3.36E-08	0.39E-06	0.	1.44E-03	3.41E-02	6.24E-02	3.24E-02	1.30E-01
65	4.30	3.02E-08	0.	0.	3.27E-08	0.07E-06	0.	1.47E-03	3.65E-02	6.58E-02	3.35E-02	1.37E-01
66	4.20	2.85E-08	0.	0.	3.49E-08	2.78E-06	0.	1.48E-03	3.92E-02	6.92E-02	3.42E-02	1.44E-01
67	4.10	2.71E-08	0.	0.	3.39E-08	0.	0.	1.49E-03	4.22E-02	7.27E-02	3.41E-02	1.50E-01
68	4.00	2.53E-08	0.	0.	3.49E-08	7.89E-06	0.	1.49E-03	4.55E-02	7.62E-02	1.74E-02	1.41E-01
69	3.90	2.35E-08	0.	0.	3.34E-08	0.	0.	1.49E-03	4.91E-02	7.98E-02	1.70E-02	1.44E-01
70	3.80	2.15E-08	0.	0.	3.19E-08	0.	0.	1.48E-03	5.32E-02	8.35E-02	1.67E-02	1.50E-01
71	3.70	2.08E-08	0.	0.	1.56E-06	3.49E-06	0.	1.48E-03	5.77E-02	8.72E-02	2.84E-02	1.44E-01
72	3.60	1.99E-08	0.	0.	1.35E-06	1.63E-05	0.	1.36E-03	6.26E-02	9.08E-02	2.23E-02	1.50E-01
73	3.50	1.89E-08	0.	0.	1.40E-06	2.60E-05	0.	1.25E-03	6.84E-02	9.44E-02	2.44E-02	1.60E-01
74	3.40	1.76E-08	0.	0.	9.80E-07	4.90E-06	0.	7.20E-04	7.47E-02	9.82E-02	2.80E-02	1.63E-01
75	3.30	1.62E-08	0.	0.	1.81E-06	1.79E-05	0.	7.22E-04	8.16E-02	9.87E-02	2.92E-02	2.03E-01
76	3.20	1.46E-08	0.	0.	6.79E-07	2.72E-05	0.	7.23E-04	8.99E-02	9.91E-02	3.10E-02	2.22E-01
77	3.10	1.29E-08	0.	0.	5.34E-07	7.82E-06	0.	7.24E-04	9.90E-02	1.08E-01	3.40E-02	2.42E-01
78	3.00	1.12E-08	0.	0.	3.32E-07	1.49E-05	0.	7.24E-04	1.09E-01	1.14E-01	3.70E-02	2.64E-01
79	2.88	9.24E-09	0.	0.	2.15E-07	8.82E-06	0.	7.27E-04	1.21E-01	1.23E-01	3.99E-02	2.86E-01
80	2.80	8.01E-09	0.	0.	1.02E-07	6.81E-06	0.	7.28E-04	1.35E-01	1.37E-01	3.25E-02	3.16E-01
81	2.78	6.96E-09	0.	0.	4.81E-08	7.92E-06	0.	7.29E-04	1.51E-01	1.49E-01	4.89E-02	3.48E-01
82	2.60	3.25E-09	0.	0.	2.36E-08	6.46E-07	0.	7.29E-04	1.69E-01	1.61E-01	5.06E-02	3.82E-01
83	2.50	2.31E-10	0.	0.	2.36E-09	6.17E-07	0.	7.29E-04	1.91E-01	1.81E-01	5.06E-02	3.82E-01
84	2.40	0.	0.	0.	1.82E-07	0.	0.	7.29E-04	2.16E-01	2.14E-01	3.64E-02	4.70E-01
85	2.30	0.	0.	0.	2.82E-07	0.	0.	7.29E-04	2.46E-01	1.93E-01	4.99E-02	4.87E-01
86	2.20	0.	0.	0.	7.94E-07	0.	0.	7.29E-04	2.82E-01	2.20E-01	3.47E-02	5.46E-01
87	2.10	0.	0.	0.	7.97E-07	0.	0.	7.17E-04	3.25E-01	2.66E-01	6.34E-02	4.55E-01
88	2.00	0.	0.	0.	1.81E-06	0.	0.	6.94E-04	3.77E-01	3.84E-01	7.23E-02	7.54E-01
89	1.90	0.	0.	0.	1.04E-06	0.	0.	6.67E-04	4.42E-01	4.49E-01	8.47E-02	8.76E-01
90	1.80	0.	0.	0.	0.	0.	0.	6.38E-04	5.22E-01	4.19E-01	1.03E-01	1.05E-00
91	1.70	0.	0.	0.	0.	0.	0.	6.01E-04	6.23E-01	5.04E-01	1.24E-01	1.25E-00
92	1.60	0.	0.	0.	0.	0.	0.	5.09E-04	7.52E-01	5.90E-01	1.40E-01	1.49E-00
93	1.50	0.	0.	0.	1.56E-04	0.	0.	2.31E-04	1.04E-01	7.09E-01	1.60E-01	2.07E-00
94	1.40	0.	0.	0.	1.32E-04	0.	0.	0.	1.13E-00	9.49E-01	2.13E-01	2.31E-00
95	1.30	0.	0.	0.	1.17E-04	0.	0.	0.	1.42E-00	1.30E-00	2.83E-01	3.00E-00
96	1.20	0.	0.	0.	1.17E-04	0.	0.	0.	1.81E-00	1.60E-00	2.66E-01	3.56E-00
97	1.10	0.	0.	0.	1.09E-04	0.	0.	0.	2.37E-00	1.80E-00	3.37E-01	4.53E-00
98	1.00	0.	0.	0.	1.00E-04	0.	0.	0.	3.10E-00	2.10E-00	4.00E-01	5.70E-00
99	0.90	0.	0.	0.	0.22E-07	0.	0.	0.	4.91E-00	2.52E-00	4.70E-01	7.41E-00
100	0.80	0.	0.	0.	3.64E-07	0.	0.	0.	6.34E-00	2.90E-00	5.49E-01	9.70E-00
101	0.70	0.	0.	0.	3.84E-06	0.	0.	0.	9.41E-00	3.13E-00	5.49E-01	1.33E-01
102	0.60	0.	0.	0.	2.86E-06	0.	0.	0.	1.35E-01	3.50E-00	6.13E-01	1.90E-01



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) ZR000. DENSITY (GM/CC) 1.2936-05 (15.0E-03 NORMAL)

PHOTON 02 3-R ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2+ 1ST NEG.	M2+ 2ND NEG.	08TA GAMMA	NO VIB-ROT	NO Z	0- FREE-FREE P.E.	N P.E.	Q P.E.	TOTAL AIR	
52	5.60	0.15E-20	0.	0.	8.19E-12	5.26E-11	0.	3.50E-04	2.95E-04	7.94E-04	5.00E-04	1.60E-03
53	5.50	0.	0.	0.	1.02E-11	4.07E-11	0.	3.51E-04	3.15E-04	8.13E-04	5.13E-04	1.64E-03
54	5.40	0.	0.	0.	9.40E-12	4.09E-11	0.	3.52E-04	3.34E-04	8.34E-04	5.19E-04	1.69E-03
55	5.30	0.	0.	0.	9.82E-12	5.05E-11	0.	3.53E-04	3.49E-04	8.60E-04	5.26E-04	1.74E-03
56	5.20	0.	0.	0.	1.05E-11	4.08E-11	0.	3.54E-04	3.70E-04	8.22E-04	5.36E-04	1.73E-03
57	5.10	0.	0.	0.	1.05E-11	5.11E-11	0.	3.61E-04	4.17E-04	8.48E-04	5.40E-04	1.78E-03
58	5.00	1.95E-12	0.	0.	9.40E-12	4.90E-11	0.	3.64E-04	4.17E-04	8.48E-04	5.40E-04	1.78E-03
59	4.90	2.89E-12	0.	0.	1.05E-11	5.14E-11	0.	3.67E-04	4.43E-04	9.07E-04	5.50E-04	1.81E-03
60	4.80	0.44E-12	0.	0.	1.0E-11	5.14E-11	0.	3.78E-04	4.79E-04	9.42E-04	5.70E-04	1.99E-03
61	4.70	7.47E-12	0.	0.	1.0E-11	4.70E-11	0.	3.78E-04	5.23E-04	9.79E-04	5.86E-04	2.07E-03
62	4.60	1.09E-11	0.	0.	1.23E-11	4.24E-11	0.	3.78E-04	5.74E-04	1.02E-03	6.02E-04	2.16E-03
63	4.50	1.11E-11	0.	0.	1.15E-11	3.22E-11	0.	3.79E-04	5.74E-04	1.00E-03	6.18E-04	2.27E-03
64	4.40	1.21E-11	0.	0.	1.16E-11	2.19E-11	0.	3.82E-04	6.19E-04	1.13E-03	6.35E-04	2.39E-03
65	4.30	1.16E-11	0.	0.	1.2E-11	1.49E-11	0.	3.85E-04	6.59E-04	1.20E-03	6.53E-04	2.51E-03
66	4.20	1.09E-11	0.	0.	1.18E-11	9.54E-12	0.	3.86E-04	7.07E-04	1.26E-03	6.71E-04	2.64E-03
67	4.10	1.04E-11	0.	0.	1.17E-11	2.71E-12	0.	3.90E-04	7.60E-04	1.32E-03	6.88E-04	2.79E-03
68	4.00	9.40E-12	0.	0.	1.15E-11	2.02E-12	0.	3.91E-04	8.19E-04	1.39E-03	7.42E-04	2.95E-03
69	3.90	0.35E-12	0.	0.	2.09E-10	3.99E-09	0.	3.90E-04	8.95E-04	1.58E-03	8.33E-04	3.23E-03
70	3.80	0.22E-12	0.	0.	4.60E-10	1.53E-08	0.	3.82E-04	9.58E-04	1.40E-03	8.85E-04	3.73E-03
71	3.70	0.38E-12	0.	0.	4.71E-10	7.50E-09	0.	3.82E-04	1.0E-03	1.20E-03	4.01E-04	2.64E-03
72	3.60	7.83E-12	0.	0.	3.52E-10	3.77E-08	0.	3.85E-04	1.1E-03	1.27E-03	4.36E-04	2.86E-03
73	3.50	7.23E-12	0.	0.	4.95E-10	6.51E-08	0.	3.80E-04	1.26E-03	1.37E-03	4.70E-04	3.09E-03
74	3.40	0.74E-12	0.	0.	3.03E-10	1.14E-08	0.	1.80E-04	1.35E-03	1.52E-03	5.27E-04	3.39E-03
75	3.30	0.46E-12	0.	0.	3.09E-10	4.09E-08	0.	1.89E-04	1.47E-03	1.66E-03	5.79E-04	3.72E-03
76	3.20	4.02E-12	0.	0.	2.80E-10	6.22E-08	0.	1.92E-04	1.62E-03	1.82E-03	6.25E-04	4.06E-03
77	3.10	4.09E-12	0.	0.	1.64E-10	1.81E-08	0.	1.98E-04	1.78E-03	1.97E-03	6.76E-04	4.44E-03
78	3.00	4.20E-12	0.	0.	1.82E-10	3.06E-08	0.	1.90E-04	1.97E-03	2.13E-03	7.26E-04	4.83E-03
79	2.90	3.68E-12	0.	0.	6.47E-11	2.80E-08	0.	1.91E-04	2.19E-03	2.33E-03	7.84E-04	5.24E-03
80	2.80	3.04E-12	0.	0.	3.12E-11	1.49E-08	0.	1.91E-04	2.45E-03	2.50E-03	8.50E-04	5.79E-03
81	2.70	2.59E-12	0.	0.	1.47E-11	1.81E-08	0.	1.91E-04	2.72E-03	2.72E-03	9.21E-04	6.36E-03
82	2.60	1.24E-12	0.	0.	7.84E-12	1.93E-09	0.	1.91E-04	3.05E-03	2.67E-03	9.94E-04	6.92E-03
83	2.50	0.84E-14	0.	0.	7.24E-13	1.96E-09	0.	1.91E-04	3.44E-03	3.27E-03	8.56E-04	7.37E-03
84	2.40	0.	0.	0.	1.41E-09	3.03E-14	0.	1.91E-04	3.90E-03	3.45E-03	7.56E-04	8.47E-03
85	2.30	0.	0.	0.	0.	0.	0.	1.89E-04	4.45E-03	3.45E-03	6.82E-04	8.98E-03
86	2.20	0.	0.	0.	0.	0.	0.	1.89E-04	5.09E-03	4.07E-03	1.07E-03	1.0E-02
87	2.10	0.	0.	0.	0.	0.	0.	1.88E-04	5.86E-03	4.74E-03	1.24E-03	1.18E-02
88	2.00	0.	0.	0.	0.	0.	0.	1.82E-04	6.80E-03	5.48E-03	1.42E-03	1.36E-02
89	1.90	0.	0.	0.	0.	0.	0.	1.79E-04	7.94E-03	6.20E-03	1.66E-03	1.56E-02
90	1.80	0.	0.	0.	0.	0.	0.	1.75E-04	9.41E-03	7.43E-03	2.03E-03	1.89E-02
91	1.70	0.	0.	0.	0.	0.	0.	1.50E-04	1.12E-02	8.93E-03	2.47E-03	2.24E-02
92	1.60	0.	0.	0.	0.	0.	0.	1.35E-04	1.35E-02	1.04E-02	2.91E-03	2.69E-02
93	1.50	0.	0.	0.	0.	0.	0.	6.87E-07	1.58E-02	1.36E-02	3.52E-03	3.36E-02
94	1.40	0.	0.	0.	0.	0.	0.	0.	2.04E-02	1.78E-02	4.22E-03	4.16E-02
95	1.30	0.	0.	0.	0.	0.	0.	0.	2.58E-02	2.29E-02	5.54E-03	5.48E-02
96	1.20	0.	0.	0.	0.	0.	0.	0.	3.25E-02	2.97E-02	7.60E-03	6.39E-02
97	1.10	0.	0.	0.	0.	0.	0.	0.	4.25E-02	3.65E-02	7.88E-03	8.13E-02
98	1.00	0.	0.	0.	0.	0.	0.	0.	5.73E-02	5.04E-02	7.99E-03	1.04E-01
99	0.90	0.	0.	0.	0.	0.	0.	0.	7.94E-02	6.42E-02	9.37E-03	1.33E-01
100	0.80	0.	0.	0.	0.	0.	0.	0.	1.14E-01	8.89E-02	1.07E-02	1.76E-01
101	0.70	0.	0.	0.	0.	0.	0.	0.	1.71E-01	1.29E-01	1.00E-02	2.39E-01
102	0.60	0.	0.	0.	0.	0.	0.	0.	2.88E-01	6.14E-01	1.20E-02	3.53E-01

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 27000. DENSITY (GM/CC) 1.2928-04 (10-06-04 NORMAL)

PHOTON ENERGY E.V.	O <sub>2</sub> S-R COMP.	O <sub>2</sub> S-R COMP.	NO BETA	NO GAMMA	NO 2	0- FREE-FREE P.E.	0 PHOTO-DET (100G)	0 P.E.	0 TOTAL AID	
1 10.70 P.	0.	1.06E-13	0.	0.	0.	2.90E-09	4.32E-07	7.76E-05	0.15E-06	3.42E-05
2 10.40 P.	0.	9.77E-14	0.	0.	0.	4.08E-09	5.07E-07	7.92E-05	0.09E-06	3.49E-05
3 10.50 P.	0.	9.04E-14	0.	0.	0.	4.08E-09	5.22E-07	8.25E-05	0.04E-06	3.47E-05
4 10.40 P.	0.	9.90E-14	0.	0.	0.	4.01E-09	5.37E-07	8.56E-05	0.03E-06	3.56E-05
5 10.30 P.	0.	8.08E-14	0.	0.	0.	4.02E-09	5.52E-07	8.87E-05	0.01E-06	3.52E-05
6 10.20 P.	0.	8.09E-14	0.	0.	0.	4.02E-09	5.67E-07	9.18E-05	0.00E-06	3.57E-05
7 10.10 P.	0.	6.41E-14	0.	0.	0.	4.02E-09	5.82E-07	9.49E-05	0.00E-06	3.57E-05
8 10.00 P.	0.	7.53E-14	0.	0.	0.	4.04E-09	6.24E-07	1.05E-04	0.01E-06	2.51E-05
9 9.90 P.	0.	7.74E-14	0.	0.	0.	4.04E-09	6.43E-07	1.08E-04	0.00E-06	2.52E-05
10 9.80 P.	0.	7.40E-14	0.	0.	0.	4.05E-09	6.62E-07	1.11E-04	0.00E-06	2.53E-05
11 9.70 P.	0.	6.91E-14	0.	0.	0.	4.04E-09	6.81E-07	1.14E-04	0.00E-06	2.54E-05
12 9.60 P.	0.	7.05E-14	0.	0.	0.	4.07E-09	7.07E-07	1.19E-04	0.00E-06	2.59E-05
13 9.50 P.	0.	6.15E-14	0.	0.	0.	4.06E-09	7.30E-07	1.21E-04	0.00E-06	2.56E-05
14 9.40 P.	0.	5.91E-14	0.	0.	0.	4.10E-09	7.54E-07	1.22E-04	0.00E-06	2.57E-05
15 9.30 P.	0.	6.08E-14	0.	0.	0.	4.11E-09	7.79E-07	1.23E-04	0.00E-06	2.59E-05
16 9.20 P.	0.	5.17E-14	0.	0.	0.	4.12E-09	8.05E-07	1.23E-04	0.00E-06	1.73E-05
17 9.10 P.	0.	5.33E-14	0.	0.	0.	4.14E-09	8.32E-07	1.23E-04	0.00E-06	1.73E-05
18 9.00 P.	0.	4.92E-14	0.	0.	0.	4.14E-09	8.59E-07	1.23E-04	0.00E-06	1.73E-05
19 8.90 P.	0.	4.63E-14	0.	0.	0.	4.15E-09	8.87E-07	1.23E-04	0.00E-06	1.74E-05
20 8.80 P.	0.	4.50E-14	0.	0.	0.	4.17E-09	9.15E-07	1.23E-04	0.00E-06	1.75E-05
21 8.70 P.	0.	6.06E-14	0.	0.	0.	4.16E-09	9.43E-07	1.23E-04	0.00E-06	1.76E-05
22 8.60 P.	0.	4.21E-14	0.	0.	0.	4.20E-09	9.72E-07	1.23E-04	0.00E-06	1.77E-05
23 8.50 P.	0.	3.74E-14	0.	0.	0.	4.21E-09	9.99E-07	1.23E-04	0.00E-06	1.78E-05
24 8.40 P.	0.	3.77E-14	0.	0.	0.	4.24E-09	1.026E-06	1.23E-04	0.00E-06	1.79E-05
25 8.30 P.	0.	3.27E-14	0.	0.	0.	4.24E-09	1.053E-06	1.23E-04	0.00E-06	1.81E-05
26 8.20 P.	0.	3.03E-14	0.	0.	0.	4.26E-09	1.080E-06	1.23E-04	0.00E-06	1.83E-05
27 8.10 P.	0.	2.93E-14	0.	0.	0.	4.30E-09	1.107E-06	1.23E-04	0.00E-06	1.84E-05
28 8.00 P.	0.	2.90E-14	0.	0.	0.	4.32E-09	1.134E-06	1.23E-04	0.00E-06	1.87E-05
29 7.90 P.	0.	2.41E-14	0.	0.	0.	4.35E-09	1.24E-06	1.21E-04	0.00E-06	1.89E-05
30 7.80 P.	0.	2.73E-14	0.	0.	0.	4.37E-09	1.268E-06	1.23E-04	0.00E-06	1.91E-05
31 7.70 P.	0.	2.44E-14	0.	0.	0.	4.39E-09	1.296E-06	1.25E-04	0.00E-06	1.94E-05
32 7.60 P.	0.	2.35E-14	0.	0.	0.	4.41E-09	1.324E-06	1.25E-04	0.00E-06	1.94E-05
33 7.50 P.	0.	2.21E-14	0.	0.	0.	4.44E-09	1.45E-06	1.07E-04	0.00E-06	1.73E-05
34 7.40 P.	0.	2.01E-14	0.	0.	0.	4.46E-09	1.51E-06	1.09E-04	0.00E-06	1.73E-05
35 7.30 P.	0.	1.93E-14	0.	0.	0.	4.48E-09	1.57E-06	1.11E-04	0.00E-06	1.83E-05
36 7.20 P.	0.	1.77E-14	0.	0.	0.	4.51E-09	1.64E-06	1.14E-04	0.00E-06	1.86E-05
37 7.10 P.	0.	1.72E-14	0.	0.	0.	4.53E-09	1.71E-06	1.17E-04	0.00E-06	1.92E-05
38 7.00 P.	0.	1.61E-14	0.	0.	0.	4.56E-09	1.78E-06	1.20E-04	0.00E-06	1.94E-05
39 6.90 P.	0.	1.50E-14	0.	0.	0.	4.62E-09	1.86E-06	1.23E-04	0.00E-06	1.94E-05
40 6.80 P.	0.	1.46E-14	0.	0.	0.	4.66E-09	1.95E-06	1.26E-04	0.00E-06	2.02E-05
41 6.70 P.	0.	1.30E-14	0.	0.	0.	4.69E-09	2.13E-06	1.29E-04	0.00E-06	2.03E-05
42 6.60 P.	0.	1.19E-14	0.	0.	0.	4.74E-09	2.31E-06	1.24E-04	0.00E-06	2.03E-05
43 6.50 P.	0.	9.65E-15	0.	0.	0.	4.77E-09	2.49E-06	1.27E-04	0.00E-06	2.03E-05
44 6.40 P.	0.	6.05E-15	0.	0.	0.	4.81E-09	2.67E-06	1.30E-04	0.00E-06	2.11E-05
45 6.30 P.	0.	4.60E-15	0.	0.	0.	4.84E-09	2.85E-06	1.33E-04	0.00E-06	2.16E-05
46 6.20 P.	0.	2.50E-15	0.	0.	0.	4.89E-09	3.03E-06	1.37E-04	0.00E-06	2.21E-05
47 6.10 P.	0.	2.36E-15	0.	0.	0.	4.92E-09	3.21E-06	1.41E-04	0.00E-06	2.26E-05
48 6.00 P.	0.	3.11E-16	0.	0.	0.	4.95E-09	3.39E-06	1.44E-04	0.00E-06	2.31E-05
49 5.90 P.	0.	2.23E-17	0.	0.	0.	4.98E-09	3.57E-06	1.47E-04	0.00E-06	2.37E-05
50 5.80 P.	0.	3.16E-21	0.	0.	0.	4.08E-09	3.15E-06	1.51E-04	0.00E-06	2.43E-05
51 5.70 P.	0.	2.33E-22	0.	0.	0.	4.59E-09	3.37E-06	1.55E-04	0.00E-06	2.49E-05

ABSORPTION COEFFICIENTS OF HEATED AIR ((INVERSE CM.))  
 TEMPERATURE (DEGREES K) 2200. DENSITY (GM/CC) 1.293E-06 ((18.0E-04 NORMAL))

PHOTON ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST MED.	BETA	NO GAMMA	NO VIB-ROT	NO 2	0- PHOTO-DET (IONS)	M FREE-FREE	M P.E.	0 P.E.	TOTAL AIR	
52	5.00	1.80E-23	0.	0.	1.02E-15	6.54E-15	0.	0.	4.26E-09	3.70E-08	1.50E-95	6.12E-06	2.50E-05
53	5.50	0.	0.	0.	1.25E-15	4.05E-15	0.	0.	4.26E-09	3.70E-08	1.50E-95	6.12E-06	2.50E-05
54	5.80	0.	0.	0.	1.17E-15	5.00E-15	0.	0.	4.31E-09	3.92E-08	1.70E-05	6.27E-06	2.72E-05
55	5.30	0.	0.	0.	1.30E-15	6.22E-15	0.	0.	4.33E-09	4.14E-08	1.13E-05	6.36E-06	2.19E-05
56	5.20	0.	0.	0.	1.30E-15	5.00E-15	0.	0.	4.36E-09	4.14E-08	1.17E-05	6.40E-06	2.23E-05
57	5.30	0.	0.	0.	1.33E-15	6.35E-15	0.	0.	4.40E-09	4.66E-08	1.22E-05	6.29E-06	2.31E-05
58	5.30	1.40E-16	0.	0.	1.25E-15	4.80E-15	0.	0.	4.45E-09	4.05E-08	1.24E-05	6.50E-06	2.35E-05
59	4.80	1.60E-16	0.	0.	1.35E-15	6.75E-15	0.	0.	4.47E-09	5.26E-08	1.31E-05	6.59E-06	2.41E-05
60	4.80	7.80E-16	0.	0.	1.40E-15	6.30E-15	0.	0.	4.51E-09	5.60E-08	1.36E-05	6.65E-06	2.50E-05
61	4.70	9.60E-16	0.	0.	1.40E-15	5.04E-15	0.	0.	4.55E-09	4.37E-08	1.42E-05	6.63E-06	2.70E-05
62	4.60	1.34E-15	0.	0.	1.53E-15	9.20E-15	0.	0.	4.59E-09	4.37E-08	1.56E-05	7.02E-06	2.84E-05
63	4.50	1.44E-15	0.	0.	1.42E-15	4.00E-15	0.	0.	4.62E-09	4.81E-08	1.50E-05	7.32E-06	2.90E-05
64	4.40	1.57E-15	0.	0.	1.44E-15	2.72E-15	0.	0.	4.66E-09	7.29E-08	1.67E-05	7.37E-06	3.10E-05
65	4.30	1.90E-15	0.	0.	1.39E-15	1.73E-15	0.	0.	4.69E-09	7.81E-08	1.77E-05	7.59E-06	3.31E-05
66	4.20	1.42E-15	0.	0.	1.47E-15	1.19E-15	0.	0.	4.73E-09	8.39E-08	1.87E-05	7.81E-06	3.49E-05
67	4.10	1.34E-15	0.	0.	1.44E-15	3.34E-16	0.	0.	4.79E-09	9.82E-08	1.97E-05	7.79E-06	3.65E-05
68	4.00	1.29E-15	0.	0.	1.49E-15	2.51E-16	0.	0.	4.77E-09	9.72E-08	2.00E-05	8.00E-06	3.46E-05
69	3.90	1.00E-15	0.	0.	1.45E-15	9.28E-17	0.	0.	4.78E-09	1.65E-05	2.09E-05	8.23E-06	3.58E-05
70	3.80	1.10E-15	0.	0.	1.50E-15	1.43E-15	0.	0.	4.73E-09	1.14E-05	1.87E-05	8.22E-06	3.45E-05
71	3.70	1.00E-15	0.	0.	1.42E-15	1.27E-15	0.	0.	4.66E-09	1.23E-05	1.97E-05	8.01E-06	3.68E-05
72	3.60	9.80E-16	0.	0.	1.30E-15	1.11E-15	0.	0.	4.30E-09	1.34E-05	2.10E-05	5.23E-06	3.97E-05
73	3.50	9.37E-16	0.	0.	1.43E-15	7.26E-16	0.	0.	3.99E-09	1.44E-05	2.23E-05	5.23E-06	4.29E-05
74	3.40	8.74E-16	0.	0.	1.41E-15	1.25E-15	0.	0.	3.30E-09	1.60E-05	2.43E-05	6.27E-06	4.65E-05
75	3.30	7.06E-16	0.	0.	1.09E-15	1.02E-15	0.	0.	2.31E-09	1.92E-05	2.85E-05	6.83E-06	5.68E-05
76	3.20	6.25E-16	0.	0.	2.08E-14	6.83E-11	0.00E-15	0.	2.31E-09	1.92E-05	2.85E-05	7.43E-06	5.52E-05
77	3.10	5.00E-16	0.	0.	1.95E-14	2.82E-11	0.04E-15	0.	2.32E-09	2.12E-05	3.00E-05	8.03E-06	6.00E-05
78	3.00	5.54E-16	0.	0.	1.91E-14	4.30E-11	9.94E-16	0.	2.32E-09	2.14E-05	3.12E-05	8.32E-06	6.52E-05
79	2.90	4.74E-16	0.	0.	1.91E-15	2.31E-11	7.88E-16	0.	2.32E-09	2.58E-05	3.57E-05	9.52E-06	7.08E-05
80	2.80	3.90E-16	0.	0.	3.72E-15	1.60E-11	5.60E-16	0.	2.33E-09	3.23E-05	3.90E-05	1.01E-05	7.70E-05
81	2.70	3.31E-16	0.	0.	1.70E-15	2.92E-11	3.16E-16	0.	2.33E-09	3.62E-05	3.33E-05	1.17E-05	8.43E-05
82	2.60	1.61E-16	0.	0.	0.39E-16	2.16E-12	1.43E-16	0.	2.33E-09	3.62E-05	3.33E-05	1.17E-05	8.43E-05
83	2.50	1.15E-17	0.	0.	0.64E-17	2.12E-12	3.40E-17	0.	2.33E-09	4.08E-05	4.09E-05	1.57E-06	8.91E-05
84	2.40	0.	0.	0.	1.59E-12	3.77E-18	0.	0.	2.33E-09	4.63E-05	3.74E-05	9.82E-06	9.27E-05
85	2.30	0.	0.	0.	1.87E-14	0.	0.	0.	2.31E-09	5.27E-05	4.47E-05	1.00E-05	1.00E-04
86	2.20	0.	0.	0.	2.91E-14	0.	0.	0.	2.30E-09	6.33E-05	5.23E-05	1.26E-05	1.25E-04
87	2.10	0.	0.	0.	2.91E-14	0.	0.	0.	2.29E-09	4.95E-05	6.82E-05	1.46E-05	1.44E-04
88	2.00	0.	0.	0.	5.60E-14	0.	0.	0.	2.29E-09	8.66E-05	6.83E-05	1.94E-05	1.65E-04
89	1.90	0.	0.	0.	6.81E-14	0.	0.	0.	2.18E-09	9.44E-05	7.70E-05	1.94E-05	1.92E-04
90	1.80	0.	0.	0.	5.89E-14	0.	0.	0.	2.04E-09	1.12E-04	9.20E-05	2.36E-05	2.27E-04
91	1.70	0.	0.	0.	6.62E-14	0.	0.	0.	1.92E-09	1.33E-04	1.09E-04	2.66E-05	2.71E-04
92	1.60	0.	0.	0.	5.83E-14	0.	0.	0.	1.63E-09	1.60E-04	1.26E-04	3.37E-05	3.21E-04
93	1.50	0.	0.	0.	5.69E-14	0.	0.	0.	7.39E-10	1.60E-04	1.26E-04	4.07E-05	3.90E-04
94	1.40	0.	0.	0.	5.59E-14	0.	0.	0.	0.	2.41E-04	1.92E-04	4.97E-05	4.82E-04
95	1.30	0.	0.	0.	4.20E-14	0.	0.	0.	0.	3.83E-04	2.65E-04	5.94E-05	6.27E-04
96	1.20	0.	0.	0.	4.60E-14	0.	0.	0.	0.	3.86E-04	2.87E-04	6.40E-05	7.36E-04
97	1.10	0.	0.	0.	3.99E-14	0.	0.	0.	0.	5.06E-04	3.53E-04	8.00E-05	9.39E-04
98	1.00	0.	0.	0.	3.67E-14	0.	0.	0.	0.	6.79E-04	4.27E-04	9.14E-05	1.20E-03
99	0.90	0.	0.	0.	3.01E-14	0.	0.	0.	0.	9.40E-04	4.92E-04	1.17E-04	1.54E-03
100	0.80	0.	0.	0.	1.41E-14	0.	0.	0.	0.	1.35E-03	5.65E-04	1.23E-04	2.04E-03
101	0.70	0.	0.	0.	3.24E-15	0.	0.	0.	0.	2.60E-03	6.09E-04	1.23E-04	2.70E-03
102	0.60	0.	0.	0.	7.59E-16	0.	0.	0.	0.	3.31E-03	6.21E-04	1.30E-04	4.07E-03



TEMPERATURE (DEGREES F) 22000. DENSITY (GM/CC) 1.275E-07 (10-DE-05 NORMAL)  
 ABSORPTION COEFFICIENTS OF HEATED AIR (INCREASE CM.)

POSITION OF S-M ENERGY BANDS E.V.	DZ S-R CONT.	T2 S-H NO. 1	NO DELTA	NO GAMMA	NO 2	0- PHOTO-DET (IONS)	FREE-FREE		TOTAL AIR	
							P.E.	P.E.	0	P.E.
1 18.78 8.	0.	9.63E-10	0.	0.	0.	3.04E-12	7.74E-09	1.27E-06	0.16E-08	1.34E-06
2 19.60 8.	0.	8.09E-10	0.	0.	0.	5.07E-12	7.99E-09	1.29E-06	0.7E-08	1.30E-06
3 19.50 8.	0.	9.04E-10	0.	0.	0.	5.07E-12	8.27E-09	1.29E-06	0.85E-08	1.30E-06
4 18.48 8.	0.	6.71E-10	0.	0.	0.	5.04E-12	8.44E-09	1.29E-06	0.82E-09	1.30E-06
5 18.24 8.	0.	7.71E-10	0.	0.	0.	5.09E-12	8.71E-09	1.29E-06	7.99E-09	1.30E-06
6 18.20 8.	0.	8.09E-10	0.	0.	0.	5.09E-12	8.79E-09	1.29E-06	7.99E-08	1.30E-06
7 18.18 8.	0.	7.69E-10	0.	0.	0.	5.18E-12	9.24E-09	1.29E-06	7.7E-08	1.30E-06
8 18.08 8.	0.	6.04E-10	0.	0.	0.	5.11E-12	9.57E-09	1.29E-06	7.96E-08	1.30E-06
9 18.07 8.	0.	7.05E-10	0.	0.	0.	5.12E-12	9.87E-09	1.29E-06	7.97E-08	1.30E-06
10 18.07 8.	0.	6.72E-10	0.	0.	0.	5.12E-12	1.01E-08	1.29E-06	7.94E-08	1.30E-06
11 18.07 8.	0.	5.92E-10	0.	0.	0.	5.14E-12	1.04E-08	1.29E-06	7.91E-08	1.30E-06
12 18.07 8.	0.	6.91E-10	0.	0.	0.	5.14E-12	1.04E-08	1.29E-06	7.91E-08	1.30E-06
13 18.07 8.	0.	5.59E-10	0.	0.	0.	5.14E-12	1.11E-08	1.29E-06	7.91E-08	1.30E-06
14 18.07 8.	0.	5.37E-10	0.	0.	0.	5.17E-12	1.19E-08	1.29E-06	7.91E-08	1.30E-06
15 18.07 8.	0.	5.53E-10	0.	0.	0.	5.17E-12	1.19E-08	1.29E-06	7.90E-08	1.30E-06
16 18.07 8.	0.	4.70E-10	0.	0.	0.	5.21E-12	1.27E-08	1.29E-06	7.90E-08	1.30E-06
17 18.07 8.	0.	4.04E-10	0.	0.	0.	5.23E-12	1.31E-08	1.29E-06	7.89E-08	1.30E-06
18 18.07 8.	0.	4.47E-10	0.	0.	0.	5.23E-12	1.31E-08	1.29E-06	7.89E-08	1.30E-06
19 18.07 8.	0.	4.21E-10	0.	0.	0.	5.23E-12	1.35E-08	1.29E-06	7.89E-08	1.30E-06
20 18.07 8.	0.	4.16E-10	0.	0.	0.	5.26E-12	1.40E-08	1.29E-06	7.88E-08	1.30E-06
21 18.07 8.	0.	3.69E-10	0.	0.	0.	5.30E-12	1.49E-08	1.29E-06	7.88E-08	1.30E-06
22 18.07 8.	0.	3.83E-10	0.	0.	0.	5.32E-12	1.49E-08	1.29E-06	7.88E-08	1.30E-06
23 18.07 8.	0.	3.42E-10	0.	0.	0.	5.34E-12	1.56E-08	1.29E-06	7.15E-08	1.30E-06
24 18.07 8.	0.	3.03E-10	0.	0.	0.	5.37E-12	1.61E-08	1.29E-06	7.15E-08	1.30E-06
25 18.07 8.	0.	2.97E-10	0.	0.	0.	5.39E-12	1.71E-08	1.29E-06	7.15E-08	1.30E-06
26 18.07 8.	0.	3.03E-10	0.	0.	0.	5.42E-12	1.75E-08	1.29E-06	7.23E-08	1.30E-06
27 18.07 8.	0.	2.66E-10	0.	0.	0.	5.45E-12	1.80E-08	1.29E-06	7.23E-08	1.30E-06
28 18.07 8.	0.	2.71E-10	0.	0.	0.	5.48E-12	1.87E-08	1.29E-06	7.35E-08	1.30E-06
29 18.07 8.	0.	2.37E-10	0.	0.	0.	5.51E-12	1.94E-08	1.29E-06	7.48E-08	1.30E-06
30 18.07 8.	0.	2.60E-10	0.	0.	0.	5.54E-12	2.02E-08	1.29E-06	7.48E-08	1.30E-06
31 18.07 8.	0.	2.22E-10	0.	0.	0.	5.56E-12	2.10E-08	1.29E-06	7.52E-08	1.30E-06
32 18.07 8.	0.	2.13E-10	0.	0.	0.	5.59E-12	2.18E-08	1.29E-06	7.57E-08	1.30E-06
33 18.07 8.	0.	2.01E-10	0.	0.	0.	5.62E-12	2.27E-08	1.29E-06	7.63E-08	1.30E-06
34 18.07 8.	0.	1.83E-10	0.	0.	0.	5.65E-12	2.37E-08	1.29E-06	7.70E-08	1.30E-06
35 18.07 8.	0.	1.74E-10	0.	0.	0.	5.68E-12	2.46E-08	1.29E-06	7.77E-08	1.30E-06
36 18.07 8.	0.	1.61E-10	0.	0.	0.	5.71E-12	2.57E-08	1.29E-06	7.86E-08	1.30E-06
37 18.07 8.	0.	1.57E-10	0.	0.	0.	5.74E-12	2.68E-08	1.29E-06	7.96E-08	1.30E-06
38 18.07 8.	0.	1.46E-10	0.	0.	0.	5.77E-12	2.80E-08	1.29E-06	8.07E-08	1.30E-06
39 18.07 8.	0.	1.36E-10	0.	0.	0.	5.80E-12	2.92E-08	1.29E-06	8.19E-08	1.30E-06
40 18.07 8.	0.	1.33E-10	0.	0.	0.	5.84E-12	3.05E-08	1.29E-06	8.30E-08	1.30E-06
41 18.07 8.	0.	1.18E-10	0.	0.	0.	5.87E-12	3.19E-08	1.29E-06	8.41E-08	1.30E-06
42 18.07 8.	0.	1.00E-10	0.	0.	0.	5.90E-12	3.34E-08	1.29E-06	8.51E-08	1.30E-06
43 18.07 8.	0.	8.77E-10	0.	0.	0.	6.04E-12	3.59E-08	1.29E-06	8.64E-08	1.30E-06
44 18.07 8.	0.	6.23E-10	0.	0.	0.	6.09E-12	3.85E-08	1.29E-06	8.78E-08	1.30E-06
45 18.07 8.	0.	4.60E-10	0.	0.	0.	6.14E-12	4.12E-08	1.29E-06	8.93E-08	1.30E-06
46 18.07 8.	0.	2.20E-10	0.	0.	0.	6.19E-12	4.40E-08	1.29E-06	9.08E-08	1.30E-06
47 18.07 8.	0.	6.10 2.91E-23	0.	0.	0.	6.24E-12	4.69E-08	1.29E-06	9.22E-08	1.30E-06
48 18.07 8.	0.	2.03E-20	0.	0.	0.	6.29E-12	5.00E-08	1.29E-06	9.36E-08	1.30E-06
49 18.07 8.	0.	2.03E-21	0.	0.	0.	6.34E-12	5.33E-08	1.29E-06	9.51E-08	1.30E-06
50 18.07 8.	0.	3.90E-25	0.	0.	0.	6.39E-12	5.67E-08	1.29E-06	9.66E-08	1.30E-06
51 18.07 8.	0.	5.78 2.07E-26	0.	0.	0.	6.44E-12	6.02E-08	1.29E-06	9.81E-08	1.30E-06
51 5.78 2.07E-26	0.	5.15E-23	0.	0.	0.	6.49E-12	6.38E-08	1.29E-06	9.96E-08	1.30E-06
		1.23E-19	5.48E-19							
		1.30E-21	7.95E-19							
		1.20E-20	5.80E-19							
		1.75E-20	7.72E-19							
		4.98E-20	4.75E-19							
		4.92E-20	4.75E-19							
		7.10E-20	4.57E-19							
		1.03E-19	4.07E-19							
		1.23E-19	5.48E-19							



ABSORPTION COEFFICIENT OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E.V.	Q2 3-4 COAT.	TEMPERATURE (DEGREES C) 22000.	NO META	NO GAMMA	DENSITY (MG/CC) 1.293E-00 ( 1.0E-05 NORMAL)		FREE-FREE P.E.		TOTAL AIR P.E.	
					NO 2	NO 1	PHOTO-DET (MG/SS)	P.E.	0	P.E.
1 10.70 0.	0.	3.40E-22	0.	0.	0.	7.22E-15	1.04E-10	1.55E-00	1.91E-09	1.76E-00
2 18.48 0.	0.	3.21E-22	0.	0.	0.	7.90E-15	1.09E-10	1.54E-00	1.91E-09	1.77E-00
3 18.58 0.	0.	3.27E-22	0.	0.	0.	7.94E-15	1.07E-10	1.57E-00	1.91E-09	1.78E-00
4 18.44 0.	0.	3.15E-22	0.	0.	0.	7.95E-15	2.01E-10	1.59E-00	1.91E-09	1.80E-00
5 18.30 0.	0.	2.79E-22	0.	0.	0.	7.56E-15	2.07E-10	1.60E-00	1.91E-09	1.81E-00
6 18.20 0.	0.	2.91E-22	0.	0.	0.	7.37E-15	2.13E-10	1.63E-00	1.92E-09	1.84E-00
7 18.14 0.	0.	2.76E-22	0.	0.	0.	7.30E-15	2.19E-10	1.65E-00	1.93E-09	1.87E-00
8 18.00 0.	0.	2.47E-22	0.	0.	0.	7.19E-15	2.24E-10	1.68E-00	1.95E-09	1.90E-00
9 9.90 0.	0.	2.59E-22	0.	0.	0.	7.11E-15	2.33E-10	1.70E-00	1.94E-09	1.92E-00
10 9.60 0.	0.	2.43E-22	0.	0.	0.	7.22E-15	2.40E-10	1.73E-00	1.97E-09	1.95E-00
11 9.74 0.	0.	2.14E-22	0.	0.	0.	7.42E-15	2.49E-10	1.76E-00	2.00E-09	2.01E-00
12 9.60 0.	0.	2.32E-22	0.	0.	0.	7.64E-15	2.54E-10	1.81E-00	2.01E-09	2.03E-00
13 9.52 0.	0.	2.02E-22	0.	0.	0.	7.89E-15	2.72E-10	1.83E-00	2.03E-09	2.06E-00
14 9.49 0.	0.	1.94E-22	0.	0.	0.	7.92E-15	2.81E-10	1.81E-00	2.05E-09	2.04E-00
15 9.38 0.	0.	2.08E-22	0.	0.	0.	7.94E-15	2.90E-10	1.84E-00	2.06E-09	2.07E-00
16 9.29 0.	0.	1.70E-22	0.	0.	0.	7.37E-15	3.09E-10	1.86E-00	2.07E-09	2.10E-00
17 9.16 0.	0.	1.79E-22	0.	5.	5.	7.60E-15	3.10E-10	1.89E-00	2.09E-09	2.13E-00
18 9.08 0.	0.	1.62E-22	0.	5.	5.	7.60E-15	3.10E-10	1.89E-00	2.09E-09	2.13E-00
19 8.96 0.	0.	1.52E-22	0.	0.	0.	7.62E-15	3.21E-10	1.91E-00	2.11E-09	2.16E-00
20 8.87 0.	0.	1.50E-22	0.	0.	0.	7.65E-15	3.27E-10	1.94E-00	2.12E-09	2.15E-00
21 8.70 0.	0.	1.33E-22	0.	0.	0.	7.88E-15	3.44E-10	1.97E-00	2.15E-09	2.17E-00
22 8.69 0.	0.	1.30E-22	0.	0.	0.	7.71E-15	3.44E-10	1.99E-00	2.17E-09	2.18E-00
23 8.50 0.	0.	1.24E-22	0.	0.	0.	7.73E-15	3.47E-10	2.02E-00	2.19E-09	2.21E-00
24 8.48 0.	0.	1.24E-22	0.	0.	0.	7.77E-15	3.52E-10	2.05E-00	2.21E-09	2.25E-00
25 8.38 0.	0.	1.07E-22	0.	0.	0.	7.91E-15	3.60E-10	2.08E-00	2.23E-09	2.28E-00
26 8.20 0.	0.	1.09E-22	0.	0.	0.	7.95E-15	4.11E-10	2.20E-00	2.42E-09	2.47E-00
27 8.18 0.	0.	5.62E-23	0.	0.	0.	7.90E-15	4.20E-10	2.33E-00	2.72E-09	3.04E-00
28 8.08 0.	0.	9.77E-23	0.	0.	0.	7.90E-15	4.33E-10	2.40E-00	3.01E-09	3.48E-00
29 7.90 0.	0.	0.54E-23	0.	0.	0.	8.02E-15	4.40E-10	2.48E-00	3.16E-09	3.65E-00
30 7.89 0.	0.	0.94E-23	0.	0.	0.	8.02E-15	4.40E-10	2.48E-00	3.16E-09	3.65E-00
31 7.70 0.	0.	8.01E-23	0.	0.	0.	8.06E-15	4.72E-10	2.53E-00	3.40E-09	3.97E-00
32 7.60 0.	0.	7.70E-23	0.	0.	0.	8.10E-15	5.17E-10	2.59E-00	3.74E-09	4.31E-00
33 7.50 0.	0.	7.25E-23	0.	3.23E-20	3.23E-20	8.14E-15	5.30E-10	2.65E-00	3.92E-09	4.51E-00
34 7.40 0.	0.	6.68E-23	0.	3.01E-20	3.01E-20	8.18E-15	5.40E-10	2.72E-00	4.04E-09	4.68E-00
35 7.30 0.	0.	6.35E-23	0.	1.17E-24	1.17E-24	8.25E-15	5.83E-10	2.81E-00	4.35E-09	5.01E-00
36 7.20 0.	0.	5.82E-23	0.	3.14E-24	3.14E-24	8.37E-15	6.04E-10	2.91E-00	4.61E-09	5.31E-00
37 7.10 0.	0.	5.66E-23	0.	9.90E-24	9.90E-24	8.49E-15	6.44E-10	3.02E-00	4.92E-09	5.62E-00
38 7.00 0.	0.	5.85E-23	0.	1.80E-23	1.80E-23	8.61E-15	6.87E-10	3.16E-00	5.28E-09	5.98E-00
39 6.90 2.03E-25	0.	5.85E-23	0.	4.60E-23	4.60E-23	8.80E-15	7.22E-10	3.31E-00	5.68E-09	6.38E-00
40 6.80 2.04E-25	0.	4.80E-23	0.	4.80E-23	4.80E-23	8.95E-15	7.60E-10	3.48E-00	6.12E-09	6.82E-00
41 6.70 1.31E-25	0.	4.70E-23	0.	4.91E-23	4.91E-23	9.11E-15	8.01E-10	3.66E-00	6.60E-09	7.30E-00
42 6.60 0.83E-26	0.	3.90E-23	0.	3.67E-23	3.67E-23	9.28E-15	8.45E-10	3.85E-00	7.12E-09	7.82E-00
43 6.50 4.69E-26	0.	3.17E-23	0.	5.40E-23	5.40E-23	9.46E-15	8.92E-10	4.05E-00	7.68E-09	8.38E-00
44 6.40 2.72E-26	0.	2.29E-23	0.	1.65E-23	1.65E-23	9.65E-15	9.42E-10	4.26E-00	8.28E-09	8.98E-00
45 6.30 1.68E-26	0.	1.65E-23	0.	7.80E-23	7.80E-23	9.85E-15	9.97E-10	4.48E-00	8.92E-09	9.62E-00
46 6.20 7.32E-27	0.	8.22E-24	0.	1.13E-24	1.13E-24	1.00E-15	1.05E-10	4.72E-00	9.60E-09	1.03E-00
47 6.10 3.41E-27	0.	3.96E-24	0.	6.01E-23	6.01E-23	1.02E-15	1.10E-10	4.97E-00	1.03E-09	1.07E-00
48 6.00 1.44E-27	0.	1.02E-24	0.	3.21E-24	3.21E-24	1.04E-15	1.15E-10	5.23E-00	1.07E-09	1.11E-00
49 5.90 4.50E-28	0.	7.33E-24	0.	4.75E-24	4.75E-24	1.06E-15	1.20E-10	5.50E-00	1.11E-09	1.14E-00
50 5.80 4.50E-28	0.	1.04E-24	0.	6.71E-24	6.71E-24	1.08E-15	1.25E-10	5.78E-00	1.15E-09	1.18E-00
51 5.70 3.57E-28	0.	0.	0.	8.01E-24	8.01E-24	1.10E-15	1.30E-10	6.06E-00	1.19E-09	1.22E-00

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 2900, DENSITY (GM/CC) 1.03E-08 ( 1.0E-03 NORMAL)

PHOTON 02 5-8 ENERGY SAVERS	M2 1ST POS.	M2 2ND POS.	M2A 1ST HEB.	M2 2ND HEB.	NO ETA	NO GAMMA	NO VIB-ROT	NO ROT	0- PHOTO-DET (10NS)	FREE-FREE P.E.	N P.E.	0 TOTAL AIR P.E.	
52	5.60	1.82E-31	0.	0.	7.02E-24	4.51E-23	0.	0.	7.02E-15	1.35E-09	9.64E-09	1.59E-09	1.25E-08
53	5.50	0.	0.	0.	6.50E-24	4.15E-23	0.	0.	7.00E-15	1.35E-09	1.07E-08	1.63E-09	1.32E-08
54	5.40	0.	0.	0.	6.00E-24	3.80E-23	0.	0.	7.00E-15	1.35E-09	1.00E-08	1.69E-09	1.47E-08
55	5.30	0.	0.	0.	5.50E-24	3.45E-23	0.	0.	7.00E-15	1.35E-09	1.00E-08	1.76E-09	1.62E-08
56	5.20	0.	0.	0.	5.00E-24	3.10E-23	0.	0.	6.98E-15	1.35E-09	1.00E-08	1.83E-09	1.77E-08
57	5.10	0.	0.	0.	4.50E-24	2.75E-23	0.	0.	6.96E-15	1.35E-09	1.00E-08	1.90E-09	1.92E-08
58	5.00	0.	0.	0.	4.00E-24	2.40E-23	0.	0.	6.94E-15	1.35E-09	1.00E-08	1.97E-09	2.07E-08
59	4.90	0.	0.	0.	3.50E-24	2.05E-23	0.	0.	6.92E-15	1.35E-09	1.00E-08	2.04E-09	2.22E-08
60	4.80	0.	0.	0.	3.00E-24	1.70E-23	0.	0.	6.90E-15	1.35E-09	1.00E-08	2.11E-09	2.37E-08
61	4.70	0.	0.	0.	2.50E-24	1.35E-23	0.	0.	6.88E-15	1.35E-09	1.00E-08	2.18E-09	2.52E-08
62	4.60	0.	0.	0.	2.00E-24	1.00E-23	0.	0.	6.86E-15	1.35E-09	1.00E-08	2.25E-09	2.67E-08
63	4.50	0.	0.	0.	1.50E-24	6.5E-24	0.	0.	6.84E-15	1.35E-09	1.00E-08	2.32E-09	2.82E-08
64	4.40	0.	0.	0.	1.00E-24	3.0E-24	0.	0.	6.82E-15	1.35E-09	1.00E-08	2.39E-09	2.97E-08
65	4.30	0.	0.	0.	5.0E-25	0.0E-24	0.	0.	6.80E-15	1.35E-09	1.00E-08	2.46E-09	3.12E-08
66	4.20	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.78E-15	1.35E-09	1.00E-08	2.53E-09	3.27E-08
67	4.10	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.76E-15	1.35E-09	1.00E-08	2.60E-09	3.42E-08
68	4.00	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.74E-15	1.35E-09	1.00E-08	2.67E-09	3.57E-08
69	3.90	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.72E-15	1.35E-09	1.00E-08	2.74E-09	3.72E-08
70	3.80	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.70E-15	1.35E-09	1.00E-08	2.81E-09	3.87E-08
71	3.70	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.68E-15	1.35E-09	1.00E-08	2.88E-09	4.02E-08
72	3.60	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.66E-15	1.35E-09	1.00E-08	2.95E-09	4.17E-08
73	3.50	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.64E-15	1.35E-09	1.00E-08	3.02E-09	4.32E-08
74	3.40	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.62E-15	1.35E-09	1.00E-08	3.09E-09	4.47E-08
75	3.30	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.60E-15	1.35E-09	1.00E-08	3.16E-09	4.62E-08
76	3.20	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.58E-15	1.35E-09	1.00E-08	3.23E-09	4.77E-08
77	3.10	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.56E-15	1.35E-09	1.00E-08	3.30E-09	4.92E-08
78	3.00	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.54E-15	1.35E-09	1.00E-08	3.37E-09	5.07E-08
79	2.90	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.52E-15	1.35E-09	1.00E-08	3.44E-09	5.22E-08
80	2.80	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.50E-15	1.35E-09	1.00E-08	3.51E-09	5.37E-08
81	2.70	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.48E-15	1.35E-09	1.00E-08	3.58E-09	5.52E-08
82	2.60	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.46E-15	1.35E-09	1.00E-08	3.65E-09	5.67E-08
83	2.50	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.44E-15	1.35E-09	1.00E-08	3.72E-09	5.82E-08
84	2.40	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.42E-15	1.35E-09	1.00E-08	3.79E-09	5.97E-08
85	2.30	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.40E-15	1.35E-09	1.00E-08	3.86E-09	6.12E-08
86	2.20	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.38E-15	1.35E-09	1.00E-08	3.93E-09	6.27E-08
87	2.10	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.36E-15	1.35E-09	1.00E-08	4.00E-09	6.42E-08
88	2.00	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.34E-15	1.35E-09	1.00E-08	4.07E-09	6.57E-08
89	1.90	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.32E-15	1.35E-09	1.00E-08	4.14E-09	6.72E-08
90	1.80	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.30E-15	1.35E-09	1.00E-08	4.21E-09	6.87E-08
91	1.70	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.28E-15	1.35E-09	1.00E-08	4.28E-09	7.02E-08
92	1.60	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.26E-15	1.35E-09	1.00E-08	4.35E-09	7.17E-08
93	1.50	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.24E-15	1.35E-09	1.00E-08	4.42E-09	7.32E-08
94	1.40	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.22E-15	1.35E-09	1.00E-08	4.49E-09	7.47E-08
95	1.30	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.20E-15	1.35E-09	1.00E-08	4.56E-09	7.62E-08
96	1.20	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.18E-15	1.35E-09	1.00E-08	4.63E-09	7.77E-08
97	1.10	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.16E-15	1.35E-09	1.00E-08	4.70E-09	7.92E-08
98	1.00	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.14E-15	1.35E-09	1.00E-08	4.77E-09	8.07E-08
99	0.90	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.12E-15	1.35E-09	1.00E-08	4.84E-09	8.22E-08
100	0.80	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.10E-15	1.35E-09	1.00E-08	4.91E-09	8.37E-08
101	0.70	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.08E-15	1.35E-09	1.00E-08	4.98E-09	8.52E-08
102	0.60	0.	0.	0.	0.0E-25	0.0E-24	0.	0.	6.06E-15	1.35E-09	1.00E-08	5.05E-09	8.67E-08



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON QZ S-R ENERGY BANDS	TEMPERATURE (DEGREES K)		SENSITIVITY (CM/CC)		1.05-06 NORMAL		D-FREE-FREE		M		J		TOTAL AIR	
	M2	M2	M2	M2	M2	M2	M2	M2	M2	M2	M2	M2	M2	M2
52 5.60 3.38E-36	9.	0.	7.16E-20	4.61E-20	0.	0.	4.47E-10	2.17E-11	1.66E-10	3.70E-11	3.70E-11	2.25E-10	3.70E-11	2.25E-10
53 5.30 0.	0.	0.	8.70E-20	4.21E-20	0.	0.	4.50E-10	2.29E-11	1.76E-10	3.94E-11	3.94E-11	2.30E-10	3.94E-11	2.30E-10
54 5.40 0.	0.	0.	8.24E-20	3.99E-20	0.	0.	4.52E-10	2.28E-11	1.80E-10	4.15E-11	4.15E-11	2.52E-10	4.15E-11	2.52E-10
55 5.30 0.	0.	0.	9.44E-20	4.43E-20	0.	0.	4.55E-10	2.56E-11	1.97E-10	4.36E-11	4.36E-11	2.67E-10	4.36E-11	2.67E-10
56 5.20 0.	0.	0.	9.14E-20	3.97E-20	0.	0.	4.58E-10	2.60E-11	2.04E-10	4.40E-11	4.40E-11	2.70E-10	4.40E-11	2.70E-10
57 5.10 0.	0.	0.	8.21E-20	4.40E-20	0.	0.	4.62E-10	3.00E-11	2.52E-10	5.05E-11	5.05E-11	3.04E-10	5.05E-11	3.04E-10
58 5.00 4.78E-29	0.	0.	8.48E-20	4.30E-20	0.	0.	4.66E-10	3.04E-11	2.56E-10	5.09E-11	5.09E-11	3.08E-10	5.09E-11	3.08E-10
59 4.90 1.40E-28	0.	0.	9.54E-20	6.76E-20	0.	0.	4.69E-10	3.25E-11	2.81E-10	4.85E-11	4.85E-11	3.14E-10	4.85E-11	3.14E-10
60 4.80 2.91E-28	0.	0.	1.03E-20	4.50E-20	0.	0.	4.73E-10	3.69E-11	2.92E-10	4.25E-11	4.25E-11	3.28E-10	4.25E-11	3.28E-10
61 4.70 3.10E-28	0.	0.	1.04E-20	4.12E-20	0.	0.	4.77E-10	3.67E-11	2.67E-10	4.47E-11	4.47E-11	3.49E-10	4.47E-11	3.49E-10
62 4.60 4.34E-28	0.	0.	1.00E-20	3.73E-20	0.	0.	4.81E-10	3.93E-11	2.80E-10	4.70E-11	4.70E-11	3.74E-10	4.70E-11	3.74E-10
63 4.50 4.25E-28	0.	0.	1.00E-20	2.92E-20	0.	0.	4.85E-10	4.20E-11	3.06E-10	4.95E-11	4.95E-11	4.00E-10	4.95E-11	4.00E-10
64 4.40 5.01E-28	0.	0.	1.02E-20	1.92E-20	0.	0.	4.89E-10	4.50E-11	3.29E-10	5.25E-11	5.25E-11	4.24E-10	5.25E-11	4.24E-10
65 4.30 4.80E-28	0.	0.	9.83E-20	1.22E-20	0.	0.	4.93E-10	4.80E-11	3.49E-10	5.24E-11	5.24E-11	4.24E-10	5.24E-11	4.24E-10
66 4.20 4.53E-28	0.	0.	1.04E-20	0.36E-20	0.	0.	4.97E-10	5.10E-11	3.73E-10	5.95E-11	5.95E-11	4.81E-10	5.95E-11	4.81E-10
67 4.10 4.38E-28	0.	0.	1.03E-20	2.37E-20	0.	0.	4.99E-10	5.37E-11	3.98E-10	6.02E-11	6.02E-11	5.14E-10	6.02E-11	5.14E-10
68 4.00 4.91E-28	0.	0.	1.02E-20	1.77E-20	0.	0.	5.00E-10	6.00E-11	4.24E-10	6.46E-11	6.46E-11	5.48E-10	6.46E-11	5.48E-10
69 3.90 3.46E-28	0.	0.	9.34E-20	6.53E-20	0.	0.	4.99E-10	6.40E-11	4.40E-10	6.94E-11	6.94E-11	5.84E-10	6.94E-11	5.84E-10
70 3.80 3.92E-28	0.	0.	8.95E-20	1.02E-20	0.	0.	4.97E-10	7.15E-11	4.75E-10	7.41E-11	7.41E-11	6.10E-10	7.41E-11	6.10E-10
71 3.70 3.47E-28	0.	0.	8.74E-20	8.94E-20	0.	0.	4.96E-10	7.80E-11	4.99E-10	7.80E-11	7.80E-11	6.54E-10	7.80E-11	6.54E-10
72 3.60 3.40E-28	0.	0.	6.58E-20	3.92E-22	0.	0.	4.95E-10	8.20E-11	5.24E-10	7.25E-11	7.25E-11	6.89E-10	7.25E-11	6.89E-10
73 3.50 3.00E-28	0.	0.	4.46E-20	0.04E-22	0.	0.	4.94E-10	9.05E-11	5.52E-10	7.72E-11	7.72E-11	7.24E-10	7.72E-11	7.24E-10
74 3.40 2.64E-28	0.	0.	5.61E-20	0.81E-20	0.	0.	4.92E-10	9.83E-11	5.85E-10	8.26E-11	8.26E-11	7.44E-10	8.26E-11	7.44E-10
75 3.30 2.24E-28	0.	0.	5.73E-20	1.02E-22	0.	0.	4.91E-10	1.00E-10	6.17E-10	8.71E-11	8.71E-11	7.84E-10	8.71E-11	7.84E-10
76 3.20 2.00E-28	0.	0.	3.85E-20	0.06E-22	0.	0.	4.90E-10	1.10E-10	6.54E-10	9.18E-11	9.18E-11	8.35E-10	9.18E-11	8.35E-10
77 3.10 1.95E-28	0.	0.	3.88E-20	1.69E-22	0.	0.	4.89E-10	1.20E-10	6.92E-10	9.65E-11	9.65E-11	8.96E-10	9.65E-11	8.96E-10
78 3.00 1.77E-28	0.	0.	1.89E-20	3.60E-22	0.	0.	4.88E-10	1.30E-10	7.30E-10	1.01E-10	1.01E-10	9.57E-10	1.01E-10	9.57E-10
79 2.90 1.92E-28	0.	0.	1.20E-20	1.94E-22	0.	0.	4.87E-10	1.40E-10	7.70E-10	1.06E-10	1.06E-10	1.01E-10	1.06E-10	1.01E-10
80 2.80 1.68E-28	0.	0.	5.79E-20	1.39E-22	0.	0.	4.86E-10	1.50E-10	8.10E-10	1.11E-10	1.11E-10	1.06E-10	1.11E-10	1.06E-10
81 2.70 1.04E-28	0.	0.	2.73E-20	2.23E-20	0.	0.	4.85E-10	1.60E-10	8.50E-10	1.16E-10	1.16E-10	1.06E-10	1.16E-10	1.06E-10
82 2.60 1.04E-28	0.	0.	1.31E-20	1.61E-20	0.	0.	4.84E-10	1.70E-10	8.90E-10	1.21E-10	1.21E-10	1.06E-10	1.21E-10	1.06E-10
83 2.50 3.60E-30	0.	0.	1.34E-20	1.70E-23	0.	0.	4.83E-10	1.80E-10	9.30E-10	1.26E-10	1.26E-10	1.06E-10	1.26E-10	1.06E-10
84 2.40 0.	0.	0.	5.82E-20	1.32E-23	0.	0.	4.82E-10	1.90E-10	9.70E-10	1.31E-10	1.31E-10	1.06E-10	1.31E-10	1.06E-10
85 2.30 0.	0.	0.	4.95E-20	0.	0.	0.	4.81E-10	2.00E-10	1.01E-10	1.36E-10	1.36E-10	1.06E-10	1.36E-10	1.06E-10
86 2.20 0.	0.	0.	4.95E-20	0.	0.	0.	4.80E-10	2.10E-10	1.06E-10	1.41E-10	1.41E-10	1.06E-10	1.41E-10	1.06E-10
87 2.10 0.	0.	0.	4.95E-20	0.	0.	0.	4.79E-10	2.20E-10	1.11E-10	1.46E-10	1.46E-10	1.06E-10	1.46E-10	1.06E-10
88 2.00 0.	0.	0.	4.95E-20	0.	0.	0.	4.78E-10	2.30E-10	1.16E-10	1.51E-10	1.51E-10	1.06E-10	1.51E-10	1.06E-10
89 1.90 0.	0.	0.	4.95E-20	0.	0.	0.	4.77E-10	2.40E-10	1.21E-10	1.56E-10	1.56E-10	1.06E-10	1.56E-10	1.06E-10
90 1.80 0.	0.	0.	4.95E-20	0.	0.	0.	4.76E-10	2.50E-10	1.26E-10	1.61E-10	1.61E-10	1.06E-10	1.61E-10	1.06E-10
91 1.70 0.	0.	0.	4.95E-20	0.	0.	0.	4.75E-10	2.60E-10	1.31E-10	1.66E-10	1.66E-10	1.06E-10	1.66E-10	1.06E-10
92 1.60 0.	0.	0.	4.95E-20	0.	0.	0.	4.74E-10	2.70E-10	1.36E-10	1.71E-10	1.71E-10	1.06E-10	1.71E-10	1.06E-10
93 1.50 0.	0.	0.	4.95E-20	0.	0.	0.	4.73E-10	2.80E-10	1.41E-10	1.76E-10	1.76E-10	1.06E-10	1.76E-10	1.06E-10
94 1.40 0.	0.	0.	4.95E-20	0.	0.	0.	4.72E-10	2.90E-10	1.46E-10	1.81E-10	1.81E-10	1.06E-10	1.81E-10	1.06E-10
95 1.30 0.	0.	0.	4.95E-20	0.	0.	0.	4.71E-10	3.00E-10	1.51E-10	1.86E-10	1.86E-10	1.06E-10	1.86E-10	1.06E-10
96 1.20 0.	0.	0.	4.95E-20	0.	0.	0.	4.70E-10	3.10E-10	1.56E-10	1.91E-10	1.91E-10	1.06E-10	1.91E-10	1.06E-10
97 1.10 0.	0.	0.	4.95E-20	0.	0.	0.	4.69E-10	3.20E-10	1.61E-10	1.96E-10	1.96E-10	1.06E-10	1.96E-10	1.06E-10
98 1.00 0.	0.	0.	4.95E-20	0.	0.	0.	4.68E-10	3.30E-10	1.66E-10	2.01E-10	2.01E-10	1.06E-10	2.01E-10	1.06E-10
99 0.90 0.	0.	0.	4.95E-20	0.	0.	0.	4.67E-10	3.40E-10	1.71E-10	2.06E-10	2.06E-10	1.06E-10	2.06E-10	1.06E-10
100 0.80 0.	0.	0.	4.95E-20	0.	0.	0.	4.66E-10	3.50E-10	1.76E-10	2.11E-10	2.11E-10	1.06E-10	2.11E-10	1.06E-10
101 0.70 0.	0.	0.	4.95E-20	0.	0.	0.	4.65E-10	3.60E-10	1.81E-10	2.16E-10	2.16E-10	1.06E-10	2.16E-10	1.06E-10
102 0.60 0.	0.	0.	4.95E-20	0.	0.	0.	4.64E-10	3.70E-10	1.86E-10	2.21E-10	2.21E-10	1.06E-10	2.21E-10	1.06E-10

ABSORPTION COEFFICIENT OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES R) 2330. DENSITY (GM/CC) 1.292E-02 (1.01 CM NORMAL)

PHOTON ENERGY E.V.	PHOTON 02 5-R COUNT.	TEMPERATURE NO. 1	NO DATA	NO DATA	NO DATA	PHOTO-ELECT (IONS)	FREE-ELECT N	P.E.	P.E.	TOTAL AIR
1 10.79 6.	0.	2.00E-01	0.	0.	0.	5.95E 00	9.74E 01	2.01E 02	7.94E 00	2.55E 02
2 10.88 6.	0.	1.89E-01	0.	0.	0.	5.54E 00	1.00E 00	2.01E 02	7.91E 00	1.87E 03
3 10.98 0.	0.	1.80E-01	0.	0.	0.	5.04E 00	1.05E 00	2.02E 01	7.87E 00	4.00E 01
4 10.08 0.	0.	1.82E-01	0.	0.	0.	5.37E 00	1.06E 00	2.03E 01	7.85E 00	6.99E 01
5 10.38 0.	0.	1.82E-01	0.	0.	0.	5.38E 00	1.03E 00	2.03E 01	7.80E 00	4.15E 01
6 10.08 0.	0.	1.69E-01	0.	0.	0.	5.59E 00	1.13E 00	2.04E 01	7.72E 00	4.00E 01
7 10.10 0.	0.	1.61E-01	0.	0.	0.	5.09E 00	1.40E 00	2.03E 01	7.69E 00	4.00E 01
8 10.00 0.	0.	1.48E-01	0.	0.	0.	5.01E 00	1.20E 00	2.03E 01	7.65E 00	4.10E 01
9 9.90 0.	0.	1.49E-01	0.	0.	0.	5.02E 00	1.27E 00	2.04E 01	7.61E 00	4.11E 01
10 9.90 0.	0.	1.63E-01	0.	0.	0.	5.02E 00	1.31E 00	2.03E 01	7.57E 00	4.11E 01
11 9.70 0.	0.	1.20E-01	0.	0.	0.	5.04E 00	1.35E 00	2.06E 01	7.54E 00	4.11E 01
12 9.60 0.	0.	1.37E-01	0.	0.	0.	5.04E 00	1.40E 00	2.06E 01	7.50E 00	4.11E 01
13 9.50 0.	0.	1.19E-01	0.	0.	0.	5.07E 00	1.44E 00	2.07E 01	7.46E 00	4.11E 01
14 9.30 0.	0.	1.13E-01	0.	0.	0.	5.07E 00	1.49E 00	2.07E 01	7.42E 00	4.11E 01
15 9.20 0.	0.	1.10E-01	0.	0.	0.	5.09E 00	1.50E 00	2.08E 01	7.38E 00	4.11E 01
16 9.20 0.	0.	1.07E-01	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	7.34E 00	4.11E 01
17 9.20 0.	0.	1.07E-01	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	7.30E 00	4.11E 01
18 9.10 0.	0.	9.64E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	7.26E 00	4.11E 01
19 9.00 0.	0.	9.11E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	7.22E 00	4.11E 01
20 8.90 0.	0.	9.03E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	7.18E 00	4.11E 01
21 8.70 0.	0.	8.25E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	7.14E 00	4.11E 01
22 8.60 0.	0.	8.33E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	7.10E 00	4.11E 01
23 8.50 0.	0.	7.40E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	7.06E 00	4.11E 01
24 8.40 0.	0.	7.41E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	7.02E 00	4.11E 01
25 8.30 0.	0.	6.32E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	6.98E 00	4.11E 01
26 8.20 0.	0.	6.44E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	6.94E 00	4.11E 01
27 8.10 0.	0.	5.35E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	6.90E 00	4.11E 01
28 7.90 0.	0.	5.00E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	6.86E 00	4.11E 01
29 7.80 0.	0.	5.25E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	6.82E 00	4.11E 01
30 7.70 0.	0.	4.94E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	6.78E 00	4.11E 01
31 7.60 0.	0.	4.74E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	6.74E 00	4.11E 01
32 7.50 0.	0.	4.74E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	6.70E 00	4.11E 01
33 7.40 0.	0.	4.50E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	6.66E 00	4.11E 01
34 7.30 0.	0.	4.10E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	6.62E 00	4.11E 01
35 7.20 0.	0.	3.75E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	6.58E 00	4.11E 01
36 7.10 0.	0.	3.63E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	6.54E 00	4.11E 01
37 7.00 0.	0.	3.54E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	6.50E 00	4.11E 01
38 6.90 0.	0.	3.31E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	6.46E 00	4.11E 01
39 6.80 0.	0.	3.09E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	6.42E 00	4.11E 01
40 6.70 0.	0.	3.09E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	6.38E 00	4.11E 01
41 6.60 0.	0.	2.70E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	6.34E 00	4.11E 01
42 6.50 0.	0.	2.47E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	6.30E 00	4.11E 01
43 6.40 0.	0.	2.07E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	6.26E 00	4.11E 01
44 6.30 0.	0.	1.45E-02	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	6.22E 00	4.11E 01
45 6.20 0.	0.	9.29E-03	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	6.18E 00	4.11E 01
46 6.10 0.	0.	5.30E-03	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	6.14E 00	4.11E 01
47 6.00 0.	0.	2.56E-03	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	6.10E 00	4.11E 01
48 5.90 0.	0.	6.44E-04	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	6.06E 00	4.11E 01
49 5.80 0.	0.	4.77E-05	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	6.02E 00	4.11E 01
50 5.70 0.	0.	1.21E-06	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	5.98E 00	4.11E 01
51 5.60 0.	0.	0.	0.	0.	0.	5.11E 00	1.50E 00	2.08E 01	5.94E 00	4.11E 01

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES N) 23000. DENSITY (GM/CC) 1.2936-02 ( 1.0E 01 NORMAL)

PHOTON ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2 1ST NEG.	N2 2ND NEG.	BETA	GAMMA	VIB-ROT	NO	NO	NO	PHOTO-DET (ICMS)	FREE-FREE (M	P.E.	NO	P.E.	TOTAL AIR
52	5.60 1.04E-11	0.	0.	0.	1.30E-03	0.07E-03	0.	0.	0.	0.	5.92E 00	6.04E 00	1.90E 01	7.57E 00	3.54E 01	
53	5.90 0.	0.	0.	0.	1.08E-02	0.20E-03	0.	0.	0.	0.	5.96E 00	7.33E 00	1.53E 01	7.64E 00	3.62E 01	
54	5.40 0.	0.	0.	0.	1.59E-03	0.94E-03	0.	0.	0.	0.	5.09E 00	7.70E 00	1.57E 01	7.72E 00	3.72E 01	
55	5.30 0.	0.	0.	0.	1.63E-02	1.32E-03	0.	0.	0.	0.	6.03E 00	8.20E 00	1.62E 01	7.82E 00	3.62E 01	
56	5.20 0.	0.	0.	0.	1.70E-02	0.80E-03	0.	0.	0.	0.	6.06E 00	8.09E 00	1.64E 01	7.94E 00	3.69E 01	
57	5.10 0.	0.	0.	0.	1.70E-03	0.70E-03	0.	0.	0.	0.	6.12E 00	9.22E 00	1.71E 01	8.07E 00	4.05E 01	
58	5.00 1.40E-04	0.	0.	0.	1.64E-03	0.33E-03	0.	0.	0.	0.	6.17E 00	9.70E 00	1.76E 01	8.19E 00	4.15E 01	
59	4.90 3.60E-04	0.	0.	0.	1.85E-03	0.31E-03	0.	0.	0.	0.	6.22E 00	1.04E 01	1.83E 01	8.34E 00	4.32E 01	
60	4.80 7.05E-04	0.	0.	0.	2.00E-03	0.81E-03	0.	0.	0.	0.	6.27E 00	1.11E 01	1.90E 01	8.52E 00	4.48E 01	
61	4.70 9.71E-04	0.	0.	0.	2.08E-02	0.07E-03	0.	0.	0.	0.	6.32E 00	1.18E 01	1.97E 01	8.75E 00	4.66E 01	
62	4.60 1.36E-03	0.	0.	0.	2.11E-03	0.31E-03	0.	0.	0.	0.	6.37E 00	1.26E 01	2.06E 01	8.99E 00	4.85E 01	
63	4.50 1.46E-03	0.	0.	0.	1.97E-03	0.53E-03	0.	0.	0.	0.	6.42E 00	1.35E 01	2.17E 01	9.24E 00	5.06E 01	
64	4.40 1.58E-03	0.	0.	0.	1.99E-03	0.79E-03	0.	0.	0.	0.	6.47E 00	1.44E 01	2.28E 01	9.49E 00	5.32E 01	
65	4.30 1.52E-03	0.	0.	0.	1.93E-03	0.44E-03	0.	0.	0.	0.	6.53E 00	1.55E 01	2.41E 01	9.74E 00	5.56E 01	
66	4.20 1.44E-03	0.	0.	0.	2.04E-03	1.02E-03	0.	0.	0.	0.	6.58E 00	1.66E 01	2.53E 01	1.00E 01	5.87E 01	
67	4.10 1.37E-03	0.	0.	0.	2.08E-02	0.69E-04	0.	0.	0.	0.	6.60E 00	1.79E 01	2.62E 01	9.97E 00	6.11E 01	
68	4.00 1.26E-03	0.	0.	0.	1.90E-03	0.48E-04	0.	0.	0.	0.	6.63E 00	1.93E 01	2.79E 01	1.02E 01	6.39E 01	
69	3.90 1.11E-03	0.	0.	0.	1.07E-02	0.69E-03	0.	0.	0.	0.	6.68E 00	2.08E 01	2.79E 01	1.02E 01	6.39E 01	
70	3.80 1.22E-03	0.	0.	0.	1.20E-01	1.54E-02	0.	0.	0.	0.	6.80E 00	2.08E 01	2.79E 01	1.02E 01	6.39E 01	
71	3.70 1.11E-03	0.	0.	0.	1.20E-01	1.54E-02	0.	0.	0.	0.	6.80E 00	2.08E 01	2.79E 01	1.02E 01	6.39E 01	
72	3.60 1.02E-03	0.	0.	0.	0.84E-02	0.17E-02	0.	0.	0.	0.	6.47E 00	2.45E 01	2.35E 01	6.17E 00	6.11E 01	
73	3.50 9.47E-04	0.	0.	0.	1.30E-01	1.30E-01	0.	0.	0.	0.	6.06E 00	2.66E 01	2.57E 01	6.72E 00	6.53E 01	
74	3.40 9.04E-04	0.	0.	0.	1.30E-01	1.30E-01	0.	0.	0.	0.	5.95E 00	2.90E 01	2.74E 01	7.33E 00	6.96E 01	
75	3.30 7.31E-04	0.	0.	0.	7.90E-02	0.81E-02	0.	0.	0.	0.	5.23E 00	3.17E 01	3.84E 01	8.06E 00	7.35E 01	
76	3.20 6.50E-04	0.	0.	0.	5.30E-02	1.32E-01	0.	0.	0.	0.	3.21E 00	3.47E 01	3.35E 01	8.01E 00	8.01E 01	
77	3.10 6.33E-04	0.	0.	0.	4.94E-02	1.07E-02	0.	0.	0.	0.	3.22E 00	4.20E 01	3.92E 01	8.50E 00	8.74E 01	
78	3.00 5.70E-04	0.	0.	0.	2.44E-02	0.30E-02	0.	0.	0.	0.	3.23E 00	4.46E 01	4.20E 01	1.11E 01	1.04E 02	
79	2.90 4.97E-04	0.	0.	0.	1.09E-02	0.45E-02	0.	0.	0.	0.	3.23E 00	5.40E 01	4.84E 01	1.28E 01	1.33E 02	
80	2.80 3.25E-04	0.	0.	0.	8.14E-03	0.20E-02	0.	0.	0.	0.	3.24E 00	6.00E 01	5.49E 01	1.30E 01	1.24E 02	
81	2.70 3.49E-04	0.	0.	0.	1.03E-03	0.89E-02	0.	0.	0.	0.	3.24E 00	6.00E 01	5.49E 01	1.41E 01	1.30E 02	
82	2.60 1.71E-04	0.	0.	0.	1.03E-03	0.89E-02	0.	0.	0.	0.	3.24E 00	6.00E 01	5.49E 01	1.41E 01	1.30E 02	
83	2.50 1.22E-05	0.	0.	0.	1.07E-04	4.14E-03	0.	0.	0.	0.	3.24E 00	9.10E 01	7.92E 01	1.10E 01	1.04E 02	
84	2.40 0.	0.	0.	0.	0.02E-03	0.53E-04	0.	0.	0.	0.	3.21E 00	1.04E 02	7.21E 01	1.48E 01	1.94E 02	
85	2.30 0.	0.	0.	0.	2.04E-02	0.	0.	0.	0.	0.	3.20E 00	1.04E 02	7.21E 01	1.48E 01	1.94E 02	
86	2.20 0.	0.	0.	0.	6.14E-02	0.	0.	0.	0.	0.	3.19E 00	1.04E 02	7.21E 01	1.48E 01	1.94E 02	
87	2.10 0.	0.	0.	0.	1.25E-01	0.	0.	0.	0.	0.	3.00E 00	1.04E 02	9.92E 01	1.93E 01	2.60E 02	
88	2.00 0.	0.	0.	0.	1.42E-01	0.	0.	0.	0.	0.	2.97E 00	1.04E 02	1.13E 02	2.20E 01	2.90E 02	
89	1.90 0.	0.	0.	0.	1.23E-01	0.	0.	0.	0.	0.	2.84E 00	2.22E 02	1.57E 02	3.15E 01	4.13E 02	
90	1.80 0.	0.	0.	0.	1.08E-01	0.	0.	0.	0.	0.	2.67E 00	2.55E 02	1.88E 02	3.84E 01	4.94E 02	
91	1.70 0.	0.	0.	0.	1.08E-01	0.	0.	0.	0.	0.	2.67E 00	2.55E 02	1.88E 02	3.84E 01	4.94E 02	
92	1.60 0.	0.	0.	0.	1.08E-01	0.	0.	0.	0.	0.	2.67E 00	2.55E 02	1.88E 02	3.84E 01	4.94E 02	
93	1.50 0.	0.	0.	0.	1.08E-01	0.	0.	0.	0.	0.	2.67E 00	2.55E 02	1.88E 02	3.84E 01	4.94E 02	
94	1.40 0.	0.	0.	0.	1.08E-01	0.	0.	0.	0.	0.	2.67E 00	2.55E 02	1.88E 02	3.84E 01	4.94E 02	
95	1.30 0.	0.	0.	0.	0.91E-02	0.	0.	0.	0.	0.	4.79E 02	3.62E 02	6.02E 01	1.10E 03	0.	
96	1.20 0.	0.	0.	0.	0.90E-02	0.	0.	0.	0.	0.	4.79E 02	3.62E 02	6.02E 01	1.10E 03	0.	
97	1.10 0.	0.	0.	0.	0.32E-02	0.	0.	0.	0.	0.	7.09E 02	5.54E 02	8.70E 01	1.41E 03	0.	
98	1.00 0.	0.	0.	0.	7.07E-02	0.	0.	0.	0.	0.	1.01E 03	6.03E 02	1.09E 02	1.60E 03	0.	
99	0.90 0.	0.	0.	0.	6.20E-02	0.	0.	0.	0.	0.	1.07E 03	9.57E 02	1.25E 02	2.31E 03	0.	
100	0.80 0.	0.	0.	0.	2.94E-02	0.	0.	0.	0.	0.	2.70E 03	1.10E 03	1.67E 02	2.97E 03	0.	
101	0.70 0.	0.	0.	0.	6.73E-03	0.	0.	0.	0.	0.	4.09E 03	1.19E 03	1.66E 02	5.44E 03	0.	
102	0.60 0.	0.	0.	0.	1.63E-03	0.	0.	0.	0.	0.	6.01E 03	1.33E 03	1.69E 02	6.12E 03	0.	



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 23000. DENSITY (GM/CC) 1.293E-03 ( 1.0E 00 NORMAL)

PHOTON ENERGY BANDS E.V.	02 S-R CONT.	NO B-M NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DET. (10MS)	4 P.E.	0 P.E.	TOTAL AIR
1 10.70 0.	0.	9.95E-04	0.	0.	0.	1.15E-01	0.91E-02	1.90E 01	0.15E-01 2.04E 01
2 10.00 0.	0.	9.20E-04	0.	0.	0.	1.15E-01	7.13E-02	1.04E 00	0.15E-01 2.04E 00
3 10.50 0.	0.	9.30E-04	0.	0.	0.	1.15E-01	7.30E-02	1.05E 00	0.15E-01 2.04E 00
4 10.40 0.	0.	9.85E-04	0.	0.	0.	1.15E-01	7.52E-02	1.08E 00	0.07E-01 2.04E 00
5 10.30 0.	0.	0.04E-04	0.	0.	0.	1.15E-01	7.90E-02	1.00E 00	0.04E-01 2.04E 00
6 10.20 0.	0.	0.40E-04	0.	0.	0.	1.16E-01	8.22E-02	1.06E 00	0.01E-01 2.04E 00
7 10.10 0.	0.	0.00E-04	0.	0.	0.	1.16E-01	8.47E-02	1.06E 00	0.00E-01 2.04E 00
8 10.00 0.	0.	7.81E-04	0.	0.	0.	1.16E-01	8.73E-02	1.04E 00	0.00E-01 2.04E 00
9 9.90 0.	0.	7.08E-04	0.	0.	0.	1.16E-01	9.00E-02	1.07E 00	0.00E-01 2.04E 00
10 9.80 0.	0.	6.25E-04	0.	0.	0.	1.17E-01	9.29E-02	1.07E 00	0.00E-01 2.04E 00
11 9.70 0.	0.	6.78E-04	0.	0.	0.	1.17E-01	9.60E-02	1.08E 00	0.00E-01 2.04E 00
12 9.60 0.	0.	5.95E-04	0.	0.	0.	1.17E-01	9.90E-02	1.08E 00	0.00E-01 2.04E 00
13 9.50 0.	0.	5.71E-04	0.	0.	0.	1.18E-01	1.02E-01	1.09E 00	0.00E-01 2.04E 00
14 9.40 0.	0.	5.08E-04	0.	0.	0.	1.18E-01	1.05E-01	1.09E 00	0.00E-01 2.04E 00
15 9.3E 0.	0.	5.02E-04	0.	0.	0.	1.18E-01	1.08E-01	1.09E 00	0.00E-01 2.04E 00
16 9.2E 0.	0.	5.02E-04	0.	0.	0.	1.18E-01	1.08E-01	1.09E 00	0.00E-01 2.04E 00
17 9.1E 0.	0.	5.10E-04	0.	0.	0.	1.19E-01	1.13E-01	1.09E-01	5.70E-01 1.59E 00
18 9.0E 0.	0.	4.80E-04	0.	0.	0.	1.19E-01	1.17E-01	1.09E-01	5.67E-01 1.59E 00
19 8.9E 0.	0.	4.52E-04	0.	0.	0.	1.19E-01	1.21E-01	1.09E-01	5.65E-01 1.60E 00
20 8.8E 0.	0.	4.40E-04	0.	0.	0.	1.20E-01	1.25E-01	1.09E-01	5.65E-01 1.61E 00
21 8.7E 0.	0.	3.90E-04	0.	0.	0.	1.20E-01	1.29E-01	1.09E-01	5.65E-01 1.61E 00
22 8.6E 0.	0.	4.14E-04	0.	0.	0.	1.21E-01	1.34E-01	1.09E-01	5.57E-01 1.61E 00
23 8.5E 0.	0.	3.71E-04	0.	0.	0.	1.21E-01	1.39E-01	1.09E-01	5.55E-01 1.62E 00
24 8.4E 0.	0.	3.23E-04	0.	0.	0.	1.22E-01	1.44E-01	1.06E-01	5.53E-01 1.62E 00
25 8.3E 0.	0.	3.24E-04	0.	0.	0.	1.22E-01	1.49E-01	1.06E-01	5.51E-01 1.63E 00
26 8.2E 0.	0.	3.30E-04	0.	0.	0.	1.23E-01	1.54E-01	1.06E-01	5.52E-01 1.64E 00
27 8.1E 0.	0.	2.92E-04	0.	0.	0.	1.24E-01	1.59E-01	1.06E-01	5.52E-01 1.65E 00
28 8.0E 0.	0.	2.97E-04	0.	0.	0.	1.24E-01	1.64E-01	1.06E-01	5.52E-01 1.67E 00
29 7.9E 0.	0.	2.41E-04	0.	0.	0.	1.25E-01	1.73E-01	1.06E-01	5.52E-01 1.68E 00
30 7.8E 0.	0.	2.74E-04	0.	0.	0.	1.26E-01	1.80E-01	1.06E-01	5.52E-01 1.70E 00
31 7.7E 0.	0.	2.45E-04	0.	0.	0.	1.26E-01	1.87E-01	1.06E-01	5.52E-01 1.71E 00
32 7.6E 0.	0.	2.36E-04	0.	0.	0.	1.27E-01	1.94E-01	1.06E-01	5.52E-01 1.73E 00
33 7.5E 0.	0.	2.31E-04	0.	0.	0.	1.27E-01	2.01E-01	1.06E-01	5.52E-01 1.74E 00
34 7.4E 0.	0.	2.04E-04	0.	0.	0.	1.28E-01	2.08E-01	1.06E-01	5.52E-01 1.76E 00
35 7.3E 0.	0.	1.96E-04	0.	0.	0.	1.28E-01	2.16E-01	1.06E-01	5.53E-01 1.77E 00
36 7.2E 0.	0.	1.60E-04	0.	0.	0.	1.30E-01	2.25E-01	1.06E-01	5.53E-01 1.79E 00
37 7.1E 0.	0.	1.76E-04	0.	0.	0.	1.31E-01	2.35E-01	1.06E-01	5.53E-01 1.81E 00
38 7.0E 0.	0.	1.64E-04	0.	0.	0.	1.32E-01	2.45E-01	1.06E-01	5.53E-01 1.83E 00
39 6.9E 0.15E-00	0.	1.53E-04	0.	0.	0.	1.33E-01	2.56E-01	1.06E-01	5.53E-01 1.85E 00
40 6.8E 7.10E-00	0.	1.50E-04	0.	0.	0.	1.34E-01	2.67E-01	1.06E-01	5.53E-01 1.87E 00
41 6.7E 5.24E-00	0.	1.34E-04	0.	0.	0.	1.35E-01	2.79E-01	1.06E-01	5.54E-01 1.89E 00
42 6.6E 3.23E-00	0.	1.23E-04	0.	0.	0.	1.36E-01	2.90E-01	1.06E-01	5.54E-01 1.91E 00
43 6.5E 1.69E-00	0.	1.00E-04	0.	0.	0.	1.37E-01	3.14E-01	1.06E-01	5.54E-01 1.94E 00
44 6.4E 1.10E-00	0.	7.14E-05	0.	0.	0.	1.38E-01	3.39E-01	1.06E-01	5.54E-01 1.97E 00
45 6.3E 0.46E-00	0.	4.61E-05	0.	0.	0.	1.39E-01	3.64E-01	1.06E-01	5.54E-01 2.00E 00
46 6.2E 2.97E-00	0.	2.63E-05	0.	0.	0.	1.40E-01	3.91E-01	1.06E-01	5.54E-01 2.03E 00
47 6.1E 1.39E-00	0.	1.27E-05	0.	0.	0.	1.41E-01	4.19E-01	1.06E-01	5.54E-01 2.07E 00
48 6.0E 0.67E-00	0.	3.29E-06	0.	0.	0.	1.42E-01	4.49E-01	1.06E-01	5.54E-01 2.10E 00
49 5.9E 1.46E-00	0.	2.37E-07	0.	0.	0.	1.43E-01	4.79E-01	1.06E-01	5.54E-01 2.15E 00
50 5.8E 1.87E-00	0.	6.00E-09	0.	0.	0.	1.44E-01	5.10E-01	1.06E-01	5.54E-01 2.18E 00
51 5.7E 1.30E-00	0.	0.	0.	0.	0.	1.45E-01	5.42E-01	1.06E-01	5.54E-01 2.22E 00

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 23000, DENSITY (GM/CC) 1.293E-03 ( 1.06 88 NORMAL)

PHOTON OR S-W ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2 1ST WFS.	BETA	NO GAMMA	NO VIS-ROT	NO 2	O- PHOTO-DST (LOWS)	N P.S.	U P.E.	TOTAL AIP
52	5.60 6.23E-14	0.	0.	7.33E-06	4.84E-05	0.	0.	1.22E-01	4.92E-01	1.04E	00 5.04E-01 2.26E 00
53	5.50 0.	0.	0.	9.31E-06	4.47E-05	0.	0.	1.23E-01	5.19E-01	1.04E	00 5.92E-01 2.32E 00
54	5.40 0.	0.	0.	2.68E-06	3.78E-05	0.	0.	1.24E-01	5.47E-01	1.11E	00 5.98E-01 2.38E 00
55	5.30 0.	0.	0.	8.89E-06	3.42E-05	0.	0.	1.25E-01	5.81E-01	1.18E	00 6.08E-01 2.44E 00
56	5.20 0.	0.	0.	9.68E-06	3.74E-05	0.	0.	1.26E-01	6.16E-01	1.25E	00 6.18E-01 2.50E 00
57	5.10 0.	0.	0.	9.72E-06	4.74E-05	0.	0.	1.26E-01	6.51E-01	1.24E	00 6.25E-01 2.56E 00
58	5.00 8.90E-07	0.	0.	8.97E-06	4.37E-05	0.	0.	1.27E-01	6.87E-01	1.24E	00 6.35E-01 2.62E 00
59	4.90 2.21E-06	0.	0.	1.01E-05	5.00E-05	0.	0.	1.28E-01	7.24E-01	1.29E	00 6.45E-01 2.68E 00
60	4.80 4.22E-06	0.	0.	1.08E-05	4.81E-05	0.	0.	1.29E-01	7.62E-01	1.36E	00 6.56E-01 2.74E 00
61	4.70 5.82E-06	0.	0.	1.15E-05	4.62E-05	0.	0.	1.30E-01	8.00E-01	1.39E	00 6.67E-01 2.80E 00
62	4.60 6.18E-06	0.	0.	1.15E-05	3.99E-05	0.	0.	1.30E-01	8.38E-01	1.43E	00 6.78E-01 2.86E 00
63	4.50 6.73E-06	0.	1.72E-05	1.07E-05	3.02E-05	0.	0.	1.33E-01	8.76E-01	1.53E	00 7.16E-01 3.13E 00
64	4.40 9.49E-06	0.	4.91E-05	1.08E-05	2.05E-05	0.	0.	1.34E-01	9.14E-01	1.61E	00 7.36E-01 3.50E 00
65	4.30 9.12E-06	0.	1.73E-04	1.05E-05	3.11E-05	0.	0.	1.35E-01	1.02E	00 1.70E	00 7.57E-01 3.68E 00
66	4.20 6.62E-06	0.	5.22E-04	1.11E-05	0.90E-04	0.	0.	1.36E-01	1.10E	00 1.79E	00 7.78E-01 3.86E 00
67	4.10 6.20E-06	0.	2.58E-04	1.12E-05	2.33E-04	0.	0.	1.36E-01	1.28E	00 1.88E	00 7.75E-01 3.86E 00
68	4.00 7.66E-06	0.	7.60E-04	1.08E-05	6.92E-04	0.	0.	1.37E-01	1.36E	00 1.97E	00 8.07E-01 4.04E 00
69	3.90 6.63E-06	0.	3.66E-04	1.02E-05	6.92E-04	0.	0.	1.38E-01	1.47E	00 2.06E	00 8.25E-01 4.22E 00
70	3.80 7.33E-06	0.	5.94E-04	6.97E-04	9.78E-04	0.	0.	1.38E-01	1.58E	00 2.15E	00 8.43E-01 4.40E 00
71	3.70 6.67E-06	0.	3.94E-04	3.06E-03	9.78E-04	0.	0.	1.34E-01	1.73E	00 2.24E	00 8.74E-01 4.78E 00
72	3.60 6.10E-06	0.	4.99E-04	1.92E-03	1.05E-05	0.	0.	1.29E-01	1.88E	00 2.33E	00 9.21E-01 4.35E 00
73	3.50 5.79E-06	0.	5.77E-04	2.37E-03	8.31E-04	0.	0.	1.15E-01	2.03E	00 2.42E	00 9.74E-01 4.68E 00
74	3.40 5.42E-06	0.	3.07E-04	4.35E-04	6.31E-04	0.	0.	6.62E-02	2.24E	00 2.51E	00 9.26E-01 5.06E 00
75	3.30 4.98E-06	0.	3.93E-04	1.84E-03	7.89E-04	0.	0.	6.64E-02	2.46E	00 2.60E	00 8.08E-01 5.57E 00
76	3.20 3.89E-06	0.	2.07E-04	2.45E-03	8.54E-04	0.	0.	6.64E-02	2.70E	00 2.69E	00 7.42E-01 6.09E 00
77	3.10 3.66E-06	0.	2.10E-04	7.38E-04	8.92E-04	0.	0.	6.47E-02	2.95E	00 2.78E	00 6.02E-01 6.65E 00
78	3.00 3.47E-06	0.	1.31E-04	1.54E-03	7.74E-04	0.	0.	6.49E-02	3.20E	00 3.03E	00 6.62E-01 7.23E 00
79	2.90 2.90E-06	0.	8.37E-05	8.28E-04	6.19E-04	0.	0.	6.69E-02	3.44E	00 3.20E	00 6.31E-01 7.92E 00
80	2.80 3.15E-06	0.	4.84E-05	6.95E-04	4.40E-04	0.	0.	6.69E-02	3.68E	00 3.37E	00 6.01E-01 8.71E 00
81	2.70 2.89E-06	0.	1.91E-05	7.23E-04	2.59E-04	0.	0.	6.69E-02	3.92E	00 3.54E	00 5.71E-01 9.57E 00
82	2.60 1.02E-06	0.	9.09E-06	7.81E-05	1.14E-04	0.	0.	6.69E-02	4.16E	00 3.71E	00 5.41E-01 1.05E 01
83	2.50 7.29E-08	0.	9.29E-07	5.61E-05	3.01E-04	0.	0.	6.69E-02	4.40E	00 3.88E	00 5.11E-01 1.14E 01
84	2.40 6.	0.	3.90E-05	0.	0.	0.	0.	6.61E-02	4.64E	00 4.05E	00 4.81E-01 1.23E 01
85	2.30 0.	0.	1.12E-04	0.	0.	0.	0.	6.61E-02	4.88E	00 4.22E	00 4.51E-01 1.32E 01
86	2.20 0.	0.	3.08E-04	0.	0.	0.	0.	6.61E-02	5.12E	00 4.39E	00 4.21E-01 1.41E 01
87	2.10 0.	0.	3.09E-04	0.	0.	0.	0.	6.59E-02	5.36E	00 4.56E	00 3.91E-01 1.50E 01
88	2.00 0.	0.	6.19E-04	0.	0.	0.	0.	6.57E-02	5.60E	00 4.73E	00 3.61E-01 1.60E 01
89	1.90 0.	0.	7.85E-04	0.	0.	0.	0.	6.57E-02	5.84E	00 4.90E	00 3.31E-01 1.70E 01
90	1.80 0.	0.	6.12E-04	0.	0.	0.	0.	6.55E-02	6.08E	00 5.07E	00 3.01E-01 1.80E 01
91	1.70 0.	0.	6.89E-04	0.	0.	0.	0.	6.55E-02	6.32E	00 5.24E	00 2.71E-01 1.90E 01
92	1.60 0.	0.	5.23E-04	0.	0.	0.	0.	6.53E-02	6.56E	00 5.41E	00 2.41E-01 2.00E 01
93	1.50 0.	0.	5.89E-04	0.	0.	0.	0.	6.53E-02	6.80E	00 5.58E	00 2.11E-01 2.10E 01
94	1.40 0.	0.	5.78E-04	0.	0.	0.	0.	6.51E-02	7.04E	00 5.75E	00 1.81E-01 2.20E 01
95	1.30 0.	0.	4.42E-04	0.	0.	0.	0.	6.51E-02	7.28E	00 5.92E	00 1.51E-01 2.30E 01
96	1.20 0.	0.	4.22E-04	0.	0.	0.	0.	6.49E-02	7.52E	00 6.09E	00 1.21E-01 2.40E 01
97	1.10 0.	0.	3.01E-04	0.	0.	0.	0.	6.49E-02	7.76E	00 6.26E	00 9.02E-02 2.50E 01
98	1.00 0.	0.	3.01E-04	0.	0.	0.	0.	6.47E-02	8.00E	00 6.43E	00 6.64E-02 2.60E 01
99	0.90 0.	0.	3.12E-04	0.	0.	0.	0.	6.47E-02	8.24E	00 6.60E	00 4.25E-01 2.70E 01
100	0.80 0.	0.	1.66E-04	0.	0.	0.	0.	6.45E-02	8.48E	00 6.77E	00 3.85E-01 2.80E 01
101	0.70 0.	0.	3.84E-05	0.	0.	0.	0.	6.45E-02	8.72E	00 6.94E	00 3.45E-01 2.90E 01
102	0.60 0.	0.	6.31E-06	0.	0.	0.	0.	6.45E-02	8.96E	00 7.11E	00 3.05E-01 3.00E 01

TEMPERATURE COEFFICIENT OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 2300. DENSITY (GM/CC) 1.20E-04 ( 1.0E-01 NORMAL)

PHOTON ENERGY E.V.	OZ S-R CONT.	NZ B-N NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DET (IONS)	FREE-FREE N	P.E.	0	TOTAL AIR P.E.
1 16.75	0.	1.38E-06	0.	0.	0.	9.72E-04	2.64E-03	7.35E-01	2.67E-02	7.65E-01
2 16.60	0.	1.27E-06	0.	0.	0.	9.72E-04	2.71E-03	6.88E-02	2.66E-02	9.03E-02
3 16.50	0.	1.36E-06	0.	0.	0.	9.72E-04	2.70E-03	4.03E-02	2.64E-02	9.09E-02
4 16.40	0.	1.25E-06	0.	0.	0.	9.72E-04	2.67E-03	6.00E-02	2.63E-02	9.07E-02
5 16.30	0.	1.11E-06	0.	0.	0.	9.72E-04	2.66E-03	6.80E-02	2.62E-02	9.04E-02
6 16.20	0.	1.16E-06	0.	0.	0.	9.72E-04	2.65E-03	6.69E-02	2.61E-02	9.01E-02
7 16.10	0.	1.11E-06	0.	0.	0.	9.72E-04	2.64E-03	6.87E-02	2.59E-02	9.07E-02
8 16.00	0.	9.95E-07	0.	0.	0.	9.63E-04	3.24E-03	6.75E-02	2.58E-02	9.74E-02
9 15.90	0.	1.05E-06	0.	0.	0.	9.63E-04	3.34E-03	6.77E-02	2.57E-02	9.71E-02
10 15.80	0.	9.76E-07	0.	0.	0.	9.65E-04	3.44E-03	6.78E-02	2.56E-02	9.70E-02
11 15.70	0.	9.64E-07	0.	0.	0.	9.68E-04	3.55E-03	6.80E-02	2.54E-02	9.80E-02
12 15.60	0.	9.37E-07	0.	0.	0.	9.68E-04	3.66E-03	6.82E-02	2.53E-02	9.81E-02
13 15.50	0.	9.19E-07	0.	0.	0.	9.90E-04	3.78E-03	6.83E-02	2.52E-02	9.83E-02
14 15.40	0.	7.89E-07	0.	0.	0.	9.94E-04	3.91E-03	6.85E-02	2.51E-02	9.85E-02
15 15.30	0.	8.13E-07	0.	0.	0.	9.97E-04	4.04E-03	6.87E-02	2.50E-02	9.87E-02
16 15.20	0.	6.94E-07	0.	0.	0.	1.00E-03	4.17E-03	6.89E-02	2.48E-02	9.89E-02
17 15.10	0.	7.16E-07	0.	0.	0.	1.00E-03	4.31E-03	6.77E-02	2.47E-02	9.78E-02
18 15.00	0.	6.83E-07	0.	0.	0.	1.01E-03	4.44E-03	6.77E-02	2.46E-02	9.78E-02
19 14.90	0.	6.25E-07	0.	0.	0.	1.01E-03	4.61E-03	6.77E-02	2.45E-02	9.79E-02
20 14.80	0.	6.20E-07	0.	0.	0.	1.01E-03	4.77E-03	6.78E-02	2.44E-02	9.80E-02
21 14.70	0.	5.51E-07	0.	0.	0.	1.02E-03	4.94E-03	6.78E-02	2.43E-02	9.81E-02
22 14.60	0.	5.73E-07	0.	0.	0.	1.02E-03	5.12E-03	6.76E-02	2.42E-02	9.82E-02
23 14.50	0.	5.13E-07	0.	0.	0.	1.03E-03	5.30E-03	6.76E-02	2.41E-02	9.84E-02
24 14.40	0.	5.13E-07	0.	0.	0.	1.03E-03	5.49E-03	6.71E-02	2.40E-02	9.86E-02
25 14.30	0.	4.47E-07	0.	0.	0.	1.04E-03	5.70E-03	6.82E-02	2.39E-02	9.89E-02
26 14.20	0.	4.03E-07	0.	0.	0.	1.05E-03	5.91E-03	6.84E-02	2.39E-02	9.92E-02
27 14.10	0.	4.15E-07	0.	0.	0.	1.05E-03	6.13E-03	6.85E-02	2.39E-02	9.94E-02
28 14.00	0.	3.68E-07	0.	0.	0.	1.06E-03	6.37E-03	6.87E-02	2.39E-02	9.96E-02
29 13.90	0.	3.78E-07	0.	0.	0.	1.06E-03	6.62E-03	6.89E-02	2.39E-02	9.98E-02
30 13.80	0.	3.39E-07	0.	0.	0.	1.07E-03	6.88E-03	6.91E-02	2.39E-02	1.00E-02
31 13.70	0.	3.39E-07	0.	0.	0.	1.07E-03	7.15E-03	6.94E-02	2.39E-02	1.01E-02
32 13.60	0.	3.77E-07	0.	1.01E-11	0.	1.07E-03	7.44E-03	6.96E-02	2.39E-02	1.01E-02
33 13.50	0.	3.08E-07	0.	5.55E-11	0.	1.08E-03	7.74E-03	6.96E-02	2.40E-02	1.01E-02
34 13.40	0.	2.71E-07	0.	5.24E-11	0.	1.09E-03	8.07E-03	6.98E-02	2.40E-02	1.01E-02
35 13.30	0.	2.71E-07	0.	1.95E-09	0.	1.09E-03	8.41E-03	6.98E-02	2.40E-02	1.01E-02
36 13.20	0.	2.46E-07	0.	3.52E-09	0.	1.10E-03	8.76E-03	6.93E-02	2.40E-02	1.01E-02
37 13.10	0.	2.43E-07	0.	1.75E-08	0.	1.11E-03	9.14E-03	6.96E-02	2.40E-02	1.01E-02
38 13.00	0.	2.27E-07	0.	3.24E-08	0.	1.12E-03	9.54E-03	6.98E-02	2.40E-02	1.01E-02
39 12.90	0.	2.19E-07	0.	4.91E-08	0.	1.12E-03	9.97E-03	6.98E-02	2.40E-02	1.01E-02
40 12.80	0.	2.08E-07	0.	7.97E-08	0.	1.13E-03	1.04E-02	6.98E-02	2.40E-02	1.01E-02
41 12.70	0.	1.85E-07	0.	7.59E-08	0.	1.14E-03	1.09E-02	6.96E-02	2.40E-02	1.01E-02
42 12.60	0.	1.76E-07	0.	6.73E-08	0.	1.15E-03	1.14E-02	6.96E-02	2.40E-02	1.01E-02
43 12.50	0.	1.38E-07	0.	9.33E-08	0.	1.16E-03	1.19E-02	6.96E-02	2.41E-02	1.01E-02
44 12.40	0.	9.06E-08	2.74E-10	8.43E-08	0.	1.17E-03	1.25E-02	6.96E-02	2.42E-02	1.01E-02
45 12.30	0.	6.37E-08	1.32E-09	6.57E-08	0.	1.18E-03	1.31E-02	6.96E-02	2.43E-02	1.01E-02
46 12.20	0.	3.64E-08	1.91E-09	8.64E-08	0.	1.19E-03	1.38E-02	6.96E-02	2.44E-02	1.01E-02
47 12.10	0.	1.76E-08	5.52E-09	1.04E-07	0.	1.20E-03	1.45E-02	6.96E-02	2.46E-02	1.01E-02
48 12.00	0.	4.55E-08	5.47E-09	3.35E-08	0.	1.21E-03	1.52E-02	6.96E-02	2.48E-02	1.01E-02
49 11.90	0.	3.27E-08	5.12E-09	5.15E-08	0.	1.22E-03	1.60E-02	6.96E-02	2.49E-02	1.01E-02
50 11.80	0.	2.09E-08	1.13E-08	5.44E-08	0.	1.19E-03	1.68E-02	6.96E-02	2.51E-02	1.01E-02
51 11.70	0.	2.59E-08	1.38E-08	6.10E-08	0.	1.12E-03	1.76E-02	6.96E-02	2.53E-02	1.01E-02

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 2300. DENSITY (GM/CC) 1.293E-04 ( 1.0E-01 NORMAL)

PHOTON OR S-R ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 3RD POS.	BETA	NO GAMMA	NO VIG-RO1	NO 2	3- PHOTO-MET (IONS)	FREE-FREE N	0 P.I.E.	TOTAL AIR	
52	5.60 1.17E-10	0.	0.	1.21E-08	7.00E-05	0.	0.	1.04E-03	1.88E-02	3.64E-02	2.54E-02	6.19E-02
53	5.50 0.	0.	0.	1.48E-08	7.21E-05	0.	0.	1.04E-03	1.98E-02	3.74E-02	2.57E-02	6.39E-02
54	5.40 0.	0.	0.	1.40E-08	6.10E-05	0.	0.	1.05E-03	2.10E-02	3.83E-02	2.60E-02	6.63E-02
55	5.30 0.	0.	0.	1.43E-08	7.00E-05	0.	0.	1.05E-03	2.22E-02	3.93E-02	2.63E-02	6.69E-02
56	5.20 0.	0.	0.	1.56E-08	6.02E-05	0.	0.	1.06E-03	2.34E-02	4.03E-02	2.67E-02	6.77E-02
57	5.10 0.	0.	0.	1.57E-08	7.44E-05	0.	0.	1.07E-03	2.50E-02	4.16E-02	2.71E-02	6.87E-02
58	5.00 1.67E-09	0.	0.	1.58E-08	7.34E-05	0.	0.	1.08E-03	2.65E-02	4.30E-02	2.75E-02	6.97E-02
59	4.90 4.12E-09	0.	0.	1.58E-08	8.38E-05	0.	0.	1.09E-03	2.82E-02	4.45E-02	2.80E-02	7.07E-02
60	4.80 7.94E-09	0.	0.	1.79E-08	7.95E-05	0.	0.	1.11E-03	3.00E-02	4.62E-02	2.86E-02	7.18E-02
61	4.70 1.09E-08	0.	0.	1.79E-08	7.09E-05	0.	0.	1.12E-03	3.20E-02	4.81E-02	2.94E-02	7.30E-02
62	4.60 1.54E-08	0.	0.	1.85E-08	6.47E-05	0.	0.	1.13E-03	3.41E-02	5.02E-02	3.03E-02	7.43E-02
63	4.50 1.64E-08	0.	2.37E-06	1.73E-08	4.86E-05	0.	0.	1.14E-03	3.64E-02	5.25E-02	3.13E-02	7.57E-02
64	4.40 1.78E-08	0.	6.79E-06	1.75E-08	3.30E-05	0.	0.	1.15E-03	3.89E-02	5.50E-02	3.24E-02	7.72E-02
65	4.30 1.71E-08	0.	6.40E-07	1.70E-08	2.11E-05	0.	0.	1.16E-03	4.15E-02	5.77E-02	3.36E-02	7.88E-02
66	4.20 1.62E-08	0.	7.22E-07	1.79E-08	1.53E-05	0.	0.	1.17E-03	4.50E-02	6.06E-02	3.47E-02	8.05E-02
67	4.10 1.54E-08	0.	3.25E-07	1.78E-08	4.06E-05	0.	0.	1.18E-03	4.84E-02	6.38E-02	3.58E-02	8.24E-02
68	4.00 1.44E-08	0.	1.05E-06	1.74E-08	3.04E-05	0.	0.	1.19E-03	5.22E-02	6.70E-02	3.70E-02	8.45E-02
69	3.90 1.25E-08	0.	5.04E-07	1.44E-08	1.12E-05	0.	0.	1.19E-03	5.64E-02	7.07E-02	3.83E-02	8.68E-02
70	3.80 1.30E-08	0.	8.21E-07	4.24E-06	1.78E-05	0.	0.	1.19E-03	6.11E-02	7.49E-02	3.97E-02	8.93E-02
71	3.70 1.25E-08	0.	8.21E-07	2.16E-06	1.94E-05	0.	0.	1.19E-03	6.64E-02	7.97E-02	4.12E-02	9.19E-02
72	3.60 1.15E-08	0.	6.20E-07	1.87E-05	1.89E-05	0.	0.	1.19E-03	7.25E-02	8.50E-02	4.28E-02	9.47E-02
73	3.50 1.09E-08	0.	7.98E-07	1.82E-05	1.37E-05	0.	0.	1.19E-03	7.98E-02	9.07E-02	4.45E-02	9.77E-02
74	3.40 1.02E-08	0.	5.35E-07	1.27E-06	1.93E-05	0.	0.	1.19E-03	8.84E-02	9.80E-02	4.64E-02	1.01E-01
75	3.30 1.23E-09	0.	5.43E-07	1.16E-05	1.75E-05	0.	0.	1.19E-03	9.84E-02	1.07E-01	4.85E-02	1.05E-01
76	3.20 7.32E-09	0.	3.69E-07	1.73E-05	1.54E-05	0.	0.	1.19E-03	1.09E-01	1.17E-01	5.08E-02	1.10E-01
77	3.10 7.13E-09	0.	2.91E-07	1.21E-05	1.50E-05	0.	0.	1.19E-03	1.16E-01	1.22E-01	5.33E-02	1.16E-01
78	3.00 6.52E-09	0.	2.91E-07	1.89E-05	1.25E-05	0.	0.	1.19E-03	1.25E-01	1.30E-01	5.60E-02	1.23E-01
79	2.90 5.80E-09	0.	1.58E-07	5.89E-06	9.62E-06	0.	0.	1.19E-03	1.35E-01	1.41E-01	5.90E-02	1.31E-01
80	2.80 5.91E-09	0.	5.98E-06	4.20E-06	7.09E-06	0.	0.	1.19E-03	1.47E-01	1.51E-01	6.22E-02	1.40E-01
81	2.70 5.93E-09	0.	2.64E-08	5.11E-06	6.03E-06	0.	0.	1.19E-03	1.61E-01	1.62E-01	6.57E-02	1.50E-01
82	2.60 1.92E-09	0.	1.26E-08	5.52E-07	1.37E-06	0.	0.	1.19E-03	1.78E-01	1.74E-01	7.00E-02	1.61E-01
83	2.50 1.37E-10	0.	1.28E-09	5.44E-07	4.75E-10	0.	0.	1.19E-03	2.00E-01	1.92E-01	7.50E-02	1.74E-01
84	2.40 0.	0.	5.58E-08	3.90E-07	4.95E-11	0.	0.	1.19E-03	2.24E-01	2.17E-01	8.00E-02	1.89E-01
85	2.30 0.	0.	1.25E-07	0.	0.	0.	0.	1.19E-03	2.50E-01	2.35E-01	8.50E-02	2.06E-01
86	2.20 0.	0.	4.25E-07	0.	0.	0.	0.	1.19E-03	2.78E-01	2.58E-01	9.00E-02	2.26E-01
87	2.10 0.	0.	4.21E-07	0.	0.	0.	0.	1.19E-03	3.09E-01	2.83E-01	9.50E-02	2.48E-01
88	2.00 0.	0.	0.56E-07	0.	0.	0.	0.	1.19E-03	3.43E-01	3.10E-01	1.00E-01	2.72E-01
89	1.90 0.	0.	0.75E-07	0.	0.	0.	0.	1.19E-03	3.80E-01	3.38E-01	1.05E-01	2.98E-01
90	1.80 0.	0.	0.46E-07	0.	0.	0.	0.	1.19E-03	4.20E-01	3.68E-01	1.10E-01	3.26E-01
91	1.70 0.	0.	6.47E-07	0.	0.	0.	0.	1.19E-03	4.64E-01	4.08E-01	1.15E-01	3.56E-01
92	1.60 0.	0.	7.23E-07	0.	0.	0.	0.	1.19E-03	5.14E-01	4.50E-01	1.20E-01	3.88E-01
93	1.50 0.	0.	6.19E-07	0.	0.	0.	0.	1.19E-03	5.70E-01	4.95E-01	1.25E-01	4.22E-01
94	1.40 0.	0.	7.90E-07	0.	0.	0.	0.	1.19E-03	6.33E-01	5.44E-01	1.30E-01	4.58E-01
95	1.30 0.	0.	6.11E-07	0.	0.	0.	0.	1.19E-03	7.04E-01	6.00E-01	1.35E-01	4.96E-01
96	1.20 0.	0.	5.02E-07	0.	0.	0.	0.	1.19E-03	7.84E-01	6.63E-01	1.40E-01	5.36E-01
97	1.10 0.	0.	5.72E-07	0.	0.	0.	0.	1.19E-03	8.74E-01	7.34E-01	1.45E-01	5.78E-01
98	1.00 0.	0.	5.26E-07	0.	0.	0.	0.	1.19E-03	9.74E-01	8.14E-01	1.50E-01	6.22E-01
99	0.90 0.	0.	4.31E-07	0.	0.	0.	0.	1.19E-03	1.09E-01	9.04E-01	1.55E-01	6.68E-01
100	0.80 0.	0.	2.02E-07	0.	0.	0.	0.	1.19E-03	1.24E-01	1.00E-01	1.60E-01	7.16E-01
101	0.70 0.	0.	4.62E-08	0.	0.	0.	0.	1.19E-03	1.41E-01	1.11E-01	1.65E-01	7.66E-01
102	0.60 0.	0.	1.12E-08	0.	0.	0.	0.	1.19E-03	1.60E-01	1.24E-01	1.70E-01	8.18E-01

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 2400. DENSITY (GM/CC) 1.2928-05 (19.0E-03 NORMAL)

PHOTON ENERGY E.V.	02 S-P COMT.	NP B-W NO. 1	NO DELTA	NO GAMMA	NO PHOTO-DET (IONS)	0 FREQ-FREE M	0 P.F.	TOTAL AIR		
1 10.79 0.	0.	3.32E-10	0.	0.	0.	2.09E-06	4.29E-05	1.16E-02	4.97E-04	1.21E-02
2 10.84 0.	0.	3.07E-10	0.	0.	0.	2.09E-06	4.37E-05	1.24E-03	4.75E-04	1.74E-03
3 10.90 0.	0.	3.13E-10	0.	0.	0.	2.09E-06	4.43E-05	1.29E-03	4.52E-04	1.78E-03
4 10.96 0.	0.	3.07E-10	0.	0.	0.	2.10E-06	4.50E-05	1.34E-03	4.30E-04	1.72E-03
5 10.99 0.	0.	2.80E-10	0.	0.	0.	2.10E-06	4.56E-05	1.39E-03	4.08E-04	1.76E-03
6 10.99 0.	0.	2.40E-10	0.	0.	0.	2.10E-06	4.61E-05	1.44E-03	3.86E-04	1.77E-03
7 10.10 0.	0.	2.47E-10	0.	0.	0.	2.10E-06	4.66E-05	1.49E-03	3.64E-04	1.77E-03
8 10.00 0.	0.	2.40E-10	0.	0.	0.	2.11E-06	4.71E-05	1.54E-03	3.42E-04	1.71E-03
9 9.99 5.	0.	2.37E-10	0.	0.	0.	2.11E-06	4.76E-05	1.59E-03	3.20E-04	1.61E-03
10 9.00 0.	0.	2.36E-10	0.	0.	0.	2.11E-06	4.81E-05	1.64E-03	2.98E-04	1.51E-03
11 9.70 0.	0.	2.09E-10	0.	0.	0.	2.12E-06	4.86E-05	1.69E-03	2.76E-04	1.42E-03
12 9.60 0.	0.	2.06E-10	0.	0.	0.	2.12E-06	4.91E-05	1.74E-03	2.54E-04	1.32E-03
13 9.50 0.	0.	1.90E-10	0.	0.	0.	2.13E-06	4.96E-05	1.79E-03	2.32E-04	1.22E-03
14 9.40 0.	0.	1.91E-10	0.	0.	0.	2.13E-06	5.01E-05	1.84E-03	2.10E-04	1.12E-03
15 9.30 0.	0.	1.96E-10	0.	0.	0.	2.13E-06	5.06E-05	1.89E-03	1.88E-04	1.02E-03
16 9.20 0.	0.	1.83E-10	0.	0.	0.	2.14E-06	5.11E-05	1.94E-03	1.66E-04	9.2E-04
17 9.10 0.	0.	1.73E-10	0.	0.	0.	2.14E-06	5.16E-05	1.99E-03	1.44E-04	8.2E-04
18 9.00 0.	0.	1.60E-10	0.	0.	0.	2.15E-06	5.21E-05	2.04E-03	1.22E-04	7.2E-04
19 8.00 0.	0.	1.51E-10	0.	0.	0.	2.15E-06	5.26E-05	2.09E-03	1.00E-04	6.2E-04
20 8.00 0.	0.	1.50E-10	0.	0.	0.	2.16E-06	5.31E-05	2.14E-03	7.8E-05	5.2E-04
21 8.70 0.	0.	1.33E-10	0.	0.	0.	2.16E-06	5.36E-05	2.19E-03	5.4E-05	4.2E-04
22 8.60 0.	0.	1.30E-10	0.	0.	0.	2.17E-06	5.41E-05	2.24E-03	3.6E-05	3.2E-04
23 8.50 0.	0.	1.24E-10	0.	0.	0.	2.17E-06	5.46E-05	2.29E-03	1.8E-05	2.2E-04
24 8.40 0.	0.	1.24E-10	0.	0.	0.	2.18E-06	5.51E-05	2.34E-03	0.	1.2E-04
25 8.30 0.	0.	1.08E-10	0.	0.	0.	2.18E-06	5.56E-05	2.39E-03	0.	2.2E-05
26 8.20 0.	0.	1.10E-10	0.	0.	0.	2.19E-06	5.61E-05	2.44E-03	0.	1.2E-05
27 8.10 0.	0.	9.74E-11	0.	0.	0.	2.19E-06	5.66E-05	2.49E-03	0.	2.2E-06
28 8.00 0.	0.	9.90E-11	0.	0.	0.	2.20E-06	5.71E-05	2.54E-03	0.	1.2E-06
29 7.90 0.	0.	9.13E-11	0.	0.	0.	2.20E-06	5.76E-05	2.59E-03	0.	2.2E-07
30 7.80 0.	0.	8.18E-11	0.	0.	0.	2.21E-06	5.81E-05	2.64E-03	0.	1.2E-07
31 7.70 0.	0.	8.18E-11	0.	0.	0.	2.22E-06	5.86E-05	2.69E-03	0.	2.2E-08
32 7.60 0.	0.	7.88E-11	0.	0.	0.	2.22E-06	5.91E-05	2.74E-03	0.	1.2E-08
33 7.50 0.	0.	7.45E-11	0.	0.	0.	2.23E-06	5.96E-05	2.79E-03	0.	2.2E-09
34 7.40 0.	0.	6.79E-11	0.	0.	0.	2.23E-06	6.01E-05	2.84E-03	0.	1.2E-09
35 7.30 0.	0.	6.95E-11	0.	0.	0.	2.24E-06	6.06E-05	2.89E-03	0.	2.2E-10
36 7.20 0.	0.	6.61E-11	0.	0.	0.	2.24E-06	6.11E-05	2.94E-03	0.	1.2E-10
37 7.10 0.	0.	5.97E-11	0.	0.	0.	2.25E-06	6.16E-05	2.99E-03	0.	2.2E-11
38 7.00 0.	0.	5.48E-11	0.	0.	0.	2.25E-06	6.21E-05	3.04E-03	0.	1.2E-11
39 7.00 2.24E-14	0.	5.12E-11	0.	0.	0.	2.26E-06	6.26E-05	3.09E-03	0.	2.2E-12
40 6.90 4.33E-14	0.	5.02E-11	0.	0.	0.	2.26E-06	6.31E-05	3.14E-03	0.	1.2E-12
41 6.80 3.06E-14	0.	4.48E-11	0.	0.	0.	2.27E-06	6.36E-05	3.19E-03	0.	2.2E-13
42 6.70 2.04E-14	0.	4.08E-11	0.	0.	0.	2.27E-06	6.41E-05	3.24E-03	0.	1.2E-13
43 6.60 1.75E-14	0.	4.09E-11	0.	0.	0.	2.28E-06	6.46E-05	3.29E-03	0.	2.2E-14
44 6.50 1.02E-14	0.	3.34E-11	0.	0.	0.	2.28E-06	6.51E-05	3.34E-03	0.	1.2E-14
45 6.40 5.97E-15	0.	2.36E-11	0.	0.	0.	2.29E-06	6.56E-05	3.39E-03	0.	2.2E-15
46 6.30 3.52E-15	0.	1.54E-11	0.	0.	0.	2.29E-06	6.61E-05	3.44E-03	0.	1.2E-15
47 6.20 1.61E-15	0.	5.85E-12	0.	0.	0.	2.30E-06	6.66E-05	3.49E-03	0.	2.2E-16
48 6.10 7.54E-16	0.	4.25E-12	0.	0.	0.	2.30E-06	6.71E-05	3.54E-03	0.	1.2E-16
49 6.00 3.19E-16	0.	1.45E-12	0.	0.	0.	2.31E-06	6.76E-05	3.59E-03	0.	2.2E-17
50 5.90 7.93E-17	0.	7.90E-14	0.	0.	0.	2.31E-06	6.81E-05	3.64E-03	0.	1.2E-17
51 5.80 1.01E-17	0.	3.44E-12	0.	0.	0.	2.32E-06	6.86E-05	3.69E-03	0.	2.2E-18
52 5.70 7.48E-18	0.	3.64E-12	0.	0.	0.	2.32E-06	6.91E-05	3.74E-03	0.	1.2E-18

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 23000. DENSITY (GM/CC) 1.203E-05 (10.0E-03 NORMAL)

PHOTON O2 S-R ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST DEG.	M2 2ND DEG.	NO BETA	NO GAMMA	NO VIB-ROT	NO 2	O-PMOTO-DET (IONS)	FREE-FREE N	N P.E.	O P.E.	TOTAL AIR																																																																																								
														NO 1	NO 2	NO 3	NO 4	NO 5	NO 6	NO 7	NO 8	NO 9	NO 10	NO 11	NO 12	NO 13	NO 14	NO 15	NO 16	NO 17	NO 18	NO 19	NO 20	NO 21	NO 22	NO 23	NO 24	NO 25	NO 26	NO 27	NO 28	NO 29	NO 30	NO 31	NO 32	NO 33	NO 34	NO 35	NO 36	NO 37	NO 38	NO 39	NO 40	NO 41	NO 42	NO 43	NO 44	NO 45	NO 46	NO 47	NO 48	NO 49	NO 50	NO 51	NO 52	NO 53	NO 54	NO 55	NO 56	NO 57	NO 58	NO 59	NO 60	NO 61	NO 62	NO 63	NO 64	NO 65	NO 66	NO 67	NO 68	NO 69	NO 70	NO 71	NO 72	NO 73	NO 74	NO 75	NO 76	NO 77	NO 78	NO 79	NO 80	NO 81	NO 82	NO 83	NO 84	NO 85	NO 86	NO 87	NO 88
52	5.60	3.0E-20	0.	0.	3.21E-12	2.06E-11	0.	0.	2.23E-08	3.02E-04	6.91E-04	4.30E-04	1.43E-03																																																																																								
53	5.50	0.	0.	0.	3.92E-12	1.91E-11	0.	0.	2.29E-08	3.17E-04	7.07E-04	4.43E-04	1.47E-03																																																																																								
54	5.40	0.	0.	0.	3.49E-12	1.61E-11	0.	0.	2.29E-08	3.39E-04	7.27E-04	4.48E-04	1.51E-03																																																																																								
55	5.30	0.	0.	0.	3.78E-12	1.70E-11	0.	0.	2.27E-08	3.37E-04	7.45E-04	4.54E-04	1.56E-03																																																																																								
56	5.20	0.	0.	0.	4.12E-12	1.89E-11	0.	0.	2.28E-08	3.78E-04	8.61E-04	4.61E-04	1.59E-03																																																																																								
57	5.10	0.	0.	0.	4.14E-12	2.07E-11	0.	0.	2.38E-08	4.88E-04	8.81E-04	4.63E-04	1.55E-03																																																																																								
58	5.00	4.83E-19	0.	0.	3.02E-12	1.99E-11	0.	0.	2.33E-08	4.74E-04	7.08E-04	4.71E-04	1.60E-03																																																																																								
59	4.90	1.20E-12	0.	0.	4.30E-12	2.14E-11	0.	0.	2.39E-08	4.94E-04	7.29E-04	4.79E-04	1.66E-03																																																																																								
60	4.80	2.16E-12	0.	0.	4.69E-12	2.95E-11	0.	0.	2.39E-08	4.63E-04	7.57E-04	4.90E-04	1.73E-03																																																																																								
61	4.70	3.16E-12	0.	0.	4.72E-12	1.97E-11	0.	0.	2.39E-08	5.15E-04	7.89E-04	5.03E-04	1.81E-03																																																																																								
62	4.60	4.44E-12	0.	0.	4.90E-12	1.70E-11	0.	0.	2.42E-08	5.49E-04	8.29E-04	5.17E-04	1.89E-03																																																																																								
63	4.50	4.74E-12	0.	0.	4.96E-12	1.24E-11	0.	0.	2.42E-08	5.87E-04	8.72E-04	5.31E-04	1.99E-03																																																																																								
64	4.40	5.16E-12	0.	0.	4.62E-12	9.71E-12	0.	0.	2.44E-08	6.25E-04	9.20E-04	5.46E-04	2.10E-03																																																																																								
65	4.30	4.96E-12	0.	0.	4.48E-12	3.97E-12	0.	0.	2.44E-08	6.74E-04	9.74E-04	5.61E-04	2.21E-03																																																																																								
66	4.20	4.60E-12	0.	0.	4.73E-12	3.79E-12	0.	0.	2.47E-08	7.23E-04	1.03E-03	5.77E-04	2.33E-03																																																																																								
67	4.10	4.44E-12	0.	0.	4.71E-12	1.08E-12	0.	0.	2.48E-08	7.79E-04	1.08E-03	5.73E-04	2.44E-03																																																																																								
68	4.00	4.14E-12	0.	0.	4.60E-12	0.04E-13	0.	0.	2.49E-08	8.40E-04	1.14E-03	5.84E-04	2.59E-03																																																																																								
69	3.90	3.60E-12	0.	0.	4.34E-12	2.99E-13	0.	0.	2.49E-08	9.37E-04	1.14E-03	5.84E-04	2.79E-03																																																																																								
70	3.80	3.94E-12	0.	0.	4.71E-12	0.	0.	0.	2.47E-08	9.82E-04	1.15E-03	5.78E-04	2.97E-03																																																																																								
71	3.70	3.62E-12	0.	0.	4.90E-12	0.	0.	0.	2.44E-08	1.07E-03	1.21E-03	5.78E-04	3.17E-03																																																																																								
72	3.60	3.31E-12	0.	0.	4.62E-12	0.	0.	0.	2.48E-08	1.19E-03	1.28E-03	5.89E-04	3.42E-03																																																																																								
73	3.50	3.15E-12	0.	0.	4.93E-12	0.	0.	0.	2.09E-08	1.31E-03	1.33E-03	6.26E-04	3.62E-03																																																																																								
74	3.40	2.94E-12	0.	0.	4.29E-12	0.09E-12	0.	0.	1.02E-08	1.31E-03	1.29E-03	6.67E-04	3.10E-03																																																																																								
75	3.30	2.33E-12	0.	0.	4.32E-12	3.33E-12	0.	0.	1.21E-08	1.51E-03	1.37E-03	5.09E-04	3.10E-03																																																																																								
76	3.20	2.12E-12	0.	0.	4.91E-12	3.31E-12	0.	0.	1.21E-08	1.66E-03	1.50E-03	5.53E-04	3.71E-03																																																																																								
77	3.10	2.06E-12	0.	0.	7.62E-12	3.42E-12	0.	0.	1.21E-08	1.85E-03	1.62E-03	5.98E-04	4.06E-03																																																																																								
78	3.00	1.80E-12	0.	0.	4.38E-12	3.38E-12	0.	0.	1.22E-08	2.02E-03	1.75E-03	6.43E-04	4.63E-03																																																																																								
79	2.90	1.62E-12	0.	0.	2.79E-11	1.12E-08	2.39E-12	0.	1.22E-08	2.24E-03	1.91E-03	6.94E-04	4.84E-03																																																																																								
80	2.80	1.71E-12	0.	0.	1.39E-11	8.19E-09	1.97E-12	0.	1.22E-08	2.49E-03	2.08E-03	7.52E-04	5.32E-03																																																																																								
81	2.70	1.54E-12	0.	0.	6.37E-12	9.77E-09	1.04E-12	0.	1.22E-08	2.79E-03	2.24E-03	8.16E-04	5.87E-03																																																																																								
82	2.60	5.56E-13	0.	0.	3.83E-12	1.06E-09	4.83E-13	0.	1.22E-08	3.13E-03	2.39E-03	8.79E-04	6.32E-03																																																																																								
83	2.50	3.96E-14	0.	0.	3.10E-13	1.04E-09	1.08E-13	0.	1.22E-08	3.51E-03	2.62E-03	9.92E-04	6.75E-03																																																																																								
84	2.40	0.	0.	0.	1.38E-11	7.61E-10	1.28E-14	0.	1.22E-08	4.00E-03	3.08E-03	1.11E-03	7.44E-03																																																																																								
85	2.30	0.	0.	0.	3.74E-11	0.	0.	0.	1.21E-08	4.59E-03	3.74E-03	1.28E-03	8.12E-03																																																																																								
86	2.20	0.	0.	0.	1.03E-10	0.	0.	0.	1.20E-08	5.21E-03	4.28E-03	1.46E-03	8.95E-03																																																																																								
87	2.10	0.	0.	0.	1.02E-10	0.	0.	0.	1.20E-08	6.00E-03	4.85E-03	1.65E-03	9.91E-03																																																																																								
88	2.00	0.	0.	0.	2.87E-10	0.	0.	0.	1.19E-08	6.99E-03	5.39E-03	1.82E-03	1.09E-02																																																																																								
89	1.90	0.	0.	0.	2.39E-10	0.	0.	0.	1.18E-08	8.19E-03	5.93E-03	1.99E-03	1.27E-02																																																																																								
90	1.80	0.	0.	0.	2.04E-10	0.	0.	0.	1.07E-08	9.62E-03	6.13E-03	1.81E-03	1.47E-02																																																																																								
91	1.70	0.	0.	0.	2.29E-10	0.	0.	0.	1.08E-08	1.15E-02	6.13E-03	1.61E-03	1.76E-02																																																																																								
92	1.60	0.	0.	0.	1.74E-10	0.	0.	0.	1.08E-08	1.39E-02	6.72E-03	2.21E-03	2.12E-02																																																																																								
93	1.50	0.	0.	0.	1.97E-10	0.	0.	0.	3.87E-07	1.69E-02	7.15E-03	2.80E-03	2.52E-02																																																																																								
94	1.40	0.	0.	0.	1.93E-10	0.	0.	0.	0.	2.09E-02	1.14E-02	3.15E-03	3.15E-02																																																																																								
95	1.30	0.	0.	0.	1.40E-10	0.	0.	0.	0.	2.62E-02	2.02E-02	4.94E-03	3.91E-02																																																																																								
96	1.20	0.	0.	0.	1.41E-10	0.	0.	0.	0.	3.35E-02	2.29E-02	6.99E-03	5.14E-02																																																																																								
97	1.10	0.	0.	0.	1.38E-10	0.	0.	0.	0.	4.38E-02	2.60E-02	9.21E-03	7.61E-02																																																																																								
98	1.00	0.	0.	0.	1.27E-10	0.	0.	0.	0.	5.89E-02	3.04E-02	1.10E-02	9.59E-02																																																																																								
99	0.90	0.	0.	0.	1.84E-10	0.	0.	0.	0.	8.19E-02	3.62E-02	1.31E-03	1.29E-01																																																																																								
100	0.80	0.	0.	0.	4.60E-10	0.	0.	0.	0.	1.17E-01	4.51E-02	1.72E-01	1.72E-01																																																																																								
101	0.70	0.	0.	0.	1.11E-10	0.	0.	0.	0.	1.78E-01	4.89E-02	2.36E-01	2.36E-01																																																																																								
102	0.60	0.	0.	0.	2.71E-10	0.	0.	0.	0.	2.68E-01	5.43E-02	3.10E-02	3.52E-01																																																																																								

TEMPERATURE (DEGREES N) 23000. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON 02 5-M ENERGY BANDS E.V.	02 5-R CONT.	02 5-M NO. 1	NO BETA	NO GAMMA	NO 2	0- PHOTO-DET (IONS)	FREE-FREE P.E.	N	0 P.E.	TOTAL AIR
1 10.70 0.	0.	3.72E-14	0.	0.	0.	2.50E-09	5.25E-07	3.15E-05	5.40E-06	3.74E-05
2 10.00 0.	0.	3.44E-14	0.	0.	0.	2.51E-09	5.40E-07	3.10E-05	5.32E-06	3.77E-05
3 10.50 0.	0.	3.51E-14	0.	0.	0.	2.51E-09	5.54E-07	3.20E-05	5.29E-06	3.81E-05
4 10.40 0.	0.	3.40E-14	0.	0.	0.	2.51E-09	5.72E-07	3.24E-05	5.27E-06	3.85E-05
5 10.30 0.	0.	3.00E-14	0.	0.	0.	2.52E-09	5.82E-07	3.30E-05	5.25E-06	3.88E-05
6 10.20 0.	0.	3.14E-14	0.	0.	0.	2.52E-09	5.82E-07	3.34E-05	5.23E-06	3.93E-05
7 10.10 0.	0.	2.99E-14	0.	0.	0.	2.52E-09	5.25E-07	3.30E-05	5.21E-06	3.96E-05
8 10.00 0.	0.	2.60E-14	0.	0.	0.	2.53E-09	5.45E-07	1.80E-05	5.19E-06	2.30E-05
9 9.90 0.	0.	2.77E-14	0.	0.	0.	2.53E-09	5.45E-07	1.81E-05	5.17E-06	2.30E-05
10 9.80 0.	0.	2.64E-14	0.	0.	0.	2.54E-09	5.82E-07	1.82E-05	5.15E-06	2.41E-05
11 9.70 0.	0.	2.33E-14	0.	0.	0.	2.54E-09	7.07E-07	1.85E-05	5.13E-06	2.42E-05
12 9.60 0.	0.	2.53E-14	0.	0.	0.	2.55E-09	7.29E-07	1.85E-05	5.11E-06	2.44E-05
13 9.50 0.	0.	2.71E-14	0.	0.	0.	2.55E-09	7.53E-07	1.87E-05	5.09E-06	2.45E-05
14 9.40 0.	0.	2.13E-14	0.	0.	0.	2.56E-09	7.77E-07	1.88E-05	5.07E-06	2.47E-05
15 9.30 0.	0.	2.20E-14	0.	0.	0.	2.57E-09	8.03E-07	1.90E-05	5.04E-06	2.48E-05
16 9.20 0.	0.	1.80E-14	0.	0.	0.	2.57E-09	8.30E-07	1.91E-05	5.04E-06	2.50E-05
17 9.10 0.	0.	1.93E-14	0.	0.	0.	2.58E-09	8.58E-07	1.24E-05	5.02E-06	1.83E-05
18 9.00 0.	0.	1.70E-14	0.	0.	0.	2.60E-09	8.87E-07	1.26E-05	5.00E-06	1.85E-05
19 8.90 0.	0.	1.60E-14	0.	0.	0.	2.61E-09	9.18E-07	1.27E-05	4.99E-06	1.86E-05
20 8.80 0.	0.	1.67E-14	0.	0.	0.	2.62E-09	9.50E-07	1.28E-05	4.97E-06	1.87E-05
21 8.70 0.	0.	1.49E-14	0.	0.	0.	2.63E-09	9.83E-07	1.29E-05	4.96E-06	1.89E-05
22 8.60 0.	0.	1.55E-14	0.	0.	0.	2.64E-09	1.02E-06	1.31E-05	4.94E-06	1.90E-05
23 8.50 0.	0.	1.30E-14	0.	0.	0.	2.64E-09	1.05E-06	1.32E-05	4.93E-06	1.92E-05
24 8.40 0.	0.	1.39E-14	0.	0.	0.	2.65E-09	1.08E-06	1.33E-05	4.91E-06	1.94E-05
25 8.30 0.	0.	1.21E-14	0.	0.	0.	2.67E-09	1.13E-06	1.34E-05	4.90E-06	1.96E-05
26 8.20 0.	0.	1.23E-14	0.	0.	0.	2.69E-09	1.18E-06	1.35E-05	4.92E-06	1.99E-05
27 8.10 0.	0.	1.00E-14	0.	0.	0.	2.70E-09	1.23E-06	1.40E-05	4.92E-06	2.00E-05
28 8.00 0.	0.	1.11E-14	0.	0.	0.	2.71E-09	1.27E-06	1.42E-05	4.91E-06	2.03E-05
29 7.90 0.	0.	9.74E-15	0.	0.	0.	2.73E-09	1.32E-06	1.45E-05	4.92E-06	2.04E-05
30 7.80 0.	0.	1.02E-14	0.	0.	0.	2.74E-09	1.37E-06	1.47E-05	4.91E-06	2.09E-05
31 7.70 0.	0.	9.15E-15	0.	0.	0.	2.75E-09	1.42E-06	1.50E-05	4.84E-06	2.13E-05
32 7.60 0.	0.	8.02E-15	0.	5.03E-19	0.	2.77E-09	1.48E-06	1.50E-05	4.86E-06	1.82E-05
33 7.50 0.	0.	8.33E-15	0.	1.73E-18	0.	2.77E-09	1.48E-06	1.51E-05	4.87E-06	1.86E-05
34 7.40 0.	0.	7.40E-15	0.	1.48E-17	0.	2.80E-09	1.54E-06	1.21E-05	4.87E-06	1.66E-05
35 7.30 0.	0.	7.33E-15	0.	6.04E-17	0.	2.80E-09	1.48E-06	1.25E-05	4.88E-06	1.99E-05
36 7.20 0.	0.	6.73E-15	0.	6.04E-17	0.	2.81E-09	1.48E-06	1.28E-05	4.90E-06	1.94E-05
37 7.10 0.	0.	6.57E-15	0.	5.49E-16	0.	2.83E-09	1.74E-06	1.33E-05	4.92E-06	1.99E-05
38 7.00 0.	0.	6.14E-15	0.	1.01E-15	0.	2.83E-09	1.89E-06	1.42E-05	4.94E-06	2.05E-05
39 6.90 3.51E-10 0.	0.	5.72E-15	0.	1.53E-15	0.	2.86E-09	1.90E-06	1.42E-05	4.96E-06	2.10E-05
40 6.80 4.80E-10 0.	0.	5.62E-15	0.	2.40E-15	0.	2.90E-09	1.90E-06	1.44E-05	4.98E-06	2.16E-05
41 6.70 3.54E-10 0.	0.	5.01E-15	0.	2.40E-15	0.	2.92E-09	2.07E-06	1.50E-05	5.00E-06	2.21E-05
42 6.60 2.10E-10 0.	0.	4.50E-15	0.	2.37E-15	0.	2.95E-09	2.12E-06	1.55E-05	5.03E-06	2.27E-05
43 6.50 1.26E-10 0.	0.	3.74E-15	0.	2.10E-15	0.	2.97E-09	2.27E-06	1.45E-05	5.06E-06	2.19E-05
44 6.40 7.43E-10 0.	0.	2.67E-15	8.54E-18	2.03E-15	0.	2.99E-09	2.30E-06	1.50E-05	5.09E-06	2.24E-05
45 6.30 4.38E-10 0.	0.	1.72E-15	4.11E-17	2.05E-15	0.	3.01E-09	2.49E-06	1.54E-05	5.12E-06	2.30E-05
46 6.20 2.03E-10 0.	0.	9.83E-16	5.91E-17	2.15E-15	0.	3.04E-09	2.61E-06	1.58E-05	5.16E-06	2.36E-05
47 6.10 9.50E-20 0.	0.	4.75E-16	1.72E-16	3.02E-15	0.	3.06E-09	2.75E-06	1.63E-05	5.21E-06	2.43E-05
48 6.00 3.97E-20 0.	0.	1.23E-16	1.72E-16	3.02E-15	0.	3.11E-09	2.80E-06	1.73E-05	5.32E-06	2.56E-05
49 5.90 1.67E-21 0.	0.	8.04E-18	2.53E-16	1.61E-15	0.	3.11E-09	1.19E-06	1.70E-05	5.37E-06	2.64E-05
50 5.80 1.26E-21 0.	0.	2.24E-19	3.50E-16	1.70E-15	0.	3.05E-09	1.32E-06	1.68E-05	5.43E-06	2.71E-05
51 5.70 8.31E-23 0.	0.	0.	4.29E-16	1.00E-15	0.	2.80E-09	1.51E-06	1.65E-05	5.48E-06	2.79E-05

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON 02 3-R EMPLRY SCABS	W2 1ST POS.	W2 2ND POS.	W2 1ST WEG.	BETA	NO GAMMA	NO VIB-ROT	NO 2	0- PHOTO-DET (IONS)	W P.E.	0 TOTAL AIR P.E.		
52	5.60	4.23E-24	0.	0.	3.78E-16	2.43E-15	0.	3.78E-09	3.74E-04	1.95E-05	5.54E-06	2.00E-05
53	5.50	0.	0.	0.	4.35E-16	2.92E-15	0.	2.69E-09	3.93E-06	2.02E-05	5.61E-06	2.07E-05
54	5.40	0.	0.	0.	4.58E-16	1.90E-15	0.	2.70E-09	4.17E-06	2.89E-05	5.78E-06	3.68E-05
55	5.30	0.	0.	0.	4.47E-16	2.34E-15	0.	2.73E-09	4.42E-06	1.48E-05	5.79E-06	2.16E-05
56	5.20	0.	0.	0.	4.64E-16	1.69E-15	0.	2.74E-09	4.61E-06	1.19E-05	5.34E-06	2.19E-05
57	5.10	0.	0.	0.	4.80E-16	2.40E-15	0.	2.74E-09	4.94E-06	1.24E-05	5.44E-06	2.27E-05
58	5.00	6.02E-17	0.	0.	4.91E-16	2.52E-15	0.	2.75E-09	5.27E-06	1.29E-05	5.53E-06	2.34E-05
59	4.90	1.40E-16	0.	0.	5.02E-16	2.59E-15	0.	2.81E-09	5.60E-06	1.33E-05	5.62E-06	2.42E-05
60	4.80	2.66E-16	0.	0.	5.15E-16	2.21E-15	0.	2.85E-09	5.93E-06	1.37E-05	5.77E-06	2.50E-05
61	4.70	3.94E-16	0.	0.	5.27E-16	2.80E-15	0.	2.89E-09	6.26E-06	1.41E-05	5.93E-06	2.69E-05
62	4.60	5.33E-16	0.	0.	5.40E-16	1.92E-15	0.	2.92E-09	6.59E-06	1.45E-05	6.10E-06	2.84E-05
63	4.50	5.90E-16	0.	0.	5.53E-16	1.92E-15	0.	2.92E-09	7.25E-06	1.49E-05	6.28E-06	3.00E-05
64	4.40	4.42E-16	0.	0.	5.66E-16	1.92E-15	0.	2.92E-09	7.79E-06	1.53E-05	6.47E-06	3.16E-05
65	4.30	5.17E-16	0.	0.	5.79E-16	4.58E-16	0.	2.92E-09	8.33E-06	1.57E-05	6.67E-06	3.34E-05
66	4.20	5.83E-16	0.	0.	5.92E-16	4.27E-16	0.	2.92E-09	8.87E-06	1.61E-05	6.87E-06	3.54E-05
67	4.10	5.55E-16	0.	0.	6.05E-16	1.27E-16	0.	2.92E-09	9.41E-06	1.65E-05	7.07E-06	3.74E-05
68	4.00	5.10E-16	0.	0.	6.18E-16	5.48E-17	0.	2.92E-09	9.95E-06	1.69E-05	7.27E-06	3.94E-05
69	3.90	4.49E-16	0.	0.	6.31E-16	3.48E-17	0.	2.92E-09	1.049E-05	1.73E-05	7.47E-06	4.14E-05
70	3.80	4.96E-16	0.	0.	6.44E-16	6.55E-17	0.	2.92E-09	1.103E-05	1.77E-05	7.67E-06	4.34E-05
71	3.70	4.51E-16	0.	0.	6.57E-16	4.08E-17	0.	2.92E-09	1.157E-05	1.81E-05	7.87E-06	4.54E-05
72	3.60	4.13E-16	0.	0.	6.70E-16	5.27E-17	0.	2.92E-09	1.211E-05	1.85E-05	8.07E-06	4.74E-05
73	3.50	3.82E-16	0.	0.	6.83E-16	4.89E-17	0.	2.92E-09	1.265E-05	1.89E-05	8.27E-06	4.94E-05
74	3.40	3.60E-16	0.	0.	6.96E-16	6.10E-17	0.	2.92E-09	1.319E-05	1.93E-05	8.47E-06	5.14E-05
75	3.30	2.96E-16	0.	0.	7.09E-16	3.95E-17	0.	2.92E-09	1.373E-05	1.97E-05	8.67E-06	5.34E-05
76	3.20	2.63E-16	0.	0.	7.22E-16	4.49E-17	0.	2.92E-09	1.427E-05	2.01E-05	8.87E-06	5.54E-05
77	3.10	2.57E-16	0.	0.	7.35E-16	1.04E-17	0.	2.92E-09	1.481E-05	2.05E-05	9.07E-06	5.74E-05
78	3.00	2.35E-16	0.	0.	7.48E-16	4.04E-17	0.	2.92E-09	1.535E-05	2.09E-05	9.27E-06	5.94E-05
79	2.90	2.05E-16	0.	0.	7.61E-16	3.04E-17	0.	2.92E-09	1.589E-05	2.13E-05	9.47E-06	6.14E-05
80	2.80	2.13E-16	0.	0.	7.74E-16	4.51E-17	0.	2.92E-09	1.643E-05	2.17E-05	9.67E-06	6.34E-05
81	2.70	1.41E-16	0.	0.	7.87E-16	1.82E-17	0.	2.92E-09	1.697E-05	2.21E-05	9.87E-06	6.54E-05
82	2.60	6.92E-17	0.	0.	8.00E-16	5.72E-17	0.	2.92E-09	1.751E-05	2.25E-05	1.007E-05	6.74E-05
83	2.50	4.93E-16	0.	0.	8.13E-16	1.59E-17	0.	2.92E-09	1.805E-05	2.29E-05	1.027E-05	6.94E-05
84	2.40	0.	0.	0.	8.26E-16	1.51E-18	0.	2.92E-09	1.859E-05	2.33E-05	1.047E-05	7.14E-05
85	2.30	0.	0.	0.	8.39E-16	0.	0.	2.92E-09	1.913E-05	2.37E-05	1.067E-05	7.34E-05
86	2.20	0.	0.	0.	8.52E-16	0.	0.	2.92E-09	1.967E-05	2.41E-05	1.087E-05	7.54E-05
87	2.10	0.	0.	0.	8.65E-16	0.	0.	2.92E-09	2.021E-05	2.45E-05	1.107E-05	7.74E-05
88	2.00	0.	0.	0.	8.78E-16	0.	0.	2.92E-09	2.075E-05	2.49E-05	1.127E-05	7.94E-05
89	1.90	0.	0.	0.	8.91E-16	0.	0.	2.92E-09	2.129E-05	2.53E-05	1.147E-05	8.14E-05
90	1.80	0.	0.	0.	9.04E-16	0.	0.	2.92E-09	2.183E-05	2.57E-05	1.167E-05	8.34E-05
91	1.70	0.	0.	0.	9.17E-16	0.	0.	2.92E-09	2.237E-05	2.61E-05	1.187E-05	8.54E-05
92	1.60	0.	0.	0.	9.30E-16	0.	0.	2.92E-09	2.291E-05	2.65E-05	1.207E-05	8.74E-05
93	1.50	0.	0.	0.	9.43E-16	0.	0.	2.92E-09	2.345E-05	2.69E-05	1.227E-05	8.94E-05
94	1.40	0.	0.	0.	9.56E-16	0.	0.	2.92E-09	2.399E-05	2.73E-05	1.247E-05	9.14E-05
95	1.30	0.	0.	0.	9.69E-16	0.	0.	2.92E-09	2.453E-05	2.77E-05	1.267E-05	9.34E-05
96	1.20	0.	0.	0.	9.82E-16	0.	0.	2.92E-09	2.507E-05	2.81E-05	1.287E-05	9.54E-05
97	1.10	0.	0.	0.	9.95E-16	0.	0.	2.92E-09	2.561E-05	2.85E-05	1.307E-05	9.74E-05
98	1.00	0.	0.	0.	1.008E-15	0.	0.	2.92E-09	2.615E-05	2.89E-05	1.327E-05	9.94E-05
99	0.90	0.	0.	0.	1.021E-15	0.	0.	2.92E-09	2.669E-05	2.93E-05	1.347E-05	1.014E-04
100	0.80	0.	0.	0.	1.034E-15	0.	0.	2.92E-09	2.723E-05	2.97E-05	1.367E-05	1.034E-04
101	0.70	0.	0.	0.	1.047E-15	0.	0.	2.92E-09	2.777E-05	3.01E-05	1.387E-05	1.054E-04
102	0.60	0.	0.	0.	1.060E-15	0.	0.	2.92E-09	2.831E-05	3.05E-05	1.407E-05	1.074E-04
103	0.50	0.	0.	0.	1.073E-15	0.	0.	2.92E-09	2.885E-05	3.09E-05	1.427E-05	1.094E-04
104	0.40	0.	0.	0.	1.086E-15	0.	0.	2.92E-09	2.939E-05	3.13E-05	1.447E-05	1.114E-04



ABSORPTION COEFFICIENT - OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 2900. DENSITY (GM/CC) 1.293E-07 (10.0E-05 NORMAL)

PHOTON ENERGY BANDS E.V.	92 S-R COMT.	W2 D-M NO. 1	W0 DELTA	W0 GAMMA	NO 2	D- FREE-FREE P.E.	N FREE-FREE P.E.	D TOTAL AIR P.E.
1 10.74 0.	0.	2.91E-10	0.	0.	0.	3.40E-12	1.60E-09	0.30E-00
2 10.06 0.	0.	2.76E-10	0.	0.	0.	3.47E-12	1.63E-09	0.36E-00
3 10.36 0.	0.	2.75E-10	0.	0.	0.	3.47E-12	1.64E-09	0.34E-00
4 10.64 0.	0.	2.69E-10	0.	0.	0.	3.40E-12	1.74E-09	0.32E-00
5 10.30 0.	0.	2.55E-10	0.	0.	0.	3.40E-12	1.79E-09	0.30E-00
6 10.20 0.	0.	2.46E-10	0.	0.	0.	3.40E-12	1.87E-09	0.30E-00
7 10.00 0.	0.	2.34E-10	0.	0.	0.	3.40E-12	1.98E-09	0.32E-00
8 10.00 0.	0.	2.10E-10	0.	0.	0.	3.50E-12	1.73E-09	0.33E-00
9 9.90 0.	0.	2.17E-10	0.	0.	0.	3.52E-12	1.63E-09	0.34E-00
10 9.80 0.	0.	2.07E-10	0.	0.	0.	3.51E-12	1.30E-09	0.36E-00
11 9.70 0.	0.	1.83E-10	0.	0.	0.	3.52E-12	1.34E-09	0.30E-00
12 9.60 0.	0.	1.90E-10	0.	0.	0.	3.52E-12	1.39E-09	0.30E-00
13 9.50 0.	0.	1.74E-10	0.	0.	0.	3.53E-12	1.43E-09	0.30E-00
14 9.40 0.	0.	1.67E-10	0.	0.	0.	3.54E-12	1.48E-09	0.30E-00
15 9.30 0.	0.	1.72E-10	0.	0.	0.	3.55E-12	1.53E-09	0.30E-00
16 9.20 0.	0.	1.47E-10	0.	0.	0.	3.57E-12	1.50E-09	0.31E-00
17 9.10 0.	0.	1.52E-10	0.	0.	0.	3.50E-12	1.63E-09	0.30E-00
18 9.00 0.	0.	1.40E-10	0.	0.	0.	3.59E-12	1.74E-09	0.30E-00
19 8.90 0.	0.	1.32E-10	0.	0.	0.	3.61E-12	1.74E-09	0.31E-00
20 8.80 0.	0.	1.31E-10	0.	0.	0.	3.62E-12	1.80E-09	0.30E-00
21 8.70 0.	0.	1.17E-10	0.	0.	0.	3.63E-12	1.87E-09	0.30E-00
22 8.60 0.	0.	1.21E-10	0.	0.	0.	3.64E-12	1.93E-09	0.30E-00
23 8.50 0.	0.	1.00E-10	0.	0.	0.	3.68E-12	2.00E-09	0.30E-00
24 8.40 0.	0.	1.09E-10	0.	0.	0.	3.68E-12	2.08E-09	0.30E-00
25 8.30 0.	0.	9.40E-11	0.	0.	0.	3.70E-12	2.15E-09	0.30E-00
26 8.20 0.	0.	8.00E-11	0.	0.	0.	3.71E-12	2.23E-09	0.30E-00
27 8.10 0.	0.	8.55E-11	0.	0.	0.	3.73E-12	2.32E-09	0.30E-00
28 8.00 0.	0.	8.09E-11	0.	0.	0.	3.75E-12	2.41E-09	0.30E-00
29 7.90 0.	0.	7.64E-11	0.	0.	0.	3.77E-12	2.50E-09	0.30E-00
30 7.80 0.	0.	8.01E-11	0.	0.	0.	3.79E-12	2.60E-09	0.30E-00
31 7.70 0.	0.	7.18E-11	0.	0.	0.	3.81E-12	2.70E-09	0.30E-00
32 7.60 0.	0.	6.92E-11	0.	0.	0.	3.83E-12	2.81E-09	0.30E-00
33 7.50 0.	0.	6.54E-11	0.	0.	0.	3.85E-12	2.92E-09	0.30E-00
34 7.40 0.	0.	5.94E-11	0.	0.	0.	3.87E-12	3.05E-09	0.30E-00
35 7.30 0.	0.	5.75E-11	0.	0.	0.	3.89E-12	3.17E-09	0.30E-00
36 7.20 0.	0.	5.26E-11	0.	0.	0.	3.91E-12	3.31E-09	0.30E-00
37 7.10 0.	0.	5.15E-11	0.	0.	0.	3.93E-12	3.45E-09	0.30E-00
38 7.00 3.0E-22	0.	4.61E-11	0.	0.	0.	3.98E-12	3.45E-09	0.30E-00
39 6.90 7.1E-22	0.	4.49E-11	0.	0.	0.	4.01E-12	3.76E-09	0.30E-00
40 6.80 2.2E-22	0.	4.41E-11	0.	0.	0.	4.04E-12	3.93E-09	0.30E-00
41 6.70 7.0E-22	0.	3.93E-11	0.	0.	0.	4.07E-12	4.11E-09	0.30E-00
42 6.60 2.0E-22	0.	3.59E-11	0.	0.	0.	4.11E-12	4.30E-09	0.30E-00
43 6.50 1.6E-22	0.	2.93E-11	0.	0.	0.	4.14E-12	4.50E-09	0.30E-00
44 6.40 6.0E-23	0.	2.89E-11	0.	0.	0.	4.17E-12	4.72E-09	0.30E-00
45 6.30 5.6E-23	0.	1.35E-11	0.	0.	0.	4.20E-12	4.95E-09	0.30E-00
46 6.20 2.6E-23	0.	7.71E-11	0.	0.	0.	4.23E-12	5.20E-09	0.30E-00
47 6.10 1.7E-23	0.	3.73E-11	0.	0.	0.	4.27E-12	5.47E-09	0.30E-00
48 6.00 5.1E-24	0.	6.65E-11	0.	0.	0.	4.30E-12	5.74E-09	0.30E-00
49 5.90 1.2E-24	0.	6.93E-11	0.	0.	0.	4.33E-12	6.02E-09	0.30E-00
50 5.80 1.6E-25	0.	1.74E-11	0.	0.	0.	4.36E-12	6.31E-09	0.30E-00
51 5.70 1.21E-26	0.	0.	0.	0.	0.	4.39E-12	6.61E-09	0.30E-00

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON OR S-R ENERGY BANDS	TEMPERATURE (DEGREES K)			DENSITY (GM/CC)			0- PHOTO-DET (IONS)			FREE-FREE			TOTAL AIR		
	1ST POS.	2ND POS.	1ST NEG.	BETA	NO GAMMA	NO VIB-ROT	NO	NO	NO	M	P.E.	M	P.E.	M	P.E.
52 5.60 5.49E-20	0.	0.	0.	3.89E-20	2.49E-19	0.	0.	3.70E-12	7.40E-08	3.69E-07	7.62E-06	5.16E-07			
53 5.50 0.	0.	0.	0.	4.65E-20	2.27E-19	0.	0.	3.72E-12	7.48E-08	3.69E-07	7.77E-06	5.42E-07			
54 5.40 0.	0.	0.	0.	4.40E-20	1.92E-19	0.	0.	3.74E-12	7.90E-08	4.11E-07	7.96E-06	5.78E-07			
55 5.30 0.	0.	0.	0.	4.51E-20	2.36E-19	0.	0.	3.76E-12	8.37E-08	4.58E-07	8.17E-06	5.99E-07			
56 5.20 0.	0.	0.	0.	4.94E-20	1.98E-19	0.	0.	3.78E-12	8.86E-08	4.96E-07	8.41E-06	6.28E-07			
57 5.10 0.	0.	0.	0.	4.98E-20	2.41E-19	0.	0.	3.82E-12	9.40E-08	5.41E-07	8.84E-06	6.59E-07			
58 5.00 7.01E-21	0.	0.	0.	4.98E-20	2.32E-19	0.	0.	3.85E-12	9.90E-08	5.81E-07	9.27E-06	6.89E-07			
59 4.90 1.94E-20	0.	0.	0.	5.15E-20	2.37E-19	0.	0.	3.88E-12	1.05E-07	6.29E-07	9.72E-06	7.21E-07			
60 4.80 3.71E-20	0.	0.	0.	5.56E-20	2.44E-19	0.	0.	3.91E-12	1.15E-07	6.74E-07	1.03E-05	7.61E-07			
61 4.70 5.11E-20	0.	0.	0.	5.62E-20	2.23E-19	0.	0.	3.95E-12	1.20E-07	6.88E-07	1.03E-05	7.69E-07			
62 4.60 7.18E-20	0.	0.	0.	5.64E-20	2.02E-19	0.	0.	3.98E-12	1.29E-07	6.22E-07	9.24E-06	8.43E-07			
63 4.50 7.66E-20	0.	5.03E-20	0.	5.44E-20	1.53E-19	0.	0.	4.01E-12	1.37E-07	6.65E-07	9.57E-06	8.98E-07			
64 4.40 8.33E-20	0.	1.44E-19	0.	5.59E-20	1.04E-19	0.	0.	4.04E-12	1.47E-07	7.09E-07	9.95E-06	9.55E-07			
65 4.30 8.01E-20	0.	5.08E-19	0.	5.34E-20	6.64E-20	0.	0.	4.07E-12	1.57E-07	7.53E-07	1.01E-05	1.01E-06			
66 4.20 7.57E-20	0.	1.52E-18	0.	5.66E-20	4.51E-20	0.	0.	4.15E-12	1.68E-07	8.01E-07	1.05E-05	1.07E-06			
67 4.10 7.28E-20	0.	7.31E-19	0.	5.61E-20	1.20E-20	0.	0.	4.12E-12	1.80E-07	8.50E-07	1.08E-05	1.11E-06			
68 4.00 6.73E-20	0.	2.22E-18	0.	5.48E-20	9.57E-21	0.	0.	4.14E-12	1.90E-07	9.03E-07	1.12E-05	1.18E-06			
69 3.90 5.52E-20	0.	1.07E-18	1.47E-15	5.17E-20	3.51E-21	0.	0.	4.12E-12	2.12E-07	9.34E-07	1.17E-05	1.23E-06			
70 3.80 6.43E-20	0.	1.74E-18	5.52E-15	5.68E-20	0.	0.	0.	4.11E-12	2.12E-07	9.34E-07	1.17E-05	1.23E-06			
71 3.70 5.96E-20	0.	1.74E-18	2.70E-15	4.92E-20	0.	0.	0.	4.04E-12	2.49E-07	1.09E-06	1.29E-05	1.36E-06			
72 3.60 5.96E-20	0.	1.31E-18	1.30E-14	4.32E-20	0.	0.	0.	3.70E-12	2.71E-07	1.09E-06	1.42E-05	1.46E-06			
73 3.50 5.96E-20	0.	1.08E-18	2.35E-14	4.32E-20	0.	0.	0.	3.46E-12	2.95E-07	1.15E-06	1.47E-05	1.55E-06			
74 3.40 4.78E-20	0.	1.13E-18	4.21E-15	4.87E-20	0.	0.	0.	2.90E-12	3.22E-07	1.22E-06	1.56E-05	1.66E-06			
75 3.30 3.95E-20	0.	1.10E-18	1.49E-14	3.98E-20	0.	0.	0.	2.80E-12	3.52E-07	1.28E-06	1.62E-05	1.77E-06			
76 3.20 3.42E-20	0.	7.82E-19	2.23E-14	4.25E-20	0.	0.	0.	2.85E-12	3.87E-07	1.36E-06	1.70E-05	1.90E-06			
77 3.10 3.33E-20	0.	6.16E-19	6.71E-15	4.07E-20	0.	0.	0.	2.91E-12	4.20E-07	1.46E-06	1.79E-05	2.05E-06			
78 3.00 3.04E-20	0.	3.84E-19	1.46E-14	3.93E-20	0.	0.	0.	2.91E-12	4.70E-07	1.59E-06	1.90E-05	2.26E-06			
79 2.90 2.82E-20	0.	2.49E-19	7.58E-15	3.86E-20	0.	0.	0.	2.92E-12	5.25E-07	1.72E-06	2.02E-05	2.50E-06			
80 2.80 2.76E-20	0.	1.86E-19	5.98E-15	2.23E-20	0.	0.	0.	2.92E-12	5.83E-07	1.86E-06	2.16E-05	2.75E-06			
81 2.70 1.94E-20	0.	5.99E-20	6.57E-15	1.27E-20	0.	0.	0.	2.92E-12	6.45E-07	1.97E-06	2.31E-05	3.00E-06			
82 2.60 8.99E-21	0.	2.66E-20	7.10E-16	5.77E-21	0.	0.	0.	2.92E-12	7.10E-07	2.07E-06	2.47E-05	3.25E-06			
83 2.50 6.48E-21	0.	2.72E-21	6.99E-16	1.41E-21	0.	0.	0.	2.92E-12	7.77E-07	2.16E-06	2.64E-05	3.50E-06			
84 2.40 6.	1.17E-19	0.	9.12E-16	1.53E-22	0.	0.	0.	2.92E-12	8.45E-07	2.25E-06	2.81E-05	3.75E-06			
85 2.30 0.	3.20E-19	0.	0.	0.	0.	0.	0.	2.92E-12	9.15E-07	2.34E-06	2.99E-05	4.00E-06			
86 2.2E 0.	9.81E-19	0.	0.	0.	0.	0.	0.	2.92E-12	9.87E-07	2.43E-06	3.17E-05	4.25E-06			
87 2.10 0.	6.98E-19	0.	0.	0.	0.	0.	0.	2.92E-12	1.06E-06	2.52E-06	3.35E-05	4.50E-06			
88 2.00 0.	1.01E-18	0.	0.	0.	0.	0.	0.	2.92E-12	1.15E-06	2.61E-06	3.53E-05	4.75E-06			
89 1.90 0.	2.97E-18	0.	0.	0.	0.	0.	0.	2.92E-12	1.24E-06	2.70E-06	3.71E-05	5.00E-06			
90 1.80 0.	1.70E-18	0.	0.	0.	0.	0.	0.	2.92E-12	1.33E-06	2.79E-06	3.89E-05	5.25E-06			
91 1.70 0.	2.41E-18	0.	0.	0.	0.	0.	0.	2.92E-12	1.42E-06	2.88E-06	4.07E-05	5.50E-06			
92 1.60 0.	1.53E-18	0.	0.	0.	0.	0.	0.	2.92E-12	1.51E-06	2.97E-06	4.25E-05	5.75E-06			
93 1.50 0.	1.75E-18	0.	0.	0.	0.	0.	0.	2.92E-12	1.60E-06	3.06E-06	4.43E-05	6.00E-06			
94 1.40 0.	1.09E-18	0.	0.	0.	0.	0.	0.	2.92E-12	1.69E-06	3.15E-06	4.61E-05	6.25E-06			
95 1.30 0.	1.88E-18	0.	0.	0.	0.	0.	0.	2.92E-12	1.78E-06	3.24E-06	4.79E-05	6.50E-06			
96 1.20 0.	1.24E-18	0.	0.	0.	0.	0.	0.	2.92E-12	1.87E-06	3.33E-06	4.97E-05	6.75E-06			
97 1.10 0.	1.21E-18	0.	0.	0.	0.	0.	0.	2.92E-12	1.96E-06	3.42E-06	5.15E-05	7.00E-06			
98 1.00 0.	1.12E-18	0.	0.	0.	0.	0.	0.	2.92E-12	2.05E-06	3.51E-06	5.33E-05	7.25E-06			
99 0.90 0.	9.54E-19	0.	0.	0.	0.	0.	0.	2.92E-12	2.14E-06	3.60E-06	5.51E-05	7.50E-06			
100 0.80 0.	4.80E-19	0.	0.	0.	0.	0.	0.	2.92E-12	2.23E-06	3.69E-06	5.69E-05	7.75E-06			
101 0.70 0.	9.70E-20	0.	0.	0.	0.	0.	0.	2.92E-12	2.32E-06	3.78E-06	5.87E-05	8.00E-06			
102 0.60 0.	2.30E-20	0.	0.	0.	0.	0.	0.	2.92E-12	2.41E-06	3.87E-06	6.05E-05	8.25E-06			

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CR.)  
 TEMPERATURE (DEGREES K) 23000. DENSITY (GM/CC) 1.293E-08 ( 1.0E-05 NORMAL)

PHOTON ENERGY RANGS E.V.	OS 1-R CONT.	NO B-H NO. 1	NO GETA	NO GAMMA	NO 2	3- PHOTO-MET (10US)	FREE-FREE P.E.	N P.E.	0 TOTAL AIR P.E.	
1 10.70 0.	0.	5.74E-23	0.	0.	0.	4.17E-19	2.27E-10	1.50E-08	2.20E-09	1.03E-08
2 10.64 0.	0.	5.23E-23	0.	0.	0.	4.17E-19	2.24E-10	1.60E-08	2.20E-09	1.05E-08
3 10.50 0.	0.	5.44E-23	0.	0.	0.	4.10E-19	2.41E-10	1.61E-08	2.26E-09	1.06E-08
4 10.40 0.	0.	5.24E-23	0.	0.	0.	4.19E-19	2.49E-10	1.63E-08	2.29E-09	1.08E-08
5 10.30 0.	0.	4.69E-23	0.	0.	0.	4.10E-19	2.29E-10	1.64E-08	2.20E-09	1.00E-08
6 10.20 0.	0.	4.04E-23	0.	0.	0.	4.20E-19	2.63E-10	1.67E-08	2.31E-09	1.03E-08
7 10.10 0.	0.	4.63E-23	0.	0.	0.	4.20E-19	2.70E-10	1.70E-08	2.33E-09	1.06E-08
8 10.00 0.	0.	4.16E-23	0.	0.	0.	4.21E-19	2.79E-10	1.73E-08	2.35E-09	1.09E-08
9 9.90 0.	0.	4.70E-23	0.	0.	0.	4.22E-19	2.87E-10	1.76E-08	2.38E-09	1.02E-08
10 9.70 0.	0.	4.10E-23	0.	0.	0.	4.22E-19	2.94E-10	1.78E-08	2.40E-09	1.05E-08
11 9.60 0.	0.	3.62E-23	0.	0.	0.	4.24E-19	3.04E-10	1.81E-08	2.43E-09	1.09E-08
12 9.50 0.	0.	3.02E-23	0.	0.	0.	4.24E-19	3.13E-10	1.84E-08	2.45E-09	1.12E-08
13 9.50 0.	0.	3.03E-23	0.	0.	0.	4.20E-19	3.29E-10	1.87E-08	2.47E-09	1.15E-08
14 9.40 0.	0.	3.31E-23	0.	0.	0.	4.20E-19	3.34E-10	1.90E-08	2.50E-09	1.18E-08
15 9.30 0.	0.	3.41E-23	0.	0.	0.	4.20E-19	3.47E-10	1.93E-08	2.53E-09	1.19E-08
16 9.20 0.	0.	2.91E-23	0.	0.	0.	4.20E-19	3.59E-10	1.93E-08	2.56E-09	1.22E-08
17 9.10 0.	0.	3.00E-23	0.	0.	0.	4.31E-19	3.70E-10	1.96E-08	2.58E-09	1.25E-08
18 9.00 0.	0.	2.70E-23	0.	0.	0.	4.32E-19	3.85E-10	1.96E-08	2.61E-09	1.29E-08
19 9.00 0.	0.	2.82E-23	0.	0.	0.	4.34E-19	3.96E-10	2.02E-08	2.64E-09	1.32E-08
20 8.80 0.	0.	2.59E-23	0.	0.	0.	4.35E-19	4.10E-10	2.04E-08	1.83E-09	1.27E-08
21 8.70 0.	0.	2.31E-23	0.	0.	0.	4.37E-19	4.24E-10	2.07E-08	1.85E-09	1.30E-08
22 8.60 0.	0.	2.30E-23	0.	0.	0.	4.39E-19	4.39E-10	2.10E-08	1.89E-09	1.34E-08
23 8.50 0.	0.	2.15E-23	0.	0.	0.	4.40E-19	4.55E-10	2.13E-08	1.92E-09	1.37E-08
24 8.40 0.	0.	2.16E-23	0.	0.	0.	4.42E-19	4.72E-10	2.17E-08	1.96E-09	1.41E-08
25 8.30 0.	0.	1.87E-23	0.	0.	0.	4.45E-19	4.89E-10	2.21E-08	2.00E-09	1.50E-08
26 8.20 0.	0.	1.91E-23	0.	0.	0.	4.47E-19	5.07E-10	2.25E-08	2.04E-09	1.66E-08
27 8.10 0.	0.	1.69E-23	0.	0.	0.	4.49E-19	5.26E-10	2.29E-08	2.08E-09	1.72E-08
28 8.00 0.	0.	1.72E-23	0.	0.	0.	4.52E-19	5.46E-10	2.34E-08	2.13E-09	1.78E-08
29 7.90 0.	0.	1.51E-23	0.	0.	0.	4.54E-19	5.67E-10	2.39E-08	2.18E-09	1.84E-08
30 7.80 0.	0.	1.58E-23	0.	0.	0.	4.56E-19	5.89E-10	2.44E-08	2.23E-09	1.91E-08
31 7.70 0.	0.	1.82E-23	0.	0.	0.	4.58E-19	6.13E-10	2.49E-08	2.28E-09	1.98E-08
32 7.60 0.	0.	1.37E-23	0.	0.	0.	4.61E-19	6.37E-10	2.54E-08	2.33E-09	2.05E-08
33 7.50 0.	0.	1.29E-23	0.	0.	0.	4.63E-19	6.63E-10	2.59E-08	2.38E-09	2.13E-08
34 7.40 0.	0.	1.18E-23	0.	0.	0.	4.66E-19	6.91E-10	2.64E-08	2.43E-09	2.21E-08
35 7.30 0.	0.	1.14E-23	0.	0.	0.	4.68E-19	7.20E-10	2.69E-08	2.48E-09	2.30E-08
36 7.20 0.	0.	1.04E-23	0.	0.	0.	4.71E-19	7.50E-10	2.75E-08	2.53E-09	2.40E-08
37 7.10 0.	0.	1.82E-23	0.	0.	0.	4.75E-19	7.82E-10	2.81E-08	2.58E-09	2.42E-08
38 7.00 2.94E-26	0.	9.51E-24	0.	0.	0.	4.79E-19	8.17E-10	2.88E-08	2.63E-09	2.43E-08
39 6.90 5.79E-26	0.	8.67E-24	0.	0.	0.	4.83E-19	8.55E-10	2.95E-08	2.68E-09	2.43E-08
40 6.80 5.69E-26	0.	6.71E-24	0.	0.	0.	4.86E-19	8.91E-10	3.02E-08	2.73E-09	2.54E-08
41 6.70 3.72E-26	0.	7.77E-24	0.	0.	0.	4.90E-19	9.32E-10	3.10E-08	2.78E-09	2.65E-08
42 6.60 2.29E-26	0.	7.10E-24	0.	0.	0.	4.94E-19	9.78E-10	3.18E-08	2.83E-09	2.76E-08
43 6.50 1.34E-26	0.	5.70E-24	0.	0.	0.	4.98E-19	1.02E-09	3.26E-08	2.88E-09	2.87E-08
44 6.40 7.81E-27	0.	4.13E-24	3.45E-74	1.07E-23	0.	5.02E-19	1.07E-09	3.34E-08	2.93E-09	2.98E-08
45 6.30 4.61E-27	0.	2.87E-24	1.66E-74	8.27E-24	0.	5.06E-19	1.12E-09	3.42E-08	2.98E-09	3.09E-08
46 6.20 2.11E-27	0.	1.52E-24	6.95E-75	1.30E-23	0.	5.10E-19	1.18E-09	3.50E-08	3.03E-09	3.21E-08
47 6.10 9.86E-28	0.	7.37E-25	6.89E-75	1.08E-23	0.	5.14E-19	1.24E-09	3.58E-08	3.08E-09	3.34E-08
48 6.00 4.10E-28	0.	1.91E-25	6.89E-75	6.49E-24	0.	5.17E-19	1.31E-09	3.66E-08	3.13E-09	1.48E-08
49 5.90 1.04E-28	0.	1.37E-26	1.62E-74	6.49E-24	0.	5.21E-19	1.37E-09	3.74E-08	3.18E-09	1.25E-08
50 5.80 1.33E-29	0.	3.87E-28	1.45E-74	6.46E-24	0.	5.18E-19	1.44E-09	3.82E-08	3.23E-09	1.29E-08
51 5.70 6.74E-31	0.	1.73E-24	7.88E-24	1.73E-24	0.	4.77E-19	1.52E-09	3.90E-08	3.28E-09	1.35E-08

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 2300. DENSITY (GM/CC) 1.201E-08 ( 1.0E-05 NORMAL)

PHOTON QZ S-R ENERGY BANDS	N2 1ST POS.	N2 2ND POS.	N2 1ST NEG.	N2 2ND NEG.	BETA	NO GAMMA	NO VIB=ROT	NO 2	NO O-	FREE-FREE P.E.	N P.E.	O P.E.	TOTAL AIR
52	5.60	4.45E-32	0.	0.	1.53E-24	9.81E-24	0.	0.	4.45E-15	1.60E-09	1.08E-08	1.93E-09	1.43E-08
53	5.50	0.	0.	0.	1.87E-24	9.07E-24	0.	0.	4.47E-15	1.49E-09	1.14E-08	2.00E-09	1.51E-08
54	5.40	0.	0.	0.	1.76E-24	7.48E-24	0.	0.	4.50E-15	1.79E-09	1.21E-08	2.59E-09	1.40E-08
55	5.30	0.	0.	0.	1.80E-24	6.48E-24	0.	0.	4.53E-15	1.89E-09	1.28E-08	2.19E-09	1.29E-08
56	5.20	0.	0.	0.	1.96E-24	7.58E-24	0.	0.	4.56E-15	2.01E-09	1.35E-08	2.30E-09	1.78E-08
57	5.10	0.	0.	0.	1.97E-24	6.98E-24	0.	0.	4.59E-15	2.13E-09	1.42E-08	1.93E-09	1.81E-08
58	5.00	6.33E-25	0.	0.	1.68E-24	9.27E-24	0.	0.	4.63E-15	2.40E-09	1.49E-08	2.02E-09	1.94E-08
59	4.90	1.97E-24	0.	0.	2.08E-24	1.05E-23	0.	0.	4.67E-15	2.40E-09	1.56E-08	2.11E-09	2.01E-08
60	4.80	3.10E-24	0.	0.	2.28E-24	9.78E-24	0.	0.	4.71E-15	2.56E-09	1.63E-08	2.30E-09	2.11E-08
61	4.70	4.12E-24	0.	0.	2.28E-24	8.98E-24	0.	0.	4.75E-15	2.72E-09	1.71E-08	2.31E-09	2.21E-08
62	4.60	5.61E-24	0.	0.	2.38E-24	8.38E-24	0.	0.	4.79E-15	2.81E-09	1.78E-08	2.42E-09	2.43E-08
63	4.50	6.70E-24	0.	0.	2.17E-24	1.1E-23	0.	0.	4.83E-15	3.11E-09	2.00E-08	2.53E-09	2.53E-08
64	4.40	6.75E-24	0.	0.	2.04E-24	1.15E-23	0.	0.	4.86E-15	3.37E-09	2.13E-08	2.68E-09	2.71E-08
65	4.30	5.49E-24	0.	0.	2.14E-24	2.45E-24	0.	0.	4.90E-15	3.56E-09	2.26E-08	2.83E-09	2.97E-08
66	4.20	6.13E-24	0.	0.	2.24E-24	1.81E-24	0.	0.	4.94E-15	3.83E-09	2.42E-08	2.99E-09	3.48E-08
67	4.1	5.43E-24	0.	0.	2.24E-24	5.11E-25	0.	0.	4.98E-15	4.12E-09	2.58E-08	2.9E-09	3.27E-08
68	4.00	5.65E-24	0.	0.	2.19E-24	3.85E-25	0.	0.	4.98E-15	4.44E-09	2.74E-08	3.00E-09	3.48E-08
69	3.90	4.72E-24	0.	0.	2.12E-24	2.17E-25	0.	0.	4.98E-15	4.79E-09	2.92E-08	3.20E-09	3.68E-08
70	3.80	5.21E-24	0.	0.	3.44E-24	2.24E-24	0.	0.	4.98E-15	5.15E-09	3.06E-08	3.41E-09	3.92E-08
71	3.70	4.74E-24	0.	0.	3.44E-24	1.97E-24	0.	0.	4.98E-15	5.62E-09	3.22E-08	3.64E-09	4.12E-08
72	3.60	4.34E-24	0.	0.	2.59E-24	2.1E-24	0.	0.	4.98E-15	6.11E-09	3.38E-08	3.87E-09	4.38E-08
73	3.50	4.12E-24	0.	0.	3.44E-24	3.48E-24	0.	0.	4.98E-15	6.61E-09	3.56E-08	4.2E-09	4.64E-08
74	3.40	3.95E-24	0.	0.	2.94E-24	6.22E-25	0.	0.	2.60E-15	7.27E-09	3.75E-08	3.87E-09	2.35E-08
75	3.30	3.12E-24	0.	0.	2.94E-24	1.58E-24	0.	0.	2.41E-15	7.96E-09	3.95E-08	4.15E-09	2.44E-08
76	3.20	2.77E-24	0.	0.	1.95E-24	1.95E-24	0.	0.	2.41E-15	8.78E-09	4.25E-08	5.38E-09	2.58E-08
77	3.10	2.77E-24	0.	0.	1.22E-24	9.80E-25	0.	0.	2.42E-15	9.62E-09	4.57E-08	5.72E-09	2.91E-08
78	3.00	2.47E-24	0.	0.	7.40E-24	2.07E-24	0.	0.	2.42E-15	1.06E-08	4.92E-08	6.14E-09	3.14E-08
79	2.90	2.12E-24	0.	0.	4.04E-24	1.11E-24	0.	0.	2.43E-15	1.18E-08	5.30E-08	6.63E-09	3.43E-08
80	2.80	2.24E-24	0.	0.	2.94E-24	8.93E-25	0.	0.	2.43E-15	1.31E-08	5.70E-08	7.19E-09	3.83E-08
81	2.70	1.69E-24	0.	0.	1.11E-24	5.78E-25	0.	0.	2.43E-15	1.44E-08	6.12E-08	7.82E-09	4.34E-08
82	2.60	3.20E-25	0.	0.	3.48E-25	1.05E-25	0.	0.	2.43E-15	1.64E-08	6.67E-08	8.53E-09	4.96E-08
83	2.50	5.16E-26	0.	0.	5.36E-26	1.03E-26	0.	0.	2.43E-15	1.95E-08	7.36E-08	9.40E-09	5.80E-08
84	2.40	0.	0.	0.	2.31E-24	7.86E-26	0.	0.	2.43E-15	2.39E-08	8.20E-08	1.04E-08	6.93E-08
85	2.30	0.	0.	0.	6.99E-24	0.	0.	0.	2.43E-15	2.98E-08	9.20E-08	1.16E-08	8.33E-08
86	2.20	0.	0.	0.	1.78E-23	0.	0.	0.	2.40E-15	2.73E-08	9.95E-08	1.30E-08	9.71E-08
87	2.10	0.	0.	0.	1.74E-23	0.	0.	0.	2.39E-15	3.34E-08	1.11E-07	1.46E-08	1.12E-07
88	2.00	0.	0.	0.	3.98E-23	0.	0.	0.	2.42E-15	3.65E-08	1.24E-07	1.64E-08	1.29E-07
89	1.90	0.	0.	0.	4.08E-23	0.	0.	0.	2.23E-15	4.27E-08	1.48E-07	1.85E-08	1.52E-07
90	1.80	0.	0.	0.	3.94E-23	0.	0.	0.	2.13E-15	5.04E-08	1.74E-07	2.09E-08	1.78E-07
91	1.70	0.	0.	0.	3.97E-23	0.	0.	0.	2.03E-15	6.01E-08	2.02E-07	2.36E-08	1.94E-07
92	1.60	0.	0.	0.	3.03E-23	0.	0.	0.	1.70E-15	7.24E-08	2.39E-07	2.67E-08	2.16E-07
93	1.50	0.	0.	0.	3.41E-23	0.	0.	0.	7.72E-16	8.81E-08	2.93E-07	3.14E-08	2.46E-07
94	1.40	0.	0.	0.	3.14E-23	0.	0.	0.	0.	1.09E-07	3.44E-07	3.84E-08	2.94E-07
95	1.30	0.	0.	0.	2.94E-23	0.	0.	0.	0.	1.56E-07	4.27E-07	4.80E-08	3.46E-07
96	1.20	0.	0.	0.	2.44E-23	0.	0.	0.	0.	2.27E-07	5.10E-07	6.03E-08	4.18E-07
97	1.10	0.	0.	0.	2.39E-23	0.	0.	0.	0.	3.27E-07	6.13E-07	7.69E-08	4.83E-07
98	1.00	0.	0.	0.	2.20E-23	0.	0.	0.	0.	4.67E-07	7.38E-07	9.91E-08	5.49E-07
99	0.90	0.	0.	0.	1.81E-23	0.	0.	0.	0.	6.63E-07	8.96E-07	1.31E-07	6.36E-07
100	0.80	0.	0.	0.	8.43E-24	0.	0.	0.	0.	9.13E-07	1.07E-06	1.71E-07	7.31E-07
101	0.70	0.	0.	0.	1.93E-24	0.	0.	0.	0.	1.17E-06	1.29E-06	2.21E-07	8.46E-07
102	0.60	0.	0.	0.	4.70E-25	0.	0.	0.	0.	1.47E-06	1.60E-06	2.92E-07	9.84E-07



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 23000. DENSITY (GM/CC) 1.293E-09 ( 1.0E-06 NORMAL)

PHOTON QZ 5-R ENERGY BAYDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NEG.	M2 2ND NEG.	BETA	GAMMA	NO VIB-ROT	NO VIB-ROT	NO VIB-ROT	PHOTO-DET (17NS)	FREE-FREE P.E.	N	P.E.	TOTAL AIR
52	5.60	3.86E-37	0.	0.	7.44E-30	4.78E-29	0.	0.	1.50E-10	2.29E-11	1.53E-10	3.81E-11	2.14E-10	
53	5.30	0.	0.	0.	9.14E-30	4.47E-29	0.	0.	1.53E-10	2.41E-11	1.62E-10	3.98E-11	2.26E-10	
54	5.00	0.	0.	0.	8.57E-30	3.74E-29	0.	0.	1.52E-10	2.55E-11	1.72E-10	4.20E-11	2.39E-10	
55	5.30	0.	0.	0.	6.78E-30	4.99E-29	0.	0.	1.54E-10	2.78E-11	1.82E-10	4.45E-11	2.53E-10	
56	5.20	0.	0.	0.	9.56E-30	3.99E-29	0.	0.	1.54E-10	2.94E-11	1.92E-10	3.52E-11	2.50E-10	
57	5.10	0.	0.	0.	9.60E-30	4.00E-29	0.	0.	1.52E-10	3.03E-11	1.92E-10	3.73E-11	2.70E-10	
58	5.00	9.46E-10	0.	0.	8.80E-30	4.51E-29	0.	0.	1.53E-10	3.22E-11	2.12E-10	3.94E-11	2.64E-10	
59	4.90	1.35E-29	0.	0.	9.97E-30	3.21E-29	0.	0.	1.52E-10	3.42E-11	2.22E-10	4.15E-11	2.92E-10	
60	4.80	2.98E-29	0.	0.	1.00E-29	4.75E-29	0.	0.	1.52E-10	3.62E-11	2.32E-10	4.35E-11	3.12E-10	
61	4.70	3.91E-29	0.	0.	1.10E-29	4.39E-29	0.	0.	1.60E-10	3.82E-11	2.42E-10	4.60E-11	3.31E-10	
62	4.60	5.02E-29	0.	0.	1.14E-29	3.94E-29	0.	0.	1.62E-10	4.14E-11	2.65E-10	4.85E-11	3.55E-10	
63	4.50	3.34E-29	0.	0.	1.04E-29	2.98E-29	0.	0.	1.61E-10	4.46E-11	2.84E-10	5.11E-11	3.79E-10	
64	4.40	5.82E-29	0.	0.	1.07E-29	2.37E-29	0.	0.	1.63E-10	4.78E-11	3.02E-10	5.41E-11	4.04E-10	
65	4.30	3.80E-29	0.	0.	1.04E-29	1.29E-29	0.	0.	1.62E-10	5.10E-11	3.22E-10	5.67E-11	4.27E-10	
66	4.20	5.29E-29	0.	0.	1.10E-29	8.79E-30	0.	0.	1.62E-10	5.42E-11	3.44E-10	5.90E-11	4.57E-10	
67	4.10	5.03E-29	0.	0.	1.09E-29	2.52E-30	0.	0.	1.60E-10	5.74E-11	3.67E-10	6.39E-11	4.89E-10	
68	4.00	4.70E-29	0.	0.	1.07E-29	1.90E-30	0.	0.	1.62E-10	6.06E-11	3.90E-10	6.89E-11	5.22E-10	
69	3.90	4.03E-29	0.	0.	9.71E-29	6.04E-31	0.	0.	1.62E-10	6.38E-11	4.13E-10	7.38E-11	5.55E-10	
70	3.80	4.50E-29	0.	0.	9.43E-29	1.69E-30	0.	0.	1.62E-10	6.70E-11	4.37E-10	7.88E-11	5.89E-10	
71	3.70	4.10E-29	0.	0.	9.13E-29	9.50E-30	0.	0.	1.64E-10	7.02E-11	4.60E-10	8.38E-11	6.24E-10	
72	3.60	3.78E-29	0.	0.	7.13E-29	4.86E-29	0.	0.	1.64E-10	7.34E-11	4.83E-10	7.88E-11	6.47E-10	
73	3.50	3.56E-29	0.	0.	9.16E-29	8.24E-30	0.	0.	1.41E-10	9.48E-11	1.43E-10	8.12E-11	3.19E-10	
74	3.40	3.32E-29	0.	0.	6.14E-29	1.40E-29	0.	0.	6.14E-29	1.40E-29	1.56E-10	8.60E-11	3.46E-10	
75	3.30	2.68E-29	0.	0.	4.28E-29	5.24E-29	0.	0.	8.14E-29	1.33E-10	1.69E-10	9.30E-11	3.45E-10	
76	3.20	2.35E-29	0.	0.	4.24E-29	1.84E-29	0.	0.	8.12E-29	1.24E-10	1.92E-10	9.95E-11	3.57E-10	
77	3.10	2.32E-29	0.	0.	3.34E-29	2.36E-29	0.	0.	8.12E-29	1.15E-10	2.19E-10	9.74E-11	4.14E-10	
78	3.00	2.12E-29	0.	0.	2.08E-29	4.94E-29	0.	0.	8.12E-29	1.06E-10	2.46E-10	6.62E-11	4.62E-10	
79	2.90	1.83E-29	0.	0.	1.33E-29	2.69E-29	0.	0.	8.20E-29	1.04E-10	2.74E-10	7.11E-11	5.12E-10	
80	2.80	1.93E-29	0.	0.	6.41E-30	1.94E-29	0.	0.	8.20E-29	1.07E-10	3.01E-10	7.77E-11	5.65E-10	
81	2.70	1.70E-29	0.	0.	3.03E-30	2.31E-29	0.	0.	8.22E-29	1.10E-10	3.29E-10	8.39E-11	6.21E-10	
82	2.60	6.25E-30	0.	0.	1.44E-30	2.50E-29	0.	0.	8.22E-29	1.13E-10	3.56E-10	9.06E-11	6.80E-10	
83	2.50	4.47E-31	0.	0.	1.47E-31	2.46E-29	0.	0.	8.22E-29	1.16E-10	3.82E-10	1.00E-10	7.39E-10	
84	2.40	0.	0.	0.	1.80E-24	2.97E-29	0.	0.	8.22E-29	1.19E-10	4.09E-10	1.14E-10	8.00E-10	
85	2.30	0.	0.	0.	0.	0.	0.	0.	8.19E-10	3.30E-10	4.99E-10	1.28E-10	9.66E-10	
86	2.20	0.	0.	0.	0.	0.	0.	0.	6.12E-10	3.84E-10	5.53E-10	1.41E-10	1.08E-09	
87	2.10	0.	0.	0.	0.	0.	0.	0.	6.02E-10	4.47E-10	2.37E-10	6.33E-11	7.47E-10	
88	2.00	0.	0.	0.	0.	0.	0.	0.	7.83E-10	5.19E-10	2.69E-10	7.10E-11	8.69E-10	
89	1.90	0.	0.	0.	0.	0.	0.	0.	7.58E-10	6.04E-10	3.62E-10	8.86E-11	9.98E-10	
90	1.80	0.	0.	0.	0.	0.	0.	0.	7.22E-10	7.11E-10	3.35E-10	8.97E-11	1.14E-09	
91	1.70	0.	0.	0.	0.	0.	0.	0.	6.78E-10	8.56E-10	3.68E-10	9.67E-11	1.32E-09	
92	1.60	0.	0.	0.	0.	0.	0.	0.	5.74E-10	1.03E-09	4.01E-10	1.08E-10	1.54E-09	
93	1.50	0.	0.	0.	0.	0.	0.	0.	2.61E-10	1.23E-09	4.33E-10	1.17E-10	1.80E-09	
94	1.40	0.	0.	0.	0.	0.	0.	0.	0.	1.55E-09	4.67E-10	1.25E-10	2.14E-09	
95	1.30	0.	0.	0.	0.	0.	0.	0.	0.	1.94E-09	1.10E-11	1.25E-11	3.46E-09	
96	1.20	0.	0.	0.	0.	0.	0.	0.	0.	2.47E-09	1.51E-11	1.57E-11	2.58E-09	
97	1.10	0.	0.	0.	0.	0.	0.	0.	0.	3.23E-09	1.87E-11	1.97E-11	3.27E-09	
98	1.00	0.	0.	0.	0.	0.	0.	0.	0.	4.32E-09	2.28E-11	2.38E-11	4.31E-09	
99	0.90	0.	0.	0.	0.	0.	0.	0.	0.	5.97E-09	2.54E-11	2.42E-11	6.02E-09	
100	0.80	0.	0.	0.	0.	0.	0.	0.	0.	8.57E-09	2.45E-11	2.13E-11	8.01E-09	
101	0.70	0.	0.	0.	0.	0.	0.	0.	0.	1.29E-08	3.80E-11	2.49E-11	1.18E-08	
102	0.60	0.	0.	0.	0.	0.	0.	0.	0.	2.04E-08	5.11E-11	2.77E-11	2.09E-08	









ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 24000. DENSITY (GM/CC) 1.293E-03 ( 1.00 00 NORMAL)

PHOTON 02 5-R	M2	M2	M2A	NO	NO	NO	NO	NO	D-	FAGEE-FREE	N	Q	TOTAL AIR
ENERGY RANVS	1ST POS.	2ND POS.	1ST DEG.	BETA	GAMMA	VI0-RCT	VI0-DET	PH0-DET	PL0	PL0	P.F.E.	P.F.E.	P.F.E.
52	5.40	4.53E-14	0.	0.	5.00E-06	3.21E-05	0.	0.	1.14E-01	6.20E-01	1.12E 00	6.37E-01	2.49E 00
53	5.50	0.	0.	0.	6.12E-06	2.97E-05	0.	0.	1.15E-01	6.55E-01	1.14E 00	6.43E-01	2.50E 00
54	5.60	0.	0.	0.	7.28E-06	2.73E-05	0.	0.	1.15E-01	6.93E-01	1.12E 00	6.50E-01	2.52E 00
55	5.70	0.	0.	0.	8.52E-06	2.51E-05	0.	0.	1.16E-01	7.35E-01	1.21E 00	6.58E-01	2.55E 00
56	5.80	0.	0.	0.	9.84E-06	2.31E-05	0.	0.	1.17E-01	7.77E-01	1.23E 00	6.68E-01	2.60E 00
57	5.90	0.	0.	0.	1.12E-05	2.14E-05	0.	0.	1.18E-01	8.24E-01	1.27E 00	6.78E-01	2.66E 00
58	6.00	0.	0.	0.	1.28E-05	1.99E-05	0.	0.	1.19E-01	8.75E-01	1.31E 00	6.88E-01	2.73E 00
59	6.10	0.	0.	0.	1.46E-05	1.87E-05	0.	0.	1.20E-01	9.30E-01	1.36E 00	6.99E-01	2.81E 00
60	6.20	0.	0.	0.	1.66E-05	1.77E-05	0.	0.	1.21E-01	9.89E-01	1.41E 00	7.10E-01	2.90E 00
61	6.30	0.	0.	0.	1.88E-05	1.69E-05	0.	0.	1.22E-01	1.05E-01	1.47E 00	7.22E-01	2.99E 00
62	6.40	0.	0.	0.	2.12E-05	1.62E-05	0.	0.	1.23E-01	1.11E-01	1.53E 00	7.35E-01	3.08E 00
63	6.50	0.	0.	0.	2.38E-05	1.56E-05	0.	0.	1.24E-01	1.17E-01	1.60E 00	7.48E-01	3.18E 00
64	6.60	0.	0.	0.	2.66E-05	1.51E-05	0.	0.	1.25E-01	1.24E-01	1.67E 00	7.62E-01	3.28E 00
65	6.70	0.	0.	0.	2.96E-05	1.46E-05	0.	0.	1.26E-01	1.31E-01	1.75E 00	7.76E-01	3.39E 00
66	6.80	0.	0.	0.	3.28E-05	1.42E-05	0.	0.	1.27E-01	1.39E-01	1.83E 00	7.91E-01	3.50E 00
67	6.90	0.	0.	0.	3.62E-05	1.38E-05	0.	0.	1.28E-01	1.47E-01	1.91E 00	8.06E-01	3.62E 00
68	7.00	0.	0.	0.	3.98E-05	1.35E-05	0.	0.	1.29E-01	1.56E-01	1.99E 00	8.22E-01	3.75E 00
69	7.10	0.	0.	0.	4.36E-05	1.32E-05	0.	0.	1.30E-01	1.65E-01	2.07E 00	8.38E-01	3.88E 00
70	7.20	0.	0.	0.	4.76E-05	1.30E-05	0.	0.	1.31E-01	1.75E-01	2.16E 00	8.55E-01	4.02E 00
71	7.30	0.	0.	0.	5.18E-05	1.28E-05	0.	0.	1.32E-01	1.85E-01	2.25E 00	8.72E-01	4.17E 00
72	7.40	0.	0.	0.	5.62E-05	1.26E-05	0.	0.	1.33E-01	1.96E-01	2.34E 00	8.90E-01	4.33E 00
73	7.50	0.	0.	0.	6.08E-05	1.25E-05	0.	0.	1.34E-01	2.07E-01	2.43E 00	9.08E-01	4.49E 00
74	7.60	0.	0.	0.	6.56E-05	1.24E-05	0.	0.	1.35E-01	2.19E-01	2.52E 00	9.27E-01	4.66E 00
75	7.70	0.	0.	0.	7.06E-05	1.23E-05	0.	0.	1.36E-01	2.31E-01	2.61E 00	9.46E-01	4.84E 00
76	7.80	0.	0.	0.	7.58E-05	1.22E-05	0.	0.	1.37E-01	2.44E-01	2.70E 00	9.65E-01	5.03E 00
77	7.90	0.	0.	0.	8.12E-05	1.21E-05	0.	0.	1.38E-01	2.57E-01	2.79E 00	9.85E-01	5.23E 00
78	8.00	0.	0.	0.	8.68E-05	1.20E-05	0.	0.	1.39E-01	2.71E-01	2.88E 00	1.00E-00	5.44E 00
79	8.10	0.	0.	0.	9.26E-05	1.19E-05	0.	0.	1.40E-01	2.85E-01	2.97E 00	1.02E-00	5.66E 00
80	8.20	0.	0.	0.	9.86E-05	1.18E-05	0.	0.	1.41E-01	3.00E-01	3.06E 00	1.04E-00	5.89E 00
81	8.30	0.	0.	0.	1.048E-04	1.17E-05	0.	0.	1.42E-01	3.15E-01	3.15E 00	1.06E-00	6.13E 00
82	8.40	0.	0.	0.	1.112E-04	1.16E-05	0.	0.	1.43E-01	3.31E-01	3.24E 00	1.08E-00	6.38E 00
83	8.50	0.	0.	0.	1.178E-04	1.15E-05	0.	0.	1.44E-01	3.47E-01	3.33E 00	1.10E-00	6.64E 00
84	8.60	0.	0.	0.	1.246E-04	1.14E-05	0.	0.	1.45E-01	3.64E-01	3.42E 00	1.12E-00	6.91E 00
85	8.70	0.	0.	0.	1.316E-04	1.13E-05	0.	0.	1.46E-01	3.81E-01	3.51E 00	1.14E-00	7.19E 00
86	8.80	0.	0.	0.	1.388E-04	1.12E-05	0.	0.	1.47E-01	3.99E-01	3.60E 00	1.16E-00	7.48E 00
87	8.90	0.	0.	0.	1.462E-04	1.11E-05	0.	0.	1.48E-01	4.17E-01	3.69E 00	1.18E-00	7.78E 00
88	9.00	0.	0.	0.	1.538E-04	1.10E-05	0.	0.	1.49E-01	4.36E-01	3.78E 00	1.20E-00	8.09E 00
89	9.10	0.	0.	0.	1.616E-04	1.09E-05	0.	0.	1.50E-01	4.55E-01	3.87E 00	1.22E-00	8.41E 00
90	9.20	0.	0.	0.	1.696E-04	1.08E-05	0.	0.	1.51E-01	4.75E-01	3.96E 00	1.24E-00	8.74E 00
91	9.30	0.	0.	0.	1.778E-04	1.07E-05	0.	0.	1.52E-01	4.95E-01	4.05E 00	1.26E-00	9.08E 00
92	9.40	0.	0.	0.	1.862E-04	1.06E-05	0.	0.	1.53E-01	5.16E-01	4.14E 00	1.28E-00	9.43E 00
93	9.50	0.	0.	0.	1.948E-04	1.05E-05	0.	0.	1.54E-01	5.37E-01	4.23E 00	1.30E-00	9.79E 00
94	9.60	0.	0.	0.	2.036E-04	1.04E-05	0.	0.	1.55E-01	5.59E-01	4.32E 00	1.32E-00	1.01E 01
95	9.70	0.	0.	0.	2.126E-04	1.03E-05	0.	0.	1.56E-01	5.81E-01	4.41E 00	1.34E-00	1.04E 01
96	9.80	0.	0.	0.	2.218E-04	1.02E-05	0.	0.	1.57E-01	6.04E-01	4.50E 00	1.36E-00	1.08E 01
97	9.90	0.	0.	0.	2.312E-04	1.01E-05	0.	0.	1.58E-01	6.27E-01	4.59E 00	1.38E-00	1.12E 01
98	1.00	0.	0.	0.	2.408E-04	1.00E-05	0.	0.	1.59E-01	6.51E-01	4.68E 00	1.40E-00	1.16E 01
99	1.01	0.	0.	0.	2.506E-04	9.90E-06	0.	0.	1.60E-01	6.75E-01	4.77E 00	1.42E-00	1.20E 01
100	1.02	0.	0.	0.	2.606E-04	9.80E-06	0.	0.	1.61E-01	7.00E-01	4.86E 00	1.44E-00	1.24E 01
101	1.03	0.	0.	0.	2.708E-04	9.70E-06	0.	0.	1.62E-01	7.25E-01	4.95E 00	1.46E-00	1.28E 01
102	1.04	0.	0.	0.	2.812E-04	9.60E-06	0.	0.	1.63E-01	7.50E-01	5.04E 00	1.48E-00	1.32E 01

ABSORPTION COEFFICIENT OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BANDS E.V.	OR S-R CONT.	TEMPERATURE NO. 1	NO GAMMA	NO GAMMA	NO GAMMA	DENSITY (GM/CC) 1.2935-94 ( 1.05-01 NORMAL)		FREE-FREE		TOTAL AIR
						NO	2	NO	P.F.	
1 10.70 0.	0.	6.50E-07	0.	0.	0.	7.30E-04	2.97E-03	5.72E-01	2.55E-02	4.01E-01
2 10.60 0.	0.	6.08E-07	0.	0.	0.	7.30E-04	3.40E-03	6.41E-02	2.54E-02	9.32E-02
3 10.50 0.	0.	5.62E-07	0.	0.	0.	7.40E-04	3.89E-03	1.42E-01	2.52E-02	9.35E-02
4 10.40 0.	0.	5.15E-07	0.	0.	0.	7.41E-04	4.41E-03	2.46E-02	2.51E-02	9.37E-02
5 10.30 0.	0.	4.68E-07	0.	0.	0.	7.42E-04	4.98E-03	3.48E-02	2.50E-02	9.38E-02
6 10.20 0.	0.	4.21E-07	0.	0.	0.	7.43E-04	5.58E-03	4.52E-02	2.49E-02	9.40E-02
7 10.10 0.	0.	3.74E-07	0.	0.	0.	7.44E-04	6.18E-03	5.58E-02	2.47E-02	9.41E-02
8 10.00 0.	0.	3.27E-07	0.	0.	0.	7.45E-04	6.79E-03	6.58E-02	2.46E-02	9.42E-02
9 9.90 0.	0.	2.80E-07	0.	0.	0.	7.46E-04	7.41E-03	7.52E-02	2.44E-02	9.43E-02
10 9.80 0.	0.	2.33E-07	0.	0.	0.	7.47E-04	8.04E-03	8.38E-02	2.43E-02	9.44E-02
11 9.70 0.	0.	1.86E-07	0.	0.	0.	7.48E-04	8.68E-03	9.18E-02	2.41E-02	9.45E-02
12 9.60 0.	0.	1.39E-07	0.	0.	0.	7.49E-04	9.34E-03	9.91E-02	2.40E-02	9.46E-02
13 9.50 0.	0.	9.24E-08	0.	0.	0.	7.50E-04	1.00E-02	1.06E-01	2.38E-02	9.47E-02
14 9.40 0.	0.	4.49E-08	0.	0.	0.	7.51E-04	1.07E-02	1.11E-01	2.36E-02	9.48E-02
15 9.30 0.	0.	3.00E-08	0.	0.	0.	7.52E-04	1.15E-02	1.15E-01	2.35E-02	9.49E-02
16 9.20 0.	0.	1.50E-08	0.	0.	0.	7.53E-04	1.23E-02	1.19E-01	2.33E-02	9.50E-02
17 9.10 0.	0.	1.00E-08	0.	0.	0.	7.54E-04	1.32E-02	1.22E-01	2.32E-02	9.51E-02
18 9.00 0.	0.	5.00E-09	0.	0.	0.	7.55E-04	1.41E-02	1.25E-01	2.30E-02	9.52E-02
19 8.90 0.	0.	3.00E-09	0.	0.	0.	7.56E-04	1.51E-02	1.28E-01	2.29E-02	9.53E-02
20 8.80 0.	0.	1.50E-09	0.	0.	0.	7.57E-04	1.61E-02	1.31E-01	2.27E-02	9.54E-02
21 8.70 0.	0.	7.50E-10	0.	0.	0.	7.58E-04	1.72E-02	1.34E-01	2.26E-02	9.55E-02
22 8.60 0.	0.	3.75E-10	0.	0.	0.	7.59E-04	1.83E-02	1.37E-01	2.24E-02	9.56E-02
23 8.50 0.	0.	1.87E-10	0.	0.	0.	7.60E-04	1.95E-02	1.40E-01	2.23E-02	9.57E-02
24 8.40 0.	0.	9.35E-11	0.	0.	0.	7.61E-04	2.07E-02	1.43E-01	2.21E-02	9.58E-02
25 8.30 0.	0.	4.67E-11	0.	0.	0.	7.62E-04	2.20E-02	1.46E-01	2.20E-02	9.59E-02
26 8.20 0.	0.	2.33E-11	0.	0.	0.	7.63E-04	2.34E-02	1.49E-01	2.18E-02	9.60E-02
27 8.10 0.	0.	1.16E-11	0.	0.	0.	7.64E-04	2.49E-02	1.52E-01	2.17E-02	9.61E-02
28 8.00 0.	0.	5.80E-12	0.	0.	0.	7.65E-04	2.64E-02	1.55E-01	2.15E-02	9.62E-02
29 7.90 0.	0.	2.90E-12	0.	0.	0.	7.66E-04	2.80E-02	1.58E-01	2.14E-02	9.63E-02
30 7.80 0.	0.	1.45E-12	0.	0.	0.	7.67E-04	2.97E-02	1.61E-01	2.12E-02	9.64E-02
31 7.70 0.	0.	7.25E-13	0.	0.	0.	7.68E-04	3.14E-02	1.64E-01	2.11E-02	9.65E-02
32 7.60 0.	0.	3.62E-13	0.	0.	0.	7.69E-04	3.33E-02	1.67E-01	2.09E-02	9.66E-02
33 7.50 0.	0.	1.81E-13	0.	0.	0.	7.70E-04	3.52E-02	1.70E-01	2.08E-02	9.67E-02
34 7.40 0.	0.	9.05E-14	0.	0.	0.	7.71E-04	3.73E-02	1.73E-01	2.06E-02	9.68E-02
35 7.30 0.	0.	4.52E-14	0.	0.	0.	7.72E-04	3.94E-02	1.76E-01	2.05E-02	9.69E-02
36 7.20 0.	0.	2.26E-14	0.	0.	0.	7.73E-04	4.17E-02	1.79E-01	2.03E-02	9.70E-02
37 7.10 0.	0.	1.13E-14	0.	0.	0.	7.74E-04	4.41E-02	1.82E-01	2.02E-02	9.71E-02
38 7.00 0.	0.	5.65E-15	0.	0.	0.	7.75E-04	4.66E-02	1.85E-01	2.00E-02	9.72E-02
39 6.90 0.	0.	2.82E-15	0.	0.	0.	7.76E-04	4.92E-02	1.88E-01	1.98E-02	9.73E-02
40 6.80 0.	0.	1.41E-15	0.	0.	0.	7.77E-04	5.19E-02	1.91E-01	1.97E-02	9.74E-02
41 6.70 0.	0.	7.05E-16	0.	0.	0.	7.78E-04	5.47E-02	1.94E-01	1.95E-02	9.75E-02
42 6.60 0.	0.	3.52E-16	0.	0.	0.	7.79E-04	5.76E-02	1.97E-01	1.94E-02	9.76E-02
43 6.50 0.	0.	1.76E-16	0.	0.	0.	7.80E-04	6.06E-02	1.99E-01	1.92E-02	9.77E-02
44 6.40 0.	0.	8.80E-17	0.	0.	0.	7.81E-04	6.37E-02	2.02E-01	1.91E-02	9.78E-02
45 6.30 0.	0.	4.40E-17	0.	0.	0.	7.82E-04	6.69E-02	2.04E-01	1.89E-02	9.79E-02
46 6.20 0.	0.	2.20E-17	0.	0.	0.	7.83E-04	7.03E-02	2.07E-01	1.88E-02	9.80E-02
47 6.10 0.	0.	1.10E-17	0.	0.	0.	7.84E-04	7.38E-02	2.09E-01	1.86E-02	9.81E-02
48 6.00 0.	0.	5.50E-18	0.	0.	0.	7.85E-04	7.74E-02	2.12E-01	1.85E-02	9.82E-02
49 5.90 0.	0.	2.75E-18	0.	0.	0.	7.86E-04	8.11E-02	2.14E-01	1.83E-02	9.83E-02
50 5.80 0.	0.	1.37E-18	0.	0.	0.	7.87E-04	8.50E-02	2.17E-01	1.82E-02	9.84E-02
51 5.70 0.	0.	6.85E-19	0.	0.	0.	7.88E-04	8.90E-02	2.19E-01	1.80E-02	9.85E-02

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 2400. DENSITY (GM/CC) 1.293E-04 1.10E-01 NORMAL

PHOTON QZ S-R	M2	M2	M2	NO	NO	NO	NO	NO	NO	U-	FREE-EFFE	M	Q	TOTAL AIR
ENERGY BANDS	1ST POS.	2ND POS.	1ST NEG.	BETA	GAMMA	VIB-ROT	2	PHOTO-DET	P.E.	P.E.	P.E.	P.E.	P.E.	P.E.
52	5.60	4.41E-17	0.	0.	6.14E-09	3.95E-08	0.	0.	7.68E-04	2.08E-02	3.81E-02	2.41E-02	8.38E-12	8.38E-12
53	5.50	0.	0.	0.	7.92E-09	3.65E-08	0.	0.	7.92E-04	2.20E-02	3.90E-02	2.43E-02	8.61E-12	8.61E-12
54	5.40	0.	0.	0.	0.11E-09	3.10E-08	0.	0.	7.97E-04	2.32E-02	4.01E-02	2.46E-02	8.84E-12	8.84E-12
55	5.30	0.	0.	0.	7.78E-09	3.05E-08	0.	0.	5.02E-04	2.46E-02	4.12E-02	2.49E-02	9.07E-12	9.07E-12
56	5.20	0.	0.	0.	7.98E-09	3.08E-08	0.	0.	8.07E-04	2.58E-02	4.23E-02	2.52E-02	9.30E-12	9.30E-12
57	5.10	0.	0.	0.	7.98E-09	3.08E-08	0.	0.	8.14E-04	2.71E-02	4.34E-02	2.55E-02	9.53E-12	9.53E-12
58	5.00	0.18E-10	0.	0.	7.37E-09	3.78E-08	0.	0.	8.20E-04	2.84E-02	4.45E-02	2.58E-02	9.76E-12	9.76E-12
59	4.90	2.28E-09	0.	0.	6.31E-09	4.21E-08	0.	0.	8.27E-04	3.17E-02	4.56E-02	2.61E-02	1.00E-11	1.00E-11
60	4.80	4.38E-09	0.	0.	9.00E-09	3.99E-08	0.	0.	8.34E-04	3.30E-02	4.67E-02	2.70E-02	1.02E-11	1.02E-11
61	4.70	6.04E-09	0.	0.	0.16E-09	3.65E-08	0.	0.	8.41E-04	3.43E-02	4.78E-02	2.78E-02	1.04E-11	1.04E-11
62	4.60	8.53E-09	0.	0.	0.31E-09	3.31E-08	0.	0.	8.48E-04	3.70E-02	5.10E-02	2.89E-02	1.18E-11	1.18E-11
63	4.50	1.12E-09	0.	1.27E-08	0.88E-09	2.98E-08	0.	0.	8.55E-04	4.04E-02	5.37E-02	2.93E-02	1.24E-11	1.24E-11
64	4.40	9.94E-09	0.	3.65E-08	0.90E-09	1.70E-08	0.	0.	8.62E-04	4.32E-02	5.66E-02	3.01E-02	1.31E-11	1.31E-11
65	4.30	9.58E-09	0.	1.78E-07	0.95E-09	1.09E-08	0.	0.	8.69E-04	4.60E-02	5.98E-02	3.10E-02	1.38E-11	1.38E-11
66	4.20	9.07E-09	0.	3.83E-07	0.95E-09	7.36E-09	0.	0.	8.75E-04	4.88E-02	6.30E-02	3.19E-02	1.44E-11	1.44E-11
67	4.10	8.64E-09	0.	1.66E-07	0.92E-09	2.15E-09	0.	0.	8.79E-04	5.17E-02	6.63E-02	3.28E-02	1.50E-11	1.50E-11
68	4.00	8.09E-09	0.	5.98E-07	0.93E-09	1.56E-09	0.	0.	8.82E-04	5.46E-02	6.95E-02	3.37E-02	1.56E-11	1.56E-11
69	3.90	7.02E-09	0.	2.70E-07	7.12E-07	0.54E-09	5.79E-10	0.	8.85E-04	5.75E-02	7.27E-02	3.46E-02	1.62E-11	1.62E-11
70	3.80	7.76E-09	0.	4.38E-07	2.74E-06	8.17E-09	0.	0.	8.78E-04	6.04E-02	7.58E-02	3.55E-02	1.68E-11	1.68E-11
71	3.70	7.09E-09	0.	4.37E-07	1.42E-06	6.17E-09	0.	0.	8.75E-04	6.33E-02	7.89E-02	3.64E-02	1.74E-11	1.74E-11
72	3.60	6.49E-09	0.	3.33E-07	6.66E-06	8.82E-09	0.	0.	8.71E-04	6.62E-02	8.20E-02	3.73E-02	1.80E-11	1.80E-11
73	3.50	6.10E-09	0.	4.27E-07	1.16E-05	7.19E-09	0.	0.	8.67E-04	6.91E-02	8.51E-02	3.82E-02	1.86E-11	1.86E-11
74	3.40	5.80E-09	0.	2.90E-07	2.14E-06	8.13E-09	0.	0.	7.38E-04	7.20E-02	8.82E-02	3.91E-02	1.92E-11	1.92E-11
75	3.30	4.60E-09	0.	2.04E-07	7.46E-06	4.66E-09	0.	0.	4.27E-04	7.50E-02	9.13E-02	4.00E-02	1.98E-11	1.98E-11
76	3.20	4.10E-09	0.	2.00E-07	1.10E-05	7.08E-09	0.	0.	4.27E-04	7.80E-02	9.44E-02	4.09E-02	2.04E-11	2.04E-11
77	3.10	4.09E-09	0.	1.98E-07	3.41E-06	6.84E-09	0.	0.	4.27E-04	8.10E-02	9.75E-02	4.18E-02	2.10E-11	2.10E-11
78	3.00	3.74E-09	0.	9.89E-08	7.02E-06	6.61E-09	0.	0.	4.26E-04	8.40E-02	1.00E-01	4.27E-02	2.16E-11	2.16E-11
79	2.90	3.22E-09	0.	6.30E-08	3.76E-06	5.22E-09	0.	0.	4.30E-04	8.70E-02	1.03E-01	4.36E-02	2.22E-11	2.22E-11
80	2.80	3.41E-09	0.	3.04E-08	2.79E-06	3.79E-09	0.	0.	4.31E-04	9.00E-02	1.06E-01	4.45E-02	2.28E-11	2.28E-11
81	2.70	3.27E-09	0.	1.44E-08	3.28E-06	2.16E-09	0.	0.	4.31E-04	9.30E-02	1.09E-01	4.54E-02	2.34E-11	2.34E-11
82	2.60	3.12E-09	0.	8.83E-09	3.98E-07	9.00E-10	0.	0.	4.31E-04	9.60E-02	1.12E-01	4.63E-02	2.40E-11	2.40E-11
83	2.50	7.19E-11	0.	6.63E-10	3.56E-07	2.42E-10	0.	0.	4.31E-04	9.90E-02	1.15E-01	4.72E-02	2.46E-11	2.46E-11
84	2.40	0.	0.	2.95E-08	2.95E-07	2.63E-11	0.	0.	4.27E-04	1.02E-01	1.18E-01	4.81E-02	2.52E-11	2.52E-11
85	2.30	0.	0.	6.19E-08	0.	0.	0.	0.	4.27E-04	1.05E-01	1.21E-01	4.90E-02	2.58E-11	2.58E-11
86	2.20	0.	0.	2.22E-07	0.	0.	0.	0.	4.26E-04	1.08E-01	1.24E-01	5.00E-02	2.64E-11	2.64E-11
87	2.10	0.	0.	4.43E-07	0.	0.	0.	0.	4.24E-04	1.11E-01	1.27E-01	5.10E-02	2.70E-11	2.70E-11
88	2.00	0.	0.	4.54E-07	0.	0.	0.	0.	4.24E-04	1.14E-01	1.30E-01	5.20E-02	2.76E-11	2.76E-11
89	1.90	0.	0.	5.09E-07	0.	0.	0.	0.	4.10E-04	1.17E-01	1.33E-01	5.30E-02	2.82E-11	2.82E-11
90	1.80	0.	0.	5.09E-07	0.	0.	0.	0.	3.95E-04	1.20E-01	1.36E-01	5.40E-02	2.88E-11	2.88E-11
91	1.70	0.	0.	4.43E-07	0.	0.	0.	0.	3.77E-04	1.23E-01	1.39E-01	5.50E-02	2.94E-11	2.94E-11
92	1.60	0.	0.	3.78E-07	0.	0.	0.	0.	3.61E-04	1.26E-01	1.42E-01	5.60E-02	3.00E-11	3.00E-11
93	1.50	0.	0.	4.25E-07	0.	0.	0.	0.	3.45E-04	1.29E-01	1.45E-01	5.70E-02	3.06E-11	3.06E-11
94	1.40	0.	0.	4.14E-07	0.	0.	0.	0.	3.29E-04	1.32E-01	1.48E-01	5.80E-02	3.12E-11	3.12E-11
95	1.30	0.	0.	3.18E-07	0.	0.	0.	0.	3.13E-04	1.35E-01	1.51E-01	5.90E-02	3.18E-11	3.18E-11
96	1.20	0.	0.	3.04E-07	0.	0.	0.	0.	2.97E-04	1.38E-01	1.54E-01	6.00E-02	3.24E-11	3.24E-11
97	1.10	0.	0.	2.99E-07	0.	0.	0.	0.	2.81E-04	1.41E-01	1.57E-01	6.10E-02	3.30E-11	3.30E-11
98	1.00	0.	0.	2.76E-07	0.	0.	0.	0.	2.65E-04	1.44E-01	1.60E-01	6.20E-02	3.36E-11	3.36E-11
99	0.90	0.	0.	2.26E-07	0.	0.	0.	0.	2.49E-04	1.47E-01	1.63E-01	6.30E-02	3.42E-11	3.42E-11
100	0.80	0.	0.	1.04E-07	0.	0.	0.	0.	2.33E-04	1.50E-01	1.66E-01	6.40E-02	3.48E-11	3.48E-11
101	0.70	0.	0.	2.40E-07	0.	0.	0.	0.	2.17E-04	1.53E-01	1.69E-01	6.50E-02	3.54E-11	3.54E-11
102	0.60	0.	0.	8.07E-08	0.	0.	0.	0.	2.01E-04	1.56E-01	1.72E-01	6.60E-02	3.60E-11	3.60E-11

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

TEMPERATURE (DEGREES K) 24000. DENSITY (GM/CC) 1.293E-05 (10.0E-03 NORMAL)

PHOTON OR S-R ENERGY BANDS E.V.	OP S-R CONT.	W2 S-R NO. 1	NO BETA	NO GAMMA	NO 2	Q- PHOTO-DET (IONS)	M FREE-FREE	N P.E.	O TOTAL AIR P.E.
1 10.70 0.	3.	1.31E-10	0.	0.	0.	1.30E-06	4.33E-05	0.37E-03	3.95E-04
2 10.00 0.	0.	1.26E-10	0.	0.	0.	1.34E-06	4.45E-05	1.19E-03	3.91E-04
3 10.50 0.	0.	1.24E-10	0.	0.	0.	1.36E-06	4.50E-05	1.20E-03	3.91E-04
4 10.40 0.	0.	1.24E-10	0.	0.	0.	1.36E-06	4.72E-05	1.21E-03	3.91E-04
5 10.20 0.	0.	1.17E-10	0.	0.	0.	1.36E-06	4.00E-05	1.22E-03	3.85E-04
6 10.20 0.	0.	1.17E-10	0.	0.	0.	1.37E-06	5.01E-05	1.22E-03	3.85E-04
7 10.10 0.	0.	1.07E-10	0.	0.	0.	1.37E-06	3.14E-05	1.22E-03	3.81E-04
8 10.10 0.	0.	9.61E-11	0.	0.	0.	1.37E-06	3.37E-05	9.89E-04	3.79E-04
9 9.90 0.	0.	9.95E-11	0.	0.	0.	1.37E-06	5.45E-05	9.95E-04	3.74E-04
10 9.80 0.	0.	9.54E-11	0.	0.	0.	1.38E-06	5.82E-05	9.75E-04	3.74E-04
11 9.70 0.	0.	9.41E-11	0.	0.	0.	1.38E-06	5.82E-05	1.00E-03	3.74E-04
12 9.60 0.	0.	9.13E-11	0.	0.	0.	1.38E-06	6.21E-05	1.01E-03	3.75E-04
13 9.50 0.	0.	8.61E-11	0.	0.	0.	1.38E-06	6.21E-05	1.01E-03	3.75E-04
14 9.40 0.	0.	7.73E-11	0.	0.	0.	1.39E-06	6.41E-05	1.01E-03	3.69E-04
15 9.30 0.	0.	7.97E-11	0.	0.	0.	1.39E-06	6.47E-05	1.02E-03	3.67E-04
16 9.20 0.	0.	6.83E-11	0.	0.	0.	1.40E-06	6.45E-05	1.02E-03	3.65E-04
17 9.10 0.	0.	7.85E-11	0.	0.	0.	1.40E-06	7.00E-05	1.11E-04	3.64E-04
18 9.00 0.	0.	6.54E-11	0.	0.	0.	1.41E-06	7.32E-05	9.13E-04	3.62E-04
19 8.90 0.	0.	6.19E-11	0.	0.	0.	1.41E-06	7.37E-05	5.16E-04	3.61E-04
20 8.80 0.	0.	6.14E-11	0.	0.	0.	1.42E-06	7.37E-05	5.16E-04	3.59E-04
21 8.70 0.	0.	5.75E-11	0.	0.	0.	1.42E-06	6.11E-05	5.25E-04	3.58E-04
22 8.60 0.	0.	5.60E-11	0.	0.	0.	1.43E-06	6.48E-05	5.25E-04	3.56E-04
23 8.50 0.	0.	5.12E-11	0.	0.	0.	1.43E-06	6.78E-05	5.25E-04	3.55E-04
24 8.40 0.	0.	5.15E-11	0.	0.	0.	1.44E-06	6.92E-05	5.34E-04	3.53E-04
25 8.30 0.	0.	4.49E-11	0.	0.	0.	1.45E-06	6.92E-05	5.39E-04	3.52E-04
26 8.20 0.	0.	4.54E-11	0.	0.	0.	1.46E-06	6.97E-05	5.44E-04	3.53E-04
27 8.10 0.	0.	4.04E-11	0.	0.	0.	1.46E-06	1.81E-04	5.50E-04	3.53E-04
28 8.00 0.	0.	4.13E-11	0.	0.	0.	1.47E-06	1.82E-04	5.50E-04	3.51E-04
29 7.90 0.	0.	3.84E-11	0.	0.	0.	1.48E-06	1.89E-04	5.63E-04	3.51E-04
30 7.80 0.	0.	3.83E-11	0.	0.	0.	1.49E-06	1.13E-04	5.78E-04	3.51E-04
31 7.70 0.	0.	3.44E-11	0.	0.	0.	1.49E-06	1.17E-04	5.78E-04	3.51E-04
32 7.60 0.	0.	3.32E-11	0.	0.	0.	1.50E-06	1.22E-04	5.86E-04	3.51E-04
33 7.50 0.	0.	3.13E-11	0.	1.99E-15	0.	1.51E-06	1.27E-04	5.39E-04	3.52E-04
34 7.40 0.	0.	2.89E-11	0.	6.01E-15	0.	1.52E-06	1.35E-04	5.48E-04	3.52E-04
35 7.30 0.	0.	2.79E-11	0.	5.84E-14	0.	1.53E-06	1.38E-04	5.52E-04	3.52E-04
36 7.20 0.	0.	2.58E-11	0.	2.13E-13	0.	1.53E-06	1.44E-04	5.62E-04	3.52E-04
37 7.10 0.	0.	2.59E-11	0.	1.93E-12	0.	1.55E-06	1.50E-04	5.70E-04	3.53E-04
38 7.00 0.	0.	2.34E-11	0.	5.43E-12	0.	1.56E-06	1.57E-04	5.80E-04	3.53E-04
39 6.90 0.	0.	2.19E-11	0.	5.43E-12	0.	1.57E-06	1.64E-04	5.90E-04	3.54E-04
40 6.80 0.	0.	2.15E-11	0.	0.72E-12	0.	1.58E-06	1.71E-04	6.09E-04	3.54E-04
41 6.70 0.	0.	1.93E-11	0.	0.23E-12	0.	1.60E-06	1.79E-04	6.19E-04	3.55E-04
42 6.60 0.	0.	1.72E-11	0.	7.63E-12	0.	1.61E-06	1.87E-04	6.31E-04	3.56E-04
43 6.50 0.	0.	1.62E-11	0.	1.82E-11	0.	1.62E-06	1.95E-04	6.42E-04	3.56E-04
44 6.40 0.	0.	1.62E-11	2.91E-10	9.12E-12	0.	1.63E-06	2.06E-04	6.27E-04	3.58E-04
45 6.30 0.	0.	3.05E-12	1.41E-13	7.21E-12	0.	1.65E-06	2.15E-04	6.39E-04	3.59E-04
46 6.20 0.	0.	3.05E-12	2.84E-13	9.49E-12	0.	1.66E-06	2.27E-04	6.52E-04	3.62E-04
47 6.10 0.	0.	1.07E-12	5.92E-13	1.7E-11	0.	1.67E-06	2.38E-04	6.65E-04	3.65E-04
48 6.00 0.	0.	4.85E-13	5.89E-13	5.66E-12	0.	1.68E-06	2.50E-04	6.78E-04	3.67E-04
49 5.90 0.	0.	3.68E-13	6.77E-13	5.62E-12	0.	1.68E-06	2.63E-04	6.92E-04	3.70E-04
50 5.80 0.	0.	0.84E-16	1.24E-12	5.97E-12	0.	1.68E-06	2.77E-04	7.07E-04	3.72E-04
51 5.70 0.	0.	3.27E-10	1.49E-12	6.68E-12	0.	1.56E-06	2.92E-04	7.23E-04	3.74E-04

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES N) 24000. DENSITY (GM/CC) 1.293E-05 (10.9E-03 NORMAL)

PHOTON O2 S-R ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2* 1ST NEG.	M2* 2ND NEG.	BETA	GAMMA	NO VID-ROT	NO 2	Q- PHOTO-DET	FREE-FREE C.E.	N C.E.	O P.E.	TOTAL AIR
52 5.40 1.49E-20	0.	0.	0.	0.	1.32E-12	8.50E-12	0.	0.	1.45E-06	3.09E-04	7.61E-04	3.76E-04	1.43E-03
53 5.50 0.	0.	0.	0.	0.	1.62E-12	7.95E-12	0.	0.	1.46E-06	3.46E-04	7.62E-04	3.62E-04	1.47E-03
54 5.60 0.	0.	0.	0.	0.	1.93E-12	6.66E-12	0.	0.	1.46E-06	3.45E-04	7.66E-04	3.62E-04	1.52E-03
55 5.70 0.	0.	0.	0.	0.	1.97E-12	6.98E-12	0.	0.	1.47E-06	3.67E-04	8.11E-04	3.72E-04	1.57E-03
56 5.80 0.	0.	0.	0.	0.	1.72E-12	6.48E-12	0.	0.	1.46E-06	3.67E-04	8.04E-04	3.72E-04	1.45E-03
57 5.90 0.	0.	0.	0.	0.	1.72E-12	6.48E-12	0.	0.	1.46E-06	3.67E-04	8.04E-04	3.72E-04	1.45E-03
58 5.99 2.35E-13	0.	0.	0.	0.	1.59E-12	6.33E-12	0.	0.	1.52E-06	4.39E-04	7.10E-04	4.08E-04	1.53E-03
59 4.90 5.29E-13	0.	0.	0.	0.	1.76E-12	6.95E-12	0.	0.	1.52E-06	4.33E-04	7.37E-04	4.08E-04	1.61E-03
60 4.80 1.07E-12	0.	0.	0.	0.	1.94E-12	6.94E-12	0.	0.	1.53E-06	4.93E-04	7.66E-04	4.17E-04	1.66E-03
61 4.70 1.40E-12	0.	0.	0.	0.	1.97E-12	7.07E-12	0.	0.	1.55E-06	5.25E-04	7.99E-04	4.28E-04	1.75E-03
62 4.60 1.98E-12	0.	0.	0.	0.	2.05E-12	7.12E-12	0.	0.	1.56E-06	5.60E-04	8.38E-04	4.40E-04	1.84E-03
63 4.50 2.11E-12	0.	0.	0.	0.	1.91E-12	5.98E-12	0.	0.	1.57E-06	5.99E-04	8.65E-04	4.53E-04	1.94E-03
64 4.40 2.30E-12	0.	0.	0.	0.	1.94E-12	3.95E-12	0.	0.	1.58E-06	6.41E-04	9.34E-04	4.66E-04	2.04E-03
65 4.30 2.22E-12	0.	0.	0.	0.	1.88E-12	2.94E-12	0.	0.	1.60E-06	6.87E-04	9.67E-04	4.78E-04	2.15E-03
66 4.20 2.10E-12	0.	0.	0.	0.	1.99E-12	1.96E-12	0.	0.	1.61E-06	7.39E-04	1.04E-03	4.92E-04	2.25E-03
67 4.10 2.08E-12	0.	0.	0.	0.	1.98E-12	4.52E-13	0.	0.	1.62E-06	7.95E-04	1.10E-03	4.88E-04	2.35E-03
68 4.00 1.98E-12	0.	0.	0.	0.	1.94E-12	3.54E-13	0.	0.	1.62E-06	8.58E-04	1.16E-03	4.89E-04	2.45E-03
69 3.90 1.83E-12	0.	0.	0.	0.	1.40E-11	1.23E-09	1.94E-12	1.33E-13	1.62E-06	9.27E-04	1.17E-03	2.78E-04	2.56E-03
70 3.80 1.66E-12	0.	0.	0.	0.	8.75E-11	4.54E-09	1.99E-12	0.	1.61E-06	1.00E-03	1.19E-03	2.91E-04	2.68E-03
71 3.70 1.64E-12	0.	0.	0.	0.	8.73E-11	2.54E-09	1.78E-12	0.	1.58E-06	1.09E-03	1.06E-03	3.10E-04	2.84E-03
72 3.60 1.91E-12	0.	0.	0.	0.	8.66E-11	1.19E-08	1.90E-12	0.	1.48E-06	1.18E-03	1.13E-03	3.44E-04	2.68E-03
73 3.50 1.93E-12	0.	0.	0.	0.	8.53E-11	1.92E-08	1.93E-12	0.	1.36E-06	1.29E-03	1.21E-03	3.76E-04	2.67E-03
74 3.40 1.34E-12	0.	0.	0.	0.	9.74E-11	3.54E-09	1.95E-12	0.	7.83E-07	1.41E-03	1.32E-03	4.11E-04	3.14E-03
75 3.30 1.09E-12	0.	0.	0.	0.	5.69E-11	1.24E-09	1.43E-12	0.	7.84E-07	1.54E-03	1.44E-03	4.48E-04	3.45E-03
76 3.20 9.69E-13	0.	0.	0.	0.	3.99E-11	1.82E-09	1.52E-12	0.	7.84E-07	1.70E-03	1.57E-03	4.67E-04	3.75E-03
77 3.10 8.47E-13	0.	0.	0.	0.	3.15E-11	5.64E-09	1.47E-12	0.	7.88E-07	1.87E-03	1.70E-03	5.29E-04	4.09E-03
78 3.00 8.65E-13	0.	0.	0.	0.	1.97E-11	1.56E-09	1.42E-12	0.	7.89E-07	2.06E-03	1.83E-03	5.85E-04	4.46E-03
79 2.90 7.47E-13	0.	0.	0.	0.	1.28E-11	6.22E-09	1.12E-12	0.	7.91E-07	2.29E-03	1.97E-03	6.13E-04	4.88E-03
80 2.80 7.91E-13	0.	0.	0.	0.	6.08E-12	4.62E-09	8.16E-13	0.	7.92E-07	2.55E-03	2.14E-03	6.52E-04	5.35E-03
81 2.70 5.27E-13	0.	0.	0.	0.	2.88E-12	5.43E-09	4.66E-13	0.	7.92E-07	2.95E-03	2.31E-03	7.18E-04	5.88E-03
82 2.60 3.59E-13	0.	0.	0.	0.	1.34E-12	5.93E-10	2.13E-13	0.	7.92E-07	3.20E-03	2.26E-03	7.72E-04	6.24E-03
83 2.50 1.85E-14	0.	0.	0.	0.	1.39E-13	5.85E-10	5.20E-14	0.	7.92E-07	3.61E-03	2.56E-03	5.32E-04	6.78E-03
84 2.40 0.	0.	0.	0.	0.	4.27E-10	5.66E-19	0.	0.	7.92E-07	4.08E-03	2.97E-03	6.08E-04	7.66E-03
85 2.30 0.	0.	0.	0.	0.	1.64E-11	0.	0.	0.	7.86E-07	4.65E-03	2.78E-03	6.08E-04	9.14E-03
86 2.20 0.	0.	0.	0.	0.	4.52E-11	0.	0.	0.	7.83E-07	5.32E-03	3.26E-03	6.49E-04	9.44E-03
87 2.10 0.	0.	0.	0.	0.	4.46E-11	0.	0.	0.	7.79E-07	6.14E-03	3.79E-03	6.92E-04	1.06E-02
88 2.00 0.	0.	0.	0.	0.	9.07E-11	0.	0.	0.	7.54E-07	7.14E-03	4.30E-03	1.12E-03	1.24E-02
89 1.90 0.	0.	0.	0.	0.	1.02E-10	0.	0.	0.	7.26E-07	8.37E-03	4.92E-03	1.31E-03	1.44E-02
90 1.80 0.	0.	0.	0.	0.	8.86E-11	0.	0.	0.	6.94E-07	9.89E-03	5.67E-03	1.60E-03	1.74E-02
91 1.70 0.	0.	0.	0.	0.	9.88E-11	0.	0.	0.	6.53E-07	1.16E-02	7.02E-03	1.95E-03	2.08E-02
92 1.60 0.	0.	0.	0.	0.	7.97E-11	0.	0.	0.	6.15E-07	1.42E-02	8.18E-03	2.49E-03	2.47E-02
93 1.50 0.	0.	0.	0.	0.	8.50E-11	0.	0.	0.	2.51E-07	1.73E-02	1.06E-02	2.77E-03	3.97E-02
94 1.40 0.	0.	0.	0.	0.	8.32E-11	0.	0.	0.	0.	2.13E-02	1.32E-02	3.15E-03	3.79E-02
95 1.30 0.	0.	0.	0.	0.	6.37E-11	0.	0.	0.	0.	2.44E-02	1.78E-02	4.34E-03	4.49E-02
96 1.20 0.	0.	0.	0.	0.	6.07E-11	0.	0.	0.	0.	3.43E-02	2.02E-02	4.37E-03	5.06E-02
97 1.10 0.	0.	0.	0.	0.	5.96E-11	0.	0.	0.	0.	4.49E-02	2.66E-02	5.44E-03	7.46E-02
98 1.00 0.	0.	0.	0.	0.	4.91E-11	0.	0.	0.	0.	6.39E-02	2.97E-02	6.21E-03	9.61E-02
99 0.90 0.	0.	0.	0.	0.	4.91E-11	0.	0.	0.	0.	8.39E-02	3.42E-02	7.27E-03	1.29E-01
100 0.80 0.	0.	0.	0.	0.	2.11E-11	0.	0.	0.	0.	1.20E-01	3.94E-02	8.35E-03	1.68E-01
101 0.70 0.	0.	0.	0.	0.	4.86E-12	0.	0.	0.	0.	1.82E-01	4.23E-02	8.70E-03	2.33E-01
102 0.60 0.	0.	0.	0.	0.	1.21E-12	0.	0.	0.	0.	2.95E-01	4.73E-02	9.17E-03	3.51E-01

ABSORPTION COEFFICIENT OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 2400. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON ENERGY E.V.	QZ S-R CMHT.	NO B-H	NO DELTA	NO GAMMA	NO 2	0- PHOTO-DET (10MS)		FREE-FREE		TOTAL AIR	
						P.E.	P.E.	P.E.	P.E.		
1 10.70 0.	0.	1.300E-14	0.	0.	0.	1.66E-09	5.80E-07	3.80E-05	4.89E-06	4.46E-05	0.
2 10.60 0.	0.	1.20E-14	0.	0.	0.	1.66E-09	6.01E-07	3.91E-05	4.77E-06	4.45E-05	0.
3 10.50 0.	0.	1.31E-14	0.	0.	0.	1.66E-09	6.19E-07	4.01E-05	4.76E-06	4.50E-05	0.
4 10.40 0.	0.	1.27E-14	0.	0.	0.	1.66E-09	6.37E-07	4.11E-05	4.74E-06	4.55E-05	0.
5 10.30 0.	0.	1.13E-14	0.	0.	0.	1.67E-09	6.56E-07	4.21E-05	4.72E-06	4.60E-05	0.
6 10.20 0.	0.	1.10E-14	0.	0.	0.	1.67E-09	6.75E-07	4.31E-05	4.70E-06	4.65E-05	0.
7 10.10 0.	0.	1.13E-14	0.	0.	0.	1.67E-09	6.94E-07	4.41E-05	4.68E-06	4.70E-05	0.
8 10.00 0.	0.	1.01E-14	0.	0.	0.	1.68E-09	7.14E-07	4.51E-05	4.66E-06	4.75E-05	0.
9 9.90 0.	0.	1.05E-14	0.	0.	0.	1.68E-09	7.34E-07	4.61E-05	4.64E-06	4.80E-05	0.
10 9.80 0.	0.	1.00E-14	0.	0.	0.	1.68E-09	7.54E-07	4.71E-05	4.62E-06	4.85E-05	0.
11 9.70 0.	0.	8.00E-15	0.	0.	0.	1.69E-09	7.74E-07	4.81E-05	4.60E-06	4.90E-05	0.
12 9.60 0.	0.	6.04E-15	0.	0.	0.	1.69E-09	7.94E-07	4.91E-05	4.58E-06	4.95E-05	0.
13 9.50 0.	0.	6.09E-15	0.	0.	0.	1.69E-09	8.14E-07	5.01E-05	4.56E-06	5.00E-05	0.
14 9.40 0.	0.	6.17E-15	0.	0.	0.	1.69E-09	8.34E-07	5.11E-05	4.54E-06	5.05E-05	0.
15 9.30 0.	0.	6.28E-15	0.	0.	0.	1.70E-09	8.54E-07	5.21E-05	4.52E-06	5.10E-05	0.
16 9.20 0.	0.	7.21E-15	0.	0.	0.	1.71E-09	8.74E-07	5.31E-05	4.50E-06	5.15E-05	0.
17 9.10 0.	0.	7.64E-15	0.	0.	0.	1.72E-09	8.94E-07	5.41E-05	4.48E-06	5.20E-05	0.
18 9.00 0.	0.	6.91E-15	0.	0.	0.	1.72E-09	9.14E-07	5.51E-05	4.46E-06	5.25E-05	0.
19 8.90 0.	0.	6.93E-15	0.	0.	0.	1.72E-09	9.34E-07	5.61E-05	4.44E-06	5.30E-05	0.
20 8.80 0.	0.	6.40E-15	0.	0.	0.	1.73E-09	9.54E-07	5.71E-05	4.42E-06	5.35E-05	0.
21 8.70 0.	0.	5.70E-15	0.	0.	0.	1.74E-09	9.74E-07	5.81E-05	4.40E-06	5.40E-05	0.
22 8.60 0.	0.	6.01E-15	0.	0.	0.	1.74E-09	9.94E-07	5.91E-05	4.38E-06	5.45E-05	0.
23 8.50 0.	0.	5.41E-15	0.	0.	0.	1.75E-09	1.01E-06	6.01E-05	4.36E-06	5.50E-05	0.
24 8.40 0.	0.	5.43E-15	0.	0.	0.	1.75E-09	1.03E-06	6.11E-05	4.34E-06	5.55E-05	0.
25 8.30 0.	0.	4.74E-15	0.	0.	0.	1.77E-09	1.05E-06	6.21E-05	4.32E-06	5.60E-05	0.
26 8.20 0.	0.	4.84E-15	0.	0.	0.	1.78E-09	1.07E-06	6.31E-05	4.30E-06	5.65E-05	0.
27 8.10 0.	0.	4.29E-15	0.	0.	0.	1.79E-09	1.09E-06	6.41E-05	4.28E-06	5.70E-05	0.
28 8.00 0.	0.	4.37E-15	0.	0.	0.	1.79E-09	1.11E-06	6.51E-05	4.26E-06	5.75E-05	0.
29 7.90 0.	0.	3.05E-15	0.	0.	0.	1.80E-09	1.13E-06	6.61E-05	4.24E-06	5.80E-05	0.
30 7.80 0.	0.	4.84E-15	0.	0.	0.	1.81E-09	1.15E-06	6.71E-05	4.22E-06	5.85E-05	0.
31 7.70 0.	0.	3.63E-15	0.	0.	0.	1.82E-09	1.17E-06	6.81E-05	4.20E-06	5.90E-05	0.
32 7.60 0.	0.	3.51E-15	0.	0.	0.	1.83E-09	1.19E-06	6.91E-05	4.18E-06	5.95E-05	0.
33 7.50 0.	0.	3.32E-15	0.	0.	0.	1.84E-09	1.21E-06	7.01E-05	4.16E-06	6.00E-05	0.
34 7.40 0.	0.	3.04E-15	0.	0.	0.	1.84E-09	1.23E-06	7.11E-05	4.14E-06	6.05E-05	0.
35 7.30 0.	0.	2.93E-15	0.	0.	0.	1.85E-09	1.25E-06	7.21E-05	4.12E-06	6.10E-05	0.
36 7.20 0.	0.	2.70E-15	0.	0.	0.	1.85E-09	1.27E-06	7.31E-05	4.10E-06	6.15E-05	0.
37 7.10 0.	0.	2.64E-15	0.	0.	0.	1.86E-09	1.29E-06	7.41E-05	4.08E-06	6.20E-05	0.
38 7.00 0.	0.	2.47E-15	0.	0.	0.	1.86E-09	1.31E-06	7.51E-05	4.06E-06	6.25E-05	0.
39 6.90 0.	0.	2.31E-15	0.	0.	0.	1.87E-09	1.33E-06	7.61E-05	4.04E-06	6.30E-05	0.
40 6.80 0.	0.	2.27E-15	0.	0.	0.	1.87E-09	1.35E-06	7.71E-05	4.02E-06	6.35E-05	0.
41 6.70 0.	0.	2.03E-15	0.	0.	0.	1.88E-09	1.37E-06	7.81E-05	4.00E-06	6.40E-05	0.
42 6.60 0.	0.	1.86E-15	0.	0.	0.	1.88E-09	1.39E-06	7.91E-05	3.98E-06	6.45E-05	0.
43 6.50 0.	0.	1.53E-15	0.	0.	0.	1.89E-09	1.41E-06	8.01E-05	3.96E-06	6.50E-05	0.
44 6.40 0.	0.	1.09E-15	0.	0.	0.	1.89E-09	1.43E-06	8.11E-05	3.94E-06	6.55E-05	0.
45 6.30 0.	0.	7.89E-16	0.	0.	0.	1.90E-09	1.45E-06	8.21E-05	3.92E-06	6.60E-05	0.
46 6.20 0.	0.	6.75E-16	0.	0.	0.	1.90E-09	1.47E-06	8.31E-05	3.90E-06	6.65E-05	0.
47 6.10 0.	0.	4.60E-16	0.	0.	0.	1.91E-09	1.49E-06	8.41E-05	3.88E-06	6.70E-05	0.
48 6.00 0.	0.	3.12E-16	0.	0.	0.	1.91E-09	1.51E-06	8.51E-05	3.86E-06	6.75E-05	0.
49 5.90 0.	0.	3.66E-16	0.	0.	0.	1.92E-09	1.53E-06	8.61E-05	3.84E-06	6.80E-05	0.
50 5.80 0.	0.	3.49E-16	0.	0.	0.	1.92E-09	1.55E-06	8.71E-05	3.82E-06	6.85E-05	0.
51 5.70 0.	0.	4.83E-16	0.	0.	0.	1.93E-09	1.57E-06	8.81E-05	3.80E-06	6.90E-05	0.

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 2400. DENSITY (GM/CC) 1.293E-06 (10.0E-04 NORMAL)

PHOTON O2 S-B ENERGY BANDS	M2 1ST POS.	M2 2ND POS.	M2 1ST NFG.	BETA	NO GAMMA	NO VIB-ROT	NO 2	0- PHOTON-DET (IONS)	FREE-FREE P.E.	N P.E.	0 P.E.	TOTAL AIR	
52	5.60	1.04E-24	0.	0.	1.55E-10	9.71E-10	0.	0.	1.77E-09	4.19E-04	2.68E-05	5.37E-06	3.63E-05
53	5.90	0.	0.	0.	1.69E-10	8.90E-10	0.	0.	1.70E-09	4.39E-04	2.70E-05	5.46E-06	3.70E-05
54	5.40	0.	0.	0.	1.75E-10	7.44E-10	0.	0.	1.70E-09	4.64E-04	2.89E-05	5.55E-06	3.91E-05
55	5.30	0.	0.	0.	1.70E-10	9.39E-10	0.	0.	1.80E-09	4.91E-04	1.42E-05	5.66E-06	2.80E-05
56	5.20	0.	0.	0.	1.94E-10	7.59E-10	0.	0.	1.84E-09	5.20E-04	1.49E-05	4.79E-06	2.89E-05
57	5.10	0.	0.	0.	1.96E-10	9.61E-10	0.	0.	1.83E-09	5.52E-04	1.55E-05	4.89E-06	2.59E-05
58	5.00	2.03E-17	0.	0.	1.81E-10	9.29E-10	0.	0.	1.86E-09	5.86E-04	1.62E-05	4.98E-06	2.70E-05
59	4.90	6.95E-17	0.	0.	2.05E-10	1.03E-10	0.	0.	1.86E-09	6.20E-04	1.69E-05	5.09E-06	2.82E-05
60	4.80	1.74E-10	0.	0.	2.22E-10	9.81E-10	0.	0.	1.87E-09	6.63E-04	1.76E-05	5.21E-06	2.94E-05
61	4.70	1.74E-10	0.	0.	2.25E-10	9.00E-10	0.	0.	1.89E-09	7.06E-04	1.85E-05	5.37E-06	3.10E-05
62	4.60	2.82E-10	0.	0.	2.34E-10	8.14E-10	0.	0.	1.90E-09	7.49E-04	1.97E-05	5.53E-06	3.28E-05
63	4.50	2.62E-10	0.	2.62E-10	2.19E-10	6.16E-10	0.	0.	1.92E-09	8.09E-04	2.10E-05	5.70E-06	3.48E-05
64	4.40	7.89E-10	0.	2.75E-10	2.22E-10	4.17E-10	0.	0.	1.93E-09	8.62E-04	2.23E-05	5.72E-06	3.66E-05
65	4.30	2.75E-10	0.	2.81E-10	2.19E-10	2.69E-10	0.	0.	1.93E-09	9.24E-04	2.36E-05	5.91E-06	3.86E-05
66	4.20	2.68E-10	0.	3.08E-10	2.20E-10	1.81E-10	0.	0.	1.95E-09	9.94E-04	2.51E-05	6.12E-06	4.12E-05
67	4.10	2.68E-10	0.	3.08E-10	2.27E-10	5.17E-10	0.	0.	1.97E-09	1.07E-03	2.67E-05	6.14E-06	4.35E-05
68	4.00	2.32E-10	0.	1.10E-10	2.22E-10	1.89E-10	0.	0.	1.97E-09	1.17E-03	2.83E-05	3.75E-06	4.75E-05
69	3.90	2.01E-10	0.	5.7E-10	2.10E-10	1.40E-10	0.	0.	1.97E-09	1.25E-03	2.92E-05	3.91E-06	4.96E-05
70	3.80	2.24E-10	0.	9.22E-10	2.20E-10	0.	0.	1.98E-09	1.35E-03	3.07E-05	4.10E-06	4.93E-05	
71	3.70	2.04E-10	0.	3.33E-10	2.01E-10	0.	0.	1.98E-09	1.46E-03	3.22E-05	4.43E-06	4.92E-05	
72	3.60	1.80E-10	0.	7.03E-10	1.11E-10	2.17E-10	0.	0.	1.98E-09	1.58E-03	3.19E-05	4.79E-06	5.28E-05
73	3.50	1.77E-10	0.	9.01E-10	1.94E-10	1.77E-10	0.	0.	1.66E-09	1.75E-03	3.37E-05	5.20E-06	5.43E-05
74	3.40	1.66E-10	0.	6.08E-10	3.41E-10	2.00E-10	0.	0.	9.59E-10	1.89E-03	3.61E-05	5.63E-06	6.07E-05
75	3.30	1.35E-10	0.	6.21E-10	1.15E-10	1.64E-10	0.	0.	9.59E-10	2.07E-03	3.85E-05	6.10E-06	6.54E-05
76	3.20	1.28E-10	0.	4.21E-10	1.75E-10	1.74E-10	0.	0.	9.59E-10	2.24E-03	4.15E-05	6.64E-06	7.09E-05
77	3.10	1.17E-10	0.	3.33E-10	9.43E-10	1.68E-10	0.	0.	9.61E-10	2.51E-03	4.47E-05	7.17E-06	7.69E-05
78	3.00	1.07E-10	0.	2.08E-10	1.12E-10	1.63E-10	0.	0.	9.64E-10	2.77E-03	4.78E-05	7.71E-06	8.33E-05
79	2.90	9.29E-17	0.	1.33E-10	9.96E-10	1.28E-10	0.	0.	9.65E-10	3.06E-03	5.11E-05	8.32E-06	9.02E-05
80	2.80	9.08E-17	0.	6.42E-10	4.45E-10	9.33E-10	0.	0.	9.67E-10	3.42E-03	5.47E-05	9.00E-06	9.79E-05
81	2.70	6.53E-17	0.	3.84E-10	5.23E-10	5.12E-10	0.	0.	9.67E-10	3.83E-03	5.68E-05	9.51E-06	1.06E-04
82	2.60	3.21E-17	0.	1.46E-10	5.71E-10	2.44E-10	0.	0.	9.67E-10	4.29E-03	3.83E-05	1.02E-05	1.15E-04
83	2.50	2.29E-10	0.	1.46E-10	5.65E-10	3.95E-10	0.	0.	9.67E-10	4.84E-03	4.28E-05	7.39E-06	1.26E-04
84	2.40	0.	0.	6.22E-10	4.38E-10	6.47E-10	0.	0.	9.67E-10	5.46E-03	4.84E-05	8.27E-06	1.38E-04
85	2.30	0.	1.73E-10	0.	0.	0.	0.	0.	9.59E-10	6.24E-03	4.99E-05	9.31E-06	1.52E-04
86	2.20	0.	4.70E-10	0.	0.	0.	0.	0.	9.59E-10	7.14E-03	5.72E-05	1.09E-05	1.68E-04
87	2.10	0.	4.69E-10	0.	0.	0.	0.	0.	9.51E-10	8.24E-03	6.48E-05	1.26E-05	1.86E-04
88	2.00	0.	9.57E-10	0.	0.	0.	0.	0.	9.21E-10	9.49E-03	7.24E-05	1.47E-05	2.02E-04
89	1.90	0.	1.37E-10	0.	0.	0.	0.	0.	8.66E-10	1.15E-04	8.12E-05	1.65E-05	2.18E-04
90	1.80	0.	9.39E-10	0.	0.	0.	0.	0.	8.42E-10	1.32E-04	9.32E-05	1.90E-05	2.46E-04
91	1.70	0.	1.94E-10	0.	0.	0.	0.	0.	7.99E-10	1.58E-04	1.07E-04	2.39E-05	2.89E-04
92	1.60	0.	7.99E-10	0.	0.	0.	0.	0.	6.79E-10	1.99E-04	1.22E-04	2.79E-05	3.40E-04
93	1.50	0.	0.97E-10	0.	0.	0.	0.	0.	3.07E-10	2.32E-04	1.49E-04	3.33E-05	4.14E-04
94	1.40	0.	0.70E-10	0.	0.	0.	0.	0.	0.	2.66E-04	1.73E-04	3.95E-05	4.90E-04
95	1.30	0.	6.72E-10	0.	0.	0.	0.	0.	0.	3.59E-04	2.27E-04	4.74E-05	5.74E-04
96	1.20	0.	4.11E-10	0.	0.	0.	0.	0.	0.	4.95E-04	2.75E-04	4.99E-05	7.16E-04
97	1.10	0.	6.31E-10	0.	0.	9.09E-21	0.	0.	0.	6.80E-04	2.75E-04	6.20E-05	9.38E-04
98	1.00	0.	5.91E-10	0.	0.	1.59E-19	0.	0.	0.	8.06E-04	3.30E-04	7.00E-05	1.21E-03
99	0.90	0.	4.70E-10	0.	0.	1.11E-03	3.78E-04	8.26E-05	0.	1.11E-03	3.78E-04	8.26E-05	1.59E-03
100	0.80	0.	2.23E-10	0.	0.	4.19E-10	0.	4.19E-10	0.	1.61E-03	4.33E-04	9.49E-05	2.13E-03
101	0.70	0.	5.07E-10	0.	0.	4.10E-10	0.	4.10E-10	0.	2.43E-03	4.64E-04	9.31E-05	2.69E-03
102	0.60	0.	1.20E-10	0.	0.	1.27E-17	0.	1.27E-17	0.	3.93E-03	4.75E-04	1.04E-04	4.51E-03



ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY E.V.	PHOTON 02 S-2 E.V.	02 S-4 CONF.	TEMPERATURE (DEGREES K)	NO META	AD GAMMA	DENSITY (GM/CC)	FREE-FREE		TOTAL AIR	
							PHOTO-EFF (10M5)	P.E.	W	P.E.
1 10.70 0.	0.52E-19	0.	0.	0.	0.	2.41E-12	1.29E-04	1.00E-06	9.15E-08	1.99E-06
2 10.60 0.	7.91E-19	0.	0.	0.	0.	2.42E-12	1.33E-04	1.01E-06	9.14E-08	2.02E-06
3 10.50 0.	6.06E-18	0.	0.	0.	0.	2.43E-12	1.37E-04	1.02E-06	9.13E-08	2.05E-06
4 10.40 0.	7.01E-18	0.	0.	0.	0.	2.44E-12	1.41E-04	1.03E-06	9.12E-08	2.08E-06
5 10.30 0.	6.95E-18	0.	0.	0.	0.	2.45E-12	1.45E-04	1.04E-06	9.11E-08	2.11E-06
6 10.20 0.	7.20E-18	0.	0.	0.	0.	2.46E-12	1.49E-04	1.05E-06	9.10E-08	2.14E-06
7 10.10 0.	6.94E-18	0.	0.	0.	0.	2.47E-12	1.53E-04	1.06E-06	9.09E-08	2.17E-06
8 10.00 0.	6.73E-18	0.	0.	0.	0.	2.48E-12	1.57E-04	1.07E-06	9.08E-08	2.20E-06
9 9.90 0.	6.54E-18	0.	0.	0.	0.	2.49E-12	1.61E-04	1.08E-06	9.07E-08	2.23E-06
10 9.80 0.	6.36E-18	0.	0.	0.	0.	2.50E-12	1.65E-04	1.09E-06	9.06E-08	2.26E-06
11 9.70 0.	5.47E-18	0.	0.	0.	0.	2.51E-12	1.70E-04	1.10E-06	9.05E-08	2.29E-06
12 9.60 0.	5.93E-18	0.	0.	0.	0.	2.52E-12	1.75E-04	1.11E-06	9.04E-08	2.32E-06
13 9.50 0.	5.21E-18	0.	0.	0.	0.	2.53E-12	1.80E-04	1.12E-06	9.03E-08	2.35E-06
14 9.40 0.	5.03E-18	0.	0.	0.	0.	2.54E-12	1.85E-04	1.13E-06	9.02E-08	2.38E-06
15 9.30 0.	5.10E-18	0.	0.	0.	0.	2.55E-12	1.90E-04	1.14E-06	9.01E-08	2.41E-06
16 9.20 0.	4.44E-18	0.	0.	0.	0.	2.56E-12	1.95E-04	1.15E-06	9.00E-08	2.44E-06
17 9.10 0.	4.50E-18	0.	0.	0.	0.	2.57E-12	2.00E-04	1.16E-06	8.99E-08	2.47E-06
18 9.00 0.	4.25E-18	0.	0.	0.	0.	2.58E-12	2.05E-04	1.17E-06	8.98E-08	2.50E-06
19 8.90 0.	4.02E-18	0.	0.	0.	0.	2.59E-12	2.10E-04	1.18E-06	8.97E-08	2.53E-06
20 8.80 0.	3.90E-18	0.	0.	0.	0.	2.60E-12	2.15E-04	1.19E-06	8.96E-08	2.56E-06
21 8.70 0.	3.54E-18	0.	0.	0.	0.	2.61E-12	2.20E-04	1.20E-06	8.95E-08	2.59E-06
22 8.60 0.	3.70E-18	0.	0.	0.	0.	2.62E-12	2.25E-04	1.21E-06	8.94E-08	2.62E-06
23 8.50 0.	3.33E-18	0.	0.	0.	0.	2.63E-12	2.30E-04	1.22E-06	8.93E-08	2.65E-06
24 8.40 0.	2.83E-18	0.	0.	0.	0.	2.64E-12	2.35E-04	1.23E-06	8.92E-08	2.68E-06
25 8.30 0.	2.92E-18	0.	0.	0.	0.	2.65E-12	2.40E-04	1.24E-06	8.91E-08	2.71E-06
26 8.20 0.	2.60E-18	0.	0.	0.	0.	2.66E-12	2.45E-04	1.25E-06	8.90E-08	2.74E-06
27 8.10 0.	2.60E-18	0.	0.	0.	0.	2.67E-12	2.50E-04	1.26E-06	8.89E-08	2.77E-06
28 8.00 0.	2.37E-18	0.	0.	0.	0.	2.68E-12	2.55E-04	1.27E-06	8.88E-08	2.80E-06
29 7.90 0.	2.40E-18	0.	0.	0.	0.	2.69E-12	2.60E-04	1.28E-06	8.87E-08	2.83E-06
30 7.80 0.	2.24E-18	0.	0.	0.	0.	2.70E-12	2.65E-04	1.29E-06	8.86E-08	2.86E-06
31 7.70 0.	2.10E-18	0.	0.	0.	0.	2.71E-12	2.70E-04	1.30E-06	8.85E-08	2.89E-06
32 7.60 0.	2.10E-18	0.	0.	0.	0.	2.72E-12	2.75E-04	1.31E-06	8.84E-08	2.92E-06
33 7.50 0.	1.87E-18	0.	0.	0.	0.	2.73E-12	2.80E-04	1.32E-06	8.83E-08	2.95E-06
34 7.40 0.	1.67E-18	0.	0.	0.	0.	2.74E-12	2.85E-04	1.33E-06	8.82E-08	2.98E-06
35 7.30 0.	1.64E-18	0.	0.	0.	0.	2.75E-12	2.90E-04	1.34E-06	8.81E-08	3.01E-06
36 7.20 0.	1.64E-18	0.	0.	0.	0.	2.76E-12	2.95E-04	1.35E-06	8.80E-08	3.04E-06
37 7.10 0.	1.42E-18	0.	0.	0.	0.	2.77E-12	3.00E-04	1.36E-06	8.79E-08	3.07E-06
38 7.00 0.	1.35E-18	0.	0.	0.	0.	2.78E-12	3.05E-04	1.37E-06	8.78E-08	3.10E-06
39 6.90 0.	1.35E-18	0.	0.	0.	0.	2.79E-12	3.10E-04	1.38E-06	8.77E-08	3.13E-06
40 6.80 0.	1.24E-18	0.	0.	0.	0.	2.80E-12	3.15E-04	1.39E-06	8.76E-08	3.16E-06
41 6.70 0.	1.24E-18	0.	0.	0.	0.	2.81E-12	3.20E-04	1.40E-06	8.75E-08	3.19E-06
42 6.60 0.	1.15E-18	0.	0.	0.	0.	2.82E-12	3.25E-04	1.41E-06	8.74E-08	3.22E-06
43 6.50 0.	1.15E-18	0.	0.	0.	0.	2.83E-12	3.30E-04	1.42E-06	8.73E-08	3.25E-06
44 6.40 0.	1.05E-18	0.	0.	0.	0.	2.84E-12	3.35E-04	1.43E-06	8.72E-08	3.28E-06
45 6.30 0.	1.05E-18	0.	0.	0.	0.	2.85E-12	3.40E-04	1.44E-06	8.71E-08	3.31E-06
46 6.20 0.	1.11E-18	0.	0.	0.	0.	2.86E-12	3.45E-04	1.45E-06	8.70E-08	3.34E-06
47 6.10 0.	1.11E-18	0.	0.	0.	0.	2.87E-12	3.50E-04	1.46E-06	8.69E-08	3.37E-06
48 6.00 0.	1.01E-18	0.	0.	0.	0.	2.88E-12	3.55E-04	1.47E-06	8.68E-08	3.40E-06
49 5.90 0.	1.01E-18	0.	0.	0.	0.	2.89E-12	3.60E-04	1.48E-06	8.67E-08	3.43E-06
50 5.80 0.	9.15E-19	0.	0.	0.	0.	2.90E-12	3.65E-04	1.49E-06	8.66E-08	3.46E-06
51 5.70 0.	9.15E-19	0.	0.	0.	0.	2.91E-12	3.70E-04	1.50E-06	8.65E-08	3.49E-06

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON Q2 S-R ENERGY RAVDS	N2 1ST POS.	N2 2ND POS.	N2+ 1ST NEG.	NO BETA	NO GAMMA	NO VIB-ROT	NO NO	0- PHOTODET (IONS)	F4E5-F4E6		TOTAL AIR		
									N	P.E.	N	P.E.	
52	5.50	2.30E-28	0.	1.34E-20	0.65E-20	0.	0.	2.58E-12	9.13E-04	4.78E-07	8.37E-04	6.54E-07	
53	5.50	0.	0.	1.05E-20	7.98E-20	0.	0.	2.58E-12	9.13E-04	5.07E-07	8.50E-04	6.09E-07	
54	5.50	0.	0.	1.98E-20	4.79E-20	0.	0.	2.58E-12	1.02E-07	5.37E-07	8.06E-04	7.27E-07	
55	5.50	0.	0.	0.51E-20	0.31E-20	0.	0.	2.58E-12	1.02E-07	5.37E-07	8.06E-04	7.66E-07	
56	5.50	0.	0.	1.74E-20	4.74E-20	0.	0.	2.58E-12	1.14E-07	5.97E-07	9.50E-04	8.04E-07	
57	5.10	0.	0.	1.74E-20	0.55E-20	0.	0.	2.58E-12	1.23E-07	6.27E-07	8.62E-04	8.67E-07	
58	4.90	2.34E-21	0.	1.81E-20	0.28E-20	0.	0.	2.58E-12	1.37E-07	6.80E-07	1.01E-07	9.30E-07	
59	4.60	2.41E-21	0.	1.82E-20	0.28E-20	0.	0.	2.58E-12	1.37E-07	6.80E-07	1.01E-07	9.30E-07	
60	4.60	1.61E-20	0.	1.97E-20	0.72E-20	0.	0.	2.58E-12	1.49E-07	7.19E-07	9.57E-04	9.40E-07	
61	4.70	2.23E-20	0.	2.00E-20	7.94E-20	0.	0.	2.58E-12	1.59E-07	7.63E-07	9.06E-04	1.02E-06	
62	4.60	3.14E-20	0.	1.92E-20	7.24E-20	0.	0.	2.58E-12	1.72E-07	8.19E-07	1.04E-07	1.09E-06	
63	4.50	2.34E-20	0.	1.92E-20	5.44E-20	0.	0.	2.58E-12	1.87E-07	8.77E-07	1.08E-07	1.14E-06	
64	4.50	2.34E-20	0.	1.92E-20	3.71E-20	0.	0.	2.58E-12	1.87E-07	8.77E-07	1.08E-07	1.14E-06	
65	4.50	2.34E-20	0.	1.92E-20	3.71E-20	0.	0.	2.58E-12	2.08E-07	9.92E-07	1.16E-07	1.24E-06	
66	4.50	2.34E-20	0.	1.92E-20	2.38E-20	0.	0.	2.58E-12	2.08E-07	9.92E-07	1.16E-07	1.24E-06	
67	4.10	3.10E-20	0.	2.02E-20	1.61E-20	0.	0.	2.58E-12	2.18E-07	1.06E-06	1.14E-07	1.30E-06	
68	4.20	3.33E-20	0.	2.02E-20	4.60E-20	0.	0.	2.58E-12	2.35E-07	1.18E-06	1.01E-07	1.47E-06	
69	4.05	2.96E-20	0.	1.97E-20	3.49E-21	0.	0.	2.58E-12	2.53E-07	1.29E-06	1.00E-07	1.50E-06	
70	3.90	2.66E-20	0.	3.91E-19	5.46E-16	1.87E-20	1.25E-21	0.	2.58E-12	2.73E-07	1.25E-06	1.10E-07	1.63E-06
71	3.70	2.61E-20	0.	3.71E-19	2.09E-15	2.09E-20	0.	0.	2.58E-12	2.96E-07	1.52E-06	1.17E-07	1.73E-06
72	3.60	2.58E-20	0.	3.68E-19	1.08E-15	1.78E-20	0.	0.	2.58E-12	3.21E-07	1.82E-06	1.25E-07	1.84E-06
73	3.50	2.28E-20	0.	4.33E-19	5.31E-15	1.98E-20	0.	0.	2.58E-12	3.48E-07	2.14E-06	1.34E-07	1.94E-06
74	3.40	2.13E-20	0.	5.59E-19	0.84E-15	1.57E-20	0.	0.	2.58E-12	3.78E-07	2.50E-06	1.43E-07	2.06E-06
75	3.30	1.73E-20	0.	3.79E-19	1.03E-15	1.70E-20	0.	0.	1.99E-12	4.14E-07	2.89E-06	1.54E-07	2.20E-06
76	3.20	1.54E-20	0.	3.02E-19	5.70E-15	1.48E-20	0.	0.	1.99E-12	4.54E-07	3.32E-06	1.65E-07	2.34E-06
77	3.10	1.50E-20	0.	2.08E-19	0.18E-15	1.59E-20	0.	0.	1.99E-12	4.96E-07	3.82E-06	1.76E-07	2.51E-06
78	3.00	1.38E-20	0.	2.05E-19	2.40E-15	1.58E-20	0.	0.	1.99E-12	5.40E-07	4.35E-06	1.87E-07	2.68E-06
79	2.90	1.10E-20	0.	1.82E-19	2.36E-15	1.45E-20	0.	0.	1.99E-12	5.86E-07	4.91E-06	2.00E-07	2.86E-06
80	2.80	1.24E-20	0.	8.19E-20	2.57E-15	1.48E-20	0.	0.	1.99E-12	6.34E-07	5.53E-06	2.13E-07	3.05E-06
81	2.70	8.30E-21	0.	5.96E-20	2.13E-15	8.29E-21	0.	0.	1.99E-12	6.84E-07	6.24E-06	2.27E-07	3.25E-06
82	2.60	4.12E-21	0.	1.07E-20	2.56E-15	4.73E-21	0.	0.	1.99E-12	7.36E-07	7.07E-06	2.42E-07	3.45E-06
83	2.50	2.94E-22	0.	0.07E-20	2.73E-16	2.17E-21	0.	0.	1.99E-12	7.90E-07	7.99E-06	2.58E-07	3.66E-06
84	2.40	0.	0.	0.01E-22	2.70E-16	5.78E-22	0.	0.	1.99E-12	8.46E-07	8.99E-06	2.75E-07	3.88E-06
85	2.30	0.	0.	1.07E-21	1.95E-16	5.72E-22	0.	0.	1.99E-12	9.04E-07	1.01E-05	2.93E-07	4.11E-06
86	2.20	0.	0.	1.87E-21	0.	0.	0.	0.	1.99E-12	9.64E-07	1.14E-05	3.12E-07	4.35E-06
87	2.10	0.	0.	2.94E-21	0.	0.	0.	0.	1.99E-12	1.02E-06	1.29E-05	3.32E-07	4.60E-06
88	2.00	0.	0.	5.00E-21	0.	0.	0.	0.	1.99E-12	1.10E-06	1.46E-05	3.53E-07	4.86E-06
89	1.90	0.	0.	8.61E-21	0.	0.	0.	0.	1.99E-12	1.19E-06	1.65E-05	3.75E-07	5.13E-06
90	1.80	0.	0.	5.74E-21	0.	0.	0.	0.	1.99E-12	1.28E-06	1.86E-05	3.98E-07	5.41E-06
91	1.70	0.	0.	8.62E-21	0.	0.	0.	0.	1.99E-12	1.38E-06	2.09E-05	4.22E-07	5.70E-06
92	1.60	0.	0.	8.62E-21	0.	0.	0.	0.	1.99E-12	1.48E-06	2.34E-05	4.47E-07	5.99E-06
93	1.50	0.	0.	5.53E-21	0.	0.	0.	0.	1.99E-12	1.58E-06	2.61E-05	4.73E-07	6.29E-06
94	1.40	0.	0.	5.41E-21	0.	0.	0.	0.	1.99E-12	1.68E-06	2.90E-05	5.00E-07	6.60E-06
95	1.30	0.	0.	4.14E-21	0.	0.	0.	0.	1.99E-12	1.78E-06	3.21E-05	5.28E-07	6.92E-06
96	1.20	0.	0.	3.99E-21	0.	0.	0.	0.	1.99E-12	1.88E-06	3.54E-05	5.57E-07	7.25E-06
97	1.10	0.	0.	3.80E-21	0.	0.	0.	0.	1.99E-12	1.98E-06	3.89E-05	5.87E-07	7.59E-06
98	1.00	0.	0.	3.50E-21	0.	0.	0.	0.	1.99E-12	2.08E-06	4.26E-05	6.18E-07	7.94E-06
99	0.90	0.	0.	2.93E-21	0.	0.	0.	0.	1.99E-12	2.18E-06	4.65E-05	6.49E-07	8.29E-06
100	0.80	0.	0.	1.37E-21	0.	0.	0.	0.	1.99E-12	2.28E-06	5.06E-05	6.81E-07	8.65E-06
101	0.70	0.	0.	3.12E-22	0.	0.	0.	0.	1.99E-12	2.38E-06	5.48E-05	7.14E-07	9.01E-06
102	0.60	0.	0.	7.09E-21	0.	0.	0.	0.	1.99E-12	2.48E-06	5.92E-05	7.48E-07	9.37E-06

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 24000. DENSITY (GM/CC) 1.293E-06 ( 1.0E-05 NORMAL)

PHOTON ENERGY BANDS E.V.	Q2 3-4 CMIT.	Q2 0-N NO. 1	TEMPERATURE (DEGREES K) 24000.	DENSITY (GM/CC) 1.293E-06	NO. 2		NO. 4		TOTAL AIR	
					PHOTO-DEY (IONS)	P.E.	PHOTO-DEY (IONS)	P.E.	PHOTO-DEY (IONS)	P.E.
1 16-20 0.	0.	0.07E-24	0.	0.	0.	2.10E-19	2.62E-10	1.51E-08	2.51E-09	1.70E-00
2 16-40 0.	0.	0.81E-24	0.	0.	0.	2.10E-19	2.76E-10	1.52E-08	2.50E-09	1.81E-00
3 16-60 0.	0.	0.59E-24	0.	0.	0.	2.11E-19	2.79E-10	1.52E-08	2.50E-09	1.82E-00
4 16-80 0.	0.	0.21E-24	0.	0.	0.	2.11E-19	2.66E-10	1.52E-08	2.50E-09	1.64E-00
5 16-100 0.	0.	7.31E-24	0.	0.	0.	2.11E-19	2.64E-10	1.52E-08	2.50E-09	1.66E-00
6 16-120 0.	0.	7.69E-24	0.	0.	0.	2.12E-19	1.83E-10	1.49E-08	2.50E-09	1.99E-00
7 16-140 0.	0.	7.89E-24	0.	0.	0.	2.12E-19	1.83E-10	1.49E-08	2.62E-09	1.92E-00
8 16-160 0.	0.	5.97E-24	0.	0.	0.	2.12E-19	1.71E-10	1.46E-08	2.62E-09	1.95E-00
9 9-190 0.	0.	6.79E-24	0.	0.	0.	2.13E-19	1.61E-10	1.46E-08	2.62E-09	1.96E-00
10 9-240 0.	0.	6.40E-24	0.	0.	0.	2.13E-19	1.61E-10	1.46E-08	2.72E-09	2.02E-00
11 9-290 0.	0.	5.79E-24	0.	0.	0.	2.14E-19	1.63E-10	1.46E-08	2.72E-09	2.05E-00
12 9-340 0.	0.	6.04E-24	0.	0.	0.	2.14E-19	1.63E-10	1.46E-08	2.70E-09	2.00E-00
13 9-390 0.	0.	5.47E-24	0.	0.	0.	2.14E-19	1.63E-10	1.46E-08	2.82E-09	2.11E-00
14 9-440 0.	0.	5.89E-24	0.	0.	0.	2.15E-19	1.60E-10	1.46E-08	2.86E-09	2.15E-00
15 9-490 0.	0.	5.49E-24	0.	0.	0.	2.16E-19	1.60E-10	1.46E-08	2.90E-09	2.17E-00
16 9-540 0.	0.	4.97E-24	0.	0.	0.	2.16E-19	1.60E-10	1.46E-08	2.94E-09	2.21E-00
17 9-590 0.	0.	4.67E-24	0.	0.	0.	2.17E-19	1.60E-10	1.46E-08	2.97E-09	2.24E-00
18 9-640 0.	0.	4.37E-24	0.	0.	0.	2.18E-19	1.60E-10	1.46E-08	3.01E-09	2.27E-00
19 9-690 0.	0.	4.29E-24	0.	0.	0.	2.19E-19	1.60E-10	1.46E-08	3.04E-09	2.31E-00
20 9-740 0.	0.	4.29E-24	0.	0.	0.	2.19E-19	1.60E-10	1.46E-08	3.07E-09	2.34E-00
21 6-78 0.	0.	3.74E-24	0.	0.	0.	2.20E-19	1.60E-10	1.46E-08	3.11E-09	2.38E-00
22 6-83 0.	0.	3.99E-24	0.	0.	0.	2.21E-19	1.60E-10	1.46E-08	3.15E-09	2.41E-00
23 6-88 0.	0.	3.89E-24	0.	0.	0.	2.22E-19	1.60E-10	1.46E-08	3.19E-09	2.45E-00
24 6-93 0.	0.	3.52E-24	0.	0.	0.	2.23E-19	1.60E-10	1.46E-08	3.23E-09	2.49E-00
25 6-98 0.	0.	3.07E-24	0.	0.	0.	2.24E-19	1.60E-10	1.46E-08	3.27E-09	2.53E-00
26 6-103 0.	0.	3.13E-24	0.	0.	0.	2.25E-19	1.60E-10	1.46E-08	3.31E-09	2.57E-00
27 6-108 0.	0.	2.78E-24	0.	0.	0.	2.26E-19	1.60E-10	1.46E-08	3.35E-09	2.61E-00
28 6-113 0.	0.	2.93E-24	0.	0.	0.	2.27E-19	1.60E-10	1.46E-08	3.39E-09	2.65E-00
29 7-08 0.	0.	2.49E-24	0.	0.	0.	2.28E-19	1.60E-10	1.46E-08	3.43E-09	2.69E-00
30 7-09 0.	0.	2.49E-24	0.	0.	0.	2.29E-19	1.60E-10	1.46E-08	3.47E-09	2.73E-00
31 7-10 0.	0.	2.35E-24	0.	0.	0.	2.30E-19	1.60E-10	1.46E-08	3.51E-09	2.77E-00
32 7-11 0.	0.	2.27E-24	0.	0.	0.	2.31E-19	1.60E-10	1.46E-08	3.55E-09	2.81E-00
33 7-12 0.	0.	1.97E-24	0.	0.	0.	2.32E-19	1.60E-10	1.46E-08	3.59E-09	2.85E-00
34 7-13 0.	0.	1.97E-24	0.	0.	0.	2.33E-19	1.60E-10	1.46E-08	3.63E-09	2.89E-00
35 7-14 0.	0.	1.97E-24	0.	0.	0.	2.34E-19	1.60E-10	1.46E-08	3.67E-09	2.93E-00
36 7-15 0.	0.	1.79E-24	0.	0.	0.	2.35E-19	1.60E-10	1.46E-08	3.71E-09	2.97E-00
37 7-16 0.	0.	1.71E-24	0.	0.	0.	2.36E-19	1.60E-10	1.46E-08	3.75E-09	3.01E-00
38 7-17 0.	0.	1.60E-24	0.	0.	0.	2.37E-19	1.60E-10	1.46E-08	3.79E-09	3.05E-00
39 6-99 1.34E-26 0.	0.	1.50E-24	0.	0.	0.	2.38E-19	1.60E-10	1.46E-08	3.83E-09	3.09E-00
40 6-99 1.18E-26 0.	0.	1.47E-24	0.	0.	0.	2.39E-19	1.60E-10	1.46E-08	3.87E-09	3.13E-00
41 6-76 0.79E-27 0.	0.	1.22E-24	0.	0.	0.	2.40E-19	1.60E-10	1.46E-08	3.91E-09	3.17E-00
42 6-60 3.40E-27 0.	0.	1.21E-24	0.	0.	0.	2.41E-19	1.60E-10	1.46E-08	3.95E-09	3.21E-00
43 6-56 3.10E-27 0.	0.	9.87E-25	0.	0.	0.	2.42E-19	1.60E-10	1.46E-08	3.99E-09	3.25E-00
44 6-40 1.84E-27 0.	0.	7.07E-25	0.	0.	0.	2.43E-19	1.60E-10	1.46E-08	4.03E-09	3.29E-00
45 6-34 1.09E-27 0.	0.	4.59E-25	0.	0.	0.	2.44E-19	1.60E-10	1.46E-08	4.07E-09	3.33E-00
46 6-28 3.91E-28 0.	0.	2.80E-25	0.	0.	0.	2.45E-19	1.60E-10	1.46E-08	4.11E-09	3.37E-00
47 6-16 2.39E-28 0.	0.	1.20E-25	0.	0.	0.	2.46E-19	1.60E-10	1.46E-08	4.15E-09	3.41E-00
48 6-06 9.95E-29 0.	0.	1.31E-24	0.	0.	0.	2.47E-19	1.60E-10	1.46E-08	4.19E-09	3.45E-00
49 5-90 2.40E-29 0.	0.	1.94E-25	0.	0.	0.	2.48E-19	1.60E-10	1.46E-08	4.23E-09	3.49E-00
50 5-50 3.17E-30 0.	0.	6.04E-26	0.	0.	0.	2.49E-19	1.60E-10	1.46E-08	4.27E-09	3.53E-00
51 5-78 2.34E-31 0.	0.	3.10E-25	0.	0.	0.	2.50E-19	1.60E-10	1.46E-08	4.31E-09	3.57E-00

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY	O <sub>2</sub>	N <sub>2</sub>	NO	NO <sub>2</sub>	TEMPERATURE (DEGREES K)	DENSITY (GRAMS PER CC)	PRESSURE (MM HG)	NO	NO <sub>2</sub>	TEMPERATURE (DEGREES K)	DENSITY (GRAMS PER CC)	PRESSURE (MM HG)	ABSORPTION COEFFICIENTS	
													μ <sub>0</sub>	μ <sub>en</sub>
52	5.60	1.04E-32	0	0	2.92E+25	1.80E-24	0	0	2.124E+15	1.95E+19	1.11E+09	2.92E+25	1.80E-24	
53	5.90	0	0	0	3.58E+25	1.74E-24	0	0	2.126E+15	1.95E+19	1.11E+09	2.92E+25	1.74E-24	
54	5.40	0	0	0	3.8E+25	1.46E-24	0	0	2.27E+15	2.47E+19	2.5E+09	2.92E+25	1.46E-24	
55	5.30	0	0	0	3.48E+25	1.0E-24	0	0	2.20E+15	2.19E+19	2.2E+09	2.92E+25	1.0E-24	
56	5.20	0	0	0	3.8E+25	1.0E-24	0	0	2.30E+15	2.5E+19	2.9E+09	2.92E+25	1.0E-24	
57	5.10	0	0	0	3.08E+25	1.46E-24	0	0	2.30E+15	2.5E+19	2.9E+09	2.92E+25	1.46E-24	
58	5.00	1.52E-25	0	0	3.08E+25	1.0E-24	0	0	2.33E+15	2.6E+19	3.0E+09	2.92E+25	1.0E-24	
59	4.90	3.78E-25	0	0	3.95E+25	2.0E-24	0	0	2.35E+15	2.7E+19	3.1E+09	2.92E+25	2.0E-24	
60	4.80	7.26E-25	0	0	4.78E+25	1.94E-24	0	0	2.37E+15	2.9E+19	3.4E+09	2.92E+25	1.94E-24	
61	4.70	1.00E-24	0	0	4.5E+25	1.74E-24	0	0	2.41E+15	3.1E+19	3.9E+09	2.92E+25	1.74E-24	
62	4.60	1.41E-24	0	0	4.5E+25	1.74E-24	0	0	2.43E+15	3.5E+19	4.2E+09	2.92E+25	1.74E-24	
63	4.50	1.51E-24	0	1.73E-25	4.2E+25	1.1E-24	0	0	2.45E+15	3.8E+19	4.5E+09	2.92E+25	1.1E-24	
64	4.40	1.65E-24	0	4.91E-25	4.2E+25	8.1E-25	0	0	2.47E+15	3.8E+19	4.5E+09	2.92E+25	8.1E-25	
65	4.30	1.59E-24	0	1.75E-24	4.2E+25	5.1E-25	0	0	2.48E+15	4.1E+19	4.9E+09	2.92E+25	5.1E-25	
66	4.20	1.50E-24	0	5.23E-24	4.2E+25	3.5E-25	0	0	2.48E+15	4.4E+19	5.4E+09	2.92E+25	3.5E-25	
67	4.10	1.43E-24	0	2.54E-24	4.2E+25	3.0E-25	0	0	2.50E+15	4.7E+19	5.9E+09	2.92E+25	3.0E-25	
68	4.00	1.34E-24	0	7.62E-24	4.2E+25	2.4E-25	0	0	2.50E+15	5.1E+19	6.3E+09	2.92E+25	2.4E-25	
69	3.90	1.14E-24	0	3.69E-24	4.2E+25	2.71E-24	0	0	2.50E+15	5.5E+19	6.7E+09	2.92E+25	2.71E-24	
70	3.80	1.23E-24	0	6.00E-24	4.2E+25	4.4E-25	0	0	2.49E+15	5.9E+19	7.1E+09	2.92E+25	4.4E-25	
71	3.70	1.17E-24	0	5.97E-24	4.2E+25	3.8E-25	0	0	2.45E+15	5.9E+19	7.1E+09	2.92E+25	3.8E-25	
72	3.60	1.08E-24	0	4.55E-24	4.2E+25	2.5E-25	0	0	2.38E+15	5.7E+19	6.8E+09	2.92E+25	2.5E-25	
73	3.50	1.02E-24	0	5.93E-24	4.2E+25	3.2E-25	0	0	2.31E+15	5.6E+19	6.6E+09	2.92E+25	3.2E-25	
74	3.40	9.50E-25	0	3.94E-24	4.2E+25	3.7E-25	0	0	2.21E+15	5.3E+19	6.2E+09	2.92E+25	3.7E-25	
75	3.30	7.78E-25	0	4.02E-24	4.2E+25	3.17E-25	0	0	2.21E+15	5.2E+19	6.1E+09	2.92E+25	3.17E-25	
76	3.20	6.93E-25	0	2.73E-24	4.2E+25	3.77E-25	0	0	2.22E+15	5.2E+19	6.1E+09	2.92E+25	3.77E-25	
77	3.10	6.77E-25	0	2.15E-24	4.2E+25	3.9E-25	0	0	2.22E+15	5.1E+19	6.0E+09	2.92E+25	3.9E-25	
78	3.00	2.0E-25	0	1.35E-24	4.2E+25	3.4E-25	0	0	2.22E+15	5.2E+19	6.1E+09	2.92E+25	3.4E-25	
79	2.90	3.34E-25	0	4.61E-24	4.2E+25	2.8E-25	0	0	2.22E+15	5.5E+19	6.4E+09	2.92E+25	2.8E-25	
80	2.80	3.66E-25	0	4.16E-24	4.2E+25	1.40E-25	0	0	2.23E+15	5.5E+19	6.4E+09	2.92E+25	1.40E-25	
81	2.70	3.77E-25	0	1.67E-24	4.2E+25	2.03E-25	0	0	2.23E+15	5.9E+19	6.8E+09	2.92E+25	2.03E-25	
82	2.60	1.85E-24	0	4.33E-24	4.2E+25	4.71E-26	0	0	2.23E+15	5.9E+19	6.8E+09	2.92E+25	4.71E-26	
83	2.50	1.52E-24	0	0.47E-24	4.2E+25	2.19E-26	0	0	2.22E+15	5.8E+19	6.7E+09	2.92E+25	2.19E-26	
84	2.40	0	0	4.93E-25	4.2E+25	1.58E-26	0	0	2.22E+15	5.7E+19	6.6E+09	2.92E+25	1.58E-26	
85	2.30	0	0	1.12E-24	4.2E+25	0	0	0	2.22E+15	5.7E+19	6.6E+09	2.92E+25	0	
86	2.20	0	0	3.06E-24	4.2E+25	0	0	0	2.21E+15	5.6E+19	6.5E+09	2.92E+25	0	
87	2.10	0	0	3.64E-24	4.2E+25	0	0	0	2.21E+15	5.6E+19	6.5E+09	2.92E+25	0	
88	2.00	0	0	6.30E-24	4.2E+25	0	0	0	2.21E+15	5.6E+19	6.5E+09	2.92E+25	0	
89	1.90	0	0	6.95E-24	4.2E+25	0	0	0	2.21E+15	5.6E+19	6.5E+09	2.92E+25	0	
90	1.80	0	0	6.95E-24	4.2E+25	0	0	0	2.21E+15	5.6E+19	6.5E+09	2.92E+25	0	
91	1.70	0	0	4.75E-24	4.2E+25	0	0	0	2.21E+15	5.6E+19	6.5E+09	2.92E+25	0	
92	1.60	0	0	5.17E-24	4.2E+25	0	0	0	2.21E+15	5.6E+19	6.5E+09	2.92E+25	0	
93	1.50	0	0	5.81E-24	4.2E+25	0	0	0	2.21E+15	5.6E+19	6.5E+09	2.92E+25	0	
94	1.40	0	0	5.69E-24	4.2E+25	0	0	0	2.21E+15	5.6E+19	6.5E+09	2.92E+25	0	
95	1.30	0	0	4.35E-24	4.2E+25	0	0	0	2.21E+15	5.6E+19	6.5E+09	2.92E+25	0	
96	1.20	0	0	4.15E-24	4.2E+25	0	0	0	2.21E+15	5.6E+19	6.5E+09	2.92E+25	0	
97	1.10	0	0	4.06E-24	4.2E+25	0	0	0	2.21E+15	5.6E+19	6.5E+09	2.92E+25	0	
98	1.00	0	0	3.70E-24	4.2E+25	0	0	0	2.21E+15	5.6E+19	6.5E+09	2.92E+25	0	
99	0.90	0	0	3.00E-24	4.2E+25	0	0	0	2.21E+15	5.6E+19	6.5E+09	2.92E+25	0	
100	0.80	0	0	1.46E-24	4.2E+25	0	0	0	2.21E+15	5.6E+19	6.5E+09	2.92E+25	0	
101	0.70	0	0	3.28E-25	4.2E+25	0	0	0	2.21E+15	5.6E+19	6.5E+09	2.92E+25	0	
102	0.60	0	0	0.30E-24	4.2E+25	0	0	0	2.21E+15	5.6E+19	6.5E+09	2.92E+25	0	

ASSUMPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)  
 TEMPERATURE (DEGREES K) 2400. DENSITY (GM/CC) 1.203E-09 ( 1.0E-06 NORMAL)

PHOTON ENERGY E.V.	Q2 S-R CONT.	W2 P-M NO. 1	NO BETA	NO GAMMA	NO PHOTO-ELECT (1100S)	FREE-ELECT N	P.E.	P.E.	TOTAL AID	
1 10.70 0.	0.	1.68E-29	0.	0.	0.	4.93E-19	3.30E-12	1.00E-10	4.00E-11	2.32E-10
2 10.60 0.	0.	1.55E-29	0.	0.	0.	4.00E-19	3.39E-12	1.00E-10	4.00E-11	2.30E-10
3 10.50 0.	0.	1.50E-29	0.	0.	0.	4.00E-19	3.49E-12	1.01E-10	4.10E-11	2.34E-10
4 10.40 0.	0.	1.54E-29	0.	0.	0.	4.01E-19	3.39E-12	1.01E-10	4.11E-11	2.30E-10
5 10.30 0.	0.	1.37E-29	0.	0.	0.	4.01E-19	3.70E-12	1.00E-10	4.12E-11	2.40E-10
6 10.20 0.	0.	1.43E-29	0.	0.	0.	4.02E-19	3.01E-12	1.00E-10	4.10E-11	2.45E-10
7 10.10 0.	0.	1.36E-29	0.	0.	0.	4.03E-19	3.03E-12	1.00E-10	4.20E-11	2.40E-10
8 10.00 0.	0.	1.23E-29	0.	0.	0.	4.04E-19	4.04E-12	1.00E-10	4.31E-11	2.35E-10
9 9.90 0.	0.	1.27E-29	0.	0.	0.	4.04E-19	4.17E-12	1.00E-10	4.37E-11	2.37E-10
10 9.80 0.	0.	1.21E-29	0.	0.	0.	4.05E-19	4.30E-12	1.00E-10	4.43E-11	2.40E-10
11 9.70 0.	0.	1.06E-29	0.	0.	0.	4.06E-19	4.33E-12	1.00E-10	4.50E-11	2.46E-10
12 9.60 0.	0.	1.17E-29	0.	0.	0.	4.07E-19	4.37E-12	1.00E-10	4.56E-11	2.48E-10
13 9.50 0.	0.	1.02E-29	0.	0.	0.	4.07E-19	4.72E-12	1.00E-10	4.62E-11	2.75E-10
14 9.40 0.	0.	9.09E-30	0.	0.	0.	4.08E-19	4.08E-12	1.00E-10	4.70E-11	2.70E-10
15 9.30 0.	0.	1.02E-29	0.	0.	0.	4.71E-19	5.03E-12	1.00E-10	4.77E-11	2.04E-10
16 9.20 0.	0.	0.73E-30	0.	0.	0.	4.73E-19	5.28E-12	1.00E-10	4.83E-11	2.00E-10
17 9.10 0.	0.	9.81E-30	0.	0.	0.	4.74E-19	5.30E-12	1.00E-10	4.90E-11	2.03E-10
18 9.00 0.	0.	0.36E-30	0.	0.	0.	4.76E-19	5.56E-12	1.00E-10	4.98E-11	2.01E-10
19 8.90 0.	0.	7.91E-30	0.	0.	0.	4.76E-19	5.58E-12	1.00E-10	5.17E-11	2.03E-10
20 8.80 0.	0.	7.05E-30	0.	0.	0.	4.79E-19	5.95E-12	1.00E-10	5.20E-11	2.00E-10
21 8.70 0.	0.	7.00E-30	0.	0.	0.	4.81E-19	6.15E-12	1.00E-10	5.35E-11	2.03E-10
22 8.60 0.	0.	7.20E-30	0.	0.	0.	4.83E-19	6.37E-12	1.00E-10	5.44E-11	2.03E-10
23 8.50 0.	0.	6.55E-30	0.	0.	0.	4.84E-19	6.68E-12	1.00E-10	5.53E-11	3.03E-10
24 8.40 0.	0.	6.50E-30	0.	0.	0.	4.87E-19	6.94E-12	1.00E-10	5.62E-11	2.00E-10
25 8.30 0.	0.	5.74E-30	0.	0.	0.	4.89E-19	7.09E-12	1.00E-10	5.71E-11	2.15E-10
26 8.20 0.	0.	5.06E-30	0.	0.	0.	4.92E-19	7.35E-12	1.00E-10	5.87E-11	2.24E-10
27 8.10 0.	0.	5.19E-30	0.	0.	0.	4.95E-19	7.63E-12	1.00E-10	6.02E-11	2.32E-10
28 8.00 0.	0.	5.29E-30	0.	0.	0.	4.97E-19	7.92E-12	1.00E-10	6.18E-11	2.41E-10
29 7.90 0.	0.	4.66E-30	0.	0.	0.	5.00E-19	8.23E-12	1.00E-10	6.32E-11	2.49E-10
30 7.80 0.	0.	4.89E-30	0.	0.	0.	5.02E-19	8.55E-12	1.00E-10	6.48E-11	2.50E-10
31 7.70 0.	0.	4.40E-30	0.	0.	0.	5.05E-19	8.90E-12	1.00E-10	6.64E-11	2.57E-10
32 7.60 0.	0.	4.25E-30	0.	0.	0.	5.07E-19	9.26E-12	1.00E-10	6.80E-11	2.77E-10
33 7.50 0.	0.	3.68E-30	0.	1.20E-33	0.	5.10E-19	9.62E-12	2.29E-10	6.97E-11	2.74E-10
34 7.40 0.	0.	3.55E-30	0.	3.62E-33	0.	5.13E-19	1.00E-11	1.95E-10	7.15E-11	2.78E-10
35 7.30 0.	0.	3.27E-30	0.	3.28E-33	0.	5.16E-19	1.04E-11	1.64E-10	7.36E-11	2.68E-10
36 7.20 0.	0.	3.20E-30	0.	3.66E-33	0.	5.19E-19	1.08E-11	1.55E-10	7.60E-11	2.93E-10
37 7.10 0.	0.	2.90E-30	0.	1.16E-30	0.	5.22E-19	1.13E-11	2.27E-10	7.86E-11	2.90E-10
38 7.00 0.	0.	2.00E-30	0.	2.13E-30	0.	5.27E-19	1.18E-11	2.30E-10	8.20E-11	3.12E-10
39 6.90 0.	0.	2.00E-30	0.	3.34E-30	0.	5.31E-19	1.24E-11	2.49E-10	8.56E-11	3.27E-10
40 6.80 0.	0.	2.75E-30	0.	3.25E-30	0.	5.35E-19	1.29E-11	2.61E-10	8.95E-11	3.42E-10
41 6.70 0.	0.	2.46E-30	0.	4.96E-30	0.	5.40E-19	1.35E-11	2.72E-10	9.36E-11	3.57E-10
42 6.60 0.	0.	2.26E-30	0.	6.17E-30	0.	5.44E-19	1.41E-11	2.83E-10	9.80E-11	3.72E-10
43 6.50 0.	0.	1.85E-30	0.	4.07E-30	0.	5.48E-19	1.46E-11	2.95E-10	1.03E-10	3.87E-10
44 6.40 0.	0.	1.37E-30	0.	1.75E-32	0.	5.52E-19	1.52E-11	3.06E-10	1.07E-10	4.02E-10
45 6.30 0.	0.	0.46E-32	0.	0.46E-32	0.	5.57E-19	1.58E-11	3.17E-10	1.12E-10	4.17E-10
46 6.20 0.	0.	4.92E-31	0.	1.23E-31	0.	5.61E-19	1.64E-11	3.28E-10	1.17E-10	4.34E-10
47 6.10 0.	0.	3.59E-31	0.	3.56E-31	0.	5.65E-19	1.70E-11	3.39E-10	1.22E-10	4.51E-10
48 6.00 0.	0.	6.20E-32	0.	3.55E-31	0.	5.69E-19	1.76E-11	3.50E-10	1.27E-10	4.68E-10
49 5.90 0.	0.	4.45E-31	0.	5.28E-31	0.	5.73E-19	1.82E-11	3.61E-10	1.32E-10	4.85E-10
50 5.80 0.	0.	1.13E-34	0.	7.48E-31	0.	5.77E-19	1.88E-11	3.72E-10	1.37E-10	5.02E-10
51 5.70 0.	0.	9.28E-37	0.	6.98E-31	0.	5.82E-19	1.94E-11	3.83E-10	1.42E-10	5.19E-10

ABSORPTION COEFFICIENTS OF HEATED AIR (INVERSE CM.)

PHOTON ENERGY BLAIDS	E2 PCS.	M2	M2	M2	M2	NO	NO	NO	NO	NO	NO	MC	2	PHOTO-DET (IONS)	O-	FREE-FREE	N	O	TOTAL AIR
52	5.60	4.21E-30	0.	0.	0.	7.00E-31	5.11E-30	0.	0.	4.90E-19	2.33E-11	1.30E-10	3.60E-11	1.97E-10					
53	5.50	0.	0.	0.	0.	9.74E-31	4.71E-30	0.	0.	4.52E-19	2.44E-11	1.46E-10	3.74E-11	2.09E-10					
54	5.40	0.	0.	0.	0.	9.20E-31	4.02E-30	0.	0.	4.05E-19	2.07E-11	1.55E-10	3.97E-11	2.24E-10					
55	5.30	0.	0.	0.	0.	9.43E-31	4.92E-30	0.	0.	4.00E-19	2.75E-11	1.56E-10	4.27E-11	2.34E-10					
56	5.20	0.	0.	0.	0.	1.03E-30	3.99E-30	0.	0.	5.02E-19	2.01E-11	1.74E-10	3.30E-11	2.36E-10					
57	5.10	0.	0.	0.	0.	1.03E-30	5.00E-30	0.	0.	5.00E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
58	5.00	0.	0.	0.	0.	9.55E-31	4.00E-30	0.	0.	5.14E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
59	4.90	1.50E-30	0.	0.	0.	1.00E-30	5.45E-30	0.	0.	5.14E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
60	4.80	2.00E-30	0.	0.	0.	1.17E-30	5.17E-30	0.	0.	5.35E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
61	4.70	3.00E-30	0.	0.	0.	1.19E-30	4.72E-30	0.	0.	5.35E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
62	4.60	5.00E-30	0.	0.	0.	1.24E-30	4.20E-30	0.	0.	5.35E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
63	4.50	5.99E-30	0.	0.	0.	1.31E-30	3.24E-30	0.	0.	5.35E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
64	4.40	6.31E-30	0.	0.	0.	1.39E-30	2.20E-30	0.	0.	5.35E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
65	4.30	6.29E-30	0.	0.	0.	1.39E-30	1.41E-30	0.	0.	5.35E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
66	4.20	5.99E-30	0.	0.	0.	1.20E-30	9.53E-31	0.	0.	5.44E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
67	4.10	5.00E-30	0.	0.	0.	1.17E-30	2.72E-31	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
68	4.00	4.61E-30	0.	0.	0.	1.11E-30	7.39E-32	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
69	3.90	3.10E-30	0.	0.	0.	1.12E-30	2.00E-24	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
70	3.80	4.60E-30	0.	0.	0.	1.12E-30	1.00E-24	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
71	3.70	4.60E-30	0.	0.	0.	1.12E-30	2.00E-24	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
72	3.60	4.20E-30	0.	0.	0.	8.52E-31	7.33E-24	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
73	3.50	4.60E-30	0.	0.	0.	1.00E-30	1.22E-23	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
74	3.40	3.01E-30	0.	0.	0.	7.37E-31	2.29E-24	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
75	3.30	3.01E-30	0.	0.	0.	7.53E-31	7.04E-24	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
76	3.20	3.01E-30	0.	0.	0.	5.10E-31	1.10E-23	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
77	3.10	2.00E-30	0.	0.	0.	4.03E-31	3.59E-24	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
78	3.00	2.00E-30	0.	0.	0.	2.52E-31	7.39E-24	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
79	2.90	2.10E-30	0.	0.	0.	1.61E-31	3.04E-24	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
80	2.80	2.20E-30	0.	0.	0.	7.70E-31	2.04E-24	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
81	2.70	1.40E-30	0.	0.	0.	3.00E-31	3.44E-24	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
82	2.60	7.39E-31	0.	0.	0.	1.75E-31	3.72E-25	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
83	2.50	5.24E-32	0.	0.	0.	1.77E-32	3.72E-25	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
84	2.40	0.	0.	0.	0.	2.00E-25	3.41E-30	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
85	2.30	0.	0.	0.	0.	2.00E-30	0.	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
86	2.20	0.	0.	0.	0.	5.70E-30	0.	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
87	2.10	0.	0.	0.	0.	5.00E-30	0.	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
88	2.00	0.	0.	0.	0.	1.10E-29	0.	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
89	1.90	0.	0.	0.	0.	1.30E-29	0.	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
90	1.80	0.	0.	0.	0.	1.20E-29	0.	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
91	1.70	0.	0.	0.	0.	1.20E-29	0.	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
92	1.60	0.	0.	0.	0.	0.69E-30	0.	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
93	1.50	0.	0.	0.	0.	1.09E-30	0.	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
94	1.40	0.	0.	0.	0.	1.04E-30	0.	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
95	1.30	0.	0.	0.	0.	1.04E-30	0.	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
96	1.20	0.	0.	0.	0.	7.77E-30	0.	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
97	1.10	0.	0.	0.	0.	7.65E-30	0.	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
98	1.00	0.	0.	0.	0.	7.65E-30	0.	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
99	0.90	0.	0.	0.	0.	5.77E-30	0.	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
100	0.80	0.	0.	0.	0.	5.77E-30	0.	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
101	0.70	0.	0.	0.	0.	6.14E-31	0.	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					
102	0.60	0.	0.	0.	0.	1.59E-31	0.	0.	0.	5.40E-19	3.00E-11	1.03E-10	3.79E-11	2.49E-10					

## 2. Mean Absorption Coefficients

### a) Total and Cut-off Planck Mean Absorption Coefficients

The "emission" or "Planck" mean absorption coefficient is defined by (see also Section 3.2, Eq. 46)

$$\bar{\mu}_p(T) \equiv \frac{\int_0^{\infty} \mu'(\nu) B_\nu(T) d\nu}{\int_0^{\infty} B_\nu(T) d\nu} = \frac{\pi}{\sigma T^4} \int_0^{\infty} \mu'(\nu) B_\nu(T) d\nu$$

where  $\mu' = \mu(\nu) \left(1 - e^{-\frac{h\nu}{kT}}\right)$  has a term to account for re-emission,  $B_\nu(T)$  is the usual Planck blackbody function, and  $\nu$  is the frequency or equivalent photon energy expressed in units  $\text{cm}^{-1}$ . Upon substitution for  $B_\nu(T)$  and  $\mu'(\nu)$  in the integral and with change of variable  $x = h\nu/kT$  the above expression becomes

$$\bar{\mu}_p(T) = \frac{\pi^4}{15} \int_0^{\infty} \mu(x) x^3 e^{-x} dx$$

For digital computer use this is approximated:

$$\bar{\mu}_p(T) = \frac{\pi^4}{15} \sum_j \mu_j(x_j) x_j^3 e^{-x_j} \Delta x_j$$

where  $j$  is summed over all spectral intervals to be included.

Listed in Table C.2.a) are the total and continuum Planck mean absorption coefficients in units  $\text{cm}^{-1}$  for heated air for various temperatures

and densities. The input of required absorption coefficients is discussed under the partial Planck mean absorption coefficient table construction, since the actual computation of the total, cut-off, and partial Planck means (as well as the Rosseland mean free paths) was carried out with the aid of a single integrated computer program.

"Cut-off" Planck mean absorption coefficients are included in the same table as the total and continuum values and may be identified by their "key" integer. The cut-off key and recipe for calculation are summarized below:

<u>Integer Appearing in Tables</u>	<u>Computational Meaning as Applied to Sum in Last Expression:</u>
1	If $\mu_j(x_j) \geq 1 \text{ cm}^{-1}$ set $\mu_j = 0$ in $\Sigma_j$
2	If $\mu_j(x_j) \geq 10^{-1} \text{ cm}^{-1}$ set $\mu_j = 0$ in $\Sigma_j$
3	If $\mu_j(x_j) \geq 10^{-2} \text{ cm}^{-1}$ set $\mu_j = 0$ in $\Sigma_j$
4	If $\mu_j(x_j) \geq 10^{-3} \text{ cm}^{-1}$ set $\mu_j = 0$ in $\Sigma_j$
5	If $\mu_j(x_j) \geq 10^{-4} \text{ cm}^{-1}$ set $\mu_j = 0$ in $\Sigma_j$
6	If $\mu_j(x_j) \geq 10^{-5} \text{ cm}^{-1}$ set $\mu_j = 0$ in $\Sigma_j$

It is frequently desirable to obtain a rough estimate of the amount of radiative energy flow and deposition in gas samples that are not optically thin at all frequencies. In order to obtain such an estimate with a minimum of effort the spectral detail of the absorptive coefficient sometimes is ignored and the total Planck mean absorption coefficient is employed in the calculation. A semi-quantitative estimate of the error involved in this procedure may be obtained through inspection of the "cut-off" Planck values. Since these are listed for cut-offs which decrease sequentially by one order of magnitude, significant change in the "cut-off" absorption coefficient between two cut-off



values indicates that the spectral absorption coefficient has an effective value in between the two "cut-off" values over an appreciable frequency region in the vicinity of the Planckian maximum. The product of this "effective" absorption coefficient value and the path length of the gas then gives an indication of the extent of violation of the applicability of the procedure.

TOTAL AND CUT-OFF PLANCY MEAN ABSORPTION COEFFICIENT S

TEMPERATURE C (DEG. K)	DENSITY (TIMES NORMAL)					
	1.0E 01	1.0E 00	1.0E -01	1.0E -02	1.0E -03	1.0E -04
1000. TOTAL	1.84E-05	1.84E-06	1.84E-07	1.84E-08	1.84E-09	1.84E-10
1000. CONT.	9.42E-10	9.42E-11	9.42E-12	9.42E-13	9.42E-14	9.42E-15
1	1.84E-05	1.84E-06	1.84E-07	1.84E-08	1.84E-09	1.84E-10
2	1.84E-05	1.84E-06	1.84E-07	1.84E-08	1.84E-09	1.84E-10
3	1.84E-05	1.84E-06	1.84E-07	1.84E-08	1.84E-09	1.84E-10
4	1.84E-05	1.84E-06	1.84E-07	1.84E-08	1.84E-09	1.84E-10
5	1.84E-05	1.84E-06	1.84E-07	1.84E-08	1.84E-09	1.84E-10
6	1.84E-05	1.84E-06	1.84E-07	1.84E-08	1.84E-09	1.84E-10
2000. TOTAL	1.20E-03	1.17E-04	1.16E-05	1.15E-06	1.15E-07	1.14E-08
2000. CONT.	4.04E-05	1.20E-06	4.03E-08	1.27E-09	4.00E-11	1.24E-12
1	1.20E-03	1.17E-04	1.16E-05	1.15E-06	1.15E-07	1.14E-08
2	1.20E-03	1.17E-04	1.16E-05	1.15E-06	1.15E-07	1.14E-08
3	1.20E-03	1.17E-04	1.16E-05	1.15E-06	1.15E-07	1.14E-08
4	1.20E-03	1.17E-04	1.16E-05	1.15E-06	1.15E-07	1.14E-08
5	1.20E-03	1.17E-04	1.16E-05	1.15E-06	1.15E-07	1.14E-08
6	1.20E-03	1.17E-04	1.16E-05	1.15E-06	1.15E-07	1.14E-08
3000. TOTAL	3.66E-03	3.06E-04	2.71E-05	2.33E-06	1.60E-07	7.19E-09
3000. CONT.	1.11E-03	3.43E-05	1.91E-06	4.13E-08	1.30E-10	3.24E-12
1	3.66E-03	3.06E-04	2.71E-05	2.33E-06	1.60E-07	7.19E-09
2	3.66E-03	3.06E-04	2.71E-05	2.33E-06	1.60E-07	7.19E-09
3	3.66E-03	3.06E-04	2.71E-05	2.33E-06	1.60E-07	7.19E-09
4	3.66E-03	3.06E-04	2.71E-05	2.33E-06	1.60E-07	7.19E-09
5	3.66E-03	3.06E-04	2.71E-05	2.33E-06	1.60E-07	7.19E-09
6	3.66E-03	3.06E-04	2.71E-05	2.33E-06	1.60E-07	7.19E-09
4000. TOTAL	1.28E-02	6.04E-04	4.24E-05	1.51E-06	4.70E-08	1.81E-09
4000. CONT.	4.54E-03	1.29E-04	2.83E-06	4.12E-08	5.38E-10	7.80E-12
1	1.28E-02	6.04E-04	4.24E-05	1.51E-06	4.70E-08	1.81E-09
2	1.28E-02	6.04E-04	4.24E-05	1.51E-06	4.70E-08	1.81E-09
3	1.28E-02	6.04E-04	4.24E-05	1.51E-06	4.70E-08	1.81E-09
4	1.28E-02	6.04E-04	4.24E-05	1.51E-06	4.70E-08	1.81E-09
5	1.28E-02	6.04E-04	4.24E-05	1.51E-06	4.70E-08	1.81E-09
6	1.28E-02	6.04E-04	4.24E-05	1.51E-06	4.70E-08	1.81E-09
5000. TOTAL	5.98E-02	2.69E-03	8.35E-05	2.87E-06	1.35E-07	7.57E-09
5000. CONT.	1.61E-02	4.40E-04	8.07E-06	1.25E-07	1.95E-09	3.09E-11
1	5.98E-02	2.69E-03	8.35E-05	2.87E-06	1.35E-07	7.57E-09
2	5.98E-02	2.69E-03	8.35E-05	2.87E-06	1.35E-07	7.57E-09
3	5.98E-02	2.69E-03	8.35E-05	2.87E-06	1.35E-07	7.57E-09
4	5.98E-02	2.69E-03	8.35E-05	2.87E-06	1.35E-07	7.57E-09
5	5.98E-02	2.69E-03	8.35E-05	2.87E-06	1.35E-07	7.57E-09
6	5.98E-02	2.69E-03	8.35E-05	2.87E-06	1.35E-07	7.57E-09
6000. TOTAL	1.35E-01	5.78E-03	2.13E-04	1.01E-05	4.63E-07	1.50E-08
6000. CONT.	3.63E-02	1.02E-03	1.89E-05	3.16E-07	7.24E-09	4.05E-10
1	1.35E-01	5.78E-03	2.13E-04	1.01E-05	4.63E-07	1.50E-08
2	1.35E-01	5.78E-03	2.13E-04	1.01E-05	4.63E-07	1.50E-08
3	1.35E-01	5.78E-03	2.13E-04	1.01E-05	4.63E-07	1.50E-08
4	1.35E-01	5.78E-03	2.13E-04	1.01E-05	4.63E-07	1.50E-08
5	1.35E-01	5.78E-03	2.13E-04	1.01E-05	4.63E-07	1.50E-08
6	1.35E-01	5.78E-03	2.13E-04	1.01E-05	4.63E-07	1.50E-08

TOTAL AND CUT-OFF PLANK MEAN ABSORPTION COEFFICIENTS

TEMPERATURE °C  
(DEG. K)

	1.0E 01	1.0E 00	1.0E 01	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07
7000. TOTAL	2.89E-01	1.09E-02	4.78E-04	2.09E-05	6.35E-07	2.14E-08	1.31E-09	1.06E-10
CONT.	8.68E-02	2.02E-03	4.12E-04	1.52E-06	1.28E-07	1.1E-08	1.07E-09	1.01E-10
1	2.89E-01	1.09E-02	4.78E-04	2.09E-05	6.35E-07	2.14E-08	1.31E-09	1.06E-10
2	2.89E-01	1.09E-02	4.78E-04	2.09E-05	6.35E-07	2.14E-08	1.31E-09	1.06E-10
3	2.89E-01	1.09E-02	4.78E-04	2.09E-05	6.35E-07	2.14E-08	1.31E-09	1.06E-10
4	2.89E-01	1.09E-02	4.78E-04	2.09E-05	6.35E-07	2.14E-08	1.31E-09	1.06E-10
5	2.89E-01	1.09E-02	4.78E-04	2.09E-05	6.35E-07	2.14E-08	1.31E-09	1.06E-10
6	2.89E-01	1.09E-02	4.78E-04	2.09E-05	6.35E-07	2.14E-08	1.31E-09	1.06E-10
8000. TOTAL	4.65E-01	1.94E-02	6.88E-04	3.48E-05	1.92E-06	1.59E-07	1.32E-08	1.06E-09
CONT.	1.58E-01	4.02E-03	1.78E-04	1.68E-05	1.58E-06	1.52E-07	1.36E-08	1.05E-09
1	4.65E-01	1.94E-02	6.88E-04	3.48E-05	1.92E-06	1.59E-07	1.32E-08	1.06E-09
2	4.65E-01	1.94E-02	6.88E-04	3.48E-05	1.92E-06	1.59E-07	1.32E-08	1.06E-09
3	4.65E-01	1.94E-02	6.88E-04	3.48E-05	1.92E-06	1.59E-07	1.32E-08	1.06E-09
4	4.65E-01	1.94E-02	6.88E-04	3.48E-05	1.92E-06	1.59E-07	1.32E-08	1.06E-09
5	4.65E-01	1.94E-02	6.88E-04	3.48E-05	1.92E-06	1.59E-07	1.32E-08	1.06E-09
6	4.65E-01	1.94E-02	6.88E-04	3.48E-05	1.92E-06	1.59E-07	1.32E-08	1.06E-09
9000. TOTAL	7.32E-01	3.51E-02	1.90E-03	1.27E-04	1.13E-05	1.00E-06	7.91E-08	3.74E-09
CONT.	2.79E-01	1.27E-02	1.22E-03	1.16E-04	1.11E-05	9.96E-07	7.90E-08	3.73E-09
1	7.32E-01	3.51E-02	1.90E-03	1.27E-04	1.13E-05	1.00E-06	7.91E-08	3.74E-09
2	7.32E-01	3.51E-02	1.90E-03	1.27E-04	1.13E-05	1.00E-06	7.91E-08	3.74E-09
3	7.32E-01	3.51E-02	1.90E-03	1.27E-04	1.13E-05	1.00E-06	7.91E-08	3.74E-09
4	7.32E-01	3.51E-02	1.90E-03	1.27E-04	1.13E-05	1.00E-06	7.91E-08	3.74E-09
5	7.32E-01	3.51E-02	1.90E-03	1.27E-04	1.13E-05	1.00E-06	7.91E-08	3.74E-09
6	7.32E-01	3.51E-02	1.90E-03	1.27E-04	1.13E-05	1.00E-06	7.91E-08	3.74E-09
10000. TOTAL	1.23E 00	7.81E-02	6.34E-03	5.61E-04	5.03E-05	4.83E-06	4.83E-07	4.83E-08
CONT.	6.05E-01	5.30E-02	5.83E-03	5.53E-04	4.80E-05	3.83E-06	2.12E-07	4.83E-08
1	1.23E 00	7.81E-02	6.34E-03	5.61E-04	5.03E-05	4.83E-06	4.83E-07	4.83E-08
2	1.23E 00	7.81E-02	6.34E-03	5.61E-04	5.03E-05	4.83E-06	4.83E-07	4.83E-08
3	1.23E 00	7.81E-02	6.34E-03	5.61E-04	5.03E-05	4.83E-06	4.83E-07	4.83E-08
4	1.23E 00	7.81E-02	6.34E-03	5.61E-04	5.03E-05	4.83E-06	4.83E-07	4.83E-08
5	1.23E 00	7.81E-02	6.34E-03	5.61E-04	5.03E-05	4.83E-06	4.83E-07	4.83E-08
6	1.23E 00	7.81E-02	6.34E-03	5.61E-04	5.03E-05	4.83E-06	4.83E-07	4.83E-08
11000. TOTAL	2.35E 00	2.07E-01	1.97E-02	1.79E-03	1.54E-04	9.36E-06	2.90E-07	3.60E-09
CONT.	1.59E 00	1.62E-01	1.93E-02	1.78E-03	1.54E-04	9.36E-06	2.90E-07	3.60E-09
1	2.35E 00	2.07E-01	1.97E-02	1.79E-03	1.54E-04	9.36E-06	2.90E-07	3.60E-09
2	2.35E 00	2.07E-01	1.97E-02	1.79E-03	1.54E-04	9.36E-06	2.90E-07	3.60E-09
3	2.35E 00	2.07E-01	1.97E-02	1.79E-03	1.54E-04	9.36E-06	2.90E-07	3.60E-09
4	2.35E 00	2.07E-01	1.97E-02	1.79E-03	1.54E-04	9.36E-06	2.90E-07	3.60E-09
5	2.35E 00	2.07E-01	1.97E-02	1.79E-03	1.54E-04	9.36E-06	2.90E-07	3.60E-09
6	2.35E 00	2.07E-01	1.97E-02	1.79E-03	1.54E-04	9.36E-06	2.90E-07	3.60E-09
12000. TOTAL	5.18E 00	5.22E-01	5.07E-02	4.60E-03	3.37E-04	1.43E-05	2.58E-07	2.72E-09
CONT.	4.34E 00	5.08E-01	5.05E-02	4.60E-03	3.37E-04	1.43E-05	2.58E-07	2.72E-09
1	5.18E 00	5.22E-01	5.07E-02	4.60E-03	3.37E-04	1.43E-05	2.58E-07	2.72E-09
2	5.18E 00	5.22E-01	5.07E-02	4.60E-03	3.37E-04	1.43E-05	2.58E-07	2.72E-09
3	5.18E 00	5.22E-01	5.07E-02	4.60E-03	3.37E-04	1.43E-05	2.58E-07	2.72E-09
4	5.18E 00	5.22E-01	5.07E-02	4.60E-03	3.37E-04	1.43E-05	2.58E-07	2.72E-09
5	5.18E 00	5.22E-01	5.07E-02	4.60E-03	3.37E-04	1.43E-05	2.58E-07	2.72E-09
6	5.18E 00	5.22E-01	5.07E-02	4.60E-03	3.37E-04	1.43E-05	2.58E-07	2.72E-09

TOTAL AND CUT-OFF PLANK NEAR ABSORPTION COEFFICIENTS

TEMPERATURE C (DEG. K)	DENSITY (TIMES NORMAL)							
	1.0E 01	1.0F 00	1.0E 01	1.0E 03	10.0E-04	10.0E-05	10.0E-06	10.0E-07
13000.								
TOTAL CONT.	3.17E 00	1.97E-01	1.57E-02	1.26E-03	6.22E-05	1.77E-06	2.32E-08	2.35E-10
1	2.41E 00	1.84E-01	1.55E-02	1.26E-03	6.22E-05	1.77E-06	2.32E-08	2.35E-10
2	3.17E 00	1.97E-01	1.57E-02	1.26E-03	6.22E-05	1.77E-06	2.32E-08	2.35E-10
3	3.17E 00	1.97E-01	1.57E-02	1.26E-03	6.22E-05	1.77E-06	2.32E-08	2.35E-10
4	2.95E 00	1.97E-01	1.57E-02	1.26E-03	6.22E-05	1.77E-06	2.32E-08	2.35E-10
5	2.58E 00	1.70E-01	1.57E-02	1.26E-03	6.22E-05	1.77E-06	2.32E-08	2.35E-10
6	0.	1.41E-01	1.31E-02	1.26E-03	6.22E-05	1.77E-06	2.32E-08	2.35E-10
14000.								
TOTAL CONT.	2.19L 01	2.23E 00	2.05E-01	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.45E-09
1	2.19E 01	2.22E 00	2.05E-01	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.45E-09
2	2.19E 01	2.23E 00	2.05E-01	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.45E-09
3	1.10E 01	2.23E 00	2.05E-01	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.45E-09
4	4.44E 00	1.04E 00	2.05E-01	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.45E-09
5	3.40E 00	3.01E-01	9.31E-02	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.45E-09
6	0.	2.09E-01	2.42E-02	8.10E-03	7.20E-04	1.34E-05	1.47E-07	1.45E-09
15000.								
TOTAL CONT.	7.46E 00	5.75E-01	4.67E-02	3.08E-03	9.04E-05	1.29E-06	1.36E-08	1.42E-10
1	6.9E 00	5.69E-01	4.6E-02	3.07E-03	9.04E-05	1.29E-06	1.36E-08	1.42E-10
2	7.46E 00	5.75E-01	4.67E-02	3.08E-03	9.04E-05	1.29E-06	1.36E-08	1.42E-10
3	7.46E 00	5.75E-01	4.67E-02	3.08E-03	9.04E-05	1.29E-06	1.36E-08	1.42E-10
4	6.30E 00	5.75E-01	4.67E-02	3.08E-03	9.04E-05	1.29E-06	1.36E-08	1.42E-10
5	4.39E 00	4.50E-01	4.67E-02	3.08E-03	9.04E-05	1.29E-06	1.36E-08	1.42E-10
6	0.	2.80E-01	3.76E-02	3.08E-03	9.04E-05	1.29E-06	1.36E-08	1.42E-10
16000.								
TOTAL CONT.	6.27E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.75E-06	9.14E-08	1.18E-09
1	6.25E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.75E-06	9.14E-08	1.18E-09
2	6.27E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.75E-06	9.14E-08	1.18E-09
3	2.80E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.75E-06	9.14E-08	1.18E-09
4	8.47E 00	2.57E 00	5.64E-01	3.06E-02	7.37E-04	8.75E-06	9.14E-08	1.18E-09
5	5.12E 00	6.33E-01	2.08E-01	3.06E-02	7.37E-04	8.75E-06	9.14E-08	1.18E-09
6	0.	3.72E-01	5.05E-02	1.92E-02	7.37E-04	8.75E-06	9.14E-08	1.18E-09
17000.								
TOTAL CONT.	1.57E 01	1.27E 00	9.37E-02	4.33E-03	7.44E-05	8.24E-07	9.17E-09	1.62E-10
1	1.54E 01	1.27E 00	9.36E-02	4.33E-03	7.44E-05	8.24E-07	9.17E-09	1.62E-10
2	1.57E 01	1.27E 00	9.37E-02	4.33E-03	7.44E-05	8.24E-07	9.17E-09	1.62E-10
3	1.57E 01	1.27E 00	9.37E-02	4.33E-03	7.44E-05	8.24E-07	9.17E-09	1.62E-10
4	1.09E 01	1.27E 00	9.37E-02	4.33E-03	7.44E-05	8.24E-07	9.17E-09	1.62E-10
5	3.54E 00	6.51E-01	9.37E-02	4.33E-03	7.44E-05	8.24E-07	9.17E-09	1.62E-10
6	0.	4.59E-01	6.42E-02	4.33E-03	7.44E-05	8.24E-07	9.17E-09	1.62E-10
18000.								
TOTAL CONT.	1.31E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.21E-06	6.58E-08	2.28E-09
1	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.21E-06	6.58E-08	2.28E-09
2	1.31E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.21E-06	6.58E-08	2.28E-09
3	4.26E 01	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.21E-06	6.58E-08	2.28E-09
4	1.35E 01	4.61E 00	6.46E-01	2.45E-02	3.84E-04	4.21E-06	6.58E-08	2.28E-09
5	1.00E 00	3.48E-01	3.84E-04	2.45E-02	3.84E-04	4.21E-06	6.58E-08	2.28E-09
6	0.	3.51E-01	7.51E-02	2.45E-02	3.84E-04	4.21E-06	6.58E-08	2.28E-09

**b) Individual Contributions to the Planck Mean Absorption Coefficients for Air**

The Tables labelled No. 1, No. 2, etc., list for the cited temperatures and densities the contribution to the total Planck mean absorption coefficient for heated air arising from individual absorbing systems. For example, the first table lists the contribution arising from the O<sub>2</sub> Schumann-Runge continuum. Corresponding system numbers and the system names for which they stand are given below.

System No.	Contributor
1	O <sub>2</sub> Schumann-Runge Continuum
2	NO <sub>2</sub>
3	O <sup>-</sup> Photodetachment
4	Free-Free in presence of ions
5	N Photoionization
6	O Photoionization
7	O <sub>2</sub> Schumann-Runge Bands
8	N <sub>2</sub> Birge-Hopfield Bands
9	N <sub>2</sub> First Positive Bands
10	N <sub>2</sub> Second Positive Bands
11	NO Beta Bands
12	NO Gamma Bands
13	NO Vibration-Rotation Bands
14	N <sub>2</sub> <sup>+</sup> First Negative Bands

Use of the appropriate individual absorption coefficient in the expressions given in the discussion of Table C.2.a) yields the Planck mean absorption coefficient for the corresponding air constituent. Since the Planck mean is applicable to optically thin gas samples only, the sum of the Planck means for all the listed contributors should be equal to the Planck mean for air.

NO. 1

TEMP (DEG. K)	DENSITY (TIMES NORMAL)									
	1.0E-01	1.0E-02	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07	1.0E-08	1.0E-09	1.0E-10
1000.	1.40E-20	1.40E-30	1.40E-31	1.40E-32	1.40E-33	1.40E-34	1.40E-35	1.40E-36	1.40E-37	1.40E-38
2000.	2.52E-12	2.52E-13	2.52E-14	2.52E-15	2.50E-16	2.40E-17	2.33E-18	1.94E-19	6.45E-17	2.10E-16
3000.	7.79E-07	7.82E-08	7.83E-09	5.40E-10	2.65E-11	5.30E-13	6.20E-15	2.17E-14	3.00E-14	4.90E-16
4000.	2.56E-04	1.94E-05	6.86E-07	1.75E-08	2.07E-10	2.15E-12	5.04E-14	5.46E-12	5.30E-14	4.88E-16
5000.	4.53E-03	1.74E-04	3.15E-06	3.66E-08	3.82E-10	3.04E-12	3.80E-14	3.80E-16	3.41E-16	3.41E-16
6000.	1.67E-02	3.59E-04	4.59E-06	4.92E-08	5.82E-10	5.05E-12	5.04E-14	4.90E-16	4.90E-16	4.90E-16
7000.	2.82E-02	4.50E-04	5.17E-06	5.42E-08	5.46E-10	5.46E-12	5.30E-14	4.88E-16	4.88E-16	4.88E-16
8000.	3.93E-02	4.94E-04	5.42E-06	5.54E-08	5.53E-10	5.36E-12	4.81E-14	3.41E-16	3.41E-16	3.41E-16
9000.	3.89E-02	4.91E-04	5.26E-06	5.26E-08	5.12E-10	4.59E-12	3.21E-14	1.01E-16	1.01E-16	1.01E-16
10000.	3.94E-02	4.84E-04	4.90E-06	4.91E-08	4.48E-10	3.39E-12	1.31E-14	9.79E-16	9.79E-16	9.79E-16
11000.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12000.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13000.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14000.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15000.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16000.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17000.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
18000.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.





NO. 3

TEMP (DEG. K)	DENSITY (TIMES NORMAL)									
	1.0E-01	1.0E-00	1.0E-01	1.0E-02	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07	1.0E-08
2000.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2000.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3000.	1.39E-07	1.70E-08	1.77E-09	1.49E-10	0.67E-12	2.63E-13	5.25E-15	9.33E-17		
4000.	8.39E-05	8.27E-06	4.60E-07	1.40E-08	2.90E-10	5.40E-12	9.55E-14	1.64E-15		
5000.	2.59E-03	1.51E-04	4.21E-06	6.43E-08	1.56E-09	2.60E-11	4.63E-13	1.04E-14		
6000.	1.75E-02	6.20E-04	1.36E-05	2.91E-07	4.60E-09	1.06E-10	3.13E-12	9.71E-14		
7000.	3.37E-02	1.92E-03	3.03E-05	6.21E-07	1.66E-08	3.10E-10	1.30E-11	4.68E-13		
8000.	1.16E-01	2.82E-03	6.22E-05	1.76E-06	5.45E-08	1.67E-09	4.04E-11	1.10E-12		
9000.	2.00E-01	5.02E-03	1.41E-04	4.36E-06	1.34E-07	3.87E-09	9.16E-11	1.17E-12		
10000.	3.20E-01	9.14E-03	2.83E-04	6.82E-06	2.59E-07	6.45E-09	9.52E-11	4.87E-13		
11000.	5.02E-01	1.59E-02	5.01E-04	1.51E-05	4.04E-07	7.46E-09	4.94E-11	6.60E-14		
12000.	7.70E-01	2.52E-02	7.80E-04	2.23E-05	5.07E-07	5.68E-09	1.61E-11	1.94E-14		
13000.	1.12E-00	3.63E-02	1.16E-03	2.82E-05	5.06E-07	2.95E-09	4.70E-12	5.60E-15		
14000.	1.54E-00	4.91E-02	1.42E-03	3.31E-05	3.97E-07	1.23E-09	1.52E-12	1.50E-15		
15000.	1.99E-00	6.20E-02	1.70E-03	3.33E-05	2.52E-07	4.87E-10	5.36E-13	5.50E-16		
16000.	2.45E-00	7.43E-02	1.89E-03	2.94E-05	1.38E-07	1.89E-10	7.10E-13	2.25E-16		
17000.	2.89E-00	8.49E-02	1.97E-03	2.33E-05	7.05E-08	8.60E-11	9.89E-14	1.10E-16		
18000.	3.30E-00	9.31E-02	1.92E-03	1.65E-05	3.56E-08	4.63E-11	4.41E-14	6.20E-17		

NC. 4

Temp (DEG. KI)	DENSITY (TIMES NORMAL)									
	1.0E 01	1.0E 00	1.0E-01	1.0E-02	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07	1.0E-08
1000.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2000.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3000.	3.04E-13	3.00E-14	2.89E-15	2.56E-16	1.73E-17	6.06E-19	2.79E-20	8.89E-22		
4000.	4.63E-09	4.07E-10	2.75E-11	1.23E-12	4.24E-14	1.36E-15	4.22E-17	1.24E-18		
5000.	1.09E-06	6.90E-08	2.93E-09	9.97E-11	3.11E-12	9.87E-14	2.78E-15	1.37E-16		
6000.	3.11E-07	1.45E-08	5.13E-09	1.62E-09	5.31E-11	2.82E-12	2.46E-13	2.39E-14		
7000.	2.95E-04	1.17E-05	3.90E-07	1.59E-08	1.13E-09	1.07E-10	1.05E-11	1.01E-12		
8000.	1.42E-03	5.43E-05	2.42E-06	1.05E-07	3.78E-08	1.74E-09	1.63E-10	1.32E-11		
9000.	4.02E-03	2.21E-04	1.40E-05	1.54E-06	1.50E-07	1.49E-08	1.12E-09	5.72E-11		
10000.	1.42E-02	6.09E-04	8.44E-05	6.22E-06	7.75E-07	6.39E-08	3.57E-09	6.73E-11		
11000.	4.04E-02	3.35E-03	3.27E-04	3.11E-05	2.72E-06	1.77E-07	5.66E-09	7.91E-11		
12000.	1.09E-01	1.01E-02	9.81E-04	8.9E-05	6.83E-06	3.80E-07	5.74E-09	6.48E-11		
13000.	2.65E-01	2.54E-02	2.42E-03	2.08E-04	1.26E-05	3.71E-07	4.92E-09	5.19E-11		
14000.	5.71E-01	5.50E-02	5.01E-03	3.90E-04	1.84E-05	3.59E-07	4.05E-09	4.13E-11		
15000.	1.10E 00	1.05E-01	9.24E-03	6.23E-04	2.14E-05	3.15E-07	3.33E-09	3.46E-11		
16000.	1.94E 00	1.82E-01	1.51E-02	8.57E-04	2.16E-05	2.69E-07	2.79E-09	3.18E-11		
17000.	3.15E 00	2.80E-01	2.22E-02	1.84E-03	2.80E-05	2.27E-07	2.42E-09	3.43E-11		
18000.	4.80E 00	4.26E-01	3.80E-02	1.13E-03	1.78E-05	1.94E-07	2.28E-09	4.32E-11		

NO. 5

TEMP (DEG. K)	DEFINITY (TIMES NORMAL)									
	1.0E 00	1.0E 01	1.0E 02	1.0E 03	1.0E 04	1.0E 05	1.0E 06	1.0E 07	1.0E 08	1.0E 09
1000.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2000.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3000.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4000.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5000.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6000.	2.96E-07	8.01E-08	2.48E-08	7.12E-09	1.47E-09	2.27E-10	2.48E-11	2.50E-12		
7000.	4.09E-05	1.18E-05	2.91E-06	8.47E-07	9.20E-08	8.71E-09	8.66E-10	8.31E-11		
8000.	1.43E-03	3.90E-04	6.08E-05	1.21E-05	1.30E-06	1.28E-07	1.09E-08	8.80E-10		
9000.	2.10E-02	5.37E-03	8.87E-04	9.26E-05	9.19E-06	8.53E-07	6.73E-08	3.99E-09		
10000.	1.57E-01	3.55E-02	6.74E-03	4.66E-04	4.03E-05	3.28E-06	1.79E-07	3.92E-09		
11000.	8.32E-01	1.43E-01	1.62E-02	1.52E-03	1.31E-04	7.73E-06	2.39E-07	3.05E-09		
12000.	2.90E 00	4.13E-01	4.28E-02	3.93E-03	2.84E-04	1.16E-05	2.10E-07	2.17E-09		
13000.	4.42E-01	1.04E-01	1.02E-02	8.05E-04	3.78E-05	1.02E-06	1.33E-08	1.32E-10		
14000.	1.66E 01	1.86E 00	1.74E-01	1.32E-02	5.88E-04	1.08E-05	1.18E-07	1.15E-09		
15000.	3.25E 00	3.39E-01	2.99E-02	1.98E-03	5.09E-05	7.00E-07	7.38E-09	7.91E-11		
16000.	5.06E 01	5.04E 00	4.63E-01	2.55E-02	5.92E-04	6.92E-06	7.36E-08	9.89E-10		
17000.	7.80E 00	7.44E-01	5.67E-02	2.57E-03	3.92E-05	4.28E-07	5.03E-09	1.08E-10		
18000.	1.04E 02	9.68E 00	4.93E-01	1.81E-02	2.75E-04	3.05E-06	5.34E-08	2.00E-09		

TEMP (DEG. F)	DENSITY (TIMES NORMAL)									
	1.0E 01	1.0E 00	1.0E-01	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07	10.0E-08	10.0E-09
1000.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2000.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3000.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4000.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5000.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6000.	5.41E-04	7.86E-07	6.24E-08	6.42E-09	6.45E-10	6.43E-11	6.42E-12	6.38E-13		
7000.	1.79E-04	2.22E-05	2.35E-06	1.80E-07	1.80E-08	1.80E-09	1.76E-10	1.69E-11		
8000.	2.19E-03	2.56E-04	2.44E-05	2.65E-06	2.07E-07	2.02E-08	1.92E-09	1.60E-10		
9000.	1.45E-02	1.44E-03	1.67E-04	1.66E-05	1.53E-06	1.25E-07	1.05E-08	5.85E-10		
10000.	6.42E-02	7.63E-03	7.17E-04	7.02E-05	6.07E-06	4.82E-07	3.01E-08	8.20E-10		
11000.	2.11E-01	2.27E-02	2.24E-03	2.32E-04	1.98E-05	1.42E-06	4.71E-08	6.70E-10		
12000.	5.61E-01	5.91E-02	5.67E-03	5.84E-04	4.82E-05	2.35E-06	4.27E-08	4.86E-10		
13000.	1.76E-01	1.85E-02	1.80E-03	1.62E-04	1.11E-05	3.69E-07	3.01E-09	5.18E-11		
14000.	2.51E-00	2.56E-01	2.44E-02	2.05E-03	1.13E-04	2.45E-06	2.55E-08	2.68E-10		
15000.	6.35E-01	6.31E-02	5.83E-03	4.40E-04	1.78E-05	2.73E-07	2.84E-09	2.86E-11		
16000.	7.38E-00	7.26E-01	6.42E-02	4.26E-03	1.23E-04	1.57E-06	1.50E-08	1.59E-10		
17000.	1.58E-00	1.53E-01	1.28E-02	6.97E-04	1.52E-05	1.69E-07	1.71E-09	1.98E-11		
18000.	1.62E-01	1.53E-00	1.19E-01	5.26E-03	9.04E-05	9.68E-07	9.95E-09	1.61E-10		

NO. 7

TEMP (DEG. K)	DENSITY (TIMES NORMAL)											
	1.0E-01	1.0E-00	1.0E-01	1.0E-02	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07	1.0E-08	1.0E-09	1.0E-10
1000.	1.43E-23	1.43E-20	1.43E-17	1.43E-14	1.43E-11	1.43E-08	1.43E-05	1.43E-02	1.43E-01	1.43E-00	1.43E-01	1.43E-02
2000.	2.37E-09	2.37E-10	2.37E-11	2.37E-12	2.37E-13	2.37E-14	2.37E-15	2.37E-16	2.37E-17	2.37E-18	2.37E-19	2.37E-20
3000.	5.12E-05	5.60E-06	6.62E-07	8.60E-08	1.17E-07	1.73E-08	2.52E-09	3.58E-10	5.00E-11	6.80E-12	9.20E-13	1.25E-12
4000.	3.75E-03	2.84E-04	1.29E-05	2.54E-07	3.01E-09	3.15E-11	3.15E-13	3.15E-15	3.15E-17	3.15E-19	3.15E-21	3.15E-23
5000.	2.41E-02	9.39E-04	1.66E-05	1.94E-07	2.02E-09	2.05E-11	2.06E-13	2.06E-15	2.06E-17	2.06E-19	2.06E-21	2.06E-23
6000.	4.20E-02	9.13E-03	1.17E-05	1.25E-07	1.28E-09	1.28E-11	1.28E-13	1.28E-15	1.28E-17	1.28E-19	1.28E-21	1.28E-23
7000.	4.12E-02	6.48E-04	7.45E-06	7.75E-08	7.83E-10	7.78E-12	7.59E-14	6.92E-16	6.09E-18	5.09E-20	4.09E-22	3.09E-24
8000.	3.21E-02	4.38E-04	4.82E-06	4.93E-08	4.90E-10	4.74E-12	4.24E-14	2.97E-16	1.66E-18	8.34E-21	4.17E-23	2.08E-25
9000.	2.33E-02	2.95E-04	3.15E-06	3.14E-08	3.06E-10	2.75E-12	1.92E-14	6.08E-17	1.66E-19	3.95E-21	8.34E-23	1.66E-25
10000.	1.60E-02	1.91E-04	2.00E-06	1.96E-08	1.80E-10	1.32E-12	3.28E-15	3.95E-18	4.66E-21	5.47E-23	6.28E-25	7.10E-27
11000.	1.14E-02	1.32E-04	1.34E-06	1.26E-08	1.04E-10	5.47E-13	7.49E-16	1.66E-19	3.95E-21	8.34E-23	1.66E-25	3.95E-27
12000.	6.24E-03	9.15E-05	9.00E-07	8.04E-09	5.47E-11	1.52E-13	6.50E-17	6.50E-21	6.50E-25	6.50E-29	6.50E-33	6.50E-37
13000.	3.37E-03	3.81E-05	3.44E-07	2.79E-09	1.38E-11	1.61E-14	3.19E-18	3.48E-22	3.48E-26	3.48E-30	3.48E-34	3.48E-38
14000.	5.44E-03	2.53E-05	2.30E-07	1.62E-09	4.95E-12	2.43E-15	3.28E-19	3.48E-23	3.48E-27	3.48E-31	3.48E-35	3.48E-39
15000.	1.79E-02	1.79E-05	1.53E-07	9.71E-10	1.45E-12	3.68E-16	4.21E-20	4.36E-24	4.36E-28	4.36E-32	4.36E-36	4.36E-40
16000.	1.33E-03	1.27E-05	9.97E-08	4.28E-10	3.69E-13	6.22E-17	6.97E-21	7.14E-25	7.14E-29	7.14E-33	7.14E-37	7.14E-41
17000.	9.79E-04	9.10E-06	6.36E-08	1.96E-10	9.01E-14	1.21E-18	1.28E-22	1.53E-26	1.53E-30	1.53E-34	1.53E-38	1.53E-42
18000.	7.33E-04	6.50E-06	3.94E-08	7.71E-11	2.27E-14	2.78E-18	2.95E-22	4.05E-26	4.05E-30	4.05E-34	4.05E-38	4.05E-42

8

NO. 8

TEMP. (DEG. K)	DENSITY (TIMES NORMAL)									
	1.0E 01	1.0E 00	1.0E-01	10.0E-02	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07	
1500.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2000.	3.06E-24	3.06E-23	3.06E-22	3.06E-21	3.06E-20	3.06E-19	3.06E-18	3.06E-17	3.06E-16	3.06E-15
3000.	3.62E-14	3.62E-13	3.62E-12	3.62E-11	3.62E-10	3.62E-09	3.62E-08	3.62E-07	3.62E-06	3.62E-05
4000.	2.37E-09	2.37E-08	2.37E-07	2.37E-06	2.37E-05	2.37E-04	2.37E-03	2.37E-02	2.37E-01	2.37E-00
5000.	1.62E-06	1.62E-05	1.62E-04	1.62E-03	1.62E-02	1.62E-01	1.62E-00	1.62E-01	1.62E-00	1.62E-01
6000.	1.01E-04	1.03E-03	1.03E-02	1.03E-01	1.03E-00	1.03E-01	1.03E-00	1.03E-01	1.03E-00	1.03E-01
7000.	1.66E-03	1.66E-02	1.66E-01	1.66E-00	1.66E-01	1.66E-00	1.66E-01	1.66E-00	1.66E-01	1.66E-00
8000.	1.18E-02	1.18E-01	1.18E-00	1.18E-01	1.18E-00	1.18E-01	1.18E-00	1.18E-01	1.18E-00	1.18E-01
9000.	4.69E-02	4.69E-01	4.69E-00	4.69E-01	4.69E-00	4.69E-01	4.69E-00	4.69E-01	4.69E-00	4.69E-01
10000.	1.17E-01	1.17E-00	1.17E-01	1.17E-00	1.17E-01	1.17E-00	1.17E-01	1.17E-00	1.17E-01	1.17E-00
11000.	2.09E-01	2.09E-00	2.09E-01	2.09E-00	2.09E-01	2.09E-00	2.09E-01	2.09E-00	2.09E-01	2.09E-00
12000.	2.81E-01	2.81E-00	2.81E-01	2.81E-00	2.81E-01	2.81E-00	2.81E-01	2.81E-00	2.81E-01	2.81E-00
13000.	3.78E-01	3.78E-00	3.78E-01	3.78E-00	3.78E-01	3.78E-00	3.78E-01	3.78E-00	3.78E-01	3.78E-00
14000.	2.88E-01	2.88E-00	2.88E-01	2.88E-00	2.88E-01	2.88E-00	2.88E-01	2.88E-00	2.88E-01	2.88E-00
15000.	2.47E-01	2.47E-00	2.47E-01	2.47E-00	2.47E-01	2.47E-00	2.47E-01	2.47E-00	2.47E-01	2.47E-00
16000.	2.03E-01	2.03E-00	2.03E-01	2.03E-00	2.03E-01	2.03E-00	2.03E-01	2.03E-00	2.03E-01	2.03E-00
17000.	1.58E-01	1.58E-00	1.58E-01	1.58E-00	1.58E-01	1.58E-00	1.58E-01	1.58E-00	1.58E-01	1.58E-00
18000.	1.22E-01	1.22E-00	1.22E-01	1.22E-00	1.22E-01	1.22E-00	1.22E-01	1.22E-00	1.22E-01	1.22E-00

NO. 9

TEMP (DEG. K)	DENSITY (TIMES NORMAL)									
	1.0E-01	1.0E-00	1.0E-01	1.0E-02	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07	1.0E-08
1000.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2000.	1.41E-13	1.41E-14	1.41E-15	1.41E-16	1.41E-17	1.41E-18	1.41E-19	1.41E-20	1.41E-21	1.41E-22
3000.	5.48E-06	5.48E-07	5.48E-08	5.48E-09	5.48E-10	5.48E-11	5.48E-12	5.48E-13	5.48E-14	5.48E-15
4000.	2.50E-05	2.50E-06	2.50E-07	2.50E-08	2.50E-09	2.50E-10	2.50E-11	2.50E-12	2.50E-13	2.50E-14
5000.	8.16E-04	8.16E-05	8.16E-06	8.16E-07	8.16E-08	8.16E-09	8.16E-10	8.16E-11	8.16E-12	8.16E-13
6000.	7.33E-03	7.33E-04	7.33E-05	7.33E-06	7.33E-07	7.33E-08	7.33E-09	7.33E-10	7.33E-11	7.33E-12
7000.	3.13E-02	3.13E-03	3.13E-04	3.13E-05	3.13E-06	3.13E-07	3.13E-08	3.13E-09	3.13E-10	3.13E-11
8000.	8.15E-02	8.15E-03	8.15E-04	8.15E-05	8.15E-06	8.15E-07	8.15E-08	8.15E-09	8.15E-10	8.15E-11
9000.	1.49E-01	1.49E-02	1.49E-03	1.49E-04	1.49E-05	1.49E-06	1.49E-07	1.49E-08	1.49E-09	1.49E-10
10000.	2.06E-01	2.06E-02	2.06E-03	2.06E-04	2.06E-05	2.06E-06	2.06E-07	2.06E-08	2.06E-09	2.06E-10
11000.	2.25E-01	2.25E-02	2.25E-03	2.25E-04	2.25E-05	2.25E-06	2.25E-07	2.25E-08	2.25E-09	2.25E-10
12000.	2.01E-01	2.01E-02	2.01E-03	2.01E-04	2.01E-05	2.01E-06	2.01E-07	2.01E-08	2.01E-09	2.01E-10
13000.	1.56E-01	1.56E-02	1.56E-03	1.56E-04	1.56E-05	1.56E-06	1.56E-07	1.56E-08	1.56E-09	1.56E-10
14000.	1.10E-01	1.10E-02	1.10E-03	1.10E-04	1.10E-05	1.10E-06	1.10E-07	1.10E-08	1.10E-09	1.10E-10
15000.	7.35E-02	7.35E-03	7.35E-04	7.35E-05	7.35E-06	7.35E-07	7.35E-08	7.35E-09	7.35E-10	7.35E-11
16000.	4.81E-02	4.81E-03	4.81E-04	4.81E-05	4.81E-06	4.81E-07	4.81E-08	4.81E-09	4.81E-10	4.81E-11
17000.	3.13E-02	3.13E-03	3.13E-04	3.13E-05	3.13E-06	3.13E-07	3.13E-08	3.13E-09	3.13E-10	3.13E-11
18000.	2.04E-02	2.04E-03	2.04E-04	2.04E-05	2.04E-06	2.04E-07	2.04E-08	2.04E-09	2.04E-10	2.04E-11

NO. 10

TEMP (DEG. K)	DENSITY (TIMES NORMAL)									
	1.0E-01	1.0E-00	1.0E-01	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07	1.0E-08	1.0E-09
5000.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2000.	6.26E-21	6.26E-22	6.26E-23	6.26E-24	6.26E-25	6.26E-26	6.26E-27	6.26E-28	6.26E-29	6.26E-30
3000.	2.52E-12	2.52E-13	2.52E-14	2.52E-15	2.52E-16	2.52E-17	2.52E-18	2.52E-19	2.52E-20	2.52E-21
4000.	3.44E-08	3.44E-09	3.44E-10	3.44E-11	3.44E-12	3.44E-13	3.44E-14	3.44E-15	3.44E-16	3.44E-17
5000.	8.26E-04	8.26E-05	8.26E-06	8.26E-07	8.26E-08	8.26E-09	8.26E-10	8.26E-11	8.26E-12	8.26E-13
6000.	2.74E-04	2.74E-05	2.74E-06	2.74E-07	2.74E-08	2.74E-09	2.74E-10	2.74E-11	2.74E-12	2.74E-13
7000.	2.92E-03	2.92E-04	2.92E-05	2.92E-06	2.92E-07	2.92E-08	2.92E-09	2.92E-10	2.92E-11	2.92E-12
8000.	1.59E-02	1.59E-03	1.59E-04	1.59E-05	1.59E-06	1.59E-07	1.59E-08	1.59E-09	1.59E-10	1.59E-11
9000.	4.59E-02	4.59E-03	4.59E-04	4.59E-05	4.59E-06	4.59E-07	4.59E-08	4.59E-09	4.59E-10	4.59E-11
10000.	9.52E-02	9.52E-03	9.52E-04	9.52E-05	9.52E-06	9.52E-07	9.52E-08	9.52E-09	9.52E-10	9.52E-11
11000.	1.44E-01	1.44E-02	1.44E-03	1.44E-04	1.44E-05	1.44E-06	1.44E-07	1.44E-08	1.44E-09	1.44E-10
12000.	1.76E-01	1.76E-02	1.76E-03	1.76E-04	1.76E-05	1.76E-06	1.76E-07	1.76E-08	1.76E-09	1.76E-10
13000.	1.66E-01	1.66E-02	1.66E-03	1.66E-04	1.66E-05	1.66E-06	1.66E-07	1.66E-08	1.66E-09	1.66E-10
14000.	1.42E-01	1.42E-02	1.42E-03	1.42E-04	1.42E-05	1.42E-06	1.42E-07	1.42E-08	1.42E-09	1.42E-10
15000.	1.12E-01	1.12E-02	1.12E-03	1.12E-04	1.12E-05	1.12E-06	1.12E-07	1.12E-08	1.12E-09	1.12E-10
16000.	8.47E-02	8.47E-03	8.47E-04	8.47E-05	8.47E-06	8.47E-07	8.47E-08	8.47E-09	8.47E-10	8.47E-11
17000.	6.24E-02	6.24E-03	6.24E-04	6.24E-05	6.24E-06	6.24E-07	6.24E-08	6.24E-09	6.24E-10	6.24E-11
18000.	4.50E-02	4.50E-03	4.50E-04	4.50E-05	4.50E-06	4.50E-07	4.50E-08	4.50E-09	4.50E-10	4.50E-11



NO. 11

TEMP (DEG. K)	1.0E 01	1.0E 00	1.0E 01	1.0E 02	1.0E 03	1.0E 04	1.0E 05	1.0E 06	1.0E 07
1800.	2.17E-26	2.17E-27	2.17E-28	2.17E-29	2.17E-30	2.17E-31	2.17E-32	2.17E-33	2.17E-34
2000.	5.22E-11	5.22E-12	5.22E-13	5.22E-14	5.22E-15	5.22E-16	5.22E-17	5.22E-18	5.22E-19
3000.	3.05E-04	3.05E-07	3.05E-08	3.05E-09	3.05E-10	3.05E-11	3.05E-12	3.05E-13	3.05E-14
4000.	6.30E-04	3.74E-05	6E-06	5E-07	3.95E-09	1.27E-10	3.91E-12	1.13E-13	1.13E-14
5000.	5.21E-03	3.30E-04	1.0E-05	4.75E-07	1.47E-08	4.03E-10	8.34E-12	1.10E-13	1.10E-14
6000.	1.02E-02	8.49E-04	2.90E-05	6.86E-07	2.12E-08	3.28E-10	3.60E-12	3.60E-13	3.60E-14
7000.	3.29E-02	1.20E-03	3.88E-05	6.03E-07	1.27E-08	1.34E-10	1.32E-12	1.21E-14	1.21E-15
8000.	4.37E-02	1.46E-03	3.56E-05	5.41E-07	5.82E-09	5.85E-11	5.01E-13	3.40E-15	3.40E-16
9000.	4.65E-02	1.33E-03	2.40E-05	2.77E-07	2.71E-09	2.38E-11	1.58E-13	4.47E-16	4.47E-17
10000.	4.32E-02	1.00E-03	1.37E-05	1.39E-07	1.26E-09	8.89E-12	3.03E-14	1.97E-17	1.97E-18
11000.	3.62E-02	6.88E-04	7.43E-06	7.27E-08	5.66E-10	2.41E-12	3.00E-15	6.13E-19	6.13E-20
12000.	2.79E-02	4.18E-04	4.30E-06	3.73E-08	2.30E-10	5.31E-13	2.00E-16	2.52E-20	2.52E-21
13000.	2.01E-02	2.57E-04	2.40E-06	1.88E-08	7.99E-11	7.66E-14	1.41E-17	1.52E-21	1.52E-22
14000.	1.40E-02	1.59E-04	1.41E-06	9.85E-09	2.28E-11	9.58E-15	1.25E-18	1.29E-22	1.29E-23
15000.	9.58E-03	9.86E-05	8.12E-07	4.86E-09	5.49E-12	1.26E-15	1.42E-19	1.44E-23	1.44E-24
16000.	6.44E-03	6.31E-05	4.61E-07	1.67E-09	1.20E-12	1.40E-16	2.02E-20	2.07E-24	2.07E-25
17000.	4.38E-03	4.02E-05	2.58E-07	8.34E-10	2.60E-13	3.36E-17	3.49E-21	3.66E-25	3.66E-26
18000.	2.99E-03	2.57E-05	1.39E-07	2.24E-10	5.93E-14	8.88E-18	7.16E-22	7.23E-26	7.23E-27

NO. 12

TEMP (DEG. K)	DENSITY (TIMES NORMAL)									
	1.0E-01	1.0E-00	1.0E-01	1.0E-02	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07	1.0E-08
1000.	2.60E-25	2.60E-26	2.60E-27	2.60E-28	2.60E-29	2.60E-30	2.60E-31	2.60E-32	2.60E-33	2.60E-34
2000.	2.06E-10	2.06E-11	2.06E-12	2.06E-13	2.06E-14	2.06E-15	2.06E-16	2.06E-17	2.06E-18	2.06E-19
3000.	8.73E-06	8.65E-07	8.30E-08	7.35E-09	5.12E-10	3.32E-11	2.02E-12	1.12E-13	6.24E-14	3.24E-15
4000.	1.11E-03	9.70E-05	6.59E-06	2.80E-07	1.02E-08	3.20E-10	1.01E-11	2.93E-13	8.93E-15	2.43E-17
5000.	1.33E-02	8.38E-04	3.56E-05	1.21E-06	3.73E-08	1.02E-09	2.12E-11	2.79E-13	3.29E-15	3.29E-17
6000.	4.74E-02	2.21E-03	7.75E-05	2.31E-06	5.51E-08	8.55E-10	9.36E-12	9.36E-14	9.36E-16	9.36E-18
7000.	8.91E-02	3.47E-03	1.05E-04	2.30E-06	3.43E-08	3.63E-10	3.57E-12	3.20E-14	2.20E-16	1.20E-18
8000.	1.22E-01	4.14E-03	1.01E-04	1.93E-06	1.65E-08	1.00E-10	1.42E-12	1.64E-14	1.64E-16	1.64E-18
9000.	1.38E-01	3.97E-03	7.13E-05	8.22E-07	8.05E-09	7.09E-11	4.76E-13	1.33E-15	1.33E-17	1.33E-19
10000.	1.34E-01	3.12E-03	4.25E-05	4.37E-07	3.90E-09	2.78E-11	1.43E-13	6.12E-15	6.12E-17	6.12E-19
11000.	1.17E-01	2.17E-03	2.47E-05	2.34E-07	1.03E-09	8.48E-12	9.72E-15	1.99E-18	1.99E-20	1.99E-22
12000.	9.40E-02	1.41E-03	1.45E-05	1.26E-07	7.77E-10	1.79E-12	8.75E-16	5.51E-20	5.51E-22	5.51E-24
13000.	7.09E-02	8.99E-04	8.00E-06	6.59E-08	2.76E-10	2.68E-13	2.32E-17	9.32E-21	9.32E-23	9.32E-25
14000.	5.05E-02	5.75E-04	5.11E-06	3.27E-08	8.25E-11	3.46E-14	4.51E-18	4.65E-22	4.65E-24	4.65E-26
15000.	3.54E-02	3.71E-04	3.03E-06	1.51E-08	2.05E-11	4.69E-15	5.20E-19	5.38E-23	5.38E-25	5.38E-27
16000.	2.47E-02	2.42E-04	1.77E-06	8.41E-09	4.60E-12	7.28E-16	7.72E-20	7.93E-24	7.93E-26	7.93E-28
17000.	1.72E-02	1.58E-04	1.01E-06	2.49E-09	1.02E-12	1.32E-16	1.37E-20	1.44E-24	1.44E-26	1.44E-28
18000.	1.21E-02	1.04E-04	5.60E-07	9.04E-10	2.39E-13	2.77E-17	2.80E-21	2.91E-25	2.91E-27	2.91E-29

NO. 13

TEMP (DEG. K)	DENSITY (TIMES NORMAL)									
	1.0E-01	1.0E-00	1.0E-01	1.0E-01	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07	1.0E-08
1000.	1.04E-09	1.04E-06	1.04E-07	1.04E-08	1.04E-09	1.04E-10	1.04E-11	1.04E-12	1.04E-13	1.04E-14
2000.	1.19E-03	1.19E-04	1.19E-05	1.19E-06	1.19E-07	1.19E-08	1.19E-09	1.19E-10	1.19E-11	1.19E-12
3000.	2.09E-03	2.09E-04	2.09E-05	2.09E-06	2.09E-07	2.09E-08	2.09E-09	2.09E-10	2.09E-11	2.09E-12
4000.	2.50E-03	2.50E-04	2.50E-05	2.50E-06	2.50E-07	2.50E-08	2.50E-09	2.50E-10	2.50E-11	2.50E-12
5000.	2.20E-04	1.44E-05	6.12E-07	2.07E-08	6.41E-10	1.70E-11	3.04E-13	4.79E-15	6.79E-17	9.79E-19
6000.	1.92E-04	8.98E-06	3.14E-07	9.30E-09	2.24E-10	3.40E-12	3.80E-14	3.20E-16	2.20E-18	1.20E-20
7000.	1.30E-04	5.05E-06	1.55E-07	3.40E-09	5.05E-11	5.30E-13	5.20E-15	4.79E-17	3.40E-19	2.20E-21
8000.	8.30E-05	1.00E-06	6.83E-08	1.04E-09	1.12E-11	1.09E-13	9.61E-15	8.52E-17	7.52E-19	6.52E-21
9000.	5.14E-05	1.68E-06	2.63E-08	3.04E-10	3.00E-12	2.64E-14	1.73E-16	4.94E-18	4.94E-20	4.94E-22
10000.	2.08E-05	7.17E-07	9.74E-09	9.95E-11	4.90E-13	6.30E-15	2.11E-17	1.41E-19	1.41E-21	1.41E-23
11000.	1.82E-05	3.36E-07	3.83E-09	3.62E-11	2.64E-13	1.31E-15	1.50E-17	3.08E-19	3.08E-21	3.08E-23
12000.	1.05E-05	1.97E-07	1.61E-09	2.40E-11	6.64E-14	1.99E-16	7.91E-18	9.46E-20	9.46E-22	9.46E-24
13000.	5.90E-06	7.54E-08	7.21E-10	5.52E-12	2.34E-14	2.35E-17	4.13E-21	4.46E-25	4.46E-29	4.46E-33
14000.	3.32E-06	3.79E-08	3.36E-10	2.15E-12	5.44E-15	2.28E-18	2.90E-22	3.04E-26	3.04E-30	3.04E-34
15000.	1.89E-06	1.96E-08	1.61E-10	6.00E-13	1.09E-16	2.59E-19	2.82E-23	2.87E-27	2.87E-31	2.87E-35
16000.	1.09E-06	1.07E-08	7.80E-11	2.64E-13	2.64E-16	5.23E-20	3.42E-24	3.52E-28	3.52E-32	3.52E-36
17000.	5.47E-07	5.94E-09	3.79E-11	9.37E-14	3.84E-17	4.66E-21	5.14E-25	5.42E-29	5.42E-33	5.42E-37
18000.	3.92E-07	3.37E-09	1.82E-11	2.84E-14	7.76E-18	9.09E-22	9.36E-26	9.44E-30	9.44E-34	9.44E-38

TEMP (DEG. K)	DENSITY (TIMES NORMAL)									
	1.0E-01	1.0E-00	1.0E-01	1.0E-01	1.0E-02	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07
1000.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2000.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3000.	4.08E-17	1.14E-17	3.49E-18	1.16E-18	4.43E-19	2.10E-19	1.14E-19	1.14E-19	6.34E-20	
4000.	0.71E-12	2.74E-12	1.01E-12	4.01E-13	2.40E-13	1.43E-13	7.69E-14	3.76E-14		
5000.	1.34E-08	4.73E-09	2.24E-09	1.20E-09	6.19E-10	2.71E-10	6.60E-11	5.14E-12		
6000.	1.63E-06	6.00E-07	3.40E-07	1.90E-07	4.07E-08	5.07E-09	2.00E-10	6.69E-12		
7000.	9.03E-05	2.23E-05	9.57E-06	2.36E-06	1.01E-07	6.63E-09	2.10E-10	6.24E-12		
8000.	9.09E-04	2.39E-04	9.97E-05	4.00E-06	1.43E-07	5.73E-09	1.64E-10	3.77E-12		
9000.	5.41E-03	9.94E-04	1.13E-04	4.73E-06	1.51E-07	4.27E-09	9.40E-11	1.05E-12		
10000.	5.12E-02	1.94E-03	1.13E-04	3.82E-06	1.11E-08	2.58E-09	3.23E-11	1.17E-13		
11000.	2.31E-02	2.32E-03	9.53E-05	5.90E-06	7.36E-08	3.17E-09	6.29E-12	1.01E-14		
12000.	3.31E-02	2.16E-03	7.44E-05	2.07E-06	4.22E-08	3.00E-10	9.13E-13	1.80E-15		
13000.	3.71E-02	1.80E-03	5.60E-05	1.38E-06	2.03E-08	9.30E-11	1.39E-13	1.40E-16		
14000.	3.57E-02	1.43E-03	4.09E-05	8.54E-07	8.22E-09	2.11E-11	2.49E-14	2.54E-17		
15000.	3.14E-02	1.11E-03	2.92E-05	4.69E-07	2.91E-09	4.97E-12	5.34E-15	5.33E-18		
16000.	7.67E-02	8.43E-04	1.99E-05	2.54E-07	9.64E-10	1.20E-12	1.33E-15	1.27E-18		
17000.	2.13E-02	6.55E-04	1.33E-05	1.24E-07	3.21E-10	3.77E-13	3.76E-16	3.14E-19		
18000.	1.71E-02	6.74E-04	6.60E-06	5.93E-08	1.11E-10	1.21E-13	1.15E-16	7.0E-20		

c) Total and Cut-off Rosseland Mean Free Paths

The Rosseland mean free path is the reciprocal of the Rosseland mean absorption coefficient and is defined by (see also Section 3.2, Eq. 63)

$$\Lambda_R = \frac{1}{\bar{\mu}_R} = \frac{\int_0^\infty \frac{1}{\mu'(\nu)} \frac{dB_\nu}{dT} d\nu}{\int_0^\infty \frac{dB_\nu}{dT} d\nu}$$

with the notation and units the same as before. With the same substitutions the approximating sum for digital computer use becomes

$$\Lambda_R = \frac{15}{4\pi^4} \sum_j \frac{1}{\bar{\mu}_j(x_j)} x_j^4 \left( e^{x_j} - 1 \right)^{-1} \left( 1 - e^{-x_j} \right)^{-2}$$

Table C.2.c) gives values of the Rosseland mean free paths in centimeters for heated air. "Cut-off" means have been constructed in a fashion similar to those for the Planck means as described previously. A guide to this table is given below.

Integer Appearing in Table	Computational Meaning	
1	If $1/\mu_j(x_j) \geq 10^5$ cm,	do not include in sum for Rosseland mean free path
2	If $1/\mu_j(x_j) \geq 10^4$ cm,	do not include in sum for Rosseland mean free path
3	If $1/\mu_j(x_j) \geq 10^3$ cm,	do not include in sum for Rosseland mean free path
4	If $1/\mu_j(x_j) \geq 10^2$ cm,	do not include in sum for Rosseland mean free path
5	If $1/\mu_j(x_j) \geq 10^1$ cm,	do not include in sum for Rosseland mean free path
6	If $1/\mu_j(x_j) \geq 1$ cm,	do not include in sum for Rosseland mean free path

This table provides values which complement those of the Planckian table with regard to application on practical problems. Error estimates may be obtained in a fashion analogous to that given in the discussion of the Planck cut-off means.

TOTAL AND CUT-OFF POSSELYND MEAN FREE PATHS

TEMPERATURE C (DEG. K)	1.0E 01		1.0E 00		1.0E-01		10.0E-03		10.0E-04		10.0E-05		10.0E-06		10.0E-07	
	DENSITY (TIMES NORMAL)		DENSITY (TIMES NORMAL)		DENSITY (TIMES NORMAL)		DENSITY (TIMES NORMAL)		DENSITY (TIMES NORMAL)		DENSITY (TIMES NORMAL)		DENSITY (TIMES NORMAL)		DENSITY (TIMES NORMAL)	
1000.																
AVAIL	4.67E 09	4.87E 10	4.87E 11	4.87E 12	4.87E 13	4.87E 14	4.87E 15	4.87E 16	4.87E 17	4.87E 18	4.87E 19	4.87E 20	4.87E 21	4.87E 22	4.87E 23	4.87E 24
CONT.	1.57E 01	4.34E 02	1.33E 04	4.33E 05	1.37E 07	4.34E 08	1.37E 10	4.34E 11	1.37E 13	4.34E 14	1.37E 16	4.34E 17	1.37E 19	4.34E 20	1.37E 23	4.34E 24
1	5.35E-29	9.57E-31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	9.57E-32	2.47E-32	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	2.47E-33	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL	2.50E 12	2.66E 12	2.06E 13	2.06E 14	2.06E 15	2.06E 16	2.06E 17	2.06E 18	2.06E 19	2.06E 20	2.06E 21	2.06E 22	2.06E 23	2.06E 24	2.06E 25	2.06E 26
CONT.	1.17E 02	3.70E 03	1.17E 05	3.71E 06	1.18E 08	3.80E 09	1.27E 11	4.85E 12	1.27E 15	4.85E 16	1.27E 19	4.85E 20	1.27E 23	4.85E 24	1.27E 27	4.85E 28
1	4.61E-10	1.66E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1.66E-15	8.23E-15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	8.23E-16	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL	3.70E 05	3.69E 06	3.73E 07	3.87E 08	4.77E 09	5.44E 11	6.41E 12	7.49E 13	8.91E 15	1.06E 17	1.26E 19	1.50E 21	1.78E 23	2.11E 25	2.50E 27	2.95E 29
CONT.	1.44E 12	1.46E 13	1.52E 14	1.72E 15	2.47E 16	4.44E 17	8.11E 18	1.50E 19	2.78E 20	5.11E 21	9.44E 22	1.78E 23	3.33E 24	6.11E 25	1.11E 26	2.11E 27
1	1.58E-05	2.52E-09	1.71E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	2.47E-11	2.52E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	2.47E-11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL	5.61E 02	1.45E 04	4.41E 05	1.16E 07	2.75E 08	7.34E 09	2.12E 11	5.63E 12	1.62E 13	4.41E 14	1.16E 15	3.29E 16	9.11E 17	2.48E 18	6.73E 19	1.84E 20
CONT.	6.91E 06	7.93E 07	1.16E 09	2.62E 10	6.20E 11	1.40E 13	3.29E 15	7.49E 16	1.62E 18	3.69E 19	8.20E 20	1.84E 22	4.11E 23	9.11E 24	2.00E 25	4.41E 26
1	2.47E-03	1.20E-04	6.99E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	1.66E-08	3.21E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	4.65E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL	5.87E 01	2.17E 03	6.02E 04	1.56E 06	4.53E 07	9.79E 08	1.33E 10	3.56E 11	9.79E 12	2.66E 13	7.49E 14	2.00E 15	5.63E 16	1.56E 17	4.41E 18	1.20E 19
CONT.	7.61E 01	4.09E 03	5.00E 05	1.10E 08	3.20E 10	8.91E 11	2.48E 13	6.73E 14	1.84E 16	5.11E 17	1.40E 18	3.80E 19	1.00E 20	2.78E 21	7.49E 22	2.00E 23
1	1.43E-02	1.06E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	2.78E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	3.22E-07	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL AND CUT-OFF POSSESSAND MEAN FREE PATHS

TEMPERATURE C (DEG. K)	DENSITY (TIMES NORMAL)			10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07
	1.0E 01	1.0E 00	1.0E-01					
6000.	TOTAL	2.90F 01	6.41E 02	1.03E 05	1.03E 07	2.54E 08	1.07E 10	5.60F 11
	CONT.	7.31E 01	6.98E 03	4.03E 07	6.12E 08	0.77E 09	1.59E 11	2.39E 12
	1	3.00E-02	1.05E-04	1.66E-08	0	0	0	0
	2	7.69E-05	2.88E-09	2.78E-11	0	0	0	0
	3	4.28E-10	6.66E-14	0	0	0	0	0
	4	0	0	0	0	0	0	0
7000.	TOTAL	9.78E 00	2.32E 02	1.52E 05	4.39E 04	1.70E 06	4.94E 09	8.37E 10
	CONT.	6.03F 01	3.73E 03	1.79E 06	3.45E 07	6.27E 08	9.41E 09	5.19E 11
	1	7.18E-02	7.81E-05	4.88E-07	0	0	0	0
	2	3.99E-04	5.59E-08	4.98E-08	0	0	0	0
	3	7.23E-09	2.43E-10	0	0	0	0	0
	4	1.38E-14	0	0	0	0	0	0
8000.	TOTAL	4.01F 00	1.65E 02	7.69E 04	2.53E 06	5.63E 07	8.66E 08	1.23E 10
	CONT.	2.40F 01	5.61E 02	2.94E 05	5.33E 06	7.64E 07	1.01E 09	1.33E 10
	1	1.14E-01	4.44E-04	6.34E-05	0	0	0	0
	2	6.54E-05	4.13E-07	2.98E-07	0	0	0	0
	3	5.61E-08	5.54E-08	0	0	0	0	0
	4	1.93E-10	0	0	0	0	0	0
9000.	TOTAL	2.10F 00	3.41E 01	4.44E 04	9.07E 05	1.33E 07	1.93E 08	3.98E 09
	CONT.	6.43E 00	1.66E 02	7.42E 04	1.12E 06	1.45E 07	1.92E 08	4.01F 09
	1	2.05E-01	1.73E-03	1.90E-04	0	0	0	0
	2	2.29E-04	3.24E-05	1.45E-06	0	0	0	0
	3	2.43E-07	2.28E-07	0	0	0	0	0
	4	4.48E-08	0	0	0	0	0	0
10000.	TOTAL	1.26F 00	3.24E 01	1.91E 04	2.93E 05	4.06E 06	7.64E 07	3.13E 09
	CONT.	2.28F 00	6.94E 01	2.26E 04	3.09E 05	4.14E 06	7.67E 07	3.13E 09
	1	4.58E-01	2.04E-03	3.89E-04	0	0	0	0
	2	6.47E-04	5.13E-05	1.73E-05	0	0	0	0
	3	1.06E-05	7.18E-07	0	0	0	0	0
	4	1.30E-07	0	0	0	0	0	0





TOTAL AND CUT-OFF ROSSELAND MEAN FREE PAYMS

TEMPERATURE C (NEG. K)	DENSITY (TIMES NORMAL)							
	1.0E 01	1.0E 00	1.0E-01	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07
16000.								
TOTAL	1.23E-01	1.96E 00	2.81E 01	5.12E 02	2.02E 04	1.64E 06	1.50E 08	9.98E 09
CONT.	1.31E-01	1.98E 00	2.81E 01	5.12E 02	2.02E 04	1.64E 06	1.50E 08	9.98E 09
1	1.23E-01	1.96E 00	2.81E 01	5.12E 02	2.02E 04	1.64E 06	1.50E 08	9.98E 09
2	1.10E-02	3.21E-03	1.44E-03	5.00E-03	0.00E 00	0.00E 00	0.00E 00	0.00E 00
3	3.16E-04	1.35E-04	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00
4	1.34E-05	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00
5	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00
6	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00
17000.								
TOTAL	8.72E-02	1.32E 00	1.95E 01	4.24E 02	2.18E 04	1.92E 06	1.55E 08	6.88E 09
CONT.	9.04E-02	1.33E 00	1.95E 01	4.25E 02	2.18E 04	1.92E 06	1.55E 08	6.88E 09
1	8.72E-02	1.32E 00	1.95E 01	4.24E 02	2.18E 04	1.92E 06	1.55E 08	6.88E 09
2	2.98E-02	1.32E-03	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00
3	1.59E-04	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00
4	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00
5	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00
6	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00
18000.								
TOTAL	6.34E-02	9.31E-01	1.43E 01	3.87E 02	2.44E 04	2.14E 06	1.34E 08	4.32E 09
CONT.	6.46E-02	9.33E-01	1.43E 01	3.87E 02	2.44E 04	2.14E 06	1.34E 08	4.32E 09
1	6.34E-02	9.31E-01	1.43E 01	3.87E 02	2.44E 04	2.14E 06	1.34E 08	4.32E 09
2	6.34E-02	4.07E-03	3.89E-03	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00
3	4.09E-04	2.74E-04	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00
4	4.45E-05	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00
5	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00
6	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00	0.00E 00

d) Partial Planck Mean Absorption Coefficients for Heated Air

The quantities listed in Table C.2.d) are partial Planck mean absorption coefficients. Two coefficients are given for each photon energy with the first one listed containing contributions from both continuum and molecular band transitions and the second containing only continuum contributions. Atomic photoionization is included in the continuum.

The partial Planck mean absorption coefficient is defined by

$$\bar{\mu}_{pp}(\nu_c) = \frac{\int_0^{\nu_c} \mu'(\nu) B_\nu(T) d\nu}{\int_0^{\infty} B_\nu(T) d\nu} = \frac{\pi}{\sigma T^4} \int_0^{\nu_c} \mu'(\nu) B_\nu(T) d\nu$$

where  $\nu_c$  is the fixed upper frequency limit of the integral expressed in  $\text{cm}^{-1}$  and  $\mu'(\nu) = \mu(\nu) \left(1 - e^{-\frac{h\nu}{kT}}\right)$  includes the re-emission term.  $B_\nu(T)$  is the Planck function which is given by

$$B_\nu(T) = \frac{2hc^2\nu^3}{\left(e^{\frac{h\nu}{kT}} - 1\right)}$$

when  $\nu$  is expressed in  $\text{cm}^{-1}$ . Upon substitution for  $\mu'$  and  $B_\nu(T)$  in Eq. 1 and after the change of variable

$$x = \frac{h\nu}{kT} \quad ,$$

$$\bar{\mu}_{pp}(\nu_c) = \frac{15}{\pi^4} \int_0^{\frac{h\nu_c}{kT}} \mu(x) x^3 e^{-x} dx \quad .$$

The latter expression is adapted for digital computer programming through the approximation

$$\bar{\mu}_{pp}(\nu_c) = \frac{15}{\pi^4} \sum_j \mu_j(x_j) x_j^3 e^{-x_j} \Delta x_j$$

where  $j$  labels the finite spectral interval for which  $\mu_j$  is the average absorption coefficient.

Construction of the tables of the partial Planck mean was accomplished by a computer program which used as its input

- (1) the tables of average absorption coefficients of air for temperatures from  $1,000^\circ\text{K}$  -  $18,000^\circ\text{K}$ , densities from  $10^{-6}$  to 10 times normal atmospheric, and for 102 spectral intervals between 0.6 eV and 10.7 eV. (These are also listed herein, see Table C.1.)
- (2) values of the absorption coefficient for the vibration-rotation bands of NO for temperatures  $1,000^\circ\text{K}$  -  $4,000^\circ\text{K}$ , the same eight densities, and spectral intervals centered on 0.2, 0.3, 0.4, and 0.5 eV. These values were obtained from special runs of one of the SACHA programs.
- (3) values of the absorption coefficients of atomic oxygen and atomic nitrogen for temperatures  $6,000^\circ\text{K}$  -  $18,000^\circ\text{K}$ , densities to correspond to the desired ones for the air tables, and spectral intervals centered at every 0.25 eV from 11.0 eV through 46.5 eV. These absorption coefficients were obtained through use of the P.I.C. computer programs.

To keep the listing of these tables as brief as possible without detracting from their utility, the tabulation of energy (frequency) points has been truncated whenever the partial Planck mean has become nearly constant.

An important feature of these tables is that the spectral contribution to the Planck mean absorption coefficient may be obtained at any listed point by simple subtraction. In addition they may be used together with the tables of spectral absorption coefficients of the individual constituents of air to determine the important emitters for various temperature-density cases.

Tables corresponding to temperatures of  $13,000^{\circ}\text{K}$  and  $15,000^{\circ}\text{K}$  are presented although they were not carried out to completion. Since the results given in these tables may be of value to some users they have been retained even though coefficients are not available at present for photon energies greater than 10.7 eV for these two temperatures.

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PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 1000° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density × Normal									
		1.0E 01	1.0E 00	1.0E-01	1.0E-02	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07	1.0E-08
1613.20	0.20	1.01E-05	1.01E-06	1.01E-07	1.01E-08	1.01E-09	1.01E-10	1.01E-11	1.01E-12	0.	0.
2419.80	0.50	1.01E-05	1.01E-06	1.01E-07	1.01E-08	1.01E-09	1.01E-10	1.01E-11	1.01E-12	0.	0.
3226.40	0.40	1.02E-05	1.02E-06	1.02E-07	1.02E-08	1.02E-09	1.02E-10	1.02E-11	1.02E-12	0.	0.
4033.00	0.50	1.04E-05	1.04E-06	1.04E-07	1.04E-08	1.04E-09	1.04E-10	1.04E-11	1.04E-12	0.	0.
4839.60	0.60	1.04E-05	1.04E-06	1.04E-07	1.04E-08	1.04E-09	1.04E-10	1.04E-11	1.04E-12	0.	0.
5646.20	0.70	1.04E-05	1.04E-06	1.04E-07	1.04E-08	1.04E-09	1.04E-10	1.04E-11	1.04E-12	0.	0.
6452.80	0.80	1.04E-05	1.04E-06	1.04E-07	1.04E-08	1.04E-09	1.04E-10	1.04E-11	1.04E-12	0.	0.
7259.40	1.00	1.04E-05	1.04E-06	1.04E-07	1.04E-08	1.04E-09	1.04E-10	1.04E-11	1.04E-12	0.	0.
8066.00	1.00	1.04E-05	1.04E-06	1.04E-07	1.04E-08	1.04E-09	1.04E-10	1.04E-11	1.04E-12	0.	0.
8872.60	1.10	1.04E-05	1.04E-06	1.04E-07	1.04E-08	1.04E-09	1.04E-10	1.04E-11	1.04E-12	0.	0.
9679.20	1.20	1.04E-05	1.04E-06	1.04E-07	1.04E-08	1.04E-09	1.04E-10	1.04E-11	1.04E-12	0.	0.
10485.80	1.30	1.04E-05	1.04E-06	1.04E-07	1.04E-08	1.04E-09	1.04E-10	1.04E-11	1.04E-12	0.	0.
11292.40	1.40	1.04E-05	1.04E-06	1.04E-07	1.04E-08	1.04E-09	1.04E-10	1.04E-11	1.04E-12	0.	0.
12099.00	1.50	1.04E-05	1.04E-06	1.04E-07	1.04E-08	1.04E-09	1.04E-10	1.04E-11	1.04E-12	0.	0.
12905.60	1.60	1.04E-05	1.04E-06	1.04E-07	1.04E-08	1.04E-09	1.04E-10	1.04E-11	1.04E-12	0.	0.
13712.20	1.70	1.04E-05	1.04E-06	1.04E-07	1.04E-08	1.04E-09	1.04E-10	1.04E-11	1.04E-12	0.	0.
14518.80	1.80	1.04E-05	1.04E-06	1.04E-07	1.04E-08	1.04E-09	1.04E-10	1.04E-11	1.04E-12	0.	0.
15325.40	1.90	1.04E-05	1.04E-06	1.04E-07	1.04E-08	1.04E-09	1.04E-10	1.04E-11	1.04E-12	0.	0.
16132.00	2.00	1.04E-05	1.04E-06	1.04E-07	1.04E-08	1.04E-09	1.04E-10	1.04E-11	1.04E-12	0.	0.
16938.60	2.10	1.04E-05	1.04E-06	1.04E-07	1.04E-08	1.04E-09	1.04E-10	1.04E-11	1.04E-12	0.	0.
17745.20	2.20	1.04E-05	1.04E-06	1.04E-07	1.04E-08	1.04E-09	1.04E-10	1.04E-11	1.04E-12	0.	0.
18551.80	2.30	1.04E-05	1.04E-06	1.04E-07	1.04E-08	1.04E-09	1.04E-10	1.04E-11	1.04E-12	0.	0.
19358.40	2.40	1.04E-05	1.04E-06	1.04E-07	1.04E-08	1.04E-09	1.04E-10	1.04E-11	1.04E-12	0.	0.

20169.00	2.20	1.84E-05	1.84E-05	1.84E-07	1.84E-08	1.84E-09	1.84E-10	1.84E-11	1.84E-12
		9.42E-10	9.42E-11	9.42E-13	2.98E-14	9.42E-16	2.98E-17	9.42E-19	2.98E-20
20371.60	2.50	1.84E-05	1.84E-06	1.84E-07	1.84E-08	1.84E-09	1.84E-10	1.84E-11	1.84E-12
		9.42E-10	2.98E-11	9.42E-13	2.98E-14	9.42E-16	2.98E-17	9.42E-19	2.98E-20
21775.20	2.70	1.84E-05	1.84E-06	1.84E-07	1.84E-08	1.84E-09	1.84E-10	1.84E-11	1.84E-12
		9.42E-10	2.98E-11	9.42E-13	2.98E-14	9.42E-16	2.98E-17	9.42E-19	2.98E-20

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR 2000°K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density x Normal									
		1.0E-01	1.0E-02	1.0E-03	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07	10.0E-08	10.0E-09
1613.20	0.20	1.05E-03	1.05E-04	1.05E-05	1.05E-06	1.05E-07	1.04E-08	1.02E-09	1.01E-10	1.01E-11	9.10E-12
2415.80	0.30	1.05E-03	1.05E-04	1.05E-05	1.05E-06	1.05E-07	1.04E-08	1.02E-09	1.01E-10	1.01E-11	9.20E-11
3226.40	0.40	1.10E-03	1.10E-04	1.10E-05	1.10E-06	1.09E-07	1.08E-08	1.05E-09	1.05E-10	1.05E-11	9.61E-11
4033.00	0.50	1.15E-03	1.15E-04	1.15E-05	1.15E-06	1.14E-07	1.13E-08	1.10E-09	1.10E-10	1.10E-11	1.01E-10
4839.60	0.60	1.15E-03	1.15E-04	1.15E-05	1.15E-06	1.15E-07	1.14E-08	1.10E-09	1.10E-10	1.10E-11	1.01E-10
5646.20	0.70	1.15E-03	1.15E-04	1.15E-05	1.15E-06	1.15E-07	1.14E-08	1.10E-09	1.10E-10	1.10E-11	1.01E-10
6452.50	0.80	1.15E-03	1.15E-04	1.15E-05	1.15E-06	1.15E-07	1.14E-08	1.10E-09	1.10E-10	1.10E-11	1.01E-10
7259.40	0.90	1.15E-03	1.15E-04	1.15E-05	1.15E-06	1.15E-07	1.14E-08	1.10E-09	1.10E-10	1.10E-11	1.01E-10
8066.00	1.00	1.15E-03	1.15E-04	1.15E-05	1.15E-06	1.15E-07	1.14E-08	1.10E-09	1.10E-10	1.10E-11	1.01E-10
8872.60	1.10	1.15E-03	1.15E-04	1.15E-05	1.15E-06	1.15E-07	1.14E-08	1.10E-09	1.10E-10	1.10E-11	1.01E-10
9679.20	1.20	1.15E-03	1.15E-04	1.15E-05	1.15E-06	1.15E-07	1.14E-08	1.10E-09	1.10E-10	1.10E-11	1.01E-10
10485.80	1.30	1.15E-03	1.15E-04	1.15E-05	1.15E-06	1.15E-07	1.14E-08	1.10E-09	1.10E-10	1.10E-11	1.01E-10
11292.40	1.40	1.15E-03	1.15E-04	1.15E-05	1.15E-06	1.15E-07	1.14E-08	1.10E-09	1.10E-10	1.10E-11	1.01E-10
12094.00	1.50	1.16E-03	1.16E-04	1.16E-05	1.16E-06	1.16E-07	1.14E-08	1.10E-09	1.10E-10	1.10E-11	1.01E-10
12905.60	1.60	1.16E-03	1.16E-04	1.16E-05	1.16E-06	1.16E-07	1.14E-08	1.10E-09	1.10E-10	1.10E-11	1.01E-10
13712.20	1.70	1.17E-03	1.16E-04	1.16E-05	1.16E-06	1.16E-07	1.14E-08	1.10E-09	1.10E-10	1.10E-11	1.01E-10
14518.80	1.80	1.17E-03	1.16E-04	1.16E-05	1.16E-06	1.16E-07	1.14E-08	1.10E-09	1.10E-10	1.10E-11	1.01E-10
		1.17E-03	1.16E-04	1.16E-05	1.16E-06	1.16E-07	1.14E-08	1.10E-09	1.10E-10	1.10E-11	1.01E-10
		1.17E-03	1.16E-04	1.16E-05	1.16E-06	1.16E-07	1.14E-08	1.10E-09	1.10E-10	1.10E-11	1.01E-10



PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 2000° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density × Normal	1.0E-01	1.0E-02	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07
15225.40	1.90	1.18E-03	1.16E-04	1.19E-05	1.19E-06	1.19E-07	1.14E-04	1.11E-09	1.01E-10
2.25E+05	7.10E-07	2.24E-08	2.24E-10	2.23E-11	2.23E-11	6.92E-11	6.92E-11	2.07E-14	5.45E-16
16132.00	2.90	1.18E-03	1.18E-07	1.18E-05	1.19E-06	1.19E-07	1.14E-04	1.11E-09	1.01E-10
16938.60	2.10	2.68E-05	8.48E-07	2.68E-08	8.46E-10	2.68E-11	8.27E-13	2.47E-14	5.91E-16
17745.20	2.20	1.19E-03	1.16E-04	1.19E-05	1.16E-06	1.15E-07	1.14E-08	1.11E-09	1.01E-10
18551.80	2.30	3.06E-05	9.66E-07	3.05E-08	9.64E-10	3.05E-11	9.42E-13	2.81E-14	7.41E-16
19358.40	2.40	1.19E-03	1.17E-04	1.19E-05	1.16E-06	1.15E-07	1.14E-08	1.11E-09	1.01E-10
20165.00	2.50	1.19E-03	1.17E-04	1.19E-05	1.16E-06	1.15E-07	1.14E-08	1.11E-09	1.01E-10
20971.60	2.60	3.83E-05	1.21E-04	3.82E-08	1.21E-09	3.79E-11	1.19E-12	3.52E-14	9.27E-16
21778.20	2.70	1.19E-03	1.17E-04	1.19E-05	1.16E-06	1.15E-07	1.14E-08	1.11E-09	1.01E-10
22584.80	2.80	3.95E-05	1.23E-04	3.94E-08	1.23E-09	3.91E-11	1.22E-12	3.63E-14	9.57E-16
23391.40	2.90	1.19E-03	1.17E-04	1.19E-05	1.16E-06	1.15E-07	1.14E-08	1.11E-09	1.01E-10
24195.00	3.00	4.00E-05	1.26E-04	4.00E-08	1.26E-09	3.97E-11	1.23E-12	3.68E-14	9.71E-16
25004.60	3.10	1.20E-03	1.17E-04	1.19E-05	1.16E-06	1.15E-07	1.14E-08	1.11E-09	1.01E-10
25811.20	3.20	4.03E-05	1.27E-04	4.02E-08	1.27E-09	3.99E-11	1.24E-12	3.70E-14	9.76E-16
26617.80	3.30	1.20E-03	1.17E-04	1.19E-05	1.16E-06	1.15E-07	1.14E-08	1.11E-09	1.01E-10
27424.40	3.40	4.03E-05	1.27E-04	4.03E-08	1.27E-09	4.00E-11	1.24E-12	3.71E-14	9.78E-16
28231.00	3.50	1.20E-03	1.17E-04	1.19E-05	1.16E-06	1.15E-07	1.14E-08	1.11E-09	1.01E-10
29037.60	3.60	4.04E-05	1.28E-04	4.03E-08	1.27E-09	4.00E-11	1.24E-12	3.71E-14	9.79E-16

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 3000° K

Wave Number (cm <sup>-1</sup> )	Photoz Energy (eV)	Density x K/mmol													
		1.0E 01	1.0E 00	1.0E-01	1.0E-02	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07	1.0E-08				
1613.80	0.770	2.19E-03	2.16E-04	2.08E-05	1.87E-06	1.28E-07	3.80E-09	1.98E-10	6.36E-12	0.	0.	0.	0.	0.	0.
2419.80	0.510	2.29E-03	2.16E-04	2.09E-05	1.89E-06	1.37E-07	3.04E-09	2.08E-10	6.48E-12	0.	0.	0.	0.	0.	0.
3226.40	0.380	2.48E-03	2.43E-04	2.34E-05	2.08E-06	1.44E-07	9.91E-09	2.28E-10	7.75E-12	0.	0.	0.	0.	0.	0.
4033.00	0.300	2.62E-03	2.59E-04	2.49E-05	2.20E-06	1.53E-07	6.95E-09	2.38E-10	7.62E-12	0.	0.	0.	0.	0.	0.
4839.60	0.250	2.69E-03	2.61E-04	2.51E-05	2.22E-06	1.55E-07	7.01E-09	2.48E-10	7.69E-12	0.	0.	0.	0.	0.	0.
5646.20	0.210	2.67E-03	2.64E-04	2.54E-05	2.24E-06	1.54E-07	7.09E-09	2.42E-10	7.77E-12	0.	0.	0.	0.	0.	0.
6452.80	0.180	2.68E-03	2.65E-04	2.55E-05	2.25E-06	1.52E-07	7.10E-09	2.43E-10	7.79E-12	0.	0.	0.	0.	0.	0.
7259.40	0.160	2.68E-03	2.65E-04	2.55E-05	2.25E-06	1.51E-07	7.12E-09	2.44E-10	7.81E-12	0.	0.	0.	0.	0.	0.
8066.00	0.140	2.68E-03	2.65E-04	2.55E-05	2.24E-06	1.57E-07	7.12E-09	2.44E-10	7.81E-12	0.	0.	0.	0.	0.	0.
8872.60	0.130	2.68E-03	2.65E-04	2.55E-05	2.25E-06	1.52E-07	7.10E-09	2.43E-10	7.81E-12	0.	0.	0.	0.	0.	0.
9678.20	0.120	2.69E-03	2.65E-04	2.55E-05	2.24E-06	1.57E-07	7.12E-09	2.44E-10	7.81E-12	0.	0.	0.	0.	0.	0.
10485.80	0.110	2.70E-03	2.66E-04	2.56E-05	2.25E-06	1.57E-07	7.12E-09	2.44E-10	7.81E-12	0.	0.	0.	0.	0.	0.
11292.40	0.100	2.73E-03	2.67E-04	2.56E-05	2.25E-06	1.57E-07	7.12E-09	2.44E-10	7.81E-12	0.	0.	0.	0.	0.	0.
12099.00	0.090	2.75E-03	2.68E-04	2.56E-05	2.25E-06	1.57E-07	7.12E-09	2.44E-10	7.81E-12	0.	0.	0.	0.	0.	0.
12905.60	0.080	2.78E-03	2.67E-04	2.56E-05	2.25E-06	1.57E-07	7.12E-09	2.44E-10	7.81E-12	0.	0.	0.	0.	0.	0.
13712.20	0.070	2.79E-03	2.67E-04	2.56E-05	2.25E-06	1.57E-07	7.12E-09	2.44E-10	7.81E-12	0.	0.	0.	0.	0.	0.
14518.80	0.060	2.80E-03	2.67E-04	2.56E-05	2.25E-06	1.57E-07	7.12E-09	2.44E-10	7.81E-12	0.	0.	0.	0.	0.	0.
15325.40	0.050	2.80E-03	2.67E-04	2.56E-05	2.25E-06	1.57E-07	7.12E-09	2.44E-10	7.81E-12	0.	0.	0.	0.	0.	0.
16132.00	0.040	2.82E-03	2.68E-04	2.57E-05	2.25E-06	1.57E-07	7.12E-09	2.44E-10	7.81E-12	0.	0.	0.	0.	0.	0.
16938.60	0.030	2.82E-03	2.68E-04	2.57E-05	2.25E-06	1.57E-07	7.12E-09	2.44E-10	7.81E-12	0.	0.	0.	0.	0.	0.
17745.20	0.020	2.82E-03	2.68E-04	2.57E-05	2.25E-06	1.57E-07	7.12E-09	2.44E-10	7.81E-12	0.	0.	0.	0.	0.	0.
18551.80	0.010	2.82E-03	2.68E-04	2.57E-05	2.25E-06	1.57E-07	7.12E-09	2.44E-10	7.81E-12	0.	0.	0.	0.	0.	0.

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 3000° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	1.0E 01	1.0E 00	1.0E-01	Density × Normal	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07
18358.40	2.40	3.58E-03	2.93E-04	2.63E-05	2.28E-06	1.58E-07	7.12E-09	2.44E-10	7.82E-12	7.82E-12
20165.00	2.50	9.00E-04	2.78E-05	8.12E-07	2.01E-08	3.14E-10	2.12E-12	1.20E-14	1.09E-16	1.09E-16
20971.50	2.60	9.47E-04	2.95E-04	2.44E-05	2.28E-06	1.58E-07	7.12E-09	2.44E-10	7.82E-12	7.82E-12
21778.20	2.70	3.67E-03	2.96E-04	2.64E-05	2.28E-06	1.58E-07	7.12E-09	2.44E-10	7.82E-12	7.82E-12
22584.80	2.80	3.70E-03	3.04E-04	2.64E-05	2.28E-06	1.58E-07	7.12E-09	2.44E-10	7.82E-12	7.82E-12
23391.40	2.90	1.01E-03	2.97E-04	2.64E-05	2.28E-06	1.58E-07	7.12E-09	2.44E-10	7.82E-12	7.82E-12
24198.00	3.00	1.04E-03	3.05E-04	2.65E-05	2.28E-06	1.58E-07	7.12E-09	2.44E-10	7.82E-12	7.82E-12
25004.60	3.10	3.77E-03	3.10E-04	2.65E-05	2.28E-06	1.58E-07	7.12E-09	2.44E-10	7.82E-12	7.82E-12
25811.20	3.20	1.05E-03	3.13E-04	2.65E-05	2.28E-06	1.58E-07	7.12E-09	2.44E-10	7.82E-12	7.82E-12
26617.80	3.30	1.09E-03	3.19E-04	2.66E-05	2.28E-06	1.58E-07	7.12E-09	2.44E-10	7.82E-12	7.82E-12
27424.40	3.40	3.79E-03	3.27E-04	2.66E-05	2.28E-06	1.58E-07	7.12E-09	2.44E-10	7.82E-12	7.82E-12
28231.00	3.50	1.10E-03	3.35E-04	2.66E-05	2.28E-06	1.58E-07	7.12E-09	2.44E-10	7.82E-12	7.82E-12
29037.60	3.60	1.10E-03	3.39E-04	2.66E-05	2.28E-06	1.58E-07	7.12E-09	2.44E-10	7.82E-12	7.82E-12
29844.20	3.70	3.80E-03	3.40E-04	2.66E-05	2.28E-06	1.58E-07	7.12E-09	2.44E-10	7.82E-12	7.82E-12
30650.80	3.80	3.81E-03	3.41E-04	2.67E-05	2.29E-06	1.58E-07	7.13E-09	2.44E-10	7.82E-12	7.82E-12
31457.40	3.90	1.11E-03	3.41E-04	2.67E-05	2.29E-06	1.58E-07	7.13E-09	2.44E-10	7.82E-12	7.82E-12
32264.00	4.00	3.81E-03	3.42E-04	2.67E-05	2.29E-06	1.58E-07	7.13E-09	2.44E-10	7.82E-12	7.82E-12
33070.60	4.10	1.11E-03	3.42E-04	2.67E-05	2.29E-06	1.58E-07	7.13E-09	2.44E-10	7.82E-12	7.82E-12
33877.20	4.20	3.82E-03	3.42E-04	2.68E-05	2.30E-06	1.59E-07	7.14E-09	2.44E-10	7.82E-12	7.82E-12
34683.80	4.30	3.82E-03	3.42E-04	2.68E-05	2.30E-06	1.59E-07	7.14E-09	2.44E-10	7.82E-12	7.82E-12
35490.40	4.40	1.11E-03	3.42E-04	2.68E-05	2.30E-06	1.59E-07	7.14E-09	2.44E-10	7.82E-12	7.82E-12
36297.00	4.50	3.83E-03	3.43E-04	2.68E-05	2.31E-06	1.59E-07	7.15E-09	2.44E-10	7.82E-12	7.82E-12



PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR, 3000°K.

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density × Normal										10.0E-04	10.0E-05	10.0E-06	10.0E-07
		1.0E-01	1.0E-02	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07	1.0E-08	1.0E-09	1.0E-10				
56462.00	7.00	3.54E-03	3.04E-04	2.71E-05	2.33E-06	1.90E-07	1.50E-08	1.10E-09	7.39E-09	2.45E-10	7.56E-12				
57268.60	7.10	3.11E-03	2.72E-04	2.40E-05	2.04E-06	1.66E-07	1.30E-08	9.80E-09	2.70E-09	2.45E-10	1.25E-12				
58075.20	7.20	2.73E-03	2.37E-04	2.07E-05	1.73E-06	1.40E-07	1.10E-08	8.10E-09	2.45E-09	2.45E-10	7.86E-12				
58881.80	7.30	2.40E-03	2.06E-04	1.71E-05	1.40E-06	1.10E-07	8.60E-08	6.70E-09	2.10E-09	2.45E-10	1.38E-12				
59688.40	7.40	2.11E-03	1.78E-04	1.46E-05	1.16E-06	9.20E-08	7.20E-09	5.60E-09	1.60E-09	2.45E-10	1.66E-12				
60495.00	7.50	1.86E-03	1.56E-04	1.24E-05	1.00E-06	8.00E-08	6.50E-09	5.20E-09	1.40E-09	2.45E-10	1.57E-12				
61301.60	7.60	1.64E-03	1.36E-04	1.04E-05	8.60E-07	7.30E-08	6.00E-09	5.00E-09	1.30E-09	2.45E-10	1.49E-12				
62108.20	7.70	1.44E-03	1.18E-04	9.10E-06	7.50E-07	6.60E-08	5.60E-09	4.60E-09	1.20E-09	2.45E-10	1.40E-12				
62914.80	7.80	1.26E-03	1.03E-04	8.00E-06	6.60E-07	5.80E-08	5.00E-09	4.20E-09	1.10E-09	2.45E-10	1.31E-12				
63721.40	7.90	1.10E-03	8.90E-05	7.40E-06	6.00E-07	5.30E-08	4.60E-09	3.90E-09	1.00E-09	2.45E-10	1.22E-12				
64528.00	8.00	9.80E-04	7.90E-05	7.30E-06	6.30E-07	5.50E-08	4.90E-09	4.10E-09	9.00E-10	2.45E-10	1.13E-12				
65334.60	8.10	8.80E-04	7.00E-05	6.60E-06	5.80E-07	5.20E-08	4.60E-09	3.90E-09	8.00E-10	2.45E-10	1.04E-12				
66141.20	8.20	8.00E-04	6.20E-05	6.00E-06	5.30E-07	4.80E-08	4.30E-09	3.60E-09	7.00E-10	2.45E-10	9.50E-13				
66947.80	8.30	7.30E-04	5.50E-05	5.40E-06	4.80E-07	4.40E-08	4.00E-09	3.30E-09	6.00E-10	2.45E-10	8.60E-13				
67754.40	8.40	6.70E-04	4.90E-05	4.90E-06	4.40E-07	4.00E-08	3.60E-09	3.00E-09	5.00E-10	2.45E-10	7.80E-13				
68561.00	8.50	6.20E-04	4.40E-05	4.40E-06	4.00E-07	3.60E-08	3.20E-09	2.70E-09	4.00E-10	2.45E-10	7.00E-13				
69367.60	8.60	5.70E-04	4.00E-05	4.00E-06	3.60E-07	3.20E-08	2.80E-09	2.40E-09	3.00E-10	2.45E-10	6.20E-13				
70174.20	8.70	5.30E-04	3.60E-05	3.60E-06	3.20E-07	2.80E-08	2.40E-09	2.00E-09	2.00E-10	2.45E-10	5.50E-13				
70980.80	8.80	4.90E-04	3.30E-05	3.30E-06	2.80E-07	2.40E-08	2.00E-09	1.70E-09	1.50E-10	2.45E-10	4.90E-13				
71787.40	8.90	4.50E-04	3.00E-05	3.00E-06	2.60E-07	2.20E-08	1.80E-09	1.50E-09	1.30E-10	2.45E-10	4.40E-13				
72594.00	9.00	4.20E-04	2.70E-05	2.70E-06	2.30E-07	1.90E-08	1.60E-09	1.30E-09	1.10E-10	2.45E-10	3.90E-13				

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR, 4000° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density x Normal								
		1.0E-01	1.0E-00	1.0E-01	1.0E-02	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07
1613.20	0.77	2.09E-03	1.83E-04	1.24E-05	9.57E-07	1.92E-08	6.15E-10	1.96E-11	10.0E-06	10.0E-07
	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2419.80	0.50	2.12E-03	1.85E-04	1.25E-05	9.65E-07	1.95E-08	6.74E-10	1.97E-11	10.0E-06	10.0E-07
	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3226.40	0.40	2.95E-03	2.23E-04	1.52E-05	6.00E-07	2.35E-08	7.91E-10	2.32E-11	6.73E-13	6.73E-13
	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4033.00	0.30	2.78E-03	2.39E-04	1.65E-05	7.27E-07	2.51E-08	8.03E-10	2.40E-11	7.20E-13	7.20E-13
	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4839.60	0.25	2.61E-03	2.45E-04	1.67E-05	7.48E-07	2.56E-08	8.26E-10	2.54E-11	7.41E-13	7.41E-13
	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5646.20	0.20	2.85E-03	2.49E-04	1.68E-05	7.60E-07	2.62E-08	8.48E-10	2.61E-11	7.62E-13	7.62E-13
	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6452.80	0.18	2.89E-03	2.52E-04	1.72E-05	7.70E-07	2.66E-08	8.58E-10	2.69E-11	8.08E-13	8.08E-13
	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7259.40	0.16	2.70E-03	2.37E-04	1.61E-05	7.19E-07	2.48E-08	7.95E-10	2.48E-11	7.23E-13	7.23E-13
	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8066.00	0.15	2.94E-03	2.59E-04	1.73E-05	7.77E-07	2.71E-08	8.91E-10	3.00E-11	1.37E-12	1.37E-12
	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8872.60	0.14	3.38E-03	3.14E-04	1.95E-05	7.51E-07	3.11E-08	1.05E-10	3.52E-11	1.59E-12	1.59E-12
	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
9679.20	0.13	2.99E-03	2.56E-04	1.72E-05	7.76E-07	2.72E-08	9.08E-10	3.16E-11	1.20E-12	1.20E-12
	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
10485.80	0.12	7.93E-03	1.91E-04	2.71E-06	2.71E-07	6.89E-08	3.20E-10	4.14E-11	1.04E-13	1.04E-13
	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11292.40	0.11	3.07E-03	2.58E-04	1.74E-05	7.63E-07	2.75E-08	9.45E-10	3.51E-11	1.49E-12	1.49E-12
	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12099.00	0.10	3.18E-03	2.61E-04	1.74E-05	7.65E-07	2.78E-08	9.66E-10	3.70E-11	1.65E-12	1.65E-12
	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12905.60	0.09	2.63E-04	6.32E-06	9.15E-08	5.77E-10	2.21E-12	9.29E-15	6.00E-17	1.14E-18	1.14E-18
	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13712.20	0.08	3.34E-03	2.65E-04	1.75E-05	7.90E-07	2.82E-08	1.01E-10	4.69E-11	1.79E-12	1.79E-12
	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14518.80	0.07	4.17E-04	1.00E-05	1.45E-07	9.15E-10	3.47E-12	1.25E-14	7.39E-17	1.25E-18	1.25E-18
	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
15325.40	0.06	3.53E-03	2.70E-04	1.77E-05	7.93E-07	2.85E-08	1.03E-10	4.30E-11	2.16E-12	2.16E-12
	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16132.00	0.05	6.12E-04	1.55E-05	2.35E-07	2.03E-09	1.93E-11	2.76E-13	4.70E-15	8.05E-17	8.05E-17
	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16938.60	0.04	3.77E-03	2.77E-04	1.78E-05	7.97E-07	2.87E-08	1.05E-10	4.49E-11	2.32E-12	2.32E-12
	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
17745.20	0.03	8.48E-04	2.13E-05	3.62E-07	3.94E-09	4.37E-11	9.05E-13	1.39E-14	2.39E-16	2.39E-16
	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	0.	4.04E-03	2.84E-04	1.80E-05	8.01E-07	2.90E-08	1.07E-10	4.69E-11	2.44E-12	2.44E-12
	0.	1.11E-03	2.64E-05	5.01E-07	6.00E-09	6.21E-11	1.37E-12	2.37E-14	4.07E-16	4.07E-16
	0.	4.33E-03	2.92E-04	1.81E-05	8.05E-07	2.92E-08	1.09E-10	4.90E-11	2.65E-12	2.65E-12
	0.	1.40E-03	3.60E-05	6.45E-07	8.02E-09	1.13E-10	1.85E-12	3.30E-14	5.65E-16	5.65E-16
	0.	4.64E-03	3.00E-04	1.83E-05	8.09E-07	2.94E-08	1.11E-10	5.05E-11	2.78E-12	2.78E-12
	0.	1.71E-03	4.39E-05	7.93E-07	9.98E-09	1.42E-10	2.38E-12	4.14E-14	7.15E-16	7.15E-16
	0.	2.01E-03	5.16E-05	9.34E-07	1.19E-08	1.68E-10	2.82E-12	4.92E-14	8.42E-16	8.42E-16
	0.	5.23E-03	3.13E-04	1.86E-05	8.13E-07	2.95E-08	1.12E-10	5.09E-11	2.81E-12	2.81E-12
	0.	2.37E-03	5.00E-05	1.07E-06	1.35E-08	1.92E-10	3.24E-12	5.61E-14	9.60E-16	9.60E-16
	0.	5.50E-03	3.22E-04	1.87E-05	8.14E-07	2.95E-08	1.12E-10	5.09E-11	2.82E-12	2.82E-12
	0.	2.57E-03	6.59E-05	1.19E-06	1.50E-08	2.12E-10	3.50E-12	6.20E-14	1.06E-15	1.06E-15

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 4000° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density x Normal									
		1.0E-01	1.0E-00	1.0E-01	10.0E-02	10.0E-04	10.0E-05	10.0E-06	10.0E-07		
16551.80	2.30	5.75E-03	3.26E-04	1.88E-03	8.18E-07	2.95E-08	1.12E-09	5.10E-11	2.82E-12		
19358.40	2.40	2.82E-03	7.22E-05	1.30E-06	1.63E-08	2.30E-10	3.86E-12	6.72E-14	1.15E-13		
20165.00	2.50	3.04E-03	7.79E-05	1.40E-06	1.74E-08	2.45E-10	4.11E-12	7.15E-14	1.22E-13		
20971.60	2.60	6.17E-03	3.39E-04	1.90E-05	3.16E-07	2.96E-08	1.12E-09	5.10E-11	2.82E-12		
21778.20	2.70	3.24E-03	8.29E-05	1.49E-06	1.84E-08	2.58E-10	4.32E-12	7.53E-14	1.29E-13		
22684.90	2.80	6.35E-03	3.44E-04	1.91E-05	3.19E-07	2.96E-08	1.12E-09	5.10E-11	2.82E-12		
23391.40	2.90	3.41E-03	8.73E-05	1.56E-06	1.93E-08	2.69E-10	4.30E-12	7.84E-14	1.34E-13		
24198.00	3.00	6.52E-03	3.49E-04	1.92E-05	3.21E-07	2.96E-08	1.12E-09	5.10E-11	2.82E-12		
25004.60	3.10	3.56E-03	9.11E-05	1.63E-06	2.00E-08	2.79E-10	4.65E-12	8.10E-14	1.39E-13		
25811.20	3.20	6.68E-03	3.55E-04	1.94E-05	3.25E-07	2.97E-08	1.12E-09	5.10E-11	2.82E-12		
26617.80	3.30	3.69E-03	9.43E-05	1.68E-06	2.06E-08	2.86E-10	4.70E-12	8.32E-14	1.42E-13		
27424.40	3.40	3.83E-03	3.61E-04	1.96E-05	3.29E-07	2.98E-08	1.12E-09	5.11E-11	2.83E-12		
28231.00	3.50	3.80E-03	9.70E-05	1.73E-06	2.11E-08	2.93E-10	4.89E-12	8.50E-14	1.45E-13		
29037.50	3.60	3.89E-03	3.68E-04	1.99E-05	3.35E-07	2.99E-08	1.12E-09	5.12E-11	2.84E-12		
29844.20	3.70	3.89E-03	9.92E-05	1.77E-06	2.15E-08	2.98E-10	4.97E-12	8.65E-14	1.48E-13		
30650.80	3.80	7.11E-03	3.75E-04	2.01E-05	3.42E-07	3.00E-08	1.13E-09	5.13E-11	2.84E-12		
31457.40	3.90	3.96E-03	1.01E-04	1.80E-06	2.19E-08	3.04E-10	5.04E-12	8.77E-14	1.50E-13		
32264.00	4.00	4.03E-03	3.82E-04	2.04E-05	3.49E-07	3.02E-08	1.13E-09	5.15E-11	2.86E-12		
33070.60	4.10	4.03E-03	1.03E-04	1.82E-06	2.22E-08	3.05E-10	5.10E-12	8.97E-14	1.52E-13		
33877.20	4.20	7.39E-03	3.90E-04	2.08E-05	3.56E-07	3.03E-08	1.14E-09	5.10E-11	2.86E-12		
34683.80	4.30	4.08E-03	1.04E-04	1.85E-06	2.24E-08	3.09E-10	5.15E-12	8.96E-14	1.53E-13		
35490.40	4.40	7.53E-03	3.99E-04	2.12E-05	3.68E-07	3.06E-08	1.14E-09	5.17E-11	2.87E-12		
36297.00	4.50	4.12E-03	1.05E-04	1.86E-06	2.26E-08	3.12E-10	5.19E-12	9.02E-14	1.54E-13		
37103.60	4.60	7.68E-03	4.09E-04	2.17E-05	3.79E-07	3.08E-08	1.15E-09	5.19E-11	2.88E-12		
37910.20	4.70	4.15E-03	1.06E-04	1.88E-06	2.28E-08	3.15E-10	5.24E-12	9.12E-14	1.56E-13		
38716.80	4.80	7.85E-03	4.20E-04	2.22E-05	3.92E-07	3.10E-08	1.15E-09	5.20E-11	2.88E-12		
39523.40	4.90	4.18E-03	1.07E-04	1.89E-06	2.30E-08	3.18E-10	5.29E-12	9.21E-14	1.57E-13		
40330.00	5.00	8.01E-03	4.31E-04	2.27E-05	3.94E-07	3.16E-08	1.16E-09	5.22E-11	2.89E-12		
41136.60	5.10	4.20E-03	1.07E-04	1.90E-06	2.31E-08	3.20E-10	5.34E-12	9.26E-14	1.59E-13		
41943.20	5.20	8.21E-03	4.46E-04	2.34E-05	4.23E-07	3.16E-08	1.17E-09	5.24E-11	2.90E-12		
42749.80	5.30	4.22E-03	1.08E-04	1.91E-06	2.33E-08	3.22E-10	5.37E-12	9.34E-14	1.60E-13		
43556.40	5.40	8.37E-03	4.58E-04	2.40E-05	4.36E-07	3.19E-08	1.17E-09	5.26E-11	2.90E-12		
44363.00	5.50	4.23E-03	1.08E-04	1.92E-06	2.34E-08	3.24E-10	5.40E-12	9.39E-14	1.61E-13		
45169.60	5.60	8.57E-03	4.73E-04	2.47E-05	4.50E-07	3.23E-08	1.18E-09	5.29E-11	2.91E-12		
45976.20	5.70	4.24E-03	1.08E-04	1.93E-06	2.35E-08	3.25E-10	5.42E-12	9.43E-14	1.61E-13		
46782.80	5.80	8.79E-03	4.89E-04	2.55E-05	4.74E-07	3.27E-08	1.19E-09	5.32E-11	2.92E-12		
47589.40	5.90	4.25E-03	1.09E-04	1.93E-06	2.35E-08	3.26E-10	5.44E-12	9.46E-14	1.62E-13		
48396.00	6.00	9.03E-03	5.07E-04	2.64E-05	4.98E-07	3.33E-08	1.21E-09	5.37E-11	2.93E-12		
49202.60	6.10	4.26E-03	1.09E-04	1.93E-06	2.36E-08	3.27E-10	5.45E-12	9.49E-14	1.62E-13		
49999.20	6.20	9.26E-03	5.25E-04	2.73E-05	5.08E-07	3.39E-08	1.22E-09	5.40E-11	2.94E-12		
50795.80	6.30	4.26E-03	1.09E-04	1.94E-06	2.36E-08	3.28E-10	5.47E-12	9.51E-14	1.63E-13		
51592.40	6.40	9.53E-03	5.46E-04	2.84E-05	5.19E-07	3.47E-08	1.25E-09	5.47E-11	2.94E-12		
52389.00	6.50	4.27E-03	1.09E-04	1.94E-06	2.37E-08	3.28E-10	5.48E-12	9.52E-14	1.63E-13		

36297.00	4.50	9.74E-03	5.66E-04	2.94E-05	1.09E-06	3.54E-08	1.26E-09	5.53E-11	2.98E-12
		4.27E-03	1.09E-04	1.94E-06	2.37E-06	3.29E-10	5.40E-12	9.54E-14	1.63E-15
37103.50	4.60	1.01E-02	5.86E-04	3.06E-05	1.12E-06	3.64E-08	1.29E-09	5.62E-11	3.08E-12
		4.27E-03	1.09E-04	1.94E-06	2.37E-06	3.29E-10	5.40E-12	9.54E-14	1.63E-15
37916.20	4.70	1.03E-02	6.05E-04	3.15E-05	1.15E-06	3.71E-10	1.32E-09	5.98E-11	3.02E-12
		4.27E-03	1.09E-04	1.94E-06	2.37E-06	3.29E-10	5.40E-12	9.54E-14	1.63E-15
38716.90	4.80	1.05E-02	6.23E-04	3.25E-05	1.18E-06	3.82E-08	1.35E-09	5.78E-11	3.05E-12
		4.28E-03	1.09E-04	1.95E-06	2.37E-06	3.30E-10	5.50E-12	9.58E-14	1.64E-15
39523.10	4.90	1.07E-02	6.37E-04	3.33E-05	1.21E-06	3.90E-08	1.37E-09	5.85E-11	3.07E-12
		4.28E-03	1.09E-04	1.95E-06	2.37E-06	3.30E-10	5.50E-12	9.58E-14	1.64E-15
40330.00	5.00	1.09E-02	6.53E-04	3.42E-05	1.25E-06	4.00E-08	1.40E-09	5.94E-11	3.12E-12
		4.28E-03	1.09E-04	1.95E-06	2.37E-06	3.30E-10	5.50E-12	9.58E-14	1.64E-15
41136.60	5.10	1.11E-02	6.69E-04	3.51E-05	1.29E-06	4.09E-08	1.43E-09	6.02E-11	3.13E-12
		4.28E-03	1.09E-04	1.95E-06	2.37E-06	3.30E-10	5.50E-12	9.58E-14	1.64E-15
41943.20	5.20	1.12E-02	6.82E-04	3.58E-05	1.30E-06	4.16E-08	1.45E-09	6.08E-11	3.14E-12
		4.28E-03	1.09E-04	1.95E-06	2.37E-06	3.30E-10	5.50E-12	9.58E-14	1.64E-15
42749.80	5.30	1.15E-02	7.04E-04	3.71E-05	1.34E-06	4.28E-08	1.49E-09	6.19E-11	3.17E-12
		4.28E-03	1.09E-04	1.95E-06	2.37E-06	3.30E-10	5.50E-12	9.58E-14	1.64E-15
43556.40	5.40	1.17E-02	7.19E-04	3.78E-05	1.35E-06	4.33E-08	1.50E-09	6.23E-11	3.19E-12
		4.28E-03	1.09E-04	1.95E-06	2.37E-06	3.30E-10	5.50E-12	9.58E-14	1.64E-15
44363.00	5.50	1.19E-02	7.36E-04	3.89E-05	1.40E-06	4.44E-08	1.53E-09	6.33E-11	3.21E-12
		4.28E-03	1.09E-04	1.95E-06	2.37E-06	3.30E-10	5.50E-12	9.58E-14	1.64E-15
45169.60	5.60	1.21E-02	7.51E-04	3.96E-05	1.43E-06	4.50E-08	1.55E-09	6.38E-11	3.22E-12
		4.28E-03	1.09E-04	1.95E-06	2.37E-06	3.30E-10	5.50E-12	9.58E-14	1.64E-15
45976.20	5.70	1.22E-02	7.59E-04	4.00E-05	1.44E-06	4.53E-08	1.56E-09	6.40E-11	3.23E-12
		4.28E-03	1.09E-04	1.95E-06	2.37E-06	3.30E-10	5.50E-12	9.58E-14	1.64E-15
46782.40	5.80	1.23E-02	7.67E-04	4.04E-05	1.45E-06	4.56E-08	1.57E-09	6.43E-11	3.24E-12
		4.28E-03	1.09E-04	1.95E-06	2.37E-06	3.30E-10	5.50E-12	9.58E-14	1.64E-15
47589.40	5.90	1.24E-02	7.72E-04	4.07E-05	1.46E-06	4.58E-08	1.57E-09	6.45E-11	3.24E-12
		4.28E-03	1.09E-04	1.95E-06	2.37E-06	3.30E-10	5.50E-12	9.58E-14	1.64E-15
48396.00	6.00	1.24E-02	7.75E-04	4.09E-05	1.46E-06	4.59E-08	1.57E-09	6.46E-11	3.24E-12
		4.28E-03	1.09E-04	1.95E-06	2.37E-06	3.30E-10	5.50E-12	9.58E-14	1.64E-15
49202.60	6.10	1.24E-02	7.80E-04	4.12E-05	1.47E-06	4.64E-08	1.59E-09	6.50E-11	3.26E-12
		4.28E-03	1.09E-04	1.95E-06	2.37E-06	3.30E-10	5.50E-12	9.58E-14	1.64E-15
50009.20	6.20	1.25E-02	7.81E-04	4.13E-05	1.48E-06	4.65E-08	1.59E-09	6.51E-11	3.26E-12
		4.28E-03	1.09E-04	1.95E-06	2.37E-06	3.30E-10	5.50E-12	9.58E-14	1.64E-15
50815.80	6.30	1.25E-02	7.82E-04	4.13E-05	1.48E-06	4.65E-08	1.59E-09	6.51E-11	3.26E-12
		4.28E-03	1.09E-04	1.95E-06	2.37E-06	3.30E-10	5.50E-12	9.58E-14	1.64E-15
51622.40	6.40	1.25E-02	7.83E-04	4.14E-05	1.48E-06	4.67E-08	1.60E-09	6.53E-11	3.27E-12
		4.28E-03	1.09E-04	1.95E-06	2.37E-06	3.30E-10	5.50E-12	9.58E-14	1.64E-15
52429.00	6.50	1.25E-02	7.83E-04	4.14E-05	1.48E-06	4.67E-08	1.60E-09	6.54E-11	3.27E-12
		4.28E-03	1.09E-04	1.95E-06	2.37E-06	3.30E-10	5.50E-12	9.58E-14	1.64E-15
53235.60	6.60	1.25E-02	7.84E-04	4.14E-05	1.48E-06	4.68E-08	1.60E-09	6.54E-11	3.27E-12
		4.28E-03	1.09E-04	1.95E-06	2.37E-06	3.30E-10	5.50E-12	9.58E-14	1.64E-15
54042.20	6.70	1.25E-02	7.84E-04	4.15E-05	1.48E-06	4.68E-08	1.60E-09	6.54E-11	3.27E-12
		4.28E-03	1.09E-04	1.95E-06	2.37E-06	3.30E-10	5.50E-12	9.58E-14	1.64E-15
54848.80	6.80	1.25E-02	7.84E-04	4.15E-05	1.48E-06	4.68E-08	1.60E-09	6.54E-11	3.27E-12
		4.28E-03	1.09E-04	1.95E-06	2.37E-06	3.30E-10	5.50E-12	9.58E-14	1.64E-15
55655.40	6.90	1.25E-02	7.84E-04	4.15E-05	1.48E-06	4.68E-08	1.60E-09	6.54E-11	3.27E-12
		4.28E-03	1.09E-04	1.95E-06	2.37E-06	3.30E-10	5.50E-12	9.58E-14	1.64E-15



PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 4000° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density × Normal									
		1.0E-01	1.0E-00	1.0E-01	1.0E-02	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07	
56482.00	7.00	1.25E-02	7.64E-04	4.15E-05	1.49E-06	4.68E-08	1.60E-09	6.55E-11	3.27E-12	1.60E-13	6.55E-15
57268.80	7.10	4.28E-03	1.09E-04	1.95E-06	2.38E-08	3.30E-10	5.51E-12	9.59E-14	3.27E-15	1.60E-16	6.55E-18
58075.20	7.20	4.32E-03	1.12E-04	2.08E-06	2.64E-08	3.61E-10	5.83E-12	9.91E-14	3.27E-15	1.60E-16	6.55E-18
58881.80	7.30	4.39E-03	1.15E-04	2.20E-06	2.87E-08	3.89E-10	6.12E-12	1.02E-13	3.27E-14	1.60E-15	6.55E-17
59688.40	7.40	4.38E-03	1.17E-04	2.50E-06	3.07E-08	4.13E-10	6.37E-12	1.05E-13	3.27E-14	1.60E-15	6.55E-17
60495.00	7.50	1.26E-02	7.92E-04	4.18E-05	1.49E-06	4.69E-08	1.60E-09	6.55E-11	3.27E-12	1.60E-13	6.55E-15
61301.60	7.60	4.43E-03	1.21E-04	2.47E-06	3.40E-08	4.52E-10	6.77E-12	1.09E-13	3.27E-14	1.60E-15	6.55E-17
62108.20	7.70	4.45E-03	1.22E-04	2.53E-06	3.53E-08	4.67E-10	6.93E-12	1.10E-13	3.27E-14	1.60E-15	6.55E-17
52914.80	7.80	4.47E-03	1.23E-04	2.59E-06	3.64E-08	4.82E-10	7.06E-12	1.12E-13	3.27E-14	1.60E-15	6.55E-17
63721.40	7.90	1.27E-02	8.00E-04	4.22E-05	1.50E-06	4.91E-08	7.18E-10	1.13E-13	3.27E-14	1.60E-15	6.55E-17
64528.00	8.00	4.48E-03	1.24E-04	2.63E-06	3.73E-08	4.98E-10	7.27E-12	1.14E-13	3.27E-14	1.60E-15	6.55E-17
65334.60	8.10	4.50E-03	1.26E-04	2.70E-06	3.87E-08	5.07E-10	7.35E-12	1.14E-13	3.27E-14	1.60E-15	6.55E-17
66141.20	8.20	4.51E-03	1.26E-04	2.73E-06	3.92E-08	5.13E-10	7.41E-12	1.15E-13	3.27E-14	1.60E-15	6.55E-17
66947.80	8.30	4.51E-03	1.27E-04	2.75E-06	3.96E-08	5.18E-10	7.47E-12	1.16E-13	3.27E-14	1.60E-15	6.55E-17
67754.40	8.40	1.27E-02	8.03E-04	4.23E-05	1.50E-06	5.23E-08	7.51E-10	1.16E-13	3.27E-14	1.60E-15	6.55E-17
68561.00	8.50	4.52E-03	1.28E-04	2.78E-06	4.03E-08	5.28E-10	7.55E-12	1.16E-13	3.27E-14	1.60E-15	6.55E-17
69367.60	8.60	4.53E-03	1.28E-04	2.80E-06	4.05E-08	5.29E-10	7.57E-12	1.17E-13	3.27E-14	1.60E-15	6.55E-17
70174.20	8.70	4.53E-03	1.28E-04	2.81E-06	4.07E-08	5.31E-10	7.60E-12	1.17E-13	3.27E-14	1.60E-15	6.55E-17
70980.80	8.80	1.28E-02	8.03E-04	4.24E-05	1.50E-06	5.31E-08	7.62E-10	1.17E-13	3.27E-14	1.60E-15	6.55E-17
71787.40	8.90	4.53E-03	1.28E-04	2.82E-06	4.10E-08	5.33E-10	7.63E-12	1.17E-13	3.27E-14	1.60E-15	6.55E-17
72594.00	9.00	4.53E-03	1.29E-04	2.83E-06	4.11E-08	5.34E-10	7.64E-12	1.17E-13	3.27E-14	1.60E-15	6.55E-17

73400.00	9.10	1.28E-02	8.04E-04	4.24E-05	1.51E-06	4.79E-08	1.61E-09	6.55E-11	3.27E-12
		4.54E-03	1.29E-04	2.83E-06	4.12E-08	5.37E-10	7.66E-12	1.10E-13	1.86E-15
74207.20	9.20	1.28E-02	8.04E-04	4.24E-05	1.51E-06	4.79E-08	1.61E-09	6.55E-11	3.27E-12
		4.54E-03	1.29E-04	2.83E-06	4.12E-08	5.37E-10	7.66E-12	1.10E-13	1.86E-15
75015.40	9.30	1.28E-02	8.04E-04	4.24E-05	1.51E-06	4.79E-08	1.61E-09	6.55E-11	3.27E-12
		4.54E-03	1.29E-04	2.83E-06	4.12E-08	5.37E-10	7.66E-12	1.10E-13	1.86E-15
75823.60	9.40	1.28E-02	8.04E-04	4.24E-05	1.51E-06	4.79E-08	1.61E-09	6.55E-11	3.27E-12
		4.54E-03	1.29E-04	2.83E-06	4.12E-08	5.37E-10	7.66E-12	1.10E-13	1.86E-15
76631.80	9.50	1.28E-02	8.04E-04	4.24E-05	1.51E-06	4.79E-08	1.61E-09	6.55E-11	3.27E-12
		4.54E-03	1.29E-04	2.83E-06	4.12E-08	5.37E-10	7.66E-12	1.10E-13	1.86E-15

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 5000° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density x Normal								
		1.0E J1	1.0E 00	1.0E-01	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07	
4839.80	0.60	3.54E-04	9.69E-06	3.15E-07	1.01E-08	3.12E-10	8.61E-12	1.01E-13	2.43E-15	
		2.49E-04	3.06E-06	1.70E-08	8.37E-11	6.51E-13	1.96E-14	5.67E-16	2.65E-17	
5646.20	0.70	7.07E-04	1.67E-05	4.74E-07	1.59E-08	7.04E-10	3.24E-11	1.12E-12	1.92E-14	
		5.93E-04	6.91E-06	3.98E-08	1.79E-10	1.61E-12	3.53E-14	1.02E-15	5.12E-17	
6452.60	0.80	1.14E-03	2.63E-05	7.87E-07	3.46E-08	1.99E-10	4.73E-12	8.05E-14	8.90E-17	
		9.24E-04	1.15E-05	6.56E-07	2.96E-10	2.32E-12	4.79E-14	1.37E-15	8.90E-17	
7259.40	0.90	1.80E-03	3.52E-05	1.16E-06	6.88E-08	4.88E-09	3.33E-13	1.58E-14	2.30E-15	
		1.33E-03	1.66E-05	9.49E-08	4.02E-10	2.97E-12	5.82E-14	1.69E-15	6.31E-17	
8066.00	1.00	2.32E-03	4.61E-05	1.71E-06	1.17E-07	9.43E-09	6.74E-10	2.93E-11	4.90E-13	
		1.78E-03	2.24E-05	1.27E-07	5.25E-10	3.58E-12	6.66E-14	1.87E-15	9.42E-17	
8872.60	1.10	2.62E-03	5.69E-05	2.25E-06	1.67E-07	1.38E-08	1.01E-09	4.20E-11	7.35E-13	
		2.25E-03	4.20E-05	1.60E-07	8.53E-10	4.17E-12	7.35E-13	2.93E-15	1.03E-16	
9678.20	1.20	3.19E-03	7.20E-05	3.20E-06	2.58E-07	2.23E-08	1.63E-09	6.90E-11	1.19E-12	
		2.74E-03	3.41E-05	1.94E-07	7.83E-10	4.73E-12	7.92E-14	2.39E-15	1.10E-16	
10485.80	1.30	3.75E-03	8.47E-05	5.91E-06	3.24E-07	2.85E-08	2.20E-09	8.62E-11	1.59E-12	
		3.23E-03	4.02E-05	2.28E-07	9.33E-10	5.29E-12	8.40E-14	2.30E-15	1.10E-16	
11292.40	1.40	4.34E-03	1.02E-04	5.12E-06	4.40E-07	3.69E-08	2.87E-09	1.22E-10	2.11E-12	
		3.71E-03	4.62E-05	2.63E-07	1.04E-09	3.74E-12	8.80E-14	2.59E-15	1.20E-16	
12099.00	1.50	4.97E-03	1.21E-04	6.10E-06	5.24E-07	4.63E-08	2.47E-09	1.22E-10	2.52E-12	
		4.26E-03	5.66E-05	4.24E-07	3.3E-09	5.29E-11	8.85E-13	1.52E-14	4.33E-16	
12905.60	1.60	5.68E-03	1.43E-04	7.89E-06	5.90E-07	5.29E-08	3.60E-09	1.63E-10	2.84E-12	
		4.88E-03	7.18E-05	7.26E-07	9.29E-09	1.51E-10	2.97E-12	4.32E-14	1.09E-15	
13712.20	1.70	6.36E-03	1.67E-04	8.30E-06	6.89E-07	6.06E-08	4.47E-09	1.90E-10	3.30E-12	
		5.49E-03	8.79E-05	1.06E-06	1.59E-08	2.61E-10	4.47E-12	7.80E-14	1.83E-15	
14519.80	1.80	7.02E-03	1.91E-04	9.43E-06	7.73E-07	6.78E-08	5.01E-09	2.13E-10	3.69E-12	
		6.09E-03	1.04E-04	1.39E-06	2.17E-08	3.71E-10	6.36E-12	2.12E-13	2.67E-15	
15325.40	1.90	7.65E-03	2.13E-04	1.02E-05	8.52E-07	7.45E-08	5.51E-09	2.34E-10	4.06E-12	
		6.66E-03	1.16E-04	1.72E-06	2.77E-08	4.79E-10	6.20E-12	1.43E-13	2.20E-15	
16132.00	2.00	8.19E-03	2.29E-04	1.10E-05	8.74E-07	7.61E-08	5.62E-09	2.39E-10	4.14E-12	
		7.17E-03	1.33E-04	2.03E-06	3.35E-08	3.02E-10	9.98E-12	1.73E-13	3.97E-15	

PARTIAL FLARCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 5000°K

Wave Number (cm <sup>-1</sup> )	Photo Energy (eV)	Density × Normal																		
		1.0E-01	1.5E-00	1.0E-00	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07	1.0E-08	1.0E-09									
16934.60	2.10	8.69E-03	2.44E-04	1.14E-09	8.93E-07	7.73E-07	5.71E-09	2.43E-10	4.21E-17											
17745.20	2.20	7.65E-03	1.47E-04	2.59E-04	3.90E-08	6.86E-13	1.17E-11	2.02E-13	4.65E-15											
18551.90	2.30	8.39E-03	1.57E-04	2.59E-04	4.03E-07	7.80E-10	9.74E-09	2.44E-10	5.23E-12											
19358.40	2.40	9.34E-03	2.66E-04	1.20E-05	9.10E-07	7.83E-08	3.32E-11	2.29E-13	4.26E-12											
20165.00	2.50	8.50E-03	1.70E-04	2.83E-06	4.64E-08	8.53E-10	1.46E-11	2.51E-10	5.77E-15											
20971.60	2.60	9.90E-03	2.79E-04	3.05E-06	9.14E-07	7.84E-08	3.77E-09	2.43E-10	4.26E-12											
21778.20	2.70	8.66E-03	1.80E-04	3.05E-06	9.26E-08	9.26E-10	1.59E-11	2.75E-13	6.27E-15											
22584.90	2.80	9.16E-03	1.90E-04	3.25E-06	5.65E-08	9.97E-10	1.74E-11	2.95E-13	6.71E-15											
23391.40	2.90	1.04E-02	2.96E-04	1.26E-05	9.22E-07	7.86E-08	5.76E-09	2.46E-10	4.34E-12											
24198.00	3.00	9.47E-03	1.96E-04	3.43E-06	5.98E-08	1.05E-09	3.88E-11	3.12E-13	7.11E-15											
25004.60	3.10	1.10E-02	3.11E-04	1.29E-05	9.26E-07	7.87E-08	5.80E-09	2.51E-10	4.67E-12											
25811.20	3.20	9.73E-03	2.05E-04	3.58E-06	6.28E-08	1.10E-09	1.89E-11	3.28E-13	7.46E-15											
26617.80	3.30	1.14E-02	3.28E-04	1.33E-05	9.35E-07	7.89E-08	5.80E-09	2.51E-10	4.73E-12											
27424.40	3.40	9.96E-03	2.11E-04	3.72E-06	6.54E-08	1.19E-09	1.97E-11	3.42E-13	7.77E-15											
28231.00	3.50	1.02E-02	3.46E-04	1.37E-05	9.45E-07	7.92E-08	5.84E-09	2.50E-10	5.33E-12											
29037.60	3.60	1.25E-02	3.68E-04	1.43E-05	6.77E-08	1.19E-09	2.04E-11	3.54E-13	8.04E-15											
29844.20	3.70	1.03E-02	2.25E-04	3.95E-06	6.97E-08	1.23E-09	5.18E-11	2.65E-10	5.78E-12											
30650.80	3.80	1.35E-02	3.93E-04	1.50E-05	9.75E-07	8.09E-08	5.89E-09	2.66E-10	5.83E-12											
31457.40	3.90	1.05E-02	2.26E-04	4.04E-06	7.15E-08	1.26E-09	2.16E-11	3.74E-13	8.49E-15											
32264.00	4.00	1.37E-02	4.20E-04	1.57E-05	9.92E-07	8.08E-08	6.01E-09	2.92E-10	7.83E-12											
33070.60	4.10	1.06E-02	2.30E-04	4.13E-06	7.30E-08	1.29E-09	2.20E-11	3.82E-13	8.67E-15											
33877.20	4.20	1.44E-02	4.49E-04	1.64E-05	1.01E-08	8.13E-08	6.04E-09	2.97E-10	8.11E-12											
		1.07E-02	2.33E-04	4.20E-06	7.43E-08	1.31E-09	2.24E-11	3.89E-13	8.83E-15											
		1.53E-02	4.84E-04	1.73E-05	1.03E-08	8.19E-08	6.03E-09	2.97E-10	8.14E-12											
		1.08E-02	2.36E-04	4.26E-06	7.55E-08	1.33E-09	2.28E-11	3.95E-13	8.26E-15											
		1.51E-02	5.22E-04	1.82E-05	1.05E-08	8.26E-08	6.13E-09	3.11E-10	5.16E-12											
		1.09E-02	2.40E-04	4.39E-06	7.72E-08	1.36E-09	2.35E-11	4.04E-13	9.17E-15											
		1.71E-02	5.66E-04	1.94E-05	1.08E-08	8.34E-08	6.16E-09	3.13E-10	9.37E-12											
		1.10E-02	2.43E-04	4.43E-06	7.88E-08	1.39E-09	2.38E-11	4.12E-13	8.36E-15											
		1.11E-02	2.46E-04	4.51E-06	8.03E-08	1.42E-09	2.43E-11	4.20E-13	9.54E-15											
		1.94E-02	6.63E-04	2.18E-05	1.14E-08	8.49E-08	6.21E-09	3.16E-10	9.45E-12											
		1.12E-02	2.49E-04	4.58E-06	8.16E-08	1.44E-09	2.47E-11	4.27E-13	9.69E-15											
		2.05E-02	7.12E-04	2.30E-05	1.17E-08	8.57E-08	6.24E-09	3.17E-10	9.46E-12											
		1.23E-02	2.51E-04	4.63E-06	8.27E-08	1.46E-09	2.50E-11	4.33E-13	9.83E-15											
		2.19E-02	7.71E-04	2.46E-05	1.20E-08	8.68E-08	6.27E-09	3.18E-10	9.47E-12											
		1.13E-02	2.53E-04	4.58E-06	8.36E-08	1.48E-09	2.53E-11	4.38E-13	9.94E-15											
		2.33E-02	8.34E-04	2.65E-05	1.24E-08	8.78E-08	6.25E-09	3.18E-10	9.44E-12											
		1.14E-02	2.55E-04	4.72E-06	8.44E-08	1.49E-09	2.56E-11	4.42E-13	1.00E-14											
		2.50E-02	9.13E-04	2.95E-05	1.30E-08	8.95E-08	6.34E-09	3.19E-10	9.49E-12											
		1.14E-02	2.56E-04	4.74E-06	8.51E-08	1.50E-09	2.58E-11	4.46E-13	1.01E-14											

34983.80	4.30	2.66E-02	9.89E-04	3.06E-05	1.34E-06	9.10E-06	6.36E-09	3.29E-10	9.31E-12
		1.19E-02	2.58E-04	4.79E-06	0.57E-06	1.51E-06	2.60E-11	4.64E-13	1.02E-14
57100.40	4.40	2.86E-02	1.09E-03	3.35E-05	1.44E-05	9.33E-04	6.44E-09	3.21E-10	9.52E-12
		1.15E-02	2.59E-04	4.81E-06	0.62E-06	1.52E-06	2.61E-11	4.52E-13	1.02E-14
36297.00	4.50	3.05E-02	1.18E-03	3.63E-05	1.51E-06	9.34E-04	6.50E-09	3.25E-10	7.54E-12
		1.15E-02	2.59E-04	4.83E-06	0.62E-06	1.53E-06	2.62E-11	4.52E-13	1.03E-14
37103.80	4.60	3.27E-02	1.29E-03	3.99E-05	1.63E-06	9.82E-04	6.98E-09	3.24E-10	9.36E-12
		1.15E-02	2.60E-04	4.85E-06	0.64E-06	1.54E-06	2.63E-11	4.52E-13	1.03E-14
37910.20	4.70	3.45E-02	1.38E-03	4.28E-05	1.70E-06	1.01E-07	6.65E-09	3.26E-10	9.56E-12
		1.15E-02	2.61E-04	4.87E-06	0.64E-06	1.54E-06	2.64E-11	4.52E-13	1.04E-14
38716.80	4.80	3.63E-02	1.49E-03	4.68E-05	1.81E-06	1.04E-07	6.74E-09	3.27E-10	9.60E-12
		1.16E-02	2.61E-04	4.68E-06	0.64E-06	1.55E-06	2.65E-11	4.59E-13	1.04E-14
39524.40	4.90	3.79E-02	1.56E-03	4.93E-05	1.90E-06	1.07E-07	6.81E-09	3.29E-10	9.62E-12
		1.16E-02	2.62E-04	4.89E-06	0.64E-06	1.55E-06	2.66E-11	4.68E-13	1.04E-14
40230.00	5.00	3.96E-02	1.65E-03	5.26E-05	2.01E-06	1.10E-07	6.89E-09	3.31E-10	9.64E-12
		1.16E-02	2.62E-04	4.90E-06	0.64E-06	1.55E-06	2.66E-11	4.68E-13	1.04E-14
41136.60	5.10	4.15E-02	1.73E-03	5.60E-05	2.11E-06	1.13E-07	6.98E-09	3.33E-10	9.67E-12
		1.16E-02	2.62E-04	4.90E-06	0.64E-06	1.56E-06	2.67E-11	4.68E-13	1.05E-14
41943.20	5.20	4.30E-02	1.83E-03	5.84E-05	2.19E-06	1.15E-07	7.05E-09	3.33E-10	9.68E-12
		1.16E-02	2.63E-04	4.91E-06	0.64E-06	1.56E-06	2.67E-11	4.68E-13	1.05E-14
42749.80	5.30	4.45E-02	1.95E-03	6.27E-05	2.31E-06	1.19E-07	7.13E-09	3.34E-10	9.71E-12
		1.16E-02	2.63E-04	4.92E-06	0.62E-06	1.56E-06	2.67E-11	4.68E-13	1.05E-14
43556.40	5.40	4.69E-02	2.03E-03	6.49E-05	2.37E-06	1.20E-07	7.18E-09	3.35E-10	9.72E-12
		1.16E-02	2.63E-04	4.92E-06	0.63E-06	1.56E-06	2.68E-11	4.63E-13	1.05E-14
44363.00	5.50	4.90E-02	2.14E-03	6.86E-05	2.46E-06	1.24E-07	7.27E-09	3.35E-10	9.75E-12
		1.16E-02	2.63E-04	4.92E-06	0.64E-06	1.56E-06	2.68E-11	4.63E-13	1.05E-14
45169.60	5.60	5.06E-02	2.22E-03	7.13E-05	2.56E-06	1.26E-07	7.33E-09	3.40E-10	9.76E-12
		1.16E-02	2.63E-04	4.93E-06	0.64E-06	1.56E-06	2.68E-11	4.63E-13	1.05E-14
45976.20	5.70	5.16E-02	2.28E-03	7.38E-05	2.59E-06	1.27E-07	7.36E-09	3.42E-10	9.77E-12
		1.16E-02	2.63E-04	4.93E-06	0.64E-06	1.56E-06	2.68E-11	4.64E-13	1.05E-14
46782.80	5.80	5.25E-02	2.31E-03	7.48E-05	2.62E-06	1.26E-07	7.39E-09	3.41E-10	9.78E-12
		1.16E-02	2.63E-04	4.93E-06	0.64E-06	1.56E-06	2.68E-11	4.64E-13	1.05E-14
47589.40	5.90	5.31E-02	2.34E-03	7.51E-05	2.66E-06	1.29E-07	7.41E-09	3.41E-10	9.78E-12
		1.16E-02	2.63E-04	4.93E-06	0.64E-06	1.57E-06	2.69E-11	4.64E-13	1.05E-14
48396.00	6.00	5.35E-02	2.36E-03	7.57E-05	2.69E-06	1.30E-07	7.42E-09	3.42E-10	9.79E-12
		1.16E-02	2.63E-04	4.93E-06	0.64E-06	1.57E-06	2.69E-11	4.63E-13	1.05E-14
49202.60	6.10	5.42E-02	2.41E-03	7.77E-05	2.75E-06	1.32E-07	7.48E-09	3.43E-10	9.80E-12
		1.16E-02	2.63E-04	4.94E-06	0.64E-06	1.57E-06	2.69E-11	4.63E-13	1.05E-14
50009.20	6.20	5.45E-02	2.47E-03	7.93E-05	2.77E-06	1.32E-07	7.50E-09	3.43E-10	9.81E-12
		1.16E-02	2.63E-04	4.94E-06	0.64E-06	1.57E-06	2.69E-11	4.63E-13	1.05E-14
50815.80	6.30	5.48E-02	2.43E-03	7.86E-05	2.78E-06	1.33E-07	7.51E-09	3.43E-10	9.81E-12
		1.16E-02	2.64E-04	4.94E-06	0.64E-06	1.57E-06	2.69E-11	4.63E-13	1.05E-14
51622.40	6.40	5.49E-02	2.45E-03	7.8E-05	2.80E-06	1.33E-07	7.52E-09	3.43E-10	9.82E-12
		1.16E-02	2.64E-04	4.94E-06	0.64E-06	1.57E-06	2.69E-11	4.63E-13	1.05E-14
52429.00	6.50	5.50E-02	2.45E-03	7.97E-05	2.81E-06	1.34E-07	7.54E-09	3.44E-10	9.82E-12
		1.16E-02	2.64E-04	4.94E-06	0.64E-06	1.57E-06	2.69E-11	4.63E-13	1.05E-14
53235.60	6.60	5.51E-02	2.46E-03	7.98E-05	2.82E-06	1.34E-07	7.54E-09	3.44E-10	9.82E-12
		1.16E-02	2.64E-04	4.94E-06	0.64E-06	1.57E-06	2.69E-11	4.63E-13	1.05E-14
54042.20	6.70	5.52E-02	2.46E-03	8.01E-05	2.83E-06	1.34E-07	7.55E-09	3.44E-10	9.82E-12
		1.16E-02	2.64E-04	4.94E-06	0.64E-06	1.57E-06	2.69E-11	4.63E-13	1.05E-14
54848.80	6.80	5.52E-02	2.47E-03	8.02E-05	2.83E-06	1.34E-07	7.55E-09	3.44E-10	9.82E-12
		1.16E-02	2.64E-04	4.94E-06	0.64E-06	1.57E-06	2.69E-11	4.63E-13	1.05E-14

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 500°K

Wave Number (cm <sup>-1</sup> )	Photo Energy (eV)	1.0E-01	1.0E 00	1.0E-01	Density x Normal	10.0E-03	1.0E-04	10.0E-05	10.0E-06	10.0E-07
55655.40	6.90	5.53E-02	2.47E-03	6.03E-05	2.63E-06	1.34E-07	7.55E-09	3.44E-10	9.83E-12	
56462.00	7.00	1.95E-02	2.64E-04	4.94E-06	6.87E-08	1.57E-09	2.69E-11	4.65E-13	1.06E-14	
57268.60	7.10	3.78E-02	2.47E-03	8.03E-05	2.84E-06	1.34E-07	7.56E-09	3.44E-10	9.83E-12	
58075.20	7.20	1.0E-02	2.64E-04	4.94E-06	8.87E-08	1.57E-09	2.69E-11	4.65E-13	1.06E-14	
58881.80	7.30	5.56E-02	2.49E-03	8.07E-05	2.64E-06	1.34E-07	7.56E-09	3.44E-10	9.83E-12	
59688.40	7.40	1.21E-02	2.35E-04	5.31E-06	9.31E-08	1.61E-09	2.73E-11	4.70E-13	1.09E-14	
60495.00	7.50	5.53E-02	2.51E-03	8.11E-05	2.64E-06	1.35E-07	7.56E-09	3.44E-10	9.83E-12	
61301.60	7.60	1.26E-02	3.04E-04	5.66E-06	9.71E-08	1.66E-09	2.78E-11	4.74E-13	1.06E-14	
62108.20	7.70	1.31E-02	3.21E-04	5.97E-06	1.01E-07	1.69E-09	2.82E-11	4.78E-13	1.07E-14	
62914.80	7.80	5.72E-02	2.54E-03	8.12E-05	2.65E-06	1.35E-07	7.56E-09	3.44E-10	9.83E-12	
63721.40	7.90	1.35E-02	3.37E-04	6.25E-06	1.04E-07	1.73E-09	2.85E-11	4.82E-13	1.07E-14	
64528.00	8.00	5.75E-02	2.56E-03	8.19E-05	2.65E-06	1.35E-07	7.56E-09	3.44E-10	9.83E-12	
65334.60	8.10	1.39E-02	3.52E-04	6.51E-06	1.07E-07	1.74E-09	2.88E-11	4.85E-13	1.07E-14	
66141.20	8.20	5.79E-02	2.57E-03	8.21E-05	2.66E-06	1.35E-07	7.56E-09	3.44E-10	9.83E-12	
66947.80	8.30	1.42E-02	3.64E-04	6.73E-06	1.10E-07	1.79E-09	2.91E-11	4.88E-13	1.06E-14	
67754.40	8.40	5.82E-02	2.58E-03	8.23E-05	2.66E-06	1.35E-07	7.56E-09	3.44E-10	9.83E-12	
68561.00	8.50	1.45E-02	3.78E-04	6.93E-06	1.12E-07	1.81E-09	2.93E-11	4.90E-13	1.06E-14	
69367.60	8.60	5.84E-02	2.59E-03	8.25E-05	2.66E-06	1.35E-07	7.56E-09	3.44E-10	9.83E-12	
70174.20	8.70	1.47E-02	3.95E-04	7.11E-06	1.14E-07	1.83E-09	2.96E-11	4.92E-13	1.06E-14	
70980.80	8.80	5.86E-02	2.60E-03	8.27E-05	2.66E-06	1.35E-07	7.56E-09	3.44E-10	9.83E-12	
71787.40	8.90	1.50E-02	4.08E-04	7.28E-06	1.16E-07	1.85E-09	2.98E-11	4.94E-13	1.06E-14	
72594.00	9.00	5.88E-02	2.61E-03	8.28E-05	2.67E-06	1.35E-07	7.56E-09	3.44E-10	9.83E-12	
		1.52E-02	4.20E-04	7.40E-06	1.17E-07	1.87E-09	2.99E-11	4.96E-13	1.06E-14	
		5.90E-02	2.62E-03	8.29E-05	2.67E-06	1.35E-07	7.56E-09	3.44E-10	9.83E-12	
		1.53E-02	4.08E-04	7.51E-06	1.19E-07	1.88E-09	3.01E-11	4.97E-13	1.06E-14	
		5.91E-02	2.62E-03	8.30E-05	2.67E-06	1.35E-07	7.56E-09	3.44E-10	9.83E-12	
		1.55E-02	4.14E-04	7.61E-06	1.20E-07	1.89E-09	3.02E-11	4.98E-13	1.06E-14	
		5.93E-02	2.62E-03	8.31E-05	2.67E-06	1.35E-07	7.56E-09	3.44E-10	9.83E-12	
		1.56E-02	4.19E-04	7.70E-06	1.21E-07	1.91E-09	3.03E-11	5.00E-13	1.06E-14	
		5.94E-02	2.63E-03	8.32E-05	2.67E-06	1.35E-07	7.56E-09	3.44E-10	9.83E-12	
		1.57E-02	4.23E-04	7.77E-06	1.22E-07	1.91E-09	3.04E-11	5.01E-13	1.06E-14	
		5.95E-02	2.63E-03	8.33E-05	2.67E-06	1.35E-07	7.56E-09	3.44E-10	9.83E-12	
		1.58E-02	4.26E-04	7.84E-06	1.23E-07	1.92E-09	3.05E-11	5.01E-13	1.06E-14	
		5.95E-02	2.64E-03	8.33E-05	2.67E-06	1.35E-07	7.56E-09	3.44E-10	9.83E-12	
		1.59E-02	4.29E-04	7.89E-06	1.23E-07	1.93E-09	3.05E-11	5.02E-13	1.06E-14	
		5.96E-02	2.64E-03	8.34E-05	2.67E-06	1.35E-07	7.56E-09	3.44E-10	9.83E-12	
		1.59E-02	4.32E-04	7.94E-06	1.24E-07	1.93E-09	3.06E-11	5.02E-13	1.06E-14	
		5.97E-02	2.64E-03	8.34E-05	2.67E-06	1.35E-07	7.56E-09	3.44E-10	9.83E-12	
		1.60E-02	4.34E-04	7.98E-06	1.24E-07	1.94E-09	3.06E-11	5.03E-13	1.06E-14	
		5.97E-02	2.64E-03	8.34E-05	2.67E-06	1.35E-07	7.56E-09	3.44E-10	9.83E-12	
		1.60E-02	4.36E-04	8.01E-06	1.25E-07	1.94E-09	3.07E-11	5.03E-13	1.06E-14	
		5.98E-02	2.64E-03	8.35E-05	2.67E-06	1.35E-07	7.56E-09	3.44E-10	9.83E-12	
		1.61E-02	4.37E-04	8.03E-06	1.25E-07	1.95E-09	3.07E-11	5.04E-13	1.06E-14	

PARTIAL PLANK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 6000° K

Wave Number (cm <sup>-1</sup> )	Photons Energy (eV)	Density x Normal									
		1.0E 01	1.0E 00	1.0E -01	10.0E -03	10.0E -04	10.0E -05	10.0E -06	10.0E -07		
70400.60	9.10	5.98E-02	2.64E-03	8.35E-05	2.87E-06	1.35E-07	7.56E-09	3.43E-10	9.93E-12		
		1.61E-02	4.38E-04	9.05E-06	1.25E-07	1.95E-09	3.07E-11	5.04E-13	1.09E-14		
74297.20	9.20	5.98E-02	2.64E-03	8.35E-05	2.87E-06	1.35E-07	7.56E-09	3.43E-10	9.93E-12		
		1.61E-02	4.39E-04	8.06E-06	1.25E-07	1.95E-09	3.07E-11	5.04E-13	1.09E-14		
75013.80	9.30	5.98E-02	2.64E-03	8.35E-05	2.87E-06	1.35E-07	7.56E-09	3.43E-10	9.93E-12		
		1.61E-02	4.39E-04	8.06E-06	1.25E-07	1.95E-09	3.07E-11	5.04E-13	1.09E-14		
75200.40	9.40	5.98E-02	2.65E-03	8.35E-05	2.87E-06	1.35E-07	7.57E-09	3.43E-10	9.93E-12		
		1.61E-02	4.40E-04	8.07E-06	1.25E-07	1.95E-09	3.07E-11	5.04E-13	1.09E-14		
76270.00	9.50	5.98E-02	2.65E-03	8.35E-05	2.87E-06	1.35E-07	7.57E-09	3.43E-10	9.93E-12		
		1.61E-02	4.40E-04	8.07E-06	1.25E-07	1.95E-09	3.08E-11	5.04E-13	1.09E-14		
4339.60	0.60	1.64E-04	5.08E-06	1.65E-07	5.05E-09	1.37E-10	3.47E-12	1.74E-13	1.54E-14		
		7.03E-05	7.04E-07	1.12E-08	3.40E-10	1.70E-11	1.52E-12	1.53E-13	1.52E-14		
5646.20	0.70	3.04E-04	3.98E-06	4.28E-07	2.35E-08	1.11E-09	2.78E-11	6.00E-13	3.93E-14		
		1.60E-04	1.50E-06	2.14E-08	6.38E-10	3.54E-11	1.11E-12	1.15E-13	3.14E-14		
6472.80	0.80	5.55E-04	2.18E-05	1.38E-06	9.72E-08	5.14E-09	1.25E-10	1.92E-12	4.24E-14		
		2.68E-04	2.59E-06	3.10E-07	9.03E-10	4.92E-11	4.72E-12	4.81E-13	4.79E-14		
7259.40	0.90	9.16E-04	4.83E-05	3.82E-06	2.84E-07	1.55E-08	9.75E-10	5.11E-12	1.15E-13		
		3.93E-04	3.37E-06	3.99E-08	1.16E-09	6.85E-11	6.90E-12	7.00E-13	7.07E-14		
8036.00	1.00	1.41E-03	8.34E-05	7.11E-06	5.70E-07	3.15E-08	7.57E-10	9.92E-12	1.84E-13		
		5.34E-04	4.44E-06	4.86E-08	1.39E-09	8.66E-11	8.99E-12	9.20E-13	9.26E-14		
8872.50	1.10	1.95E-03	1.24E-04	1.03E-05	8.83E-07	4.89E-08	1.18E-09	1.51E-11	2.54E-13		
		6.80E-04	5.57E-06	5.65E-08	1.59E-09	1.03E-10	1.05E-11	1.13E-12	1.12E-13		
9679.20	1.20	2.75E-03	1.89E-04	1.71E-05	1.40E-06	7.77E-08	1.87E-09	2.56E-11	3.54E-13		
		8.52E-04	6.74E-06	6.41E-08	1.76E-09	1.17E-10	1.25E-11	1.29E-12	1.29E-13		
10485.60	1.30	3.47E-03	2.47E-04	2.25E-05	1.85E-06	1.03E-07	2.45E-09	3.06E-11	4.42E-13		
		1.02E-03	7.99E-06	7.15E-08	1.91E-09	1.29E-10	1.33E-11	1.44E-12	1.44E-13		
11292.80	1.40	4.53E-03	3.39E-04	3.12E-05	2.57E-06	1.43E-07	3.43E-09	4.26E-11	5.70E-13		
		1.20E-03	9.25E-06	7.85E-08	2.03E-09	1.38E-10	1.50E-11	1.56E-12	1.56E-13		
12099.00	1.50	5.77E-03	4.24E-04	3.88E-05	3.17E-06	1.76E-07	4.22E-09	5.22E-11	6.76E-13		
		1.71E-03	2.24E-05	3.44E-07	6.94E-09	2.35E-10	1.78E-11	1.71E-12	1.66E-13		
12905.60	1.60	7.27E-03	5.14E-04	4.49E-05	3.66E-06	2.03E-07	4.87E-09	6.02E-11	7.75E-13		
		2.62E-03	4.89E-05	9.18E-07	1.75E-08	4.37E-10	2.38E-11	2.00E-12	1.68E-13		
13712.20	1.70	9.14E-03	6.31E-04	5.38E-05	4.36E-06	2.41E-07	5.78E-09	7.14E-11	9.06E-13		
		3.63E-03	8.17E-05	1.59E-08	2.99E-09	6.73E-10	3.04E-11	2.31E-12	2.37E-13		
14518.80	1.80	1.09E-02	7.37E-04	6.16E-05	4.96E-06	2.74E-07	6.57E-09	8.11E-11	1.02E-12		
		4.71E-03	1.15E-04	2.25E-06	4.27E-08	3.15E-10	3.71E-11	2.60E-12	2.25E-13		
15325.40	1.90	1.28E-02	8.50E-04	6.95E-05	5.60E-06	3.09E-07	7.45E-09	9.15E-11	1.14E-12		
		5.78E-03	1.48E-04	2.98E-06	5.57E-08	1.18E-09	4.38E-11	2.87E-12	2.42E-13		
16132.00	2.00	1.41E-02	9.04E-04	7.28E-05	5.80E-06	3.20E-07	7.67E-09	9.47E-11	1.18E-12		
		6.84E-03	1.81E-04	3.65E-06	6.86E-08	1.40E-09	4.99E-11	3.13E-12	2.56E-13		

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 6000° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	1.0E 01	1.0E 00	1.0E-01	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07
16938.60	2.10	1.53E-02	9.57E-04	7.53E-05	5.96E-06	3.28E-07	7.07E-09	9.72E-11	1.22E-12
17745.20	2.20	7.88E-03	2.14E-04	4.38E-06	8.14E-08	1.84E-09	5.81E-11	3.37E-12	2.69E-13
18551.80	2.30	1.63E-02	9.96E-04	7.67E-05	6.03E-06	3.32E-07	7.04E-09	9.84E-11	1.24E-12
19358.40	2.40	8.07E-03	2.45E-04	5.04E-06	9.35E-08	1.67E-09	6.18E-11	3.59E-12	2.80E-13
20165.00	2.50	1.73E-02	1.33E-03	7.77E-05	6.08E-06	3.84E-07	8.01E-09	9.92E-11	1.26E-12
20971.60	2.60	9.80E-03	2.73E-04	5.68E-06	1.05E-07	2.08E-09	6.71E-11	3.78E-12	2.90E-13
21778.20	2.70	1.82E-02	1.04E-03	7.84E-05	6.09E-06	3.95E-07	8.05E-09	1.01E-10	1.31E-12
22584.80	2.80	1.07E-02	3.03E-04	6.25E-06	1.16E-07	2.28E-09	7.20E-11	3.94E-12	2.94E-13
23391.40	2.90	1.90E-02	1.04E-03	7.89E-05	6.10E-06	3.55E-07	8.07E-09	1.02E-10	1.33E-12
24198.00	3.00	1.15E-02	3.28E-04	6.80E-06	1.26E-07	2.47E-09	7.66E-11	4.11E-12	3.05E-13
25004.60	3.10	1.99E-02	1.11E-03	7.95E-05	6.12E-06	3.56E-07	8.12E-09	1.03E-10	1.39E-12
25811.20	3.20	1.23E-02	3.52E-04	7.31E-06	1.35E-07	2.84E-09	8.02E-11	4.25E-12	3.11E-13
26617.80	3.30	2.09E-02	1.14E-03	8.01E-05	6.14E-06	3.59E-07	8.43E-09	1.16E-10	1.81E-12
27424.40	3.40	1.30E-02	3.75E-04	7.78E-06	1.44E-07	2.80E-09	8.50E-11	4.42E-12	3.21E-13
28231.00	3.50	2.20E-02	1.37E-03	8.09E-05	6.16E-06	3.40E-07	8.52E-09	1.20E-10	1.93E-12
29037.60	3.60	1.36E-02	3.95E-04	8.21E-06	1.52E-07	2.95E-09	9.91E-11	4.60E-12	3.32E-13
29844.20	3.70	2.32E-02	1.21E-03	8.18E-05	6.20E-06	3.45E-07	9.03E-09	1.40E-10	2.60E-12
30650.80	3.80	1.42E-02	4.14E-04	8.61E-06	1.59E-07	3.09E-09	1.07E-11	4.76E-12	3.42E-13
31457.40	3.90	2.46E-02	1.26E-03	8.30E-05	6.24E-06	3.51E-07	9.53E-09	1.60E-10	3.25E-12
32264.00	4.00	1.47E-02	4.31E-04	8.97E-06	1.66E-07	3.21E-09	9.61E-11	4.90E-12	3.50E-13
33070.60	4.10	2.61E-02	1.30E-03	8.42E-05	6.28E-06	3.52E-07	9.62E-09	1.63E-10	3.35E-12
33877.20	4.20	1.52E-02	4.46E-04	9.29E-06	1.72E-07	3.32E-09	9.91E-11	5.02E-12	3.57E-13
		2.76E-02	1.35E-03	8.56E-05	6.37E-06	3.70E-07	1.14E-09	2.35E-10	5.67E-12
		1.57E-02	4.60E-04	9.59E-06	1.77E-07	3.43E-09	1.02E-10	5.13E-12	3.63E-13
		2.92E-02	1.40E-03	8.70E-05	6.42E-06	3.75E-07	1.18E-09	2.49E-10	6.13E-12
		1.61E-02	4.73E-04	9.85E-06	1.82E-07	3.52E-09	1.04E-10	5.22E-12	3.68E-13
		3.11E-02	1.46E-03	8.84E-05	6.47E-06	3.77E-07	1.18E-09	2.51E-10	6.18E-12
		1.64E-02	4.84E-04	1.01E-05	1.86E-07	3.60E-09	1.05E-10	5.30E-12	3.72E-13
		3.32E-02	1.53E-03	9.09E-05	6.57E-06	3.90E-07	1.29E-09	2.95E-10	7.54E-12
		1.65E-02	5.01E-04	1.05E-05	1.93E-07	3.73E-09	1.09E-10	5.41E-12	3.77E-13
		3.56E-02	1.61E-03	9.25E-05	6.63E-06	3.95E-07	1.33E-09	3.02E-10	7.81E-12
		1.75E-02	5.18E-04	1.08E-05	2.00E-07	3.85E-09	1.12E-10	5.50E-12	3.81E-13
		3.80E-02	1.68E-03	9.46E-05	6.71E-06	3.96E-07	1.32E-09	3.04E-10	7.85E-12
		1.79E-02	5.35E-04	1.12E-05	2.06E-07	3.97E-09	1.15E-10	5.60E-12	3.85E-13
		4.00E-02	1.75E-03	9.69E-05	6.78E-06	4.00E-07	1.34E-09	3.10E-10	8.07E-12
		1.84E-02	5.49E-04	1.15E-05	2.12E-07	4.07E-09	1.16E-10	5.68E-12	3.88E-13
		4.34E-02	1.85E-03	9.90E-05	6.85E-06	4.02E-07	1.35E-09	3.11E-10	8.09E-12
		1.86E-02	5.65E-04	1.18E-05	2.17E-07	4.17E-09	1.28E-10	5.74E-12	3.92E-13
		4.64E-02	1.95E-03	1.02E-04	6.93E-06	4.05E-07	1.35E-09	3.12E-10	8.10E-12
		1.91E-02	5.74E-04	1.20E-05	2.22E-07	4.26E-09	1.22E-10	5.83E-12	3.95E-13
		4.95E-02	2.04E-03	1.04E-04	7.00E-06	4.06E-07	1.37E-09	3.12E-10	8.10E-12
		1.94E-02	5.85E-04	1.22E-05	2.26E-07	4.33E-09	1.24E-10	5.86E-12	3.97E-13
		5.34E-02	2.15E-03	1.08E-04	7.11E-06	4.09E-07	1.36E-09	3.13E-10	8.11E-12
		1.97E-02	5.94E-04	1.24E-05	2.30E-07	4.40E-09	1.25E-10	5.95E-12	4.00E-13

34683.80	4.30	5.72E-02	2.30E-03	1.11E-04	7.20E-06	4.12E-07	1.37E-09	3.14E-10	8.12E-12
		1.99E-02	6.02E-04	1.29E-05	2.33E-07	4.46E-09	1.27E-10	6.01E-12	4.03E-13
35490.40	4.40	5.20E-02	2.47E-03	1.18E-04	7.33E-06	4.15E-07	1.37E-09	3.14E-10	8.12E-12
		2.01E-02	6.09E-04	1.28E-05	2.34E-07	4.52E-09	1.29E-10	6.09E-12	4.09E-13
36297.00	4.50	6.67E-02	2.64E-03	1.21E-04	2.47E-06	4.18E-07	1.37E-09	3.15E-10	8.14E-12
		2.03E-02	6.15E-04	1.29E-05	2.38E-07	4.57E-09	1.30E-10	6.17E-12	4.14E-13
37103.60	4.60	7.23E-02	2.85E-03	1.27E-04	2.64E-06	4.22E-07	1.39E-09	3.15E-10	8.15E-12
		2.05E-02	6.20E-04	1.31E-05	2.40E-07	4.61E-09	1.31E-10	6.23E-12	4.18E-13
37910.20	4.70	7.70E-02	3.03E-03	1.33E-04	2.80E-06	4.25E-07	1.39E-09	3.16E-10	8.16E-12
		2.06E-02	6.25E-04	1.31E-05	2.42E-07	4.64E-09	1.32E-10	6.29E-12	4.22E-13
38716.80	4.80	8.21E-02	3.23E-03	1.35E-04	2.98E-06	4.30E-07	1.39E-09	3.17E-10	8.17E-12
		2.08E-02	6.29E-04	1.32E-05	2.44E-07	4.68E-09	1.33E-10	6.33E-12	4.26E-13
39523.40	4.90	8.67E-02	3.42E-03	1.35E-04	3.15E-06	4.34E-07	1.40E-09	3.18E-10	8.18E-12
		2.09E-02	6.33E-04	1.33E-05	2.45E-07	4.70E-09	1.34E-10	6.37E-12	4.29E-13
40330.00	5.00	9.15E-02	3.61E-03	1.35E-04	3.33E-06	4.38E-07	1.41E-09	3.18E-10	8.19E-12
		2.10E-02	6.36E-04	1.33E-05	2.46E-07	4.73E-09	1.35E-10	6.41E-12	4.31E-13
41136.60	5.10	9.66E-02	3.81E-03	1.38E-04	3.51E-06	4.42E-07	1.41E-09	3.19E-10	8.20E-12
		2.10E-02	6.38E-04	1.34E-05	2.47E-07	4.75E-09	1.36E-10	6.44E-12	4.33E-13
41943.20	5.20	1.01E-01	3.96E-03	1.42E-04	3.63E-06	4.45E-07	1.42E-09	3.20E-10	8.21E-12
		2.11E-02	6.41E-04	1.35E-05	2.48E-07	4.77E-09	1.36E-10	6.47E-12	4.35E-13
42749.80	5.30	1.07E-01	4.20E-03	1.40E-04	3.85E-06	4.50E-07	1.43E-09	3.20E-10	8.22E-12
		2.12E-02	6.43E-04	1.36E-05	2.49E-07	4.78E-09	1.37E-10	6.49E-12	4.37E-13
43556.40	5.40	1.11E-01	4.34E-03	1.44E-04	3.96E-06	4.53E-07	1.43E-09	3.21E-10	8.22E-12
		2.12E-02	6.44E-04	1.36E-05	2.50E-07	4.80E-09	1.37E-10	6.51E-12	4.38E-13
44363.00	5.50	1.17E-01	4.56E-03	1.48E-04	4.15E-06	4.57E-07	1.44E-09	3.22E-10	8.23E-12
		2.12E-02	6.46E-04	1.36E-05	2.51E-07	4.81E-09	1.37E-10	6.52E-12	4.39E-13
45169.60	5.60	1.21E-01	4.73E-03	1.49E-04	4.29E-06	4.61E-07	1.44E-09	3.22E-10	8.24E-12
		2.13E-02	6.47E-04	1.36E-05	2.51E-07	4.82E-09	1.38E-10	6.54E-12	4.40E-13
45976.20	5.70	1.24E-01	4.82E-03	1.49E-04	4.37E-06	4.62E-07	1.44E-09	3.23E-10	8.24E-12
		2.13E-02	6.48E-04	1.36E-05	2.52E-07	4.83E-09	1.38E-10	6.55E-12	4.41E-13
46782.80	5.80	1.26E-01	4.92E-03	1.49E-04	4.44E-06	4.64E-07	1.45E-09	3.23E-10	8.24E-12
		2.13E-02	6.50E-04	1.36E-05	2.52E-07	4.84E-09	1.38E-10	6.56E-12	4.42E-13
47589.40	5.90	1.28E-01	4.99E-03	1.49E-04	4.51E-06	4.66E-07	1.45E-09	3.23E-10	8.25E-12
		2.14E-02	6.51E-04	1.37E-05	2.52E-07	4.84E-09	1.38E-10	6.57E-12	4.42E-13
48396.00	6.00	1.29E-01	5.04E-03	1.49E-04	4.55E-06	4.67E-07	1.45E-09	3.23E-10	8.25E-12
		2.14E-02	6.51E-04	1.37E-05	2.53E-07	4.85E-09	1.39E-10	6.58E-12	4.43E-13
49202.60	6.10	1.32E-01	5.17E-03	1.49E-04	4.69E-06	4.70E-07	1.46E-09	3.24E-10	8.26E-12
		2.14E-02	6.52E-04	1.37E-05	2.53E-07	4.86E-09	1.39E-10	6.59E-12	4.43E-13
50009.20	6.20	1.34E-01	5.22E-03	2.01E-04	4.74E-06	4.71E-07	1.46E-09	3.24E-10	8.26E-12
		2.14E-02	6.53E-04	1.37E-05	2.53E-07	4.86E-09	1.39E-10	6.59E-12	4.44E-13
50815.80	6.30	1.34E-01	5.25E-03	2.02E-04	4.77E-06	4.72E-07	1.46E-09	3.24E-10	8.26E-12
		2.14E-02	6.53E-04	1.37E-05	2.53E-07	4.87E-09	1.39E-10	6.60E-12	4.44E-13
51622.40	6.40	1.35E-01	5.31E-03	2.04E-04	4.84E-06	4.73E-07	1.46E-09	3.25E-10	8.26E-12
		2.15E-02	6.54E-04	1.37E-05	2.54E-07	4.87E-09	1.39E-10	6.60E-12	4.44E-13
52429.00	6.50	1.36E-01	5.35E-03	2.05E-04	4.87E-06	4.74E-07	1.46E-09	3.25E-10	8.26E-12
		2.15E-02	6.54E-04	1.37E-05	2.54E-07	4.87E-09	1.39E-10	6.61E-12	4.45E-13
53235.60	6.60	1.36E-01	5.36E-03	2.06E-04	4.88E-06	4.75E-07	1.46E-09	3.25E-10	8.27E-12
		2.15E-02	6.54E-04	1.38E-05	2.54E-07	4.87E-09	1.39E-10	6.61E-12	4.45E-13
54042.20	6.70	1.37E-01	5.39E-03	2.07E-04	4.91E-06	4.75E-07	1.46E-09	3.25E-10	8.27E-12
		2.15E-02	6.55E-04	1.38E-05	2.54E-07	4.88E-09	1.39E-10	6.61E-12	4.45E-13





72594.00	9.00	1.54E-01	5.77E-03	2.13E-04	1.00E-05	4.78E-07	1.47E-09	3.28E-10	8.27E-12
73400.50	9.10	3.79E-02	1.01E-03	1.83E-05	3.03E-07	5.36E-09	1.45E-10	6.68E-12	4.47E-13
74207.20	9.20	1.54E-01	5.77E-03	2.13E-04	1.00E-05	4.78E-07	1.47E-09	3.28E-10	8.27E-12
75013.80	9.30	3.80E-02	1.01E-03	1.83E-05	3.03E-07	5.36E-09	1.45E-10	6.68E-12	4.47E-13
75420.40	9.40	1.54E-01	5.77E-03	2.13E-04	1.00E-05	4.78E-07	1.47E-09	3.28E-10	8.27E-12
76227.00	9.50	3.81E-02	1.01E-03	1.84E-05	3.04E-07	5.39E-09	1.45E-10	6.68E-12	4.47E-13
77433.50	9.60	1.54E-01	5.77E-03	2.13E-04	1.00E-05	4.79E-07	1.47E-09	3.28E-10	8.27E-12
78240.20	9.70	3.82E-02	1.02E-03	1.84E-05	3.04E-07	5.39E-09	1.45E-10	6.68E-12	4.47E-13
79046.80	9.80	1.54E-01	5.77E-03	2.13E-04	1.00E-05	4.79E-07	1.47E-09	3.28E-10	8.27E-12
79853.40	9.90	3.82E-02	1.02E-03	1.84E-05	3.04E-07	5.39E-09	1.45E-10	6.68E-12	4.47E-13
80660.00	10.00	1.54E-01	5.78E-03	2.13E-04	1.00E-05	4.80E-07	1.47E-09	3.28E-10	8.27E-12
81466.60	10.10	3.82E-02	1.02E-03	1.84E-05	3.04E-07	5.39E-09	1.45E-10	6.68E-12	4.47E-13
82273.20	10.20	1.54E-01	5.78E-03	2.13E-04	1.00E-05	4.80E-07	1.47E-09	3.28E-10	8.27E-12
83079.80	10.30	3.82E-02	1.02E-03	1.84E-05	3.04E-07	5.39E-09	1.45E-10	6.68E-12	4.47E-13
83886.40	10.40	1.54E-01	5.78E-03	2.13E-04	1.00E-05	4.80E-07	1.47E-09	3.28E-10	8.27E-12
84693.00	10.50	3.82E-02	1.02E-03	1.84E-05	3.04E-07	5.39E-09	1.45E-10	6.68E-12	4.47E-13
85499.60	10.60	1.54E-01	5.78E-03	2.13E-04	1.00E-05	4.81E-07	1.48E-09	3.28E-10	8.27E-12
86306.20	10.70	3.82E-02	1.02E-03	1.84E-05	3.04E-07	5.39E-09	1.45E-10	6.68E-12	4.47E-13
87112.80	10.80	1.55E-01	5.78E-03	2.13E-04	1.01E-05	4.81E-07	1.48E-09	3.28E-10	8.27E-12
87919.40	10.90	3.82E-02	1.02E-03	1.84E-05	3.04E-07	5.39E-09	1.45E-10	6.68E-12	4.47E-13
88726.00	11.00	1.55E-01	5.78E-03	2.13E-04	1.01E-05	4.81E-07	1.48E-09	3.28E-10	8.27E-12
89532.60	11.10	3.83E-02	1.02E-03	1.84E-05	3.05E-07	5.39E-09	1.46E-10	3.32E-10	8.66E-12
90339.20	11.20	1.55E-01	5.78E-03	2.13E-04	1.01E-05	4.81E-07	1.48E-09	3.32E-10	8.66E-12
91145.80	11.30	3.83E-02	1.02E-03	1.84E-05	3.05E-07	5.40E-09	1.46E-10	3.32E-10	8.66E-12
91952.40	11.40	1.55E-01	5.78E-03	2.13E-04	1.01E-05	4.81E-07	1.48E-09	3.32E-10	8.66E-12
92759.00	11.50	3.83E-02	1.02E-03	1.84E-05	3.05E-07	5.40E-09	1.46E-10	3.32E-10	8.66E-12
93565.60	11.60	1.55E-01	5.78E-03	2.13E-04	1.01E-05	4.81E-07	1.48E-09	3.32E-10	8.66E-12
94372.20	11.70	3.83E-02	1.02E-03	1.84E-05	3.05E-07	5.40E-09	1.46E-10	3.32E-10	8.66E-12
95178.80	11.80	1.55E-01	5.78E-03	2.13E-04	1.01E-05	4.81E-07	1.48E-09	3.32E-10	8.66E-12
95985.40	11.90	3.83E-02	1.02E-03	1.84E-05	3.05E-07	5.40E-09	1.46E-10	3.32E-10	8.66E-12
96792.00	12.00	1.55E-01	5.78E-03	2.13E-04	1.01E-05	4.81E-07	1.48E-09	3.32E-10	8.66E-12
97598.60	12.10	3.83E-02	1.02E-03	1.84E-05	3.05E-07	5.40E-09	1.46E-10	3.32E-10	8.66E-12
98405.20	12.20	1.55E-01	5.78E-03	2.13E-04	1.01E-05	4.81E-07	1.48E-09	3.32E-10	8.66E-12
99211.80	12.30	3.83E-02	1.02E-03	1.84E-05	3.05E-07	5.40E-09	1.46E-10	3.32E-10	8.66E-12
100018.40	12.40	1.55E-01	5.78E-03	2.13E-04	1.01E-05	4.82E-07	1.48E-09	3.32E-10	8.66E-12
100825.00	12.50	3.83E-02	1.02E-03	1.84E-05	3.07E-07	6.07E-09	1.48E-10	1.62E-11	1.60E-12

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 6000° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density x Normal									
		1.0E-01	1.0E-00	1.0E-01	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07		
102841.50	12.75	1.55E-01	5.78E-03	2.13E-04	1.01E-05	4.82E-07	1.49E-04	3.39E-10	9.59E-12		
104450.00	13.00	3.83E-02	1.82E-03	1.84E-05	3.07E-07	6.16E-09	2.63E-10	1.97E-11	1.75E-12		
106874.50	13.25	3.83E-02	1.82E-03	1.84E-05	3.07E-07	6.22E-07	2.72E-10	2.07E-11	1.89E-12		
108691.00	13.50	3.83E-02	1.82E-03	1.84E-05	3.07E-07	6.28E-09	2.78E-10	2.13E-11	1.92E-12		
110907.50	13.75	3.83E-02	1.82E-03	1.84E-05	3.07E-07	6.28E-09	2.82E-10	2.18E-11	1.94E-12		
112824.00	14.00	3.83E-02	1.82E-03	1.84E-05	3.07E-07	6.48E-09	2.88E-10	2.24E-11	2.01E-12		
114840.50	14.25	3.83E-02	1.82E-03	1.84E-05	3.07E-07	6.61E-09	2.92E-10	2.28E-11	2.04E-12		
116857.00	14.50	3.83E-02	1.82E-03	1.84E-05	3.07E-07	6.70E-09	2.96E-10	2.32E-11	2.07E-12		
118873.50	14.75	3.83E-02	1.82E-03	1.84E-05	3.07E-07	6.78E-09	2.99E-10	2.35E-11	2.10E-12		
120890.00	15.00	3.83E-02	1.82E-03	1.84E-05	3.07E-07	6.86E-09	3.02E-10	2.38E-11	2.13E-12		
123006.50	15.25	3.83E-02	1.82E-03	1.84E-05	3.07E-07	6.94E-09	3.05E-10	2.41E-11	2.16E-12		
125023.00	15.50	3.83E-02	1.82E-03	1.84E-05	3.07E-07	7.02E-09	3.08E-10	2.44E-11	2.19E-12		
127039.50	15.75	3.83E-02	1.82E-03	1.84E-05	3.07E-07	7.10E-09	3.11E-10	2.47E-11	2.22E-12		
129056.00	16.00	3.83E-02	1.82E-03	1.84E-05	3.07E-07	7.18E-09	3.14E-10	2.50E-11	2.25E-12		
131072.50	16.25	3.83E-02	1.82E-03	1.84E-05	3.07E-07	7.26E-09	3.17E-10	2.53E-11	2.28E-12		
133089.00	16.50	3.83E-02	1.82E-03	1.84E-05	3.07E-07	7.34E-09	3.20E-10	2.56E-11	2.31E-12		
135105.50	16.75	3.83E-02	1.82E-03	1.84E-05	3.07E-07	7.42E-09	3.23E-10	2.59E-11	2.34E-12		
137122.00	17.00	3.83E-02	1.82E-03	1.84E-05	3.07E-07	7.50E-09	3.26E-10	2.62E-11	2.37E-12		
139138.50	17.25	3.83E-02	1.82E-03	1.84E-05	3.07E-07	7.58E-09	3.29E-10	2.65E-11	2.40E-12		
141155.00	17.50	3.83E-02	1.82E-03	1.84E-05	3.07E-07	7.66E-09	3.32E-10	2.68E-11	2.43E-12		
143171.50	17.75	3.83E-02	1.82E-03	1.84E-05	3.07E-07	7.74E-09	3.35E-10	2.71E-11	2.46E-12		
145188.00	18.00	3.83E-02	1.82E-03	1.84E-05	3.07E-07	7.82E-09	3.38E-10	2.74E-11	2.49E-12		

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 7000° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density × Normal									
		1.0E 01	1.0E 00	1.0E-01	1.0E-02	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07	
4839.60	0.60	1.28E-04	4.55E-06	1.60E-07	6.99E-09	5.12E-10	4.06E-11	4.77E-12	4.58E-13		
637E-05	1.99E-06	7.58E-08	4.78E-09	4.77E-10	4.82E-11	4.82E-11	4.77E-12	4.58E-13			
2.80E-04	1.38E-05	7.92E-07	3.91E-08	1.57E-09	1.07E-10	1.07E-10	9.49E-12	9.49E-13			
1.26E-04	3.78E-06	1.44E-07	9.59E-09	9.85E-10	1.00E-10	1.00E-10	9.89E-12	9.48E-13			
6452.80	0.80	6.97E-04	4.73E-06	3.34E-06	1.67E-07	4.56E-09	1.88E-10	1.58E-11	1.46E-12		
1.60E-04	5.37E-06	2.14E-07	1.51E-09	1.54E-10	1.54E-10	1.54E-10	1.54E-11	1.46E-12			
7259.40	0.90	1.60E-03	1.29E-04	9.86E-06	4.93E-07	1.10E-08	3.33E-10	2.34E-11	2.15E-12		
2.51E-04	6.79E-06	2.78E-07	2.16E-08	2.20E-09	2.25E-10	2.25E-10	2.23E-11	2.14E-12			
8046.00	1.00	2.94E-03	2.52E-04	1.97E-05	9.82E-07	2.23E-08	5.13E-10	3.14E-11	2.53E-12		
3.16E-04	8.08E-06	3.36E-07	2.73E-08	2.88E-09	2.88E-09	2.88E-09	2.94E-11	2.81E-12			
4.88E-03	3.94E-04	3.11E-05	3.55E-06	3.44E-06	3.44E-06	3.44E-06	3.91E-11	3.46E-12			
3.82E-04	9.23E-06	3.90E-07	3.26E-08	3.50E-09	3.50E-09	3.50E-09	3.57E-11	3.42E-12			
6.62E-03	6.15E-04	4.87E-05	4.87E-05	4.87E-05	4.87E-05	4.87E-05	4.78E-11	4.31E-12			
4.45E-04	1.03E-05	4.39E-07	3.74E-08	4.08E-09	4.20E-10	4.20E-10	4.16E-11	3.94E-12			
9.08E-03	8.26E-04	6.56E-05	3.27E-06	7.01E-08	1.21E-09	1.21E-09	5.39E-11	4.51E-12			
5.18E-04	1.12E-05	4.78E-07	4.15E-08	4.56E-09	4.78E-10	4.78E-10	4.64E-11	4.44E-12			
1.26E-02	1.15E-03	9.10E-05	4.57E-06	9.69E-08	1.95E-09	1.95E-09	6.07E-11	4.90E-12			
5.88E-04	1.22E-05	5.10E-07	4.47E-08	4.94E-09	5.09E-10	5.09E-10	5.04E-11	4.81E-12			
1.64E-02	1.67E-03	1.65E-04	5.75E-06	1.22E-07	1.66E-09	1.66E-09	6.66E-11	5.22E-12			
1.36E-03	3.20E-06	9.28E-07	9.71E-08	5.72E-09	5.52E-10	5.52E-10	5.36E-11	5.10E-12			
2.06E-02	1.74E-03	1.39E-04	6.74E-06	1.42E-07	2.15E-09	2.15E-09	7.43E-11	5.74E-12			
3.81E-03	7.85E-05	1.82E-06	7.90E-08	6.47E-09	6.17E-10	6.17E-10	5.91E-11	5.60E-12			
2.63E-02	2.17E-03	1.68E-04	8.20E-06	1.72E-07	2.94E-09	2.94E-09	6.25E-11	6.25E-12			
4.90E-03	1.28E-04	2.69E-06	1.04E-07	7.72E-09	6.84E-10	6.84E-10	6.49E-11	6.08E-12			
3.14E-02	2.93E-03	1.95E-04	9.43E-06	1.98E-07	2.88E-09	2.88E-09	9.05E-11	6.79E-12			
7.07E-03	1.84E-04	4.02E-06	1.30E-07	5.74E-09	7.85E-10	7.85E-10	6.94E-11	6.51E-12			
3.75E-02	2.94E-03	2.22E-04	1.09E-05	2.28E-07	3.27E-09	3.27E-09	9.89E-11	7.10E-12			
9.23E-03	2.42E-04	5.19E-06	1.56E-07	9.72E-09	8.42E-10	8.42E-10	1.03E-11	6.89E-12			
4.11E-02	3.13E-03	2.33E-04	1.14E-05	2.39E-07	3.44E-09	3.44E-09	1.03E-11	7.44E-12			
1.15E-02	3.02E-04	6.39E-06	1.63E-07	1.07E-08	6.94E-10	6.94E-10	7.75E-11	7.20E-12			
4.43E-02	3.39E-03	7.43E-04	1.18E-05	2.48E-07	3.57E-09	3.57E-09	1.07E-11	7.73E-12			
1.38E-02	3.62E-04	7.60E-06	2.10E-07	1.16E-08	9.82E-10	9.82E-10	6.08E-11	7.49E-12			
4.78E-02	3.60E-03	2.47E-04	1.20E-05	2.53E-07	3.66E-09	3.66E-09	1.11E-11	7.97E-12			
1.88E-02	4.21E-04	8.79E-06	2.35E-07	1.25E-08	9.85E-10	9.85E-10	6.38E-11	7.73E-12			
4.99E-02	3.60E-03	2.50E-04	1.22E-05	2.56E-07	3.72E-09	3.72E-09	1.13E-11	8.17E-12			
5.16E-02	3.94E-03	2.52E-04	1.22E-05	2.58E-07	3.80E-09	3.80E-09	1.17E-11	8.37E-12			
2.02E-02	5.34E-04	1.11E-05	2.64E-07	1.40E-08	1.82E-09	1.82E-09	8.83E-11	8.09E-12			
5.36E-02	3.59E-03	2.53E-04	1.23E-05	2.59E-07	3.95E-09	3.95E-09	1.19E-11	8.52E-12			
2.22E-02	3.67E-04	1.21E-05	3.04E-07	1.47E-08	1.85E-09	1.85E-09	9.05E-11	8.21E-12			
5.56E-02	3.65E-03	2.54E-04	1.23E-05	2.61E-07	3.92E-09	3.92E-09	1.22E-11	8.66E-12			
2.41E-02	6.38E-04	1.31E-05	3.29E-07	1.54E-08	1.97E-09	1.97E-09	9.13E-11	8.32E-12			
3.78E-02	3.71E-03	2.54E-04	1.23E-05	2.72E-07	4.05E-09	4.05E-09	1.37E-11	9.29E-12			
2.59E-02	6.86E-04	1.41E-05	3.50E-07	1.61E-08	1.41E-09	1.41E-09	9.41E-11	8.54E-12			

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 7000° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density x Normal									
		1.0E 01	1.0E 00	1.0E-01	10.0E-02	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07	10.0E-08
22584.80	2.80	6.01E-02	3.77E-03	2.57E-04	1.25E-05	2.77E-07	4.82E-09	1.46E-10	9.42E-12	9.42E-12	
23391.40	2.90	2.76E-02	7.31E-04	1.50E-05	3.70E-07	1.66E-04	1.13E-09	9.70E-11	9.70E-11	9.70E-11	
24188.00	3.00	6.29E-02	3.04E-03	2.60E-04	1.20E-05	2.94E-07	5.14E-09	1.65E-10	1.65E-10	1.65E-10	
25004.60	3.10	2.92E-02	7.74E-04	1.54E-05	3.69E-07	1.75E-08	1.19E-09	9.90E-11	9.90E-11	9.90E-11	
25811.20	3.20	6.51E-02	3.92E-03	2.63E-04	1.31E-05	3.13E-07	5.84E-09	1.86E-10	1.86E-10	1.86E-10	
26417.80	3.30	3.07E-02	8.14E-04	1.67E-05	4.07E-07	1.81E-08	1.22E-09	1.02E-10	1.02E-10	1.02E-10	
27424.40	3.40	6.79E-02	4.00E-03	2.65E-04	1.32E-05	3.10E-07	6.08E-09	1.94E-10	1.94E-10	1.94E-10	
28231.00	3.50	3.21E-02	8.51E-04	1.74E-05	4.23E-07	1.87E-08	1.25E-09	1.05E-10	1.05E-10	1.05E-10	
29037.60	3.60	7.07E-02	4.09E-03	2.71E-04	1.40E-05	3.76E-07	8.10E-09	2.61E-10	2.61E-10	2.61E-10	
29844.20	3.70	3.34E-02	8.46E-04	1.81E-05	4.30E-07	1.75E-08	1.27E-09	1.05E-10	1.05E-10	1.05E-10	
30650.80	3.80	7.39E-02	4.14E-03	2.79E-04	1.43E-05	3.92E-07	8.46E-09	2.79E-10	2.79E-10	2.79E-10	
31457.40	3.90	3.48E-02	9.14E-04	1.88E-05	4.52E-07	1.96E-08	1.29E-09	1.07E-10	1.07E-10	1.07E-10	
32264.00	4.00	7.67E-02	4.26E-03	2.78E-04	1.44E-05	3.94E-07	8.76E-09	2.82E-10	2.82E-10	2.82E-10	
33070.60	4.10	3.57E-02	9.48E-04	1.94E-05	4.65E-07	2.00E-08	1.31E-09	1.08E-10	1.08E-10	1.08E-10	
33877.20	4.20	6.07E-02	4.42E-03	2.89E-04	1.51E-05	4.30E-07	1.02E-09	3.29E-10	3.29E-10	3.29E-10	
34683.80	4.30	3.75E-02	9.95E-04	2.03E-05	4.85E-07	2.04E-08	1.34E-09	1.09E-10	1.09E-10	1.09E-10	
35490.40	4.40	8.50E-02	4.55E-03	2.90E-04	1.54E-05	4.49E-07	1.04E-09	3.39E-10	3.39E-10	3.39E-10	
36297.00	4.50	3.93E-02	1.04E-03	2.13E-05	5.05E-07	2.12E-08	1.36E-09	1.11E-10	1.11E-10	1.11E-10	
37103.60	4.60	8.94E-02	4.76E-03	2.96E-04	1.56E-05	4.54E-07	1.07E-09	3.42E-10	3.42E-10	3.42E-10	
37910.20	4.70	4.10E-02	1.09E-03	2.22E-05	5.25E-07	2.18E-08	1.38E-09	1.12E-10	1.12E-10	1.12E-10	
38716.80	4.80	9.41E-02	4.84E-03	3.01E-04	1.58E-05	4.64E-07	1.10E-09	3.51E-10	3.51E-10	3.51E-10	
39523.40	4.90	4.27E-02	1.13E-03	2.31E-05	5.43E-07	2.23E-08	1.40E-09	1.12E-10	1.12E-10	1.12E-10	
		9.84E-02	4.98E-03	3.05E-04	1.60E-05	4.67E-07	1.10E-09	3.52E-10	3.52E-10	3.52E-10	
		4.42E-02	1.17E-03	2.39E-05	5.60E-07	2.28E-08	1.42E-09	1.13E-10	1.13E-10	1.13E-10	
		1.03E-01	5.14E-03	3.11E-04	1.62E-05	4.71E-07	1.11E-09	3.54E-10	3.54E-10	3.54E-10	
		1.08E-01	5.29E-03	3.15E-04	1.63E-05	4.73E-07	1.11E-09	3.55E-10	3.55E-10	3.55E-10	
		4.88E-02	1.24E-03	2.51E-05	5.90E-07	2.36E-08	1.45E-09	1.15E-10	1.15E-10	1.15E-10	
		1.14E-01	5.47E-03	3.21E-04	1.65E-05	4.74E-07	1.12E-09	3.56E-10	3.56E-10	3.56E-10	
		4.79E-02	1.28E-03	2.59E-05	6.03E-07	2.40E-08	1.47E-09	1.16E-10	1.16E-10	1.16E-10	
		1.20E-01	5.65E-03	3.26E-04	1.66E-05	4.78E-07	1.12E-09	3.57E-10	3.57E-10	3.57E-10	
		4.89E-02	1.38E-03	2.65E-05	6.15E-07	2.45E-08	1.49E-09	1.17E-10	1.17E-10	1.17E-10	
		1.27E-01	5.87E-03	3.32E-04	1.67E-05	4.80E-07	1.12E-09	3.58E-10	3.58E-10	3.58E-10	
		4.98E-02	1.33E-03	2.70E-05	6.26E-07	2.49E-08	1.51E-09	1.19E-10	1.19E-10	1.19E-10	
		1.34E-01	6.10E-03	3.38E-04	1.69E-05	4.83E-07	1.13E-09	3.60E-10	3.60E-10	3.60E-10	
		5.07E-02	1.35E-03	2.75E-05	6.37E-07	2.53E-08	1.53E-09	1.20E-10	1.20E-10	1.20E-10	
		1.43E-01	6.39E-03	3.46E-04	1.70E-05	4.85E-07	1.13E-09	3.62E-10	3.62E-10	3.62E-10	
		5.14E-02	1.37E-03	2.79E-05	6.46E-07	2.56E-08	1.55E-09	1.21E-10	1.21E-10	1.21E-10	
		1.51E-01	6.65E-03	3.53E-04	1.72E-05	4.88E-07	1.14E-09	3.63E-10	3.63E-10	3.63E-10	
		5.21E-02	1.39E-03	2.82E-05	6.54E-07	2.59E-08	1.57E-09	1.22E-10	1.22E-10	1.22E-10	
		1.59E-01	6.93E-03	3.61E-04	1.74E-05	4.91E-07	1.14E-09	3.65E-10	3.65E-10	3.65E-10	
		5.27E-02	1.40E-03	2.86E-05	6.61E-07	2.61E-08	1.58E-09	1.23E-10	1.23E-10	1.23E-10	
		1.67E-01	7.20E-03	3.69E-04	1.76E-05	4.93E-07	1.14E-09	3.66E-10	3.66E-10	3.66E-10	
		5.32E-02	1.42E-03	2.88E-05	6.68E-07	2.64E-08	1.59E-09	1.24E-10	1.24E-10	1.24E-10	

40330.00	5.00	1.75E-01	7.47E-03	3.77E-04	1.77E-07	4.94E-07	1.15E-09	3.67E-10	1.75E-11
		5.37E-02	1.43E-03	2.91E-05	6.74E-07	2.46E-06	1.60E-09	1.25E-10	1.10E-11
41130.60	5.10	1.25E-01	7.76E-03	3.65E-04	1.79E-05	4.90E-07	1.15E-09	3.60E-10	1.76E-11
		5.41E-02	1.44E-03	2.93E-05	6.79E-07	2.46E-06	1.61E-09	1.26E-10	1.11E-11
41943.20	5.20	1.89E-01	7.07E-03	3.91E-04	1.80E-05	5.00E-07	1.15E-09	3.60E-10	1.74E-11
		5.45E-02	1.45E-03	2.95E-05	6.83E-07	2.46E-06	1.62E-09	1.26E-10	1.11E-11
42749.80	5.30	1.99E-01	8.24E-03	4.00E-04	1.82E-05	5.03E-07	1.16E-09	3.60E-10	1.77E-11
		5.46E-02	1.46E-03	2.97E-05	6.87E-07	2.47E-06	1.63E-09	1.27E-10	1.11E-11
43556.40	5.40	2.04E-01	8.49E-03	4.05E-04	1.84E-05	5.05E-07	1.16E-09	3.70E-10	1.77E-11
		5.51E-02	1.47E-03	2.99E-05	6.91E-07	2.47E-06	1.64E-09	1.27E-10	1.12E-11
44363.00	5.50	2.14E-01	8.78E-03	4.13E-04	1.85E-05	5.08E-07	1.16E-09	3.71E-10	1.78E-11
		5.54E-02	1.48E-03	3.00E-05	6.94E-07	2.47E-06	1.64E-09	1.28E-10	1.12E-11
45169.60	5.60	2.21E-01	9.03E-03	4.20E-04	1.87E-05	5.10E-07	1.17E-09	3.71E-10	1.78E-11
		5.58E-02	1.48E-03	3.02E-05	6.97E-07	2.47E-06	1.65E-09	1.28E-10	1.13E-11
45976.20	5.70	2.28E-01	9.17E-03	4.24E-04	1.88E-05	5.11E-07	1.17E-09	3.72E-10	1.78E-11
		5.59E-02	1.49E-03	3.03E-05	7.00E-07	2.47E-06	1.65E-09	1.28E-10	1.13E-11
46782.80	5.80	2.30E-01	9.31E-03	4.28E-04	1.89E-05	5.13E-07	1.17E-09	3.72E-10	1.79E-11
		5.60E-02	1.50E-03	3.04E-05	7.03E-07	2.47E-06	1.66E-09	1.29E-10	1.13E-11
47589.40	5.90	2.31E-01	9.43E-03	4.31E-04	1.89E-05	5.14E-07	1.17E-09	3.72E-10	1.79E-11
		5.62E-02	1.50E-03	3.05E-05	7.05E-07	2.47E-06	1.66E-09	1.29E-10	1.13E-11
48396.00	6.00	2.36E-01	9.51E-03	4.34E-04	1.90E-05	5.14E-07	1.17E-09	3.73E-10	1.79E-11
		5.64E-02	1.51E-03	3.06E-05	7.07E-07	2.47E-06	1.66E-09	1.29E-10	1.13E-11
49202.60	6.10	2.42E-01	9.73E-03	4.40E-04	1.91E-05	5.17E-07	1.17E-09	3.73E-10	1.79E-11
		5.66E-02	1.51E-03	3.07E-05	7.09E-07	2.47E-06	1.67E-09	1.29E-10	1.14E-11
50009.20	6.20	2.44E-01	9.83E-03	4.43E-04	1.92E-05	5.18E-07	1.18E-09	3.73E-10	1.79E-11
		5.67E-02	1.51E-03	3.08E-05	7.10E-07	2.47E-06	1.67E-09	1.30E-10	1.14E-11
50815.80	6.30	2.46E-01	9.89E-03	4.45E-04	1.92E-05	5.18E-07	1.18E-09	3.74E-10	1.79E-11
		5.68E-02	1.52E-03	3.08E-05	7.12E-07	2.47E-06	1.67E-09	1.30E-10	1.14E-11
51622.40	6.40	2.49E-01	1.00E-02	4.49E-04	1.93E-05	5.19E-07	1.18E-09	3.74E-10	1.80E-11
		5.69E-02	1.52E-03	3.09E-05	7.13E-07	2.47E-06	1.67E-09	1.30E-10	1.14E-11
52429.00	6.50	2.51E-01	1.01E-02	4.51E-04	1.94E-05	5.20E-07	1.18E-09	3.74E-10	1.80E-11
		5.70E-02	1.52E-03	3.09E-05	7.14E-07	2.47E-06	1.67E-09	1.30E-10	1.14E-11
53235.60	6.60	2.52E-01	1.01E-02	4.52E-04	1.94E-05	5.21E-07	1.18E-09	3.74E-10	1.80E-11
		5.71E-02	1.52E-03	3.10E-05	7.15E-07	2.47E-06	1.68E-09	1.30E-10	1.14E-11
54042.20	6.70	2.53E-01	1.02E-02	4.54E-04	1.95E-05	5.22E-07	1.18E-09	3.74E-10	1.80E-11
		5.72E-02	1.53E-03	3.10E-05	7.16E-07	2.47E-06	1.68E-09	1.30E-10	1.14E-11
54848.80	6.80	2.54E-01	1.02E-02	4.55E-04	1.95E-05	5.22E-07	1.18E-09	3.74E-10	1.80E-11
		5.73E-02	1.53E-03	3.11E-05	7.17E-07	2.47E-06	1.68E-09	1.30E-10	1.14E-11
55655.40	6.90	2.54E-01	1.02E-02	4.55E-04	1.95E-05	5.22E-07	1.18E-09	3.75E-10	1.80E-11
		5.73E-02	1.53E-03	3.11E-05	7.17E-07	2.47E-06	1.68E-09	1.30E-10	1.14E-11
56462.00	7.00	2.55E-01	1.02E-02	4.56E-04	1.95E-05	5.22E-07	1.18E-09	3.75E-10	1.80E-11
		5.73E-02	1.53E-03	3.11E-05	7.18E-07	2.47E-06	1.68E-09	1.30E-10	1.14E-11
57268.60	7.10	2.57E-01	1.03E-02	4.57E-04	1.95E-05	5.23E-07	1.18E-09	3.75E-10	1.80E-11
		5.90E-02	1.57E-03	3.16E-05	7.23E-07	2.47E-06	1.68E-09	1.30E-10	1.14E-11
58075.20	7.20	2.60E-01	1.03E-02	4.57E-04	1.95E-05	5.23E-07	1.18E-09	3.75E-10	1.80E-11
		6.22E-02	1.61E-03	3.20E-05	7.28E-07	2.47E-06	1.68E-09	1.31E-10	1.14E-11
58881.80	7.30	2.62E-01	1.04E-02	4.58E-04	1.96E-05	5.23E-07	1.18E-09	3.75E-10	1.80E-11
		6.44E-02	1.65E-03	3.25E-05	7.33E-07	2.47E-06	1.68E-09	1.31E-10	1.15E-11
59688.40	7.40	2.64E-01	1.04E-02	4.58E-04	1.96E-05	5.23E-07	1.18E-09	3.75E-10	1.80E-11
		6.65E-02	1.66E-03	3.29E-05	7.37E-07	2.47E-06	1.68E-09	1.31E-10	1.15E-11

PARTIAL FLANK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR 7000° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density × Normal									
		1.0E-01	1.0E-02	1.0E-01	1.0E-02	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07	
60495.00	7.50	2.66E-01	1.04E-02	4.59E-04	1.96E-05	5.24E-07	1.18E-09	3.75E-10	1.00E-11		
60496.00	7.50	2.66E-01	1.04E-02	4.59E-04	1.96E-05	5.24E-07	1.18E-09	3.75E-10	1.00E-11		
61301.60	7.60	2.68E-01	1.05E-02	4.61E-04	1.97E-05	5.24E-07	1.18E-09	3.75E-10	1.00E-11		
62108.20	7.70	2.70E-01	1.05E-02	4.63E-04	1.97E-05	5.24E-07	1.18E-09	3.75E-10	1.00E-11		
62914.60	7.80	2.72E-01	1.05E-02	4.65E-04	1.97E-05	5.24E-07	1.18E-09	3.75E-10	1.00E-11		
63721.40	7.90	2.73E-01	1.05E-02	4.67E-04	1.97E-05	5.24E-07	1.18E-09	3.75E-10	1.00E-11		
64528.00	8.00	2.74E-01	1.05E-02	4.69E-04	1.97E-05	5.24E-07	1.18E-09	3.75E-10	1.00E-11		
65334.60	8.10	2.76E-01	1.05E-02	4.71E-04	1.97E-05	5.24E-07	1.18E-09	3.75E-10	1.00E-11		
66141.20	8.20	2.77E-01	1.05E-02	4.73E-04	1.97E-05	5.24E-07	1.18E-09	3.75E-10	1.00E-11		
66947.80	8.30	2.78E-01	1.05E-02	4.75E-04	1.97E-05	5.24E-07	1.18E-09	3.75E-10	1.00E-11		
67754.40	8.40	2.79E-01	1.05E-02	4.77E-04	1.97E-05	5.24E-07	1.18E-09	3.75E-10	1.00E-11		
68561.00	8.50	2.80E-01	1.05E-02	4.79E-04	1.97E-05	5.24E-07	1.18E-09	3.75E-10	1.00E-11		
69367.60	8.60	2.81E-01	1.05E-02	4.81E-04	1.97E-05	5.24E-07	1.18E-09	3.75E-10	1.00E-11		
70174.20	8.70	2.82E-01	1.05E-02	4.83E-04	1.97E-05	5.24E-07	1.18E-09	3.75E-10	1.00E-11		
70980.80	8.80	2.82E-01	1.05E-02	4.85E-04	1.97E-05	5.24E-07	1.18E-09	3.75E-10	1.00E-11		
71787.40	8.90	2.83E-01	1.05E-02	4.87E-04	1.97E-05	5.24E-07	1.18E-09	3.75E-10	1.00E-11		
72594.00	9.00	2.83E-01	1.05E-02	4.89E-04	1.97E-05	5.24E-07	1.18E-09	3.75E-10	1.00E-11		
73400.60	9.10	2.84E-01	1.05E-02	4.91E-04	1.97E-05	5.24E-07	1.18E-09	3.75E-10	1.00E-11		
74207.20	9.20	2.84E-01	1.05E-02	4.93E-04	1.97E-05	5.24E-07	1.18E-09	3.75E-10	1.00E-11		
75013.80	9.30	2.84E-01	1.05E-02	4.95E-04	1.97E-05	5.24E-07	1.18E-09	3.75E-10	1.00E-11		
75820.40	9.40	2.84E-01	1.05E-02	4.97E-04	1.97E-05	5.24E-07	1.18E-09	3.75E-10	1.00E-11		
76627.00	9.50	2.84E-01	1.05E-02	4.99E-04	1.97E-05	5.24E-07	1.18E-09	3.75E-10	1.00E-11		
77433.60	9.60	2.84E-01	1.05E-02	5.01E-04	1.97E-05	5.24E-07	1.18E-09	3.75E-10	1.00E-11		
		2.84E-01	1.05E-02	5.03E-04	1.97E-05	5.24E-07	1.18E-09	3.75E-10	1.00E-11		





PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 7000° K

Wave Number (cm <sup>-1</sup> )	Photos Energy (eV)	Density × Normal									
		1.0E 01	1.0E 00	1.0E-01	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07		
116957.00	14.50	2.85E-01	1.09E-02	4.77E-04	2.07E-05	6.07E-07	1.85E-09	1.03E-09	8.05E-11		
116957.50	14.50	2.85E-02	2.01E-03	4.01E-05	1.31E-06	1.01E-07	8.25E-09	7.82E-10	7.39E-11		
116973.50	14.75	2.85E-01	1.09E-02	4.77E-04	2.07E-05	6.16E-07	1.94E-09	1.11E-09	8.87E-11		
120690.00	15.00	2.85E-02	2.02E-03	4.04E-05	1.38E-06	1.09E-07	9.11E-09	8.07E-10	8.72E-11		
120690.50	15.00	2.85E-01	1.09E-02	4.78E-04	2.08E-05	6.21E-07	2.00E-09	1.17E-09	9.45E-11		
123066.50	15.25	2.85E-01	1.09E-02	4.86E-04	1.42E-06	1.15E-07	9.72E-09	9.27E-10	8.79E-11		
125023.00	15.50	2.85E-02	2.02E-03	4.08E-05	1.45E-06	1.19E-07	1.01E-09	9.70E-10	9.20E-11		
125023.50	15.50	2.85E-01	1.09E-02	4.78E-04	2.09E-05	6.28E-07	2.07E-09	1.29E-09	1.01E-10		
137039.50	15.75	2.85E-02	2.02E-03	4.09E-05	1.47E-06	1.22E-07	1.04E-09	1.00E-09	9.49E-11		
139056.00	16.00	2.85E-01	1.09E-02	4.78E-04	2.09E-05	6.30E-07	2.09E-09	1.27E-09	1.03E-10		
139056.50	16.00	2.85E-02	2.02E-03	4.10E-05	1.48E-06	1.24E-07	1.07E-09	1.02E-09	9.68E-11		
131072.50	16.25	2.85E-01	1.09E-02	4.78E-04	2.09E-05	6.32E-07	2.11E-09	1.28E-09	1.03E-10		
133089.00	16.50	2.85E-02	2.02E-03	4.11E-05	1.49E-06	1.25E-07	1.08E-09	1.04E-09	9.81E-11		
133089.50	16.50	2.85E-01	1.09E-02	4.78E-04	2.09E-05	6.33E-07	2.12E-09	1.29E-09	1.05E-10		
135105.50	16.75	2.85E-02	2.02E-03	4.11E-05	1.50E-06	1.26E-07	1.09E-09	1.05E-09	9.92E-11		
137122.00	17.00	2.85E-01	1.09E-02	4.78E-04	2.09E-05	6.33E-07	2.12E-09	1.30E-09	1.06E-10		
137122.50	17.00	2.85E-02	2.02E-03	4.11E-05	1.51E-06	1.27E-07	1.10E-09	1.05E-09	9.99E-11		
139136.50	17.25	2.85E-01	1.09E-02	4.78E-04	2.09E-05	6.34E-07	2.13E-09	1.30E-09	1.07E-10		
141155.00	17.50	2.85E-02	2.02E-03	4.12E-05	1.51E-06	1.27E-07	1.10E-09	1.06E-09	1.00E-10		
143171.50	17.75	2.85E-01	1.09E-02	4.78E-04	2.09E-05	6.34E-07	2.13E-09	1.31E-09	1.07E-10		
		2.85E-02	2.02E-03	4.12E-05	1.51E-06	1.28E-07	1.11E-09	1.06E-09	1.01E-10		
		2.85E-01	1.09E-02	4.78E-04	2.09E-05	6.34E-07	2.14E-09	1.31E-09	1.07E-10		
		2.85E-02	2.02E-03	4.12E-05	1.52E-06	1.28E-07	1.11E-09	1.06E-09	1.01E-10		
		2.85E-01	1.09E-02	4.78E-04	2.09E-05	6.35E-07	2.14E-09	1.31E-09	1.07E-10		
		2.85E-02	2.02E-03	4.12E-05	1.52E-06	1.28E-07	1.11E-09	1.07E-09	1.01E-10		

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 8000° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density x Normal							
		1.0E 01	1.0E 00	1.0E-01	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07
4839.40	0.60	2.56E-04	1.04E-05	6.37E-07	6.09E-08	6.13E-09	6.01E-10	5.63E-11	4.59E-12
2.12E-04	8.93E-06	5.89E-07	5.99E-08	5.99E-08	5.99E-08	6.12E-09	6.01E-10	5.63E-11	4.59E-12
6.08E-04	3.26E-05	1.95E-06	1.95E-06	1.95E-06	1.95E-06	1.29E-08	1.29E-09	1.17E-10	9.51E-12
6.48E-04	1.77E-05	1.21E-06	1.21E-06	1.21E-06	1.21E-06	1.27E-08	1.25E-09	1.17E-10	9.51E-12
5.67E-04	1.02E-04	5.93E-06	5.93E-06	5.93E-06	5.93E-06	2.24E-08	1.99E-09	1.80E-10	1.44E-11
7.259.40	2.60E-05	1.92E-06	1.92E-06	1.92E-06	1.92E-06	2.13E-08	1.90E-09	1.80E-10	1.44E-11
3.60E-03	2.70E-04	1.53E-05	1.53E-05	1.53E-05	1.53E-05	3.36E-08	2.89E-09	2.62E-10	2.14E-11
7.18E-04	3.37E-05	2.65E-06	2.65E-06	2.65E-06	2.65E-06	3.03E-08	2.66E-09	2.62E-10	2.14E-11
8.53E-04	4.08E-05	3.34E-06	3.34E-06	3.34E-06	3.34E-06	3.78E-07	3.74E-09	3.44E-10	2.81E-11
1.03E-02	8.20E-04	4.56E-05	4.56E-05	4.56E-05	4.56E-05	5.85E-08	4.87E-09	4.22E-10	3.44E-11
9.77E-04	4.74E-05	4.01E-06	4.01E-06	4.01E-06	4.01E-06	4.75E-08	4.56E-09	4.22E-10	3.44E-11
9.679.20	1.55E-02	1.26E-03	1.26E-03	1.26E-03	1.26E-03	3.00E-06	3.49E-09	4.95E-10	4.02E-11
1.0485.80	1.09E-03	5.33E-05	4.83E-06	4.83E-06	4.83E-06	5.34E-07	5.32E-09	4.95E-10	4.02E-11
1.1292.40	2.10E-02	1.71E-03	1.71E-03	1.71E-03	1.71E-03	2.60E-06	6.20E-09	5.56E-10	4.52E-11
1.2099.00	1.19E-03	5.95E-05	5.14E-06	5.14E-06	5.14E-06	5.97E-07	5.97E-09	5.54E-10	4.52E-11
1.2905.60	2.92E-02	2.39E-03	1.31E-04	1.31E-04	1.31E-04	3.49E-06	6.80E-09	6.04E-10	4.90E-11
1.3712.20	1.29E-03	6.49E-05	5.77E-06	5.77E-06	5.77E-06	6.46E-07	6.48E-09	6.07E-10	4.90E-11
1.4518.80	3.81E-02	3.08E-03	1.68E-04	1.68E-04	1.68E-04	4.38E-06	7.83E-09	6.50E-10	5.21E-11
1.5325.40	2.37E-03	9.40E-05	6.85E-06	6.85E-06	6.85E-06	7.31E-07	7.22E-09	6.48E-10	5.21E-11
1.6132.00	4.71E-02	3.69E-03	1.99E-04	1.99E-04	1.99E-04	5.13E-06	8.36E-09	7.09E-10	5.69E-11
1.6938.60	1.76E-02	1.54E-04	6.81E-06	6.81E-06	6.81E-06	8.31E-07	7.87E-09	7.09E-10	5.69E-11
1.7745.20	5.99E-02	4.59E-03	2.48E-04	2.48E-04	2.48E-04	6.25E-06	1.52E-07	7.65E-10	6.16E-11
1.8551.60	7.64E-03	2.27E-04	1.08E-05	1.08E-05	1.08E-05	9.33E-07	9.04E-08	7.63E-10	6.15E-11
1.9358.40	1.08E-02	3.04E-04	1.52E-05	1.52E-05	1.52E-05	1.03E-06	9.73E-08	8.21E-10	6.57E-11
2.0165.00	6.52E-02	6.33E-03	3.55E-04	3.55E-04	3.55E-04	8.38E-06	1.80E-07	8.67E-10	6.93E-11
2.0971.50	1.41E-02	3.87E-04	1.48E-05	1.48E-05	1.48E-05	1.13E-06	1.04E-07	8.69E-10	6.93E-11
2.1778.20	9.32E-02	6.80E-03	3.56E-04	3.56E-04	3.56E-04	8.91E-06	1.99E-07	9.08E-10	7.25E-11
	1.76E-02	4.72E-04	1.70E-05	1.70E-05	1.70E-05	1.22E-06	1.09E-07	9.08E-10	7.25E-11
	9.98E-02	7.14E-03	3.74E-04	3.74E-04	3.74E-04	9.31E-06	2.08E-07	9.44E-10	7.54E-11
	2.12E-02	5.61E-04	1.91E-05	1.91E-05	1.91E-05	1.31E-06	1.15E-07	9.30E-10	7.53E-11
	1.05E-01	7.30E-03	3.85E-04	3.85E-04	3.85E-04	9.59E-06	2.15E-07	9.75E-10	7.78E-11
	2.47E-02	6.49E-04	2.13E-05	2.13E-05	2.13E-05	1.39E-06	1.20E-07	9.67E-10	7.77E-11
	1.10E-01	7.55E-03	3.91E-04	3.91E-04	3.91E-04	9.78E-06	2.20E-07	1.00E-09	7.98E-11
	2.83E-02	7.36E-04	2.34E-05	2.34E-05	2.34E-05	1.47E-06	1.24E-07	9.93E-10	7.98E-11
	1.13E-01	7.43E-03	3.94E-04	3.94E-04	3.94E-04	9.87E-06	2.25E-07	1.02E-09	8.15E-11
	3.18E-02	8.21E-04	2.54E-05	2.54E-05	2.54E-05	1.54E-06	1.28E-07	1.01E-09	8.14E-11
	1.17E-01	7.74E-03	3.96E-04	3.96E-04	3.96E-04	9.96E-06	2.29E-07	1.02E-09	8.28E-11
	3.52E-02	9.06E-04	2.74E-05	2.74E-05	2.74E-05	1.64E-06	1.31E-07	1.03E-09	8.28E-11
	1.20E-01	7.83E-03	3.99E-04	3.99E-04	3.99E-04	1.01E-05	2.35E-07	1.04E-09	8.40E-11
	1.66E-02	9.80E-04	2.94E-05	2.94E-05	2.94E-05	1.69E-06	1.36E-07	1.05E-09	8.39E-11
	1.24E-01	7.93E-03	4.04E-04	4.04E-04	4.04E-04	1.04E-05	2.50E-07	1.05E-09	8.63E-11
	4.18E-02	1.07E-03	3.14E-05	3.14E-05	3.14E-05	1.77E-06	1.40E-07	1.07E-09	8.60E-11

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 9000°K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density x Normal										10.0E-06	10.0E-07
		1.0E-01	1.0E-00	1.0E-01	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07	10.0E-08	10.0E-09		
2294.80	2.80	1.20E-01	0.03E-03	4.00E-04	1.00E-05	2.50E-07	1.40E-08	1.13E-09	8.07E-11				
450E-02	1.14E-03	3.33E-05	1.05E-06	1.44E-07	1.85E-08	1.44E-09	1.25E-10	1.10E-11	0.03E-11				
1.32E-01	0.16E-03	4.16E-04	1.11E-05	2.77E-07	1.48E-08	1.17E-09	1.07E-10	9.11E-11	9.11E-11				
4.00E-02	1.22E-03	3.51E-05	1.92E-06	1.49E-07	1.29E-08	1.13E-09	1.04E-10	9.04E-11	9.04E-11				
1.36E-01	0.31E-03	4.20E-04	1.17E-05	3.00E-07	1.58E-08	1.21E-09	1.04E-10	9.34E-11	9.34E-11				
5.09E-02	1.29E-03	3.60E-05	1.98E-06	1.52E-07	1.31E-08	1.13E-09	1.03E-10	9.23E-11	9.23E-11				
1.41E-01	0.45E-03	4.31E-04	1.19E-05	3.00E-07	1.60E-08	1.23E-09	1.05E-10	9.51E-11	9.51E-11				
5.36E-02	1.35E-03	3.84E-05	2.04E-06	1.56E-07	1.34E-08	1.17E-09	1.05E-10	9.30E-11	9.30E-11				
1.45E-01	0.67E-03	4.53E-04	1.35E-05	3.64E-07	1.79E-08	1.30E-09	1.07E-10	9.74E-11	9.74E-11				
5.62E-02	1.42E-03	4.00E-05	2.10E-06	1.59E-07	1.36E-08	1.19E-09	1.05E-10	9.53E-11	9.53E-11				
1.50E-01	0.47E-03	4.65E-04	1.40E-05	3.04E-07	1.86E-08	1.32E-09	1.07E-10	9.91E-11	9.91E-11				
5.86E-02	1.48E-03	4.14E-05	2.15E-06	1.61E-07	1.38E-08	1.24E-09	1.08E-10	9.65E-11	9.65E-11				
1.56E-01	0.66E-03	4.72E-04	1.43E-05	3.09E-07	1.88E-08	1.34E-09	1.00E-10	1.00E-10	1.00E-10				
6.09E-02	1.53E-03	4.27E-05	2.20E-06	1.64E-07	1.39E-08	1.22E-09	1.07E-10	9.75E-11	9.75E-11				
1.63E-01	0.40E-03	4.97E-04	1.54E-05	3.35E-07	2.02E-08	1.39E-09	1.03E-10	1.03E-10	1.03E-10				
6.47E-02	1.63E-03	4.48E-05	2.27E-06	1.67E-07	1.41E-08	1.23E-09	1.05E-10	9.84E-11	9.84E-11				
1.70E-01	0.66E-03	5.09E-04	1.60E-05	4.49E-07	2.47E-08	1.41E-09	1.05E-10	1.05E-10	1.05E-10				
6.66E-02	1.72E-03	4.70E-05	2.33E-06	1.69E-07	1.42E-08	1.24E-09	1.07E-10	9.92E-11	9.92E-11				
1.79E-01	0.99E-03	5.22E-04	1.64E-05	4.56E-07	2.09E-08	1.42E-09	1.03E-10	1.03E-10	1.03E-10				
7.25E-02	1.82E-03	4.92E-05	2.40E-06	1.72E-07	1.44E-08	1.25E-09	1.05E-10	9.98E-11	9.98E-11				
1.87E-01	1.03E-03	5.34E-04	1.68E-05	4.67E-07	2.13E-08	1.43E-09	1.04E-10	1.04E-10	1.04E-10				
7.62E-02	1.90E-03	5.12E-05	2.46E-06	1.75E-07	1.45E-08	1.26E-09	1.05E-10	1.05E-10	1.05E-10				
1.94E-01	1.05E-03	5.42E-04	1.70E-05	4.72E-07	2.14E-08	1.44E-09	1.05E-10	1.05E-10	1.05E-10				
7.97E-02	1.99E-03	5.32E-05	2.52E-06	1.77E-07	1.46E-08	1.27E-09	1.07E-10	1.07E-10	1.07E-10				
2.02E-01	1.09E-03	5.55E-04	1.73E-05	4.77E-07	2.16E-08	1.45E-09	1.05E-10	1.05E-10	1.05E-10				
8.29E-02	2.07E-03	5.50E-05	2.56E-06	1.79E-07	1.47E-08	1.28E-09	1.07E-10	1.07E-10	1.07E-10				
2.09E-01	1.11E-03	5.61E-04	1.74E-05	4.80E-07	2.17E-08	1.46E-09	1.06E-10	1.06E-10	1.06E-10				
8.59E-02	2.14E-03	5.67E-05	2.63E-06	1.82E-07	1.49E-08	1.28E-09	1.07E-10	1.07E-10	1.07E-10				
2.18E-01	1.14E-03	5.72E-04	1.76E-05	4.84E-07	2.19E-08	1.47E-09	1.07E-10	1.07E-10	1.07E-10				
8.87E-02	2.21E-03	5.83E-05	2.68E-06	1.84E-07	1.50E-08	1.29E-09	1.08E-10	1.08E-10	1.08E-10				
2.26E-01	1.16E-03	5.78E-04	1.78E-05	4.88E-07	2.21E-08	1.49E-09	1.07E-10	1.07E-10	1.07E-10				
9.13E-02	2.28E-03	5.99E-05	2.74E-06	1.87E-07	1.52E-08	1.31E-09	1.09E-10	1.09E-10	1.09E-10				
2.36E-01	1.19E-03	5.84E-04	1.79E-05	4.92E-07	2.23E-08	1.50E-09	1.09E-10	1.09E-10	1.09E-10				
9.37E-02	2.33E-03	6.13E-05	2.79E-06	1.90E-07	1.54E-08	1.33E-09	1.09E-10	1.09E-10	1.09E-10				
2.46E-01	1.22E-03	5.91E-04	1.80E-05	4.95E-07	2.25E-08	1.52E-09	1.10E-10	1.10E-10	1.10E-10				
9.59E-02	2.39E-03	6.26E-05	2.84E-06	1.92E-07	1.56E-08	1.34E-09	1.06E-10	1.06E-10	1.06E-10				
2.57E-01	1.25E-03	5.99E-04	1.82E-05	4.99E-07	2.26E-08	1.53E-09	1.11E-10	1.11E-10	1.11E-10				
9.79E-02	2.44E-03	6.30E-05	2.88E-06	1.94E-07	1.57E-08	1.36E-09	1.07E-10	1.07E-10	1.07E-10				
2.67E-01	1.26E-03	6.09E-04	1.83E-05	5.01E-07	2.28E-08	1.54E-09	1.12E-10	1.12E-10	1.12E-10				
9.97E-02	2.48E-03	6.49E-05	2.92E-06	1.97E-07	1.59E-08	1.37E-09	1.08E-10	1.08E-10	1.08E-10				
2.78E-01	1.31E-03	6.14E-04	1.85E-05	5.04E-07	2.60E-08	1.55E-09	1.13E-10	1.13E-10	1.13E-10				
1.01E-01	2.52E-03	6.59E-05	2.94E-06	1.98E-07	1.60E-08	1.38E-09	1.09E-10	1.09E-10	1.09E-10				
2.89E-01	1.35E-03	6.24E-04	1.86E-05	5.07E-07	2.31E-08	1.56E-09	1.13E-10	1.13E-10	1.13E-10				
1.03E-01	2.54E-03	6.68E-05	2.99E-06	2.00E-07	1.61E-08	1.39E-09	1.10E-10	1.10E-10	1.10E-10				

40336.00	5.00	2.99E-01	1.39E-02	6.29E-04	1.67E-05	5.10E-07	2.32E-09	1.57E-09	1.14E-10
		1.04E-01	2.59E-03	6.76E-05	2.02E-06	2.02E-07	1.62E-09	1.40E-09	1.10E-10
41136.60	5.10	3.10E-01	1.41E-02	6.37E-04	1.99E-05	5.12E-07	2.33E-09	1.50E-09	1.15E-10
		1.08E-01	2.83E-03	6.83E-05	3.05E-06	2.03E-07	1.63E-09	1.40E-09	1.11E-10
41943.20	5.20	3.10E-01	1.44E-02	6.43E-04	1.90E-05	5.14E-07	2.34E-09	1.50E-09	1.15E-10
		1.07E-01	2.87E-03	6.90E-05	3.07E-06	2.04E-07	1.64E-09	1.41E-09	1.11E-10
42749.80	5.30	3.30E-01	1.47E-02	6.52E-04	1.91E-05	5.17E-07	2.35E-09	1.50E-09	1.16E-10
		1.06E-01	2.86E-03	6.96E-05	3.09E-06	2.05E-07	1.65E-09	1.42E-09	1.12E-10
43556.40	5.40	3.39E-01	1.50E-02	6.57E-04	1.92E-05	5.19E-07	2.36E-09	1.60E-09	1.16E-10
		1.05E-01	2.70E-03	7.02E-05	3.11E-06	2.06E-07	1.66E-09	1.42E-09	1.12E-10
44363.00	5.50	3.49E-01	1.53E-02	6.63E-04	1.93E-05	5.21E-07	2.36E-09	1.60E-09	1.17E-10
		1.05E-01	2.72E-03	7.07E-05	3.13E-06	2.07E-07	1.66E-09	1.43E-09	1.13E-10
45169.60	5.60	3.59E-01	1.56E-02	6.72E-04	1.94E-05	5.22E-07	2.37E-09	1.61E-09	1.17E-10
		1.04E-01	2.74E-03	7.11E-05	3.15E-06	2.08E-07	1.67E-09	1.43E-09	1.13E-10
45976.20	5.70	3.69E-01	1.59E-02	6.76E-04	1.95E-05	5.24E-07	2.38E-09	1.61E-09	1.17E-10
		1.11E-01	2.78E-03	7.16E-05	3.16E-06	2.09E-07	1.67E-09	1.44E-09	1.13E-10
46782.80	5.80	3.71E-01	1.59E-02	6.80E-04	1.96E-05	5.25E-07	2.38E-09	1.62E-09	1.16E-10
		1.12E-01	2.78E-03	7.20E-05	3.18E-06	2.10E-07	1.68E-09	1.44E-09	1.14E-10
47589.40	5.90	3.76E-01	1.61E-02	6.84E-04	1.96E-05	5.26E-07	2.39E-09	1.62E-09	1.18E-10
		1.12E-01	2.80E-03	7.24E-05	3.19E-06	2.10E-07	1.68E-09	1.44E-09	1.14E-10
48396.00	6.00	3.80E-01	1.62E-02	6.86E-04	1.97E-05	5.27E-07	2.39E-09	1.62E-09	1.18E-10
		1.13E-01	2.81E-03	7.28E-05	3.20E-06	2.11E-07	1.69E-09	1.45E-09	1.14E-10
49202.60	6.10	3.88E-01	1.65E-02	6.93E-04	1.98E-05	5.29E-07	2.39E-09	1.63E-09	1.18E-10
		1.14E-01	2.83E-03	7.31E-05	3.21E-06	2.11E-07	1.69E-09	1.45E-09	1.14E-10
50009.20	6.20	3.92E-01	1.66E-02	6.97E-04	1.99E-05	5.30E-07	2.40E-09	1.63E-09	1.18E-10
		1.14E-01	2.84E-03	7.34E-05	3.22E-06	2.12E-07	1.69E-09	1.45E-09	1.15E-10
50815.80	6.30	3.95E-01	1.67E-02	6.99E-04	1.99E-05	5.31E-07	2.40E-09	1.63E-09	1.19E-10
		1.15E-01	2.85E-03	7.37E-05	3.23E-06	2.12E-07	1.70E-09	1.45E-09	1.15E-10
51622.40	6.40	4.00E-01	1.69E-02	7.03E-04	2.00E-05	5.32E-07	2.40E-09	1.63E-09	1.19E-10
		1.15E-01	2.86E-03	7.39E-05	3.24E-06	2.13E-07	1.70E-09	1.46E-09	1.15E-10
52429.00	6.50	4.03E-01	1.70E-02	7.06E-04	2.00E-05	5.33E-07	2.41E-09	1.63E-09	1.19E-10
		1.15E-01	2.87E-03	7.41E-05	3.25E-06	2.13E-07	1.70E-09	1.46E-09	1.15E-10
53235.60	6.60	4.05E-01	1.71E-02	7.08E-04	2.00E-05	5.33E-07	2.41E-09	1.64E-09	1.19E-10
		1.16E-01	2.88E-03	7.43E-05	3.25E-06	2.13E-07	1.70E-09	1.46E-09	1.15E-10
54042.20	6.70	4.08E-01	1.72E-02	7.10E-04	2.01E-05	5.34E-07	2.41E-09	1.64E-09	1.19E-10
		1.16E-01	2.88E-03	7.45E-05	3.26E-06	2.14E-07	1.70E-09	1.46E-09	1.15E-10
54848.80	6.80	4.10E-01	1.72E-02	7.12E-04	2.01E-05	5.34E-07	2.41E-09	1.64E-09	1.19E-10
		1.16E-01	2.89E-03	7.47E-05	3.27E-06	2.14E-07	1.71E-09	1.46E-09	1.15E-10
55655.40	6.90	4.11E-01	1.73E-02	7.13E-04	2.02E-05	5.35E-07	2.41E-09	1.64E-09	1.19E-10
		1.17E-01	2.90E-03	7.48E-05	3.27E-06	2.14E-07	1.71E-09	1.46E-09	1.16E-10
56462.00	7.00	4.12E-01	1.73E-02	7.15E-04	2.02E-05	5.35E-07	2.42E-09	1.64E-09	1.19E-10
		1.17E-01	2.90E-03	7.49E-05	3.27E-06	2.14E-07	1.71E-09	1.47E-09	1.16E-10
57268.60	7.10	4.15E-01	1.74E-02	7.16E-04	2.02E-05	5.36E-07	2.42E-09	1.64E-09	1.20E-10
		1.20E-01	2.94E-03	7.54E-05	3.28E-06	2.14E-07	1.71E-09	1.47E-09	1.16E-10
58075.20	7.20	4.18E-01	1.74E-02	7.17E-04	2.02E-05	5.36E-07	2.42E-09	1.64E-09	1.20E-10
		1.20E-01	2.94E-03	7.59E-05	3.29E-06	2.15E-07	1.71E-09	1.47E-09	1.16E-10
58881.80	7.30	4.21E-01	1.75E-02	7.18E-04	2.02E-05	5.36E-07	2.42E-09	1.64E-09	1.20E-10
		1.20E-01	3.02E-03	7.64E-05	3.30E-06	2.15E-07	1.71E-09	1.47E-09	1.16E-10
59688.40	7.40	4.24E-01	1.75E-02	7.19E-04	2.03E-05	5.37E-07	2.42E-09	1.64E-09	1.20E-10
		1.28E-01	3.06E-03	7.69E-05	3.30E-06	2.15E-07	1.71E-09	1.47E-09	1.14E-10

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 6000°K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density x Normal									
		1.0E 01	1.0E 00	1.0E-01	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07	10.0E-08	10.0E-09
60495.00	7.50	4.27E-01	1.76E-02	7.21E-04	2.03E-05	5.37E-07	2.42E-08	1.64E-09	1.20E-10		
1.31E-01	3.10E-03	7.73E-05	7.73E-05	7.73E-05	3.31E-06	2.15E-07	1.72E-08	1.47E-09	1.20E-10		
61301.60	7.60	4.29E-01	1.76E-02	7.22E-04	2.03E-05	5.38E-07	2.42E-08	1.65E-09	1.20E-10		
1.33E-01	3.13E-03	7.77E-05	7.77E-05	7.77E-05	3.32E-06	2.15E-07	1.71E-08	1.47E-09	1.16E-10		
62106.20	7.70	4.32E-01	1.77E-02	7.23E-04	2.04E-05	5.30E-07	2.42E-08	1.65E-09	1.20E-10		
1.35E-01	3.15E-03	7.81E-05	7.81E-05	7.81E-05	3.32E-06	2.15E-07	1.72E-08	1.47E-09	1.16E-10		
62914.80	7.80	4.34E-01	1.77E-02	7.24E-04	2.04E-05	5.30E-07	2.42E-08	1.65E-09	1.20E-10		
1.37E-01	3.17E-03	7.84E-05	7.84E-05	7.84E-05	3.33E-06	2.16E-07	1.72E-08	1.47E-09	1.16E-10		
63721.40	7.90	4.36E-01	1.78E-02	7.25E-04	2.04E-05	5.30E-07	2.43E-08	1.65E-09	1.20E-10		
1.39E-01	3.22E-03	7.88E-05	7.88E-05	7.88E-05	3.33E-06	2.16E-07	1.72E-08	1.47E-09	1.16E-10		
64528.00	8.00	4.38E-01	1.78E-02	7.27E-04	2.04E-05	5.30E-07	2.43E-08	1.65E-09	1.20E-10		
1.41E-01	3.25E-03	7.91E-05	7.91E-05	7.91E-05	3.33E-06	2.16E-07	1.72E-08	1.47E-09	1.16E-10		
65334.60	8.10	4.40E-01	1.79E-02	7.28E-04	2.04E-05	5.30E-07	2.43E-08	1.65E-09	1.20E-10		
1.43E-01	3.27E-03	7.94E-05	7.94E-05	7.94E-05	3.34E-06	2.16E-07	1.72E-08	1.47E-09	1.16E-10		
66141.20	8.20	4.42E-01	1.79E-02	7.29E-04	2.05E-05	5.40E-07	2.43E-08	1.65E-09	1.20E-10		
1.44E-01	3.29E-03	7.96E-05	7.96E-05	7.96E-05	3.34E-06	2.16E-07	1.72E-08	1.47E-09	1.16E-10		
66947.80	8.30	4.44E-01	1.79E-02	7.31E-04	2.05E-05	5.40E-07	2.43E-08	1.65E-09	1.20E-10		
1.46E-01	3.31E-03	7.99E-05	7.99E-05	7.99E-05	3.35E-06	2.16E-07	1.72E-08	1.47E-09	1.16E-10		
67754.40	8.40	4.45E-01	1.80E-02	7.32E-04	2.05E-05	5.40E-07	2.43E-08	1.65E-09	1.20E-10		
1.47E-01	3.33E-03	8.01E-05	8.01E-05	8.01E-05	3.35E-06	2.16E-07	1.72E-08	1.47E-09	1.16E-10		
68561.00	8.50	4.47E-01	1.80E-02	7.33E-04	2.06E-05	5.41E-07	2.43E-08	1.65E-09	1.20E-10		
1.48E-01	3.35E-03	8.03E-05	8.03E-05	8.03E-05	3.35E-06	2.16E-07	1.72E-08	1.47E-09	1.16E-10		
69367.60	8.60	4.48E-01	1.80E-02	7.33E-04	2.06E-05	5.41E-07	2.43E-08	1.65E-09	1.20E-10		
1.50E-01	3.37E-03	8.03E-05	8.03E-05	8.03E-05	3.35E-06	2.16E-07	1.72E-08	1.47E-09	1.16E-10		
70174.20	8.70	4.50E-01	1.81E-02	7.36E-04	2.06E-05	5.41E-07	2.43E-08	1.65E-09	1.20E-10		
1.51E-01	3.38E-03	8.07E-05	8.07E-05	8.07E-05	3.36E-06	2.16E-07	1.72E-08	1.47E-09	1.16E-10		
70980.80	8.80	4.51E-01	1.81E-02	7.38E-04	2.06E-05	5.42E-07	2.43E-08	1.65E-09	1.20E-10		
1.52E-01	3.39E-03	8.08E-05	8.08E-05	8.08E-05	3.36E-06	2.16E-07	1.72E-08	1.47E-09	1.16E-10		
71787.40	8.90	4.52E-01	1.82E-02	7.39E-04	2.07E-05	5.42E-07	2.43E-08	1.65E-09	1.20E-10		
1.53E-01	3.41E-03	8.10E-05	8.10E-05	8.10E-05	3.36E-06	2.16E-07	1.72E-08	1.47E-09	1.16E-10		
72594.00	9.00	4.53E-01	1.82E-02	7.41E-04	2.07E-05	5.43E-07	2.43E-08	1.65E-09	1.20E-10		
1.53E-01	3.42E-03	8.11E-05	8.11E-05	8.11E-05	3.36E-06	2.16E-07	1.72E-08	1.47E-09	1.16E-10		
73400.60	9.10	4.54E-01	1.82E-02	7.42E-04	2.07E-05	5.43E-07	2.43E-08	1.65E-09	1.20E-10		
1.54E-01	3.42E-03	8.11E-05	8.11E-05	8.11E-05	3.36E-06	2.16E-07	1.72E-08	1.47E-09	1.16E-10		
74207.20	9.20	4.55E-01	1.83E-02	7.44E-04	2.08E-05	5.43E-07	2.43E-08	1.65E-09	1.20E-10		
1.54E-01	3.43E-03	8.12E-05	8.12E-05	8.12E-05	3.36E-06	2.16E-07	1.72E-08	1.47E-09	1.16E-10		
75013.80	9.30	4.55E-01	1.83E-02	7.45E-04	2.08E-05	5.44E-07	2.43E-08	1.65E-09	1.20E-10		
1.54E-01	3.43E-03	8.13E-05	8.13E-05	8.13E-05	3.36E-06	2.16E-07	1.72E-08	1.47E-09	1.16E-10		
75820.40	9.40	4.56E-01	1.83E-02	7.47E-04	2.08E-05	5.44E-07	2.43E-08	1.65E-09	1.20E-10		
1.55E-01	3.44E-03	8.13E-05	8.13E-05	8.13E-05	3.36E-06	2.16E-07	1.72E-08	1.47E-09	1.16E-10		
76627.00	9.50	4.56E-01	1.84E-02	7.48E-04	2.09E-05	5.45E-07	2.43E-08	1.65E-09	1.20E-10		
1.55E-01	3.44E-03	8.13E-05	8.13E-05	8.13E-05	3.36E-06	2.16E-07	1.72E-08	1.47E-09	1.16E-10		
77433.60	9.60	4.57E-01	1.84E-02	7.50E-04	2.09E-05	5.45E-07	2.44E-08	1.65E-09	1.20E-10		
1.55E-01	3.44E-03	8.13E-05	8.13E-05	8.13E-05	3.36E-06	2.16E-07	1.72E-08	1.47E-09	1.16E-10		

78240.20	9.70	4.57E-01	1.84E-02	7.52E-04	2.10E-05	5.46E-07	2.44E-09	1.69E-09	1.20E-10
		1.95E-01	3.44E-02	8.14E-04	3.37E-06	2.16E-07	1.72E-09	1.47E-09	1.16E-10
79046.80	9.80	4.58E-01	1.86E-02	7.53E-04	2.10E-05	5.40E-07	2.44E-09	1.65E-09	1.20E-10
		1.95E-01	3.44E-02	8.14E-04	3.37E-06	2.16E-07	1.72E-09	1.47E-09	1.16E-10
79853.40	9.90	4.58E-01	1.86E-02	7.55E-04	2.10E-05	5.47E-07	2.44E-09	1.69E-09	1.20E-10
		1.95E-01	3.44E-02	8.14E-04	3.37E-06	2.16E-07	1.72E-09	1.47E-09	1.16E-10
80660.00	10.00	4.58E-01	1.86E-02	7.57E-04	2.11E-05	5.47E-07	2.44E-09	1.69E-09	1.20E-10
		1.95E-01	3.44E-02	8.14E-04	3.37E-06	2.17E-07	1.72E-09	1.47E-09	1.16E-10
81466.60	10.10	4.58E-01	1.86E-02	7.59E-04	2.11E-05	5.47E-07	2.44E-09	1.69E-09	1.20E-10
		1.95E-01	3.44E-02	8.14E-04	3.37E-06	2.17E-07	1.72E-09	1.47E-09	1.16E-10
82273.20	10.20	4.59E-01	1.86E-02	7.60E-04	2.12E-05	5.48E-07	2.44E-09	1.69E-09	1.20E-10
		1.95E-01	3.44E-02	8.14E-04	3.37E-06	2.17E-07	1.72E-09	1.47E-09	1.16E-10
83079.80	10.30	4.59E-01	1.86E-02	7.62E-04	2.12E-05	5.48E-07	2.44E-09	1.69E-09	1.20E-10
		1.95E-01	3.44E-02	8.14E-04	3.37E-06	2.17E-07	1.72E-09	1.47E-09	1.16E-10
83886.40	10.40	4.60E-01	1.86E-02	7.64E-04	2.12E-05	5.49E-07	2.44E-09	1.69E-09	1.20E-10
		1.95E-01	3.44E-02	8.14E-04	3.37E-06	2.17E-07	1.72E-09	1.47E-09	1.16E-10
84693.00	10.50	4.60E-01	1.87E-02	7.66E-04	2.13E-05	5.49E-07	2.44E-09	1.69E-09	1.20E-10
		1.95E-01	3.44E-02	8.14E-04	3.37E-06	2.17E-07	1.72E-09	1.47E-09	1.16E-10
85499.60	10.60	4.61E-01	1.87E-02	7.68E-04	2.13E-05	5.50E-07	2.44E-09	1.69E-09	1.20E-10
		1.95E-01	3.44E-02	8.14E-04	3.37E-06	2.17E-07	1.72E-09	1.47E-09	1.16E-10
86306.20	10.70	4.62E-01	1.88E-02	7.71E-04	2.14E-05	5.51E-07	2.44E-09	1.69E-09	1.20E-10
		1.95E-01	3.44E-02	8.14E-04	3.37E-06	2.17E-07	1.72E-09	1.47E-09	1.16E-10
87112.80	11.00	4.62E-01	1.88E-02	7.76E-04	2.21E-05	6.31E-07	3.24E-09	2.39E-09	1.88E-10
		1.95E-01	3.46E-02	8.63E-04	4.11E-06	2.97E-07	2.52E-08	2.22E-09	1.77E-10
98742.50	11.25	4.62E-01	1.88E-02	7.80E-04	2.27E-05	6.89E-07	3.79E-09	2.98E-09	2.21E-10
		1.95E-01	3.46E-02	8.97E-04	4.61E-06	3.51E-07	3.09E-09	2.72E-09	2.17E-10
92759.00	11.50	4.62E-01	1.88E-02	7.82E-04	2.30E-05	7.26E-07	4.17E-09	3.27E-09	2.51E-10
		1.95E-01	3.49E-02	9.22E-04	4.99E-06	3.91E-07	3.45E-09	3.09E-09	2.47E-10
94775.50	11.75	4.62E-01	1.88E-02	7.84E-04	2.33E-05	7.55E-07	4.46E-09	3.54E-09	2.73E-10
		1.95E-01	3.49E-02	9.40E-04	5.26E-06	4.21E-07	3.74E-09	3.37E-09	2.70E-10
96792.00	12.00	4.62E-01	1.89E-02	7.85E-04	2.35E-05	7.77E-07	4.88E-09	3.75E-09	2.98E-10
		1.95E-01	3.54E-02	9.54E-04	5.44E-06	4.43E-07	3.96E-09	3.57E-09	3.06E-10
98808.50	12.25	4.62E-01	1.89E-02	7.93E-04	2.47E-05	9.07E-07	5.96E-09	4.95E-09	3.87E-10
		1.95E-01	3.58E-02	1.03E-04	6.67E-06	5.73E-07	5.24E-09	4.77E-09	3.83E-10
100825.00	12.50	4.62E-01	1.89E-02	7.99E-04	2.56E-05	1.00E-06	6.91E-09	5.84E-09	4.59E-10
		1.95E-01	3.60E-02	1.09E-04	7.56E-06	6.69E-07	6.19E-09	5.66E-09	4.55E-10
102841.50	12.75	4.62E-01	1.90E-02	8.04E-04	2.63E-05	1.07E-06	7.62E-09	6.49E-09	5.13E-10
		1.95E-01	3.62E-02	1.14E-04	8.25E-06	7.48E-07	8.00E-09	6.32E-09	5.09E-10
104858.00	13.00	4.62E-01	1.90E-02	8.07E-04	2.68E-05	1.13E-06	8.16E-09	7.09E-09	5.54E-10
		1.95E-01	3.63E-02	1.17E-04	8.76E-06	7.95E-07	7.44E-09	6.81E-09	5.58E-10
106874.50	13.25	4.62E-01	1.90E-02	8.10E-04	2.72E-05	1.17E-06	8.56E-09	7.38E-09	5.84E-10
		1.95E-01	3.65E-02	1.20E-04	9.13E-06	8.56E-07	7.04E-09	7.28E-09	5.80E-10
108891.00	13.50	4.63E-01	1.90E-02	8.17E-04	2.80E-05	1.20E-06	8.95E-09	7.65E-09	6.06E-10
		1.96E-01	3.71E-02	1.27E-04	9.97E-06	8.69E-07	9.13E-09	7.47E-09	6.22E-10
110907.50	13.75	4.63E-01	1.91E-02	8.23E-04	2.86E-05	1.26E-06	9.48E-09	8.29E-09	6.56E-10
		1.96E-01	3.75E-02	1.33E-04	1.06E-05	9.29E-07	8.70E-09	8.07E-09	6.52E-10
112924.00	14.00	4.63E-01	1.91E-02	8.27E-04	2.92E-05	1.32E-06	1.00E-09	8.69E-09	6.93E-10
		1.97E-01	3.79E-02	1.37E-04	1.11E-05	9.86E-07	9.32E-09	8.51E-09	6.89E-10
114940.00	14.25	4.64E-01	1.92E-02	8.31E-04	2.96E-05	1.36E-06	1.05E-09	9.00E-09	7.25E-10
		1.97E-01	3.82E-02	1.41E-04	1.16E-05	1.03E-06	9.74E-09	8.91E-09	7.21E-10

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 8000° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density × Normal									
		1.0E-01	1.0E-00	1.0E-01	1.0E-02	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07	
110007.00	14.50	4.64E-01	1.92E-02	0.41E-04	3.09E-05	1.51E-06	1.19E-07	9.37E-09	7.49E-10		
110008.00	14.50	1.97E-01	3.87E-03	1.51E-04	1.29E-05	1.17E-06	1.42E-07	9.20E-09	7.49E-10		
113073.50	14.75	4.64E-01	1.92E-02	0.40E-04	3.20E-05	1.61E-06	1.29E-07	1.04E-08	0.30E-10		
120090.00	15.00	1.97E-01	3.91E-03	1.50E-04	1.39E-05	1.29E-06	1.22E-07	1.02E-08	0.26E-10		
120091.00	15.00	4.64E-01	1.93E-02	0.53E-04	3.27E-05	1.49E-06	1.37E-07	1.11E-08	0.90E-10		
120092.00	15.00	1.98E-01	3.94E-03	1.63E-04	1.47E-05	1.30E-06	1.30E-07	1.09E-08	0.66E-10		
120093.00	15.00	4.64E-01	1.93E-02	0.57E-04	3.35E-05	1.79E-06	1.43E-07	1.17E-08	9.35E-10		
125023.00	15.50	1.98E-01	3.90E-03	1.67E-04	1.52E-05	1.42E-06	1.36E-07	1.15E-08	9.31E-10		
125024.00	15.50	4.65E-01	1.93E-02	0.60E-04	3.37E-05	1.90E-06	1.40E-07	1.21E-08	9.64E-10		
127039.50	15.75	1.98E-01	3.97E-03	1.70E-04	1.50E-05	1.45E-06	1.40E-07	1.19E-08	9.64E-10		
127040.00	15.75	4.65E-01	1.93E-02	0.62E-04	3.40E-05	1.83E-06	1.51E-07	1.24E-08	9.92E-10		
129066.00	16.00	1.98E-01	3.90E-03	1.72E-04	1.59E-05	1.59E-06	1.44E-07	1.22E-08	9.84E-10		
131073.50	16.25	4.65E-01	1.93E-02	0.64E-04	3.42E-05	1.85E-06	1.53E-07	1.26E-08	1.01E-09		
131074.00	16.25	1.98E-01	3.99E-03	1.74E-04	1.62E-05	1.82E-06	1.50E-07	1.24E-08	1.01E-09		
133089.00	16.50	4.65E-01	1.93E-02	0.65E-04	3.44E-05	1.87E-06	1.55E-07	1.27E-08	1.02E-09		
133090.00	16.50	1.98E-01	4.00E-03	1.75E-04	1.63E-05	1.54E-06	1.48E-07	1.26E-08	1.02E-09		
135105.50	16.75	4.65E-01	1.93E-02	0.66E-04	3.49E-05	1.88E-06	1.56E-07	1.29E-08	1.03E-09		
135106.00	16.75	1.98E-01	4.00E-03	1.76E-04	1.64E-05	1.55E-06	1.49E-07	1.27E-08	1.03E-09		
137123.00	17.00	4.65E-01	1.94E-02	0.66E-04	3.48E-05	1.89E-06	1.57E-07	1.29E-08	1.04E-09		
137124.00	17.00	1.98E-01	1.94E-02	0.67E-04	3.46E-05	1.90E-06	1.56E-07	1.30E-08	1.04E-09		
139139.50	17.25	4.65E-01	1.94E-02	0.67E-04	3.47E-05	1.90E-06	1.56E-07	1.31E-08	1.04E-09		
141155.00	17.50	1.98E-01	1.94E-02	0.67E-04	3.47E-05	1.91E-06	1.56E-07	1.31E-08	1.04E-09		
143171.50	17.75	4.65E-01	1.94E-02	0.68E-04	3.47E-05	1.91E-06	1.56E-07	1.31E-08	1.04E-09		
145188.00	18.00	1.98E-01	1.94E-02	0.68E-04	3.47E-05	1.91E-06	1.56E-07	1.31E-08	1.04E-09		
147204.50	18.25	4.65E-01	1.94E-02	0.68E-04	3.47E-05	1.91E-06	1.56E-07	1.31E-08	1.04E-09		
149221.00	18.50	1.98E-01	1.94E-02	0.68E-04	3.47E-05	1.91E-06	1.56E-07	1.31E-08	1.04E-09		
151237.50	18.75	4.65E-01	1.94E-02	0.68E-04	3.47E-05	1.92E-06	1.56E-07	1.32E-08	1.04E-09		
153254.00	19.00	1.98E-01	1.94E-02	0.69E-04	3.47E-05	1.92E-06	1.56E-07	1.32E-08	1.04E-09		
155270.50	19.25	4.65E-01	1.94E-02	0.69E-04	3.47E-05	1.92E-06	1.56E-07	1.32E-08	1.04E-09		
157287.00	19.50	1.98E-01	1.94E-02	0.69E-04	3.47E-05	1.92E-06	1.56E-07	1.32E-08	1.04E-09		
159303.50	19.75	4.65E-01	1.94E-02	0.69E-04	3.47E-05	1.92E-06	1.56E-07	1.32E-08	1.04E-09		
161320.00	20.00	1.98E-01	1.94E-02	0.69E-04	3.47E-05	1.92E-06	1.56E-07	1.32E-08	1.04E-09		

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 9000° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density × Normal									
		1.0E 01	1.0E 00	1.0E-01	1.0E-02	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07	
4039.60	0.60	7.28E-04	4.61E-05	4.07E-06	4.21E-07	4.14E-08	3.86E-09	3.09E-10	1.50E-11	1.0E-07	
693E-04	4.48E-05	4.04E-06	4.21E-07	4.14E-08	3.86E-09	3.09E-10	1.50E-11	3.09E-10	1.50E-11	1.0E-07	
1.61E-03	1.07E-04	9.62E-06	9.10E-07	8.66E-08	8.00E-09	6.40E-10	3.27E-11	6.40E-10	3.27E-11	1.61E-03	
1.38E-03	9.04E-05	9.12E-06	8.59E-07	8.06E-08	7.34E-09	6.00E-09	3.27E-11	6.00E-09	3.27E-11	1.38E-03	
3.30E-03	2.30E-04	1.74E-05	1.52E-06	1.44E-07	1.34E-08	1.01E-09	5.05E-11	1.01E-09	5.05E-11	3.30E-03	
1.92E-03	1.37E-04	1.66E-05	1.46E-06	1.43E-07	1.34E-08	1.01E-09	5.05E-11	1.01E-09	5.05E-11	1.92E-03	
7.04E-03	4.81E-04	2.92E-05	2.21E-06	2.21E-06	2.09E-07	1.89E-08	1.46E-09	1.46E-09	7.32E-11	7.04E-03	
2.47E-03	1.83E-04	2.02E-05	2.09E-06	2.04E-07	1.89E-08	1.66E-09	1.46E-09	1.46E-09	7.32E-11	2.47E-03	
1.23E-02	8.35E-04	4.41E-05	2.94E-06	2.66E-07	2.45E-08	2.45E-08	1.90E-09	1.90E-09	9.62E-11	1.23E-02	
2.97E-03	2.26E-04	2.50E-05	2.70E-06	2.64E-07	2.43E-08	2.43E-08	1.90E-09	1.90E-09	9.62E-11	2.97E-03	
1.87E-02	1.27E-03	6.13E-05	3.69E-06	3.29E-07	2.99E-08	2.99E-08	2.33E-09	2.33E-09	1.18E-10	1.87E-02	
3.43E-03	2.71E-04	3.13E-05	3.30E-06	3.21E-07	2.90E-08	2.90E-08	2.33E-09	2.33E-09	1.18E-10	3.43E-03	
9.679.20	1.89E-02	3.63E-05	4.06E-06	3.81E-07	3.49E-08	3.49E-08	2.73E-09	2.73E-09	1.38E-10	9.679.20	
3.84E-03	1.15E-04	3.63E-05	3.85E-06	3.75E-07	3.49E-08	3.49E-08	2.73E-09	2.73E-09	1.38E-10	3.84E-03	
3.71E-02	2.49E-03	1.05E-04	5.17E-06	4.29E-07	3.92E-08	3.92E-08	3.07E-09	3.07E-09	1.55E-10	3.71E-02	
4.26E-03	3.95E-04	4.08E-05	4.31E-06	4.21E-07	3.91E-08	3.91E-08	3.07E-09	3.07E-09	1.55E-10	4.26E-03	
5.12E-02	3.43E-03	1.37E-04	6.08E-06	4.69E-07	4.25E-08	4.25E-08	3.34E-09	3.34E-09	1.69E-10	5.12E-02	
4.62E-03	3.95E-04	4.57E-05	4.87E-06	4.57E-07	4.24E-08	4.24E-08	3.34E-09	3.34E-09	1.69E-10	4.62E-03	
6.66E-02	4.40E-03	1.70E-04	6.97E-06	5.22E-07	4.72E-08	4.72E-08	3.70E-09	3.70E-09	1.80E-10	6.66E-02	
6.15E-03	5.13E-04	2.00E-04	7.01E-06	5.87E-07	4.70E-08	4.70E-08	3.70E-09	3.70E-09	1.80E-10	6.15E-03	
8.10E-02	5.20E-03	2.00E-04	7.01E-06	5.87E-07	4.70E-08	4.70E-08	3.70E-09	3.70E-09	1.80E-10	8.10E-02	
9.20E-03	5.63E-04	5.76E-05	5.92E-06	5.54E-07	5.14E-08	5.14E-08	4.02E-09	4.02E-09	1.94E-10	9.20E-03	
1.04E-01	6.59E-03	2.42E-04	8.70E-06	6.22E-07	5.55E-08	5.55E-08	4.33E-09	4.33E-09	2.12E-10	1.04E-01	
1.31E-02	6.80E-04	6.39E-05	6.42E-06	5.80E-07	5.33E-08	5.33E-08	4.33E-09	4.33E-09	2.12E-10	1.31E-02	
1.24E-01	7.73E-03	2.80E-04	9.65E-06	6.66E-07	5.91E-08	5.91E-08	4.61E-09	4.61E-09	2.26E-10	1.24E-01	
1.72E-02	8.03E-04	7.00E-05	6.80E-06	6.38E-07	5.80E-08	5.80E-08	4.61E-09	4.61E-09	2.26E-10	1.72E-02	
1.40E-01	9.19E-03	3.25E-04	1.00E-05	7.00E-07	6.23E-08	6.23E-08	4.80E-09	4.80E-09	2.38E-10	1.40E-01	
2.10E-02	9.32E-04	7.59E-05	7.30E-06	6.74E-07	6.20E-08	6.20E-08	4.80E-09	4.80E-09	2.38E-10	2.10E-02	
1.62E-01	9.93E-03	3.50E-04	1.12E-05	7.41E-07	6.51E-08	6.51E-08	5.00E-09	5.00E-09	2.49E-10	1.62E-01	
2.63E-02	1.00E-03	9.10E-05	7.69E-06	7.06E-07	6.40E-08	6.40E-08	5.00E-09	5.00E-09	2.49E-10	2.63E-02	
1.74E-01	1.05E-02	3.68E-04	1.10E-05	7.72E-07	6.77E-08	6.77E-08	5.27E-09	5.27E-09	2.60E-10	1.74E-01	
3.12E-02	1.20E-03	8.75E-05	8.06E-06	7.35E-07	6.74E-08	6.74E-08	5.27E-09	5.27E-09	2.60E-10	3.12E-02	
1.83E-01	1.09E-02	3.62E-04	1.22E-05	7.99E-07	6.99E-08	6.99E-08	5.45E-09	5.45E-09	2.68E-10	1.83E-01	
3.62E-02	1.34E-03	9.38E-05	8.40E-06	7.61E-07	6.96E-08	6.96E-08	5.45E-09	5.45E-09	2.68E-10	3.62E-02	
1.90E-01	1.17E-02	3.92E-04	1.26E-05	8.22E-07	7.10E-08	7.10E-08	5.59E-09	5.59E-09	2.76E-10	1.90E-01	
4.11E-02	1.47E-03	9.82E-05	8.70E-06	7.84E-07	7.15E-08	7.15E-08	5.59E-09	5.59E-09	2.76E-10	4.11E-02	
1.96E-01	1.13E-02	3.98E-04	1.29E-05	8.43E-07	7.34E-08	7.34E-08	5.71E-09	5.71E-09	2.82E-10	1.96E-01	
4.61E-02	1.65E-03	1.03E-04	8.97E-06	8.03E-07	7.31E-08	7.31E-08	5.71E-09	5.71E-09	2.82E-10	4.61E-02	
2.00E-01	1.15E-02	4.04E-04	1.31E-05	8.59E-07	7.47E-08	7.47E-08	5.81E-09	5.81E-09	2.87E-10	2.00E-01	
5.11E-02	1.79E-03	1.09E-04	9.20E-06	8.20E-07	7.44E-08	7.44E-08	5.81E-09	5.81E-09	2.87E-10	5.11E-02	
2.00E-01	1.10E-02	4.10E-04	1.35E-05	8.05E-07	7.68E-08	7.68E-08	5.90E-09	5.90E-09	2.91E-10	2.00E-01	
5.60E-02	1.44E-03	1.14E-04	9.52E-06	8.44E-07	7.64E-08	7.64E-08	5.89E-09	5.89E-09	2.91E-10	5.60E-02	
2.11E-01	1.10E-02	4.22E-04	1.41E-05	9.19E-07	7.90E-08	7.90E-08	6.05E-09	6.05E-09	2.98E-10	2.11E-01	
6.00E-02	2.02E-03	1.20E-04	9.86E-06	8.70E-07	7.83E-08	7.83E-08	6.04E-09	6.04E-09	2.98E-10	6.00E-02	



PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR 9000° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density x Normal									
		1.0E-01	1.0E-02	1.0E-01	1.0E-02	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07	1.0E-08
22584.80	2.80	2.17E-01	1.20E-02	4.30E-04	1.42E-05	9.46E-07	8.11E-09	6.21E-09	3.06E-10	3.06E-10	3.06E-10
23391.40	2.90	2.23E-01	1.23E-02	4.45E-04	1.52E-05	9.79E-07	8.23E-09	6.34E-09	3.14E-10	3.14E-10	3.14E-10
24198.00	3.00	7.02E-02	2.27E-03	1.30E-04	1.03E-05	9.19E-07	8.22E-09	6.34E-09	3.14E-10	3.14E-10	3.14E-10
24984.00	3.10	2.29E-01	1.26E-02	4.63E-04	1.59E-05	1.02E-06	8.34E-09	6.50E-09	3.21E-10	3.21E-10	3.21E-10
25004.60	3.10	2.47E-02	2.40E-03	1.34E-04	1.07E-05	9.36E-07	8.39E-09	6.47E-09	3.20E-10	3.20E-10	3.20E-10
25811.20	3.20	2.36E-01	1.28E-02	4.73E-04	1.63E-05	1.04E-06	8.70E-09	6.61E-09	3.26E-10	3.26E-10	3.26E-10
26617.80	3.30	7.90E-02	2.51E-03	1.39E-04	1.10E-05	9.34E-07	8.54E-09	6.58E-09	3.26E-10	3.26E-10	3.26E-10
27424.40	3.40	2.45E-01	1.33E-02	5.11E-04	1.79E-05	1.09E-06	8.94E-09	6.74E-09	3.32E-10	3.32E-10	3.32E-10
28231.00	3.50	8.31E-02	2.62E-03	1.43E-04	1.12E-05	9.70E-07	8.67E-09	6.60E-09	3.31E-10	3.31E-10	3.31E-10
29037.60	3.60	2.53E-01	1.38E-02	5.31E-04	1.86E-05	1.12E-06	9.10E-09	6.84E-09	3.36E-10	3.36E-10	3.36E-10
29844.20	3.70	6.71E-02	2.73E-03	1.47E-04	1.14E-05	9.84E-07	8.79E-09	6.77E-09	3.36E-10	3.36E-10	3.36E-10
30650.80	3.80	2.62E-01	1.41E-02	5.43E-04	1.89E-05	1.14E-06	9.21E-09	6.92E-09	3.40E-10	3.40E-10	3.40E-10
31457.40	3.90	9.10E-02	2.83E-03	1.50E-04	1.16E-05	1.06E-06	8.89E-09	6.85E-09	3.49E-10	3.49E-10	3.49E-10
32264.00	4.00	2.76E-01	1.49E-02	5.63E-04	2.03E-05	1.19E-06	9.39E-09	7.00E-09	3.44E-10	3.44E-10	3.44E-10
33070.60	4.10	9.73E-02	2.99E-03	1.55E-04	1.18E-05	1.01E-06	8.90E-09	6.92E-09	3.43E-10	3.43E-10	3.43E-10
33877.20	4.20	2.88E-01	1.54E-02	6.03E-04	2.09E-05	1.21E-06	9.50E-09	7.07E-09	3.47E-10	3.47E-10	3.47E-10
34683.80	4.30	1.04E-01	3.17E-03	1.61E-04	1.20E-05	1.02E-06	9.06E-09	6.97E-09	3.46E-10	3.46E-10	3.46E-10
35490.40	4.40	3.03E-01	1.60E-02	6.22E-04	2.14E-05	1.23E-06	9.58E-09	7.12E-09	3.49E-10	3.49E-10	3.49E-10
36297.00	4.50	1.11E-01	3.34E-03	1.64E-04	1.22E-05	1.03E-06	9.13E-09	7.02E-09	3.40E-10	3.40E-10	3.40E-10
37103.60	4.60	3.17E-01	1.66E-02	6.41E-04	2.18E-05	1.24E-06	9.67E-09	7.17E-09	3.52E-10	3.52E-10	3.52E-10
37910.20	4.70	1.17E-01	3.51E-03	1.71E-04	1.24E-05	1.04E-06	9.20E-09	7.07E-09	3.51E-10	3.51E-10	3.51E-10
38716.80	4.80	3.28E-01	1.70E-02	6.54E-04	2.22E-05	1.25E-06	9.74E-09	7.21E-09	3.54E-10	3.54E-10	3.54E-10
39523.40	4.90	1.23E-01	3.67E-03	1.76E-04	1.25E-05	1.05E-06	9.27E-09	7.12E-09	3.53E-10	3.53E-10	3.53E-10
		3.44E-01	1.76E-02	6.73E-04	2.26E-05	1.26E-06	9.82E-09	7.26E-09	3.56E-10	3.56E-10	3.56E-10
		1.29E-01	3.82E-03	1.81E-04	1.26E-05	1.06E-06	9.35E-09	7.10E-09	3.55E-10	3.55E-10	3.55E-10
		3.54E-01	1.79E-02	6.81E-04	2.28E-05	1.27E-06	9.89E-09	7.31E-09	3.59E-10	3.59E-10	3.59E-10
		1.35E-01	3.97E-03	1.86E-04	1.30E-05	1.07E-06	9.42E-09	7.21E-09	3.58E-10	3.58E-10	3.58E-10
		3.60E-01	1.85E-02	6.97E-04	2.32E-05	1.29E-06	9.97E-09	7.37E-09	3.61E-10	3.61E-10	3.61E-10
		1.40E-01	4.11E-03	1.91E-04	1.33E-05	1.08E-06	9.50E-09	7.27E-09	3.60E-10	3.60E-10	3.60E-10
		3.79E-01	1.80E-02	7.05E-04	2.35E-05	1.30E-06	1.01E-07	7.46E-09	3.63E-10	3.63E-10	3.63E-10
		1.45E-01	4.24E-03	1.95E-04	1.35E-05	1.10E-06	9.62E-09	7.36E-09	3.62E-10	3.62E-10	3.62E-10
		3.91E-01	1.91E-02	7.13E-04	2.38E-05	1.32E-06	1.02E-07	7.55E-09	3.64E-10	3.64E-10	3.64E-10
		1.50E-01	4.36E-03	2.00E-04	1.37E-05	1.11E-06	9.73E-09	7.45E-09	3.67E-10	3.67E-10	3.67E-10
		4.03E-01	1.94E-02	7.21E-04	2.40E-05	1.33E-06	1.03E-07	7.63E-09	3.72E-10	3.72E-10	3.72E-10
		1.54E-01	4.48E-03	2.04E-04	1.39E-05	1.13E-06	9.84E-09	7.53E-09	3.71E-10	3.71E-10	3.71E-10
		4.16E-01	1.98E-02	7.29E-04	2.42E-05	1.34E-06	1.04E-07	7.70E-09	3.76E-10	3.76E-10	3.76E-10
		1.58E-01	4.59E-03	2.07E-04	1.41E-05	1.14E-06	9.93E-09	7.60E-09	3.75E-10	3.75E-10	3.75E-10
		4.29E-01	2.01E-02	7.37E-04	2.44E-05	1.35E-06	1.05E-07	7.76E-09	3.79E-10	3.79E-10	3.79E-10
		1.62E-01	4.68E-03	2.11E-04	1.43E-05	1.15E-06	1.00E-07	7.67E-09	3.78E-10	3.78E-10	3.78E-10
		4.42E-01	2.05E-02	7.45E-04	2.46E-05	1.36E-06	1.06E-07	7.82E-09	3.82E-10	3.82E-10	3.82E-10
		1.63E-01	4.78E-03	2.14E-04	1.46E-05	1.16E-06	1.01E-07	7.73E-09	3.81E-10	3.81E-10	3.81E-10
		4.55E-01	2.09E-02	7.52E-04	2.48E-05	1.37E-06	1.06E-07	7.88E-09	3.85E-10	3.85E-10	3.85E-10
		1.69E-01	4.86E-03	2.17E-04	1.49E-05	1.17E-06	1.02E-07	7.78E-09	3.84E-10	3.84E-10	3.84E-10

40330.00	5.00	4.67E-01	2.12E-02	7.59E-04	2.50E-05	1.30E-06	1.07E-07	2.93E-09	3.80E-10
		1.72E-01	4.94E-03	2.19E-04	1.47E-05	1.80E-06	1.02E-07	7.83E-09	3.87E-10
41136.60	5.10	4.80E-01	2.15E-02	7.67E-04	2.52E-05	1.39E-06	1.00E-07	7.97E-09	3.90E-10
		1.74E-01	5.01E-03	2.22E-04	1.40E-05	1.80E-06	1.03E-07	7.80E-09	3.89E-10
41943.20	5.20	4.90E-01	2.18E-02	7.72E-04	2.53E-05	1.40E-06	1.00E-07	8.82E-09	3.93E-10
		1.77E-01	5.00E-03	2.24E-04	1.49E-05	1.90E-06	1.03E-07	7.92E-09	3.91E-10
42749.80	5.30	5.03E-01	2.22E-02	7.80E-04	2.55E-05	1.41E-06	1.09E-07	8.05E-09	3.94E-10
		1.79E-01	5.14E-03	2.26E-04	1.50E-05	1.20E-06	1.04E-07	7.95E-09	3.93E-10
43356.40	5.40	5.13E-01	2.24E-02	7.85E-04	2.56E-05	1.41E-06	1.09E-07	8.00E-09	3.96E-10
		1.81E-01	5.20E-03	2.28E-04	1.51E-05	1.20E-06	1.04E-07	7.90E-09	3.95E-10
44363.00	5.50	5.25E-01	2.27E-02	7.92E-04	2.58E-05	1.42E-06	1.10E-07	8.12E-09	3.99E-10
		1.83E-01	5.25E-03	2.30E-04	1.52E-05	1.21E-06	1.05E-07	8.02E-09	3.97E-10
45169.60	5.60	5.36E-01	2.30E-02	7.90E-04	2.59E-05	1.42E-06	1.10E-07	8.15E-09	3.99E-10
		1.85E-01	5.30E-03	2.32E-04	1.53E-05	1.21E-06	1.05E-07	8.05E-09	3.98E-10
45976.20	5.70	5.44E-01	2.33E-02	8.02E-04	2.60E-05	1.43E-06	1.10E-07	8.17E-09	4.01E-10
		1.87E-01	5.35E-03	2.33E-04	1.53E-05	1.22E-06	1.06E-07	8.08E-09	4.00E-10
46782.80	5.80	5.52E-01	2.35E-02	8.06E-04	2.61E-05	1.43E-06	1.11E-07	8.20E-09	4.02E-10
		1.89E-01	5.40E-03	2.35E-04	1.54E-05	1.22E-06	1.06E-07	8.18E-09	4.01E-10
47589.40	5.90	5.58E-01	2.36E-02	8.10E-04	2.62E-05	1.44E-06	1.11E-07	8.22E-09	4.03E-10
		1.91E-01	5.44E-03	2.34E-04	1.55E-05	1.23E-06	1.06E-07	8.12E-09	4.02E-10
48396.00	6.00	5.63E-01	2.38E-02	8.13E-04	2.63E-05	1.44E-06	1.11E-07	8.24E-09	4.04E-10
		1.92E-01	5.48E-03	2.37E-04	1.55E-05	1.23E-06	1.06E-07	8.14E-09	4.03E-10
49202.60	6.10	5.74E-01	2.41E-02	8.19E-04	2.64E-05	1.44E-06	1.11E-07	8.26E-09	4.05E-10
		1.94E-01	5.52E-03	2.39E-04	1.56E-05	1.23E-06	1.07E-07	8.16E-09	4.04E-10
50009.20	6.20	5.80E-01	2.42E-02	8.23E-04	2.65E-05	1.45E-06	1.12E-07	8.28E-09	4.06E-10
		1.95E-01	5.56E-03	2.49E-04	1.56E-05	1.24E-06	1.07E-07	8.18E-09	4.04E-10
50815.80	6.30	5.84E-01	2.44E-02	8.26E-04	2.65E-05	1.45E-06	1.12E-07	8.29E-09	4.07E-10
		1.94E-01	5.59E-03	2.41E-04	1.57E-05	1.24E-06	1.07E-07	8.19E-09	4.06E-10
51622.40	6.40	5.91E-01	2.46E-02	8.30E-04	2.66E-05	1.45E-06	1.12E-07	8.31E-09	4.08E-10
		1.97E-01	5.62E-03	2.42E-04	1.57E-05	1.24E-06	1.07E-07	8.21E-09	4.07E-10
52429.00	6.50	5.96E-01	2.47E-02	8.33E-04	2.67E-05	1.46E-06	1.12E-07	8.32E-09	4.08E-10
		1.98E-01	5.64E-03	2.43E-04	1.58E-05	1.24E-06	1.07E-07	8.22E-09	4.07E-10
53235.60	6.60	5.99E-01	2.48E-02	8.36E-04	2.67E-05	1.46E-06	1.12E-07	8.33E-09	4.09E-10
		1.99E-01	5.67E-03	2.43E-04	1.58E-05	1.25E-06	1.08E-07	8.23E-09	4.08E-10
54042.20	6.70	6.04E-01	2.50E-02	8.39E-04	2.68E-05	1.46E-06	1.13E-07	8.34E-09	4.10E-10
		2.00E-01	5.69E-03	2.44E-04	1.58E-05	1.25E-06	1.08E-07	8.24E-09	4.09E-10
54848.80	6.80	6.07E-01	2.51E-02	8.41E-04	2.68E-05	1.46E-06	1.13E-07	8.35E-09	4.10E-10
		2.01E-01	5.71E-03	2.45E-04	1.58E-05	1.25E-06	1.08E-07	8.25E-09	4.09E-10
55655.40	6.90	6.09E-01	2.51E-02	8.43E-04	2.68E-05	1.46E-06	1.13E-07	8.36E-09	4.10E-10
		2.02E-01	5.73E-03	2.45E-04	1.59E-05	1.25E-06	1.08E-07	8.26E-09	4.09E-10
56462.00	7.00	6.11E-01	2.52E-02	8.45E-04	2.69E-05	1.47E-06	1.13E-07	8.37E-09	4.11E-10
		2.02E-01	5.74E-03	2.46E-04	1.59E-05	1.25E-06	1.08E-07	8.27E-09	4.10E-10
57268.60	7.10	6.15E-01	2.53E-02	8.48E-04	2.70E-05	1.47E-06	1.13E-07	8.38E-09	4.11E-10
		2.03E-01	5.79E-03	2.47E-04	1.59E-05	1.25E-06	1.08E-07	8.26E-09	4.10E-10
58075.20	7.20	6.19E-01	2.54E-02	8.49E-04	2.70E-05	1.47E-06	1.13E-07	8.38E-09	4.12E-10
		2.03E-01	5.84E-03	2.48E-04	1.59E-05	1.26E-06	1.08E-07	8.29E-09	4.11E-10
58881.80	7.30	6.23E-01	2.55E-02	8.51E-04	2.71E-05	1.47E-06	1.13E-07	8.39E-09	4.12E-10
		2.12E-01	5.89E-03	2.48E-04	1.60E-05	1.26E-06	1.08E-07	8.29E-09	4.11E-10
59688.40	7.40	6.26E-01	2.56E-02	8.53E-04	2.71E-05	1.47E-06	1.13E-07	8.40E-09	4.12E-10
		2.15E-01	5.93E-03	2.49E-04	1.60E-05	1.26E-06	1.08E-07	8.38E-09	4.11E-10



78240.20	9.70	6.83E-01	2.76E-02	9.08E-04	2.79E-05	1.49E-06	1.14E-07	8.45E-09	4.15E-10
		2.47E-01	6.39E-03	2.56E-04	1.62E-05	1.27E-06	1.09E-07	5.35E-09	4.14E-10
79046.80	9.80	6.84E-01	2.77E-02	9.11E-04	2.80E-05	1.49E-06	1.14E-07	8.45E-09	4.15E-10
		2.47E-01	6.39E-03	2.56E-04	1.62E-05	1.27E-06	1.09E-07	5.35E-09	4.14E-10
79653.40	9.90	6.86E-01	2.78E-02	9.14E-04	2.83E-05	1.49E-06	1.14E-07	8.45E-09	4.15E-10
		2.47E-01	6.39E-03	2.56E-04	1.62E-05	1.27E-06	1.09E-07	5.35E-09	4.14E-10
80660.00	10.00	6.87E-01	2.79E-02	9.17E-04	2.86E-05	1.49E-06	1.14E-07	8.45E-09	4.15E-10
		2.47E-01	6.39E-03	2.56E-04	1.62E-05	1.27E-06	1.09E-07	5.35E-09	4.14E-10
81466.60	10.10	6.89E-01	2.80E-02	9.20E-04	2.89E-05	1.49E-06	1.14E-07	8.45E-09	4.15E-10
		2.47E-01	6.39E-03	2.56E-04	1.62E-05	1.27E-06	1.09E-07	5.35E-09	4.14E-10
82273.20	10.20	6.91E-01	2.81E-02	9.23E-04	2.91E-05	1.49E-06	1.14E-07	8.45E-09	4.15E-10
		2.47E-01	6.39E-03	2.57E-04	1.62E-05	1.27E-06	1.09E-07	5.35E-09	4.14E-10
83079.80	10.30	6.92E-01	2.82E-02	9.26E-04	2.92E-05	1.49E-06	1.14E-07	8.45E-09	4.15E-10
		2.47E-01	6.39E-03	2.57E-04	1.62E-05	1.27E-06	1.09E-07	5.35E-09	4.14E-10
83886.40	10.40	6.94E-01	2.83E-02	9.29E-04	2.92E-05	1.49E-06	1.14E-07	8.45E-09	4.15E-10
		2.47E-01	6.40E-03	2.57E-04	1.62E-05	1.27E-06	1.09E-07	5.35E-09	4.14E-10
84693.00	10.50	6.95E-01	2.84E-02	9.35E-04	2.93E-05	1.49E-06	1.14E-07	8.45E-09	4.14E-10
		2.47E-01	6.40E-03	2.57E-04	1.62E-05	1.27E-06	1.09E-07	5.35E-09	4.14E-10
85499.60	10.60	6.97E-01	2.85E-02	9.36E-04	2.93E-05	1.49E-06	1.14E-07	8.45E-09	4.14E-10
		2.47E-01	6.40E-03	2.57E-04	1.62E-05	1.27E-06	1.09E-07	5.35E-09	4.14E-10
86306.20	10.70	7.01E-01	2.90E-02	9.42E-04	2.94E-05	1.49E-06	1.14E-07	8.45E-09	4.14E-10
		2.48E-01	6.44E-03	2.57E-04	1.62E-05	1.27E-06	1.09E-07	5.35E-09	4.14E-10
86726.00	11.00	7.02E-01	2.92E-02	9.66E-04	3.34E-05	1.99E-06	1.61E-07	1.21E-08	6.00E-10
		2.49E-01	5.89E-03	3.00E-04	2.12E-05	1.77E-06	1.56E-07	1.20E-08	5.99E-10
90742.50	11.25	7.03E-01	2.94E-02	1.02E-03	3.69E-05	2.34E-06	1.93E-07	1.47E-08	7.29E-10
		2.50E-01	7.07E-03	3.31E-04	2.47E-05	2.12E-06	1.80E-07	1.46E-08	7.24E-10
92759.00	11.50	7.03E-01	2.95E-02	1.04E-03	3.94E-05	2.61E-06	2.18E-07	1.67E-08	8.29E-10
		2.50E-01	7.21E-03	3.54E-04	2.74E-05	2.39E-06	2.13E-07	1.60E-08	8.28E-10
94775.50	11.75	7.04E-01	2.96E-02	1.06E-03	4.17E-05	2.82E-06	2.37E-07	1.82E-08	9.04E-10
		2.51E-01	7.31E-03	3.72E-04	2.95E-05	2.59E-06	2.33E-07	1.81E-08	9.04E-10
98792.00	12.00	7.06E-01	3.02E-02	1.15E-03	4.33E-05	2.98E-06	2.52E-07	1.94E-08	9.65E-10
		2.53E-01	7.85E-03	4.66E-04	3.11E-05	2.75E-06	2.47E-07	1.93E-08	9.64E-10
98808.50	12.25	7.08E-01	3.06E-02	1.22E-03	5.10E-05	3.61E-06	3.29E-07	2.55E-08	1.27E-09
		2.55E-01	8.27E-03	5.30E-04	3.95E-05	3.98E-06	3.25E-07	2.54E-08	1.27E-09
100838.00	12.50	7.09E-01	3.09E-02	1.28E-03	5.81E-05	4.45E-06	3.89E-07	3.02E-08	1.51E-09
		2.56E-01	8.99E-03	5.95E-04	4.59E-05	4.22E-06	3.84E-07	3.01E-08	1.51E-09
103841.80	12.75	7.10E-01	3.12E-02	1.33E-03	6.35E-05	4.97E-06	4.35E-07	3.39E-08	1.69E-09
		2.57E-01	9.05E-03	6.40E-04	5.11E-05	4.74E-06	4.30E-07	3.38E-08	1.69E-09
104858.00	13.00	7.11E-01	3.14E-02	1.36E-03	6.73E-05	5.37E-06	4.72E-07	3.68E-08	1.84E-09
		2.58E-01	9.05E-03	6.75E-04	5.51E-05	5.14E-06	4.67E-07	3.67E-08	1.84E-09
106874.80	13.25	7.11E-01	3.15E-02	1.39E-03	7.04E-05	5.67E-06	5.00E-07	3.91E-08	1.95E-09
		2.58E-01	9.20E-03	7.02E-04	5.82E-05	5.45E-06	4.96E-07	3.90E-08	1.95E-09
108891.00	13.50	7.14E-01	3.19E-02	1.44E-03	7.58E-05	6.21E-06	5.22E-07	4.08E-08	2.04E-09
		2.61E-01	9.62E-03	7.53E-04	6.36E-05	6.02E-06	5.17E-07	4.07E-08	2.04E-09
110907.80	13.75	7.17E-01	3.23E-02	1.48E-03	8.01E-05	6.62E-06	5.61E-07	4.39E-08	2.21E-09
		2.64E-01	9.94E-03	7.92E-04	6.78E-05	6.40E-06	5.96E-07	4.38E-08	2.21E-09
112924.00	14.00	7.19E-01	3.26E-02	1.51E-03	8.39E-05	6.79E-06	5.98E-07	4.60E-08	2.34E-09
		2.66E-01	1.02E-02	8.29E-04	7.17E-05	7.07E-06	5.93E-07	4.60E-08	2.34E-09
114940.80	14.25	7.20E-01	3.28E-02	1.54E-03	8.78E-05	7.32E-06	6.26E-07	4.93E-08	2.47E-09
		2.67E-01	1.04E-02	8.58E-04	7.49E-05	7.60E-06	6.21E-07	4.93E-08	2.46E-09

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR, 900°K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density x Normal									
		1.0E 01	1.0E 00	1.0E -01	1.0E -02	1.0E -03	1.0E -04	1.0E -05	1.0E -06	1.0E -07	1.0E -08
116957.00	14.50	7.23E-01	3.33E-02	1.63E-03	9.63E-05	6.24E-06	8.24E-06	7.13E-07	5.61E-08	2.56E-09	
118973.50	14.75	2.70E-01	1.10E-02	9.40E-04	8.41E-05	8.02E-06	7.09E-07	5.60E-08	2.96E-09		
130990.00	15.00	7.23E-01	3.37E-02	1.67E-03	1.04E-04	8.96E-06	7.79E-07	6.15E-08	2.83E-09		
132008.50	15.25	2.72E-01	1.14E-02	1.00E-03	9.13E-05	8.73E-06	7.74E-07	6.14E-08	2.83E-09		
135023.00	15.50	2.72E-01	1.17E-02	1.05E-03	9.69E-05	9.29E-06	8.28E-07	6.51E-08	3.04E-09		
137039.50	15.75	2.72E-01	1.19E-02	1.09E-03	1.13E-04	9.94E-06	8.73E-07	6.80E-08	3.21E-09		
139056.00	16.00	2.72E-01	1.21E-02	1.12E-03	1.17E-04	1.03E-05	9.02E-07	7.13E-08	3.33E-09		
131072.50	16.25	2.72E-01	1.23E-02	1.14E-03	1.19E-04	1.05E-05	8.97E-07	7.12E-08	3.33E-09		
133089.00	16.50	2.72E-01	1.24E-02	1.16E-03	1.23E-04	1.05E-05	9.21E-07	7.30E-08	3.43E-09		
135105.50	16.75	2.72E-01	1.25E-02	1.17E-03	1.25E-04	1.09E-05	9.43E-07	7.46E-08	3.50E-09		
137122.00	17.00	2.72E-01	1.26E-02	1.19E-03	1.27E-04	1.11E-05	9.57E-07	7.56E-08	3.56E-09		
139138.50	17.25	2.72E-01	1.27E-02	1.20E-03	1.29E-04	1.12E-05	9.70E-07	7.70E-08	3.63E-09		
141155.00	17.50	2.72E-01	1.28E-02	1.22E-03	1.31E-04	1.14E-05	9.81E-07	7.79E-08	3.67E-09		
143171.50	17.75	2.72E-01	1.29E-02	1.23E-03	1.33E-04	1.15E-05	9.90E-07	7.82E-08	3.69E-09		
145189.00	18.00	2.72E-01	1.30E-02	1.24E-03	1.35E-04	1.16E-05	9.95E-07	7.81E-08	3.69E-09		
147204.50	18.25	2.72E-01	1.31E-02	1.25E-03	1.36E-04	1.17E-05	9.95E-07	7.85E-08	3.70E-09		
149221.00	18.50	2.72E-01	1.32E-02	1.26E-03	1.37E-04	1.18E-05	9.95E-07	7.85E-08	3.72E-09		
151237.50	18.75	2.72E-01	1.33E-02	1.27E-03	1.38E-04	1.19E-05	9.95E-07	7.85E-08	3.72E-09		
153254.00	19.00	2.72E-01	1.34E-02	1.28E-03	1.39E-04	1.19E-05	9.95E-07	7.85E-08	3.72E-09		
155270.50	19.25	2.72E-01	1.35E-02	1.29E-03	1.40E-04	1.19E-05	9.95E-07	7.85E-08	3.73E-09		
157287.00	19.50	2.72E-01	1.36E-02	1.30E-03	1.41E-04	1.19E-05	9.95E-07	7.85E-08	3.73E-09		
159303.50	19.75	2.72E-01	1.37E-02	1.31E-03	1.42E-04	1.19E-05	9.95E-07	7.85E-08	3.73E-09		
161320.00	20.00	2.72E-01	1.38E-02	1.32E-03	1.43E-04	1.19E-05	9.95E-07	7.85E-08	3.73E-09		

163396.60	20.25	7.32E-01	3.51E-02	1.90E-03	1.27E-04	1.13E-05	10.00E-07	7.91E-08	3.73E-09
2.79E-01	1.27E-02	1.22E-03	1.15E-04	1.13E-05	9.95E-07	7.90E-08	3.73E-09		
163398.00	20.50	7.32E-01	3.51E-02	1.90E-03	1.27E-04	1.13E-05	1.00E-06	7.91E-08	3.73E-09
2.79E-01	1.27E-02	1.22E-03	1.15E-04	1.13E-05	9.95E-07	7.90E-08	3.73E-09		
167399.60	20.75	7.32E-01	3.51E-02	1.90E-03	1.27E-04	1.13E-05	9.95E-07	7.91E-08	3.73E-09
2.79E-01	1.27E-02	1.22E-03	1.15E-04	1.13E-05	9.95E-07	7.90E-08	3.73E-09		
169399.00	21.00	7.32E-01	3.51E-02	1.90E-03	1.27E-04	1.13E-05	1.00E-06	7.91E-08	3.73E-09
2.79E-01	1.27E-02	1.22E-03	1.15E-04	1.13E-05	9.95E-07	7.90E-08	3.73E-09		
171402.60	21.25	7.32E-01	3.51E-02	1.90E-03	1.27E-04	1.13E-05	9.95E-07	7.91E-08	3.73E-09
2.79E-01	1.27E-02	1.22E-03	1.15E-04	1.13E-05	9.95E-07	7.90E-08	3.73E-09		
173419.00	21.50	7.32E-01	3.51E-02	1.90E-03	1.27E-04	1.13E-05	1.00E-06	7.91E-08	3.73E-09
2.79E-01	1.27E-02	1.22E-03	1.15E-04	1.13E-05	9.95E-07	7.90E-08	3.73E-09		
175435.60	21.75	7.32E-01	3.51E-02	1.90E-03	1.27E-04	1.13E-05	1.00E-06	7.91E-08	3.73E-09
2.79E-01	1.27E-02	1.22E-03	1.15E-04	1.13E-05	9.95E-07	7.90E-08	3.73E-09		
177452.00	22.00	7.32E-01	3.51E-02	1.90E-03	1.27E-04	1.13E-05	1.00E-06	7.91E-08	3.73E-09
2.79E-01	1.27E-02	1.22E-03	1.15E-04	1.13E-05	9.95E-07	7.90E-08	3.73E-09		
179468.60	22.25	7.32E-01	3.51E-02	1.90E-03	1.27E-04	1.13E-05	1.00E-06	7.91E-08	3.73E-09
2.79E-01	1.27E-02	1.22E-03	1.15E-04	1.13E-05	9.95E-07	7.90E-08	3.73E-09		
181486.00	22.50	7.32E-01	3.51E-02	1.90E-03	1.27E-04	1.13E-05	1.00E-06	7.91E-08	3.73E-09
2.79E-01	1.27E-02	1.22E-03	1.15E-04	1.13E-05	9.95E-07	7.90E-08	3.73E-09		
183501.60	22.75	7.32E-01	3.51E-02	1.90E-03	1.27E-04	1.13E-05	1.00E-06	7.91E-08	3.73E-09
2.79E-01	1.27E-02	1.22E-03	1.15E-04	1.13E-05	9.95E-07	7.90E-08	3.73E-09		
185518.00	23.00	7.32E-01	3.51E-02	1.90E-03	1.27E-04	1.13E-05	1.00E-06	7.91E-08	3.73E-09
2.79E-01	1.27E-02	1.22E-03	1.15E-04	1.13E-05	9.95E-07	7.90E-08	3.73E-09		
187534.60	23.25	7.32E-01	3.51E-02	1.90E-03	1.27E-04	1.13E-05	1.00E-06	7.91E-08	3.73E-09
2.79E-01	1.27E-02	1.22E-03	1.15E-04	1.13E-05	9.95E-07	7.90E-08	3.73E-09		

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 10000°K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density × Normal							
		1.0E-01	1.6E-00	1.0E-01	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07
4839.60	0.60	2.16E-03	1.97E-04	2.15E-05	1.88E-06	1.77E-07	1.46E-08	8.14E-10	1.98E-11
5646.20	0.70	2.13E-03	1.96E-04	2.19E-05	1.88E-06	1.77E-07	1.46E-08	8.14E-10	1.98E-11
6452.80	0.80	4.21E-03	4.20E-04	4.53E-05	4.25E-06	3.67E-07	3.02E-08	1.69E-09	4.11E-11
7259.40	0.90	6.04E-03	7.04E-04	7.20E-05	6.84E-06	6.07E-07	5.00E-08	2.70E-09	5.34E-11
8066.00	1.00	6.26E-03	6.26E-04	7.06E-05	6.83E-06	6.06E-07	5.00E-08	2.70E-09	5.34E-11
8872.60	1.10	8.23E-03	1.11E-03	1.02E-04	9.56E-06	8.60E-07	7.09E-08	3.85E-09	9.15E-11
9679.20	1.20	2.18E-02	1.61E-03	1.34E-04	1.23E-05	1.11E-06	9.19E-08	5.02E-09	1.20E-10
		1.01E-02	1.09E-03	1.25E-05	1.11E-06	9.19E-08	5.02E-09	1.20E-10	
		3.13E-02	2.18E-03	1.67E-04	1.50E-05	1.37E-06	1.12E-07	6.15E-09	1.47E-10
		1.20E-02	1.31E-03	1.49E-05	1.49E-05	1.12E-07	1.12E-07	6.15E-09	1.47E-10
		4.34E-02	2.86E-03	2.00E-04	1.76E-05	1.60E-06	1.31E-07	7.20E-09	1.73E-10
		1.36E-02	1.92E-03	1.76E-04	1.73E-05	1.60E-06	1.31E-07	7.20E-09	1.73E-10



20231.00	3.50	4.08E-01	1.99E-02	6.65E-04	5.41E-05	4.33E-06	3.42E-07	1.85E-08	4.41E-10
		1.51E-01	7.34E-03	5.75E-04	4.07E-05	4.21E-06	3.40E-07	1.05E-08	4.41E-10
29037.60	3.60	4.27E-01	2.07E-02	3.92E-04	5.51E-05	4.38E-06	3.45E-07	1.07E-08	4.46E-10
		1.61E-01	7.65E-03	5.06E-04	4.94E-05	4.26E-06	3.43E-07	1.06E-08	4.45E-10
29844.20	3.70	4.92E-01	2.17E-02	9.15E-04	5.59E-05	4.42E-06	3.48E-07	1.08E-08	4.49E-10
		1.72E-01	7.98E-03	5.90E-04	5.00E-05	4.29E-06	3.46E-07	1.08E-08	4.49E-10
30650.80	3.80	4.74E-01	2.25E-02	9.42E-04	5.67E-05	4.46E-06	3.51E-07	1.09E-08	4.52E-10
		1.82E-01	8.30E-03	6.15E-04	5.06E-05	4.35E-06	3.48E-07	1.09E-08	4.52E-10
31457.40	3.90	4.93E-01	2.32E-02	9.61E-04	5.75E-05	4.50E-06	3.54E-07	1.11E-08	4.56E-10
		1.92E-01	8.61E-03	6.24E-04	5.13E-05	4.37E-06	3.51E-07	1.11E-08	4.55E-10
32264.00	4.00	5.18E-01	2.41E-02	9.85E-04	5.82E-05	4.55E-06	3.57E-07	1.12E-08	4.59E-10
		2.02E-01	8.92E-03	6.37E-04	5.19E-05	4.43E-06	3.54E-07	1.12E-08	4.59E-10
33070.60	4.10	5.33E-01	2.46E-02	1.00E-03	5.89E-05	4.59E-06	3.60E-07	1.14E-08	4.62E-10
		2.11E-01	9.23E-03	6.52E-04	5.26E-05	4.48E-06	3.57E-07	1.14E-08	4.62E-10
33877.20	4.20	5.59E-01	2.54E-02	1.02E-03	5.98E-05	4.65E-06	3.63E-07	1.16E-08	4.66E-10
		2.20E-01	9.52E-03	6.65E-04	5.34E-05	4.52E-06	3.60E-07	1.15E-08	4.66E-10
34683.80	4.30	5.70E-01	2.59E-02	1.03E-03	6.06E-05	4.71E-06	3.67E-07	1.18E-08	4.73E-10
		2.29E-01	9.60E-03	6.77E-04	5.42E-05	4.58E-06	3.65E-07	1.18E-08	4.73E-10
35490.40	4.40	5.85E-01	2.63E-02	1.05E-03	6.14E-05	4.77E-06	3.71E-07	2.01E-08	4.79E-10
		2.37E-01	1.01E-02	6.88E-04	5.49E-05	4.65E-06	3.69E-07	2.00E-08	4.78E-10
36297.00	4.50	6.00E-01	2.67E-02	1.07E-03	6.21E-05	4.82E-06	3.75E-07	2.03E-08	4.84E-10
		2.44E-01	1.03E-02	7.00E-04	5.55E-05	4.68E-06	3.73E-07	2.02E-08	4.84E-10
37103.60	4.60	6.15E-01	2.71E-02	1.08E-03	6.27E-05	4.88E-06	3.79E-07	2.05E-08	4.89E-10
		2.51E-01	1.05E-02	7.11E-04	5.62E-05	4.73E-06	3.76E-07	2.04E-08	4.89E-10
37910.20	4.70	6.30E-01	2.76E-02	1.09E-03	6.33E-05	4.91E-06	3.82E-07	2.07E-08	4.94E-10
		2.58E-01	1.08E-02	7.26E-04	5.67E-05	4.77E-06	3.79E-07	2.06E-08	4.94E-10
38716.80	4.80	6.45E-01	2.80E-02	1.10E-03	6.39E-05	4.95E-06	3.85E-07	2.08E-08	4.98E-10
		2.64E-01	1.10E-02	7.36E-04	5.73E-05	4.81E-06	3.82E-07	2.08E-08	4.98E-10
39523.40	4.90	6.60E-01	2.84E-02	1.12E-03	6.44E-05	4.98E-06	3.88E-07	2.10E-08	5.02E-10
		2.70E-01	1.12E-02	7.38E-04	5.78E-05	4.89E-06	3.85E-07	2.10E-08	5.02E-10
40330.00	5.00	6.74E-01	2.87E-02	1.13E-03	6.49E-05	5.02E-06	3.91E-07	2.11E-08	5.06E-10
		2.74E-01	1.13E-02	7.48E-04	5.82E-05	4.88E-06	3.88E-07	2.11E-08	5.06E-10
41136.60	5.10	6.88E-01	2.91E-02	1.14E-03	6.53E-05	5.05E-06	3.93E-07	2.13E-08	5.09E-10
		2.81E-01	1.15E-02	7.55E-04	5.87E-05	4.91E-06	3.90E-07	2.12E-08	5.09E-10
41943.20	5.20	7.00E-01	2.94E-02	1.15E-03	6.57E-05	5.08E-06	3.95E-07	2.14E-08	5.13E-10
		2.88E-01	1.17E-02	7.68E-04	5.91E-05	4.94E-06	3.92E-07	2.14E-08	5.12E-10
42749.80	5.30	7.15E-01	2.98E-02	1.15E-03	6.61E-05	5.11E-06	3.97E-07	2.15E-08	5.15E-10
		2.91E-01	1.18E-02	7.68E-04	5.94E-05	4.97E-06	3.94E-07	2.15E-08	5.15E-10
43556.40	5.40	7.28E-01	3.01E-02	1.16E-03	6.65E-05	5.13E-06	3.99E-07	2.16E-08	5.18E-10
		2.95E-01	1.20E-02	7.72E-04	5.98E-05	5.00E-06	3.94E-07	2.16E-08	5.18E-10
44363.00	5.50	7.39E-01	3.04E-02	1.17E-03	6.68E-05	5.16E-06	4.01E-07	2.17E-08	5.21E-10
		2.99E-01	1.21E-02	7.78E-04	6.01E-05	5.02E-06	3.98E-07	2.17E-08	5.21E-10
45169.60	5.60	7.52E-01	3.07E-02	1.18E-03	6.72E-05	5.18E-06	4.02E-07	2.18E-08	5.23E-10
		3.03E-01	1.22E-02	7.83E-04	6.04E-05	5.04E-06	4.00E-07	2.18E-08	5.23E-10
45976.20	5.70	7.61E-01	3.10E-02	1.19E-03	6.75E-05	5.20E-06	4.04E-07	2.19E-08	5.25E-10
		3.06E-01	1.23E-02	7.88E-04	6.07E-05	5.20E-06	4.01E-07	2.19E-08	5.25E-10
46782.80	5.80	7.70E-01	3.12E-02	1.19E-03	6.77E-05	5.22E-06	4.05E-07	2.20E-08	5.27E-10
		3.10E-01	1.24E-02	7.93E-04	6.09E-05	5.08E-06	4.03E-07	2.19E-08	5.27E-10
47589.40	5.90	7.78E-01	3.14E-02	1.20E-03	6.80E-05	5.23E-06	4.07E-07	2.20E-08	5.29E-10
		3.14E-01	1.26E-02	7.98E-04	6.12E-05	5.10E-06	4.04E-07	2.20E-08	5.29E-10



PARTIAL FLANK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR 10000° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density x Normal									
		1.0E 01	1.0E 00	1.0E-01	1.0E-02	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07	1.0E-08
46386.00	6.00	7.95E-01	3.16E-02	1.20E-03	6.03E-05	5.25E-06	4.00E-07	2.21E-08	5.31E-10		
49202.60	6.10	3.17E-01	1.27E-02	0.02E-04	6.14E-05	5.11E-06	4.05E-07	2.21E-08	5.30E-10		
50009.20	6.20	7.97E-01	3.19E-02	1.21E-03	6.05E-05	5.26E-06	4.05E-07	2.22E-08	5.32E-10		
50815.80	6.30	3.20E-01	1.28E-02	0.06E-04	6.16E-05	5.13E-06	4.05E-07	2.21E-08	5.32E-10		
51622.40	6.40	0.05E-01	3.21E-02	1.22E-03	6.07E-05	5.20E-06	4.10E-07	2.22E-08	5.33E-10		
52429.00	6.50	3.23E-01	1.29E-02	0.10E-04	6.18E-05	5.14E-06	4.07E-07	2.22E-08	5.33E-10		
53235.60	6.60	0.11E-01	1.29E-02	1.22E-03	6.09E-05	5.29E-06	4.11E-07	2.23E-08	5.35E-10		
54042.20	6.70	3.24E-01	1.29E-02	0.13E-04	6.20E-05	5.15E-06	4.08E-07	2.23E-08	5.35E-10		
54848.80	6.80	0.12E-01	1.29E-02	1.23E-03	6.21E-05	5.30E-06	4.12E-07	2.23E-08	5.36E-10		
55655.40	6.90	3.25E-01	1.30E-02	0.16E-04	6.22E-05	5.17E-06	4.09E-07	2.23E-08	5.36E-10		
56462.00	7.00	0.13E-01	1.30E-02	1.23E-03	6.23E-05	5.33E-06	4.12E-07	2.23E-08	5.37E-10		
57268.60	7.10	3.26E-01	1.32E-02	0.22E-04	6.25E-05	5.19E-06	4.11E-07	2.24E-08	5.39E-10		
58075.20	7.20	0.14E-01	1.32E-02	1.24E-03	6.26E-05	5.20E-06	4.11E-07	2.24E-08	5.39E-10		
58881.80	7.30	3.27E-01	1.33E-02	0.27E-04	6.27E-05	5.34E-06	4.12E-07	2.25E-08	5.40E-10		
59688.40	7.40	0.15E-01	1.33E-02	1.25E-03	6.28E-05	5.35E-06	4.12E-07	2.25E-08	5.41E-10		
60495.00	7.50	3.28E-01	1.33E-02	0.29E-04	6.28E-05	5.21E-06	4.13E-07	2.25E-08	5.41E-10		
61301.60	7.60	0.16E-01	1.34E-02	0.31E-04	6.30E-05	5.22E-06	4.13E-07	2.25E-08	5.42E-10		
62108.20	7.70	3.29E-01	1.34E-02	1.25E-03	6.31E-05	5.37E-06	4.13E-07	2.26E-08	5.43E-10		
62914.80	7.80	0.17E-01	1.34E-02	1.26E-03	6.32E-05	5.23E-06	4.14E-07	2.26E-08	5.44E-10		
63721.40	7.90	3.30E-01	1.37E-02	0.33E-04	6.33E-05	5.37E-06	4.14E-07	2.26E-08	5.44E-10		
64528.00	8.00	0.18E-01	1.37E-02	1.27E-03	6.35E-05	5.24E-06	4.15E-07	2.27E-08	5.45E-10		
65334.60	8.10	3.31E-01	1.37E-02	0.40E-04	6.34E-05	5.39E-06	4.15E-07	2.27E-08	5.45E-10		
		0.19E-01	1.38E-02	1.27E-03	6.35E-05	5.40E-06	4.15E-07	2.27E-08	5.46E-10		
		3.32E-01	1.38E-02	0.43E-04	6.35E-05	5.26E-06	4.16E-07	2.27E-08	5.46E-10		
		0.20E-01	1.39E-02	1.28E-03	6.36E-05	5.41E-06	4.16E-07	2.27E-08	5.47E-10		
		3.33E-01	1.39E-02	0.46E-04	6.36E-05	5.27E-06	4.16E-07	2.27E-08	5.47E-10		
		0.21E-01	1.40E-02	1.28E-03	6.37E-05	5.27E-06	4.17E-07	2.27E-08	5.47E-10		
		3.34E-01	1.40E-02	0.48E-04	6.37E-05	5.41E-06	4.17E-07	2.27E-08	5.47E-10		
		0.22E-01	1.40E-02	1.28E-03	6.37E-05	5.27E-06	4.17E-07	2.27E-08	5.47E-10		
		3.35E-01	1.40E-02	0.48E-04	6.37E-05	5.27E-06	4.17E-07	2.27E-08	5.47E-10		

66141.20	8.20	9.12E-01	3.51E-02	1.20E-03	7.10E-05	5.42E-06	4.20E-07	2.20E-08	5.40E-10
66947.80	8.30	9.77E-01	1.41E-02	8.49E-04	6.30E-05	5.20E-06	4.17E-07	2.20E-08	5.40E-10
		9.16E-01	3.53E-02	1.29E-03	7.11E-05	5.42E-06	4.20E-07	2.20E-08	5.40E-10
		3.00E-01	1.41E-02	8.50E-04	6.30E-05	5.20E-06	4.17E-07	2.20E-08	5.40E-10
67754.40	8.40	9.21E-01	3.54E-02	1.29E-03	7.11E-05	5.42E-06	4.20E-07	2.20E-08	5.40E-10
		3.82E-01	1.41E-02	8.51E-04	6.30E-05	5.20E-06	4.18E-07	2.20E-08	5.40E-10
68561.00	8.50	9.25E-01	3.56E-02	1.29E-03	7.12E-05	5.42E-06	4.21E-07	2.20E-08	5.40E-10
		3.83E-01	1.42E-02	8.51E-04	6.30E-05	5.20E-06	4.18E-07	2.20E-08	5.40E-10
69367.60	8.60	9.30E-01	3.57E-02	1.30E-03	7.12E-05	5.43E-06	4.21E-07	2.20E-08	5.40E-10
		3.89E-01	1.42E-02	8.52E-04	6.30E-05	5.20E-06	4.18E-07	2.20E-08	5.40E-10
70174.20	8.70	9.34E-01	3.59E-02	1.30E-03	7.13E-05	5.43E-06	4.21E-07	2.20E-08	5.40E-10
		3.87E-01	1.42E-02	8.53E-04	6.40E-05	5.20E-06	4.18E-07	2.20E-08	5.40E-10
70980.80	8.80	9.38E-01	3.60E-02	1.30E-03	7.13E-05	5.43E-06	4.21E-07	2.20E-08	5.40E-10
		3.88E-01	1.42E-02	8.53E-04	6.40E-05	5.20E-06	4.18E-07	2.20E-08	5.40E-10
71787.40	8.90	9.43E-01	3.62E-02	1.30E-03	7.14E-05	5.43E-06	4.21E-07	2.20E-08	5.40E-10
		3.90E-01	1.43E-02	8.54E-04	6.40E-05	5.20E-06	4.18E-07	2.20E-08	5.40E-10
72594.00	9.00	9.47E-01	3.63E-02	1.31E-03	7.14E-05	5.43E-06	4.21E-07	2.20E-08	5.40E-10
		3.91E-01	1.43E-02	8.54E-04	6.40E-05	5.20E-06	4.18E-07	2.20E-08	5.40E-10
73400.60	9.10	9.51E-01	3.65E-02	1.31E-03	7.15E-05	5.43E-06	4.21E-07	2.20E-08	5.40E-10
		3.92E-01	1.43E-02	8.55E-04	6.40E-05	5.20E-06	4.18E-07	2.20E-08	5.40E-10
74207.20	9.20	9.55E-01	3.67E-02	1.31E-03	7.15E-05	5.43E-06	4.21E-07	2.20E-08	5.40E-10
		3.93E-01	1.43E-02	8.55E-04	6.40E-05	5.20E-06	4.18E-07	2.20E-08	5.40E-10
75013.80	9.30	9.59E-01	3.68E-02	1.32E-03	7.16E-05	5.43E-06	4.22E-07	2.20E-08	5.40E-10
		3.94E-01	1.43E-02	8.56E-04	6.40E-05	5.20E-06	4.18E-07	2.20E-08	5.40E-10
75820.40	9.40	9.63E-01	3.70E-02	1.32E-03	7.16E-05	5.43E-06	4.22E-07	2.20E-08	5.40E-10
		3.94E-01	1.43E-02	8.56E-04	6.40E-05	5.20E-06	4.18E-07	2.20E-08	5.40E-10
76627.00	9.50	9.67E-01	3.71E-02	1.32E-03	7.17E-05	5.43E-06	4.22E-07	2.20E-08	5.40E-10
		3.94E-01	1.44E-02	8.57E-04	6.40E-05	5.20E-06	4.18E-07	2.20E-08	5.40E-10
77433.60	9.60	9.71E-01	3.73E-02	1.33E-03	7.17E-05	5.43E-06	4.22E-07	2.20E-08	5.40E-10
		3.95E-01	1.44E-02	8.57E-04	6.40E-05	5.20E-06	4.18E-07	2.20E-08	5.40E-10
78240.20	9.70	9.74E-01	3.75E-02	1.33E-03	7.18E-05	5.43E-06	4.22E-07	2.20E-08	5.40E-10
		3.95E-01	1.44E-02	8.57E-04	6.40E-05	5.20E-06	4.18E-07	2.20E-08	5.40E-10
79046.80	9.80	9.78E-01	3.77E-02	1.33E-03	7.19E-05	5.43E-06	4.22E-07	2.20E-08	5.40E-10
		3.95E-01	1.44E-02	8.58E-04	6.40E-05	5.20E-06	4.18E-07	2.20E-08	5.40E-10
79853.40	9.90	9.82E-01	3.78E-02	1.34E-03	7.19E-05	5.43E-06	4.23E-07	2.20E-08	5.40E-10
		3.95E-01	1.44E-02	8.58E-04	6.40E-05	5.20E-06	4.18E-07	2.20E-08	5.40E-10
80660.00	10.00	9.86E-01	3.80E-02	1.34E-03	7.20E-05	5.43E-06	4.23E-07	2.20E-08	5.40E-10
		3.95E-01	1.44E-02	8.58E-04	6.40E-05	5.20E-06	4.18E-07	2.20E-08	5.40E-10
81466.60	10.10	9.90E-01	3.82E-02	1.34E-03	7.20E-05	5.43E-06	4.23E-07	2.20E-08	5.40E-10
		3.95E-01	1.44E-02	8.58E-04	6.40E-05	5.20E-06	4.18E-07	2.20E-08	5.40E-10
82273.20	10.20	9.94E-01	3.84E-02	1.35E-03	7.21E-05	5.43E-06	4.23E-07	2.20E-08	5.40E-10
		3.95E-01	1.44E-02	8.59E-04	6.40E-05	5.20E-06	4.18E-07	2.20E-08	5.40E-10
83079.80	10.30	9.98E-01	3.85E-02	1.35E-03	7.21E-05	5.43E-06	4.23E-07	2.20E-08	5.40E-10
		3.95E-01	1.44E-02	8.59E-04	6.40E-05	5.20E-06	4.18E-07	2.20E-08	5.40E-10
83886.40	10.40	1.00E 00	3.87E-02	1.35E-03	7.21E-05	5.43E-06	4.23E-07	2.20E-08	5.40E-10
		3.95E-01	1.44E-02	8.59E-04	6.40E-05	5.20E-06	4.18E-07	2.20E-08	5.40E-10
84693.00	10.50	1.01E 00	3.89E-02	1.36E-03	7.22E-05	5.43E-06	4.23E-07	2.20E-08	5.40E-10
		3.95E-01	1.44E-02	8.59E-04	6.40E-05	5.20E-06	4.18E-07	2.20E-08	5.40E-10
85499.60	10.60	1.01E 00	3.91E-02	1.36E-03	7.22E-05	5.43E-06	4.23E-07	2.20E-08	5.40E-10
		3.95E-01	1.44E-02	8.59E-04	6.40E-05	5.20E-06	4.18E-07	2.20E-08	5.40E-10

TABLE 2 PLANKI MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR, 1000°K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density x Normal									
		1.0E-01	1.0E-02	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07	1.0E-08	1.0E-09	1.0E-10
86386.20	10.70	1.03E-00	4.09E-02	1.56E-03	7.23E-05	9.47E-06	4.23E-07	2.30E-08	5.52E-10	1.03E-11	1.03E-12
88726.00	11.00	4.03E-01	1.50E-02	1.05E-03	6.44E-05	5.32E-06	4.20E-07	2.29E-08	5.52E-10	1.03E-11	1.03E-12
90747.30	11.25	1.03E-01	4.24E-02	1.95E-03	9.20E-05	7.39E-06	5.81E-07	3.10E-08	7.54E-10	1.03E-11	1.03E-12
92759.00	11.50	4.10E-01	1.73E-02	1.25E-03	8.40E-05	7.24E-06	5.70E-07	3.15E-08	7.54E-10	1.03E-11	1.03E-12
94775.50	11.75	1.04E-01	4.35E-02	1.90E-03	1.08E-04	8.99E-06	6.95E-07	3.70E-08	9.04E-10	1.03E-11	1.03E-12
96792.00	12.00	4.15E-01	1.84E-02	1.39E-03	9.96E-05	8.64E-06	6.92E-07	3.70E-08	9.04E-10	1.03E-11	1.03E-12
98808.50	12.25	1.04E-01	4.43E-02	2.01E-03	1.19E-04	9.90E-06	7.06E-07	4.20E-08	1.03E-09	1.03E-10	1.03E-11
100826.00	12.50	4.18E-01	1.92E-02	1.51E-03	1.11E-04	9.76E-06	7.03E-07	4.27E-08	1.02E-09	1.02E-10	1.02E-11
102841.50	12.75	1.03E-01	4.50E-02	2.11E-03	1.29E-04	1.08E-05	8.50E-07	4.67E-08	1.12E-09	1.12E-10	1.12E-11
104858.00	13.00	4.22E-01	1.99E-02	1.60E-03	1.21E-04	1.04E-05	8.56E-07	4.67E-08	1.12E-09	1.12E-10	1.12E-11
106874.50	13.25	1.06E-01	4.82E-02	2.54E-03	1.73E-04	1.13E-05	9.10E-07	4.90E-08	1.19E-09	1.19E-10	1.19E-11
108891.00	13.50	4.37E-01	2.32E-02	2.03E-03	1.65E-04	1.13E-05	9.13E-07	4.90E-08	1.19E-09	1.19E-10	1.19E-11
110907.50	13.75	1.07E-01	5.08E-02	2.80E-03	2.00E-04	1.40E-05	1.19E-06	6.47E-08	1.54E-09	1.54E-10	1.54E-11
112924.00	14.00	4.49E-01	2.57E-02	2.37E-03	2.00E-04	1.47E-05	1.19E-06	6.47E-08	1.54E-09	1.54E-10	1.54E-11
114940.50	14.25	1.08E-01	5.29E-02	3.15E-03	2.37E-04	1.75E-05	1.40E-06	7.65E-08	1.82E-09	1.82E-10	1.82E-11
116957.00	14.50	4.59E-01	2.78E-02	2.65E-03	2.29E-04	1.73E-05	1.40E-06	7.65E-08	1.82E-09	1.82E-10	1.82E-11
118973.50	14.75	1.09E-01	5.46E-02	3.30E-03	2.60E-04	1.97E-05	1.50E-06	8.59E-08	2.05E-09	2.05E-10	2.05E-11
120990.00	15.00	4.67E-01	2.95E-02	2.80E-03	2.52E-04	1.94E-05	1.57E-06	8.59E-08	2.05E-09	2.05E-10	2.05E-11
123006.50	15.25	1.10E-01	5.60E-02	3.57E-03	2.71E-04	2.15E-05	1.72E-06	9.39E-08	2.24E-09	2.24E-10	2.24E-11
125023.00	15.50	4.74E-01	3.09E-02	3.06E-03	2.71E-04	2.13E-05	1.72E-06	9.39E-08	2.24E-09	2.24E-10	2.24E-11
127039.50	15.75	1.10E-01	5.70E-02	3.71E-03	2.94E-04	2.29E-05	1.84E-06	1.00E-07	2.30E-09	2.30E-10	2.30E-11
		4.79E-01	3.20E-02	3.20E-03	2.86E-04	2.27E-05	1.83E-06	1.00E-07	2.30E-09	2.30E-10	2.30E-11
		1.12E-01	5.90E-02	3.94E-03	3.17E-04	2.51E-05	1.93E-06	1.05E-07	2.50E-09	2.50E-10	2.50E-11
		4.93E-01	3.39E-02	3.43E-03	3.09E-04	2.49E-05	1.92E-06	1.05E-07	2.50E-09	2.50E-10	2.50E-11
		1.13E-01	6.06E-02	4.12E-03	3.39E-04	2.68E-05	2.07E-06	1.14E-07	2.72E-09	2.72E-10	2.72E-11
		5.04E-01	3.55E-02	3.61E-03	3.27E-04	2.66E-05	2.07E-06	1.14E-07	2.72E-09	2.72E-10	2.72E-11
		1.14E-01	6.21E-02	4.30E-03	3.53E-04	2.89E-05	2.23E-06	1.22E-07	2.90E-09	2.90E-10	2.90E-11
		5.15E-01	3.70E-02	3.79E-03	3.45E-04	2.84E-05	2.21E-06	1.22E-07	2.90E-09	2.90E-10	2.90E-11
		1.15E-01	6.33E-02	4.44E-03	3.60E-04	2.99E-05	2.33E-06	1.29E-07	3.07E-09	3.07E-10	3.07E-11
		5.23E-01	3.82E-02	3.94E-03	3.60E-04	2.90E-05	2.33E-06	1.29E-07	3.07E-09	3.07E-10	3.07E-11
		1.16E-01	6.43E-02	4.63E-03	4.06E-04	3.37E-05	2.64E-06	1.40E-07	3.21E-09	3.21E-10	3.21E-11
		5.30E-01	4.12E-02	4.32E-03	4.00E-04	3.35E-05	2.64E-06	1.40E-07	3.21E-09	3.21E-10	3.21E-11
		1.16E-01	6.68E-02	5.15E-03	4.39E-04	3.67E-05	2.89E-06	1.60E-07	3.54E-09	3.54E-10	3.54E-11
		5.35E-01	4.37E-02	4.64E-03	4.31E-04	3.65E-05	2.89E-06	1.60E-07	3.54E-09	3.54E-10	3.54E-11
		1.19E-01	7.07E-02	5.40E-03	4.65E-04	3.91E-05	3.09E-06	1.71E-07	3.81E-09	3.81E-10	3.81E-11
		5.43E-01	4.57E-02	4.69E-03	4.57E-04	3.80E-05	3.09E-06	1.71E-07	3.81E-09	3.81E-10	3.81E-11
		1.20E-01	7.23E-02	5.60E-03	4.85E-04	4.10E-05	3.25E-06	1.80E-07	4.02E-09	4.02E-10	4.02E-11
		5.47E-01	4.72E-02	5.09E-03	4.77E-04	4.08E-05	3.24E-06	1.80E-07	4.02E-09	4.02E-10	4.02E-11
		1.20E-01	7.35E-02	5.79E-03	5.02E-04	4.25E-05	3.37E-06	1.87E-07	4.19E-09	4.19E-10	4.19E-11
		5.49E-01	4.84E-02	5.29E-03	4.94E-04	4.24E-05	3.37E-06	1.87E-07	4.19E-09	4.19E-10	4.19E-11
		1.21E-01	7.45E-02	5.88E-03	5.14E-04	4.37E-05	3.47E-06	1.92E-07	4.33E-09	4.33E-10	4.33E-11
		5.54E-01	4.94E-02	5.37E-03	5.06E-04	4.36E-05	3.47E-06	1.92E-07	4.33E-09	4.33E-10	4.33E-11



PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 10000° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density x Normal								
		1.0E 01	1.0E 00	1.0E-01	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07	
176468.60	22.25	1.23E 00	7.81E-02	6.34E-03	5.61E-04	4.81E-05	3.83E-06	2.12E-07	1.08E-08	4.82E-09
181485.00	22.50	6.05E-01	5.30E-02	5.83E-03	5.52E-04	4.80E-05	3.83E-06	2.12E-07	1.08E-08	4.82E-09
186501.60	22.75	1.23E 00	7.81E-02	6.34E-03	5.61E-04	4.81E-05	3.83E-06	2.12E-07	1.08E-08	4.82E-09
186518.00	23.00	6.05E-01	5.30E-02	5.83E-03	5.52E-04	4.80E-05	3.83E-06	2.12E-07	1.08E-08	4.82E-09
187584.50	23.25	1.23E 00	7.81E-02	6.34E-03	5.61E-04	4.81E-05	3.83E-06	2.12E-07	1.08E-08	4.82E-09
188651.00	23.50	6.05E-01	5.30E-02	5.83E-03	5.52E-04	4.80E-05	3.83E-06	2.12E-07	1.08E-08	4.82E-09
191867.80	23.75	1.23E 00	7.81E-02	6.34E-03	5.61E-04	4.81E-05	3.83E-06	2.12E-07	1.08E-08	4.82E-09
		6.05E-01	5.30E-02	5.83E-03	5.52E-04	4.80E-05	3.83E-06	2.12E-07	1.08E-08	4.82E-09

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 11000° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density x Normal							
		1.0E 01	1.0E 00	1.0E-01	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07
4839.60	0.60	6.33E-03	6.80E-04	7.08E-05	6.04E-06	5.27E-07	3.43E-09	1.10E-09	1.53E-11
5646.20	0.70	6.31E-03	6.79E-04	7.08E-05	6.04E-06	5.27E-07	3.43E-09	1.10E-09	1.53E-11
6452.80	0.80	1.31E-02	1.42E-03	1.48E-04	1.35E-05	1.12E-06	7.09E-09	2.28E-09	3.16E-11
7259.40	0.90	2.12E-02	2.26E-03	2.32E-04	2.17E-05	1.78E-06	7.05E-09	2.26E-09	3.16E-11
8066.00	1.00	3.94E-02	2.21E-03	2.32E-04	2.17E-05	1.80E-06	1.16E-07	3.72E-09	4.87E-11
8872.60	1.10	3.10E-02	3.03E-03	3.23E-04	3.02E-05	2.62E-06	1.65E-07	5.24E-09	6.99E-11
9679.20	1.20	4.44E-02	4.22E-03	4.17E-04	3.92E-05	3.37E-06	1.65E-07	5.24E-09	6.99E-11
10485.60	1.30	3.27E-02	3.88E-03	4.12E-04	3.90E-05	3.37E-06	2.14E-07	6.80E-09	9.17E-11
11292.40	1.40	5.86E-02	5.24E-03	5.09E-04	4.77E-05	4.11E-06	2.61E-07	8.30E-09	1.13E-10
		7.51E-02	4.70E-03	5.01E-04	4.77E-05	4.11E-06	2.61E-07	8.30E-09	1.13E-10
		4.50E-02	6.36E-03	5.96E-04	5.58E-05	4.80E-06	3.06E-07	9.71E-09	1.32E-10
		9.37E-02	7.58E-03	6.94E-04	6.49E-05	4.80E-06	3.06E-07	9.71E-09	1.32E-10
		5.14E-02	6.33E-03	6.78E-04	6.47E-05	5.41E-06	3.44E-07	1.10E-08	1.50E-10
		1.18E-01	8.89E-03	7.85E-04	7.27E-05	5.41E-06	3.44E-07	1.10E-08	1.50E-10
		5.71E-02	7.10E-03	7.62E-04	7.24E-05	6.08E-06	3.76E-07	1.20E-08	1.64E-10

12099.00	1.90	1.44E-01	1.02E-02	8.70E-04	8.02E-05	6.72E-06	4.15E-07	1.32E-08	1.77E-10
		6.39E-02	7.05E-03	8.40E-04	7.99E-05	6.72E-06	4.15E-07	1.32E-08	1.77E-10
12905.60	1.80	1.78E-01	1.35E-02	9.40E-04	8.68E-05	7.29E-06	4.52E-07	1.44E-08	1.92E-10
		7.29E-02	8.99E-03	9.11E-04	8.63E-05	7.29E-06	4.52E-07	1.44E-08	1.92E-10
13712.20	1.70	2.07E-01	1.50E-02	1.03E-03	9.31E-05	7.82E-06	4.86E-07	1.55E-08	2.07E-10
		8.17E-02	9.32E-03	9.78E-04	9.27E-05	8.20E-06	4.86E-07	1.55E-08	2.07E-10
14518.80	1.80	2.40E-01	1.64E-02	1.10E-03	9.67E-05	8.20E-06	5.17E-07	1.64E-08	2.21E-10
		9.13E-02	1.00E-02	1.04E-03	9.02E-05	8.20E-06	5.17E-07	1.64E-08	2.21E-10
15325.40	1.90	2.81E-01	1.60E-02	1.16E-03	1.04E-04	8.72E-06	5.44E-07	1.73E-08	2.33E-10
		1.01E-01	1.07E-02	1.00E-03	1.03E-04	8.71E-06	5.44E-07	1.73E-08	2.33E-10
16132.00	2.00	3.10E-01	1.77E-02	1.22E-03	1.09E-04	9.11E-06	5.69E-07	1.81E-08	2.44E-10
		1.11E-01	1.13E-02	1.13E-03	1.08E-04	9.11E-06	5.69E-07	1.81E-08	2.44E-10
16938.60	2.10	3.32E-01	1.81E-02	1.28E-03	1.13E-04	9.47E-06	5.93E-07	1.89E-08	2.55E-10
		1.21E-01	1.19E-02	1.20E-03	1.12E-04	9.46E-06	5.93E-07	1.89E-08	2.55E-10
17745.20	2.20	3.51E-01	1.92E-02	1.33E-03	1.17E-04	9.79E-06	6.13E-07	1.95E-08	2.64E-10
		1.32E-01	1.25E-02	1.24E-03	1.16E-04	9.78E-06	6.13E-07	1.95E-08	2.64E-10
18551.80	2.30	3.65E-01	1.97E-02	1.37E-03	1.20E-04	9.78E-06	6.31E-07	2.01E-08	2.72E-10
		1.42E-01	1.31E-02	1.28E-03	1.19E-04	1.01E-05	6.31E-07	2.01E-08	2.72E-10
19358.40	2.40	3.77E-01	2.03E-02	1.42E-03	1.23E-04	1.03E-05	6.46E-07	2.06E-08	2.78E-10
		1.53E-01	1.37E-02	1.33E-03	1.22E-04	1.03E-05	6.46E-07	2.06E-08	2.78E-10
20165.00	2.50	3.88E-01	2.10E-02	1.46E-03	1.27E-04	1.06E-05	6.59E-07	2.10E-08	2.84E-10
		1.63E-01	1.43E-02	1.36E-03	1.26E-04	1.06E-05	6.59E-07	2.10E-08	2.84E-10
20971.60	2.60	3.99E-01	2.16E-02	1.49E-03	1.30E-04	1.09E-05	6.77E-07	2.15E-08	2.89E-10
		1.74E-01	1.49E-02	1.42E-03	1.30E-04	1.09E-05	6.77E-07	2.15E-08	2.89E-10
21778.20	2.70	4.12E-01	2.23E-02	1.56E-03	1.34E-04	1.12E-05	6.90E-07	2.21E-08	2.96E-10
		1.85E-01	1.55E-02	1.47E-03	1.34E-04	1.12E-05	6.90E-07	2.21E-08	2.96E-10
22584.80	2.80	4.24E-01	2.29E-02	1.60E-03	1.38E-04	1.13E-05	7.14E-07	2.26E-08	3.04E-10
		1.96E-01	1.61E-02	1.51E-03	1.37E-04	1.13E-05	7.14E-07	2.26E-08	3.04E-10
23391.40	2.90	4.36E-01	2.37E-02	1.65E-03	1.41E-04	1.16E-05	7.31E-07	2.32E-08	3.12E-10
		2.06E-01	1.66E-02	1.54E-03	1.40E-04	1.17E-05	7.30E-07	2.32E-08	3.12E-10
24198.00	3.00	4.49E-01	2.47E-02	1.69E-03	1.44E-04	1.20E-05	7.46E-07	2.37E-08	3.18E-10
		2.17E-01	1.71E-02	1.58E-03	1.43E-04	1.20E-05	7.46E-07	2.37E-08	3.18E-10
25004.60	3.10	4.70E-01	2.52E-02	1.73E-03	1.47E-04	1.22E-05	7.60E-07	2.41E-08	3.25E-10
		2.27E-01	1.76E-02	1.61E-03	1.46E-04	1.22E-05	7.60E-07	2.41E-08	3.25E-10
25811.20	3.20	4.92E-01	2.64E-02	1.79E-03	1.50E-04	1.24E-05	7.73E-07	2.45E-08	3.30E-10
		2.36E-01	1.81E-02	1.64E-03	1.48E-04	1.24E-05	7.73E-07	2.45E-08	3.30E-10
26617.80	3.30	5.14E-01	2.74E-02	1.83E-03	1.53E-04	1.26E-05	7.86E-07	2.49E-08	3.35E-10
		2.46E-01	1.89E-02	1.67E-03	1.50E-04	1.26E-05	7.86E-07	2.49E-08	3.35E-10
27424.40	3.40	5.33E-01	2.81E-02	1.86E-03	1.55E-04	1.28E-05	7.94E-07	2.52E-08	3.40E-10
		2.53E-01	1.89E-02	1.70E-03	1.52E-04	1.27E-05	7.93E-07	2.52E-08	3.40E-10
28231.00	3.50	5.70E-01	2.97E-02	1.91E-03	1.57E-04	1.29E-05	8.03E-07	2.55E-08	3.44E-10
		2.70E-01	1.95E-02	1.73E-03	1.54E-04	1.29E-05	8.03E-07	2.55E-08	3.44E-10
29037.60	3.60	5.99E-01	3.09E-02	1.96E-03	1.60E-04	1.31E-05	8.11E-07	2.57E-08	3.47E-10
		2.80E-01	2.01E-02	1.76E-03	1.56E-04	1.30E-05	8.10E-07	2.57E-08	3.47E-10
29844.20	3.70	6.35E-01	3.20E-02	1.99E-03	1.61E-04	1.32E-05	8.18E-07	2.59E-08	3.50E-10
		3.02E-01	2.07E-02	1.79E-03	1.58E-04	1.31E-05	8.17E-07	2.59E-08	3.50E-10
30650.80	3.80	6.66E-01	3.32E-02	2.03E-03	1.63E-04	1.33E-05	8.27E-07	2.62E-08	3.53E-10
		3.10E-01	2.13E-02	1.82E-03	1.59E-04	1.32E-05	8.26E-07	2.62E-08	3.53E-10
31457.40	3.90	6.95E-01	3.41E-02	2.07E-03	1.65E-04	1.34E-05	8.32E-07	2.64E-08	3.56E-10
		3.34E-01	2.19E-02	1.85E-03	1.61E-04	1.34E-05	8.31E-07	2.64E-08	3.56E-10

PARTIAL FLANK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR 11600° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density × Mass											
		1.0E 01	1.0E 00	1.0E 01	1.0E 00	1.0E 01	1.0E 00	1.0E 01	1.0E 00	1.0E 01	1.0E 00		
32264.00	4.00	7.33E-01	3.53E-02	2.11E-03	1.67E-04	1.36E-05	8.60E-07	2.66E-08	3.59E-10	1.0E-07	10.0E-06	1.0E-07	3.59E-10
340E-01		3.40E-01	2.25E-02	1.80E-03	1.60E-04	1.35E-05	8.50E-07	2.66E-08	3.59E-10				
33070.60	4.10	7.59E-01	3.61E-02	2.14E-03	1.70E-04	1.37E-05	8.68E-07	2.66E-08	3.69E-10				
364E-01		3.64E-01	2.32E-02	1.91E-03	1.65E-04	1.34E-05	8.47E-07	2.66E-08	3.62E-10				
33877.20	4.20	7.87E-01	3.72E-02	2.18E-03	1.72E-04	1.39E-05	8.56E-07	2.70E-08	3.65E-10				
379E-01		3.79E-01	2.39E-02	1.94E-03	1.69E-04	1.36E-05	8.54E-07	2.70E-08	3.65E-10				
34683.80	4.30	8.08E-01	3.00E-02	2.22E-03	1.74E-04	1.41E-05	8.65E-07	2.74E-08	3.70E-10				
393E-01		3.93E-01	2.44E-02	1.90E-03	1.70E-04	1.40E-05	8.65E-07	2.74E-08	3.70E-10				
35470.40	4.40	8.28E-01	3.04E-02	2.25E-03	1.74E-04	1.42E-05	8.77E-07	2.77E-08	3.75E-10				
407E-01		4.07E-01	2.49E-02	2.01E-03	1.72E-04	1.41E-05	8.75E-07	2.77E-08	3.75E-10				
36297.00	4.50	8.46E-01	3.03E-02	2.20E-03	1.70E-04	1.44E-05	8.86E-07	2.80E-08	3.79E-10				
420E-01		4.20E-01	2.54E-02	2.03E-03	1.74E-04	1.43E-05	8.86E-07	2.80E-08	3.79E-10				
37103.60	4.60	8.64E-01	3.09E-02	2.30E-03	1.80E-04	1.45E-05	8.95E-07	2.83E-08	3.84E-10				
432E-01		4.32E-01	2.59E-02	2.00E-03	1.75E-04	1.44E-05	8.94E-07	2.83E-08	3.84E-10				
37910.20	4.70	8.84E-01	3.09E-02	2.33E-03	1.82E-04	1.46E-05	9.03E-07	2.86E-08	3.89E-10				
444E-01		4.44E-01	2.60E-02	2.08E-03	1.77E-04	1.45E-05	9.02E-07	2.86E-08	3.89E-10				
38716.80	4.80	9.03E-01	4.10E-02	2.35E-03	1.85E-04	1.48E-05	9.11E-07	2.89E-08	3.91E-10				
459E-01		4.59E-01	2.69E-02	2.11E-03	1.79E-04	1.47E-05	9.10E-07	2.89E-08	3.91E-10				
39523.40	4.90	9.21E-01	4.16E-02	2.38E-03	1.89E-04	1.49E-05	9.16E-07	2.91E-08	3.95E-10				
469E-01		4.69E-01	2.73E-02	2.13E-03	1.80E-04	1.48E-05	9.15E-07	2.91E-08	3.95E-10				
40330.00	5.00	9.38E-01	4.21E-02	2.40E-03	1.86E-04	1.50E-05	9.25E-07	2.93E-08	3.98E-10				
475E-01		4.75E-01	2.77E-02	2.15E-03	1.82E-04	1.49E-05	9.23E-07	2.93E-08	3.98E-10				
41136.40	5.10	9.55E-01	4.26E-02	2.42E-03	1.87E-04	1.51E-05	9.31E-07	2.95E-08	4.01E-10				
484E-01		4.84E-01	2.80E-02	2.17E-03	1.83E-04	1.50E-05	9.30E-07	2.95E-08	4.01E-10				
41993.20	5.20	9.69E-01	4.31E-02	2.44E-03	1.89E-04	1.52E-05	9.37E-07	2.97E-08	4.03E-10				
493E-01		4.93E-01	2.84E-02	2.19E-03	1.84E-04	1.51E-05	9.35E-07	2.97E-08	4.03E-10				
42749.80	5.30	9.86E-01	4.36E-02	2.46E-03	1.90E-04	1.52E-05	9.42E-07	2.99E-08	4.06E-10				
502E-01		5.02E-01	2.87E-02	2.20E-03	1.85E-04	1.52E-05	9.41E-07	2.99E-08	4.06E-10				
43556.40	5.40	10.00E-01	4.40E-02	2.47E-03	1.91E-04	1.53E-05	9.47E-07	3.01E-08	4.08E-10				
510E-01		5.10E-01	2.90E-02	2.22E-03	1.86E-04	1.52E-05	9.46E-07	3.01E-08	4.08E-10				
44363.00	5.50	1.01E 00	4.44E-02	2.49E-03	1.92E-04	1.54E-05	9.52E-07	3.02E-08	4.10E-10				
517E-01		5.17E-01	2.93E-02	2.23E-03	1.87E-04	1.53E-05	9.51E-07	3.02E-08	4.10E-10				
45169.60	5.60	1.03E 00	4.48E-02	2.51E-03	1.93E-04	1.55E-05	9.56E-07	3.04E-08	4.13E-10				
524E-01		5.24E-01	2.96E-02	2.25E-03	1.88E-04	1.54E-05	9.55E-07	3.04E-08	4.13E-10				
45976.20	5.70	1.04E 00	4.52E-02	2.52E-03	1.94E-04	1.55E-05	9.60E-07	3.05E-08	4.15E-10				
531E-01		5.31E-01	2.99E-02	2.26E-03	1.89E-04	1.54E-05	9.59E-07	3.05E-08	4.15E-10				
46782.80	5.80	1.05E 00	4.55E-02	2.53E-03	1.95E-04	1.56E-05	9.64E-07	3.06E-08	4.16E-10				
539E-01		5.39E-01	3.02E-02	2.27E-03	1.90E-04	1.55E-05	9.63E-07	3.06E-08	4.16E-10				
47589.40	5.90	1.06E 00	4.59E-02	2.55E-03	1.95E-04	1.56E-05	9.68E-07	3.07E-08	4.18E-10				
545E-01		5.45E-01	3.04E-02	2.29E-03	1.91E-04	1.56E-05	9.67E-07	3.07E-08	4.18E-10				
48395.00	6.00	1.07E 00	4.62E-02	2.56E-03	1.96E-04	1.57E-05	9.71E-07	3.08E-08	4.20E-10				
552E-01		5.52E-01	3.07E-02	2.30E-03	1.92E-04	1.56E-05	9.70E-07	3.08E-08	4.20E-10				
49202.60	6.10	1.09E 00	4.66E-02	2.57E-03	1.97E-04	1.57E-05	9.74E-07	3.10E-08	4.21E-10				
558E-01		5.58E-01	3.09E-02	2.31E-03	1.92E-04	1.57E-05	9.73E-07	3.10E-08	4.21E-10				

50009.20	6.20	1.10E-00	4.69E-02	2.58E-03	1.97E-04	1.58E-05	9.77E-07	3.11E-08	4.22E-10
		5.64E-01	3.11E-02	2.32E-03	1.93E-04	1.57E-05	0.76E-07	3.11E-08	4.22E-10
50015.80	6.30	1.11E-00	4.71E-02	2.60E-03	1.98E-04	1.58E-05	9.80E-07	3.11E-08	4.24E-10
		5.69E-01	3.15E-02	2.33E-03	1.94E-04	1.58E-05	9.79E-07	3.11E-08	4.24E-10
51622.40	6.40	1.12E-00	4.78E-02	2.61E-03	1.99E-04	1.59E-05	9.83E-07	3.12E-08	4.25E-10
		5.74E-01	3.19E-02	2.34E-03	1.94E-04	1.59E-05	9.81E-07	3.12E-08	4.24E-10
52429.00	6.50	1.13E-00	4.77E-02	2.62E-03	1.99E-04	1.59E-05	9.85E-07	3.13E-08	4.26E-10
		5.79E-01	3.12E-02	2.35E-03	1.95E-04	1.59E-05	9.84E-07	3.13E-08	4.24E-10
53235.60	6.60	1.14E-00	3.80E-02	2.62E-03	2.00E-04	1.60E-05	9.86E-07	3.14E-08	4.27E-10
		5.83E-01	3.18E-02	2.36E-03	1.95E-04	1.60E-05	9.86E-07	3.14E-08	4.27E-10
54042.20	6.70	1.15E-00	4.83E-02	2.63E-03	2.00E-04	1.60E-05	9.89E-07	3.15E-08	4.28E-10
		5.88E-01	3.23E-02	2.36E-03	1.96E-04	1.60E-05	9.88E-07	3.14E-08	4.24E-10
54848.80	6.80	1.15E-00	4.85E-02	2.64E-03	2.01E-04	1.60E-05	9.91E-07	3.15E-08	4.29E-10
		5.91E-01	3.21E-02	2.37E-03	1.96E-04	1.60E-05	9.90E-07	3.15E-08	4.29E-10
55655.40	6.90	1.16E-00	4.87E-02	2.65E-03	2.01E-04	1.60E-05	9.93E-07	3.16E-08	4.30E-10
		5.95E-01	3.23E-02	2.38E-03	1.96E-04	1.60E-05	9.92E-07	3.16E-08	4.30E-10
56462.00	7.00	1.17E-00	4.90E-02	2.66E-03	2.01E-04	1.61E-05	9.95E-07	3.16E-08	4.31E-10
		5.99E-01	3.24E-02	2.38E-03	1.97E-04	1.60E-05	9.94E-07	3.16E-08	4.31E-10
57268.60	7.10	1.17E-00	4.92E-02	2.66E-03	2.02E-04	1.61E-05	9.97E-07	3.17E-08	4.32E-10
		6.01E-01	3.25E-02	2.39E-03	1.97E-04	1.60E-05	9.95E-07	3.17E-08	4.32E-10
58075.20	7.20	1.18E-00	4.93E-02	2.67E-03	2.02E-04	1.61E-05	9.98E-07	3.17E-08	4.32E-10
		6.04E-01	3.26E-02	2.39E-03	1.97E-04	1.60E-05	9.97E-07	3.17E-08	4.32E-10
58881.80	7.30	1.18E-00	4.95E-02	2.67E-03	2.02E-04	1.61E-05	9.99E-07	3.18E-08	4.33E-10
		6.07E-01	3.27E-02	2.40E-03	1.98E-04	1.61E-05	9.98E-07	3.18E-08	4.33E-10
59688.40	7.40	1.19E-00	4.95E-02	2.68E-03	2.03E-04	1.62E-05	1.00E-06	3.18E-08	4.34E-10
		6.10E-01	3.28E-02	2.40E-03	1.98E-04	1.61E-05	1.00E-06	3.18E-08	4.34E-10
60495.00	7.50	1.20E-00	4.96E-02	2.69E-03	2.03E-04	1.62E-05	1.00E-06	3.19E-08	4.34E-10
		6.12E-01	3.29E-02	2.41E-03	1.98E-04	1.61E-05	1.00E-06	3.19E-08	4.34E-10
61301.60	7.60	1.20E-00	5.00E-02	2.69E-03	2.03E-04	1.62E-05	1.00E-06	3.19E-08	4.35E-10
		6.14E-01	3.30E-02	2.41E-03	1.99E-04	1.61E-05	1.00E-06	3.19E-08	4.35E-10
62108.20	7.70	1.21E-00	5.03E-02	2.70E-03	2.03E-04	1.62E-05	1.00E-06	3.19E-08	4.35E-10
		6.16E-01	3.31E-02	2.41E-03	1.99E-04	1.61E-05	1.00E-06	3.19E-08	4.35E-10
62914.80	7.80	1.21E-00	5.04E-02	2.70E-03	2.04E-04	1.62E-05	1.01E-06	3.20E-08	4.36E-10
		6.18E-01	3.32E-02	2.42E-03	1.99E-04	1.62E-05	1.01E-06	3.20E-08	4.36E-10
63721.40	7.90	1.22E-00	5.05E-02	2.71E-03	2.04E-04	1.63E-05	1.01E-06	3.20E-08	4.36E-10
		6.20E-01	3.32E-02	2.42E-03	1.99E-04	1.62E-05	1.00E-06	3.20E-08	4.36E-10
64528.00	8.00	1.22E-00	5.07E-02	2.71E-03	2.04E-04	1.63E-05	1.01E-06	3.20E-08	4.36E-10
		6.21E-01	3.33E-02	2.42E-03	1.99E-04	1.62E-05	1.01E-06	3.20E-08	4.36E-10
65334.60	8.10	1.23E-00	5.08E-02	2.71E-03	2.04E-04	1.63E-05	1.01E-06	3.21E-08	4.37E-10
		6.23E-01	3.33E-02	2.43E-03	2.00E-04	1.63E-05	1.01E-06	3.21E-08	4.37E-10
66141.20	8.20	1.23E-00	5.11E-02	2.72E-03	2.04E-04	1.63E-05	1.01E-06	3.21E-08	4.37E-10
		6.24E-01	3.34E-02	2.43E-03	2.00E-04	1.62E-05	1.01E-06	3.21E-08	4.37E-10
66947.80	8.30	1.24E-00	5.12E-02	2.72E-03	2.05E-04	1.63E-05	1.01E-06	3.21E-08	4.37E-10
		6.26E-01	3.34E-02	2.43E-03	2.00E-04	1.62E-05	1.01E-06	3.21E-08	4.37E-10
67754.40	8.40	1.24E-00	5.14E-02	2.73E-03	2.05E-04	1.63E-05	1.01E-06	3.21E-08	4.38E-10
		6.27E-01	3.35E-02	2.43E-03	2.00E-04	1.62E-05	1.01E-06	3.21E-08	4.38E-10
68561.00	8.50	1.25E-00	5.16E-02	2.73E-03	2.05E-04	1.63E-05	1.01E-06	3.22E-08	4.38E-10
		6.28E-01	3.35E-02	2.44E-03	2.00E-04	1.62E-05	1.01E-06	3.21E-08	4.38E-10
69367.60	8.60	1.26E-00	5.18E-02	2.73E-03	2.05E-04	1.63E-05	1.01E-06	3.22E-08	4.38E-10
		6.29E-01	3.36E-02	2.44E-03	2.00E-04	1.62E-05	1.01E-06	3.22E-08	4.38E-10



PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR, 11000°K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	1.0E-01	1.0E-00	1.0E-01	1.0E-01	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07
70174.20	6.70	1.26E-00	5.20E-02	2.74E-03	2.05E-04	1.63E-05	1.01E-06	3.22E-08	4.39E-10	
70980.80	6.70	6.30E-01	3.36E-02	2.44E-03	2.00E-04	1.63E-05	1.01E-06	3.22E-08	4.39E-10	
71787.40	6.90	1.27E-00	5.25E-02	2.74E-03	2.05E-04	1.64E-05	1.01E-06	3.22E-08	4.39E-10	
72594.00	9.00	6.31E-01	3.37E-02	2.44E-03	2.05E-04	1.63E-05	1.01E-06	3.22E-08	4.39E-10	
73400.60	9.10	1.28E-00	5.25E-02	2.75E-03	2.05E-04	1.64E-05	1.01E-06	3.22E-08	4.39E-10	
74207.20	9.20	6.33E-01	3.37E-02	2.44E-03	2.05E-04	1.63E-05	1.01E-06	3.22E-08	4.39E-10	
75013.80	9.30	1.29E-00	5.25E-02	2.75E-03	2.05E-04	1.64E-05	1.01E-06	3.22E-08	4.39E-10	
75820.40	9.40	6.34E-01	3.38E-02	2.45E-03	2.05E-04	1.63E-05	1.01E-06	3.22E-08	4.39E-10	
76627.00	9.50	1.30E-00	5.25E-02	2.74E-03	2.05E-04	1.64E-05	1.01E-06	3.22E-08	4.39E-10	
77433.60	9.60	6.35E-01	3.38E-02	2.45E-03	2.05E-04	1.64E-05	1.01E-06	3.22E-08	4.39E-10	
78240.20	9.70	1.31E-00	5.25E-02	2.74E-03	2.05E-04	1.64E-05	1.01E-06	3.22E-08	4.39E-10	
79046.80	9.80	6.36E-01	3.39E-02	2.45E-03	2.05E-04	1.64E-05	1.01E-06	3.22E-08	4.39E-10	
79853.40	9.90	1.32E-00	5.25E-02	2.74E-03	2.05E-04	1.64E-05	1.01E-06	3.22E-08	4.39E-10	
80660.00	10.00	6.37E-01	3.40E-02	2.46E-03	2.05E-04	1.65E-05	1.02E-06	3.22E-08	4.39E-10	
81466.60	10.10	1.33E-00	5.25E-02	2.74E-03	2.05E-04	1.64E-05	1.02E-06	3.22E-08	4.39E-10	
82273.20	10.20	6.38E-01	3.40E-02	2.46E-03	2.05E-04	1.64E-05	1.02E-06	3.22E-08	4.39E-10	
83080.80	10.30	1.34E-00	5.25E-02	2.74E-03	2.05E-04	1.64E-05	1.02E-06	3.22E-08	4.39E-10	
83886.40	10.40	6.39E-01	3.40E-02	2.46E-03	2.05E-04	1.64E-05	1.02E-06	3.22E-08	4.39E-10	
84693.00	10.50	1.35E-00	5.25E-02	2.74E-03	2.05E-04	1.64E-05	1.02E-06	3.22E-08	4.39E-10	
85499.60	10.60	6.40E-01	3.40E-02	2.46E-03	2.05E-04	1.64E-05	1.02E-06	3.22E-08	4.39E-10	
86306.20	10.70	1.36E-00	5.25E-02	2.74E-03	2.05E-04	1.64E-05	1.02E-06	3.22E-08	4.39E-10	
87112.80	10.80	6.41E-01	3.40E-02	2.46E-03	2.05E-04	1.64E-05	1.02E-06	3.22E-08	4.39E-10	
87919.40	10.90	1.37E-00	5.25E-02	2.74E-03	2.05E-04	1.64E-05	1.02E-06	3.22E-08	4.39E-10	
88726.00	11.00	6.42E-01	3.40E-02	2.46E-03	2.05E-04	1.64E-05	1.02E-06	3.22E-08	4.39E-10	

90742.50	11.25	1.49E 00	7.10E-02	4.47E-03	3.13E-04	2.56F-05	1.60E-06	5.04E-08	6.89E-10
		7.25E-01	4.86E-02	4.15E-03	3.07E-04	2.55E-05	1.60E-06	5.04E-08	6.89E-10
92759.00	11.50	1.51E 00	7.43F-02	4.84E-03	3.49E-04	2.87E-05	1.30E-06	5.67E-08	7.76E-10
		7.44E-01	5.20E-02	4.50E-03	3.44E-04	2.87E-05	1.30E-06	5.67E-08	7.76E-10
94775.50	11.75	1.53E 00	7.70F-02	5.15E-03	3.79E-04	3.13E-05	1.07E-06	4.18E-08	6.46E-10
		7.60E-01	5.47E-02	4.80E-03	3.74E-04	3.12F-05	1.07E-06	4.18E-08	6.46E-10
96792.00	12.00	1.59E 00	8.88E-02	6.49E-03	5.09E-04	4.26F-05	2.10E-06	6.60F-08	9.03E-10
		6.29E-01	6.85E-02	6.14E-03	5.04E-04	4.25E-05	2.10E-06	6.60E-08	9.03E-10
98808.50	12.25	1.65F 00	9.85E-02	7.59E-03	6.16E-04	5.18F-05	2.69E-06	8.42E-09	1.15E-09
		8.05E-01	7.61F-02	7.24E-03	6.10E-04	5.17F-05	2.69E-06	8.42E-09	1.15E-09
100825.00	12.50	1.70E 00	1.04E-01	8.48E-03	7.02E-04	5.33E-05	3.17E-06	9.90E-09	1.36E-09
		9.31E-01	8.40F-02	8.15E-03	6.97E-04	5.32E-05	3.17E-06	9.90E-09	1.36E-09
102841.50	12.75	1.74E 00	1.13F-01	9.26E-03	7.78E-04	6.53F-05	3.59E-06	1.11E-07	1.52E-09
		9.71E-01	9.09F-02	8.91E-03	7.73E-04	6.57E-05	3.59E-06	1.11E-07	1.52E-09
104858.00	13.00	1.77E 00	1.19E-01	9.89E-03	8.40E-04	7.12F-05	3.93E-06	1.22E-07	1.67E-09
		1.00E 00	1.23F-01	9.59E-03	8.35E-04	7.11E-05	3.93E-06	1.22E-07	1.67E-09
106874.50	13.25	1.80E 00	1.30E-01	1.04E-02	8.95E-04	7.93F-05	4.20E-06	1.30E-07	1.75E-09
		1.03F 00	1.01E-01	1.01E-02	8.85E-04	7.54E-05	4.20E-06	1.30E-07	1.75E-09
108891.00	13.50	1.85E 00	1.38E-01	1.11E-02	9.61E-04	8.10E-05	4.63E-06	1.37E-07	1.88E-09
		1.08E 00	1.08F-01	1.08E-02	9.55E-04	8.17F-05	4.63E-06	1.37E-07	1.88E-09
110907.50	13.75	1.89F 00	1.36E-01	1.17E-02	1.02E-03	8.69F-05	4.98E-06	1.49E-07	2.05E-09
		1.12E 00	1.33E-01	1.14E-02	1.01E-03	8.68E-05	4.97E-06	1.49E-07	2.05E-09
112924.00	14.00	1.93E 00	1.41F-01	1.24E-02	1.08E-03	9.22F-05	5.33E-06	1.61E-07	2.19E-09
		1.16E 00	1.19E-01	1.20E-02	1.07E-03	9.21F-05	5.33E-06	1.61E-07	2.19E-09
114940.50	14.25	1.96E 00	1.46E-01	1.28E-02	1.13E-03	9.68F-05	5.63E-06	1.71E-07	2.33E-09
		1.20E 00	1.24F-01	1.25E-02	1.12E-03	9.65F-05	5.62E-06	1.71E-07	2.33E-09
116957.00	14.50	2.03E 00	1.57E-01	1.41E-02	1.25E-03	1.07E-04	6.32E-06	1.93E-07	2.44E-09
		2.07E 00	1.35E-01	1.38E-02	1.25E-03	1.07E-04	6.31E-06	1.93E-07	2.44E-09
118973.50	14.75	2.09E 00	1.67E-01	1.52E-02	1.35E-03	1.16E-04	6.88E-06	2.11E-07	2.59E-09
		1.33E 00	1.44F-01	1.48E-02	1.35E-03	1.16E-04	6.88E-06	2.11E-07	2.59E-09
120990.00	15.00	2.14E 00	1.75F-01	1.60E-02	1.44E-03	1.23F-04	7.35E-06	2.26E-07	2.90E-09
		1.38E 00	1.52F-01	1.57E-02	1.43E-03	1.23F-04	7.35E-06	2.26E-07	2.90E-09
123006.50	15.25	2.18E 00	1.81F-01	1.67E-02	1.50E-03	1.29F-04	7.74E-06	2.38E-07	3.07E-09
		1.42E 00	1.58F-01	1.64E-02	1.50E-03	1.29E-04	7.73E-06	2.38E-07	3.07E-09
125023.00	15.50	2.21E 00	1.86F-01	1.73E-02	1.56E-03	1.34F-04	8.05E-06	2.48E-07	3.21E-09
		1.45E 00	1.64E-01	1.68E-02	1.55E-03	1.34E-04	8.05E-06	2.48E-07	3.21E-09
127039.50	15.75	2.24E 00	1.90E-01	1.78E-02	1.60E-03	1.38E-04	8.30E-06	2.56E-07	3.33E-09
		1.47E 00	1.68E-01	1.74E-02	1.60E-03	1.38E-04	8.30E-06	2.56E-07	3.33E-09
129056.00	16.00	2.26E 00	1.93E-01	1.81E-02	1.63E-03	1.41E-04	8.50E-06	2.62E-07	3.42E-09
		1.49E 00	1.71F-01	1.78E-02	1.63E-03	1.41E-04	8.50E-06	2.62E-07	3.42E-09
131072.50	16.25	2.28E 00	1.96E-01	1.84E-02	1.67E-03	1.43F-04	8.67E-06	2.68E-07	3.49E-09
		1.51E 00	1.74E-01	1.81F-02	1.66E-03	1.43E-04	8.67E-06	2.68E-07	3.49E-09
133089.00	16.50	2.29E 00	1.98E-01	1.87E-02	1.69E-03	1.45F-04	8.80E-06	2.72E-07	3.55E-09
		1.53E 00	1.76E-01	1.83E-02	1.69E-03	1.45E-04	8.80E-06	2.72E-07	3.55E-09
135105.50	16.75	2.30E 00	2.00E-01	1.89E-02	1.71E-03	1.47E-04	8.90E-06	2.75E-07	3.60E-09
		1.54E 00	1.78E-01	1.85E-02	1.71E-03	1.47E-04	8.90E-06	2.75E-07	3.60E-09
137122.00	17.00	2.31E 00	2.01E-01	1.90E-02	1.73E-03	1.48E-04	9.00E-06	2.78E-07	3.64E-09
		1.55E 00	1.79E-01	1.87E-02	1.72E-03	1.48E-04	9.00E-06	2.78E-07	3.64E-09
139138.50	17.25	2.32F 00	2.03E-01	1.92E-02	1.74E-03	1.50F-04	9.07E-06	2.80E-07	3.67E-09
		1.55E 00	1.80E-01	1.88E-02	1.73E-03	1.49E-04	9.07E-06	2.80E-07	3.67E-09

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 11600° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density x Normal									
		1.0E 01	1.0E 00	1.0E 01	1.0E 02	1.0E 03	1.0E 04	1.0E 05	1.0E 06	1.0E 07	
141155.00	17.50	2.33E 00	2.04E-01	1.93E-02	1.75E-03	1.50E-04	9.13E-06	2.82E-07	3.70E-09		
143171.50	17.75	1.96E 00	1.91E-01	1.89E-02	1.74E-03	1.50E-04	9.12E-06	2.82E-07	3.70E-09		
145188.00	18.00	2.33E 00	2.04E-01	1.93E-02	1.76E-03	1.51E-04	9.17E-06	2.84E-07	3.72E-09		
147204.50	18.25	1.97E 00	1.82E-01	1.90E-02	1.75E-03	1.51E-04	9.17E-06	2.84E-07	3.72E-09		
149221.00	18.50	2.34E 00	2.05E-01	1.94E-02	1.76E-03	1.52E-04	9.21E-06	2.85E-07	3.73E-09		
151237.50	18.75	1.97E 00	1.83E-01	1.92E-02	1.77E-03	1.52E-04	9.24E-06	2.86E-07	3.75E-09		
153254.00	19.00	2.35E 00	2.06E-01	1.95E-02	1.77E-03	1.52E-04	9.24E-06	2.86E-07	3.75E-09		
155270.50	19.25	1.98E 00	1.84E-01	1.96E-02	1.78E-03	1.53E-04	9.28E-06	2.87E-07	3.77E-09		
157287.00	19.50	2.35E 00	2.07E-01	1.96E-02	1.78E-03	1.53E-04	9.28E-06	2.87E-07	3.77E-09		
159303.50	19.75	1.98E 00	1.84E-01	1.96E-02	1.78E-03	1.53E-04	9.31E-06	2.88E-07	3.78E-09		
161320.00	20.00	2.35E 00	2.07E-01	1.96E-02	1.78E-03	1.53E-04	9.31E-06	2.88E-07	3.78E-09		
163336.50	20.25	1.99E 00	1.85E-01	1.97E-02	1.79E-03	1.54E-04	9.34E-06	2.89E-07	3.79E-09		
165353.00	20.50	2.35E 00	2.07E-01	1.97E-02	1.79E-03	1.54E-04	9.34E-06	2.89E-07	3.79E-09		
167369.50	20.75	1.99E 00	1.85E-01	1.97E-02	1.79E-03	1.54E-04	9.34E-06	2.89E-07	3.79E-09		
169386.00	21.00	2.35E 00	2.07E-01	1.97E-02	1.79E-03	1.54E-04	9.34E-06	2.89E-07	3.79E-09		
171402.50	21.25	1.99E 00	1.85E-01	1.97E-02	1.79E-03	1.54E-04	9.34E-06	2.89E-07	3.79E-09		
173419.00	21.50	2.35E 00	2.07E-01	1.97E-02	1.79E-03	1.54E-04	9.34E-06	2.89E-07	3.79E-09		
175435.50	21.75	1.99E 00	1.85E-01	1.97E-02	1.79E-03	1.54E-04	9.34E-06	2.89E-07	3.79E-09		
177452.00	22.00	2.35E 00	2.07E-01	1.97E-02	1.79E-03	1.54E-04	9.34E-06	2.89E-07	3.79E-09		
179468.50	22.25	1.99E 00	1.85E-01	1.97E-02	1.79E-03	1.54E-04	9.34E-06	2.89E-07	3.79E-09		
181485.00	22.50	2.35E 00	2.07E-01	1.97E-02	1.79E-03	1.54E-04	9.34E-06	2.89E-07	3.79E-09		
183501.50	22.75	1.99E 00	1.85E-01	1.97E-02	1.79E-03	1.54E-04	9.34E-06	2.89E-07	3.79E-09		

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 12000°K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density x Normal									
		1.0E 01	1.0E 00	1.0E-01	10.0E-02	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07	
4939.60	0.60	1.68E-02	1.83E-03	1.83E-04	1.68E-05	1.15E-06	5.18E-08	9.62E-10	1.07E-11	1.07E-11	
5646.20	0.70	1.68E-02	1.83E-03	1.83E-04	1.68E-05	1.15E-06	5.18E-08	9.62E-10	1.07E-11	1.07E-11	
6452.80	0.80	3.47E-02	3.83E-03	3.83E-04	3.52E-05	2.54E-06	1.07E-07	1.98E-09	2.21E-11	2.21E-11	
7259.40	0.90	5.45E-02	6.01E-03	6.01E-04	5.52E-05	4.06E-06	1.07E-07	3.24E-09	3.40E-11	3.40E-11	
8066.00	1.00	5.30E-02	5.98E-03	6.01E-04	5.52E-05	4.06E-06	1.07E-07	3.24E-09	3.40E-11	3.40E-11	
8572.60	1.10	7.69E-02	8.33E-03	8.30E-04	7.62E-05	5.65E-06	2.46E-07	4.54E-09	4.86E-11	4.86E-11	
9679.20	1.20	7.21E-02	8.24E-03	8.29E-04	7.61E-05	5.65E-06	2.46E-07	4.54E-09	4.86E-11	4.86E-11	
10485.80	1.30	1.01E-01	1.09E-02	1.07E-03	9.78E-05	7.26E-06	3.19E-07	5.89E-09	6.36E-11	6.36E-11	
11292.40	1.40	9.14E-02	1.06E-02	1.06E-03	9.78E-05	7.26E-06	3.19E-07	5.89E-09	6.36E-11	6.36E-11	
12099.00	1.50	1.27E-01	1.32E-02	1.30E-03	1.19E-04	8.80E-06	3.91E-07	7.20E-09	7.82E-11	7.82E-11	
12905.60	1.60	1.10E-01	1.28E-02	1.29E-03	1.19E-04	8.80E-06	3.91E-07	7.20E-09	7.82E-11	7.82E-11	
13712.20	1.70	1.53E-01	1.59E-02	1.52E-03	1.39E-04	1.04E-05	4.59E-07	8.43E-09	9.20E-11	9.20E-11	
14518.80	1.80	1.28E-01	1.80E-02	1.76E-03	1.39E-04	1.04E-05	4.59E-07	8.43E-09	9.20E-11	9.20E-11	
15325.40	1.90	1.82E-01	1.78E-02	1.75E-03	1.61E-04	1.17E-05	5.18E-07	9.52E-09	1.04E-10	1.04E-10	
16132.00	2.00	1.47E-01	1.95E-02	1.92E-03	1.61E-04	1.17E-05	5.18E-07	9.52E-09	1.04E-10	1.04E-10	
16938.60	2.10	2.15E-01	2.09E-02	1.98E-03	1.81E-04	1.31E-05	5.66E-07	1.04E-08	1.14E-10	1.14E-10	
17745.20	2.20	1.64E-01	1.94E-02	1.97E-03	1.81E-04	1.31E-05	5.66E-07	1.04E-08	1.14E-10	1.14E-10	
18551.80	2.30	2.50E-01	2.28E-02	2.10E-03	1.99E-04	1.45E-05	6.25E-07	1.15E-08	1.23E-10	1.23E-10	
19358.40	2.40	1.84E-01	2.14E-02	2.17E-03	1.99E-04	1.45E-05	6.25E-07	1.15E-08	1.23E-10	1.23E-10	
20165.00	2.50	2.84E-01	2.50E-02	2.36E-03	2.15E-04	1.57E-05	6.79E-07	1.25E-08	1.34E-10	1.34E-10	
20971.60	2.60	1.99E-01	2.33E-02	2.34E-03	2.15E-04	1.57E-05	6.79E-07	1.25E-08	1.34E-10	1.34E-10	
21778.20	2.70	3.24E-01	2.72E-02	2.53E-03	2.30E-04	1.68E-05	7.30E-07	1.35E-08	1.44E-10	1.44E-10	
		2.18E-01	2.51E-02	2.51E-03	2.30E-04	1.68E-05	7.30E-07	1.35E-08	1.44E-10	1.44E-10	
		3.66E-01	2.93E-02	2.69E-03	2.44E-04	1.79E-05	7.76E-07	1.43E-08	1.54E-10	1.54E-10	
		2.37E-01	2.67E-02	2.66E-03	2.44E-04	1.79E-05	7.76E-07	1.43E-08	1.54E-10	1.54E-10	
		4.12E-01	3.14E-02	2.84E-03	2.56E-04	1.88E-05	8.18E-07	1.51E-08	1.62E-10	1.62E-10	
		2.55E-01	2.82E-02	2.80E-03	2.56E-04	1.88E-05	8.18E-07	1.51E-08	1.62E-10	1.62E-10	
		4.49E-01	3.33E-02	2.97E-03	2.68E-04	1.96E-05	8.56E-07	1.58E-08	1.70E-10	1.70E-10	
		2.73E-01	2.97E-02	2.93E-03	2.68E-04	1.96E-05	8.56E-07	1.58E-08	1.70E-10	1.70E-10	
		4.78E-01	3.49E-02	3.09E-03	2.78E-04	2.04E-05	8.91E-07	1.65E-08	1.78E-10	1.78E-10	
		2.91E-01	3.11E-02	3.05E-03	2.78E-04	2.04E-05	8.91E-07	1.65E-08	1.78E-10	1.78E-10	
		5.05E-01	3.64E-02	3.21E-03	2.88E-04	2.11E-05	9.23E-07	1.70E-08	1.84E-10	1.84E-10	
		3.09E-01	3.24E-02	3.16E-03	2.88E-04	2.11E-05	9.23E-07	1.70E-08	1.84E-10	1.84E-10	
		5.26E-01	3.77E-02	3.31E-03	2.96E-04	2.18E-05	9.51E-07	1.76E-08	1.90E-10	1.90E-10	
		3.26E-01	3.36E-02	3.26E-03	2.96E-04	2.18E-05	9.51E-07	1.76E-08	1.90E-10	1.90E-10	
		5.46E-01	3.91E-02	3.43E-03	3.07E-04	2.23E-05	9.75E-07	1.80E-08	1.95E-10	1.95E-10	
		3.44E-01	3.50E-02	3.48E-03	3.07E-04	2.23E-05	9.75E-07	1.80E-08	1.95E-10	1.95E-10	
		5.64E-01	4.04E-02	3.54E-03	3.16E-04	2.30E-05	9.96E-07	1.84E-08	1.99E-10	1.99E-10	
		3.63E-01	3.63E-02	3.49E-03	3.16E-04	2.30E-05	9.96E-07	1.84E-08	1.99E-10	1.99E-10	
		5.83E-01	4.18E-02	3.64E-03	3.25E-04	2.37E-05	1.02E-06	1.89E-08	2.03E-10	2.03E-10	
		3.81E-01	3.76E-02	3.68E-03	3.25E-04	2.37E-05	1.02E-06	1.89E-08	2.03E-10	2.03E-10	
		6.04E-01	4.31E-02	3.75E-03	3.34E-04	2.43E-05	1.05E-06	1.94E-08	2.08E-10	2.08E-10	
		3.99E-01	3.89E-02	3.78E-03	3.34E-04	2.43E-05	1.05E-06	1.94E-08	2.08E-10	2.08E-10	

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 1200° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density x Normal									
		1.0E-01	1.0E-00	1.0E-01	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07		
22584.80	2.80	6.24E-01	4.44E-02	3.85E-03	3.42E-04	2.49E-05	1.88E-06	1.99E-08	2.14E-10		
23391.40	2.90	4.17E-01	4.01E-02	3.80E-03	3.42E-04	2.49E-05	1.88E-06	1.99E-08	2.14E-10		
24198.00	3.00	4.35E-01	4.57E-02	3.94E-03	3.50E-04	2.55E-05	1.90E-06	2.03E-08	2.19E-10		
25004.60	3.10	4.69E-01	4.12E-02	4.04E-03	3.57E-04	2.60E-05	1.93E-06	2.08E-08	2.24E-10		
25811.20	3.20	4.92E-01	4.23E-02	3.97E-03	3.56E-04	2.63E-05	1.93E-06	2.08E-08	2.24E-10		
26617.80	3.30	4.68E-01	4.33E-02	4.12E-03	3.64E-04	2.65E-05	1.95E-06	2.12E-08	2.28E-10		
27424.40	3.40	5.00E-01	4.84E-02	4.21E-03	3.70E-04	2.69E-05	1.97E-06	2.16E-08	2.33E-10		
28231.00	3.50	7.54E-01	4.43E-02	4.13E-03	3.69E-04	2.69E-05	1.97E-06	2.16E-08	2.33E-10		
29037.60	3.60	5.00E-01	5.13E-02	4.29E-03	3.74E-04	2.74E-05	1.99E-06	2.19E-08	2.36E-10		
29844.20	3.70	5.00E-01	4.93E-02	4.19E-03	3.73E-04	2.73E-05	1.99E-06	2.19E-08	2.36E-10		
30650.80	3.80	7.00E-01	5.24E-02	4.25E-03	3.81E-04	2.77E-05	1.20E-06	2.22E-08	2.40E-10		
31457.40	3.90	5.15E-01	4.61E-02	4.25E-03	3.79E-04	2.77E-05	1.20E-06	2.22E-08	2.40E-10		
32264.00	4.00	8.29E-01	5.43E-02	4.44E-03	3.86E-04	2.81E-05	1.22E-06	2.25E-08	2.43E-10		
33070.60	4.10	5.30E-01	4.72E-02	4.32E-03	3.84E-04	2.80E-05	1.22E-06	2.25E-08	2.43E-10		
33877.20	4.20	8.69E-01	5.58E-02	4.51E-03	3.91E-04	2.84E-05	1.23E-06	2.27E-08	2.45E-10		
34683.80	4.30	5.62E-01	4.83E-02	4.38E-03	3.89E-04	2.83E-05	1.23E-06	2.27E-08	2.45E-10		
35490.40	4.40	9.15E-01	5.74E-02	4.58E-03	3.95E-04	2.84E-05	1.24E-06	2.29E-08	2.48E-10		
36297.00	4.50	5.66E-01	4.94E-02	4.44E-03	3.93E-04	2.83E-05	1.24E-06	2.29E-08	2.48E-10		
37103.60	4.60	9.60E-01	5.90E-02	4.65E-03	4.00E-04	2.89E-05	1.25E-06	2.31E-08	2.50E-10		
37910.20	4.70	6.11E-01	5.05E-02	4.31E-03	3.97E-04	2.89E-05	1.25E-06	2.31E-08	2.50E-10		
38716.80	4.80	9.98E-01	6.03E-02	4.72E-03	4.05E-04	2.92E-05	1.26E-06	2.33E-08	2.52E-10		
39523.40	4.90	6.36E-01	5.16E-02	4.57E-03	4.02E-04	2.92E-05	1.26E-06	2.33E-08	2.52E-10		
		1.05E-00	6.20E-02	4.79E-03	4.09E-04	2.92E-05	1.26E-06	2.33E-08	2.52E-10		
		6.60E-01	5.27E-02	4.64E-03	4.07E-04	2.92E-05	1.26E-06	2.33E-08	2.52E-10		
		1.08E-00	6.34E-02	4.87E-03	4.15E-04	2.92E-05	1.26E-06	2.33E-08	2.52E-10		
		6.86E-01	5.40E-02	4.71E-03	4.12E-04	2.92E-05	1.26E-06	2.33E-08	2.52E-10		
		1.12E-00	6.49E-02	4.94E-03	4.21E-04	3.02E-05	1.31E-06	2.40E-08	2.59E-10		
		7.10E-01	5.51E-02	4.79E-03	4.18E-04	3.02E-05	1.31E-06	2.40E-08	2.59E-10		
		1.15E-00	6.62E-02	5.02E-03	4.26E-04	3.04E-05	1.33E-06	2.43E-08	2.63E-10		
		7.33E-01	5.63E-02	4.86E-03	4.23E-04	3.05E-05	1.33E-06	2.43E-08	2.63E-10		
		1.18E-00	6.73E-02	5.06E-03	4.31E-04	3.06E-05	1.33E-06	2.43E-08	2.63E-10		
		7.55E-01	5.73E-02	4.92E-03	4.28E-04	3.06E-05	1.33E-06	2.43E-08	2.63E-10		
		1.21E-00	6.84E-02	5.15E-03	4.36E-04	3.09E-05	1.35E-06	2.46E-08	2.66E-10		
		7.77E-01	5.84E-02	4.99E-03	4.33E-04	3.12E-05	1.35E-06	2.46E-08	2.66E-10		
		1.23E-00	6.95E-02	5.21E-03	4.40E-04	3.14E-05	1.37E-06	2.49E-08	2.69E-10		
		7.97E-01	5.93E-02	5.05E-03	4.37E-04	3.15E-05	1.37E-06	2.49E-08	2.69E-10		
		1.26E-00	7.05E-02	5.26E-03	4.44E-04	3.15E-05	1.37E-06	2.49E-08	2.69E-10		
		8.17E-01	6.03E-02	5.10E-03	4.41E-04	3.15E-05	1.37E-06	2.49E-08	2.69E-10		
		1.28E-00	7.14E-02	5.32E-03	4.48E-04	3.15E-05	1.37E-06	2.49E-08	2.69E-10		
		8.36E-01	6.11E-02	5.15E-03	4.45E-04	3.15E-05	1.40E-06	2.52E-08	2.73E-10		
		1.31E-00	7.23E-02	5.37E-03	4.51E-04	3.24E-05	1.41E-06	2.52E-08	2.73E-10		
		8.54E-01	6.20E-02	5.20E-03	4.49E-04	3.23E-05	1.41E-06	2.52E-08	2.73E-10		

40330.00	5.00	1.33E 00	7.32E-02	3.41E-03	4.55E-04	3.26E-05	1.42E-06	2.62E-08	2.83E-10
		8.71E-01	6.28E-02	5.29E-03	4.52E-04	3.26E-05	1.42E-06	2.61E-08	2.83E-10
41135.50	5.10	1.35E 00	7.41E-02	5.46E-03	4.58E-04	3.29E-05	1.43E-06	2.64E-08	2.85E-10
		8.87E-01	6.35E-02	5.29E-03	4.55E-04	3.28E-05	1.43E-06	2.63E-08	2.85E-10
41943.20	5.20	1.37E 00	7.48E-02	5.50E-03	4.61E-04	3.31E-05	1.44E-06	2.65E-08	2.87E-10
		9.03E-01	6.42E-02	5.34E-03	4.58E-04	3.30E-05	1.44E-06	2.65E-08	2.87E-10
42749.80	5.30	1.39E 00	7.56E-02	5.54E-03	4.64E-04	3.33E-05	1.45E-06	2.67E-08	2.89E-10
		9.18E-01	6.49E-02	5.38E-03	4.61E-04	3.32E-05	1.45E-06	2.67E-08	2.89E-10
43556.40	5.40	1.41E 00	7.63E-02	5.58E-03	4.67E-04	3.35E-05	1.46E-06	2.69E-08	2.91E-10
		9.32E-01	6.55E-02	5.41E-03	4.64E-04	3.34E-05	1.46E-06	2.69E-08	2.91E-10
44363.00	5.50	1.43E 00	7.70E-02	5.62E-03	4.68E-04	3.36E-05	1.47E-06	2.70E-08	2.93E-10
		9.45E-01	6.61E-02	5.45E-03	4.66E-04	3.36E-05	1.47E-06	2.70E-08	2.93E-10
45169.60	5.60	1.45E 00	7.77E-02	5.65E-03	4.72E-04	3.38E-05	1.47E-06	2.72E-08	2.95E-10
		9.58E-01	6.67E-02	5.48E-03	4.68E-04	3.38E-05	1.47E-06	2.72E-08	2.95E-10
45976.20	5.70	1.47E 00	7.83E-02	5.68E-03	4.74E-04	3.40E-05	1.48E-06	2.73E-08	2.96E-10
		9.71E-01	6.73E-02	5.51E-03	4.71E-04	3.39E-05	1.48E-06	2.73E-08	2.96E-10
46782.80	5.80	1.48E 00	7.89E-02	5.71E-03	4.76E-04	3.41E-05	1.49E-06	2.75E-08	2.98E-10
		9.84E-01	6.79E-02	5.54E-03	4.73E-04	3.41E-05	1.49E-06	2.75E-08	2.98E-10
47589.40	5.90	1.50E 00	7.95E-02	5.74E-03	4.78E-04	3.43E-05	1.49E-06	2.76E-08	2.99E-10
		9.97E-01	6.84E-02	5.57E-03	4.75E-04	3.42E-05	1.49E-06	2.76E-08	2.99E-10
48396.00	6.00	1.51E 00	8.01E-02	5.77E-03	4.80E-04	3.44E-05	1.50E-06	2.77E-08	3.00E-10
		1.01E 00	6.89E-02	5.60E-03	4.77E-04	3.43E-05	1.50E-06	2.77E-08	3.00E-10
49202.60	6.10	1.53E 00	8.07E-02	5.80E-03	4.82E-04	3.45E-05	1.51E-06	2.78E-08	3.02E-10
		1.02E 00	6.94E-02	5.63E-03	4.79E-04	3.45E-05	1.51E-06	2.78E-08	3.02E-10
50009.20	6.20	1.55E 00	8.12E-02	5.83E-03	4.84E-04	3.46E-05	1.51E-06	2.79E-08	3.03E-10
		1.03E 00	6.99E-02	5.65E-03	4.81E-04	3.46E-05	1.51E-06	2.79E-08	3.03E-10
50815.80	6.30	1.56E 00	8.17E-02	5.85E-03	4.85E-04	3.48E-05	1.52E-06	2.80E-08	3.04E-10
		1.04E 00	7.03E-02	5.68E-03	4.82E-04	3.47E-05	1.52E-06	2.80E-08	3.04E-10
51622.40	6.40	1.57E 00	8.22E-02	5.87E-03	4.87E-04	3.49E-05	1.52E-06	2.81E-08	3.05E-10
		1.05E 00	7.08E-02	5.70E-03	4.84E-04	3.48E-05	1.52E-06	2.81E-08	3.05E-10
52429.00	6.50	1.60E 00	8.27E-02	5.90E-03	4.88E-04	3.50E-05	1.53E-06	2.82E-08	3.06E-10
		1.06E 00	7.12E-02	5.72E-03	4.85E-04	3.49E-05	1.53E-06	2.82E-08	3.06E-10
53235.60	6.60	1.07E 00	7.19E-02	5.92E-03	4.87E-04	3.50E-05	1.53E-06	2.83E-08	3.07E-10
		1.07E 00	7.19E-02	5.74E-03	4.87E-04	3.50E-05	1.53E-06	2.83E-08	3.07E-10
54042.20	6.70	1.62E 00	8.36E-02	5.94E-03	4.91E-04	3.51E-05	1.53E-06	2.83E-08	3.08E-10
		1.08E 00	7.19E-02	5.76E-03	4.88E-04	3.51E-05	1.53E-06	2.83E-08	3.08E-10
54848.80	6.80	1.63E 00	8.40E-02	5.96E-03	4.92E-04	3.52E-05	1.54E-06	2.84E-08	3.09E-10
		1.08E 00	7.22E-02	5.78E-03	4.89E-04	3.52E-05	1.54E-06	2.84E-08	3.09E-10
55655.40	6.90	1.64E 00	8.44E-02	5.97E-03	4.93E-04	3.53E-05	1.54E-06	2.85E-08	3.09E-10
		1.09E 00	7.25E-02	5.80E-03	4.90E-04	3.53E-05	1.54E-06	2.85E-08	3.09E-10
56462.00	7.00	1.65E 00	8.47E-02	5.99E-03	4.94E-04	3.54E-05	1.54E-06	2.85E-08	3.10E-10
		1.10E 00	7.28E-02	5.81E-03	4.91E-04	3.53E-05	1.54E-06	2.85E-08	3.10E-10
57268.60	7.10	1.66E 00	8.51E-02	6.01E-03	4.95E-04	3.54E-05	1.55E-06	2.86E-08	3.11E-10
		1.10E 00	7.31E-02	5.83E-03	4.92E-04	3.54E-05	1.55E-06	2.86E-08	3.11E-10
58075.20	7.20	1.67E 00	8.54E-02	6.02E-03	4.95E-04	3.55E-05	1.55E-06	2.87E-08	3.11E-10
		1.11E 00	7.33E-02	6.04E-03	4.93E-04	3.55E-05	1.55E-06	2.87E-08	3.11E-10
58881.80	7.30	1.68E 00	8.57E-02	6.04E-03	4.97E-04	3.56E-05	1.55E-06	2.87E-08	3.12E-10
		1.12E 00	7.36E-02	6.05E-03	4.94E-04	3.55E-05	1.55E-06	2.87E-08	3.12E-10
59688.40	7.40	1.69E 00	8.60E-02	6.05E-03	4.98E-04	3.56E-05	1.56E-06	2.88E-08	3.12E-10
		1.12E 00	7.38E-02	6.07E-03	4.95E-04	3.56E-05	1.56E-06	2.88E-08	3.12E-10

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR 1200°K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density × Maximal									
		1.0E 01	1.0E 00	1.0E 01	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07		
60495.00	7.50	1.70E 00	8.63E-02	6.11E-03	4.99E-04	3.77E-05	1.56E-06	2.00E-08	3.13E-10		
61301.60	7.60	1.13E 00	7.40E-02	5.65E-03	4.96E-04	3.77E-05	1.56E-06	2.00E-08	3.13E-10		
62108.20	7.70	1.13E 00	8.66E-02	6.07E-03	5.00E-04	3.97E-05	1.56E-06	2.00E-08	3.13E-10		
62914.80	7.80	1.71E 00	8.69E-02	6.11E-03	5.00E-04	3.50E-05	1.56E-06	2.00E-08	3.14E-10		
63721.40	7.90	1.14E 00	7.44E-02	5.91E-03	4.96E-04	3.50E-05	1.57E-06	2.00E-08	3.14E-10		
64528.00	8.00	1.14E 00	7.48E-02	5.92E-03	5.02E-04	3.50E-05	1.57E-06	2.00E-08	3.15E-10		
65334.60	8.10	1.15E 00	7.49E-02	5.93E-03	5.02E-04	3.59E-05	1.57E-06	2.00E-08	3.15E-10		
66141.20	8.20	1.15E 00	7.49E-02	5.93E-03	5.02E-04	3.59E-05	1.57E-06	2.00E-08	3.15E-10		
66947.80	8.30	1.15E 00	7.49E-02	5.93E-03	5.02E-04	3.59E-05	1.57E-06	2.00E-08	3.15E-10		
67754.40	8.40	1.16E 00	7.51E-02	5.94E-03	5.03E-04	3.60E-05	1.57E-06	2.00E-08	3.16E-10		
68561.00	8.50	1.16E 00	7.51E-02	5.94E-03	5.03E-04	3.60E-05	1.57E-06	2.00E-08	3.16E-10		
69367.60	8.60	1.17E 00	7.52E-02	5.94E-03	5.03E-04	3.59E-05	1.57E-06	2.00E-08	3.16E-10		
70174.20	8.70	1.17E 00	7.52E-02	5.94E-03	5.03E-04	3.59E-05	1.57E-06	2.00E-08	3.16E-10		
70980.80	8.80	1.17E 00	7.52E-02	5.94E-03	5.03E-04	3.59E-05	1.57E-06	2.00E-08	3.16E-10		
71787.40	8.90	1.17E 00	7.52E-02	5.94E-03	5.03E-04	3.59E-05	1.57E-06	2.00E-08	3.16E-10		
72594.00	9.00	1.17E 00	7.52E-02	5.94E-03	5.03E-04	3.59E-05	1.57E-06	2.00E-08	3.16E-10		
73400.60	9.10	1.17E 00	7.52E-02	5.94E-03	5.03E-04	3.59E-05	1.57E-06	2.00E-08	3.16E-10		
74207.20	9.20	1.17E 00	7.52E-02	5.94E-03	5.03E-04	3.59E-05	1.57E-06	2.00E-08	3.16E-10		
75013.80	9.30	1.18E 00	7.52E-02	5.94E-03	5.03E-04	3.59E-05	1.57E-06	2.00E-08	3.16E-10		
75820.40	9.40	1.18E 00	7.52E-02	5.94E-03	5.03E-04	3.59E-05	1.57E-06	2.00E-08	3.16E-10		
76627.00	9.50	1.18E 00	7.52E-02	5.94E-03	5.03E-04	3.59E-05	1.57E-06	2.00E-08	3.16E-10		
77433.60	9.60	1.18E 00	7.52E-02	5.94E-03	5.03E-04	3.59E-05	1.57E-06	2.00E-08	3.16E-10		

78240.20	9.70	1.89E 00	9.10E-02	6.25E-03	5.10E-04	3.64E-05	1.59E-06	2.94E-08	3.20E-10
		1.10E 00	7.67E-02	6.03E-03	5.07E-04	3.64E-05	1.59E-06	2.94E-08	3.20E-10
79046.50	9.80	1.91E 00	9.21E-02	6.25E-03	5.11E-04	3.65E-05	1.59E-06	2.95E-08	3.20E-10
		1.19E 00	7.67E-02	6.04E-03	5.07E-04	3.64E-05	1.59E-06	2.95E-08	3.20E-10
79433.40	9.90	1.92E 00	9.23E-02	6.26E-03	5.11E-04	3.65E-05	1.59E-06	2.95E-08	3.20E-10
		1.19E 00	7.68E-02	6.04E-03	5.08E-04	3.64E-05	1.59E-06	2.95E-08	3.20E-10
80660.00	10.00	1.93E 00	9.25E-02	6.27E-03	5.11E-04	3.65E-05	1.60E-06	2.95E-08	3.21E-10
		1.19E 00	7.69E-02	6.05E-03	5.08E-04	3.65E-05	1.60E-06	2.95E-08	3.21E-10
81466.60	10.10	1.94E 00	9.26E-02	6.27E-03	5.12E-04	3.65E-05	1.60E-06	2.95E-08	3.21E-10
		1.19E 00	7.69E-02	6.05E-03	5.09E-04	3.65E-05	1.60E-06	2.95E-08	3.21E-10
82273.20	10.20	1.95E 00	9.31E-02	6.28E-03	5.12E-04	3.65E-05	1.60E-06	2.96E-08	3.21E-10
		1.19E 00	7.70E-02	6.06E-03	5.09E-04	3.65E-05	1.60E-06	2.96E-08	3.21E-10
83079.80	10.30	1.96E 00	9.33E-02	6.28E-03	5.12E-04	3.66E-05	1.60E-06	2.96E-08	3.21E-10
		1.19E 00	7.70E-02	6.06E-03	5.09E-04	3.65E-05	1.60E-06	2.96E-08	3.21E-10
83886.40	10.40	1.97E 00	9.36E-02	6.29E-03	5.13E-04	3.66E-05	1.60E-06	2.96E-08	3.21E-10
		1.19E 00	7.71E-02	6.06E-03	5.09E-04	3.65E-05	1.60E-06	2.96E-08	3.21E-10
84693.00	10.50	1.98E 00	9.38E-02	6.30E-03	5.13E-04	3.66E-05	1.60E-06	2.96E-08	3.22E-10
		1.19E 00	7.71E-02	6.07E-03	5.10E-04	3.66E-05	1.60E-06	2.96E-08	3.22E-10
85499.60	10.60	1.99E 00	9.40E-02	6.30E-03	5.13E-04	3.66E-05	1.60E-06	2.96E-08	3.22E-10
		1.19E 00	7.72E-02	6.07E-03	5.10E-04	3.66E-05	1.60E-06	2.96E-08	3.22E-10
86306.20	10.70	2.10E 00	1.07E-01	7.64E-03	6.36E-04	3.67E-05	1.60E-06	2.96E-08	3.22E-10
		1.20E 00	9.01E-02	7.40E-03	6.33E-04	3.66E-05	1.60E-06	2.96E-08	3.22E-10
88726.00	11.00	2.20E 00	1.22E-01	9.13E-03	7.73E-04	4.69E-05	2.05E-06	3.77E-08	4.12E-10
		1.39E 00	1.04E-01	8.69E-03	7.69E-04	4.69E-05	2.05E-06	3.77E-08	4.12E-10
90742.70	11.25	2.20E 00	1.33E-01	1.03E-02	8.77E-04	5.47E-05	2.39E-06	4.39E-08	4.80E-10
		1.46E 00	1.15E-01	1.00E-02	8.73E-04	5.47E-05	2.39E-06	4.39E-08	4.80E-10
92759.00	11.50	2.34E 00	1.42E-01	1.12E-02	9.63E-04	6.12E-05	2.68E-06	4.91E-08	5.37E-10
		1.53E 00	1.25E-01	1.10E-02	9.60E-04	6.12E-05	2.68E-06	4.91E-08	5.37E-10
94775.50	11.75	2.40E 00	1.49E-01	1.20E-02	1.04E-03	6.66E-05	2.91E-06	5.34E-08	5.85E-10
		1.50E 00	1.32E-01	1.18E-02	1.03E-03	6.66E-05	2.91E-06	5.34E-08	5.85E-10
96792.00	12.00	2.61E 00	1.81E-01	1.52E-02	1.33E-03	8.89E-05	3.11E-06	5.70E-08	6.25E-10
		1.80E 00	1.63E-01	1.50E-02	1.33E-03	8.89E-05	3.11E-06	5.70E-08	6.25E-10
98808.50	12.25	2.80E 00	2.07E-01	1.79E-02	1.58E-03	1.07E-04	3.93E-06	7.17E-08	7.87E-10
		1.98E 00	1.89E-01	1.77E-02	1.58E-03	1.07E-04	3.93E-06	7.17E-08	7.87E-10
100825.00	12.50	2.95E 00	2.28E-01	2.02E-02	1.79E-03	1.23E-04	4.60E-06	8.40E-08	9.23E-10
		2.13E 00	2.11E-01	1.99E-02	1.78E-03	1.23E-04	4.60E-06	8.40E-08	9.23E-10
102841.60	12.75	3.09E 00	2.48E-01	2.22E-02	1.97E-03	1.37E-04	5.21E-06	9.42E-08	1.04E-09
		2.27E 00	2.31E-01	2.20E-02	1.97E-03	1.37E-04	5.21E-06	9.42E-08	1.04E-09
104868.00	13.00	3.20E 00	2.64E-01	2.39E-02	2.13E-03	1.48E-04	5.72E-06	1.03E-07	1.14E-09
		2.39E 00	2.47E-01	2.36E-02	2.12E-03	1.48E-04	5.72E-06	1.03E-07	1.14E-09
106874.60	13.25	3.30E 00	2.77E-01	2.59E-02	2.26E-03	1.58E-04	6.14E-06	1.11E-07	1.22E-09
		2.48E 00	2.60E-01	2.58E-02	2.25E-03	1.58E-04	6.14E-06	1.11E-07	1.22E-09
108891.00	13.50	3.44E 00	2.96E-01	2.74E-02	2.43E-03	1.71E-04	6.77E-06	1.17E-07	1.29E-09
		2.63E 00	2.78E-01	2.69E-02	2.42E-03	1.71E-04	6.77E-06	1.17E-07	1.29E-09
110907.50	13.75	3.54E 00	3.11E-01	2.85E-02	2.57E-03	1.83E-04	7.31E-06	1.28E-07	1.41E-09
		2.75E 00	2.94E-01	2.84E-02	2.57E-03	1.83E-04	7.31E-06	1.28E-07	1.41E-09
112924.00	14.00	3.69E 00	3.27E-01	3.05E-02	2.73E-03	1.95E-04	7.67E-06	1.38E-07	1.50E-09
		2.88E 00	3.10E-01	3.03E-02	2.72E-03	1.95E-04	7.67E-06	1.38E-07	1.50E-09
114940.50	14.25	3.80E 00	3.41E-01	3.18E-02	2.86E-03	2.05E-04	8.34E-06	1.47E-07	1.60E-09
		2.98E 00	3.24E-01	3.15E-02	2.85E-03	2.05E-04	8.34E-06	1.47E-07	1.60E-09



PARTIAL PLANK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 1200°K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density x Normal									
		1.0E 01	1.0E 00	1.0E -01	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07		
118867.00	14.50	4.02E 00	3.72E-01	3.49E-02	3.15E-03	2.27E-04	9.33E-06	1.66E-07	1.69E-09		
118973.50	14.75	3.21E 00	3.54E-01	3.47E-02	3.14E-03	2.27E-04	9.33E-06	1.66E-07	1.69E-09		
120000.00	15.00	4.22E 00	3.94E-01	3.74E-02	3.48E-03	2.45E-04	1.02E-05	1.81E-07	1.84E-09		
122004.50	15.25	3.40E 00	3.01E-01	3.74E-02	3.61E-03	2.45E-04	1.02E-05	1.81E-07	1.84E-09		
125038.00	15.50	4.38E 00	4.20E-01	3.95E-02	3.60E-03	2.61E-04	1.09E-05	1.94E-07	2.01E-09		
127039.50	15.75	3.54E 00	4.03E-01	3.97E-02	3.60E-03	2.61E-04	1.09E-05	1.94E-07	2.01E-09		
129056.00	16.00	4.51E 00	4.36E-01	4.18E-02	3.78E-03	2.74E-04	1.15E-05	2.05E-07	2.13E-09		
131073.50	16.25	4.67E 00	4.53E-01	4.35E-02	3.92E-03	2.85E-04	1.20E-05	2.15E-07	2.23E-09		
133089.00	16.50	3.81E 00	4.36E-01	4.31E-02	3.92E-03	2.85E-04	1.20E-05	2.15E-07	2.23E-09		
135105.50	16.75	4.72E 00	4.66E-01	4.46E-02	4.04E-03	2.94E-04	1.24E-05	2.22E-07	2.32E-09		
137122.00	17.00	3.90E 00	4.49E-01	4.44E-02	4.04E-03	2.94E-04	1.24E-05	2.22E-07	2.32E-09		
139138.50	17.25	4.79E 00	4.74E-01	4.57E-02	4.14E-03	3.02E-04	1.27E-05	2.28E-07	2.39E-09		
141155.00	17.50	3.98E 00	4.59E-01	4.55E-02	4.14E-03	3.02E-04	1.27E-05	2.28E-07	2.39E-09		
143171.50	17.75	4.85E 00	4.85E-01	4.64E-02	4.22E-03	3.08E-04	1.30E-05	2.32E-07	2.44E-09		
145188.00	18.00	4.04E 00	4.67E-01	4.63E-02	4.22E-03	3.08E-04	1.30E-05	2.32E-07	2.44E-09		
147204.50	18.25	4.91E 00	4.92E-01	4.73E-02	4.29E-03	3.13E-04	1.32E-05	2.36E-07	2.49E-09		
149221.00	18.50	4.09E 00	4.74E-01	4.70E-02	4.29E-03	3.13E-04	1.32E-05	2.36E-07	2.49E-09		
151237.50	18.75	4.95E 00	4.94E-01	4.79E-02	4.34E-03	3.17E-04	1.34E-05	2.41E-07	2.53E-09		
153254.00	19.00	4.14E 00	4.80E-01	4.77E-02	4.34E-03	3.17E-04	1.34E-05	2.41E-07	2.53E-09		
155270.50	19.25	4.99E 00	5.03E-01	4.84E-02	4.39E-03	3.21E-04	1.36E-05	2.44E-07	2.56E-09		
157287.00	19.50	4.17E 00	4.85E-01	4.82E-02	4.39E-03	3.21E-04	1.36E-05	2.44E-07	2.56E-09		
159303.50	19.75	5.02E 00	5.07E-01	4.88E-02	4.43E-03	3.24E-04	1.37E-05	2.47E-07	2.59E-09		
		4.20E 00	4.89E-01	4.89E-02	4.43E-03	3.24E-04	1.37E-05	2.47E-07	2.59E-09		
		5.04E 00	5.10E-01	4.92E-02	4.46E-03	3.26E-04	1.38E-05	2.49E-07	2.61E-09		
		4.23E 00	4.93E-01	4.89E-02	4.46E-03	3.26E-04	1.38E-05	2.49E-07	2.61E-09		
		5.06E 00	5.13E-01	4.94E-02	4.49E-03	3.28E-04	1.39E-05	2.51E-07	2.63E-09		
		4.25E 00	4.95E-01	4.92E-02	4.49E-03	3.28E-04	1.39E-05	2.51E-07	2.63E-09		
		5.08E 00	5.15E-01	4.97E-02	4.51E-03	3.30E-04	1.40E-05	2.52E-07	2.65E-09		
		4.27E 00	4.98E-01	4.94E-02	4.50E-03	3.30E-04	1.40E-05	2.52E-07	2.65E-09		
		5.09E 00	5.17E-01	4.99E-02	4.52E-03	3.31E-04	1.40E-05	2.53E-07	2.66E-09		
		4.28E 00	4.99E-01	4.95E-02	4.52E-03	3.31E-04	1.40E-05	2.53E-07	2.66E-09		
		5.11E 00	5.18E-01	5.00E-02	4.54E-03	3.32E-04	1.41E-05	2.54E-07	2.67E-09		
		4.29E 00	5.01E-01	4.98E-02	4.53E-03	3.32E-04	1.41E-05	2.54E-07	2.67E-09		
		5.12E 00	5.19E-01	5.01E-02	4.55E-03	3.33E-04	1.41E-05	2.55E-07	2.68E-09		
		4.30E 00	5.02E-01	4.99E-02	4.55E-03	3.33E-04	1.41E-05	2.55E-07	2.68E-09		
		5.12E 00	5.20E-01	5.02E-02	4.56E-03	3.34E-04	1.41E-05	2.55E-07	2.69E-09		
		4.31E 00	5.03E-01	5.00E-02	4.56E-03	3.34E-04	1.41E-05	2.55E-07	2.69E-09		
		5.13E 00	5.21E-01	5.03E-02	4.57E-03	3.34E-04	1.42E-05	2.56E-07	2.70E-09		
		4.31E 00	5.04E-01	5.01E-02	4.56E-03	3.34E-04	1.42E-05	2.56E-07	2.70E-09		
		5.13E 00	5.22E-01	5.04E-02	4.57E-03	3.35E-04	1.42E-05	2.56E-07	2.70E-09		
		4.32E 00	5.05E-01	5.02E-02	4.57E-03	3.35E-04	1.42E-05	2.57E-07	2.70E-09		
		5.14E 00	5.22E-01	5.05E-02	4.58E-03	3.35E-04	1.42E-05	2.57E-07	2.70E-09		
		4.32E 00	5.05E-01	5.02E-02	4.57E-03	3.35E-04	1.42E-05	2.57E-07	2.70E-09		

161320.00	20.00	5.14E 00	5.23E-01	5.05E-02	4.58E-03	3.35E-04	1.42E-05	2.57E-07	2.70E-09
163336.50	20.25	4.33E 00	5.05E-01	5.05E-02	4.58E-03	3.35E-04	1.42E-05	2.57E-07	2.70E-09
165353.00	20.50	4.33E 00	5.23E-01	5.05E-02	4.58E-03	3.36E-04	1.42E-05	2.57E-07	2.71E-09
167369.50	20.75	4.33E 00	5.06E-01	5.05E-02	4.59E-03	3.36E-04	1.43E-05	2.57E-07	2.71E-09
169386.00	21.00	4.33E 00	5.06E-01	5.05E-02	4.59E-03	3.36E-04	1.43E-05	2.58E-07	2.71E-09
171402.50	21.25	4.34E 00	5.07E-01	5.04E-02	4.59E-03	3.36E-04	1.43E-05	2.58E-07	2.71E-09
173419.00	21.50	4.34E 00	5.07E-01	5.04E-02	4.59E-03	3.36E-04	1.43E-05	2.58E-07	2.71E-09
175435.50	21.75	4.34E 00	5.24E-01	5.04E-02	4.60E-03	3.37E-04	1.43E-05	2.58E-07	2.72E-09
177452.00	22.00	4.34E 00	5.07E-01	5.04E-02	4.60E-03	3.37E-04	1.43E-05	2.58E-07	2.72E-09
179468.50	22.25	4.34E 00	5.07E-01	5.04E-02	4.60E-03	3.37E-04	1.43E-05	2.58E-07	2.72E-09
181485.00	22.50	4.34E 00	5.25E-01	5.04E-02	4.60E-03	3.37E-04	1.43E-05	2.58E-07	2.72E-09
183501.50	22.75	4.34E 00	5.07E-01	5.04E-02	4.60E-03	3.37E-04	1.43E-05	2.58E-07	2.72E-09
185518.00	23.00	4.34E 00	5.25E-01	5.04E-02	4.60E-03	3.37E-04	1.43E-05	2.58E-07	2.72E-09
187534.50	23.25	4.34E 00	5.07E-01	5.04E-02	4.60E-03	3.37E-04	1.43E-05	2.58E-07	2.72E-09
189551.00	23.50	4.34E 00	5.25E-01	5.04E-02	4.60E-03	3.37E-04	1.43E-05	2.58E-07	2.72E-09
191567.50	23.75	4.34E 00	5.07E-01	5.04E-02	4.60E-03	3.37E-04	1.43E-05	2.58E-07	2.72E-09
193584.00	24.00	4.34E 00	5.25E-01	5.04E-02	4.60E-03	3.37E-04	1.43E-05	2.58E-07	2.72E-09
195600.50	24.25	4.34E 00	5.07E-01	5.04E-02	4.60E-03	3.37E-04	1.43E-05	2.58E-07	2.72E-09
		4.34E 00	5.08E-01	5.04E-02	4.60E-03	3.37E-04	1.43E-05	2.58E-07	2.72E-09

PARTIAL FLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR 14000° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density x Mean									
		1.0E 01	1.0E 00	1.0E 01	1.0E 01	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07	
4639.60	0.60	7.74E-02	7.80E-03	7.29E-04	5.63E-05	2.43E-06	4.74E-08	5.34E-10	5.44E-12		
7.74E-02	7.80E-03	7.29E-04	5.63E-05	2.43E-06	4.74E-08	5.34E-10	5.44E-12				
5646.20	0.70	1.60E-01	1.64E-02	1.52E-03	1.17E-04	5.20E-06	9.71E-08	1.10E-09	1.17E-11		
1.60E-01	1.64E-02	1.52E-03	1.17E-04	5.20E-06	9.71E-08	1.10E-09	1.17E-11				
6432.30	0.80	2.49E-01	2.55E-02	2.37E-03	1.83E-04	8.30E-06	1.56E-07	1.70E-09	1.71E-11		
2.49E-01	2.55E-02	2.37E-03	1.83E-04	8.30E-06	1.56E-07	1.70E-09	1.71E-11				
7259.40	0.90	3.42E-01	3.52E-02	3.27E-03	2.52E-04	1.16E-05	2.20E-07	2.46E-09	2.42E-11		
3.42E-01	3.52E-02	3.27E-03	2.52E-04	1.16E-05	2.20E-07	2.46E-09	2.42E-11				
8066.00	1.00	4.39E-01	4.52E-02	4.19E-03	3.24E-04	1.50E-05	2.04E-07	3.19E-09	3.10E-11		
4.39E-01	4.52E-02	4.19E-03	3.24E-04	1.50E-05	2.04E-07	3.19E-09	3.10E-11				
8872.60	1.10	5.35E-01	5.50E-02	5.11E-03	3.92E-04	1.58E-05	2.04E-07	3.19E-09	3.10E-11		
5.35E-01	5.50E-02	5.11E-03	3.92E-04	1.58E-05	2.04E-07	3.19E-09	3.10E-11				
9679.20	1.20	6.27E-01	6.44E-02	5.98E-03	4.62E-04	2.15E-05	2.80E-07	4.50E-09	4.57E-11		
6.27E-01	6.44E-02	5.98E-03	4.62E-04	2.15E-05	2.80E-07	4.50E-09	4.57E-11				
10485.80	1.30	7.26E-01	7.45E-02	6.91E-03	5.34E-04	2.40E-05	3.63E-07	5.10E-09	5.10E-11		
7.26E-01	7.45E-02	6.91E-03	5.34E-04	2.40E-05	3.63E-07	5.10E-09	5.10E-11				
11292.40	1.40	8.18E-01	8.38E-02	7.75E-03	5.98E-04	2.70E-05	4.63E-07	5.60E-09	5.69E-11		
8.18E-01	8.38E-02	7.75E-03	5.98E-04	2.70E-05	4.63E-07	5.60E-09	5.69E-11				
12099.00	1.50	9.07E-01	9.28E-02	8.52E-03	6.58E-04	3.06E-05	5.63E-07	6.26E-09	6.16E-11		
9.07E-01	9.28E-02	8.52E-03	6.58E-04	3.06E-05	5.63E-07	6.26E-09	6.16E-11				
12905.60	1.60	9.90E-01	9.96E-02	9.21E-03	7.11E-04	3.31E-05	6.11E-07	6.81E-09	6.69E-11		
9.90E-01	9.96E-02	9.21E-03	7.11E-04	3.31E-05	6.11E-07	6.81E-09	6.69E-11				
13712.20	1.70	1.08E 00	1.07E-01	9.86E-03	7.61E-04	3.54E-05	6.57E-07	7.33E-09	7.21E-11		
1.08E 00	1.07E-01	9.86E-03	7.61E-04	3.54E-05	6.57E-07	7.33E-09	7.21E-11				
14518.60	1.80	1.16E 00	1.14E-01	1.05E-02	8.06E-04	3.75E-05	6.99E-07	7.80E-09	7.69E-11		
1.16E 00	1.14E-01	1.05E-02	8.06E-04	3.75E-05	6.99E-07	7.80E-09	7.69E-11				
15325.40	1.90	1.23E 00	1.20E-01	1.10E-02	8.48E-04	3.95E-05	7.37E-07	8.23E-09	8.13E-11		
1.23E 00	1.20E-01	1.10E-02	8.48E-04	3.95E-05	7.37E-07	8.23E-09	8.13E-11				
16132.00	2.00	1.15E 00	1.10E-01	1.10E-02	8.87E-04	4.13E-05	7.72E-07	8.68E-09	8.54E-11		
1.15E 00	1.10E-01	1.10E-02	8.87E-04	4.13E-05	7.72E-07	8.68E-09	8.54E-11				
16938.60	2.10	1.21E 00	1.23E-01	1.15E-02	9.23E-04	4.30E-05	8.05E-07	9.00E-09	8.92E-11		
1.21E 00	1.23E-01	1.15E-02	9.23E-04	4.30E-05	8.05E-07	9.00E-09	8.92E-11				
17745.20	2.20	1.44E 00	1.36E-01	1.24E-02	9.56E-04	4.46E-05	8.35E-07	9.34E-09	9.27E-11		
1.44E 00	1.36E-01	1.24E-02	9.56E-04	4.46E-05	8.35E-07	9.34E-09	9.27E-11				
18551.80	2.30	1.33E 00	1.35E-01	1.24E-02	9.86E-04	4.60E-05	8.62E-07	9.65E-09	9.58E-11		
1.33E 00	1.35E-01	1.24E-02	9.86E-04	4.60E-05	8.62E-07	9.65E-09	9.58E-11				
19358.40	2.40	1.38E 00	1.40E-01	1.28E-02	1.02E-03	4.72E-05	8.86E-07	9.91E-09	9.85E-11		
1.38E 00	1.40E-01	1.28E-02	1.02E-03	4.72E-05	8.86E-07	9.91E-09	9.85E-11				
20165.00	2.50	1.41E 00	1.45E-01	1.33E-02	1.05E-03	4.86E-05	9.06E-07	1.01E-08	1.01E-10		
1.41E 00	1.45E-01	1.33E-02	1.05E-03	4.86E-05	9.06E-07	1.01E-08	1.01E-10				
20971.60	2.60	1.50E 00	1.50E-01	1.37E-02	1.05E-03	5.01E-05	9.32E-07	1.04E-08	1.03E-10		
1.50E 00	1.50E-01	1.37E-02	1.05E-03	5.01E-05	9.32E-07	1.04E-08	1.03E-10				
21776.20	2.70	1.59E 00	1.59E-01	1.41E-02	1.11E-03	5.14E-05	9.59E-07	1.07E-08	1.06E-10		
1.59E 00	1.59E-01	1.41E-02	1.11E-03	5.14E-05	9.59E-07	1.07E-08	1.06E-10				
1.61E 00	1.59E-01	1.45E-02	1.11E-03	5.14E-05	9.59E-07	1.07E-08	1.06E-10				

27584.60	2.80	1.77E 00	1.65E-01	1.49E-02	1.14E-03	5.28E-05	5.94E-07	1.10E-08	1.09E-10
		1.66E 00	1.63E-01	1.49E-02	1.14E-03	5.28E-05	9.84E-07	1.10E-08	1.09E-10
23391.40	2.90	1.83E 00	1.69E-01	1.52E-02	1.17E-03	5.40E-05	1.01E-06	1.13E-08	1.11E-10
		1.71E 00	1.67E-01	1.52E-02	1.17E-03	5.40E-05	1.01E-06	1.13E-08	1.11E-10
24198.00	3.00	1.88E 00	1.73E-01	1.56E-02	1.19E-03	5.51E-05	1.03E-06	1.15E-08	1.14E-10
		1.86E 00	1.71E-01	1.55E-02	1.19E-03	5.51E-05	1.03E-06	1.15E-08	1.14E-10
25004.60	3.10	1.93E 00	1.77E-01	1.59E-02	1.21E-03	5.62E-05	1.05E-06	1.18E-08	1.17E-10
		1.80E 00	1.75E-01	1.58E-02	1.21E-03	5.62E-05	1.05E-06	1.18E-08	1.17E-10
25811.20	3.20	1.99E 00	1.81E-01	1.62E-02	1.24E-03	5.72E-05	1.07E-06	1.20E-08	1.19E-10
		1.85E 00	1.78E-01	1.61E-02	1.24E-03	5.72E-05	1.07E-06	1.20E-08	1.19E-10
26417.80	3.30	2.05E 00	1.84E-01	1.64E-02	1.26E-03	5.82E-05	1.09E-06	1.22E-08	1.21E-10
		1.89E 00	1.82E-01	1.64E-02	1.26E-03	5.81E-05	1.09E-06	1.22E-08	1.21E-10
27424.40	3.40	2.10E 00	1.87E-01	1.67E-02	1.27E-03	5.90E-05	1.11E-06	1.24E-08	1.23E-10
		1.93E 00	1.85E-01	1.66E-02	1.27E-03	5.90E-05	1.11E-06	1.24E-08	1.23E-10
28231.00	3.50	2.17E 00	1.91E-01	1.69E-02	1.29E-03	5.98E-05	1.12E-06	1.25E-08	1.25E-10
		1.98E 00	1.88E-01	1.69E-02	1.29E-03	5.98E-05	1.12E-06	1.25E-08	1.25E-10
29037.60	3.60	2.24E 00	1.95E-01	1.72E-02	1.31E-03	6.05E-05	1.14E-06	1.27E-08	1.26E-10
		2.04E 00	1.91E-01	1.71E-02	1.31E-03	6.05E-05	1.14E-06	1.27E-08	1.26E-10
29844.20	3.70	2.31E 00	1.98E-01	1.74E-02	1.32E-03	6.11E-05	1.15E-06	1.28E-08	1.28E-10
		2.09E 00	1.94E-01	1.73E-02	1.32E-03	6.11E-05	1.15E-06	1.28E-08	1.28E-10
30650.80	3.80	2.39E 00	2.01E-01	1.78E-02	1.34E-03	6.18E-05	1.16E-06	1.30E-08	1.29E-10
		2.15E 00	1.96E-01	1.76E-02	1.34E-03	6.17E-05	1.16E-06	1.30E-08	1.29E-10
31457.40	3.90	2.45E 00	2.05E-01	1.79E-02	1.35E-03	6.25E-05	1.17E-06	1.31E-08	1.30E-10
		2.21E 00	2.01E-01	1.78E-02	1.35E-03	6.25E-05	1.17E-06	1.31E-08	1.30E-10
32264.00	4.00	2.53E 00	2.09E-01	1.81E-02	1.37E-03	6.32E-05	1.18E-06	1.32E-08	1.32E-10
		2.26E 00	2.04E-01	1.80E-02	1.37E-03	6.32E-05	1.18E-06	1.32E-08	1.32E-10
33070.60	4.10	2.60E 00	2.12E-01	1.84E-02	1.39E-03	6.41E-05	1.20E-06	1.34E-08	1.33E-10
		2.32E 00	2.08E-01	1.83E-02	1.39E-03	6.41E-05	1.20E-06	1.34E-08	1.33E-10
33877.20	4.20	2.67E 00	2.16E-01	1.86E-02	1.41E-03	6.50E-05	1.22E-06	1.35E-08	1.35E-10
		2.38E 00	2.12E-01	1.86E-02	1.41E-03	6.50E-05	1.22E-06	1.35E-08	1.35E-10
34683.80	4.30	2.74E 00	2.20E-01	1.89E-02	1.43E-03	6.59E-05	1.23E-06	1.37E-08	1.37E-10
		2.79E 00	2.23E-01	1.91E-02	1.43E-03	6.67E-05	1.23E-06	1.37E-08	1.37E-10
35490.40	4.40	2.85E 00	2.26E-01	1.94E-02	1.44E-03	6.67E-05	1.25E-06	1.39E-08	1.39E-10
		2.85E 00	2.26E-01	1.94E-02	1.44E-03	6.75E-05	1.25E-06	1.41E-08	1.40E-10
36297.00	4.50	2.95E 00	2.22E-01	1.93E-02	1.45E-03	6.75E-05	1.26E-06	1.41E-08	1.40E-10
		2.95E 00	2.22E-01	1.93E-02	1.45E-03	6.82E-05	1.26E-06	1.42E-08	1.42E-10
37103.60	4.60	2.99E 00	2.29E-01	1.95E-02	1.46E-03	6.82E-05	1.28E-06	1.42E-08	1.42E-10
		2.99E 00	2.29E-01	1.95E-02	1.46E-03	6.89E-05	1.28E-06	1.44E-08	1.44E-10
37910.20	4.70	2.96E 00	2.32E-01	1.98E-02	1.48E-03	6.99E-05	1.29E-06	1.44E-08	1.44E-10
		2.65E 00	2.28E-01	1.97E-02	1.48E-03	6.99E-05	1.29E-06	1.44E-08	1.44E-10
38716.80	4.80	3.01E 00	2.35E-01	2.08E-02	1.51E-03	6.95E-05	1.31E-06	1.45E-08	1.45E-10
		2.70E 00	2.30E-01	1.99E-02	1.50E-03	6.95E-05	1.31E-06	1.45E-08	1.45E-10
39523.40	4.90	3.08E 00	2.38E-01	2.02E-02	1.52E-03	7.02E-05	1.32E-06	1.47E-08	1.47E-10
		2.75E 00	2.33E-01	2.01E-02	1.52E-03	7.02E-05	1.32E-06	1.47E-08	1.47E-10
40330.00	5.00	3.10E 00	2.40E-01	2.04E-02	1.53E-03	7.08E-05	1.33E-06	1.48E-08	1.48E-10
		2.79E 00	2.36E-01	2.03E-02	1.53E-03	7.08E-05	1.33E-06	1.48E-08	1.48E-10
41136.60	5.10	3.15E 00	2.43E-01	2.05E-02	1.54E-03	7.13E-05	1.34E-06	1.49E-08	1.49E-10
		2.83E 00	2.34E-01	2.05E-02	1.54E-03	7.13E-05	1.34E-06	1.49E-08	1.49E-10
41943.20	5.20	3.19E 00	2.45E-01	2.07E-02	1.55E-03	7.19E-05	1.35E-06	1.51E-08	1.51E-10
		2.87E 00	2.40E-01	2.06E-02	1.55E-03	7.19E-05	1.35E-06	1.51E-08	1.51E-10

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 14000° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density × Normal									
		1.0E 01	1.0E 00	1.0E-01	1.0E-02	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07	
42749.60	5.30	3.23E 00	2.48E-01	2.08E-02	1.57E-03	7.24E-05	1.36E-06	1.72E-08	1.52E-10	1.52E-10	
43556.40	5.40	2.91E 00	2.43E-01	2.08E-02	1.56E-03	7.24E-05	1.36E-06	1.72E-08	1.52E-10	1.52E-10	
2.95E 00	2.45E-01	2.95E 00	2.45E-01	2.09E-02	1.57E-03	7.29E-05	1.37E-06	1.53E-08	1.53E-10	1.53E-10	
3.31E 00	2.52E-01	3.31E 00	2.52E-01	2.11E-02	1.59E-03	7.33E-05	1.38E-06	1.54E-08	1.54E-10	1.54E-10	
2.98E 00	2.47E-01	2.98E 00	2.47E-01	2.11E-02	1.58E-03	7.33E-05	1.38E-06	1.54E-08	1.54E-10	1.54E-10	
3.35E 00	2.54E-01	3.35E 00	2.54E-01	2.13E-02	1.59E-03	7.38E-05	1.39E-06	1.55E-08	1.55E-10	1.55E-10	
3.02E 00	2.49E-01	3.02E 00	2.49E-01	2.12E-02	1.59E-03	7.38E-05	1.39E-06	1.55E-08	1.55E-10	1.55E-10	
3.39E 00	2.56E-01	3.39E 00	2.56E-01	2.14E-02	1.60E-03	7.42E-05	1.40E-06	1.56E-08	1.56E-10	1.56E-10	
3.06E 00	2.51E-01	3.06E 00	2.51E-01	2.13E-02	1.60E-03	7.42E-05	1.40E-06	1.56E-08	1.56E-10	1.56E-10	
3.43E 00	2.58E-01	3.43E 00	2.58E-01	2.15E-02	1.61E-03	7.46E-05	1.41E-06	1.57E-08	1.57E-10	1.57E-10	
3.09E 00	2.53E-01	3.09E 00	2.53E-01	2.14E-02	1.61E-03	7.46E-05	1.41E-06	1.57E-08	1.57E-10	1.57E-10	
3.47E 00	2.60E-01	3.47E 00	2.60E-01	2.16E-02	1.62E-03	7.50E-05	1.41E-06	1.58E-08	1.58E-10	1.58E-10	
3.13E 00	2.55E-01	3.13E 00	2.55E-01	2.16E-02	1.62E-03	7.50E-05	1.41E-06	1.58E-08	1.58E-10	1.58E-10	
48396.00	6.00	3.50E 00	2.61E-01	2.18E-02	1.63E-03	7.54E-05	1.42E-06	1.59E-08	1.59E-10	1.59E-10	
2.16E 00	2.56E-01	2.16E 00	2.56E-01	2.17E-02	1.63E-03	7.54E-05	1.42E-06	1.59E-08	1.59E-10	1.59E-10	
3.54E 00	2.63E-01	3.54E 00	2.63E-01	2.19E-02	1.64E-03	7.57E-05	1.43E-06	1.59E-08	1.60E-10	1.60E-10	
3.20E 00	2.58E-01	3.20E 00	2.58E-01	2.18E-02	1.64E-03	7.57E-05	1.43E-06	1.59E-08	1.60E-10	1.60E-10	
3.57E 00	2.65E-01	3.57E 00	2.65E-01	2.20E-02	1.64E-03	7.60E-05	1.44E-06	1.60E-08	1.60E-10	1.60E-10	
3.23E 00	2.60E-01	3.23E 00	2.60E-01	2.19E-02	1.64E-03	7.60E-05	1.44E-06	1.60E-08	1.60E-10	1.60E-10	
3.60E 00	2.65E-01	3.60E 00	2.65E-01	2.21E-02	1.65E-03	7.64E-05	1.44E-06	1.61E-08	1.61E-10	1.61E-10	
3.26E 00	2.61E-01	3.26E 00	2.61E-01	2.20E-02	1.65E-03	7.64E-05	1.44E-06	1.61E-08	1.61E-10	1.61E-10	
3.64E 00	2.68E-01	3.64E 00	2.68E-01	2.22E-02	1.66E-03	7.67E-05	1.45E-06	1.62E-08	1.62E-10	1.62E-10	
3.29E 00	2.63E-01	3.29E 00	2.63E-01	2.21E-02	1.66E-03	7.67E-05	1.45E-06	1.62E-08	1.62E-10	1.62E-10	
3.67E 00	2.69E-01	3.67E 00	2.69E-01	2.23E-02	1.66E-03	7.70E-05	1.45E-06	1.63E-08	1.63E-10	1.63E-10	
3.31E 00	2.64E-01	3.31E 00	2.64E-01	2.22E-02	1.66E-03	7.70E-05	1.45E-06	1.63E-08	1.63E-10	1.63E-10	
3.70E 00	2.71E-01	3.70E 00	2.71E-01	2.24E-02	1.67E-03	7.72E-05	1.46E-06	1.63E-08	1.63E-10	1.63E-10	
3.34E 00	2.66E-01	3.34E 00	2.66E-01	2.23E-02	1.67E-03	7.72E-05	1.46E-06	1.63E-08	1.63E-10	1.63E-10	
3.73E 00	2.72E-01	3.73E 00	2.72E-01	2.24E-02	1.68E-03	7.75E-05	1.46E-06	1.64E-08	1.64E-10	1.64E-10	
3.36E 00	2.67E-01	3.36E 00	2.67E-01	2.24E-02	1.67E-03	7.75E-05	1.46E-06	1.64E-08	1.64E-10	1.64E-10	
3.75E 00	2.74E-01	3.75E 00	2.74E-01	2.25E-02	1.68E-03	7.78E-05	1.47E-06	1.64E-08	1.65E-10	1.65E-10	
3.39E 00	2.68E-01	3.39E 00	2.68E-01	2.25E-02	1.68E-03	7.78E-05	1.47E-06	1.64E-08	1.65E-10	1.65E-10	
3.78E 00	2.75E-01	3.78E 00	2.75E-01	2.26E-02	1.69E-03	7.80E-05	1.47E-06	1.65E-08	1.65E-10	1.65E-10	
3.41E 00	2.69E-01	3.41E 00	2.69E-01	2.25E-02	1.68E-03	7.80E-05	1.47E-06	1.65E-08	1.65E-10	1.65E-10	
3.81E 00	2.76E-01	3.81E 00	2.76E-01	2.27E-02	1.69E-03	7.82E-05	1.48E-06	1.65E-08	1.66E-10	1.66E-10	
3.43E 00	2.70E-01	3.43E 00	2.70E-01	2.26E-02	1.69E-03	7.82E-05	1.48E-06	1.65E-08	1.66E-10	1.66E-10	
3.83E 00	2.77E-01	3.83E 00	2.77E-01	2.27E-02	1.70E-03	7.85E-05	1.48E-06	1.66E-08	1.66E-10	1.66E-10	
3.45E 00	2.71E-01	3.45E 00	2.71E-01	2.27E-02	1.69E-03	7.85E-05	1.48E-06	1.66E-08	1.66E-10	1.66E-10	
3.85E 00	2.78E-01	3.85E 00	2.78E-01	2.28E-02	1.70E-03	7.87E-05	1.49E-06	1.66E-08	1.67E-10	1.67E-10	
3.47E 00	2.73E-01	3.47E 00	2.73E-01	2.27E-02	1.70E-03	7.87E-05	1.49E-06	1.66E-08	1.67E-10	1.67E-10	
3.88E 00	2.79E-01	3.88E 00	2.79E-01	2.29E-02	1.70E-03	7.89E-05	1.49E-06	1.67E-08	1.67E-10	1.67E-10	
3.49E 00	2.74E-01	3.49E 00	2.74E-01	2.28E-02	1.70E-03	7.89E-05	1.49E-06	1.67E-08	1.67E-10	1.67E-10	
3.90E 00	2.80E-01	3.90E 00	2.80E-01	2.29E-02	1.71E-03	7.91E-05	1.50E-06	1.67E-08	1.68E-10	1.68E-10	
3.51E 00	2.74E-01	3.51E 00	2.74E-01	2.29E-02	1.71E-03	7.91E-05	1.50E-06	1.67E-08	1.68E-10	1.68E-10	

60495.00	7.50	3.92E 00	2.81E-01	2.30E-02	1.71E-03	7.93E-05	1.50E-06	1.68E-08	1.68E-10
3.53E 00		2.75E-01	2.29E-02	1.71E-03	7.93E-05	1.50E-06	1.68E-08	1.68E-10	1.68E-10
3.94E 00	7.60	2.82E-01	2.35E-02	1.72E-03	7.95E-05	1.50E-06	1.68E-08	1.68E-10	1.68E-10
3.54E 00		2.76E-01	2.30E-02	1.72E-03	7.95E-05	1.50E-06	1.68E-08	1.68E-10	1.68E-10
62108.20	7.70	3.96E 00	2.83E-01	2.33E-02	1.72E-03	7.96E-05	1.51E-06	1.69E-08	1.69E-10
3.56E 00		2.77E-01	2.30E-02	1.72E-03	7.96E-05	1.51E-06	1.69E-08	1.69E-10	1.69E-10
3.98E 00	7.80	2.84E-01	2.35E-02	1.72E-03	7.98E-05	1.51E-06	1.69E-08	1.69E-10	1.69E-10
3.57E 00		2.78E-01	2.31E-02	1.72E-03	7.98E-05	1.51E-06	1.69E-08	1.69E-10	1.69E-10
63721.40	7.90	4.00E 00	2.85E-01	2.32E-02	1.73E-03	7.99E-05	1.51E-06	1.69E-08	1.69E-10
3.59E 00		2.79E-01	2.31E-02	1.73E-03	7.99E-05	1.51E-06	1.69E-08	1.69E-10	1.69E-10
64528.00	8.00	4.02E 00	2.85E-01	2.33E-02	1.73E-03	8.01E-05	1.52E-06	1.69E-08	1.69E-10
3.60E 00		2.79E-01	2.33E-02	1.73E-03	8.01E-05	1.52E-06	1.69E-08	1.69E-10	1.69E-10
65334.60	8.10	4.03E 00	2.86E-01	2.33E-02	1.73E-03	8.02E-05	1.52E-06	1.70E-08	1.70E-10
3.61E 00		2.80E-01	2.32E-02	1.73E-03	8.02E-05	1.52E-06	1.70E-08	1.70E-10	1.70E-10
66141.20	8.20	4.05E 00	2.87E-01	2.33E-02	1.74E-03	8.03E-05	1.52E-06	1.70E-08	1.70E-10
3.63E 00		2.81E-01	2.33E-02	1.73E-03	8.03E-05	1.52E-06	1.70E-08	1.70E-10	1.70E-10
66947.80	8.30	4.07E 00	2.87E-01	2.33E-02	1.74E-03	8.05E-05	1.52E-06	1.70E-08	1.70E-10
3.64E 00		2.81E-01	2.33E-02	1.74E-03	8.05E-05	1.52E-06	1.70E-08	1.70E-10	1.70E-10
67754.40	8.40	4.09E 00	2.88E-01	2.33E-02	1.74E-03	8.06E-05	1.53E-06	1.71E-08	1.71E-10
3.65E 00		2.82E-01	2.33E-02	1.74E-03	8.06E-05	1.53E-06	1.71E-08	1.71E-10	1.71E-10
68561.00	8.50	4.10E 00	2.89E-01	2.33E-02	1.74E-03	8.07E-05	1.53E-06	1.71E-08	1.71E-10
3.66E 00		2.82E-01	2.33E-02	1.74E-03	8.07E-05	1.53E-06	1.71E-08	1.71E-10	1.71E-10
69367.60	8.60	4.12E 00	2.89E-01	2.33E-02	1.75E-03	8.08E-05	1.53E-06	1.71E-08	1.71E-10
3.67E 00		2.83E-01	2.33E-02	1.74E-03	8.08E-05	1.53E-06	1.71E-08	1.71E-10	1.71E-10
70174.20	8.70	4.13E 00	2.90E-01	2.33E-02	1.75E-03	8.09E-05	1.53E-06	1.71E-08	1.71E-10
3.68E 00		2.83E-01	2.33E-02	1.75E-03	8.09E-05	1.53E-06	1.71E-08	1.71E-10	1.71E-10
70980.80	8.80	4.15E 00	2.90E-01	2.33E-02	1.75E-03	8.10E-05	1.54E-06	1.72E-08	1.72E-10
3.69E 00		2.84E-01	2.33E-02	1.75E-03	8.10E-05	1.54E-06	1.72E-08	1.72E-10	1.72E-10
71787.40	8.90	4.17E 00	2.91E-01	2.33E-02	1.75E-03	8.11E-05	1.54E-06	1.72E-08	1.72E-10
3.70E 00		2.84E-01	2.33E-02	1.75E-03	8.11E-05	1.54E-06	1.72E-08	1.72E-10	1.72E-10
72594.00	9.00	4.18E 00	2.92E-01	2.33E-02	1.75E-03	8.12E-05	1.54E-06	1.72E-08	1.72E-10
3.70E 00		2.85E-01	2.33E-02	1.75E-03	8.12E-05	1.54E-06	1.72E-08	1.72E-10	1.72E-10
73400.60	9.10	4.20E 00	2.92E-01	2.33E-02	1.76E-03	8.13E-05	1.54E-06	1.72E-08	1.72E-10
3.71E 00		2.85E-01	2.33E-02	1.75E-03	8.13E-05	1.54E-06	1.72E-08	1.72E-10	1.72E-10
74207.20	9.20	4.21E 00	2.93E-01	2.33E-02	1.76E-03	8.14E-05	1.54E-06	1.72E-08	1.72E-10
3.72E 00		2.86E-01	2.33E-02	1.76E-03	8.14E-05	1.54E-06	1.72E-08	1.72E-10	1.72E-10
75013.80	9.30	4.23E 00	2.94E-01	2.33E-02	1.76E-03	8.15E-05	1.54E-06	1.73E-08	1.73E-10
3.73E 00		2.86E-01	2.33E-02	1.76E-03	8.15E-05	1.54E-06	1.73E-08	1.73E-10	1.73E-10
75820.40	9.40	4.25E 00	2.94E-01	2.33E-02	1.77E-03	8.17E-05	1.55E-06	1.73E-08	1.73E-10
3.74E 00		2.87E-01	2.33E-02	1.77E-03	8.17E-05	1.55E-06	1.73E-08	1.73E-10	1.73E-10
76627.00	9.50	4.26E 00	2.95E-01	2.33E-02	1.77E-03	8.18E-05	1.55E-06	1.73E-08	1.73E-10
3.75E 00		2.88E-01	2.33E-02	1.77E-03	8.18E-05	1.55E-06	1.73E-08	1.73E-10	1.73E-10
77433.60	9.60	4.28E 00	2.96E-01	2.33E-02	1.77E-03	8.20E-05	1.55E-06	1.74E-08	1.74E-10
3.76E 00		2.88E-01	2.33E-02	1.77E-03	8.20E-05	1.55E-06	1.74E-08	1.74E-10	1.74E-10
78240.20	9.70	4.30E 00	2.96E-01	2.33E-02	1.78E-03	8.21E-05	1.56E-06	1.74E-08	1.74E-10
3.76E 00		2.89E-01	2.33E-02	1.78E-03	8.21E-05	1.56E-06	1.74E-08	1.74E-10	1.74E-10
79046.80	9.80	4.31E 00	2.97E-01	2.40E-02	1.78E-03	8.23E-05	1.56E-06	1.74E-08	1.74E-10
3.77E 00		2.89E-01	2.39E-02	1.78E-03	8.22E-05	1.56E-06	1.74E-08	1.74E-10	1.74E-10
79853.40	9.90	4.33E 00	2.97E-01	2.40E-02	1.78E-03	8.24E-05	1.56E-06	1.74E-08	1.74E-10
3.78E 00		2.90E-01	2.39E-02	1.78E-03	8.24E-05	1.56E-06	1.74E-08	1.74E-10	1.74E-10

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 14000°K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density × Normal									
		1.0E 01	1.0E 00	1.0E-01	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07	10.0E-08	10.0E-09
80660.00	10.00	4.35E 00	2.98E-01	2.40E-02	1.76E-03	8.29E-05	1.96E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
81466.60	10.10	3.78E 00	2.90E-01	2.39E-02	1.78E-03	8.25E-05	1.95E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
82273.20	10.20	4.38E 00	2.99E-01	2.41E-02	1.79E-03	8.26E-05	1.96E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
83079.80	10.30	3.80E 00	2.90E-01	2.40E-02	1.79E-03	8.27E-05	1.97E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
83886.40	10.40	4.39E 00	3.00E-01	2.41E-02	1.79E-03	8.28E-05	1.97E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
84693.00	10.50	3.81E 00	2.91E-01	2.40E-02	1.79E-03	8.28E-05	1.97E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
85499.60	10.60	4.42E 00	3.01E-01	2.42E-02	1.79E-03	8.29E-05	1.97E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
86306.20	10.70	3.83E 00	2.92E-01	2.41E-02	1.79E-03	8.30E-05	1.97E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
87112.80	10.80	4.44E 00	3.01E-01	2.42E-02	1.80E-03	8.31E-05	1.97E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
87919.40	10.90	3.85E 00	2.92E-01	2.41E-02	1.80E-03	8.31E-05	1.97E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
88726.00	11.00	4.48E 00	3.04E-01	2.43E-02	1.80E-03	8.32E-05	1.98E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
89532.60	11.10	3.87E 00	2.93E-01	2.42E-02	1.81E-03	8.32E-05	1.98E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
90339.20	11.20	4.51E 00	3.05E-01	2.44E-02	1.81E-03	8.33E-05	1.98E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
91145.80	11.30	3.89E 00	2.94E-01	2.43E-02	1.81E-03	8.33E-05	1.98E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
91952.40	11.40	4.54E 00	3.07E-01	2.45E-02	1.81E-03	8.34E-05	1.99E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
92759.00	11.50	3.91E 00	2.95E-01	2.44E-02	1.82E-03	8.34E-05	1.99E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
93565.60	11.60	4.57E 00	3.09E-01	2.46E-02	1.82E-03	8.35E-05	1.99E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
94372.20	11.70	3.93E 00	2.96E-01	2.45E-02	1.82E-03	8.35E-05	1.99E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
95178.80	11.80	4.60E 00	3.11E-01	2.47E-02	1.82E-03	8.36E-05	2.00E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
95985.40	11.90	3.95E 00	2.97E-01	2.46E-02	1.83E-03	8.36E-05	2.00E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
96792.00	12.00	4.63E 00	3.13E-01	2.48E-02	1.83E-03	8.37E-05	2.00E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
97598.60	12.10	3.97E 00	2.98E-01	2.47E-02	1.83E-03	8.37E-05	2.00E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
98405.20	12.20	4.66E 00	3.15E-01	2.49E-02	1.83E-03	8.38E-05	2.01E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
99211.80	12.30	3.99E 00	2.99E-01	2.48E-02	1.84E-03	8.38E-05	2.01E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
100018.40	12.40	4.69E 00	3.17E-01	2.50E-02	1.84E-03	8.39E-05	2.01E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
100825.00	12.50	4.01E 00	3.00E-01	2.49E-02	1.84E-03	8.39E-05	2.01E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
101631.60	12.60	4.72E 00	3.19E-01	2.51E-02	1.84E-03	8.40E-05	2.02E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
102438.20	12.70	4.03E 00	3.01E-01	2.50E-02	1.85E-03	8.40E-05	2.02E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
103244.80	12.80	4.75E 00	3.21E-01	2.52E-02	1.85E-03	8.41E-05	2.02E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
104051.40	12.90	4.05E 00	3.03E-01	2.51E-02	1.85E-03	8.41E-05	2.02E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
104858.00	13.00	4.78E 00	3.23E-01	2.53E-02	1.85E-03	8.42E-05	2.03E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
105664.60	13.10	4.07E 00	3.05E-01	2.52E-02	1.86E-03	8.42E-05	2.03E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
106471.20	13.20	4.80E 00	3.25E-01	2.54E-02	1.86E-03	8.43E-05	2.03E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
107277.80	13.30	4.09E 00	3.07E-01	2.53E-02	1.86E-03	8.43E-05	2.03E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
108084.40	13.40	4.83E 00	3.27E-01	2.55E-02	1.86E-03	8.44E-05	2.04E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
108891.00	13.50	4.11E 00	3.09E-01	2.54E-02	1.87E-03	8.44E-05	2.04E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
109697.60	13.60	4.86E 00	3.29E-01	2.56E-02	1.87E-03	8.45E-05	2.04E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
110504.20	13.70	4.13E 00	3.11E-01	2.55E-02	1.87E-03	8.45E-05	2.04E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
111310.80	13.80	4.90E 00	3.31E-01	2.57E-02	1.87E-03	8.46E-05	2.05E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
112117.40	13.90	4.15E 00	3.13E-01	2.56E-02	1.88E-03	8.46E-05	2.05E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
112924.00	14.00	4.94E 00	3.33E-01	2.58E-02	1.88E-03	8.47E-05	2.05E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
113730.60	14.10	4.17E 00	3.15E-01	2.57E-02	1.88E-03	8.47E-05	2.05E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
114537.20	14.20	4.97E 00	3.35E-01	2.59E-02	1.88E-03	8.48E-05	2.06E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
115343.80	14.30	4.19E 00	3.17E-01	2.58E-02	1.89E-03	8.48E-05	2.06E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
116150.40	14.40	5.00E 00	3.37E-01	2.60E-02	1.89E-03	8.49E-05	2.06E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
116957.00	14.50	4.21E 00	3.19E-01	2.59E-02	1.89E-03	8.49E-05	2.06E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
117763.60	14.60	5.03E 00	3.39E-01	2.61E-02	1.89E-03	8.50E-05	2.07E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
118570.20	14.70	4.23E 00	3.21E-01	2.60E-02	1.90E-03	8.50E-05	2.07E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
119376.80	14.80	5.06E 00	3.41E-01	2.62E-02	1.90E-03	8.51E-05	2.07E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
120183.40	14.90	4.25E 00	3.23E-01	2.61E-02	1.90E-03	8.51E-05	2.07E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
120990.00	15.00	5.09E 00	3.43E-01	2.63E-02	1.90E-03	8.52E-05	2.08E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
121796.60	15.10	4.27E 00	3.25E-01	2.62E-02	1.91E-03	8.52E-05	2.08E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
122603.20	15.20	5.12E 00	3.45E-01	2.64E-02	1.91E-03	8.53E-05	2.08E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
123409.80	15.30	4.29E 00	3.27E-01	2.63E-02	1.91E-03	8.53E-05	2.08E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
124216.40	15.40	5.15E 00	3.47E-01	2.65E-02	1.91E-03	8.54E-05	2.09E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
125023.00	15.50	4.31E 00	3.29E-01	2.64E-02	1.92E-03	8.54E-05	2.09E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
125829.60	15.60	5.18E 00	3.49E-01	2.66E-02	1.92E-03	8.55E-05	2.09E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
126636.20	15.70	4.33E 00	3.31E-01	2.65E-02	1.92E-03	8.55E-05	2.09E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
127442.80	15.80	5.21E 00	3.51E-01	2.67E-02	1.92E-03	8.56E-05	2.10E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
128249.40	15.90	4.35E 00	3.33E-01	2.66E-02	1.93E-03	8.56E-05	2.10E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
129056.00	16.00	5.24E 00	3.53E-01	2.68E-02	1.93E-03	8.57E-05	2.10E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
129862.60	16.10	4.37E 00	3.35E-01	2.67E-02	1.93E-03	8.57E-05	2.10E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
130669.20	16.20	5.27E 00	3.55E-01	2.69E-02	1.93E-03	8.58E-05	2.11E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
131475.80	16.30	4.39E 00	3.37E-01	2.68E-02	1.94E-03	8.58E-05	2.11E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
132282.40	16.40	5.30E 00	3.57E-01	2.70E-02	1.94E-03	8.59E-05	2.11E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
133089.00	16.50	4.41E 00	3.39E-01	2.69E-02	1.94E-03	8.59E-05	2.11E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
133895.60	16.60	5.33E 00	3.59E-01	2.71E-02	1.94E-03	8.60E-05	2.12E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
134702.20	16.70	4.43E 00	3.41E-01	2.70E-02	1.95E-03	8.60E-05	2.12E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
135508.80	16.80	5.36E 00	3.61E-01	2.72E-02	1.95E-03	8.61E-05	2.12E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
136315.40	16.90	4.45E 00	3.43E-01	2.71E-02	1.95E-03	8.61E-05	2.12E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
137122.00	17.00	5.39E 00	3.63E-01	2.73E-02	1.95E-03	8.62E-05	2.13E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
137928.60	17.10	4.47E 00	3.45E-01	2.72E-02	1.96E-03	8.62E-05	2.13E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
138735.20	17.20	5.42E 00	3.65E-01	2.74E-02	1.96E-03	8.63E-05	2.13E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
139541.80	17.30	4.49E 00	3.47E-01	2.73E-02	1.96E-03	8.63E-05	2.13E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
140348.40	17.40	5.45E 00	3.67E-01	2.75E-02	1.96E-03	8.64E-05	2.14E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
141155.00	17.50	4.51E 00	3.49E-01	2.74E-02	1.97E-03	8.64E-05	2.14E-06	1.75E-08	1.75E-10	1.76E-10	1.76E-10
141961.60</											

118957.00	14.50	1.48E 01	1.45E 00	1.31E-01	1.00E-02	4.51E-04	8.13E-06	8.82E-08	8.30E-10
		1.41E 01	1.44E 00	1.31E-01	1.00E-02	4.51E-04	8.13E-06	8.82E-08	8.30E-10
118973.50	14.75	1.58E 01	1.56E 00	1.42E-01	1.08E-02	4.69F-04	8.05E-06	9.53E-08	9.13E-10
		1.55E 01	1.55E 00	1.42E-01	1.08E-02	4.69F-04	8.05E-06	9.53E-08	9.13E-10
120990.00	15.00	1.67E 01	1.66F 00	1.51E-01	1.16E-02	5.22E-04	9.49E-06	1.04E-07	9.87E-10
		1.60E 01	1.65E 00	1.51E-01	1.15E-02	5.22E-04	9.49E-06	1.04E-07	9.87E-10
123006.50	15.25	1.74F 01	1.74E 00	1.59E-01	1.22E-02	5.51E-04	1.01E-05	1.10E-07	1.05E-09
		1.68E 01	1.73E 00	1.59E-01	1.22E-02	5.51E-04	1.01E-05	1.10E-07	1.05E-09
125023.00	15.50	1.81E 01	1.81E 00	1.68E-01	1.27E-02	5.75E-04	1.05E-05	1.15E-07	1.11E-09
		1.74E 01	1.80E 00	1.65E-01	1.27E-02	5.75E-04	1.05E-05	1.15E-07	1.11E-09
127039.50	15.75	1.86E 01	1.87E 00	1.71E-01	1.31E-02	5.96F-04	1.09E-05	1.20E-07	1.15E-09
		1.80E 01	1.87E 00	1.71E-01	1.31E-02	5.96F-04	1.09E-05	1.20E-07	1.15E-09
129056.00	16.00	1.93E 01	1.93E 00	1.76E-01	1.35E-02	6.14F-04	1.13E-05	1.24E-07	1.19E-09
		1.85E 01	1.92E 00	1.76E-01	1.35E-02	6.14F-04	1.13E-05	1.24E-07	1.19E-09
131072.50	16.25	1.95E 01	1.97E 00	1.80E-01	1.38E-02	6.29E-04	1.16E-05	1.27E-07	1.23E-09
		1.89E 01	1.96E 00	1.80E-01	1.38E-02	6.29E-04	1.16E-05	1.27E-07	1.23E-09
133089.00	16.50	1.99E 01	2.01E 00	1.84E-01	1.41E-02	6.42E-04	1.18E-05	1.30E-07	1.25E-09
		1.92E 01	2.00E 00	1.84E-01	1.41E-02	6.42E-04	1.18E-05	1.30E-07	1.25E-09
135105.50	16.75	2.02E 01	2.04E 00	1.87E-01	1.43E-02	6.54E-04	1.21E-05	1.32E-07	1.28E-09
		1.95E 01	2.03E 00	1.87E-01	1.43E-02	6.54E-04	1.21E-05	1.32E-07	1.28E-09
137122.00	17.00	2.04E 01	2.07E 00	1.90E-01	1.46E-02	6.64E-04	1.22E-05	1.35E-07	1.30E-09
		1.98E 01	2.06E 00	1.90E-01	1.46E-02	6.64E-04	1.22E-05	1.35E-07	1.30E-09
139138.50	17.25	2.06E 01	2.10E 00	1.92E-01	1.47E-02	6.73E-04	1.24E-05	1.37E-07	1.32E-09
		2.00E 01	2.07E 00	1.92E-01	1.47E-02	6.73E-04	1.24E-05	1.37E-07	1.32E-09
141155.00	17.50	2.08E 01	2.12E 00	1.94E-01	1.49E-02	6.80E-04	1.26E-05	1.38E-07	1.34E-09
		2.02E 01	2.11E 00	1.94E-01	1.49E-02	6.80E-04	1.26E-05	1.38E-07	1.34E-09
143171.50	17.75	2.10E 01	2.13E 00	1.96E-01	1.50E-02	6.86E-04	1.27E-05	1.40E-07	1.35E-09
		2.04E 01	2.13E 00	1.96E-01	1.50E-02	6.86E-04	1.27E-05	1.40E-07	1.35E-09
145188.00	18.00	2.11E 01	2.15E 00	1.97E-01	1.51E-02	6.91E-04	1.28E-05	1.41E-07	1.36E-09
		2.05E 01	2.14E 00	1.97E-01	1.51E-02	6.91E-04	1.28E-05	1.41E-07	1.36E-09
147204.50	18.25	2.12E 01	2.16E 00	1.98E-01	1.52E-02	6.95E-04	1.29E-05	1.42E-07	1.37E-09
		2.06E 01	2.15E 00	1.98E-01	1.52E-02	6.95E-04	1.29E-05	1.42E-07	1.37E-09
149221.00	18.50	2.13E 01	2.17E 00	1.99E-01	1.53E-02	6.99E-04	1.29E-05	1.42E-07	1.38E-09
		2.07E 01	2.16E 00	1.99E-01	1.53E-02	6.99E-04	1.29E-05	1.42E-07	1.38E-09
161237.50	18.75	2.14E 01	2.18E 00	2.00E-01	1.54E-02	7.02F-04	1.30E-05	1.43E-07	1.39E-09
		2.08E 01	2.17E 00	2.00E-01	1.53E-02	7.02F-04	1.30E-05	1.43E-07	1.39E-09
163254.00	19.00	2.15E 01	2.19E 00	2.01E-01	1.54E-02	7.05E-04	1.31E-05	1.44E-07	1.39E-09
		2.09E 01	2.18E 00	2.01E-01	1.54E-02	7.05E-04	1.31E-05	1.44E-07	1.39E-09
1652 50	19.25	2.15E 01	2.20E 00	2.01E-01	1.55E-02	7.07E-04	1.31E-05	1.44E-07	1.40E-09
		2.09E 01	2.19E 00	2.01E-01	1.55E-02	7.07E-04	1.31E-05	1.44E-07	1.40E-09
167267.00	19.50	2.16E 01	2.20E 00	2.02E-01	1.55E-02	7.09F-04	1.31E-05	1.45E-07	1.40E-09
		2.10E 01	2.20E 00	2.02E-01	1.55E-02	7.09F-04	1.31E-05	1.45E-07	1.40E-09
169303.50	19.75	2.16E 01	2.21E 00	2.02E-01	1.55E-02	7.11E-04	1.32E-05	1.45E-07	1.41E-09
		2.10E 01	2.20E 00	2.02E-01	1.55E-02	7.11E-04	1.32E-05	1.45E-07	1.41E-09
161320.00	20.00	2.17E 01	2.21E 00	2.03E-01	1.56E-02	7.12F-04	1.32E-05	1.45E-07	1.41E-09
		2.10E 01	2.20E 00	2.03E-01	1.56E-02	7.12F-04	1.32E-05	1.45E-07	1.41E-09
163336.50	20.25	2.17E 01	2.21E 00	2.03E-01	1.56E-02	7.13E-04	1.32E-05	1.46E-07	1.41E-09
		2.11E 01	2.20E 00	2.03E-01	1.56E-02	7.13E-04	1.32E-05	1.46E-07	1.41E-09
165353.00	20.50	2.17E 01	2.22E 00	2.03E-01	1.56E-02	7.14E-04	1.32E-05	1.46E-07	1.42E-09
		2.11E 01	2.21E 00	2.03E-01	1.56E-02	7.14E-04	1.32E-05	1.46E-07	1.42E-09



PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 14000°K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density $\times$ Normal									
		1.0E 01	1.0E 00	1.0E -01	10.0E-03	10.0F-04	10.0E-05	10.0E-06	10.0E-07		
167369.50	20.75	2.18E 01	2.22E 00	2.03E-01	1.56E-02	7.15E-04	1.33E-05	1.46E-07	1.42E-09		
169386.00	21.00	2.11E 01	2.21E 00	2.03E-01	1.56E-02	7.15E-04	1.33E-05	1.46E-07	1.42E-09		
171402.50	21.25	2.11E 01	2.22E 00	2.03E-01	1.56E-02	7.16E-04	1.33E-05	1.46E-07	1.42E-09		
173418.00	21.50	2.11E 01	2.22E 00	2.04E-01	1.56E-02	7.17E-04	1.33E-05	1.46E-07	1.42E-09		
175435.50	21.75	2.12E 01	2.22E 00	2.04E-01	1.57E-02	7.17E-04	1.33E-05	1.47E-07	1.42E-09		
177452.00	22.00	2.12E 01	2.22E 00	2.04E-01	1.57E-02	7.18E-04	1.33E-05	1.47E-07	1.42E-09		
179468.50	22.25	2.12E 01	2.22E 00	2.04E-01	1.57E-02	7.18E-04	1.33E-05	1.47E-07	1.42E-09		
181485.00	22.50	2.12E 01	2.22E 00	2.04E-01	1.57E-02	7.18E-04	1.33E-05	1.47E-07	1.43E-09		
183501.50	22.75	2.12E 01	2.22E 00	2.04E-01	1.57E-02	7.19E-04	1.33E-05	1.47E-07	1.43E-09		
185518.00	23.00	2.12E 01	2.22E 00	2.04E-01	1.57E-02	7.19E-04	1.33E-05	1.47E-07	1.43E-09		
187534.50	23.25	2.12E 01	2.22E 00	2.04E-01	1.57E-02	7.19E-04	1.33E-05	1.47E-07	1.43E-09		
189551.00	23.50	2.12E 01	2.22E 00	2.04E-01	1.57E-02	7.19E-04	1.33E-05	1.47E-07	1.43E-09		
191567.50	23.75	2.12E 01	2.22E 00	2.04E-01	1.57E-02	7.19E-04	1.33E-05	1.47E-07	1.43E-09		
193584.00	24.00	2.12E 01	2.22E 00	2.04E-01	1.57E-02	7.19E-04	1.33E-05	1.47E-07	1.43E-09		
195600.50	24.25	2.12E 01	2.22E 00	2.04E-01	1.57E-02	7.19E-04	1.33E-05	1.47E-07	1.43E-09		
197617.00	24.50	2.12E 01	2.22E 00	2.04E-01	1.57E-02	7.20E-04	1.33E-05	1.47E-07	1.43E-09		
199633.50	24.75	2.12E 01	2.22E 00	2.04E-01	1.57E-02	7.20E-04	1.33E-05	1.47E-07	1.43E-09		
201650.00	25.00	2.12E 01	2.22E 00	2.04E-01	1.57E-02	7.20E-04	1.33E-05	1.47E-07	1.43E-09		
203666.50	25.25	2.12E 01	2.22E 00	2.04E-01	1.57E-02	7.20E-04	1.33E-05	1.47E-07	1.43E-09		
205683.00	25.50	2.12E 01	2.22E 00	2.04E-01	1.57E-02	7.20E-04	1.33E-05	1.47E-07	1.43E-09		
207699.50	25.75	2.12E 01	2.22E 00	2.04E-01	1.57E-02	7.20E-04	1.33E-05	1.47E-07	1.43E-09		
209716.00	26.00	2.12E 01	2.22E 00	2.04E-01	1.57E-02	7.20E-04	1.33E-05	1.47E-07	1.43E-09		

211732.50	26.25	2.19E 01	2.23E 00	2.05E-01	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.43E-09
213749.00	26.50	2.12E 01	2.22E 00	2.04E-01	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.43E-09
215765.50	26.75	2.19E 01	2.23E 00	2.05E-01	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.43E-09
217782.00	27.00	2.12E 01	2.22E 00	2.05E-01	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.43E-09
219798.50	27.25	2.19E 01	2.23E 00	2.05E-01	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.43E-09
221815.00	27.50	2.12E 01	2.22E 00	2.05E-01	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.43E-09
223831.50	27.75	2.19E 01	2.23E 00	2.05E-01	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.43E-09
225848.00	28.00	2.12E 01	2.22E 00	2.05E-01	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.43E-09
227864.50	28.25	2.19E 01	2.23E 00	2.05E-01	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.43E-09
229881.00	28.50	2.12E 01	2.22E 00	2.05E-01	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.43E-09
231897.50	28.75	2.19E 01	2.23E 00	2.05E-01	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.43E-09
233914.00	29.00	2.12E 01	2.22E 00	2.05E-01	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.43E-09
235930.50	29.25	2.19E 01	2.23E 00	2.05E-01	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.43E-09
237947.00	29.50	2.12E 01	2.22E 00	2.05E-01	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.43E-09
239963.50	29.75	2.19E 01	2.23E 00	2.05E-01	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.43E-09
241980.00	30.00	2.12E 01	2.22E 00	2.05E-01	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.43E-09
243996.50	30.25	2.19E 01	2.23E 00	2.05E-01	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.43E-09
246013.00	30.50	2.12E 01	2.22E 00	2.05E-01	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.43E-09
		2.12E 01	2.22E 00	2.05E-01	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.43E-09

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 16000° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density x Normal									
		1.0E 01	1.0E 00	1.0E-01	1.0E-02	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07	
4839.60	0.60	2.21E-01	2.12E-02	1.76E-03	9.99E-05	2.44E-06	2.90E-08	3.01E-10	3.20E-12	3.20E-12	
5646.20	0.70	2.21E-01	2.12E-02	1.76E-03	9.99E-05	2.44E-06	2.90E-08	3.01E-10	3.20E-12	3.20E-12	
6922.80	0.80	4.54E-01	4.37E-02	3.63E-03	2.00E-04	9.12E-06	5.93E-08	6.13E-10	6.67E-12	6.67E-12	
7259.40	0.90	7.06E-01	6.80E-02	5.65E-03	3.21E-04	8.01E-06	9.43E-08	9.74E-10	1.01E-11	1.01E-11	
8066.00	1.00	7.06E-01	6.80E-02	5.65E-03	3.21E-04	8.01E-06	9.43E-08	9.74E-10	1.01E-11	1.01E-11	
8872.60	1.10	9.67E-01	9.33E-02	7.76E-03	4.41E-04	1.10E-05	1.32E-07	1.35E-09	1.41E-11	1.41E-11	
9679.20	1.20	1.24E 00	1.20E-01	9.94E-03	5.65E-04	1.41E-05	1.70E-07	1.74E-09	1.82E-11	1.82E-11	
10485.80	1.30	1.24E 00	1.20E-01	9.94E-03	5.65E-04	1.41E-05	1.70E-07	1.74E-09	1.82E-11	1.82E-11	
11292.40	1.40	1.51E 00	1.46E-01	1.21E-02	6.80E-04	1.72E-05	2.08E-07	2.13E-09	2.23E-11	2.23E-11	
12099.00	1.50	1.50E 00	1.46E-01	1.21E-02	6.80E-04	1.72E-05	2.08E-07	2.13E-09	2.23E-11	2.23E-11	
12905.60	1.60	1.77E 00	1.71E-01	1.42E-02	8.06E-04	2.02E-05	2.44E-07	2.50E-09	2.61E-11	2.61E-11	
13712.20	1.70	1.76E 00	1.71E-01	1.42E-02	8.06E-04	2.02E-05	2.44E-07	2.50E-09	2.61E-11	2.61E-11	
14518.80	1.80	2.04E 00	1.97E-01	1.64E-02	9.30E-04	2.33E-05	2.77E-07	2.83E-09	2.96E-11	2.96E-11	
15325.40	1.90	2.03E 00	1.97E-01	1.64E-02	9.30E-04	2.33E-05	2.77E-07	2.83E-09	2.96E-11	2.96E-11	
16132.00	2.00	2.28E 00	2.20E-01	1.83E-02	1.04E-03	2.60E-05	3.03E-07	3.11E-09	3.27E-11	3.27E-11	
16938.60	2.10	2.27E 00	2.20E-01	1.83E-02	1.04E-03	2.60E-05	3.03E-07	3.11E-09	3.27E-11	3.27E-11	
17745.20	2.20	2.51E 00	2.42E-01	2.01E-02	1.14E-03	2.86E-05	3.36E-07	3.43E-09	3.56E-11	3.56E-11	
18551.80	2.30	2.50E 00	2.42E-01	2.01E-02	1.14E-03	2.86E-05	3.36E-07	3.43E-09	3.56E-11	3.56E-11	
19358.40	2.40	2.72E 00	2.62E-01	2.18E-02	1.24E-03	3.10E-05	3.65E-07	3.73E-09	3.87E-11	3.87E-11	
20165.00	2.50	2.92E 00	2.81E-01	2.33E-02	1.33E-03	3.32E-05	3.92E-07	4.01E-09	4.18E-11	4.18E-11	
20971.60	2.60	2.90E 00	2.81E-01	2.33E-02	1.33E-03	3.32E-05	3.92E-07	4.01E-09	4.18E-11	4.18E-11	
21778.20	2.70	3.11E 00	2.98E-01	2.47E-02	1.41E-03	3.52E-05	4.18E-07	4.27E-09	4.47E-11	4.47E-11	
		3.08E 00	2.98E-01	2.47E-02	1.41E-03	3.52E-05	4.18E-07	4.27E-09	4.47E-11	4.47E-11	
		3.26E 00	3.14E-01	2.60E-02	1.49E-03	3.71E-05	4.41E-07	4.51E-09	4.73E-11	4.73E-11	
		3.42E 00	3.29E-01	2.73E-02	1.55E-03	3.89E-05	4.63E-07	4.74E-09	4.98E-11	4.98E-11	
		3.62E 00	3.44E-01	2.84E-02	1.62E-03	4.25E-05	4.83E-07	4.96E-09	5.21E-11	5.21E-11	
		3.58E 00	3.43E-01	2.84E-02	1.62E-03	4.25E-05	4.83E-07	4.96E-09	5.21E-11	5.21E-11	
		3.77E 00	3.57E-01	2.99E-02	1.68E-03	4.21E-05	5.02E-07	5.16E-09	5.45E-11	5.45E-11	
		3.72E 00	3.56E-01	2.95E-02	1.68E-03	4.21E-05	5.02E-07	5.16E-09	5.45E-11	5.45E-11	
		3.90E 00	3.69E-01	3.05E-02	1.73E-03	4.34E-05	5.19E-07	5.34E-09	5.67E-11	5.67E-11	
		3.86E 00	3.69E-01	3.05E-02	1.73E-03	4.34E-05	5.19E-07	5.34E-09	5.67E-11	5.67E-11	
		4.06E 00	3.83E-01	3.14E-02	1.79E-03	4.47E-05	5.34E-07	5.50E-09	5.87E-11	5.87E-11	
		4.01E 00	3.82E-01	3.14E-02	1.79E-03	4.47E-05	5.34E-07	5.50E-09	5.87E-11	5.87E-11	
		4.19E 00	3.95E-01	3.26E-02	1.85E-03	4.61E-05	5.48E-07	5.64E-09	6.05E-11	6.05E-11	
		4.15E 00	3.94E-01	3.26E-02	1.85E-03	4.61E-05	5.48E-07	5.64E-09	6.05E-11	6.05E-11	
		4.33E 00	4.07E-01	3.36E-02	1.91E-03	4.75E-05	5.64E-07	5.80E-09	6.21E-11	6.21E-11	
		4.29E 00	4.07E-01	3.36E-02	1.91E-03	4.75E-05	5.64E-07	5.80E-09	6.21E-11	6.21E-11	
		4.47E 00	4.19E-01	3.45E-02	1.96E-03	4.88E-05	5.80E-07	5.96E-09	6.40E-11	6.40E-11	
		4.42E 00	4.19E-01	3.45E-02	1.96E-03	4.88E-05	5.80E-07	5.96E-09	6.40E-11	6.40E-11	

22584.80	2.80	4.60E 00	4.30E-01	3.54E-02	2.01E-03	5.01E-05	5.06E-07	6.13E-09	6.50E-11
4.55E 00	4.30E-01	3.54E-02	2.01E-03	5.01E-05	5.06E-07	6.13E-09	6.50E-11	6.13E-09	6.50E-11
4.73E 00	4.41E-01	3.63E-02	2.06E-03	5.13E-05	6.11E-07	6.29E-09	6.76E-11	6.29E-09	6.76E-11
4.67E 00	4.40E-01	3.63E-02	2.06E-03	5.13E-05	6.11E-07	6.29E-09	6.76E-11	6.29E-09	6.76E-11
4.65E 00	4.51E-01	3.71E-02	2.10E-03	5.25E-05	6.26E-07	6.44E-09	6.95E-11	6.44E-09	6.95E-11
4.79E 00	4.51E-01	3.71E-02	2.10E-03	5.25E-05	6.26E-07	6.44E-09	6.95E-11	6.44E-09	6.95E-11
4.97E 00	4.61E-01	3.79E-02	2.15E-03	5.36E-05	6.39E-07	6.50E-09	7.12E-11	6.50E-09	7.12E-11
4.90E 00	4.60E-01	3.79E-02	2.15E-03	5.36E-05	6.39E-07	6.50E-09	7.12E-11	6.50E-09	7.12E-11
5.08E 00	4.70E-01	3.86E-02	2.19E-03	5.46E-05	6.52E-07	6.71E-09	7.27E-11	6.71E-09	7.27E-11
5.01E 00	4.69E-01	3.86E-02	2.19E-03	5.46E-05	6.52E-07	6.71E-09	7.27E-11	6.71E-09	7.27E-11
5.19E 00	4.79E-01	3.93E-02	2.23E-03	5.56E-05	6.64E-07	6.84E-09	7.42E-11	6.84E-09	7.42E-11
5.12E 00	4.78E-01	3.93E-02	2.23E-03	5.56E-05	6.64E-07	6.84E-09	7.42E-11	6.84E-09	7.42E-11
5.30E 00	4.87E-01	3.99E-02	2.26E-03	5.65E-05	6.75E-07	6.95E-09	7.55E-11	6.95E-09	7.55E-11
5.21E 00	4.86E-01	3.99E-02	2.26E-03	5.65E-05	6.75E-07	6.95E-09	7.55E-11	6.95E-09	7.55E-11
5.42E 00	4.95E-01	4.05E-02	2.29E-03	5.73E-05	6.85E-07	7.06E-09	7.67E-11	7.06E-09	7.67E-11
5.32E 00	4.94E-01	4.05E-02	2.29E-03	5.73E-05	6.85E-07	7.06E-09	7.67E-11	7.06E-09	7.67E-11
5.54E 00	5.03E-01	4.10E-02	2.32E-03	5.80E-05	6.94E-07	7.16E-09	7.78E-11	7.16E-09	7.78E-11
5.43E 00	5.01E-01	4.10E-02	2.32E-03	5.80E-05	6.94E-07	7.16E-09	7.78E-11	7.16E-09	7.78E-11
5.66E 00	5.10E-01	4.16E-02	2.35E-03	5.87E-05	7.03E-07	7.25E-09	7.94E-11	7.25E-09	7.94E-11
5.54E 00	5.09E-01	4.16E-02	2.35E-03	5.87E-05	7.03E-07	7.25E-09	7.94E-11	7.25E-09	7.94E-11
5.78E 00	5.19E-01	4.22E-02	2.38E-03	5.94E-05	7.11E-07	7.35E-09	8.08E-11	7.35E-09	8.08E-11
5.66E 00	5.17E-01	4.21E-02	2.38E-03	5.94E-05	7.11E-07	7.35E-09	8.08E-11	7.35E-09	8.08E-11
5.91E 00	5.27E-01	4.27E-02	2.42E-03	6.02E-05	7.19E-07	7.44E-09	8.23E-11	7.44E-09	8.23E-11
5.77E 00	5.25E-01	4.27E-02	2.42E-03	6.02E-05	7.19E-07	7.44E-09	8.23E-11	7.44E-09	8.23E-11
6.04E 00	5.35E-01	4.33E-02	2.45E-03	6.10E-05	7.28E-07	7.52E-09	8.36E-11	7.52E-09	8.36E-11
5.89E 00	5.33E-01	4.33E-02	2.45E-03	6.10E-05	7.28E-07	7.52E-09	8.36E-11	7.52E-09	8.36E-11
6.17E 00	5.44E-01	4.40E-02	2.48E-03	6.19E-05	7.38E-07	7.61E-09	8.51E-11	7.61E-09	8.51E-11
6.02E 00	5.42E-01	4.40E-02	2.48E-03	6.19E-05	7.38E-07	7.61E-09	8.51E-11	7.61E-09	8.51E-11
6.30E 00	5.53E-01	4.46E-02	2.52E-03	6.28E-05	7.49E-07	7.71E-09	8.65E-11	7.71E-09	8.65E-11
6.14E 00	5.51E-01	4.46E-02	2.52E-03	6.28E-05	7.49E-07	7.71E-09	8.65E-11	7.71E-09	8.65E-11
6.42E 00	5.61E-01	4.52E-02	2.55E-03	6.37E-05	7.60E-07	7.83E-09	8.80E-11	7.83E-09	8.80E-11
6.26E 00	5.59E-01	4.52E-02	2.55E-03	6.37E-05	7.60E-07	7.83E-09	8.80E-11	7.83E-09	8.80E-11
6.54E 00	5.69E-01	4.58E-02	2.59E-03	6.46E-05	7.70E-07	7.94E-09	8.95E-11	7.94E-09	8.95E-11
6.38E 00	5.67E-01	4.58E-02	2.59E-03	6.46E-05	7.70E-07	7.94E-09	8.95E-11	7.94E-09	8.95E-11
6.66E 00	5.77E-01	4.64E-02	2.62E-03	6.54E-05	7.80E-07	8.03E-09	9.10E-11	8.03E-09	9.10E-11
6.49E 00	5.75E-01	4.64E-02	2.62E-03	6.54E-05	7.80E-07	8.03E-09	9.10E-11	8.03E-09	9.10E-11
6.77E 00	5.84E-01	4.69E-02	2.65E-03	6.61E-05	7.90E-07	8.15E-09	9.24E-11	8.15E-09	9.24E-11
6.60E 00	5.82E-01	4.69E-02	2.65E-03	6.61E-05	7.90E-07	8.15E-09	9.24E-11	8.15E-09	9.24E-11
6.87E 00	5.92E-01	4.74E-02	2.68E-03	6.69E-05	7.99E-07	8.25E-09	9.37E-11	8.25E-09	9.37E-11
6.70E 00	5.89E-01	4.74E-02	2.68E-03	6.69E-05	7.99E-07	8.25E-09	9.37E-11	8.25E-09	9.37E-11
6.98E 00	5.98E-01	4.79E-02	2.70E-03	6.76E-05	8.08E-07	8.34E-09	9.49E-11	8.34E-09	9.49E-11
6.81E 00	5.96E-01	4.79E-02	2.70E-03	6.76E-05	8.08E-07	8.34E-09	9.49E-11	8.34E-09	9.49E-11
7.08E 00	6.05E-01	4.84E-02	2.73E-03	6.82E-05	8.16E-07	8.43E-09	9.61E-11	8.43E-09	9.61E-11
6.91E 00	6.03E-01	4.84E-02	2.73E-03	6.82E-05	8.16E-07	8.43E-09	9.61E-11	8.43E-09	9.61E-11
7.17E 00	6.11E-01	4.89E-02	2.76E-03	6.89E-05	8.24E-07	8.51E-09	9.72E-11	8.51E-09	9.72E-11
7.00E 00	6.09E-01	4.89E-02	2.76E-03	6.89E-05	8.24E-07	8.51E-09	9.72E-11	8.51E-09	9.72E-11
7.27E 00	6.17E-01	4.93E-02	2.78E-03	6.95E-05	8.32E-07	8.60E-09	9.83E-11	8.60E-09	9.83E-11
7.09E 00	6.15E-01	4.93E-02	2.78E-03	6.95E-05	8.32E-07	8.60E-09	9.83E-11	8.60E-09	9.83E-11
7.36E 00	6.23E-01	4.97E-02	2.80E-03	7.01E-05	8.39E-07	8.68E-09	9.93E-11	8.68E-09	9.93E-11
7.18E 00	6.21E-01	4.97E-02	2.80E-03	7.01E-05	8.39E-07	8.68E-09	9.93E-11	8.68E-09	9.93E-11

PARTIAL PLANK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR, 16000°K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	1.0E 01	1.0E 00	1.0E-01	Density x Normal	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07
42749.80	3.30	7.44E 00	6.29E-01	5.05E-02	2.02E-03	7.07E-05	0.46E-07	0.46E-07	0.79E-09	1.00E-10
43556.40	5.40	7.27E 00	6.27E-01	5.01E-02	2.02E-03	7.07E-05	0.46E-07	0.46E-07	0.79E-09	1.00E-10
44363.00	5.50	7.35E 00	6.34E-01	5.05E-02	2.05E-03	7.12E-05	0.53E-07	0.53E-07	0.82E-09	1.01E-10
45169.60	5.60	7.61E 00	6.40E-01	5.09E-02	2.07E-03	7.17E-05	0.60E-07	0.60E-07	0.89E-09	1.02E-10
45976.20	5.70	7.43E 00	6.37E-01	5.12E-02	2.09E-03	7.22E-05	0.68E-07	0.68E-07	0.96E-09	1.03E-10
46782.80	5.80	7.51E 00	6.42E-01	5.16E-02	2.10E-03	7.27E-05	0.76E-07	0.76E-07	1.04E-10	1.04E-10
47589.40	5.90	7.59E 00	6.47E-01	5.19E-02	2.12E-03	7.32E-05	0.84E-07	0.84E-07	1.12E-10	1.05E-10
48396.00	6.00	7.67E 00	6.52E-01	5.23E-02	2.14E-03	7.37E-05	0.92E-07	0.92E-07	1.20E-10	1.06E-10
49202.60	6.10	7.75E 00	6.57E-01	5.26E-02	2.16E-03	7.41E-05	0.99E-07	0.99E-07	1.28E-10	1.07E-10
50009.20	6.20	7.83E 00	6.62E-01	5.29E-02	2.18E-03	7.45E-05	0.10E-07	0.10E-07	1.36E-10	1.08E-10
50815.80	6.30	7.91E 00	6.66E-01	5.32E-02	2.20E-03	7.49E-05	0.11E-07	0.11E-07	1.44E-10	1.09E-10
51622.40	6.40	7.99E 00	6.71E-01	5.35E-02	2.22E-03	7.53E-05	0.12E-07	0.12E-07	1.52E-10	1.10E-10
52429.00	6.50	8.07E 00	6.75E-01	5.38E-02	2.24E-03	7.57E-05	0.13E-07	0.13E-07	1.60E-10	1.11E-10
53235.60	6.60	8.15E 00	6.80E-01	5.41E-02	2.26E-03	7.61E-05	0.14E-07	0.14E-07	1.68E-10	1.12E-10
54042.20	6.70	8.23E 00	6.83E-01	5.44E-02	2.28E-03	7.64E-05	0.15E-07	0.15E-07	1.76E-10	1.13E-10
54848.80	6.80	8.31E 00	6.86E-01	5.47E-02	2.30E-03	7.68E-05	0.16E-07	0.16E-07	1.84E-10	1.14E-10
55655.40	6.90	8.39E 00	6.90E-01	5.49E-02	2.32E-03	7.71E-05	0.17E-07	0.17E-07	1.92E-10	1.15E-10
56462.00	7.00	8.47E 00	6.92E-01	5.52E-02	2.34E-03	7.74E-05	0.18E-07	0.18E-07	2.00E-10	1.16E-10
57268.60	7.10	8.55E 00	6.96E-01	5.54E-02	2.36E-03	7.77E-05	0.19E-07	0.19E-07	2.08E-10	1.17E-10
58075.20	7.20	8.63E 00	7.00E-01	5.56E-02	2.38E-03	7.80E-05	0.20E-07	0.20E-07	2.16E-10	1.18E-10
58881.80	7.30	8.71E 00	7.03E-01	5.58E-02	2.40E-03	7.83E-05	0.21E-07	0.21E-07	2.24E-10	1.19E-10
59688.40	7.40	8.79E 00	7.06E-01	5.60E-02	2.42E-03	7.86E-05	0.22E-07	0.22E-07	2.32E-10	1.20E-10

60495.00	7.50	8.91E-00	7.17E-01	5.62E-02	3.15E-03	7.91E-05	9.33E-07	9.92E-09	1.19E-10
61301.60	7.60	8.70E-00	7.14E-01	5.61E-02	3.15E-03	7.91E-05	9.33E-07	9.92E-09	1.19E-10
62108.20	7.70	8.96E-00	7.20E-01	5.63E-02	3.16E-03	7.93E-05	9.36E-07	9.96E-09	1.20E-10
62914.80	7.80	8.74E-00	7.17E-01	5.63E-02	3.16E-03	7.93E-05	9.36E-07	9.96E-09	1.20E-10
63721.40	7.90	8.00E-00	7.22E-01	5.65E-02	3.17E-03	7.96E-05	9.39E-07	9.99E-09	1.20E-10
64528.00	8.00	8.78E-00	7.20E-01	5.65E-02	3.17E-03	7.96E-05	9.39E-07	9.99E-09	1.20E-10
65334.60	8.10	8.05E-00	7.25E-01	5.67E-02	3.18E-03	7.98E-05	9.42E-07	1.00E-08	1.21E-10
66141.20	8.20	8.82E-00	7.27E-01	5.68E-02	3.19E-03	7.98E-05	9.42E-07	1.00E-08	1.21E-10
66947.80	8.30	8.66E-00	7.24E-01	5.68E-02	3.19E-03	7.98E-05	9.42E-07	1.00E-08	1.21E-10
67754.40	8.40	8.13E-00	7.29E-01	5.70E-02	3.20E-03	8.02E-05	9.47E-07	1.01E-08	1.22E-10
68561.00	8.50	8.90E-00	7.26E-01	5.69E-02	3.20E-03	8.02E-05	9.47E-07	1.01E-08	1.22E-10
69367.60	8.60	8.17E-00	7.31E-01	5.71E-02	3.21E-03	8.04E-05	9.50E-07	1.01E-08	1.22E-10
70174.20	8.70	8.93E-00	7.29E-01	5.71E-02	3.21E-03	8.04E-05	9.50E-07	1.01E-08	1.22E-10
70980.80	8.80	8.20E-00	7.34E-01	5.72E-02	3.21E-03	8.06E-05	9.52E-07	1.01E-08	1.23E-10
71787.40	8.90	8.96E-00	7.31E-01	5.74E-02	3.22E-03	8.08E-05	9.54E-07	1.02E-08	1.23E-10
72594.00	9.00	8.00E-00	7.33E-01	5.73E-02	3.22E-03	8.08E-05	9.54E-07	1.02E-08	1.23E-10
73400.60	9.10	8.28E-00	7.37E-01	5.75E-02	3.23E-03	8.10E-05	9.57E-07	1.02E-08	1.23E-10
74207.20	9.20	8.03E-00	7.34E-01	5.75E-02	3.23E-03	8.10E-05	9.57E-07	1.02E-08	1.23E-10
75013.80	9.30	8.31E-00	7.39E-01	5.78E-02	3.23E-03	8.12E-05	9.59E-07	1.02E-08	1.24E-10
75820.40	9.40	8.06E-00	7.36E-01	5.78E-02	3.23E-03	8.12E-05	9.59E-07	1.02E-08	1.24E-10
76627.00	9.50	8.09E-00	7.41E-01	5.79E-02	3.24E-03	8.13E-05	9.61E-07	1.02E-08	1.24E-10
77433.60	9.60	8.09E-00	7.38E-01	5.77E-02	3.24E-03	8.13E-05	9.61E-07	1.02E-08	1.24E-10
78240.20	9.70	8.38E-00	7.43E-01	5.79E-02	3.25E-03	8.15E-05	9.63E-07	1.03E-08	1.25E-10
79046.80	9.80	8.11E-00	7.40E-01	5.79E-02	3.25E-03	8.15E-05	9.63E-07	1.03E-08	1.25E-10
79853.40	9.90	8.41E-00	7.44E-01	5.80E-02	3.25E-03	8.17E-05	9.65E-07	1.03E-08	1.25E-10
		8.14E-00	7.41E-01	5.79E-02	3.25E-03	8.16E-05	9.65E-07	1.03E-08	1.25E-10
		8.44E-00	7.46E-01	5.81E-02	3.26E-03	8.18E-05	9.67E-07	1.03E-08	1.26E-10
		8.16E-00	7.43E-01	5.80E-02	3.26E-03	8.18E-05	9.67E-07	1.03E-08	1.26E-10
		8.47E-00	7.48E-01	5.82E-02	3.26E-03	8.19E-05	9.69E-07	1.03E-08	1.26E-10
		8.19E-00	7.44E-01	5.81E-02	3.26E-03	8.19E-05	9.69E-07	1.03E-08	1.26E-10
		8.50E-00	7.49E-01	5.83E-02	3.27E-03	8.21E-05	9.70E-07	1.03E-08	1.27E-10
		8.21E-00	7.46E-01	5.82E-02	3.27E-03	8.21E-05	9.70E-07	1.03E-08	1.27E-10
		8.53E-00	7.52E-01	5.85E-02	3.28E-03	8.23E-05	9.72E-07	1.04E-08	1.27E-10
		8.25E-00	7.48E-01	5.84E-02	3.28E-03	8.23E-05	9.72E-07	1.04E-08	1.27E-10
		8.57E-00	7.54E-01	5.87E-02	3.29E-03	8.25E-05	9.74E-07	1.04E-08	1.28E-10
		8.28E-00	7.51E-01	5.86E-02	3.29E-03	8.25E-05	9.74E-07	1.04E-08	1.28E-10
		8.61E-00	7.57E-01	5.88E-02	3.30E-03	8.28E-05	9.77E-07	1.04E-08	1.28E-10
		8.31E-00	7.53E-01	5.88E-02	3.30E-03	8.28E-05	9.77E-07	1.04E-08	1.28E-10
		8.65E-00	7.59E-01	5.90E-02	3.31E-03	8.31E-05	9.79E-07	1.04E-08	1.29E-10
		8.34E-00	7.55E-01	5.90E-02	3.31E-03	8.31E-05	9.79E-07	1.04E-08	1.29E-10
		8.68E-00	7.61E-01	5.92E-02	3.32E-03	8.33E-05	9.80E-06	1.05E-08	1.29E-10
		8.37E-00	7.57E-01	5.91E-02	3.32E-03	8.33E-05	9.80E-06	1.05E-08	1.29E-10
		8.72E-00	7.63E-01	5.93E-02	3.33E-03	8.35E-05	9.81E-06	1.05E-08	1.29E-10
		8.40E-00	7.60E-01	5.93E-02	3.33E-03	8.35E-05	9.81E-06	1.05E-08	1.29E-10
		8.75E-00	7.65E-01	5.95E-02	3.33E-03	8.37E-05	9.82E-06	1.05E-08	1.30E-10
		8.43E-00	7.62E-01	5.94E-02	3.33E-03	8.37E-05	9.82E-06	1.05E-08	1.30E-10
		8.78E-00	7.67E-01	5.96E-02	3.34E-03	8.39E-05	9.83E-06	1.06E-08	1.30E-10
		8.45E-00	7.63E-01	5.96E-02	3.34E-03	8.39E-05	9.83E-06	1.06E-08	1.30E-10

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 1600° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density x Normal									
		1.0E 01	1.0E 00	1.0E-01	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07		
80660.00	10.00	9.61E 00	7.69E-01	5.98E-02	3.35E-03	0.41E-05	1.01E-06	1.06E-08	1.31E-10		
947E 00	10.10	9.47E 00	7.65E-01	5.97E-02	3.35E-03	0.41E-05	1.01E-06	1.06E-08	1.31E-10		
81466.60	10.20	9.64E 00	7.71E-01	5.99E-02	3.36E-03	0.43E-05	1.01E-06	1.06E-08	1.31E-10		
92273.20	10.30	9.50E 00	7.67E-01	5.98E-02	3.36E-03	0.43E-05	1.01E-06	1.06E-08	1.31E-10		
83079.80	10.40	9.67E 00	7.75E-01	6.00E-02	3.36E-03	0.45E-05	1.02E-06	1.06E-08	1.32E-10		
83986.40	10.50	9.52E 00	7.69E-01	6.01E-02	3.37E-03	0.46E-05	1.02E-06	1.07E-08	1.32E-10		
64693.00	10.60	9.34E 00	7.70E-01	6.01E-02	3.37E-03	0.46E-05	1.02E-06	1.07E-08	1.32E-10		
85499.50	10.70	9.33E 00	7.76E-01	6.02E-02	3.38E-03	0.48E-05	1.02E-06	1.07E-08	1.32E-10		
86306.20	10.80	9.56E 00	7.72E-01	6.02E-02	3.38E-03	0.48E-05	1.02E-06	1.07E-08	1.32E-10		
88726.00	10.90	9.95E 00	7.77E-01	6.04E-02	3.38E-03	0.49E-05	1.02E-06	1.07E-08	1.33E-10		
90742.50	11.00	9.56E 00	7.73E-01	6.03E-02	3.38E-03	0.49E-05	1.02E-06	1.07E-08	1.33E-10		
92759.00	11.10	9.98E 00	7.79E-01	6.05E-02	3.39E-03	0.51E-05	1.02E-06	1.07E-08	1.33E-10		
94775.50	11.20	9.60E 00	7.75E-01	6.04E-02	3.39E-03	0.51E-05	1.02E-06	1.07E-08	1.33E-10		
96792.00	11.30	1.11E 01	8.84E-01	6.91E-02	3.67E-03	0.54E-05	1.03E-06	1.08E-08	1.33E-10		
98608.50	11.40	1.07E 01	8.80E-01	6.91E-02	3.67E-03	0.54E-05	1.03E-06	1.08E-08	1.33E-10		
100825.00	11.50	1.23E 01	1.01E 00	7.95E-02	4.45E-03	9.94E-05	1.20E-06	1.23E-08	1.53E-10		
102841.50	11.60	1.19E 01	1.01E 00	7.95E-02	4.45E-03	9.94E-05	1.20E-06	1.23E-08	1.53E-10		
104858.00	11.70	1.33E 01	1.11E 00	8.79E-02	4.92E-03	1.11E-04	1.34E-06	1.40E-08	1.68E-10		
106874.50	11.80	1.30E 01	1.11E 00	8.79E-02	4.92E-03	1.11E-04	1.34E-06	1.40E-08	1.68E-10		
108891.00	11.90	1.43E 01	1.20E 00	9.54E-02	5.33E-03	1.21E-04	1.46E-06	1.53E-08	1.82E-10		
110907.50	12.00	1.39E 01	1.20E 00	9.54E-02	5.33E-03	1.21E-04	1.46E-06	1.53E-08	1.82E-10		
112924.00	12.10	1.51E 01	1.28E 00	1.02E-01	5.70E-03	1.30E-04	1.57E-06	1.64E-08	1.94E-10		
114940.50	12.20	1.47E 01	1.28E 00	1.02E-01	5.70E-03	1.30E-04	1.57E-06	1.64E-08	1.94E-10		
	12.30	1.78E 01	1.56E 00	1.25E-01	6.96E-03	1.64E-04	1.67E-06	1.74E-08	2.04E-10		
	12.40	1.74E 01	1.55E 00	1.25E-01	6.95E-03	1.64E-04	1.67E-06	1.74E-08	2.04E-10		
	12.50	2.03E 01	1.80E 00	1.45E-01	8.07E-03	1.89E-04	2.00E-06	2.08E-08	2.39E-10		
	12.60	1.99E 01	1.80E 00	1.45E-01	8.07E-03	1.89E-04	2.00E-06	2.08E-08	2.39E-10		
	12.70	2.24E 01	2.02E 00	1.63E-01	9.06E-03	2.12E-04	2.30E-06	2.30E-08	2.69E-10		
	12.80	2.20E 01	2.01E 00	1.63E-01	9.06E-03	2.12E-04	2.30E-06	2.30E-08	2.69E-10		
	12.90	2.45E 01	2.22E 00	1.80E-01	1.00E-02	2.35E-04	2.59E-06	2.65E-08	2.97E-10		
	13.00	2.41E 01	2.22E 00	1.80E-01	1.00E-02	2.35E-04	2.59E-06	2.65E-08	2.97E-10		
	13.10	2.64E 01	2.41E 00	1.95E-01	1.09E-02	2.58E-04	2.83E-06	2.91E-08	3.23E-10		
	13.20	2.60E 01	2.40E 00	1.95E-01	1.09E-02	2.58E-04	2.83E-06	2.91E-08	3.23E-10		
	13.30	2.76E 01	2.57E 00	2.08E-01	1.16E-02	2.74E-04	3.06E-06	3.14E-08	3.45E-10		
	13.40	2.76E 01	2.57E 00	2.08E-01	1.16E-02	2.74E-04	3.06E-06	3.14E-08	3.45E-10		
	13.50	3.00E 01	2.77E 00	2.25E-01	1.26E-02	2.99E-04	3.37E-06	3.33E-08	3.65E-10		
	13.60	2.96E 01	2.76E 00	2.25E-01	1.26E-02	2.99E-04	3.37E-06	3.33E-08	3.65E-10		
	13.70	3.17E 01	2.94E 00	2.39E-01	1.34E-02	3.24E-04	3.64E-06	3.52E-08	3.84E-10		
	13.80	3.13E 01	2.93E 00	2.39E-01	1.34E-02	3.24E-04	3.64E-06	3.52E-08	3.84E-10		
	13.90	3.37E 01	3.14E 00	2.56E-01	1.46E-02	3.46E-04	3.96E-06	3.94E-08	4.20E-10		
	14.00	3.33E 01	3.13E 00	2.56E-01	1.46E-02	3.46E-04	3.96E-06	3.94E-08	4.20E-10		
	14.10	3.55E 01	3.32E 00	2.71E-01	1.52E-02	3.68E-04	4.23E-06	4.49E-08	4.99E-10		
	14.20	3.51E 01	3.31E 00	2.71E-01	1.52E-02	3.68E-04	4.23E-06	4.49E-08	4.99E-10		

116957.00	14.50	3.67E 01	3.64E 00	3.06E-01	1.71E-02	4.11E-04	4.75E-06	4.76E-08	4.74E-10
		3.83E 01	3.43E 00	3.04E-01	1.71E-02	4.11E-04	4.76E-06	4.76E-08	4.74E-10
116973.50	14.75	4.17E 01	3.93E 00	3.38E-01	1.87E-02	4.50E-04	5.22E-06	5.23E-08	5.21E-10
		4.13E 01	3.93E 00	3.38E-01	1.87E-02	4.50E-04	5.22E-06	5.23E-08	5.21E-10
120990.00	15.00	4.43E 01	4.19E 00	3.66E-01	2.02E-02	4.85E-04	5.65E-06	5.67E-08	5.64E-10
		4.39E 01	4.18E 00	3.66E-01	2.02E-02	4.85E-04	5.65E-06	5.67E-08	5.64E-10
123006.50	15.25	4.62E 01	4.42E 00	3.91E-01	2.15E-02	5.16E-04	6.02E-06	6.03E-08	6.02E-10
		4.62E 01	4.41E 00	3.91E-01	2.15E-02	5.16E-04	6.02E-06	6.03E-08	6.02E-10
125023.00	15.50	4.86E 01	4.62E 00	4.13E-01	2.26E-02	5.43E-04	6.36E-06	6.39E-08	6.35E-10
		4.82E 01	4.61E 00	4.13E-01	2.26E-02	5.43E-04	6.36E-06	6.39E-08	6.35E-10
127039.50	15.75	5.04E 01	4.80E 00	4.32E-01	2.36E-02	5.67E-04	6.65E-06	6.69E-08	6.64E-10
		5.00E 01	4.79E 00	4.32E-01	2.36E-02	5.67E-04	6.65E-06	6.69E-08	6.64E-10
130056.00	16.00	5.19E 01	4.95E 00	4.49E-01	2.45E-02	5.88E-04	6.90E-06	6.95E-08	6.90E-10
		5.15E 01	4.95E 00	4.49E-01	2.45E-02	5.88E-04	6.90E-06	6.95E-08	6.90E-10
131072.50	16.25	5.33E 01	5.05E 00	4.63E-01	2.53E-02	6.04E-04	7.13E-06	7.18E-08	7.12E-10
		5.29E 01	5.08E 00	4.63E-01	2.53E-02	6.04E-04	7.13E-06	7.18E-08	7.12E-10
133089.00	16.50	5.45E 01	5.20E 00	4.76E-01	2.59E-02	6.22E-04	7.32E-06	7.38E-08	7.32E-10
		5.41E 01	5.20E 00	4.76E-01	2.59E-02	6.22E-04	7.32E-06	7.38E-08	7.32E-10
135105.50	16.75	5.56E 01	5.31E 00	4.88E-01	2.65E-02	6.37E-04	7.49E-06	7.55E-08	7.49E-10
		5.52E 01	5.31E 00	4.88E-01	2.65E-02	6.37E-04	7.49E-06	7.55E-08	7.49E-10
137121.00	17.00	5.65E 01	5.40E 00	4.98E-01	2.71E-02	6.50E-04	7.65E-06	7.71E-08	7.65E-10
		5.61E 01	5.40E 00	4.98E-01	2.71E-02	6.50E-04	7.65E-06	7.71E-08	7.65E-10
139138.50	17.25	5.73E 01	5.48E 00	5.07E-01	2.75E-02	6.61E-04	7.79E-06	7.86E-08	7.79E-10
		5.69E 01	5.48E 00	5.07E-01	2.75E-02	6.61E-04	7.79E-06	7.86E-08	7.79E-10
141155.00	17.50	5.80E 01	5.55E 00	5.14E-01	2.79E-02	6.71E-04	7.91E-06	7.98E-08	7.91E-10
		5.76E 01	5.55E 00	5.14E-01	2.79E-02	6.71E-04	7.91E-06	7.98E-08	7.91E-10
143171.50	17.75	5.86E 01	5.62E 00	5.21E-01	2.83E-02	6.80E-04	8.01E-06	8.08E-08	8.01E-10
		5.83E 01	5.61E 00	5.21E-01	2.83E-02	6.80E-04	8.01E-06	8.08E-08	8.01E-10
145188.00	18.00	5.92E 01	5.67E 00	5.27E-01	2.86E-02	6.87E-04	8.10E-06	8.18E-08	8.11E-10
		5.88E 01	5.66E 00	5.26E-01	2.86E-02	6.87E-04	8.10E-06	8.18E-08	8.11E-10
147204.50	18.25	5.96E 01	5.71E 00	5.31E-01	2.89E-02	6.93E-04	8.18E-06	8.26E-08	8.19E-10
		5.92E 01	5.71E 00	5.31E-01	2.89E-02	6.93E-04	8.18E-06	8.26E-08	8.19E-10
149221.00	18.50	6.00E 01	5.76E 00	5.36E-01	2.91E-02	6.99E-04	8.25E-06	8.33E-08	8.25E-10
		5.97E 01	5.75E 00	5.36E-01	2.91E-02	6.99E-04	8.25E-06	8.33E-08	8.25E-10
151237.50	18.75	6.04E 01	5.79E 00	5.40E-01	2.93E-02	7.04E-04	8.31E-06	8.39E-08	8.32E-10
		6.00E 01	5.79E 00	5.40E-01	2.93E-02	7.04E-04	8.31E-06	8.39E-08	8.32E-10
153254.00	19.00	6.07E 01	5.82E 00	5.43E-01	2.95E-02	7.08E-04	8.36E-06	8.44E-08	8.37E-10
		6.03E 01	5.82E 00	5.43E-01	2.95E-02	7.08E-04	8.36E-06	8.44E-08	8.37E-10
155270.50	19.25	6.10E 01	5.85E 00	5.46E-01	2.96E-02	7.12E-04	8.41E-06	8.49E-08	8.42E-10
		6.06E 01	5.84E 00	5.46E-01	2.96E-02	7.12E-04	8.41E-06	8.49E-08	8.42E-10
157287.00	19.50	6.12E 01	5.87E 00	5.48E-01	2.97E-02	7.15E-04	8.45E-06	8.53E-08	8.46E-10
		6.08E 01	5.87E 00	5.48E-01	2.97E-02	7.15E-04	8.45E-06	8.53E-08	8.46E-10
159303.50	19.75	6.14E 01	5.89E 00	5.50E-01	2.98E-02	7.18E-04	8.48E-06	8.57E-08	8.49E-10
		6.10E 01	5.89E 00	5.50E-01	2.98E-02	7.18E-04	8.48E-06	8.57E-08	8.49E-10
161320.00	20.00	6.16E 01	5.91E 00	5.52E-01	2.99E-02	7.20E-04	8.51E-06	8.60E-08	8.52E-10
		6.12E 01	5.90E 00	5.52E-01	2.99E-02	7.20E-04	8.51E-06	8.60E-08	8.52E-10
163336.50	20.25	6.17E 01	5.92E 00	5.54E-01	3.00E-02	7.23E-04	8.54E-06	8.62E-08	8.55E-10
		6.13E 01	5.92E 00	5.54E-01	3.00E-02	7.23E-04	8.54E-06	8.62E-08	8.55E-10
165353.00	20.50	6.19E 01	5.94E 00	5.55E-01	3.01E-02	7.25E-04	8.56E-06	8.65E-08	8.57E-10
		6.15E 01	5.93E 00	5.55E-01	3.01E-02	7.25E-04	8.56E-06	8.65E-08	8.57E-10



PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 16000° K

Wavelength Num. r (cm <sup>-1</sup> )	Photon Energy (eV)	Density × Normal									
		1.0E 01	1.0E 00	1.0E-01	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07		
167369.50	20.75	6.20E 01	5.95E 00	5.56E-01	3.02E-02	7.26E-04	0.56E-06	6.67E-08	8.59E-10	8.59E-10	
168368.00	21.00	6.16E 01	5.94E 00	5.56E-01	3.02E-02	7.26E-04	0.56E-06	6.67E-08	8.59E-10	8.59E-10	
171402.50	21.25	6.17E 01	5.95E 00	5.57E-01	3.02E-02	7.28E-04	0.60E-06	6.69E-08	8.61E-10	8.61E-10	
173419.00	21.50	6.18E 01	5.96E 00	5.58E-01	3.03E-02	7.29E-04	0.62E-06	6.70E-08	8.63E-10	8.63E-10	
175435.50	21.75	6.23E 01	5.97E 00	5.59E-01	3.03E-02	7.30E-04	0.63E-06	6.71E-08	8.64E-10	8.64E-10	
177452.00	22.00	6.19E 01	5.98E 00	5.60E-01	3.04E-02	7.31E-04	0.64E-06	6.73E-08	8.65E-10	8.65E-10	
179468.50	22.25	6.24E 01	5.99E 00	5.61E-01	3.04E-02	7.32E-04	0.65E-06	6.74E-08	8.66E-10	8.66E-10	
181485.00	22.50	6.20E 01	5.99E 00	5.61E-01	3.04E-02	7.32E-04	0.66E-06	6.74E-08	8.67E-10	8.67E-10	
183501.50	22.75	6.25E 01	6.00E 00	5.62E-01	3.05E-02	7.33E-04	0.67E-06	6.75E-08	8.68E-10	8.68E-10	
185518.00	23.00	6.22E 01	6.00E 00	5.62E-01	3.05E-02	7.33E-04	0.67E-06	6.75E-08	8.68E-10	8.68E-10	
187534.50	23.25	6.26E 01	6.01E 00	5.63E-01	3.05E-02	7.34E-04	0.68E-06	6.77E-08	8.70E-10	8.70E-10	
189551.00	23.50	6.22E 01	6.01E 00	5.63E-01	3.05E-02	7.34E-04	0.68E-06	6.77E-08	8.70E-10	8.70E-10	
191567.50	23.75	6.26E 01	6.01E 00	5.63E-01	3.05E-02	7.35E-04	0.69E-06	6.77E-08	8.70E-10	8.70E-10	
193584.00	24.00	6.22E 01	6.01E 00	5.63E-01	3.06E-02	7.35E-04	0.69E-06	6.77E-08	8.70E-10	8.70E-10	
195600.50	24.25	6.26E 01	6.01E 00	5.63E-01	3.06E-02	7.35E-04	0.69E-06	6.77E-08	8.70E-10	8.70E-10	
197617.00	24.50	6.27E 01	6.01E 00	5.64E-01	3.06E-02	7.36E-04	0.70E-06	6.78E-08	8.71E-10	8.71E-10	
199633.50	24.75	6.23E 01	6.01E 00	5.64E-01	3.06E-02	7.36E-04	0.70E-06	6.78E-08	8.71E-10	8.71E-10	
201650.00	25.00	6.27E 01	6.02E 00	5.64E-01	3.06E-02	7.36E-04	0.70E-06	6.78E-08	8.71E-10	8.71E-10	
203666.50	25.25	6.23E 01	6.01E 00	5.64E-01	3.06E-02	7.36E-04	0.70E-06	6.78E-08	8.71E-10	8.71E-10	
205683.00	25.50	6.27E 01	6.02E 00	5.64E-01	3.06E-02	7.36E-04	0.71E-06	6.79E-08	8.72E-10	8.72E-10	
207699.50	25.75	6.23E 01	6.01E 00	5.64E-01	3.06E-02	7.36E-04	0.71E-06	6.79E-08	8.72E-10	8.72E-10	
209716.00	26.00	6.27E 01	6.02E 00	5.64E-01	3.06E-02	7.36E-04	0.71E-06	6.79E-08	8.72E-10	8.72E-10	

211732.50	26.25	6.27E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.71E-06	8.81E-08	8.83E-10
213749.00	26.50	6.23E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.71E-06	8.81E-08	8.83E-10
215765.50	26.75	6.23E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.71E-06	8.81E-08	8.83E-10
217782.00	27.00	6.23E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.71E-06	8.81E-08	8.83E-10
219798.50	27.25	6.23E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.71E-06	8.81E-08	8.83E-10
221815.00	27.50	6.23E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.71E-06	8.81E-08	8.83E-10
223831.50	27.75	6.23E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.71E-06	8.81E-08	8.83E-10
225848.00	28.00	6.23E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.71E-06	8.81E-08	8.83E-10
227864.50	28.25	6.23E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.71E-06	8.81E-08	8.83E-10
229881.00	28.50	6.23E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.71E-06	8.81E-08	8.83E-10
231897.50	28.75	6.23E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.71E-06	8.81E-08	8.83E-10
233914.00	29.00	6.23E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.71E-06	8.81E-08	8.83E-10
235930.50	29.25	6.23E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.71E-06	8.81E-08	8.83E-10
237947.00	29.50	6.23E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.71E-06	8.81E-08	8.83E-10
239963.50	29.75	6.23E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.71E-06	8.81E-08	8.83E-10
241980.00	30.00	6.23E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.71E-06	8.81E-08	8.83E-10
243996.50	30.25	6.23E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.71E-06	8.81E-08	8.83E-10
246013.00	30.50	6.23E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.71E-06	8.81E-08	8.83E-10
248029.50	30.75	6.23E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.71E-06	8.81E-08	8.83E-10
250046.00	31.00	6.23E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.71E-06	8.81E-08	8.83E-10
252062.50	31.25	6.23E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.71E-06	8.81E-08	8.83E-10
254079.00	31.50	6.23E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.71E-06	8.81E-08	8.83E-10
256095.50	31.75	6.23E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.71E-06	8.81E-08	8.83E-10
258112.00	32.00	6.23E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.71E-06	8.81E-08	8.83E-10
260128.50	32.25	6.23E 01	6.02E 00	5.64E-01	3.06E-02	7.37E-04	8.71E-06	8.81E-08	8.83E-10

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 1000°K

Waves Number (cm <sup>-1</sup> )	Photon Energy (eV)	1.0E-01	1.0E-00	1.0E-01	10.0E-01	10.0E-04	10.0E-05	10.0E-06	10.0E-07
262148.00	32.50	6.27E-01	6.02E-00	5.64E-01	3.09E-02	7.37E-04	0.75E-06	9.11E-08	1.15E-09
264121.50	32.75	6.23E-01	6.02E-00	5.64E-01	3.09E-02	7.37E-04	0.75E-06	9.11E-08	1.15E-09
266178.00	33.00	6.23E-01	6.02E-00	5.64E-01	3.09E-02	7.37E-04	0.75E-06	9.12E-08	1.16E-09
268194.50	33.25	6.23E-01	6.02E-00	5.64E-01	3.09E-02	7.37E-04	0.75E-06	9.12E-08	1.16E-09
270211.00	33.50	6.23E-01	6.02E-00	5.64E-01	3.09E-02	7.37E-04	0.75E-06	9.12E-08	1.16E-09
272237.50	33.75	6.23E-01	6.02E-00	5.64E-01	3.09E-02	7.37E-04	0.75E-06	9.12E-08	1.16E-09
274264.00	34.00	6.23E-01	6.02E-00	5.64E-01	3.09E-02	7.37E-04	0.75E-06	9.13E-08	1.17E-09
276290.50	34.25	6.23E-01	6.02E-00	5.64E-01	3.09E-02	7.37E-04	0.75E-06	9.13E-08	1.17E-09
278317.00	34.50	6.23E-01	6.02E-00	5.64E-01	3.09E-02	7.37E-04	0.75E-06	9.13E-08	1.17E-09
280343.50	34.75	6.23E-01	6.02E-00	5.64E-01	3.09E-02	7.37E-04	0.75E-06	9.13E-08	1.17E-09
282370.00	35.00	6.23E-01	6.02E-00	5.64E-01	3.09E-02	7.37E-04	0.75E-06	9.13E-08	1.17E-09
284396.50	35.25	6.23E-01	6.02E-00	5.64E-01	3.09E-02	7.37E-04	0.75E-06	9.13E-08	1.17E-09
286423.00	35.50	6.23E-01	6.02E-00	5.64E-01	3.09E-02	7.37E-04	0.75E-06	9.13E-08	1.17E-09
288449.50	35.75	6.23E-01	6.02E-00	5.64E-01	3.09E-02	7.37E-04	0.75E-06	9.14E-08	1.18E-09
290476.00	36.00	6.23E-01	6.02E-00	5.64E-01	3.09E-02	7.37E-04	0.75E-06	9.14E-08	1.18E-09

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 18000° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density × Normal									
		1.0E 01	1.0E 00	1.0E-01	1.0E-02	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07	
4839.60	0.60	4.63E-01	4.15E-02	2.92E-03	1.10E-04	1.69E-06	1.77E-05	1.99E-10	3.29E-12	1.0E-07	
4.63E-01	4.15E-02	2.92E-03	1.10E-04	1.69E-06	1.77E-05	1.99E-10	3.29E-12	1.0E-07	3.29E-12	1.0E-07	
5646.20	0.70	9.47E-01	8.51E-02	5.99E-03	2.26E-04	3.50E-05	3.59E-08	4.03E-10	6.51E-12	1.0E-07	
9.47E-01	8.51E-02	5.99E-03	2.26E-04	3.50E-05	3.59E-08	4.03E-10	6.51E-12	1.0E-07	6.51E-12	1.0E-07	
6452.80	0.80	1.46E 00	1.32E-01	9.28E-03	3.50E-04	5.45E-06	5.64E-08	6.28E-10	9.64E-12	1.0E-07	
1.46E 00	1.32E-01	9.28E-03	3.50E-04	5.45E-06	5.64E-08	6.28E-10	9.64E-12	1.0E-07	9.64E-12	1.0E-07	
7259.40	0.90	2.00E 00	1.80E-01	1.27E-02	4.78E-04	7.47E-06	7.81E-08	8.58E-10	1.30E-11	1.0E-07	
2.00E 00	1.80E-01	1.27E-02	4.78E-04	7.47E-06	7.81E-08	8.58E-10	1.30E-11	1.0E-07	1.30E-11	1.0E-07	
8066.00	1.00	2.75E 00	2.30E-01	1.62E-02	6.10E-04	9.55E-06	1.00E-07	1.10E-09	1.62E-11	1.0E-07	
2.75E 00	2.30E-01	1.62E-02	6.10E-04	9.55E-06	1.00E-07	1.10E-09	1.62E-11	1.0E-07	1.62E-11	1.0E-07	
8472.60	1.10	3.10E 00	2.80E-01	1.97E-02	7.42E-04	1.16E-05	1.22E-07	1.33E-09	1.94E-11	1.0E-07	
3.10E 00	2.80E-01	1.97E-02	7.42E-04	1.16E-05	1.22E-07	1.33E-09	1.94E-11	1.0E-07	1.94E-11	1.0E-07	
9679.20	1.20	3.63E 00	3.28E-01	2.30E-02	8.69E-04	1.38E-05	1.44E-07	1.55E-09	2.24E-11	1.0E-07	
3.63E 00	3.28E-01	2.30E-02	8.69E-04	1.38E-05	1.44E-07	1.55E-09	2.24E-11	1.0E-07	2.24E-11	1.0E-07	
10485.80	1.30	4.18E 00	3.77E-01	2.65E-02	1.00E-03	1.57E-05	1.63E-07	1.77E-09	2.52E-11	1.0E-07	
4.18E 00	3.77E-01	2.65E-02	1.00E-03	1.57E-05	1.63E-07	1.77E-09	2.52E-11	1.0E-07	2.52E-11	1.0E-07	
11292.40	1.40	4.67E 00	4.22E-01	2.97E-02	1.12E-03	1.75E-05	1.80E-07	1.95E-09	2.83E-11	1.0E-07	
4.67E 00	4.22E-01	2.97E-02	1.12E-03	1.75E-05	1.80E-07	1.95E-09	2.83E-11	1.0E-07	2.83E-11	1.0E-07	
12099.00	1.50	5.13E 00	4.63E-01	3.26E-02	1.23E-03	1.92E-05	1.98E-07	2.15E-09	3.12E-11	1.0E-07	
5.13E 00	4.63E-01	3.26E-02	1.23E-03	1.92E-05	1.98E-07	2.15E-09	3.12E-11	1.0E-07	3.12E-11	1.0E-07	
12905.60	1.60	5.59E 00	5.01E-01	3.53E-02	1.33E-03	2.08E-05	2.15E-07	2.34E-09	3.42E-11	1.0E-07	
5.59E 00	5.01E-01	3.53E-02	1.33E-03	2.08E-05	2.15E-07	2.34E-09	3.42E-11	1.0E-07	3.42E-11	1.0E-07	
13712.20	1.70	5.96E 00	5.37E-01	3.78E-02	1.43E-03	2.23E-05	2.32E-07	2.52E-09	3.75E-11	1.0E-07	
5.96E 00	5.37E-01	3.78E-02	1.43E-03	2.23E-05	2.32E-07	2.52E-09	3.75E-11	1.0E-07	3.75E-11	1.0E-07	
14518.80	1.80	6.34E 00	5.71E-01	4.02E-02	1.51E-03	2.37E-05	2.47E-07	2.69E-09	4.00E-11	1.0E-07	
6.34E 00	5.71E-01	4.02E-02	1.51E-03	2.37E-05	2.47E-07	2.69E-09	4.00E-11	1.0E-07	4.00E-11	1.0E-07	
15325.40	1.90	6.69E 00	6.02E-01	4.23E-02	1.60E-03	2.50E-05	2.61E-07	2.85E-09	4.27E-11	1.0E-07	
6.69E 00	6.02E-01	4.23E-02	1.60E-03	2.50E-05	2.61E-07	2.85E-09	4.27E-11	1.0E-07	4.27E-11	1.0E-07	
16132.00	2.00	7.03E 00	6.31E-01	4.44E-02	1.67E-03	2.62E-05	2.74E-07	3.02E-09	4.52E-11	1.0E-07	
7.03E 00	6.31E-01	4.44E-02	1.67E-03	2.62E-05	2.74E-07	3.02E-09	4.52E-11	1.0E-07	4.52E-11	1.0E-07	
16938.60	2.10	7.34E 00	6.59E-01	4.63E-02	1.75E-03	2.74E-05	2.87E-07	3.17E-09	4.76E-11	1.0E-07	
7.34E 00	6.59E-01	4.63E-02	1.75E-03	2.74E-05	2.87E-07	3.17E-09	4.76E-11	1.0E-07	4.76E-11	1.0E-07	
17745.20	2.20	7.64E 00	6.85E-01	4.81E-02	1.81E-03	2.84E-05	2.99E-07	3.32E-09	5.13E-11	1.0E-07	
7.64E 00	6.85E-01	4.81E-02	1.81E-03	2.84E-05	2.99E-07	3.32E-09	5.13E-11	1.0E-07	5.13E-11	1.0E-07	
18551.80	2.30	7.92E 00	7.09E-01	4.98E-02	1.88E-03	2.94E-05	3.09E-07	3.46E-09	5.42E-11	1.0E-07	
7.92E 00	7.09E-01	4.98E-02	1.88E-03	2.94E-05	3.09E-07	3.46E-09	5.42E-11	1.0E-07	5.42E-11	1.0E-07	
19358.40	2.40	8.22E 00	7.35E-01	5.16E-02	1.94E-03	3.03E-05	3.19E-07	3.58E-09	5.72E-11	1.0E-07	
8.22E 00	7.35E-01	5.16E-02	1.94E-03	3.03E-05	3.19E-07	3.58E-09	5.72E-11	1.0E-07	5.72E-11	1.0E-07	
20165.00	2.50	8.49E 00	7.59E-01	5.33E-02	2.01E-03	3.13E-05	3.28E-07	3.70E-09	6.00E-11	1.0E-07	
8.49E 00	7.59E-01	5.33E-02	2.01E-03	3.13E-05	3.28E-07	3.70E-09	6.00E-11	1.0E-07	6.00E-11	1.0E-07	
20971.60	2.60	8.77E 00	7.83E-01	5.49E-02	2.07E-03	3.23E-05	3.38E-07	3.82E-09	6.24E-11	1.0E-07	
8.77E 00	7.83E-01	5.49E-02	2.07E-03	3.23E-05	3.38E-07	3.82E-09	6.24E-11	1.0E-07	6.24E-11	1.0E-07	
21778.20	2.70	9.04E 00	8.06E-01	5.65E-02	2.13E-03	3.28E-05	3.48E-07	3.94E-09	6.52E-11	1.0E-07	
9.04E 00	8.06E-01	5.65E-02	2.13E-03	3.28E-05	3.48E-07	3.94E-09	6.52E-11	1.0E-07	6.52E-11	1.0E-07	
9.01E 00	8.05E-01	5.65E-02	2.13E-03	3.28E-05	3.48E-07	3.94E-09	6.52E-11	1.0E-07	6.52E-11	1.0E-07	

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 18000°K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density x Normal									
		1.0E 01	1.0E 00	1.0E-01	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07		
22584.80	2.80	9.29E 00	8.28E-01	5.80E-02	2.19E-03	3.41E-05	3.58E-07	4.06E-09	6.78E-11		
23391.40	2.90	9.27E 00	8.27E-01	5.80E-02	2.19E-03	3.41E-05	3.58E-07	4.06E-09	6.78E-11		
24198.00	3.00	9.52E 00	8.48E-01	5.95E-02	2.24E-03	3.50E-05	3.47E-07	4.17E-09	7.03E-11		
25004.60	3.10	9.78E 00	8.68E-01	6.09E-02	2.29E-03	3.58E-05	3.76E-07	4.28E-09	7.27E-11		
25811.20	3.20	1.00E 01	8.89E-01	6.22E-02	2.34E-03	3.66E-05	3.85E-07	4.39E-09	7.49E-11		
26617.80	3.30	1.02E 01	9.06E-01	6.34E-02	2.39E-03	3.73E-05	3.93E-07	4.48E-09	7.69E-11		
27424.40	3.40	1.04E 01	9.23E-01	6.46E-02	2.43E-03	3.80E-05	4.01E-07	4.58E-09	7.88E-11		
28231.00	3.50	1.06E 01	9.39E-01	6.57E-02	2.47E-03	3.87E-05	4.08E-07	4.66E-09	8.06E-11		
29037.60	3.60	1.08E 01	9.54E-01	6.67E-02	2.51E-03	3.93E-05	4.15E-07	4.77E-09	8.23E-11		
29844.20	3.70	1.10E 01	9.69E-01	6.77E-02	2.55E-03	3.99E-05	4.22E-07	4.86E-09	8.42E-11		
30650.80	3.80	1.12E 01	9.83E-01	6.86E-02	2.58E-03	4.04E-05	4.28E-07	4.95E-09	8.62E-11		
31457.40	3.90	1.14E 01	9.98E-01	6.96E-02	2.62E-03	4.09E-05	4.33E-07	5.04E-09	8.81E-11		
32264.00	4.00	1.16E 01	1.01E 00	7.06E-02	2.66E-03	4.15E-05	4.39E-07	5.13E-09	9.01E-11		
33070.60	4.10	1.18E 01	1.03E 00	7.16E-02	2.69E-03	4.21E-05	4.45E-07	5.22E-09	9.21E-11		
33877.20	4.20	1.20E 01	1.05E 00	7.27E-02	2.74E-03	4.27E-05	4.52E-07	5.37E-09	9.41E-11		
34683.80	4.30	1.23E 01	1.08E 00	7.38E-02	2.78E-03	4.34E-05	4.59E-07	5.46E-09	9.61E-11		
35490.40	4.40	1.25E 01	1.08E 00	7.49E-02	2.82E-03	4.40E-05	4.65E-07	5.56E-09	9.81E-11		
36297.00	4.50	1.28E 01	1.09E 00	7.59E-02	2.86E-03	4.46E-05	4.73E-07	5.66E-09	1.00E-10		
37103.60	4.60	1.30E 01	1.11E 00	7.69E-02	2.89E-03	4.52E-05	4.79E-07	5.75E-09	1.02E-10		
37910.20	4.70	1.31E 01	1.12E 00	7.78E-02	2.93E-03	4.58E-05	4.86E-07	5.84E-09	1.04E-10		
38716.80	4.80	1.33E 01	1.14E 00	7.87E-02	2.96E-03	4.63E-05	4.92E-07	5.93E-09	1.06E-10		
39523.40	4.90	1.35E 01	1.15E 00	7.96E-02	2.99E-03	4.69E-05	4.97E-07	6.01E-09	1.08E-10		
		1.37E 01	1.16E 00	8.04E-02	3.03E-03	4.74E-05	5.03E-07	6.09E-09	1.10E-10		
		1.36E 01	1.16E 00	8.04E-02	3.03E-03	4.74E-05	5.03E-07	6.09E-09	1.10E-10		

40330.00	5.00	1.39E 01	6.12E-02	3.06E-03	4.78E-05	5.08E-07	6.16E-09	1.27E-10
		1.38E 01	6.12E-02	3.06E-03	4.78E-05	5.08E-07	5.16E-09	1.27E-10
41136.60	5.10	1.41E 01	6.20E-02	3.08E-03	4.83E-05	5.14E-07	6.23E-09	1.29E-10
		1.40E 01	6.20E-02	3.08E-03	4.83E-05	5.14E-07	6.23E-09	1.29E-10
41943.20	5.20	1.42E 01	6.28E-02	3.11E-03	4.88E-05	5.19E-07	6.30E-09	1.31E-10
		1.42E 01	6.27E-02	3.11E-03	4.88E-05	5.19E-07	6.30E-09	1.31E-10
42749.80	5.30	1.44E 01	6.35E-02	3.14E-03	4.92E-05	5.23E-07	6.37E-09	1.33E-10
		1.43E 01	6.35E-02	3.14E-03	4.92E-05	5.23E-07	6.37E-09	1.33E-10
43556.40	5.40	1.46E 01	6.42E-02	3.17E-03	4.96E-05	5.28E-07	6.43E-09	1.35E-10
		1.45E 01	6.42E-02	3.17E-03	4.96E-05	5.28E-07	6.43E-09	1.35E-10
44363.00	5.50	1.47E 01	6.49E-02	3.19E-03	5.00E-05	5.33E-07	6.49E-09	1.37E-10
		1.46E 01	6.48E-02	3.19E-03	5.00E-05	5.33E-07	6.49E-09	1.37E-10
45169.60	5.60	1.49E 01	6.55E-02	3.22E-03	5.04E-05	5.37E-07	6.55E-09	1.38E-10
		1.48E 01	6.55E-02	3.22E-03	5.04E-05	5.37E-07	6.55E-09	1.38E-10
45976.20	5.70	1.50E 01	6.62E-02	3.24E-03	5.08E-05	5.41E-07	6.61E-09	1.40E-10
		1.49E 01	6.61E-02	3.24E-03	5.08E-05	5.41E-07	6.61E-09	1.40E-10
46782.80	5.80	1.52E 01	6.68E-02	3.27E-03	5.12E-05	5.46E-07	6.66E-09	1.41E-10
		1.51E 01	6.68E-02	3.27E-03	5.12E-05	5.46E-07	6.66E-09	1.41E-10
47589.40	5.90	1.53E 01	6.74E-02	3.29E-03	5.16E-05	5.50E-07	6.72E-09	1.42E-10
		1.52E 01	6.74E-02	3.29E-03	5.16E-05	5.50E-07	6.72E-09	1.42E-10
48396.00	6.00	1.54E 01	6.80E-02	3.31E-03	5.19E-05	5.55E-07	6.77E-09	1.44E-10
		1.53E 01	6.80E-02	3.31E-03	5.19E-05	5.55E-07	6.77E-09	1.44E-10
49202.60	6.10	1.56E 01	6.86E-02	3.33E-03	5.23E-05	5.59E-07	6.85E-09	1.45E-10
		1.55E 01	6.85E-02	3.33E-03	5.23E-05	5.59E-07	6.85E-09	1.45E-10
50009.20	6.20	1.57E 01	6.92E-02	3.35E-03	5.26E-05	5.63E-07	6.94E-09	1.46E-10
		1.56E 01	6.91E-02	3.35E-03	5.26E-05	5.63E-07	6.94E-09	1.46E-10
50815.80	6.30	1.58E 01	6.97E-02	3.37E-03	5.29E-05	5.67E-07	7.02E-09	1.47E-10
		1.57E 01	6.96E-02	3.37E-03	5.29E-05	5.67E-07	7.02E-09	1.47E-10
51622.40	6.40	1.60E 01	7.02E-02	3.39E-03	5.33E-05	5.71E-07	7.10E-09	1.48E-10
		1.59E 01	7.02E-02	3.39E-03	5.33E-05	5.71E-07	7.10E-09	1.48E-10
52429.00	6.50	1.61E 01	7.07E-02	3.41E-03	5.36E-05	5.74E-07	7.17E-09	1.49E-10
		1.60E 01	7.07E-02	3.41E-03	5.36E-05	5.74E-07	7.17E-09	1.49E-10
53235.60	6.60	1.62E 01	7.12E-02	3.43E-03	5.39E-05	5.78E-07	7.24E-09	1.50E-10
		1.61E 01	7.12E-02	3.43E-03	5.39E-05	5.78E-07	7.24E-09	1.50E-10
54042.20	6.70	1.63E 01	7.17E-02	3.45E-03	5.42E-05	5.81E-07	7.31E-09	1.51E-10
		1.62E 01	7.17E-02	3.45E-03	5.42E-05	5.81E-07	7.31E-09	1.51E-10
54848.80	6.80	1.65E 01	7.21E-02	3.47E-03	5.44E-05	5.85E-07	7.37E-09	1.52E-10
		1.64E 01	7.21E-02	3.47E-03	5.44E-05	5.85E-07	7.37E-09	1.52E-10
55655.40	6.90	1.66E 01	7.26E-02	3.48E-03	5.47E-05	5.88E-07	7.43E-09	1.53E-10
		1.65E 01	7.26E-02	3.48E-03	5.47E-05	5.88E-07	7.43E-09	1.53E-10
56462.00	7.00	1.67E 01	7.30E-02	3.50E-03	5.50E-05	5.91E-07	7.49E-09	1.54E-10
		1.66E 01	7.30E-02	3.50E-03	5.50E-05	5.91E-07	7.49E-09	1.54E-10
57268.60	7.10	1.68E 01	7.35E-02	3.52E-03	5.52E-05	5.94E-07	7.55E-09	1.55E-10
		1.67E 01	7.35E-02	3.52E-03	5.52E-05	5.94E-07	7.55E-09	1.55E-10
58075.20	7.20	1.68E 01	7.39E-02	3.53E-03	5.55E-05	5.97E-07	7.60E-09	1.57E-10
		1.68E 01	7.39E-02	3.53E-03	5.55E-05	5.97E-07	7.60E-09	1.57E-10
58881.80	7.30	1.70E 01	7.43E-02	3.55E-03	5.57E-05	6.00E-07	7.65E-09	1.70E-10
		1.69E 01	7.43E-02	3.55E-03	5.57E-05	6.00E-07	7.65E-09	1.70E-10
59688.40	7.40	1.71E 01	7.47E-02	3.56E-03	5.60E-05	6.03E-07	7.70E-09	1.80E-10
		1.70E 01	7.47E-02	3.56E-03	5.60E-05	6.03E-07	7.70E-09	1.80E-10

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 19667 A

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density x Normal									
		1.0E 01	1.0E 00	1.0E-01	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07		
60495.00	7.50	1.72E 01	1.39E 00	9.51E-02	3.59E-03	5.62E-05	6.85E-07	7.75E-09	1.02E-10		
1.71E 01	1.39E 00	9.50E-02	3.59E-03	5.62E-05	6.85E-07	7.75E-09	1.02E-10	1.02E-10	1.02E-10		
61301.60	7.60	1.73E 01	1.40E 00	9.54E-02	3.59E-03	5.64E-05	6.86E-07	7.76E-09	1.03E-10		
1.72E 01	1.40E 00	9.54E-02	3.59E-03	5.64E-05	6.86E-07	7.76E-09	1.03E-10	1.03E-10	1.03E-10		
62108.20	7.70	1.74E 01	1.41E 00	9.58E-02	3.60E-03	5.66E-05	6.11E-07	7.04E-09	1.04E-10		
1.72E 01	1.40E 00	9.58E-02	3.60E-03	5.66E-05	6.11E-07	7.04E-09	1.04E-10	1.04E-10	1.04E-10		
62914.80	7.80	1.74E 01	1.41E 00	9.61E-02	3.62E-03	5.69E-05	6.15E-07	7.08E-09	1.07E-10		
1.73E 01	1.41E 00	9.61E-02	3.62E-03	5.69E-05	6.15E-07	7.08E-09	1.07E-10	1.07E-10	1.07E-10		
63721.40	7.90	1.75E 01	1.42E 00	9.63E-02	3.63E-03	5.71E-05	6.15E-07	7.92E-09	1.09E-10		
1.74E 01	1.41E 00	9.63E-02	3.63E-03	5.71E-05	6.15E-07	7.92E-09	1.09E-10	1.09E-10	1.09E-10		
64528.00	8.00	1.76E 01	1.42E 00	9.68E-02	3.64E-03	5.73E-05	6.18E-07	7.95E-09	1.09E-10		
1.75E 01	1.42E 00	9.68E-02	3.64E-03	5.73E-05	6.18E-07	7.95E-09	1.09E-10	1.09E-10	1.09E-10		
65334.60	8.10	1.77E 01	1.43E 00	9.71E-02	3.65E-03	5.74E-05	6.20E-07	7.99E-09	1.09E-10		
1.76E 01	1.42E 00	9.71E-02	3.65E-03	5.74E-05	6.20E-07	7.99E-09	1.09E-10	1.09E-10	1.09E-10		
66141.20	8.20	1.78E 01	1.43E 00	9.74E-02	3.66E-03	5.76E-05	6.22E-07	8.02E-09	1.09E-10		
1.76E 01	1.43E 00	9.74E-02	3.66E-03	5.76E-05	6.22E-07	8.02E-09	1.09E-10	1.09E-10	1.09E-10		
66947.80	8.30	1.78E 01	1.44E 00	9.77E-02	3.67E-03	5.78E-05	6.24E-07	8.06E-09	1.09E-10		
1.77E 01	1.43E 00	9.77E-02	3.67E-03	5.78E-05	6.24E-07	8.06E-09	1.09E-10	1.09E-10	1.09E-10		
67754.40	8.40	1.79E 01	1.44E 00	9.80E-02	3.69E-03	5.80E-05	6.26E-07	8.10E-09	1.09E-10		
1.78E 01	1.44E 00	9.80E-02	3.69E-03	5.80E-05	6.26E-07	8.10E-09	1.09E-10	1.09E-10	1.09E-10		
68561.00	8.50	1.80E 01	1.44E 00	9.83E-02	3.70E-03	5.81E-05	6.28E-07	8.14E-09	1.09E-10		
1.78E 01	1.44E 00	9.83E-02	3.70E-03	5.81E-05	6.28E-07	8.14E-09	1.09E-10	1.09E-10	1.09E-10		
69367.60	8.60	1.80E 01	1.45E 00	9.85E-02	3.71E-03	5.83E-05	6.30E-07	8.18E-09	1.09E-10		
1.79E 01	1.45E 00	9.85E-02	3.71E-03	5.83E-05	6.30E-07	8.18E-09	1.09E-10	1.09E-10	1.09E-10		
70174.20	8.70	1.81E 01	1.45E 00	9.88E-02	3.72E-03	5.85E-05	6.32E-07	8.23E-09	2.00E-10		
1.80E 01	1.45E 00	9.88E-02	3.72E-03	5.85E-05	6.32E-07	8.23E-09	2.00E-10	2.00E-10	2.00E-10		
70980.80	8.80	1.82E 01	1.46E 00	9.90E-02	3.73E-03	5.86E-05	6.34E-07	8.27E-09	2.01E-10		
1.80E 01	1.46E 00	9.90E-02	3.73E-03	5.86E-05	6.34E-07	8.27E-09	2.01E-10	2.01E-10	2.01E-10		
71787.40	8.90	1.82E 01	1.46E 00	9.93E-02	3.73E-03	5.88E-05	6.36E-07	8.30E-09	2.01E-10		
1.81E 01	1.46E 00	9.93E-02	3.73E-03	5.88E-05	6.36E-07	8.30E-09	2.01E-10	2.01E-10	2.01E-10		
72594.00	9.00	1.83E 01	1.46E 00	9.95E-02	3.74E-03	5.89E-05	6.38E-07	8.34E-09	2.05E-10		
1.83E 01	1.46E 00	9.95E-02	3.74E-03	5.89E-05	6.38E-07	8.34E-09	2.05E-10	2.05E-10	2.05E-10		
73400.60	9.10	1.84E 01	1.47E 00	9.98E-02	3.75E-03	5.91E-05	6.39E-07	8.37E-09	2.06E-10		
1.82E 01	1.47E 00	9.98E-02	3.75E-03	5.91E-05	6.39E-07	8.37E-09	2.06E-10	2.06E-10	2.06E-10		
74207.20	9.20	1.84E 01	1.48E 00	1.00E-01	3.77E-03	5.93E-05	6.41E-07	8.41E-09	2.06E-10		
1.83E 01	1.47E 00	1.00E-01	3.77E-03	5.93E-05	6.41E-07	8.41E-09	2.06E-10	2.06E-10	2.06E-10		
75013.80	9.30	1.85E 01	1.48E 00	1.01E-01	3.78E-03	5.96E-05	6.43E-07	8.44E-09	2.09E-10		
1.84E 01	1.48E 00	1.01E-01	3.78E-03	5.96E-05	6.43E-07	8.44E-09	2.09E-10	2.09E-10	2.09E-10		
75820.40	9.40	1.86E 01	1.49E 00	1.01E-01	3.80E-03	5.98E-05	6.45E-07	8.48E-09	2.11E-10		
1.85E 01	1.49E 00	1.01E-01	3.80E-03	5.98E-05	6.45E-07	8.48E-09	2.11E-10	2.11E-10	2.11E-10		
76627.00	9.50	1.87E 01	1.49E 00	1.01E-01	3.81E-03	6.00E-05	6.48E-07	8.53E-09	2.12E-10		
1.85E 01	1.49E 00	1.01E-01	3.81E-03	6.00E-05	6.48E-07	8.53E-09	2.12E-10	2.12E-10	2.12E-10		
77433.60	9.60	1.88E 01	1.50E 00	1.02E-01	3.83E-03	6.03E-05	6.50E-07	8.57E-09	2.13E-10		
1.86E 01	1.50E 00	1.02E-01	3.83E-03	6.03E-05	6.50E-07	8.57E-09	2.13E-10	2.13E-10	2.13E-10		

75740.20	9.70	1.69E 01	1.50E 00	1.02E-01	3.84E-03	6.05E-05	6.53E-07	8.60E-09	2.19E-10
		1.87E 01	1.50E 00	1.02E-01	3.84E-03	6.05E-05	6.53E-07	8.60E-09	2.19E-10
79046.80	9.80	1.87E 01	1.51E 00	1.02E-01	3.85E-03	6.07E-05	6.55E-07	8.64E-09	2.16E-10
		1.87E 01	1.51E 00	1.02E-01	3.85E-03	6.07E-05	6.55E-07	8.64E-09	2.16E-10
79953.40	9.90	1.90E 01	1.52E 00	1.03E-01	3.87E-03	6.09E-05	6.58E-07	8.68E-09	2.17E-10
		1.88E 01	1.51E 00	1.03E-01	3.87E-03	6.09E-05	6.58E-07	8.68E-09	2.17E-10
80460.00	10.00	1.91E 01	1.52E 00	1.03E-01	3.88E-03	6.11E-05	6.60E-07	8.71E-09	2.18E-10
		1.89E 01	1.52E 00	1.03E-01	3.88E-03	6.11E-05	6.60E-07	8.71E-09	2.18E-10
81466.60	10.10	1.91E 01	1.53E 00	1.03E-01	3.89E-03	6.13E-05	6.62E-07	8.74E-09	2.19E-10
		1.89E 01	1.52E 00	1.03E-01	3.89E-03	6.13E-05	6.62E-07	8.74E-09	2.19E-10
82273.20	10.20	1.92E 01	1.53E 00	1.03E-01	3.90E-03	6.14E-05	6.64E-07	8.78E-09	2.20E-10
		1.90E 01	1.53E 00	1.04E-01	3.90E-03	6.14E-05	6.64E-07	8.78E-09	2.20E-10
83079.80	10.30	1.93E 01	1.53E 00	1.04E-01	3.91E-03	6.16E-05	6.66E-07	8.81E-09	2.21E-10
		1.91E 01	1.53E 00	1.04E-01	3.91E-03	6.16E-05	6.66E-07	8.81E-09	2.21E-10
83886.40	10.40	1.93E 01	1.54E 00	1.04E-01	3.92E-03	6.18E-05	6.68E-07	8.83E-09	2.22E-10
		1.91E 01	1.54E 00	1.04E-01	3.92E-03	6.18E-05	6.68E-07	8.83E-09	2.22E-10
84693.00	10.50	1.94E 01	1.54E 00	1.05E-01	3.93E-03	6.20E-05	6.70E-07	8.86E-09	2.23E-10
		1.92E 01	1.54E 00	1.05E-01	3.93E-03	6.20E-05	6.70E-07	8.86E-09	2.23E-10
85499.60	10.60	1.94E 01	1.55E 00	1.05E-01	3.94E-03	6.21E-05	6.72E-07	8.89E-09	2.24E-10
		1.92E 01	1.54E 00	1.05E-01	3.94E-03	6.21E-05	6.72E-07	8.89E-09	2.24E-10
86306.20	10.70	2.14E 01	1.72E 00	1.12E-01	4.38E-03	6.24E-05	6.76E-07	8.94E-09	2.26E-10
		2.11E 01	1.72E 00	1.12E-01	4.38E-03	6.24E-05	6.76E-07	8.94E-09	2.26E-10
8726.00	11.00	2.37E 01	1.93E 00	1.32E-01	4.92E-03	7.07E-05	7.65E-07	9.93E-09	2.41E-10
		2.34E 01	1.93E 00	1.31E-01	4.92E-03	7.07E-05	7.65E-07	9.93E-09	2.41E-10
90742.50	11.25	2.56E 01	2.10E 00	1.44E-01	5.36E-03	7.75E-05	8.38E-07	1.07E-08	2.54E-10
		2.53E 01	2.10E 00	1.44E-01	5.36E-03	7.75E-05	8.38E-07	1.07E-08	2.54E-10
92759.00	11.50	2.73E 01	2.26E 00	1.58E-01	5.76E-03	8.37E-05	9.04E-07	1.19E-08	2.65E-10
		2.71E 01	2.26E 00	1.58E-01	5.76E-03	8.37E-05	9.04E-07	1.19E-08	2.65E-10
94775.50	11.75	2.89E 01	2.40E 00	1.64E-01	6.12E-03	8.92E-05	9.64E-07	1.21E-08	2.75E-10
		2.86E 01	2.40E 00	1.64E-01	6.12E-03	8.92E-05	9.64E-07	1.21E-08	2.75E-10
96792.00	12.00	3.39E 01	2.86E 00	1.98E-01	7.28E-03	1.07E-04	1.02E-06	1.27E-08	2.83E-10
		3.36E 01	2.86E 00	1.98E-01	7.28E-03	1.07E-04	1.02E-06	1.27E-08	2.83E-10
98808.50	12.25	3.84E 01	3.28E 00	2.25E-01	8.33E-03	1.23E-04	1.19E-06	1.45E-08	3.02E-10
		3.82E 01	3.27E 00	2.25E-01	8.33E-03	1.23E-04	1.19E-06	1.45E-08	3.02E-10
100825.00	12.50	4.25E 01	3.65E 00	2.51E-01	9.28E-03	1.38E-04	1.35E-06	1.61E-08	3.16E-10
		4.23E 01	3.65E 00	2.51E-01	9.28E-03	1.38E-04	1.35E-06	1.61E-08	3.16E-10
102841.50	12.75	4.66E 01	4.02E 00	2.72E-01	1.02E-02	1.52E-04	1.50E-06	1.75E-08	3.33E-10
		4.63E 01	4.02E 00	2.72E-01	1.02E-02	1.52E-04	1.50E-06	1.75E-08	3.33E-10
104858.00	13.00	5.02E 01	4.36E 00	3.00E-01	1.11E-02	1.65E-04	1.64E-06	1.89E-08	3.47E-10
		5.00E 01	4.35E 00	3.00E-01	1.11E-02	1.65E-04	1.64E-06	1.89E-08	3.47E-10
106874.50	13.25	5.35E 01	4.66E 00	3.21E-01	1.15E-02	1.77E-04	1.76E-06	2.02E-08	3.60E-10
		5.33E 01	4.65E 00	3.21E-01	1.15E-02	1.77E-04	1.76E-06	2.02E-08	3.60E-10
108891.00	13.50	5.74E 01	5.01E 00	3.48E-01	1.20E-02	1.93E-04	1.93E-06	2.13E-08	3.71E-10
		5.72E 01	5.01E 00	3.48E-01	1.20E-02	1.93E-04	1.93E-06	2.13E-08	3.71E-10
110907.50	13.75	6.09E 01	5.33E 00	3.69E-01	1.37E-02	2.07E-04	2.09E-06	2.29E-08	3.82E-10
		6.06E 01	5.33E 00	3.69E-01	1.37E-02	2.07E-04	2.09E-06	2.29E-08	3.82E-10
112924.00	14.00	6.50E 01	5.72E 00	3.96E-01	1.47E-02	2.23E-04	2.26E-06	2.47E-08	4.02E-10
		6.48E 01	5.71E 00	3.96E-01	1.47E-02	2.23E-04	2.26E-06	2.47E-08	4.02E-10
114940.50	14.25	6.88E 01	6.06E 00	4.21E-01	1.57E-02	2.38E-04	2.62E-06	2.63E-08	4.19E-10
		6.86E 01	6.06E 00	4.21E-01	1.57E-02	2.38E-04	2.62E-06	2.63E-08	4.19E-10



PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR, 18000°K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density x Normal									
		1.0E 01	1.0E 00	1.0E-01	1.0E-02	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07	
116957.00	14.50	7.51E 01	6.64E 00	4.43E-01	1.65E-02	2.52E-04	2.56E-06	2.78E-08	4.34E-10		
118973.50	14.75	7.49E 01	6.63E 00	4.43E-01	1.65E-02	2.52E-04	2.56E-06	2.78E-08	4.34E-10		
120990.00	15.00	8.10E 01	7.17E 00	4.64E-01	1.73E-02	2.65E-04	2.69E-06	2.91E-08	4.47E-10		
123006.50	15.25	8.63E 01	7.66E 00	4.83E-01	1.81E-02	2.77E-04	2.82E-06	3.04E-08	4.60E-10		
125023.00	15.50	8.60E 01	7.66E 00	4.83E-01	1.81E-02	2.77E-04	2.82E-06	3.04E-08	4.60E-10		
127038.50	15.75	9.08E 01	8.10E 00	5.00E-01	1.87E-02	2.87E-04	2.93E-06	3.15E-08	4.72E-10		
129056.00	16.00	9.53E 01	8.50E 00	5.15E-01	1.93E-02	2.96E-04	3.03E-06	3.28E-08	4.82E-10		
131072.50	16.25	9.92E 01	8.89E 00	5.29E-01	1.98E-02	3.05E-04	3.12E-06	3.35E-08	4.92E-10		
133089.00	16.50	9.90E 01	8.85E 00	5.29E-01	1.98E-02	3.05E-04	3.12E-06	3.35E-08	4.92E-10		
135105.50	16.75	1.02E 02	9.16E 00	5.41E-01	2.03E-02	3.12E-04	3.20E-06	3.43E-08	5.00E-10		
137122.00	17.00	1.06E 02	9.44E 00	5.51E-01	2.07E-02	3.19E-04	3.27E-06	3.50E-08	5.07E-10		
139138.50	17.25	1.08E 02	9.69E 00	5.61E-01	2.11E-02	3.25E-04	3.34E-06	3.57E-08	5.14E-10		
141155.00	17.50	1.08E 02	9.69E 00	5.61E-01	2.11E-02	3.25E-04	3.34E-06	3.57E-08	5.14E-10		
143171.50	17.75	1.11E 02	9.92E 00	5.70E-01	2.15E-02	3.31E-04	3.39E-06	3.62E-08	5.20E-10		
145188.00	18.00	1.13E 02	1.01E 01	5.79E-01	2.18E-02	3.36E-04	3.45E-06	3.68E-08	5.26E-10		
147204.50	18.25	1.13E 02	1.01E 01	5.79E-01	2.18E-02	3.36E-04	3.45E-06	3.68E-08	5.26E-10		
149221.00	18.50	1.15E 02	1.03E 01	5.86E-01	2.21E-02	3.41E-04	3.50E-06	3.74E-08	5.32E-10		
151237.50	18.75	1.15E 02	1.03E 01	5.86E-01	2.21E-02	3.41E-04	3.50E-06	3.74E-08	5.32E-10		
153254.00	19.00	1.17E 02	1.05E 01	5.93E-01	2.24E-02	3.45E-04	3.55E-06	3.78E-08	5.37E-10		
155270.50	19.25	1.17E 02	1.05E 01	5.93E-01	2.24E-02	3.45E-04	3.55E-06	3.78E-08	5.37E-10		
157287.00	19.50	1.18E 02	1.06E 01	5.99E-01	2.26E-02	3.49E-04	3.59E-06	3.82E-08	5.41E-10		
159303.50	19.75	1.18E 02	1.06E 01	5.99E-01	2.26E-02	3.49E-04	3.59E-06	3.82E-08	5.41E-10		
		1.20E 02	1.07E 01	6.04E-01	2.28E-02	3.52E-04	3.63E-06	3.86E-08	5.45E-10		
		1.20E 02	1.07E 01	6.04E-01	2.28E-02	3.52E-04	3.63E-06	3.86E-08	5.45E-10		
		1.21E 02	1.09E 01	6.09E-01	2.30E-02	3.55E-04	3.66E-06	3.90E-08	5.49E-10		
		1.21E 02	1.09E 01	6.09E-01	2.30E-02	3.55E-04	3.66E-06	3.90E-08	5.49E-10		
		1.22E 02	1.10E 01	6.13E-01	2.32E-02	3.58E-04	3.69E-06	3.92E-08	5.52E-10		
		1.22E 02	1.10E 01	6.13E-01	2.32E-02	3.58E-04	3.69E-06	3.92E-08	5.52E-10		
		1.23E 02	1.10E 01	6.17E-01	2.33E-02	3.61E-04	3.72E-06	3.95E-08	5.55E-10		
		1.23E 02	1.10E 01	6.17E-01	2.33E-02	3.61E-04	3.72E-06	3.95E-08	5.55E-10		
		1.24E 02	1.11E 01	6.20E-01	2.34E-02	3.63E-04	3.74E-06	3.98E-08	5.57E-10		
		1.24E 02	1.11E 01	6.20E-01	2.34E-02	3.63E-04	3.74E-06	3.98E-08	5.57E-10		
		1.25E 02	1.12E 01	6.23E-01	2.35E-02	3.65E-04	3.76E-06	4.00E-08	5.60E-10		
		1.25E 02	1.12E 01	6.23E-01	2.35E-02	3.65E-04	3.76E-06	4.00E-08	5.60E-10		
		1.25E 02	1.13E 01	6.26E-01	2.37E-02	3.67E-04	3.78E-06	4.02E-08	5.62E-10		
		1.25E 02	1.13E 01	6.26E-01	2.37E-02	3.67E-04	3.78E-06	4.02E-08	5.62E-10		
		1.26E 02	1.13E 01	6.28E-01	2.38E-02	3.68E-04	3.80E-06	4.04E-08	5.63E-10		
		1.26E 02	1.13E 01	6.28E-01	2.38E-02	3.68E-04	3.80E-06	4.04E-08	5.63E-10		

161320.00	20.00	1.26F 02	1.14E 01	6.30E-01	2.39E-02	3.70E-04	3.01E-06	4.05E-08	5.65F-10
		1.26E 02	1.14E 01	6.30E-01	2.39E-02	3.70E-04	3.01E-06	4.05E-08	5.65F-10
163338.50	20.25	1.27E 02	1.14E 01	6.32E-01	2.39E-02	3.71E-04	3.02E-06	4.06E-08	5.67F-10
		1.27E 02	1.14E 01	6.32E-01	2.39E-02	3.71E-04	3.02E-06	4.06E-08	5.67F-10
165353.00	20.50	1.27E 02	1.14F 01	6.34E-01	2.40E-02	3.72E-04	3.04E-06	4.08E-08	5.68F-10
		1.27E 02	1.14F 01	6.34E-01	2.40E-02	3.72E-04	3.04E-06	4.08E-08	5.68F-10
167369.50	20.75	1.28E 02	1.15E 01	6.35E-01	2.40E-02	3.73E-04	3.05E-06	4.09E-08	5.69F-10
		1.28E 02	1.15E 01	6.35E-01	2.40E-02	3.73E-04	3.05E-06	4.09E-08	5.69F-10
169386.00	21.00	1.28F 02	1.15F 01	6.36E-01	2.41E-02	3.74E-04	3.06E-06	4.10E-08	5.70F-10
		1.28F 02	1.15F 01	6.36E-01	2.41E-02	3.74E-04	3.06E-06	4.10E-08	5.70F-10
171402.50	21.25	1.28E 02	1.15E 01	6.38E-01	2.41E-02	3.74E-04	3.06E-06	4.10E-08	5.71F-10
		1.28E 02	1.15E 01	6.38E-01	2.41E-02	3.74E-04	3.06E-06	4.10E-08	5.71F-10
173419.00	21.50	1.29E 02	1.16E 01	6.39E-01	2.42E-02	3.75E-04	3.07E-06	4.11E-08	5.72E-10
		1.29E 02	1.16E 01	6.39E-01	2.42E-02	3.75E-04	3.07E-06	4.11E-08	5.72E-10
175435.50	21.75	1.29E 02	1.16E 01	6.39E-01	2.42E-02	3.75E-04	3.07E-06	4.11E-08	5.72E-10
		1.29E 02	1.16E 01	6.39E-01	2.42E-02	3.75E-04	3.07E-06	4.11E-08	5.72E-10
177452.00	22.00	1.29E 02	1.16E 01	6.40E-01	2.42E-02	3.76E-04	3.08E-06	4.12E-08	5.72E-10
		1.29E 02	1.16E 01	6.40E-01	2.42E-02	3.76E-04	3.08E-06	4.12E-08	5.72E-10
179468.50	22.25	1.29E 02	1.16E 01	6.41E-01	2.43E-02	3.77E-04	3.09E-06	4.13E-08	5.73E-10
		1.29E 02	1.16E 01	6.41E-01	2.43E-02	3.77E-04	3.09E-06	4.13E-08	5.73E-10
181486.00	22.50	1.29E 02	1.16E 01	6.41E-01	2.43E-02	3.77E-04	3.09E-06	4.13E-08	5.73E-10
		1.29E 02	1.16E 01	6.41E-01	2.43E-02	3.77E-04	3.09E-06	4.13E-08	5.73E-10
183501.50	22.75	1.30E 02	1.17E 01	6.42E-01	2.43E-02	3.77E-04	3.09E-06	4.14E-08	5.74E-10
		1.30E 02	1.17E 01	6.42E-01	2.43E-02	3.77E-04	3.09E-06	4.14E-08	5.74E-10
185518.00	23.00	1.30E 02	1.17E 01	6.42E-01	2.43E-02	3.78E-04	3.09E-06	4.14E-08	5.74E-10
		1.30E 02	1.17E 01	6.42E-01	2.43E-02	3.78E-04	3.09E-06	4.14E-08	5.74E-10
187534.50	23.25	1.30E 02	1.17E 01	6.43E-01	2.44E-02	3.78E-04	3.09E-06	4.15E-08	5.75E-10
		1.30E 02	1.17E 01	6.43E-01	2.44E-02	3.78E-04	3.09E-06	4.15E-08	5.75E-10
189551.00	23.50	1.30E 02	1.17E 01	6.43E-01	2.44E-02	3.78E-04	3.09E-06	4.15E-08	5.75E-10
		1.30E 02	1.17E 01	6.43E-01	2.44E-02	3.78E-04	3.09E-06	4.15E-08	5.75E-10
191567.50	23.75	1.30E 02	1.17E 01	6.44E-01	2.44E-02	3.78E-04	3.09E-06	4.15E-08	5.76E-10
		1.30E 02	1.17E 01	6.44E-01	2.44E-02	3.78E-04	3.09E-06	4.15E-08	5.76E-10
193584.00	24.00	1.30E 02	1.17E 01	6.44E-01	2.44E-02	3.79E-04	3.09E-06	4.15E-08	5.76E-10
		1.30E 02	1.17E 01	6.44E-01	2.44E-02	3.79E-04	3.09E-06	4.15E-08	5.76E-10
195600.50	24.25	1.30E 02	1.17E 01	6.44E-01	2.44E-02	3.79E-04	3.09E-06	4.16E-08	5.76E-10
		1.30E 02	1.17E 01	6.44E-01	2.44E-02	3.79E-04	3.09E-06	4.16E-08	5.76E-10
197617.00	24.50	1.30E 02	1.17E 01	6.44E-01	2.44E-02	3.79E-04	3.09E-06	4.16E-08	5.76E-10
		1.30E 02	1.17E 01	6.44E-01	2.44E-02	3.79E-04	3.09E-06	4.16E-08	5.76E-10
199633.50	24.75	1.30E 02	1.17E 01	6.44E-01	2.44E-02	3.79E-04	3.09E-06	4.16E-08	5.76E-10
		1.30E 02	1.17E 01	6.44E-01	2.44E-02	3.79E-04	3.09E-06	4.16E-08	5.76E-10
201650.00	25.00	1.30E 02	1.17E 01	6.45E-01	2.44E-02	3.79E-04	3.09E-06	4.16E-08	5.80F-10
		1.30E 02	1.17E 01	6.45E-01	2.44E-02	3.79E-04	3.09E-06	4.16E-08	5.80F-10
203666.50	25.25	1.30E 02	1.17E 01	6.45E-01	2.44E-02	3.79E-04	3.09E-06	4.17E-08	5.80E-10
		1.30E 02	1.17E 01	6.45E-01	2.44E-02	3.79E-04	3.09E-06	4.17E-08	5.80E-10
205683.00	25.50	1.30E 02	1.17E 01	6.45E-01	2.44E-02	3.79E-04	3.09E-06	4.17E-08	5.81E-10
		1.30E 02	1.17E 01	6.45E-01	2.44E-02	3.79E-04	3.09E-06	4.17E-08	5.81E-10
207699.50	25.75	1.30E 02	1.17E 01	6.45E-01	2.45E-02	3.80E-04	3.09E-06	4.19E-08	5.97E-10
		1.30E 02	1.17E 01	6.45E-01	2.45E-02	3.80E-04	3.09E-06	4.19E-08	5.97E-10
209716.00	26.00	1.30E 02	1.17E 01	6.45E-01	2.45E-02	3.80E-04	3.09E-06	4.21E-08	6.11E-10
		1.30E 02	1.17E 01	6.45E-01	2.45E-02	3.80E-04	3.09E-06	4.21E-08	6.11E-10
		1.30E 02	1.17E 01	6.45E-01	2.45E-02	3.80E-04	3.09E-06	4.23E-08	6.23E-10
		1.30E 02	1.17E 01	6.45E-01	2.45E-02	3.80E-04	3.09E-06	4.23E-08	6.23E-10

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 18000° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	1.0E 01	1.0E 00	1.0E-01	1.0E-02	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07
211732.00	26.25	1.30E 02	1.17E 01	6.45E-01	2.45E-02	3.90E-04	3.93E-05	4.24E-06	4.24E-06	6.33E-10
213749.00	26.50	1.30E 02	1.17E 01	6.45E-01	2.45E-02	3.80E-04	3.93E-05	4.24E-06	4.24E-06	6.33E-10
215765.50	26.75	1.30E 02	1.17E 01	6.45E-01	2.45E-02	3.80E-04	3.93E-05	4.24E-06	4.24E-06	6.33E-10
217782.00	27.00	1.30E 02	1.17E 01	6.45E-01	2.45E-02	3.80E-04	3.93E-05	4.24E-06	4.24E-06	6.33E-10
219798.50	27.25	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.90E-04	3.94E-05	4.24E-06	4.24E-06	6.33E-10
221815.00	27.50	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.80E-04	3.94E-05	4.24E-06	4.24E-06	6.33E-10
223831.50	27.75	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.80E-04	3.94E-05	4.24E-06	4.24E-06	6.33E-10
225848.00	28.00	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.81E-04	3.94E-05	4.24E-06	4.24E-06	6.33E-10
227864.50	28.25	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.81E-04	3.94E-05	4.24E-06	4.24E-06	6.33E-10
229881.00	28.50	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.81E-04	3.94E-05	4.24E-06	4.24E-06	6.33E-10
231897.50	28.75	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.81E-04	3.94E-05	4.24E-06	4.24E-06	6.33E-10
233914.00	29.00	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.82E-04	3.94E-05	4.24E-06	4.24E-06	6.33E-10
235930.50	29.25	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.82E-04	3.94E-05	4.24E-06	4.24E-06	6.33E-10
237947.00	29.50	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.82E-04	3.94E-05	4.24E-06	4.24E-06	6.33E-10
239963.50	29.75	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.82E-04	3.94E-05	4.24E-06	4.24E-06	6.33E-10
241980.00	30.00	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.82E-04	3.94E-05	4.24E-06	4.24E-06	6.33E-10
243996.50	30.25	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.82E-04	3.94E-05	4.24E-06	4.24E-06	6.33E-10
246013.00	30.50	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.82E-04	3.94E-05	4.24E-06	4.24E-06	6.33E-10
248029.50	30.75	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.82E-04	3.94E-05	4.24E-06	4.24E-06	6.33E-10
250046.00	31.00	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.82E-04	3.94E-05	4.24E-06	4.24E-06	6.33E-10
252062.50	31.25	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.82E-04	3.94E-05	4.24E-06	4.24E-06	6.33E-10
254079.00	31.50	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.82E-04	3.94E-05	4.24E-06	4.24E-06	6.33E-10

256095.50	31.75	1.31E 02	1.17E 01	6.46E-01	2.45E-02	3.83E-04	4.17E-05	6.15E-04	1.90E-09
258112.00	32.00	1.31E 02	1.17E 01	6.46E-01	2.45E-02	3.83E-04	4.17E-04	6.15E-04	1.90E-09
260128.50	32.25	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.83E-04	4.17E-04	6.21E-04	1.94E-09
262145.00	32.50	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.83E-04	4.18E-04	6.25E-04	1.97E-09
264161.50	32.75	1.31E 02	1.17E 01	6.46E-01	2.45E-02	3.83E-04	4.19E-04	6.29E-04	2.00E-09
266178.00	33.00	1.31E 02	1.17E 01	6.46E-01	2.45E-02	3.83E-04	4.19E-04	6.33E-04	2.03E-09
268194.50	33.25	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.83E-04	4.19E-04	6.37E-04	2.05E-09
270211.00	33.50	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.83E-04	4.20E-04	6.38E-04	2.07E-09
272227.50	33.75	1.31E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.20E-04	6.40E-04	2.08E-09
274244.00	34.00	1.31E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.20E-04	6.40E-04	2.08E-09
276260.50	34.25	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.20E-04	6.42E-04	2.10E-09
278277.00	34.50	1.31E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.20E-04	6.44E-04	2.11E-09
280293.50	34.75	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.20E-04	6.44E-04	2.11E-09
282310.00	35.00	1.31E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.21E-04	6.45E-04	2.12E-09
284326.50	35.25	1.31E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.21E-04	6.45E-04	2.12E-09
286343.00	35.50	1.31E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.21E-04	6.45E-04	2.12E-09
288359.50	35.75	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.21E-04	6.46E-04	2.13E-09
290376.00	36.00	1.31E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.21E-04	6.46E-04	2.13E-09
292392.50	36.25	1.31E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.21E-04	6.47E-04	2.14E-09
294409.00	36.50	1.31E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.21E-04	6.47E-04	2.14E-09
296425.50	36.75	1.31E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.21E-04	6.48E-04	2.14E-09
298442.00	37.00	1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.21E-04	6.48E-04	2.14E-09
300458.50	37.25	1.31E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.21E-04	6.48E-04	2.14E-09
302475.00	37.50	1.31E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.21E-04	6.48E-04	2.14E-09
304491.50	37.75	1.31E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.21E-04	6.48E-04	2.14E-09

PARTIAL PLANCK MEAN ABSORPTION COEFFICIENTS FOR HEATED AIR: 16000° K

Wave Number (cm <sup>-1</sup> )	Photon Energy (eV)	Density x Normal									
		1.0E 01	1.0E 00	1.0E-01	1.0E-02	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07	
306493.50	38.00	1.31E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.21E-06	6.55E-08	2.19E-09		
306515.00	38.25	1.31E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.21E-06	6.55E-08	2.19E-09		
310531.50	38.50	1.31E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.21E-06	6.55E-08	2.19E-09		
312548.00	38.75	1.31E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.21E-06	6.55E-08	2.19E-09		
314564.50	39.00	1.31E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.21E-06	6.55E-08	2.19E-09		
316581.00	39.25	1.31E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.21E-06	6.55E-08	2.20E-09		
318597.00	39.50	1.31E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.21E-06	6.56E-08	2.20E-09		
		1.30E 02	1.17E 01	6.46E-01	2.45E-02	3.84E-04	4.21E-06	6.56E-08	2.20E-09		

#### D. Absorption Coefficients (1 - 20 eV)

##### 1. Photoelectric and Free-Free Absorption Coefficients of Oxygen and Nitrogen

The following figures are graphs of the photoelectric and free-free absorption coefficients defined as

$$\mu(\epsilon) = \sum_1 N_1 \sigma_1(\epsilon)$$

and expressed in units of  $\text{cm}^{-1}$ .  $N_1$  is the number per unit volume of atoms or ions in the 1<sup>th</sup> state, and  $\sigma_1(\epsilon)$  is the total cross section for photoelectric or free-free absorption from that state at photon energy  $\epsilon$ . The jagged curve in each figure, with its characteristic "edges" is the photoionization absorption coefficient, and the smooth, monotonically decreasing curve is the free-free coefficient. These absorption coefficients are plotted vs. photon energy  $\epsilon$ . Graphs are given for six different density values (from approximately 10 normal to approximately  $10^{-5}$  normal) at each of the temperatures 1, 2, 5, 10, 15, and 20 eV. The first 36 graphs are for oxygen, the remaining 36 are for nitrogen.

##### Photoelectric Absorption

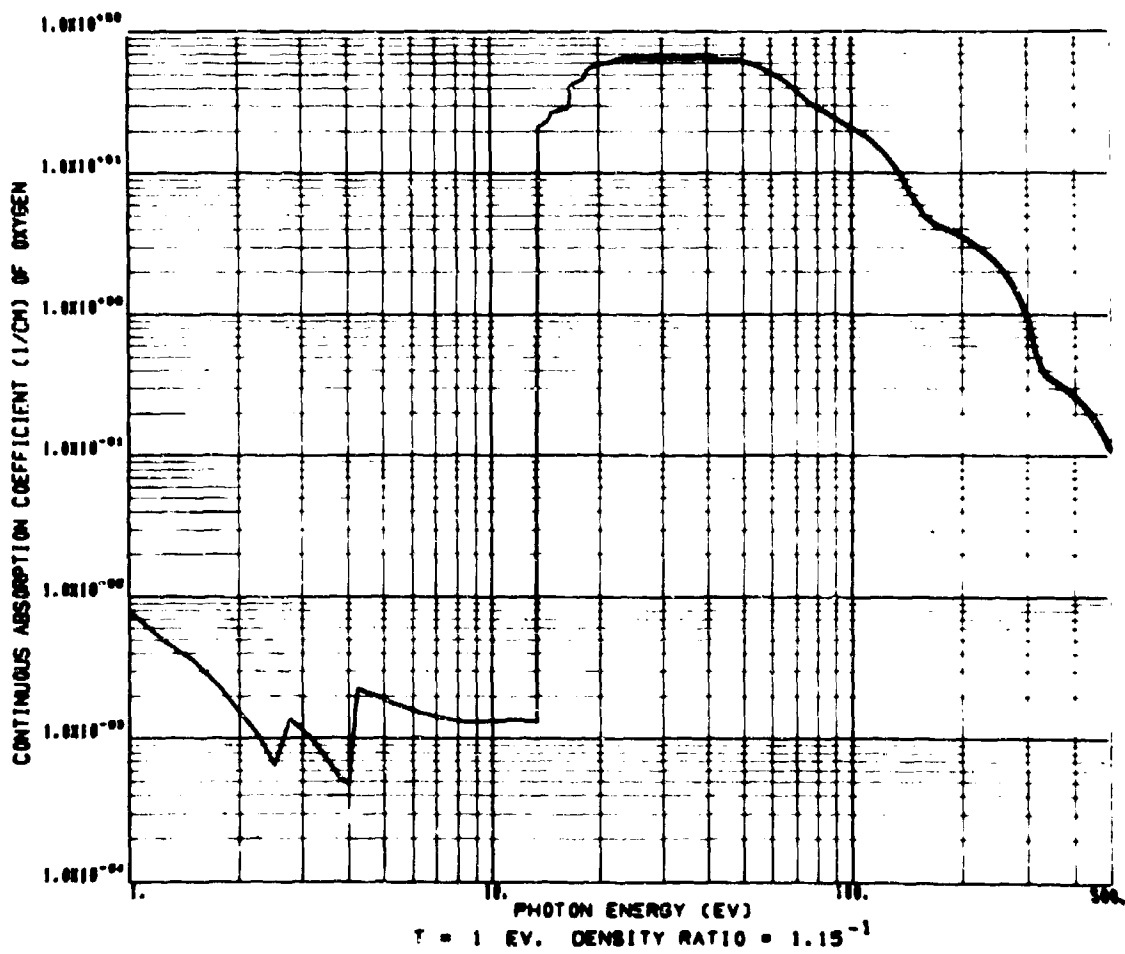
These coefficients have been obtained from the computer code PIC of Armstrong, Johnston, and Kelly (1965). The theory upon which it is based is described in Part B of Armstrong and Nicholls (1966). The Burgess-Seaton (1960) generalization of the Coulomb Approximation has been employed at low photon energies (near the photoelectric edge), and a high-energy approximation due to Johnston (1964) has been used above the low-energy region, to obtain the cross sections  $\sigma_1(\epsilon)$ . The number densities, or occupation numbers,  $N_1$ , were obtained from the earlier work of Armstrong, Holland, and Meyerott (1958).

### Free-Free Absorption

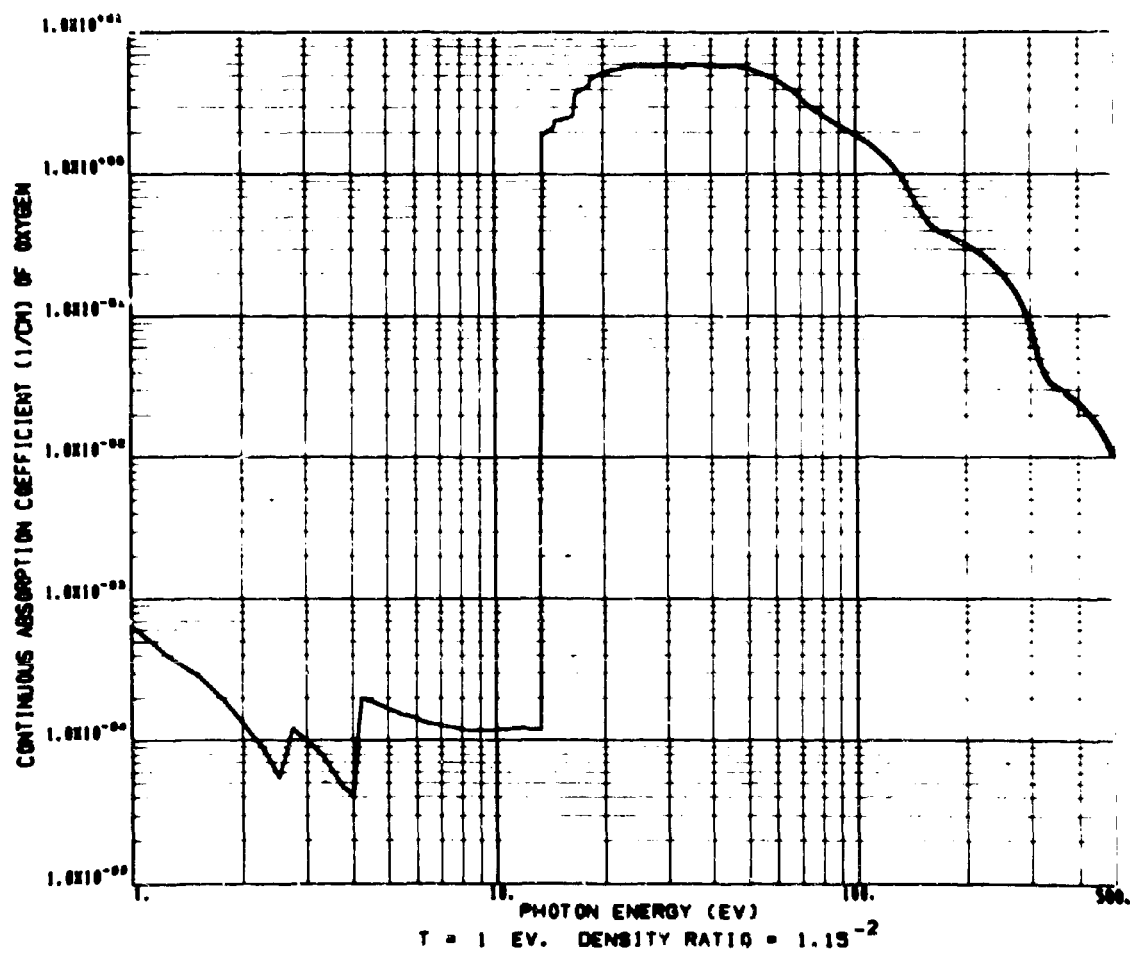
These results have been obtained from the work of Armstrong (1959), and are based upon a hydrogenic approximation.

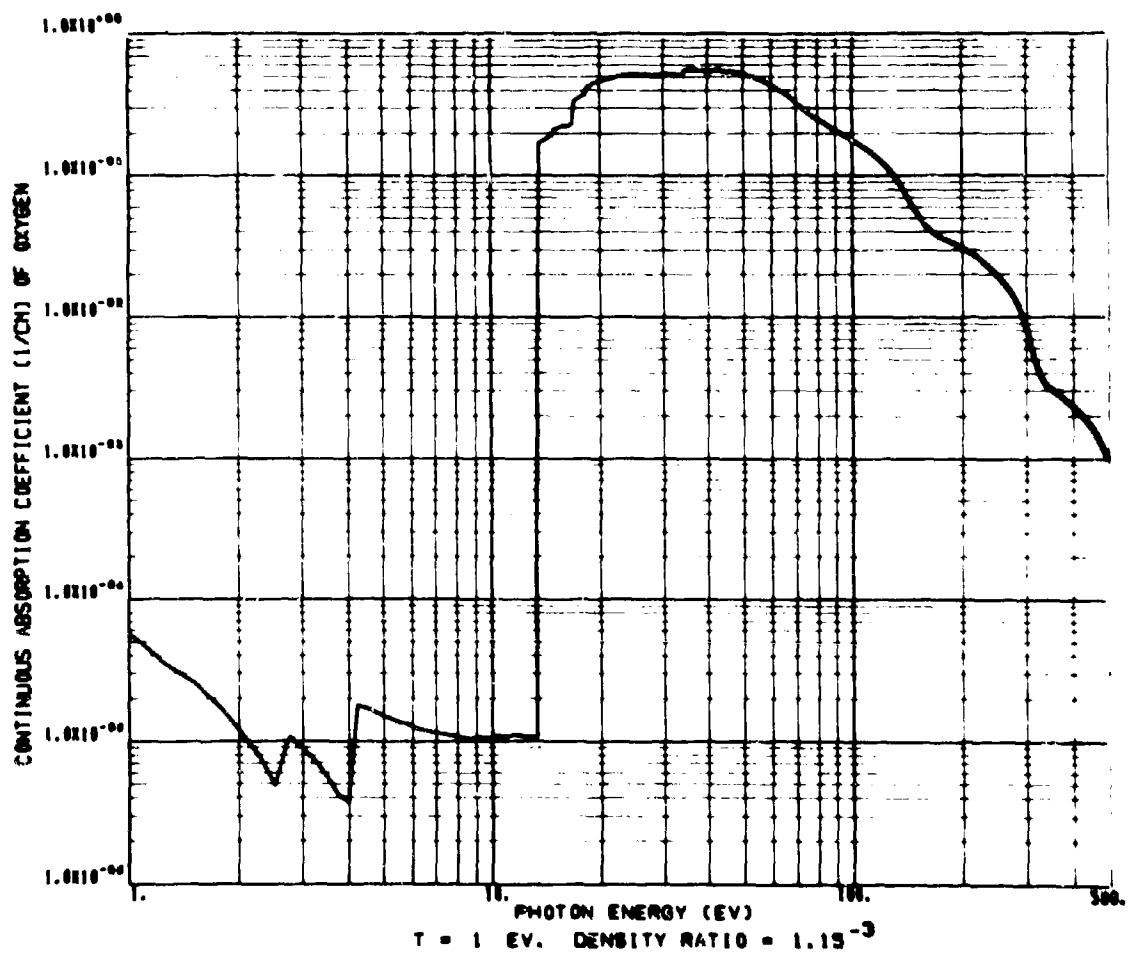
### References

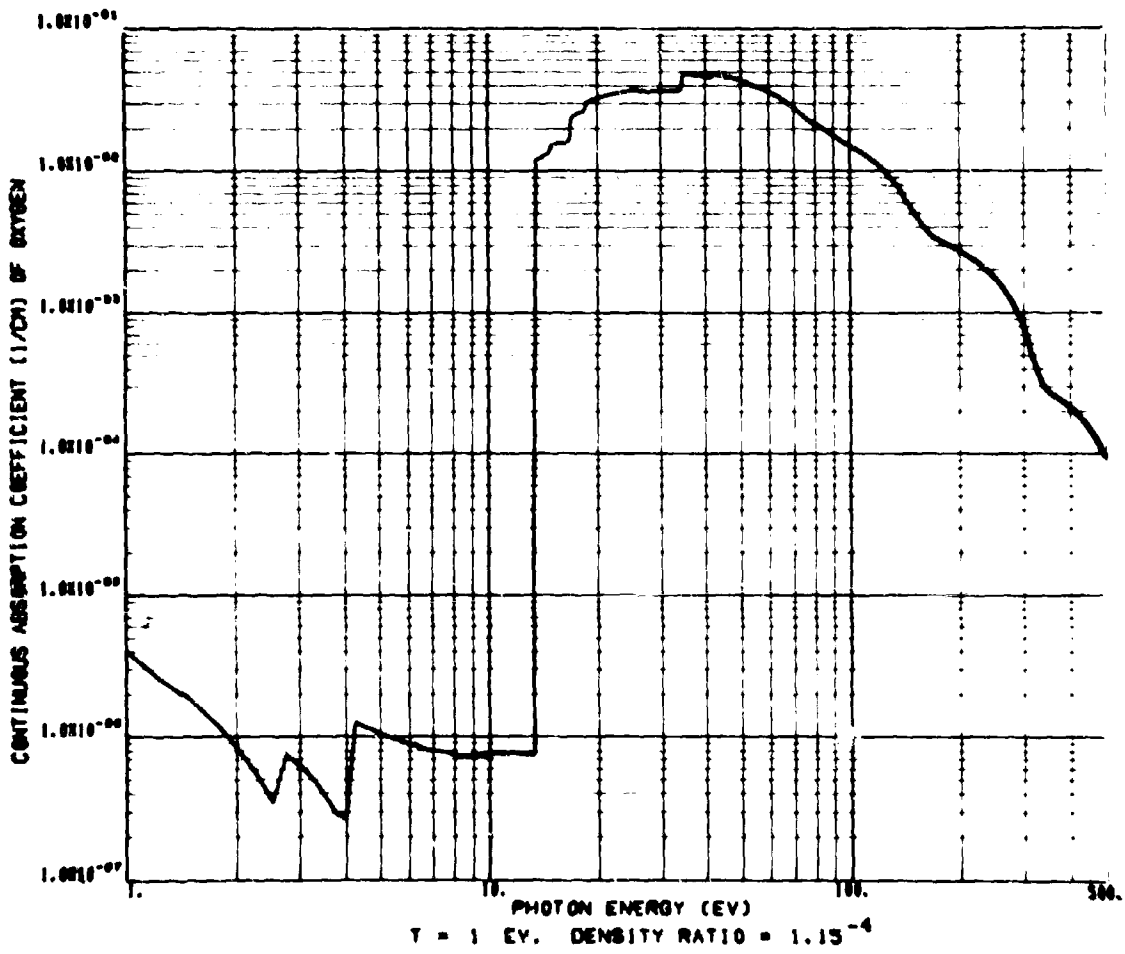
- Armstrong, B.H., Mean Absorption Coefficients of Air, Nitrogen and Oxygen from 22,000° to 220,000°, Lockheed Missiles and Space Company Report LMSC 49759, 1959.
- Armstrong, B.H., D. H. Holland and R. E. Meyerott, Absorption Coefficients of Air from 22,000° to 220,000°, Air Force Special Weapons Center Report, AFSWC-TR-58-36, 1958.
- Armstrong, B.H. and R. Nicholls, The Radiative Properties of Heated Air, Thermal Radiation Phenomena, Lockheed, Palo Alto, 1966.
- Burgess, A. and M. J. Seaton, MNRAS 120, 121, 1960.

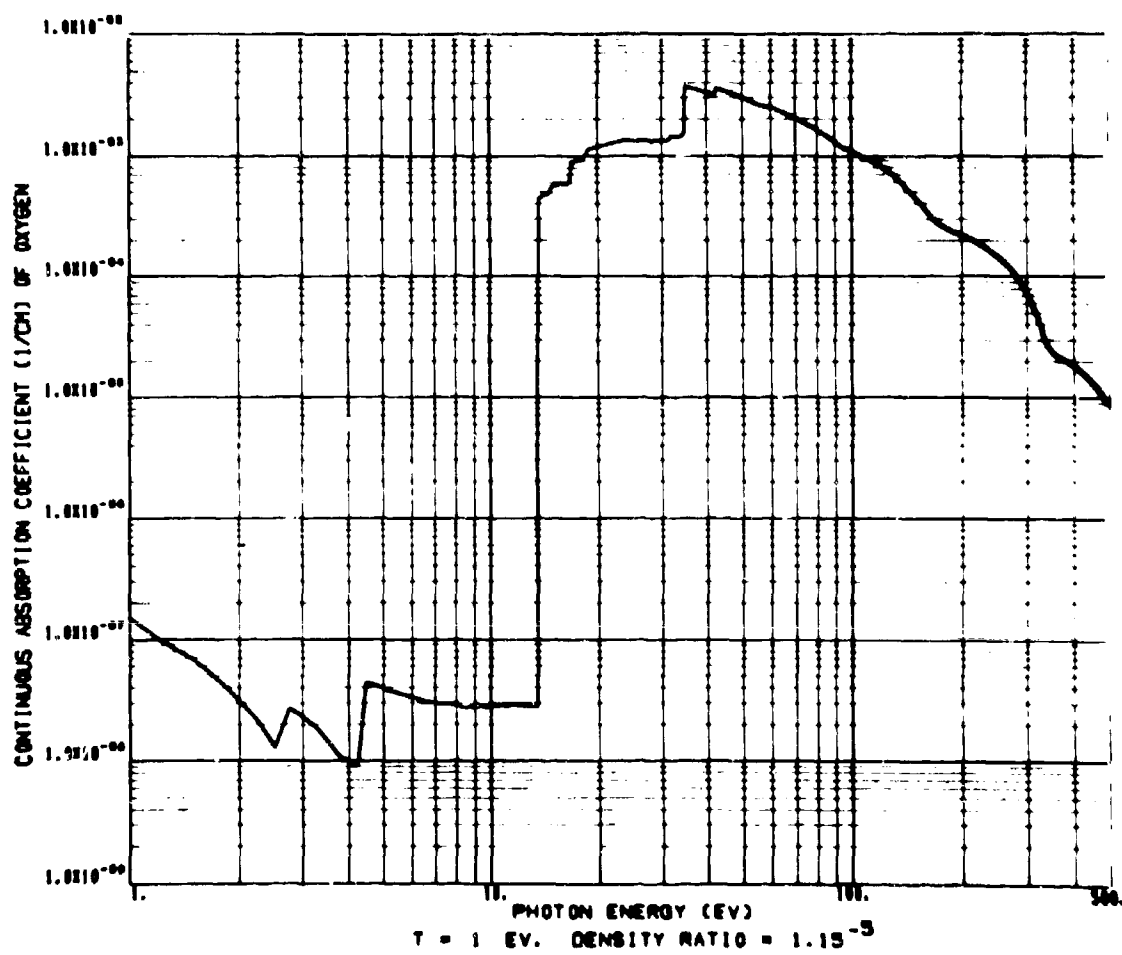


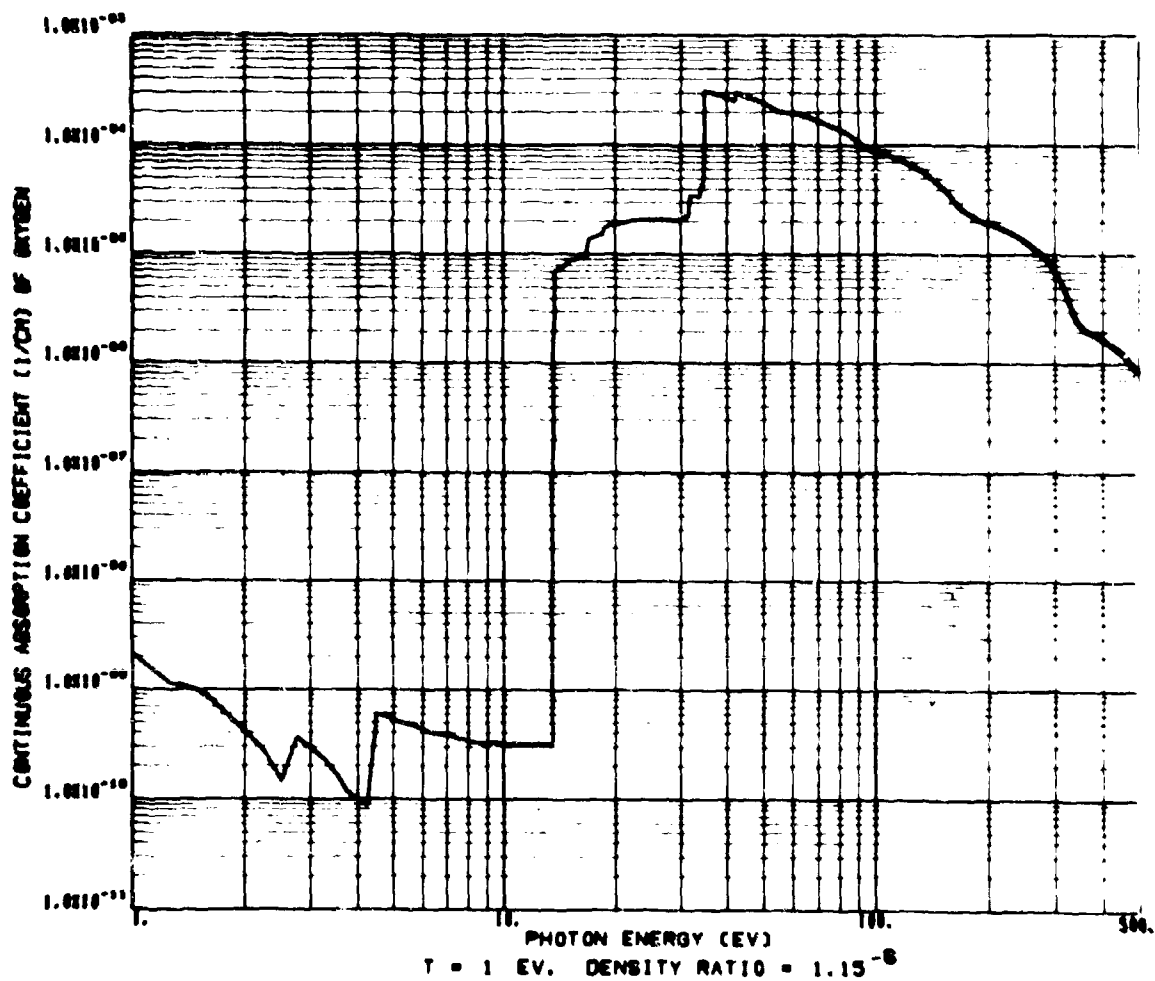


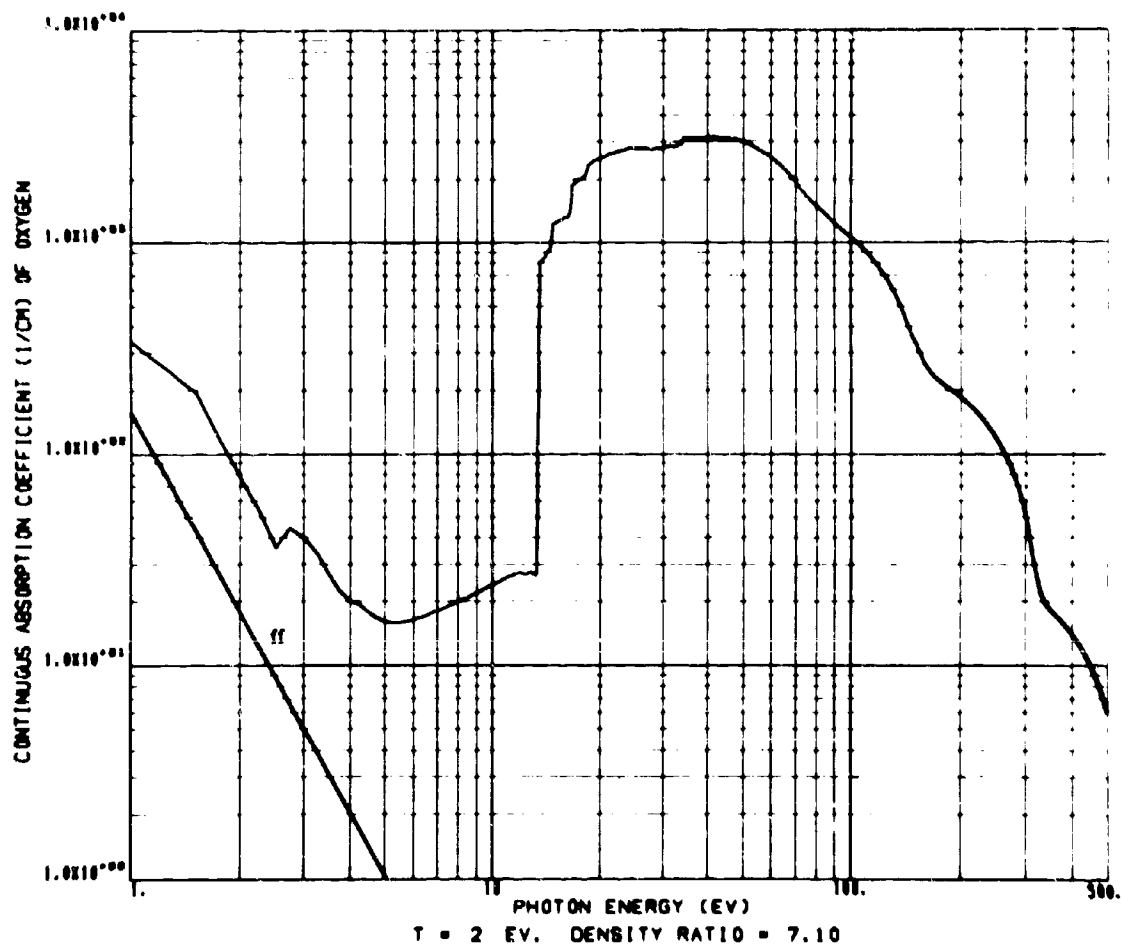


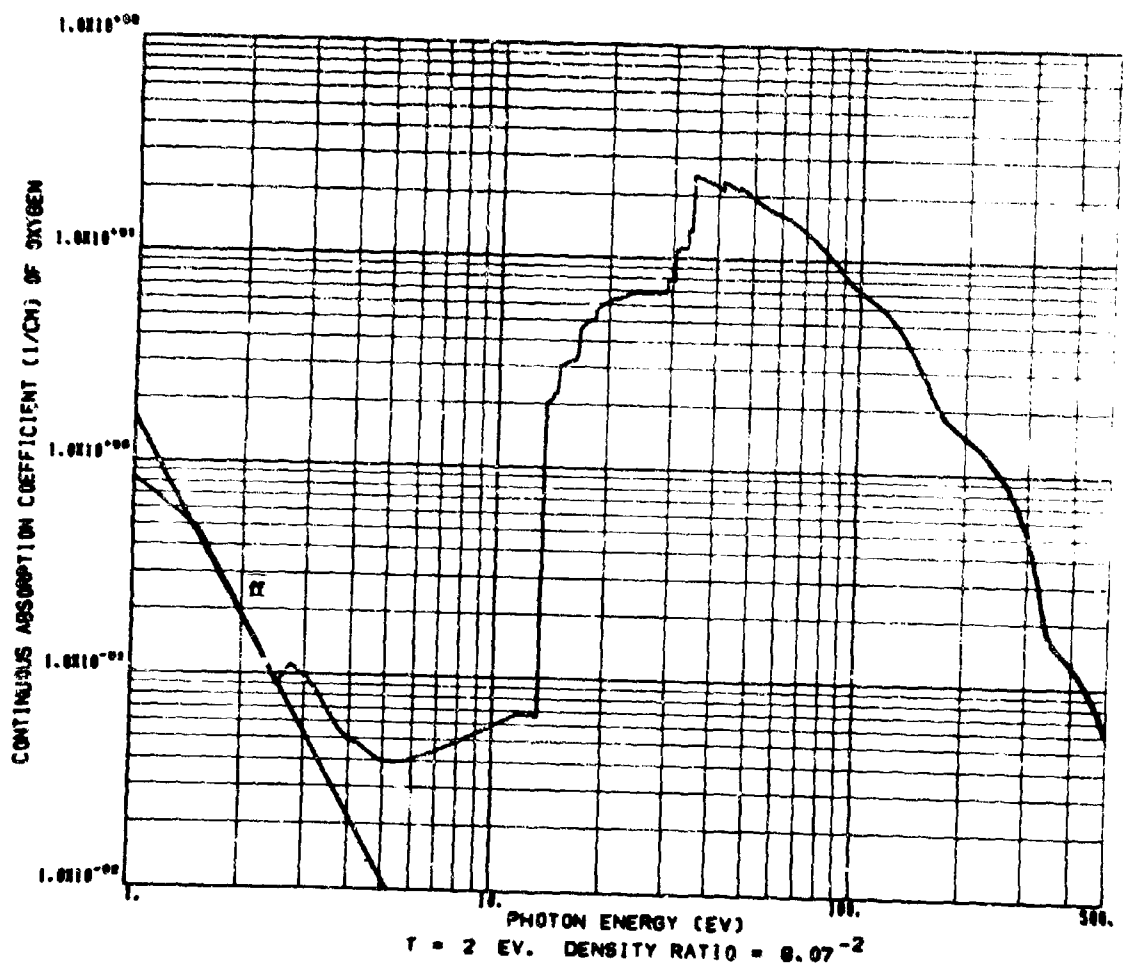


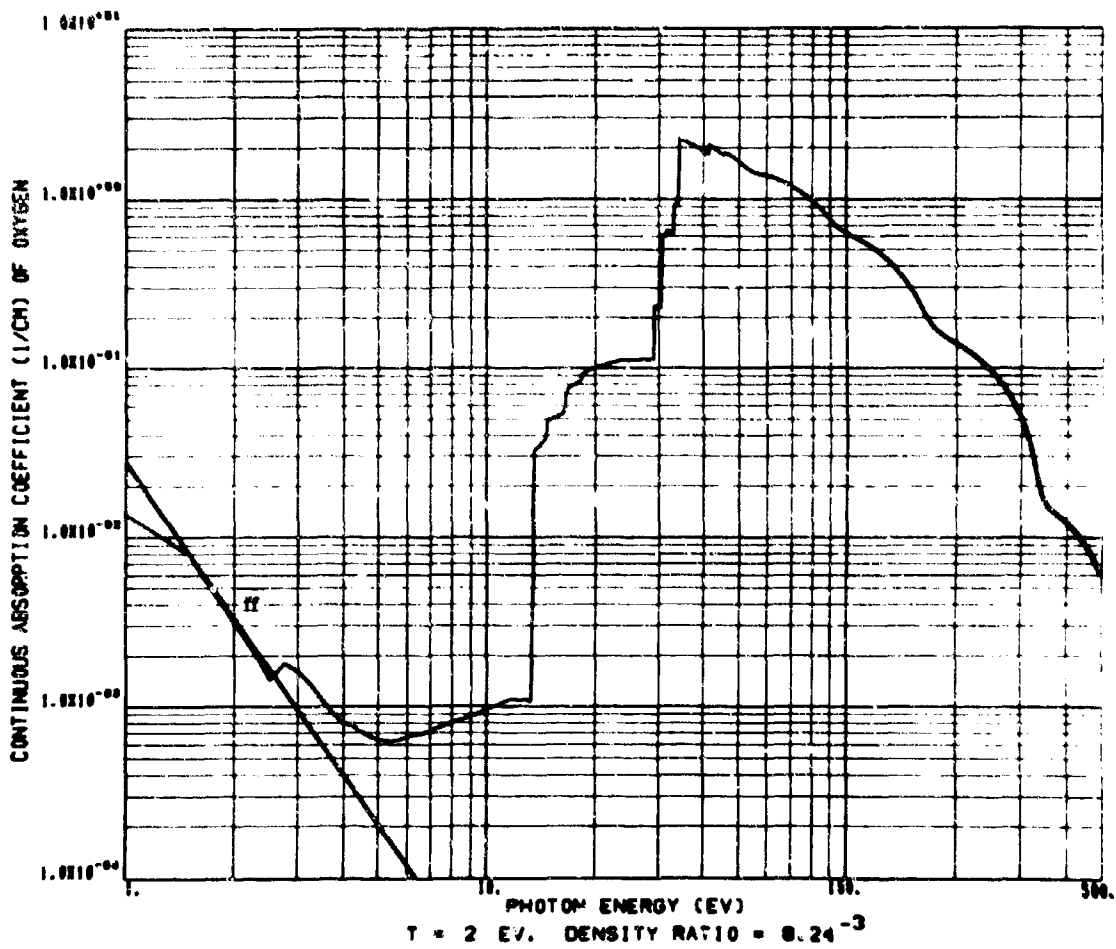




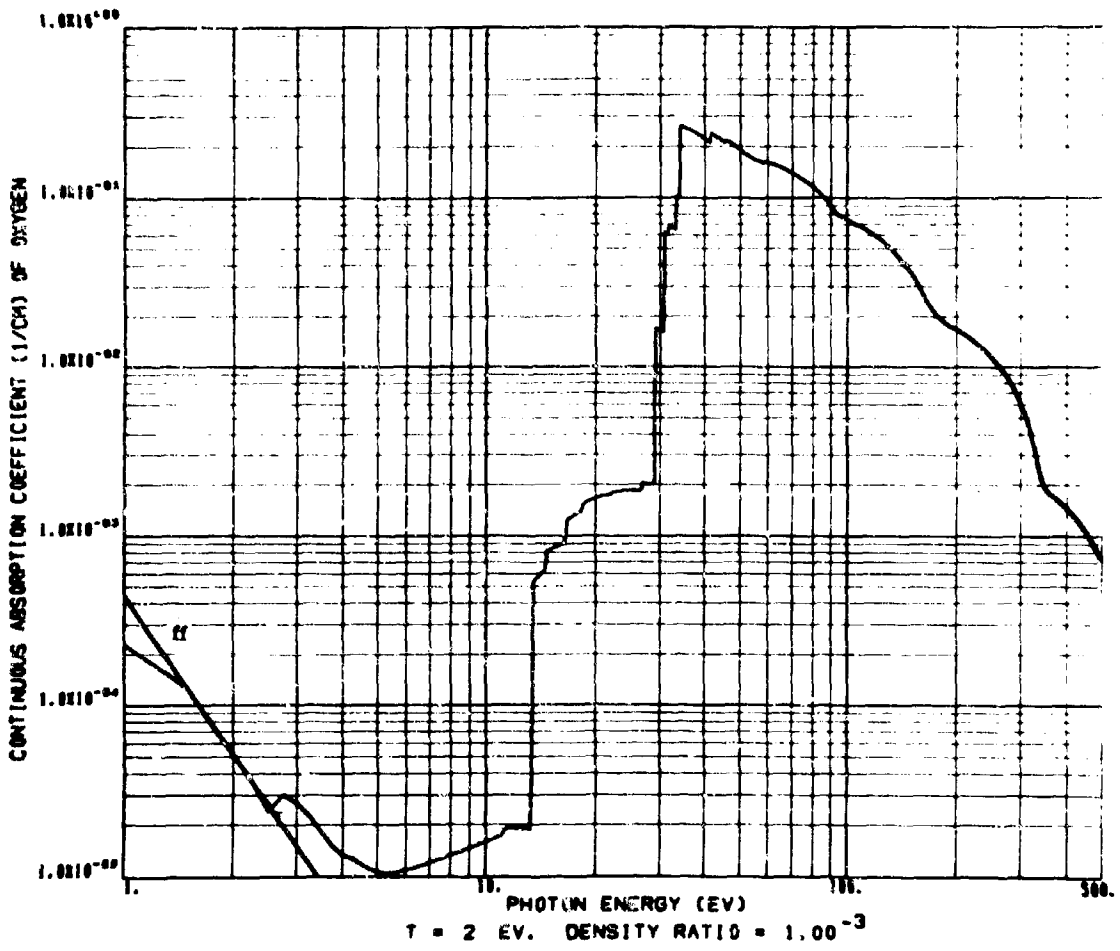


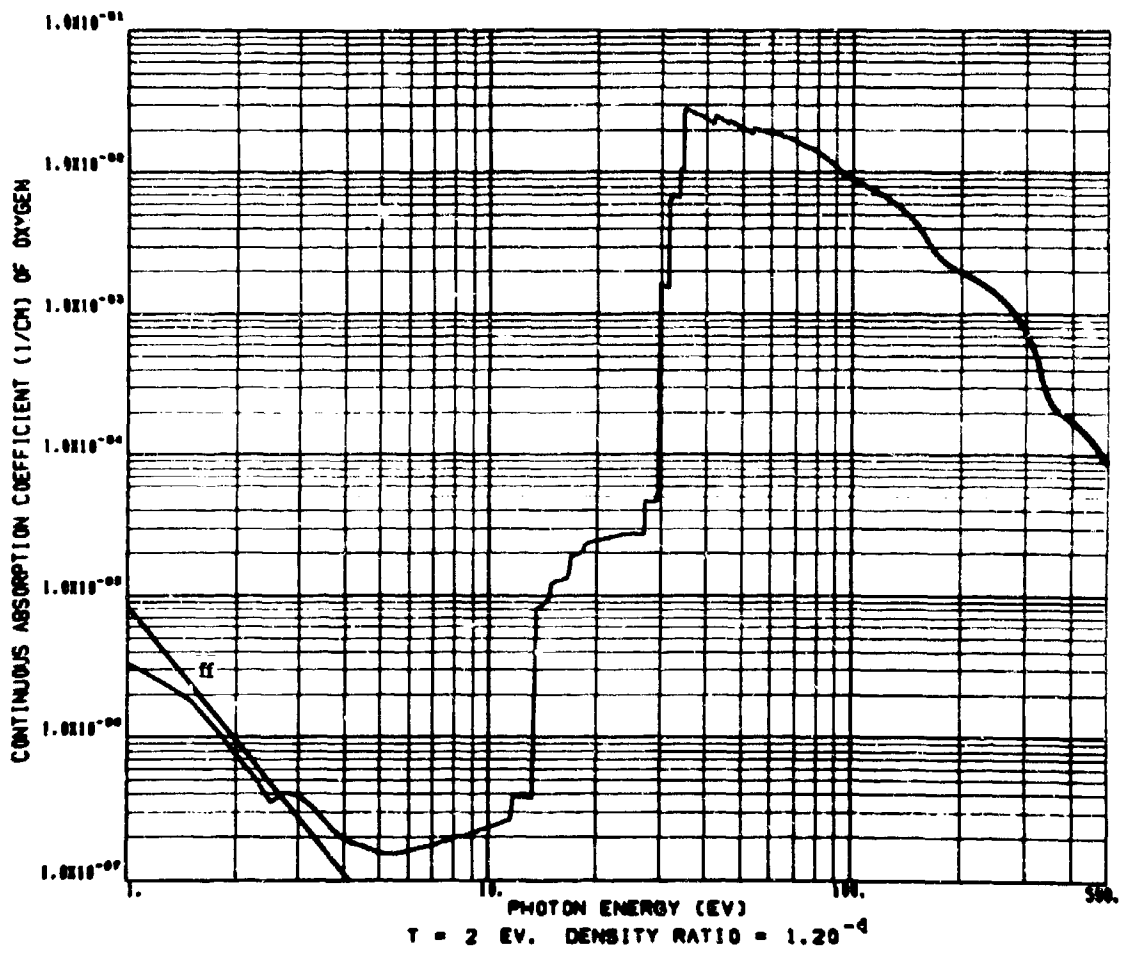


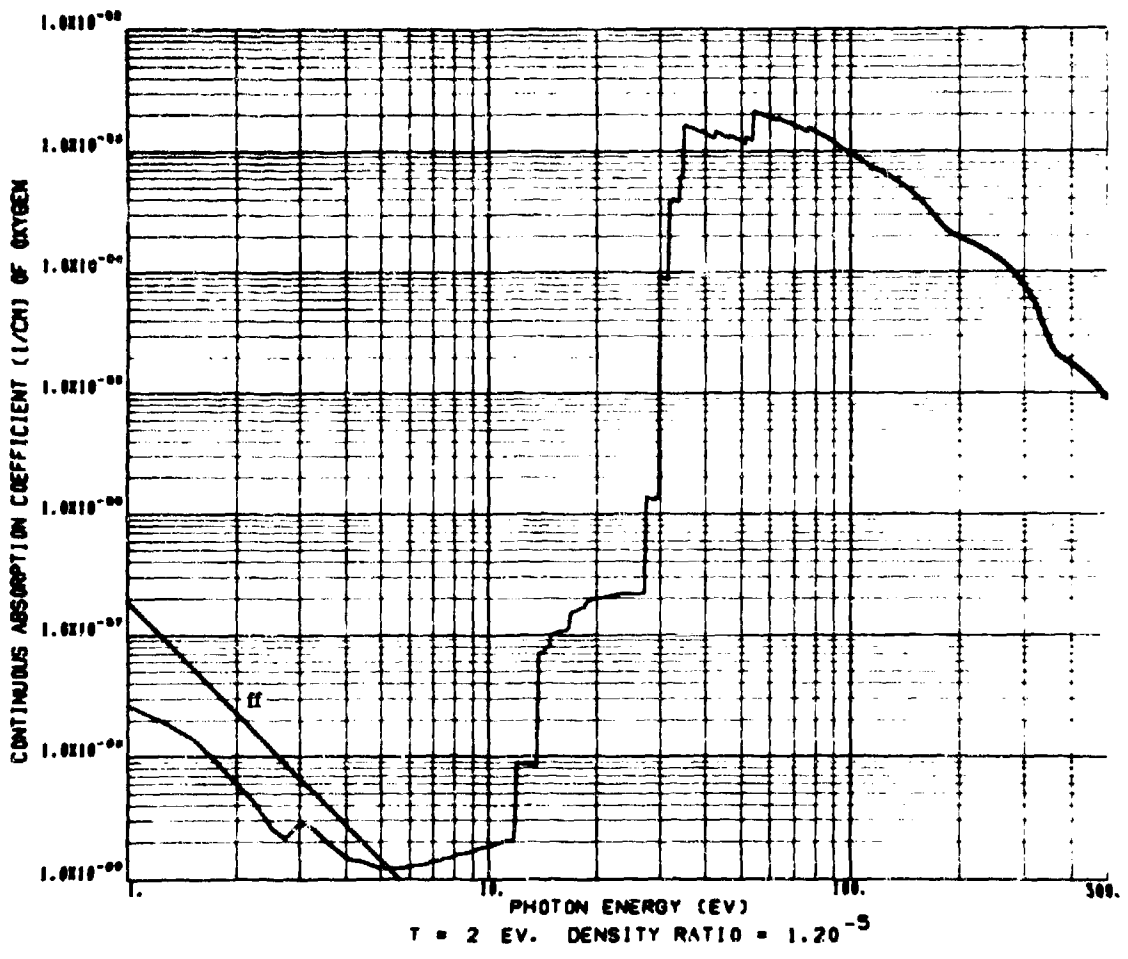


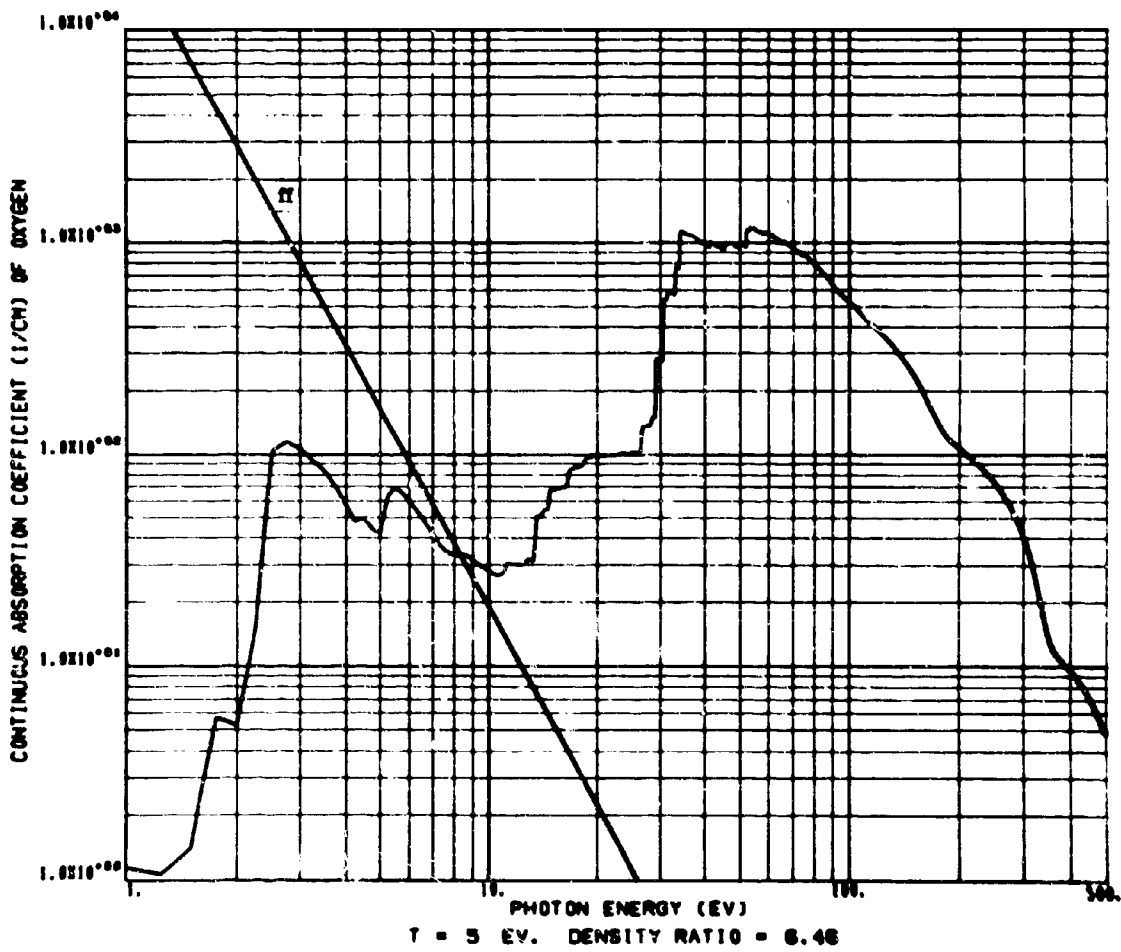


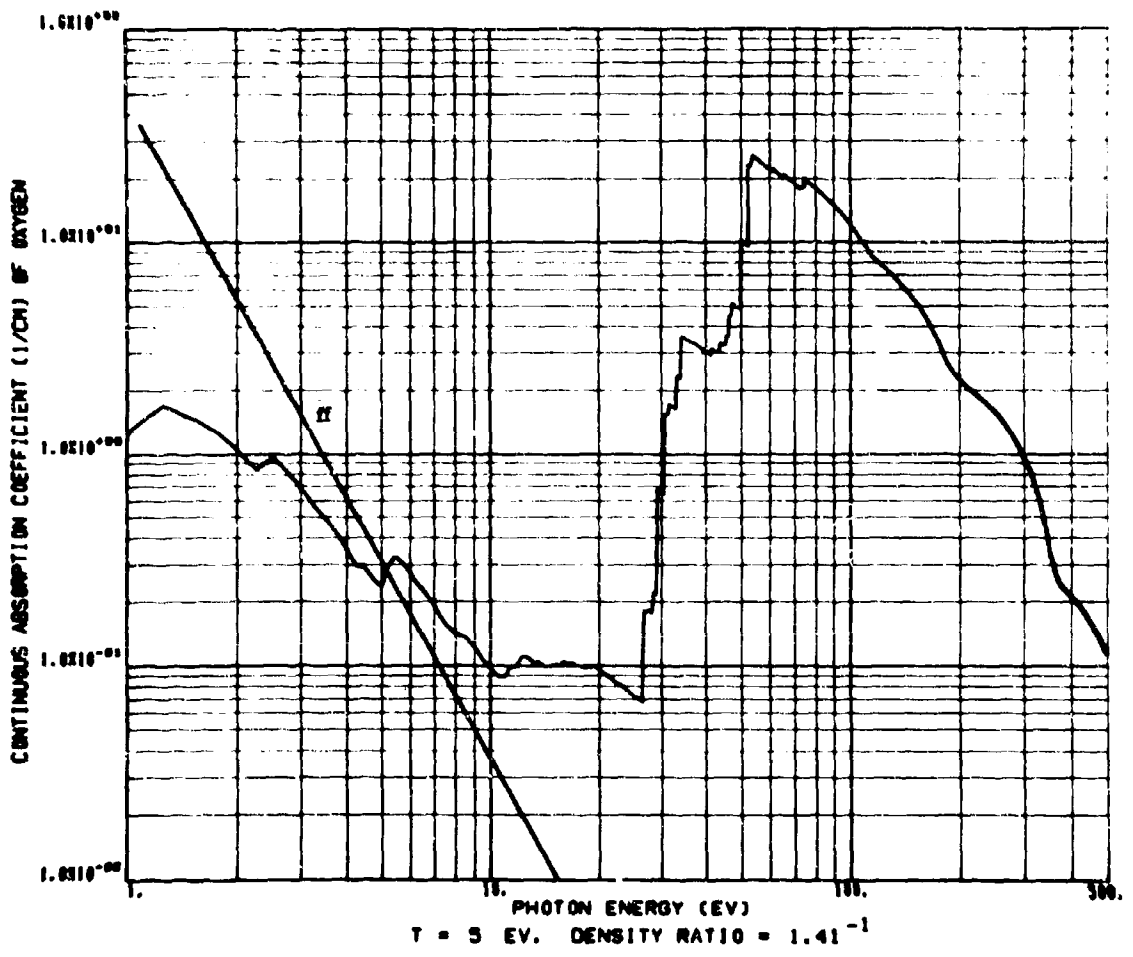


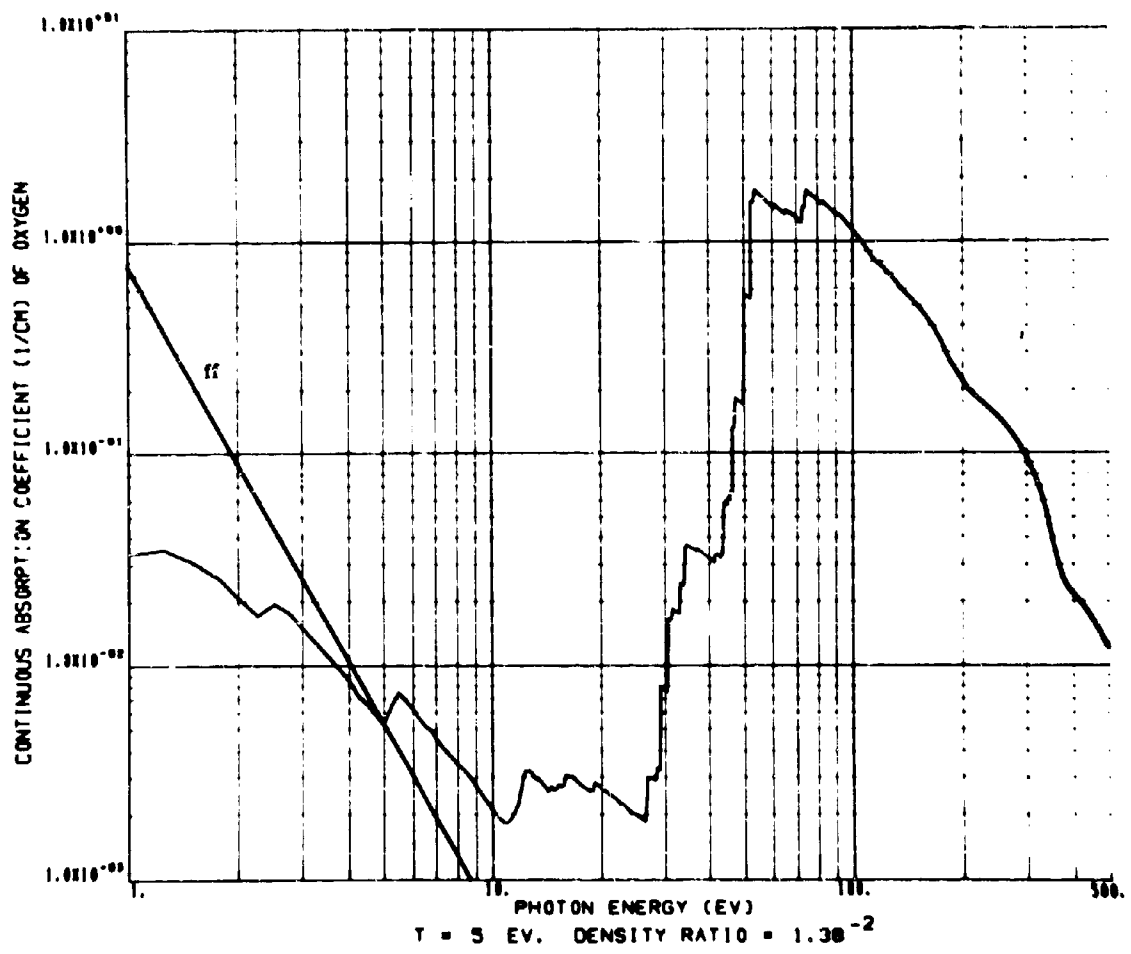


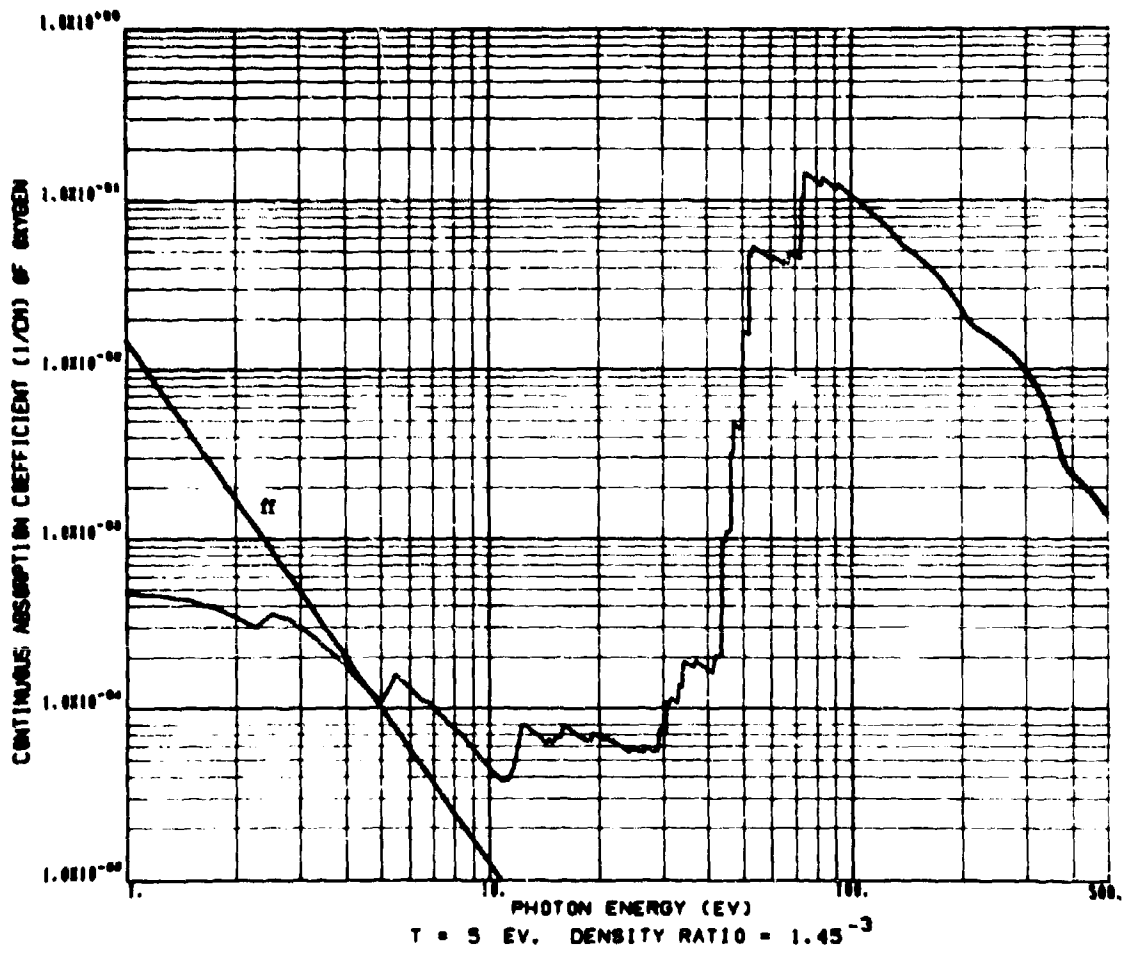


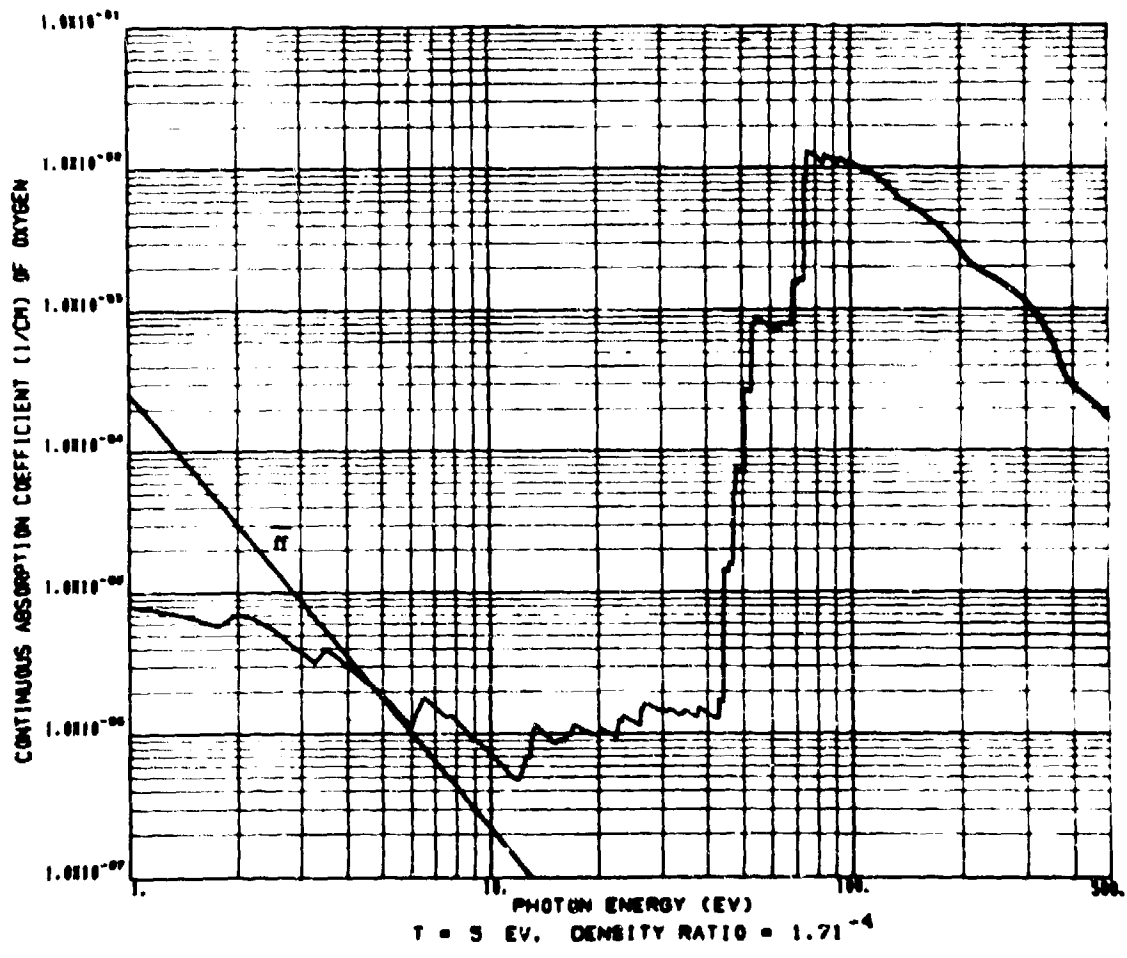




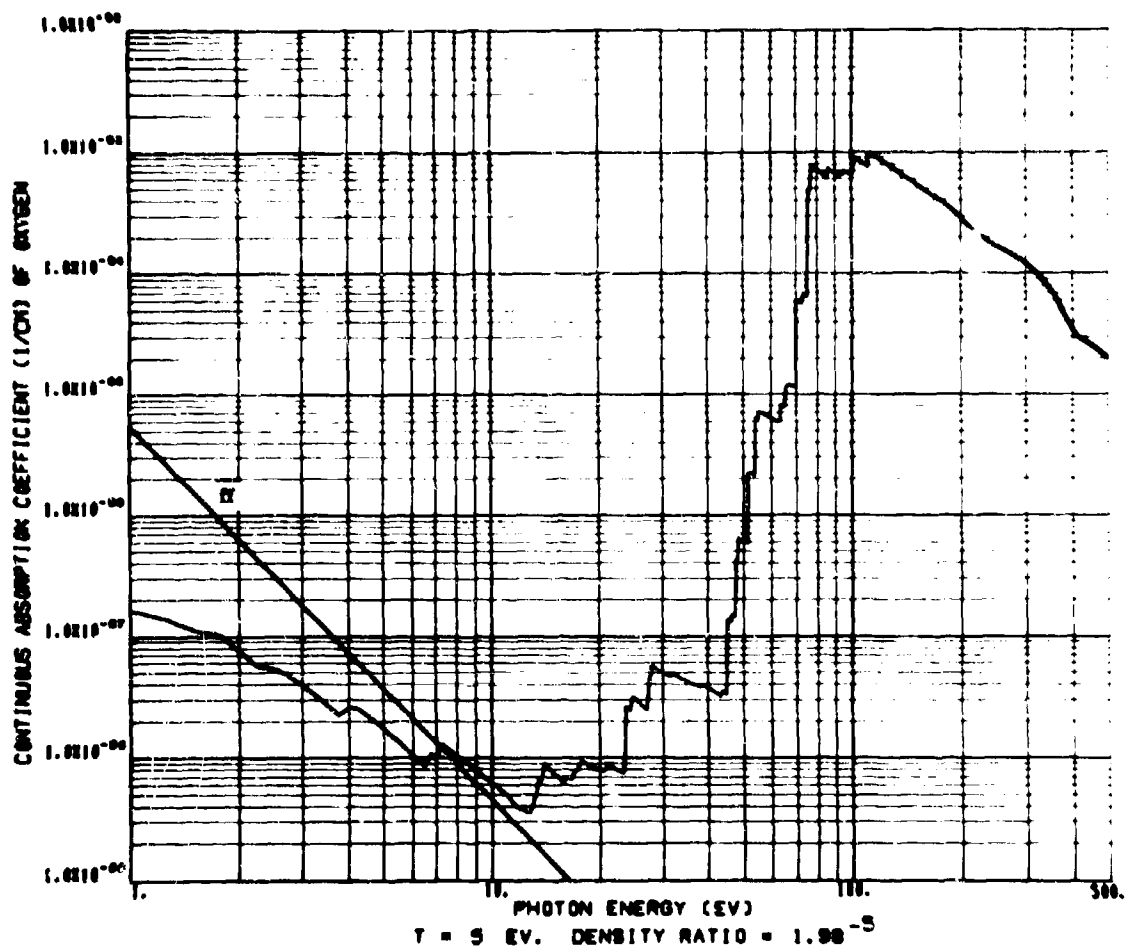


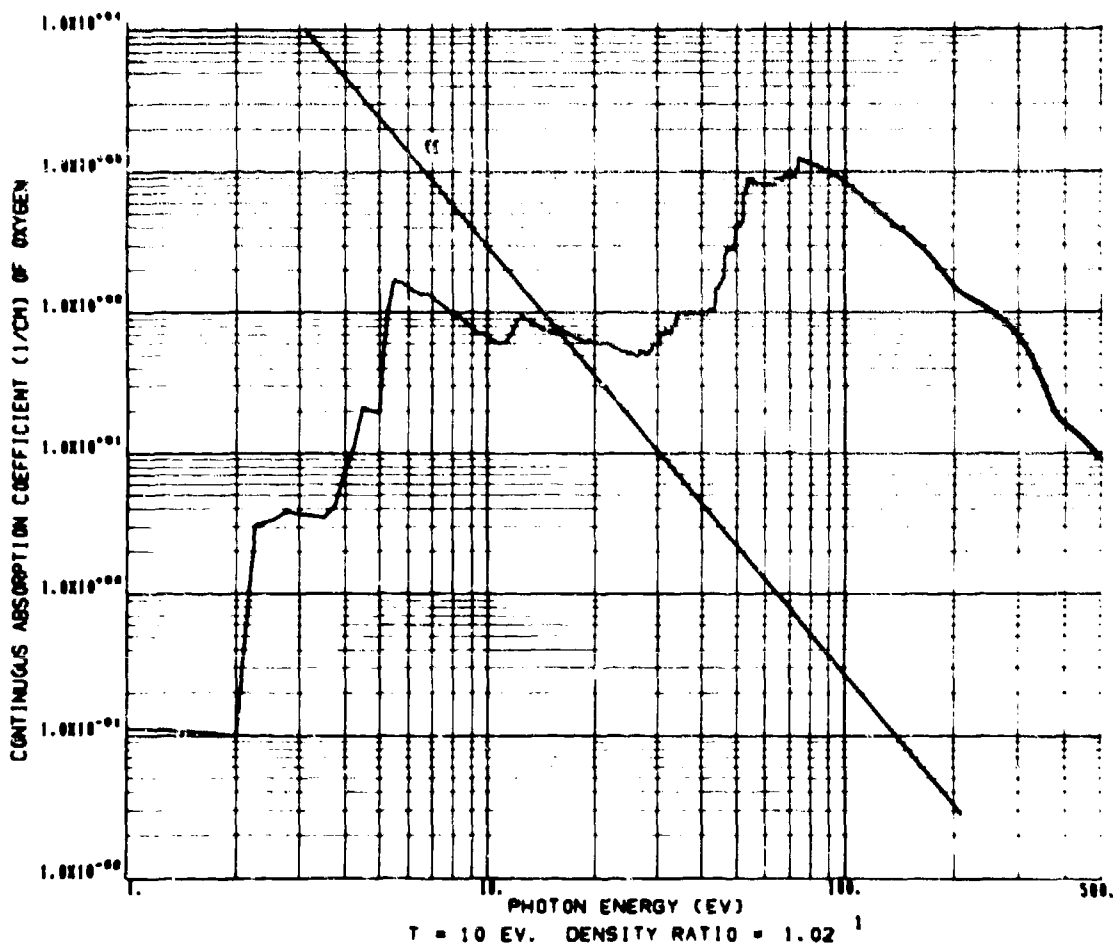


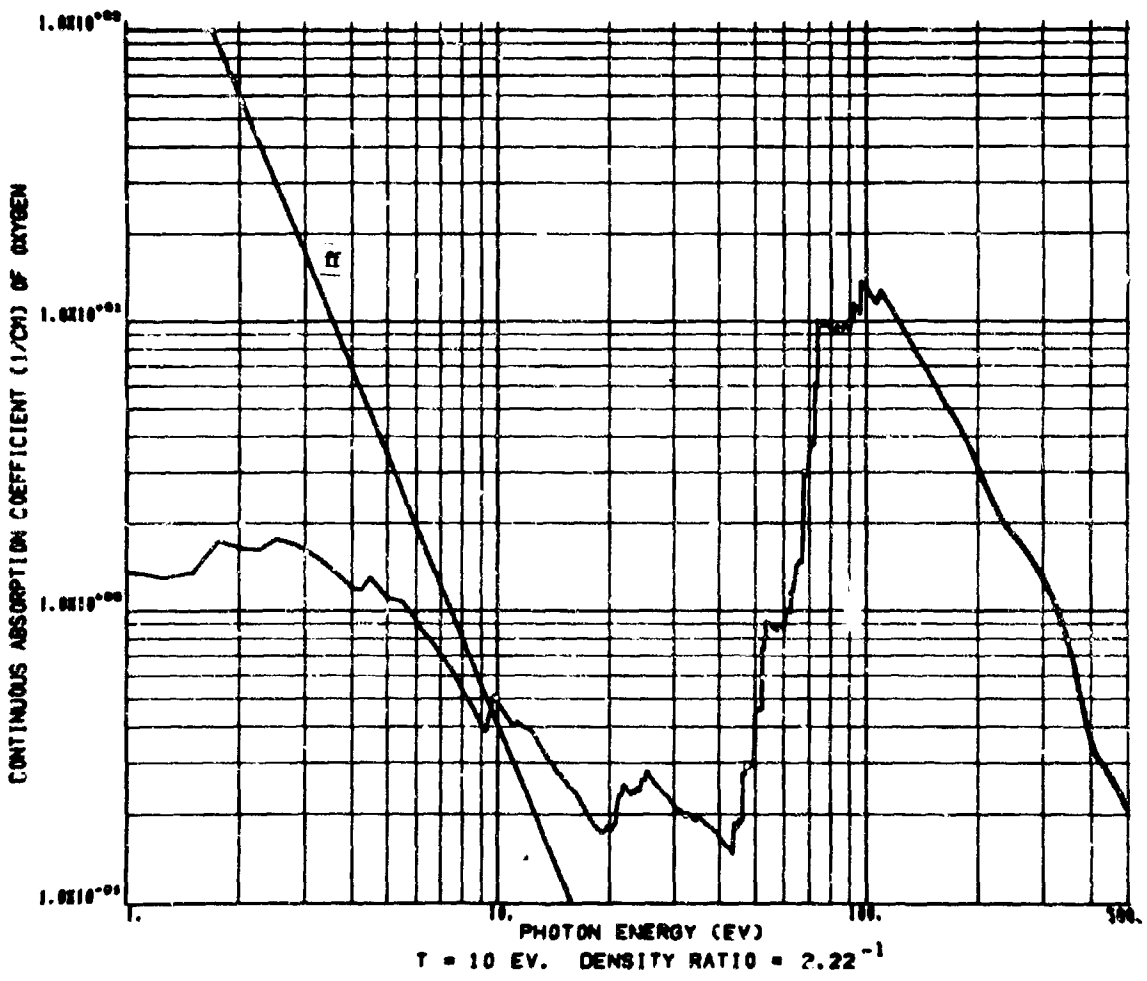


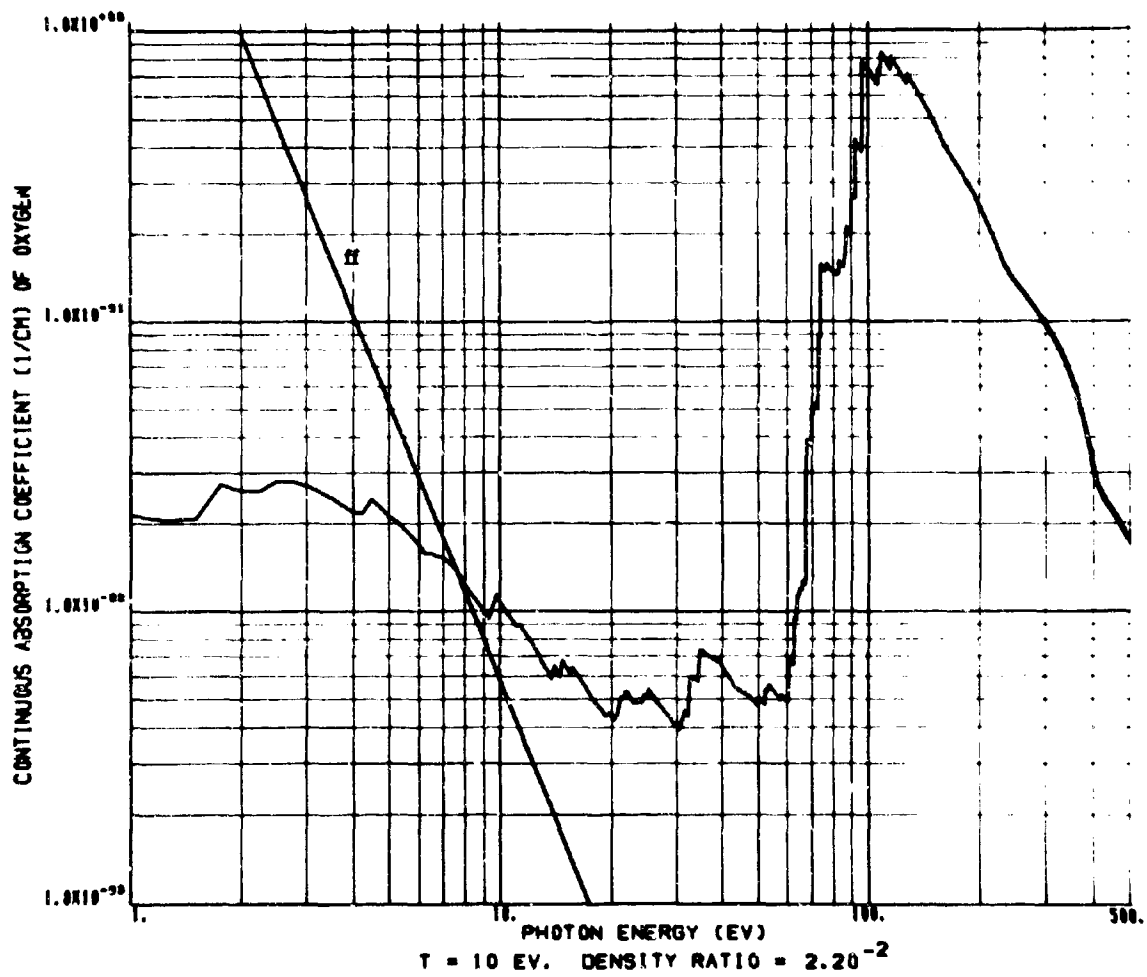


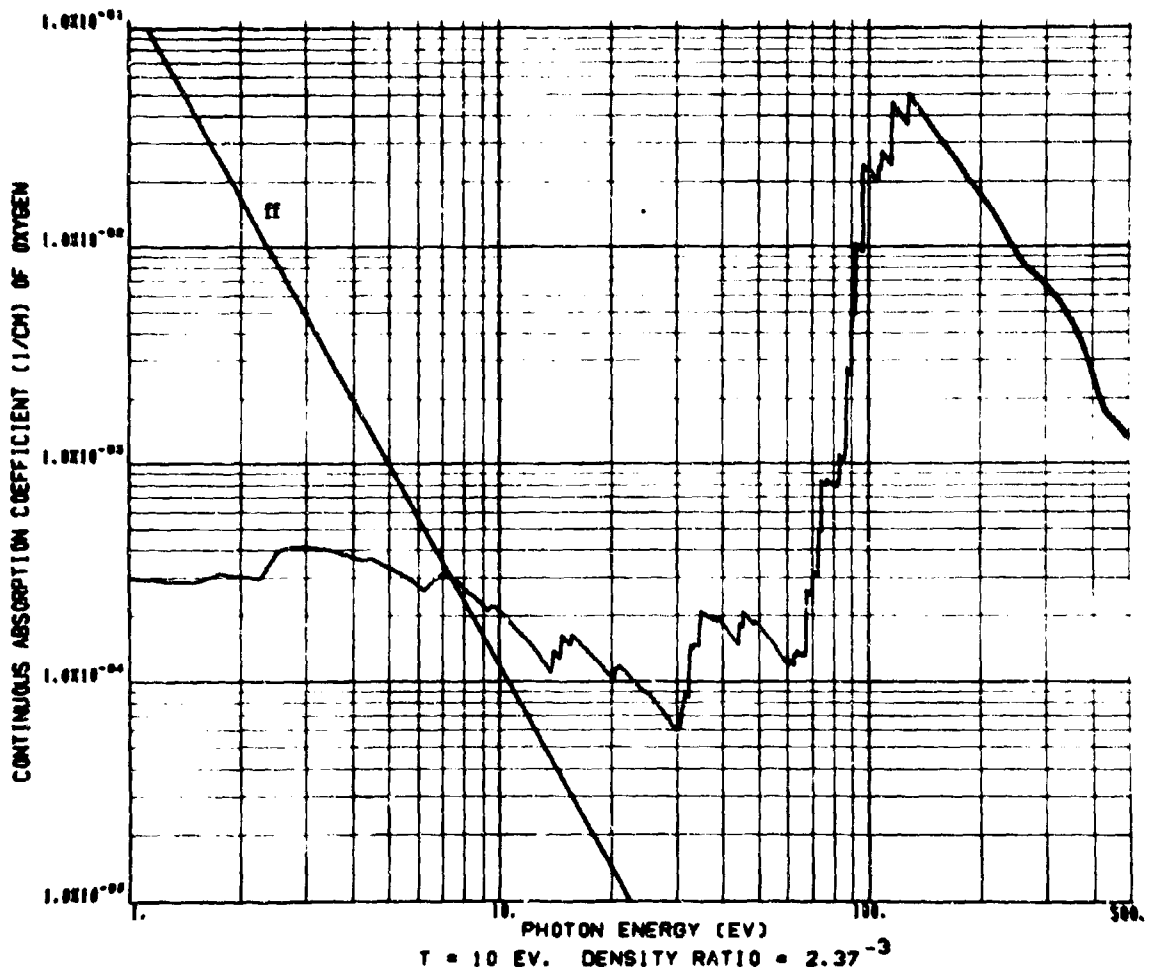


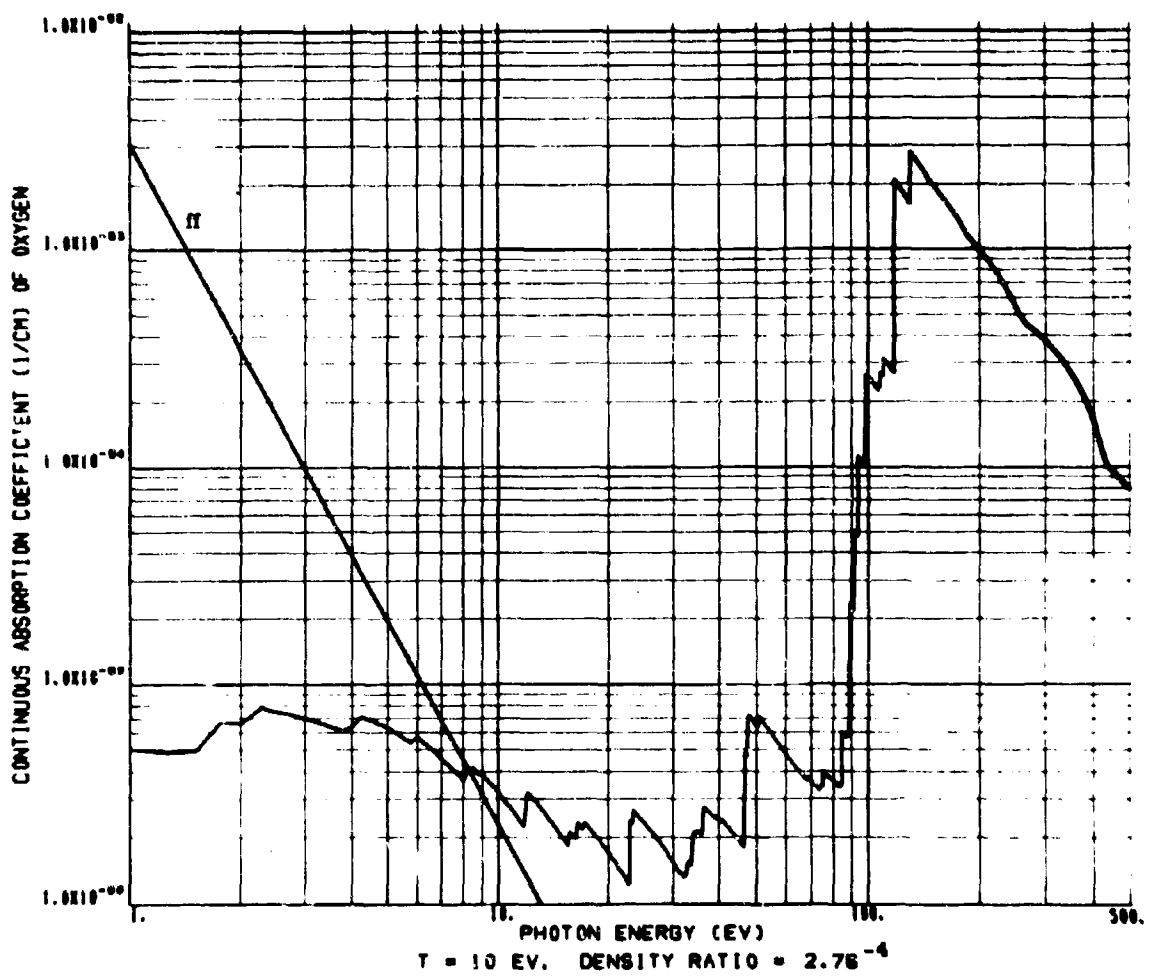


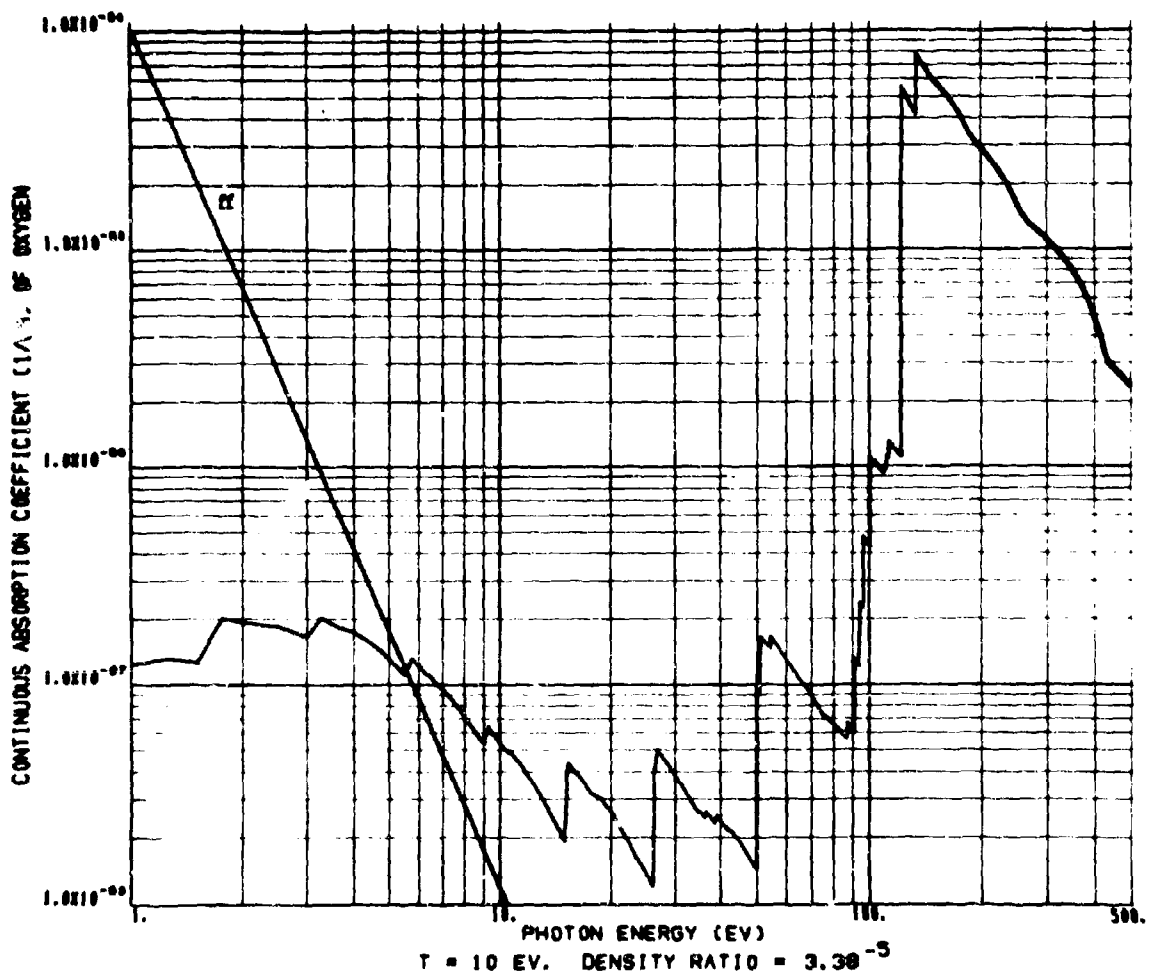


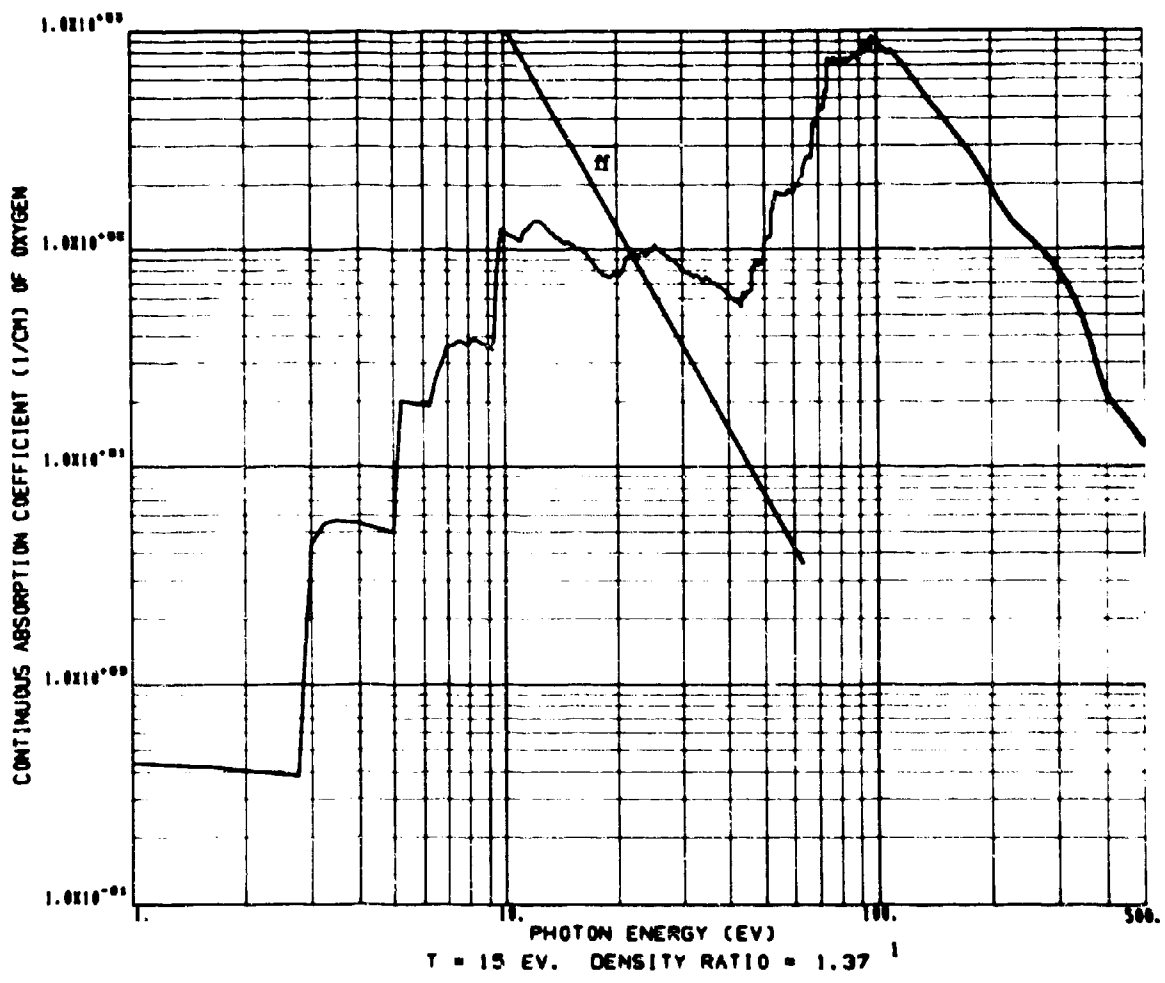




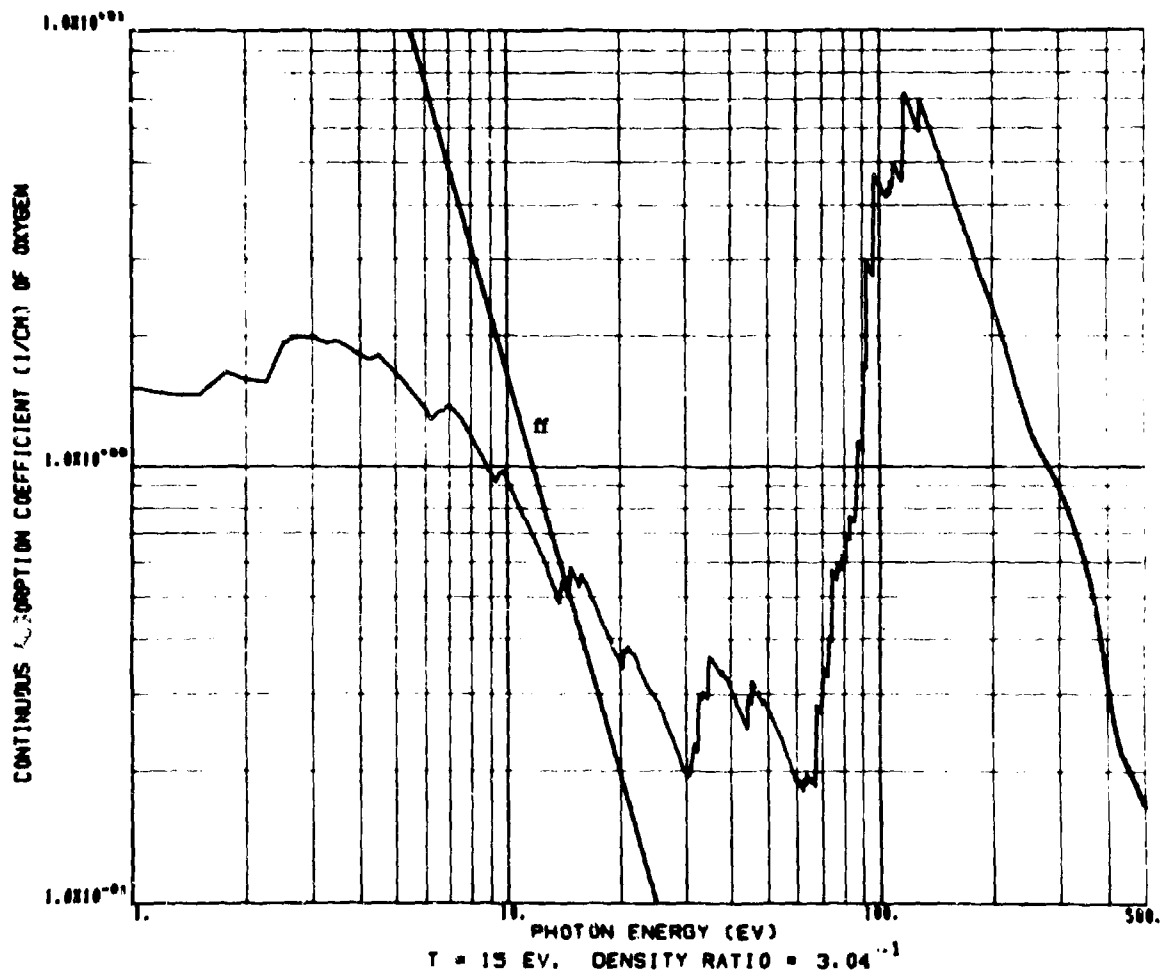


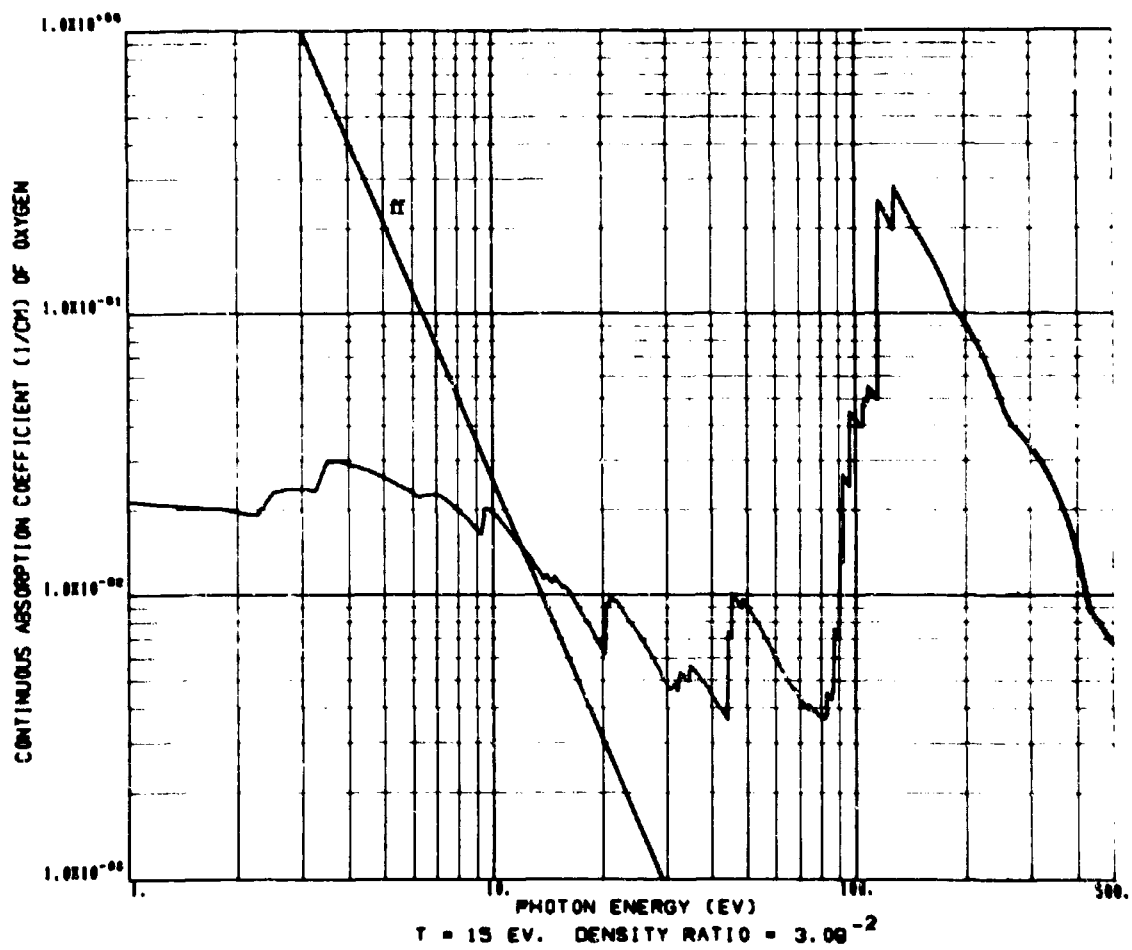


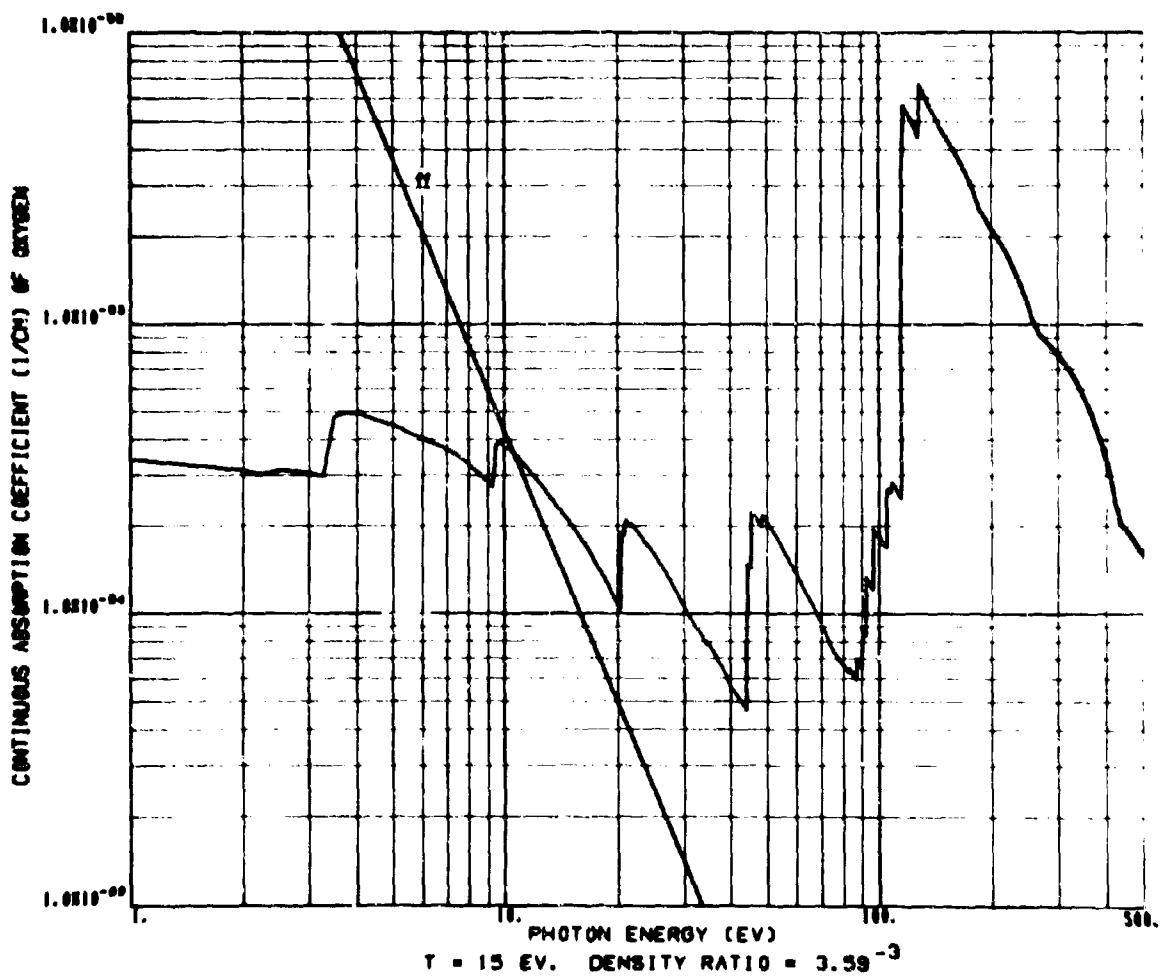


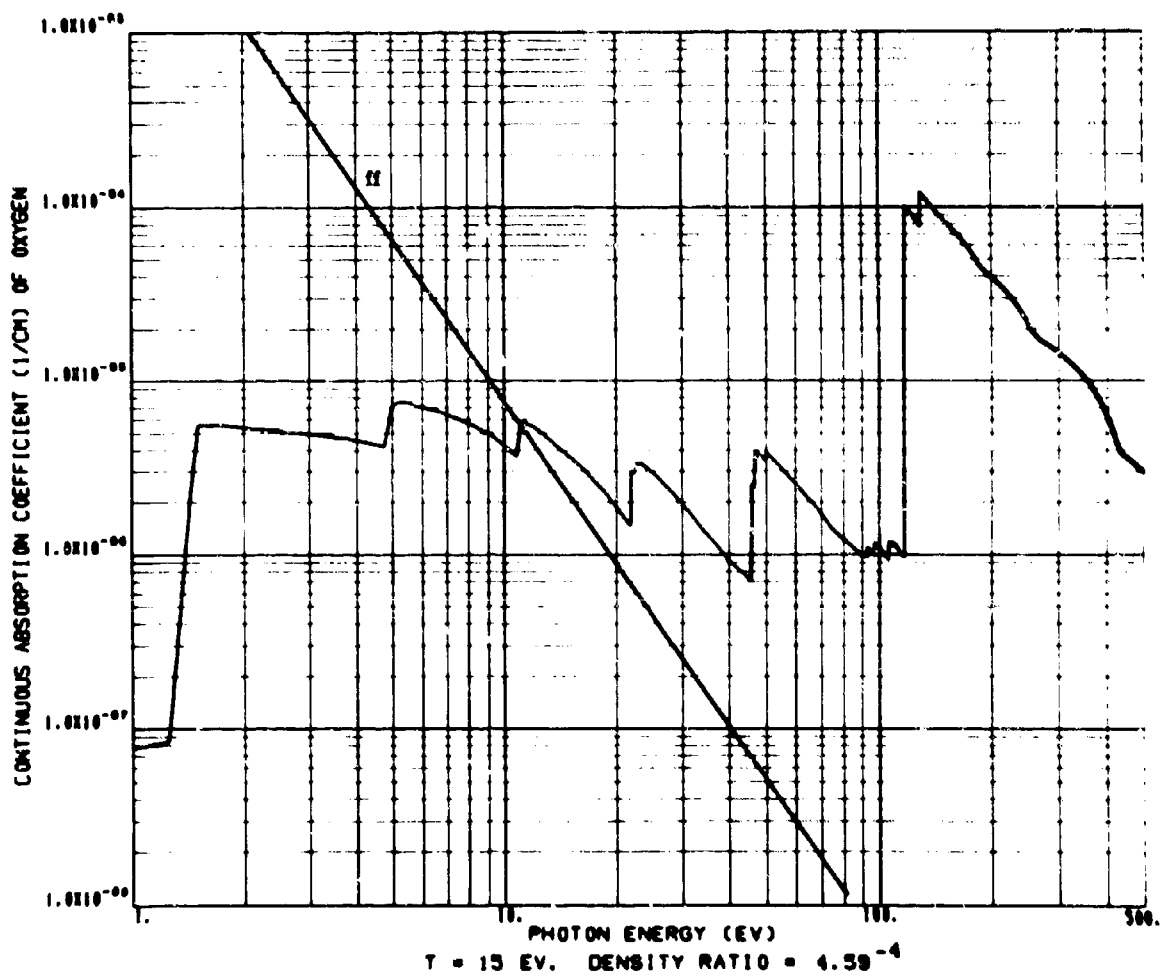


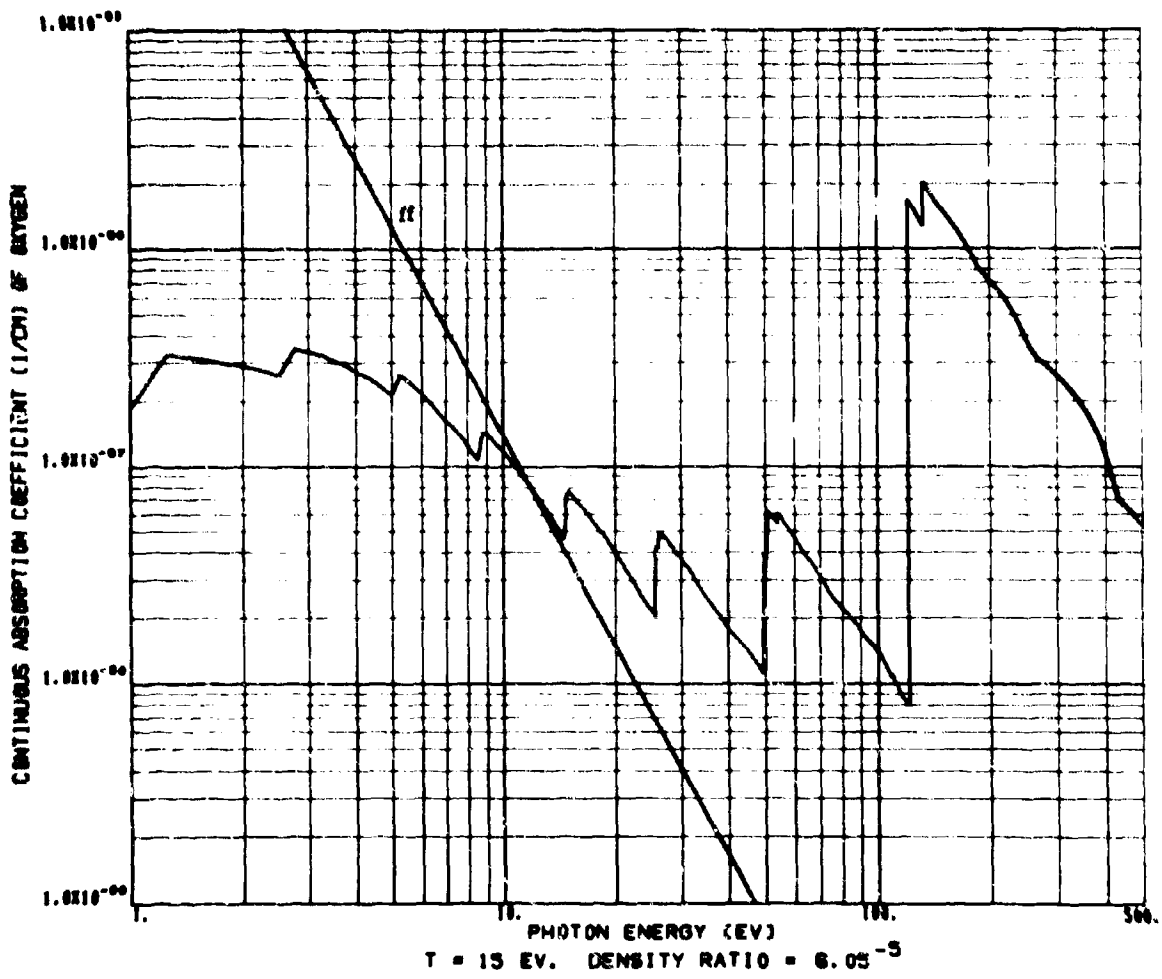


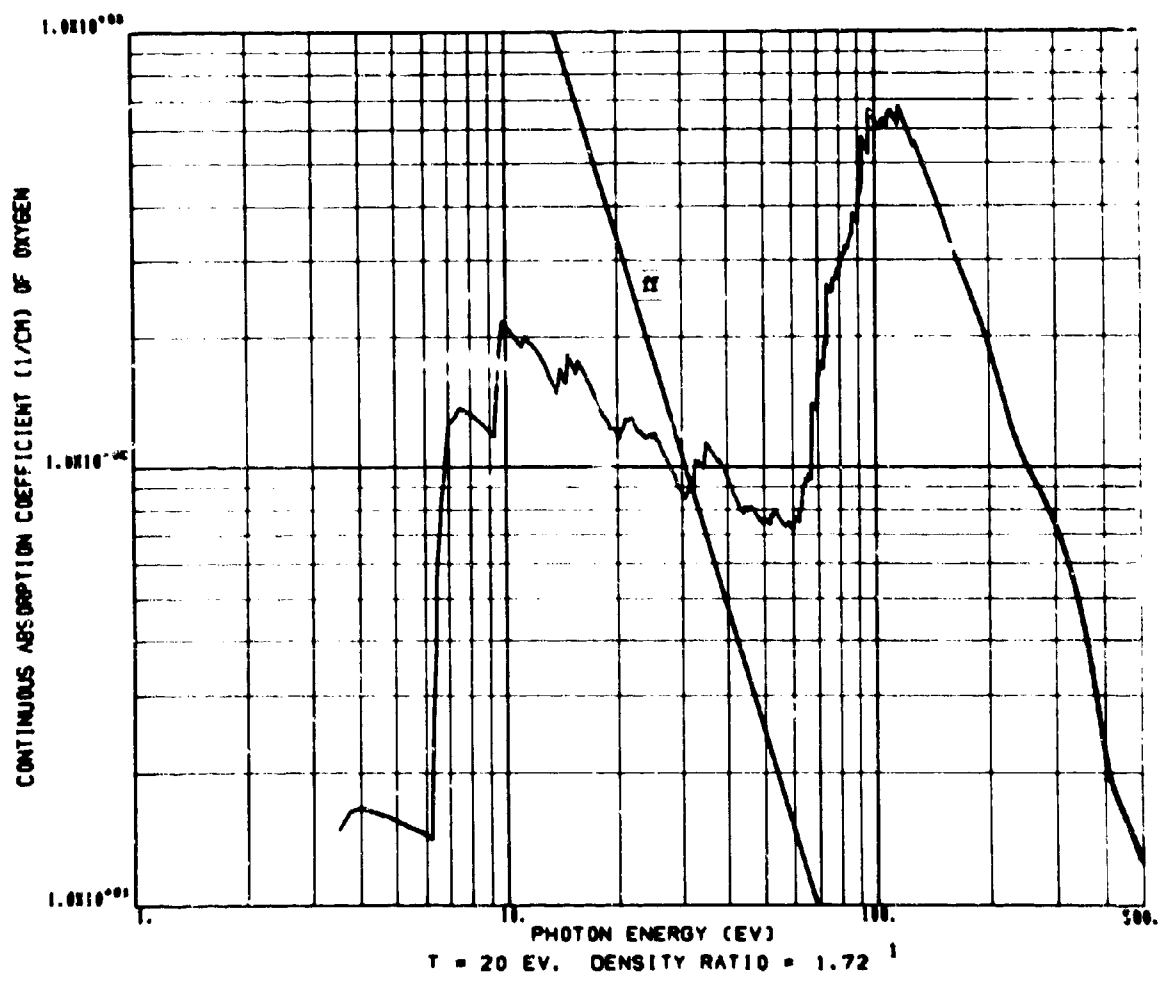


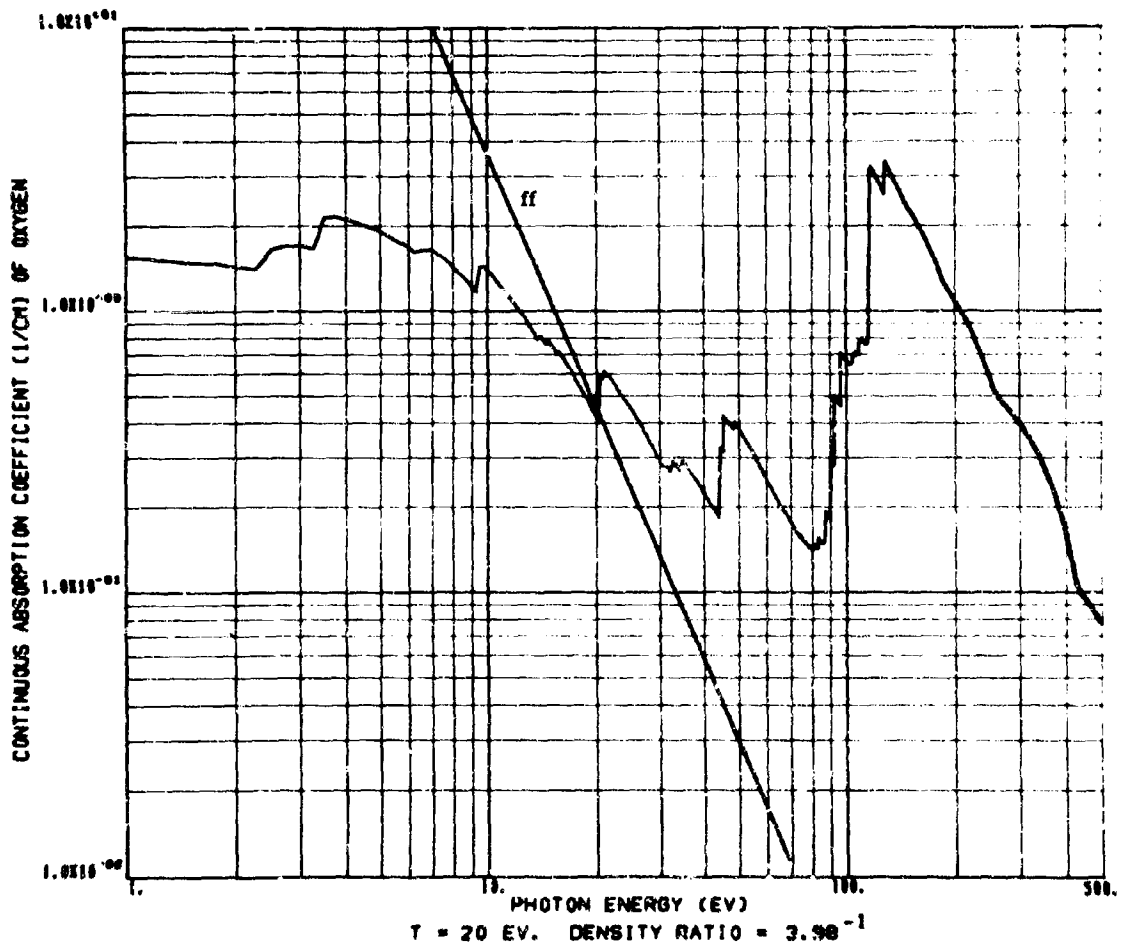


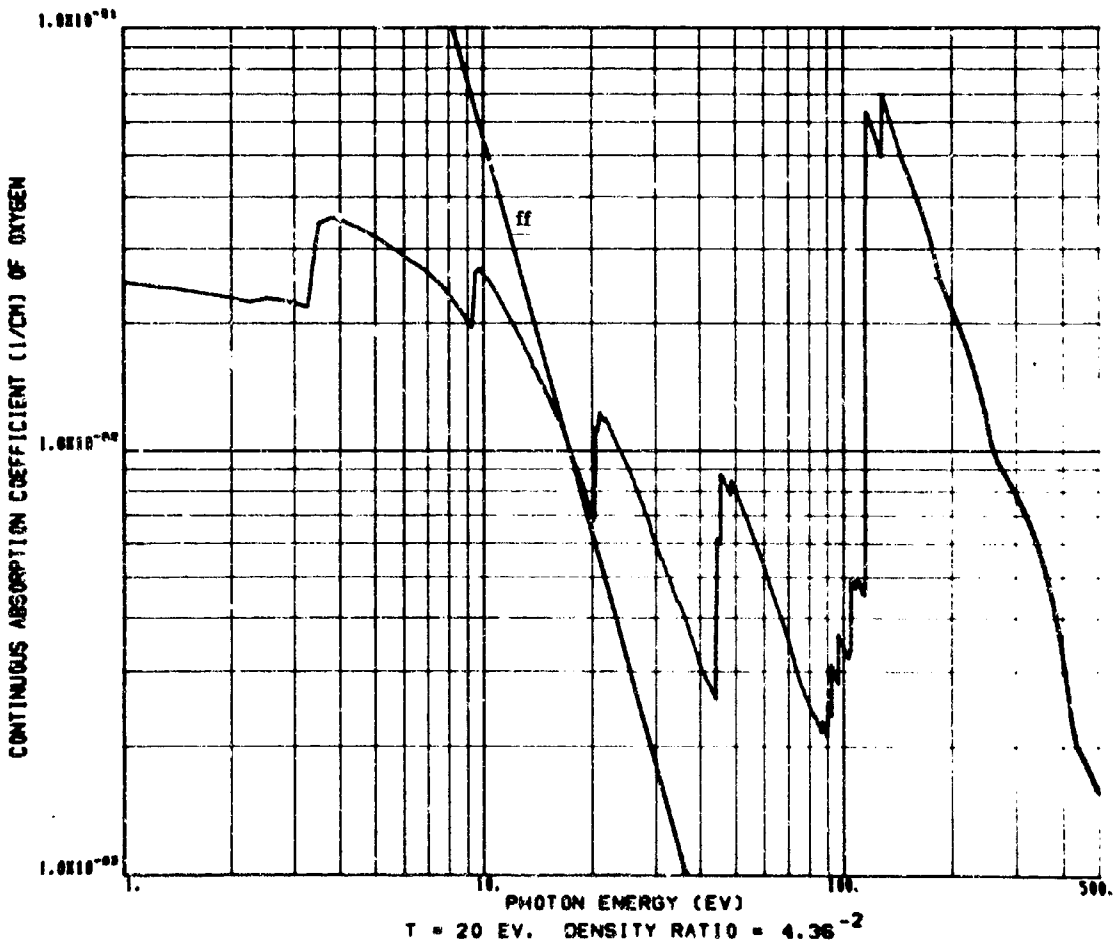




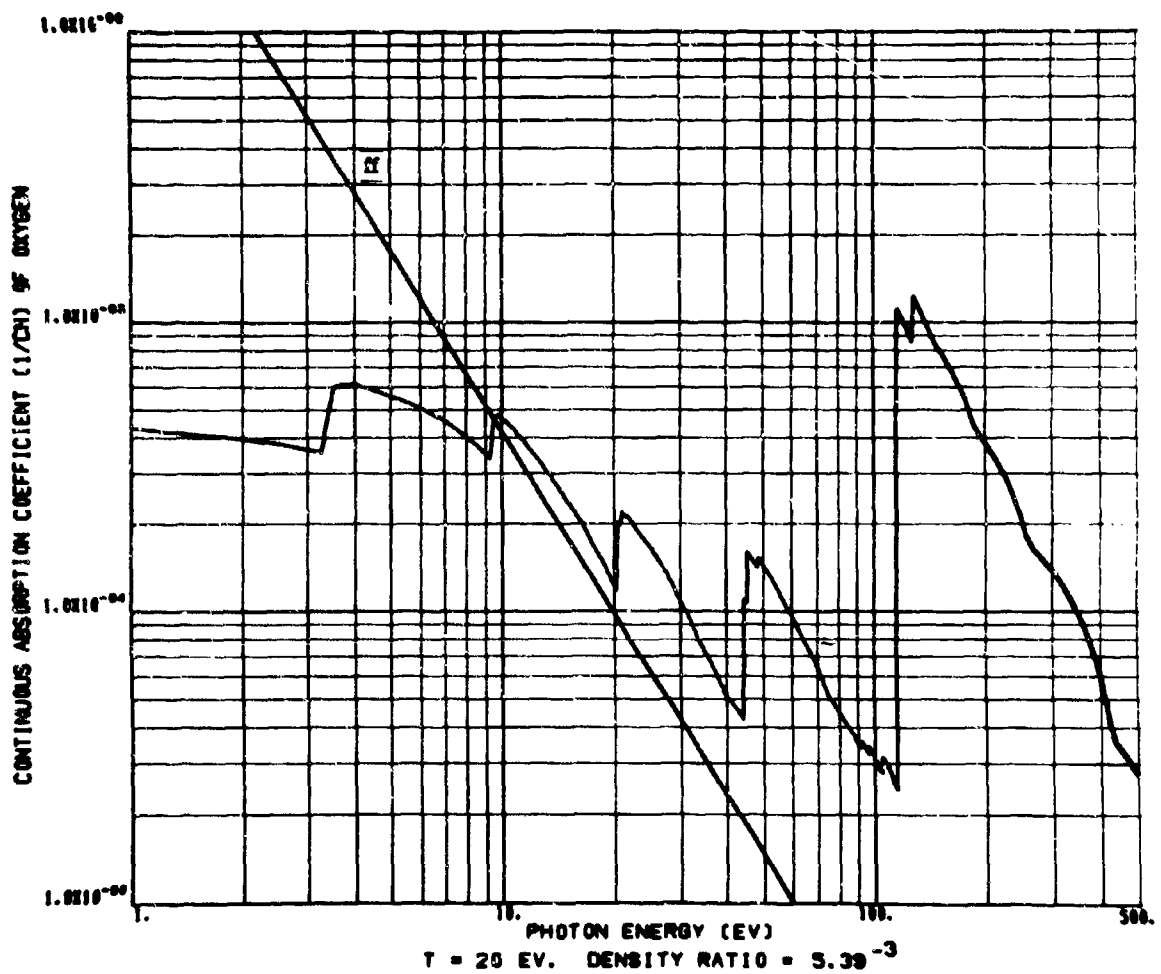


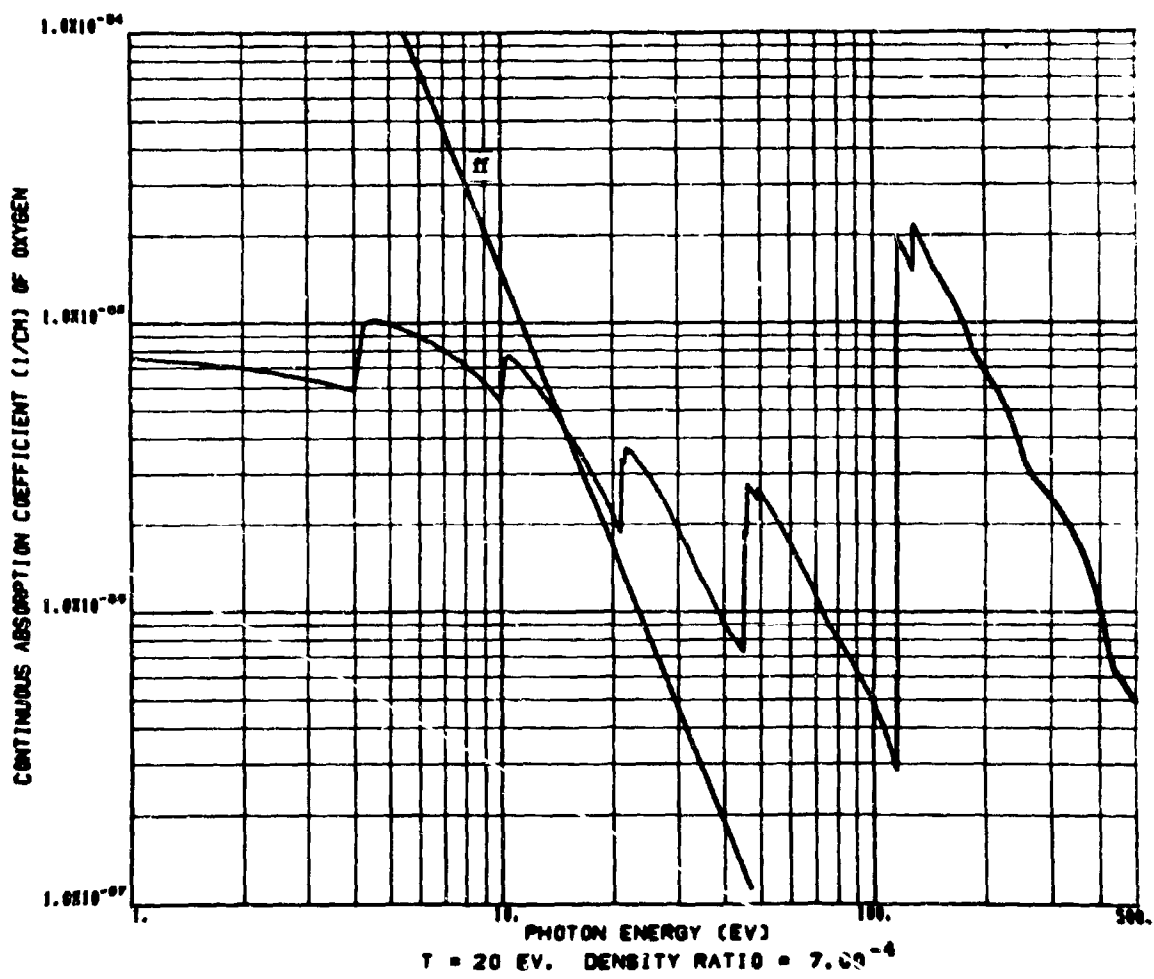


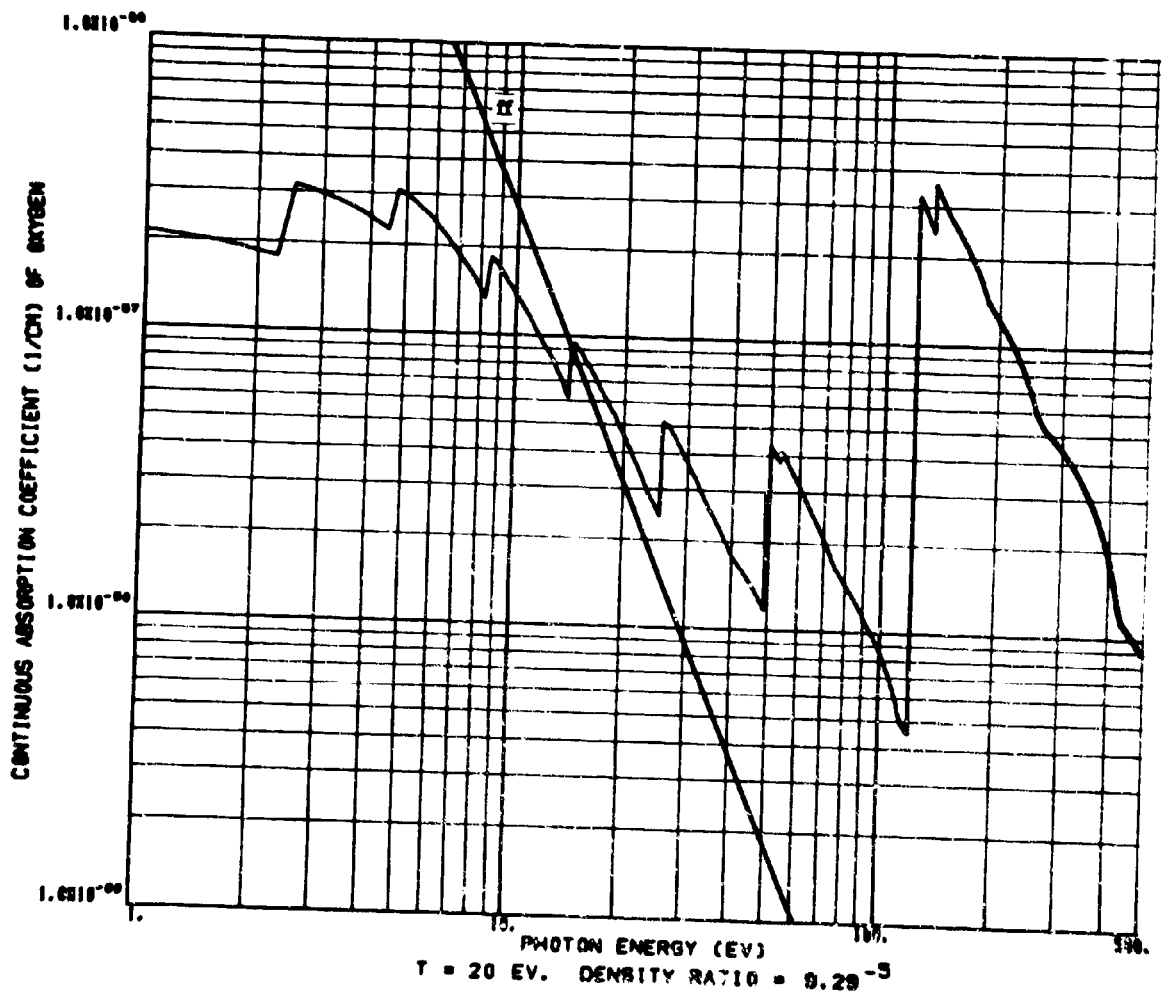


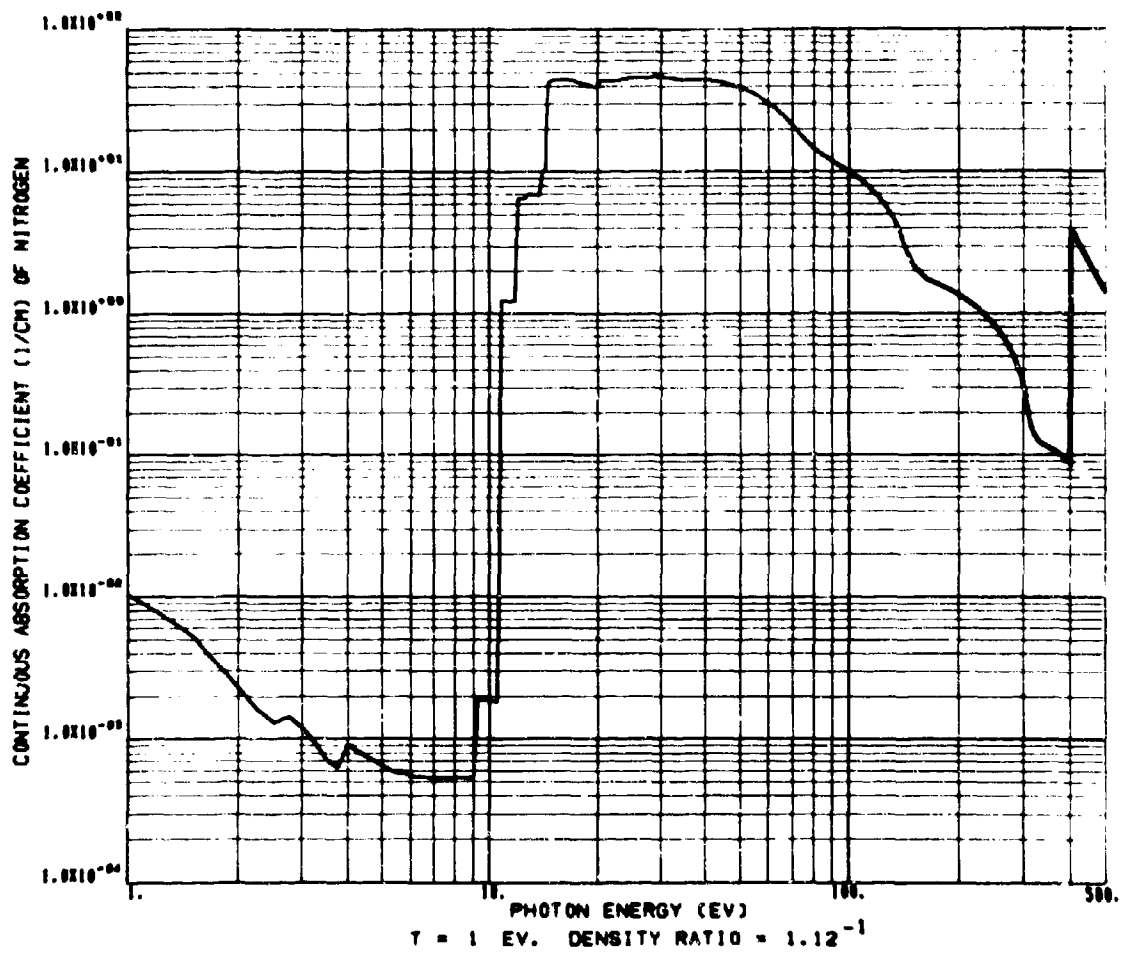


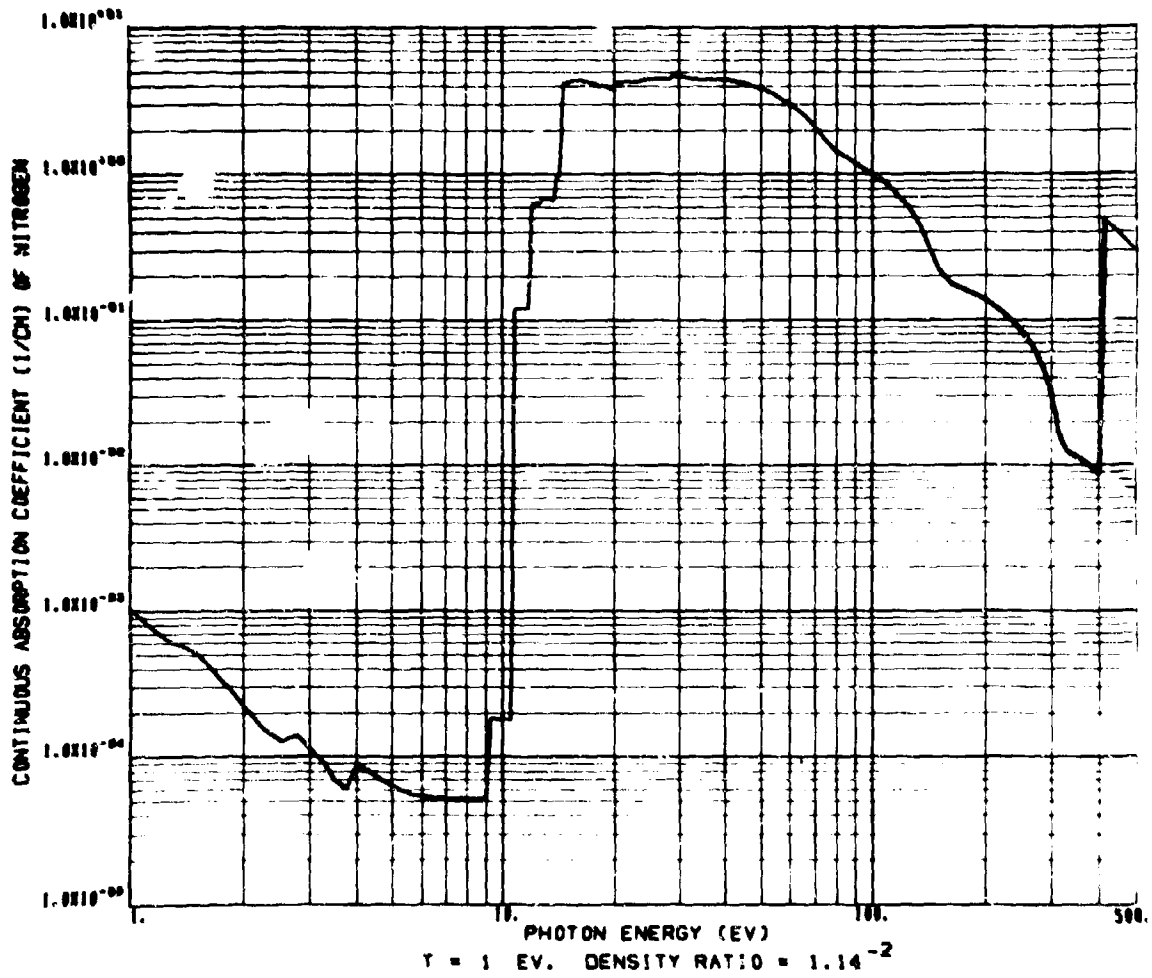


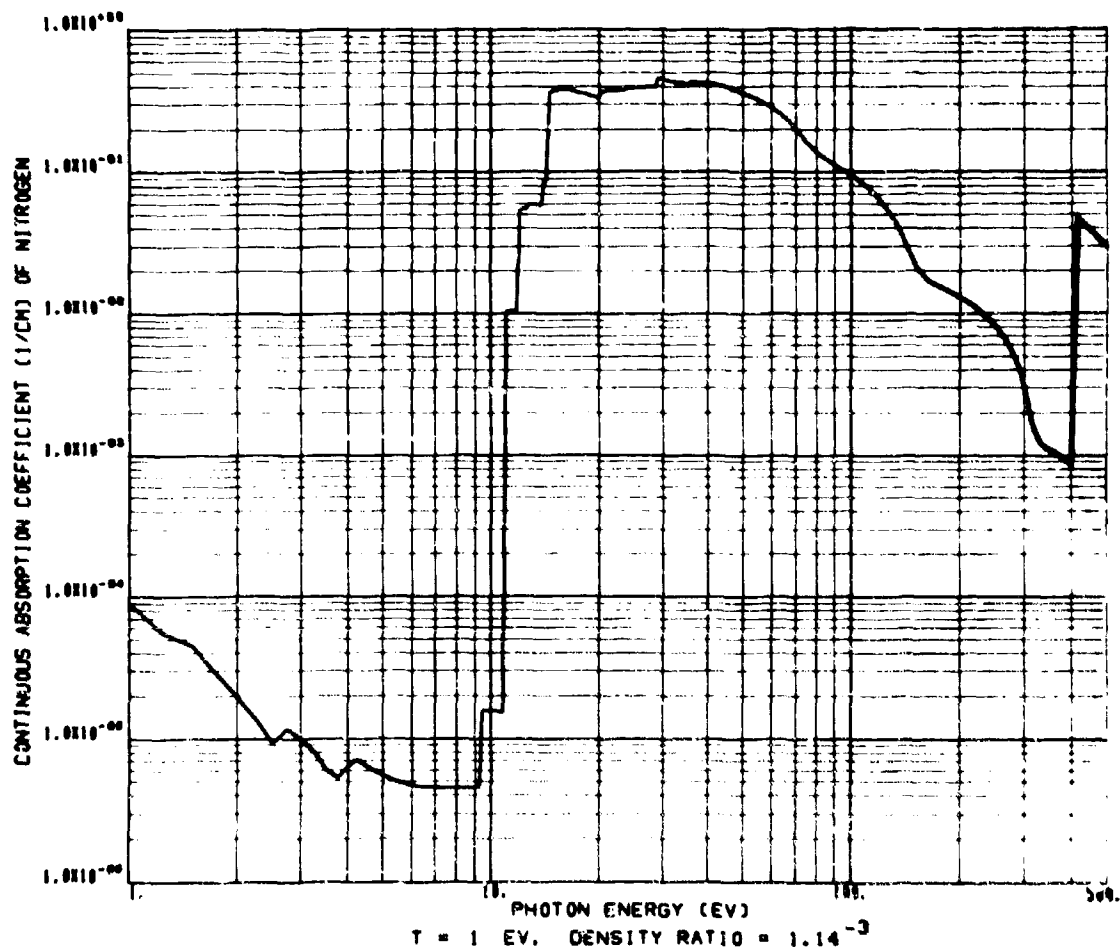




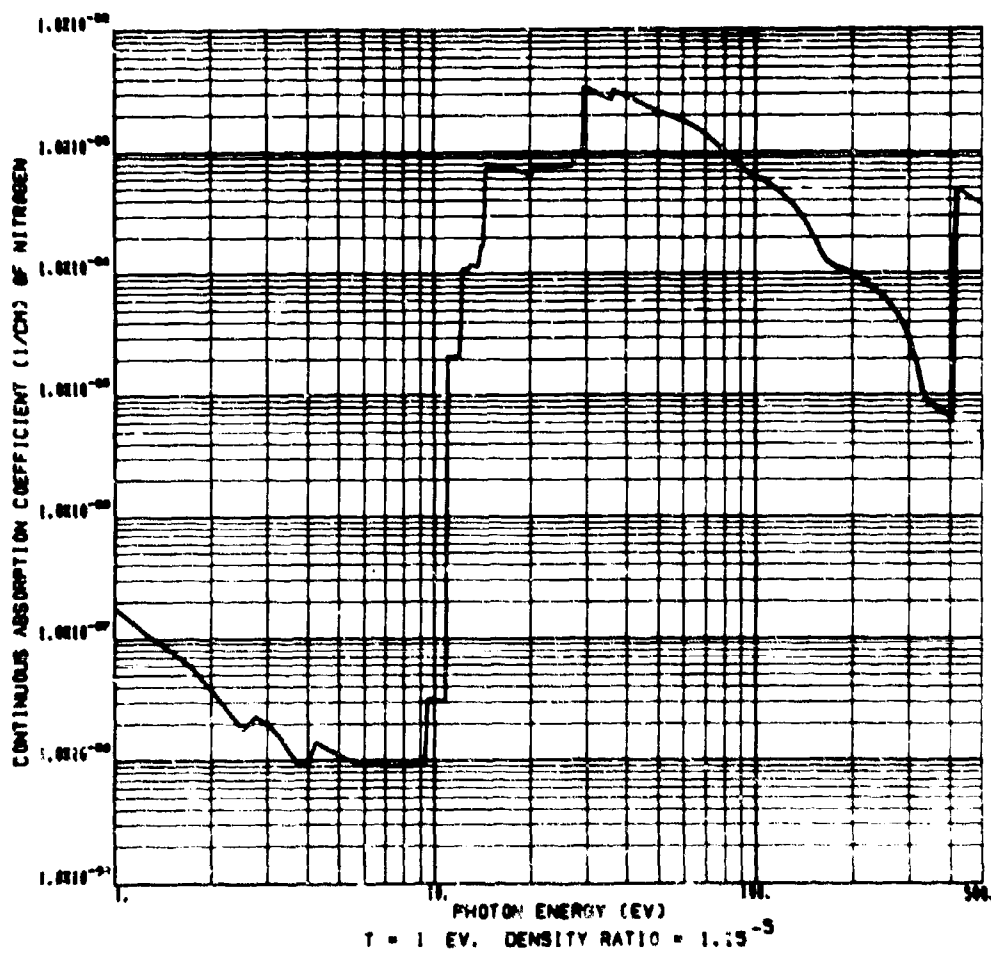




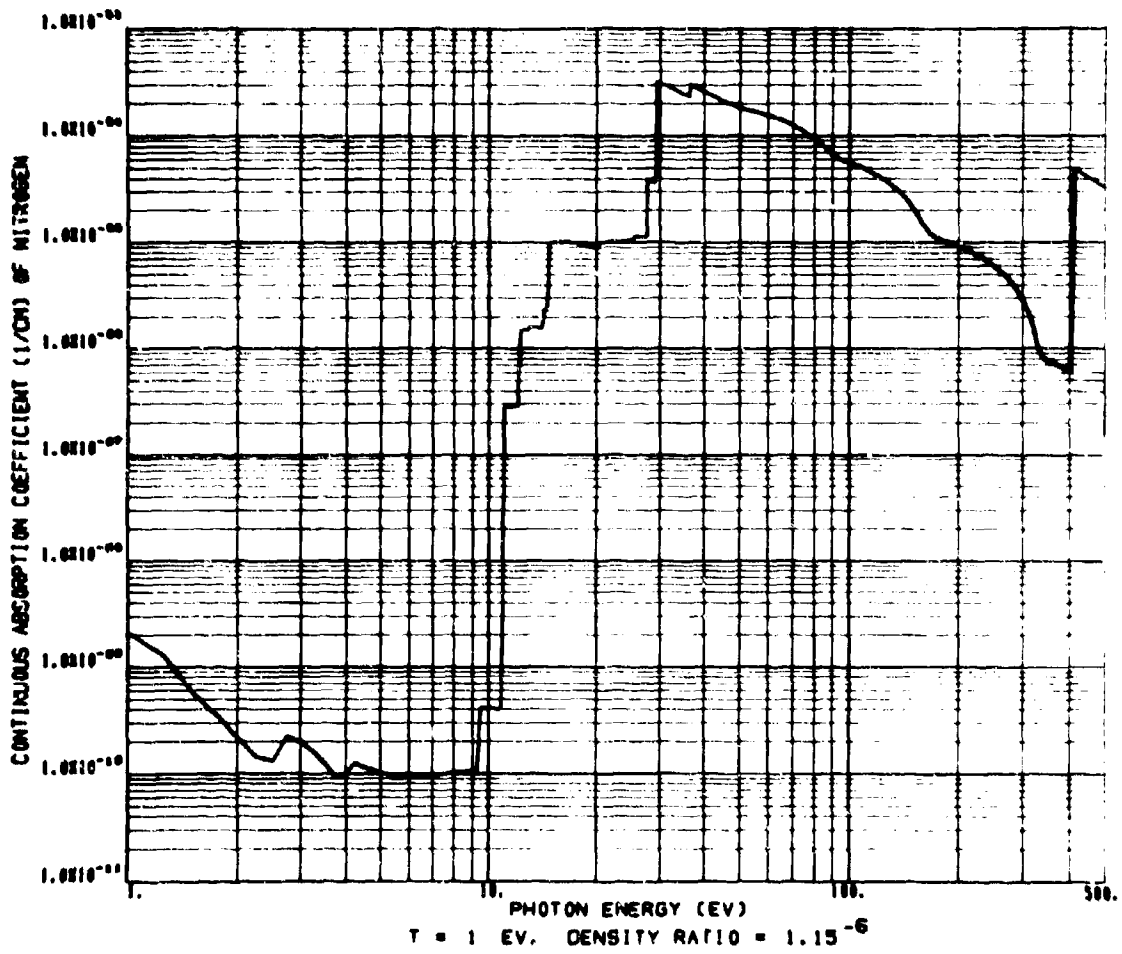


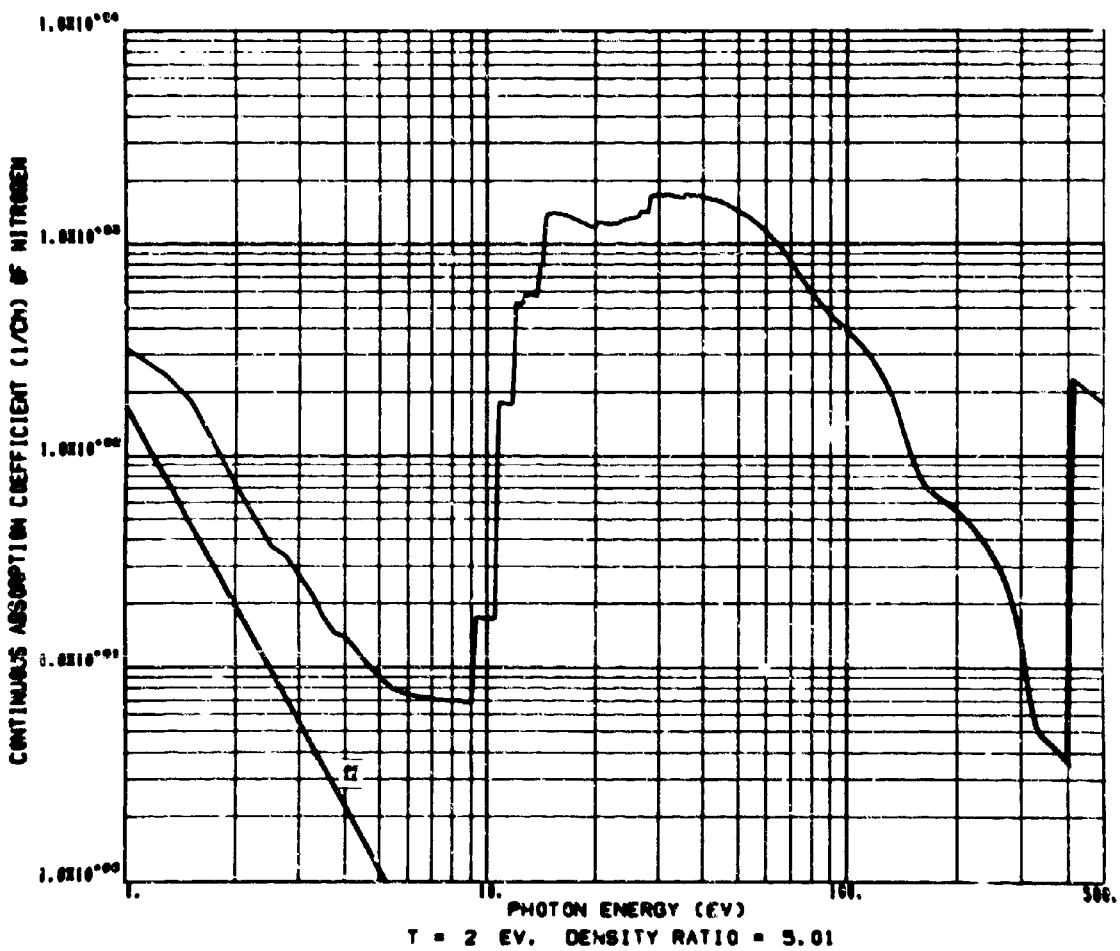


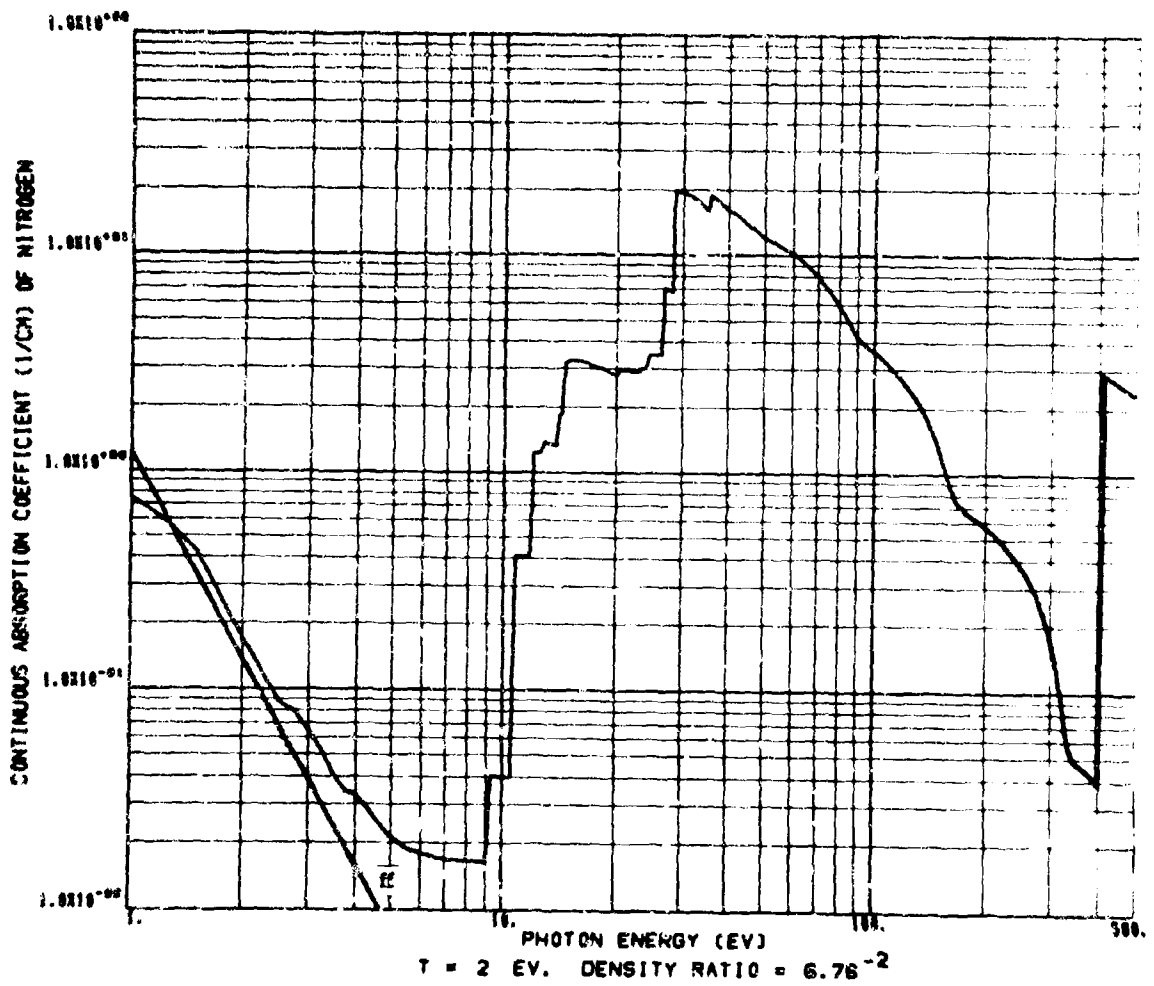


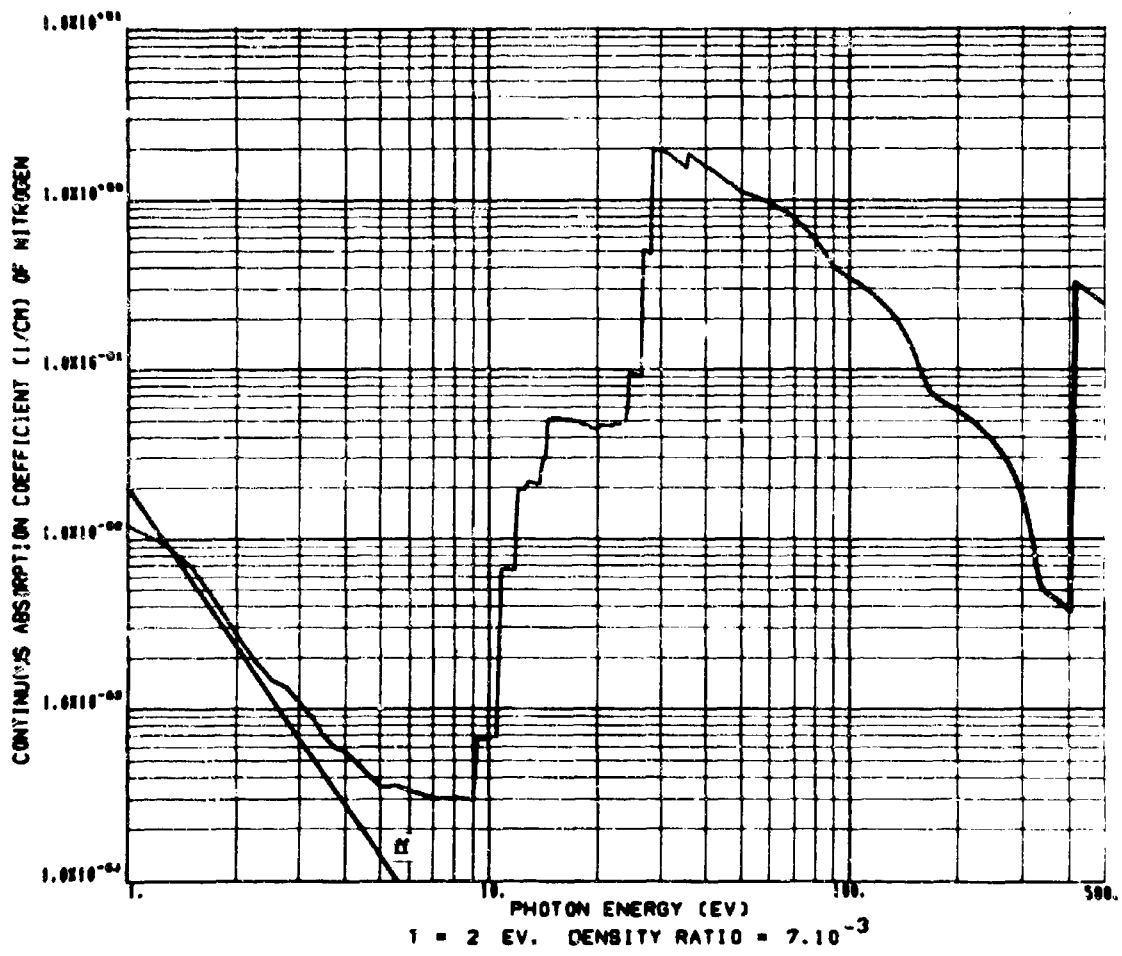


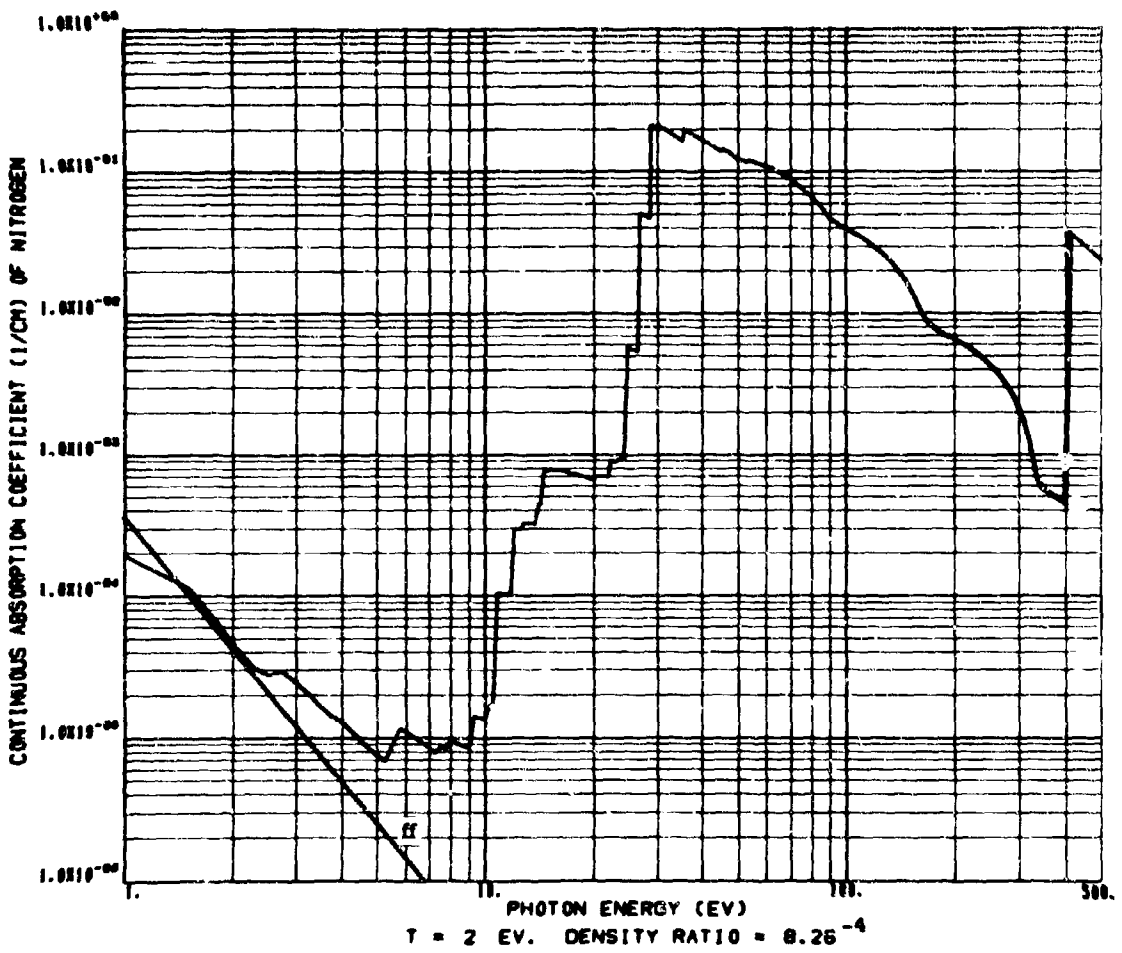


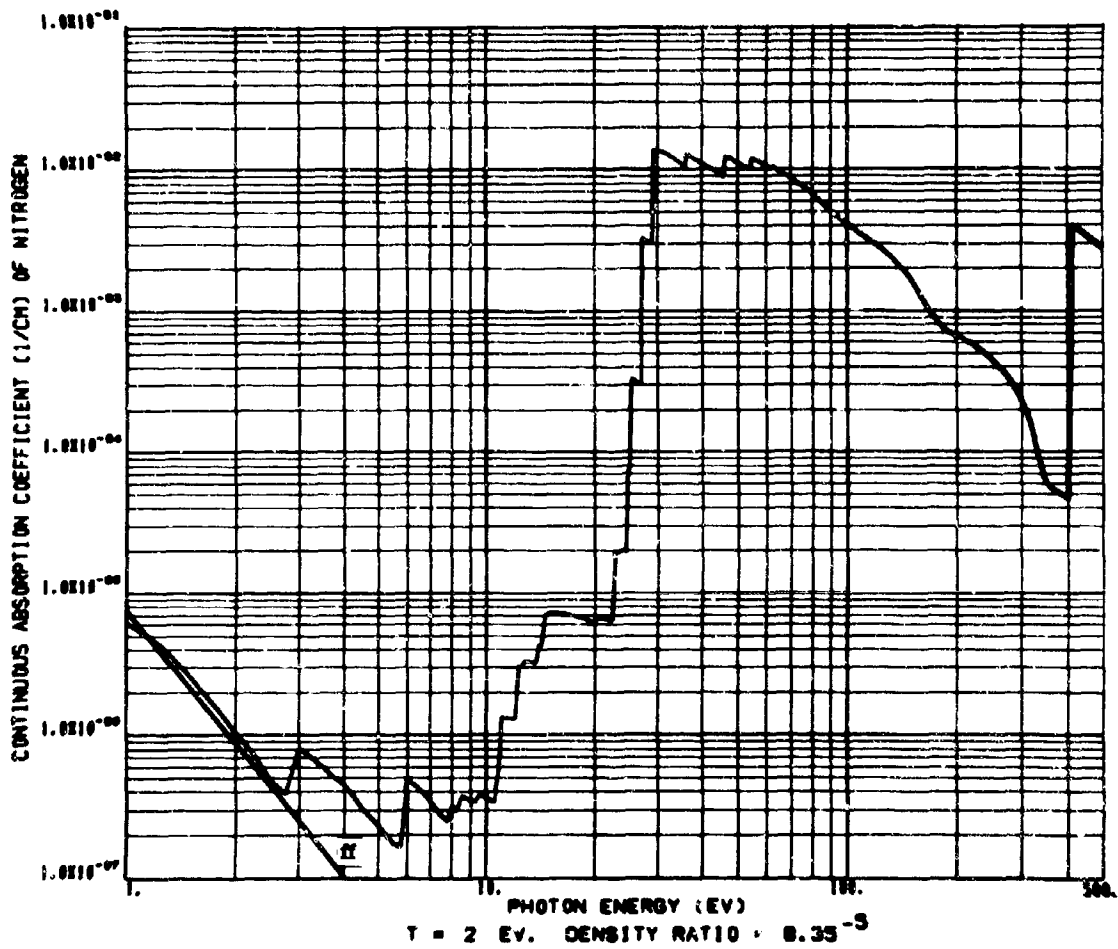


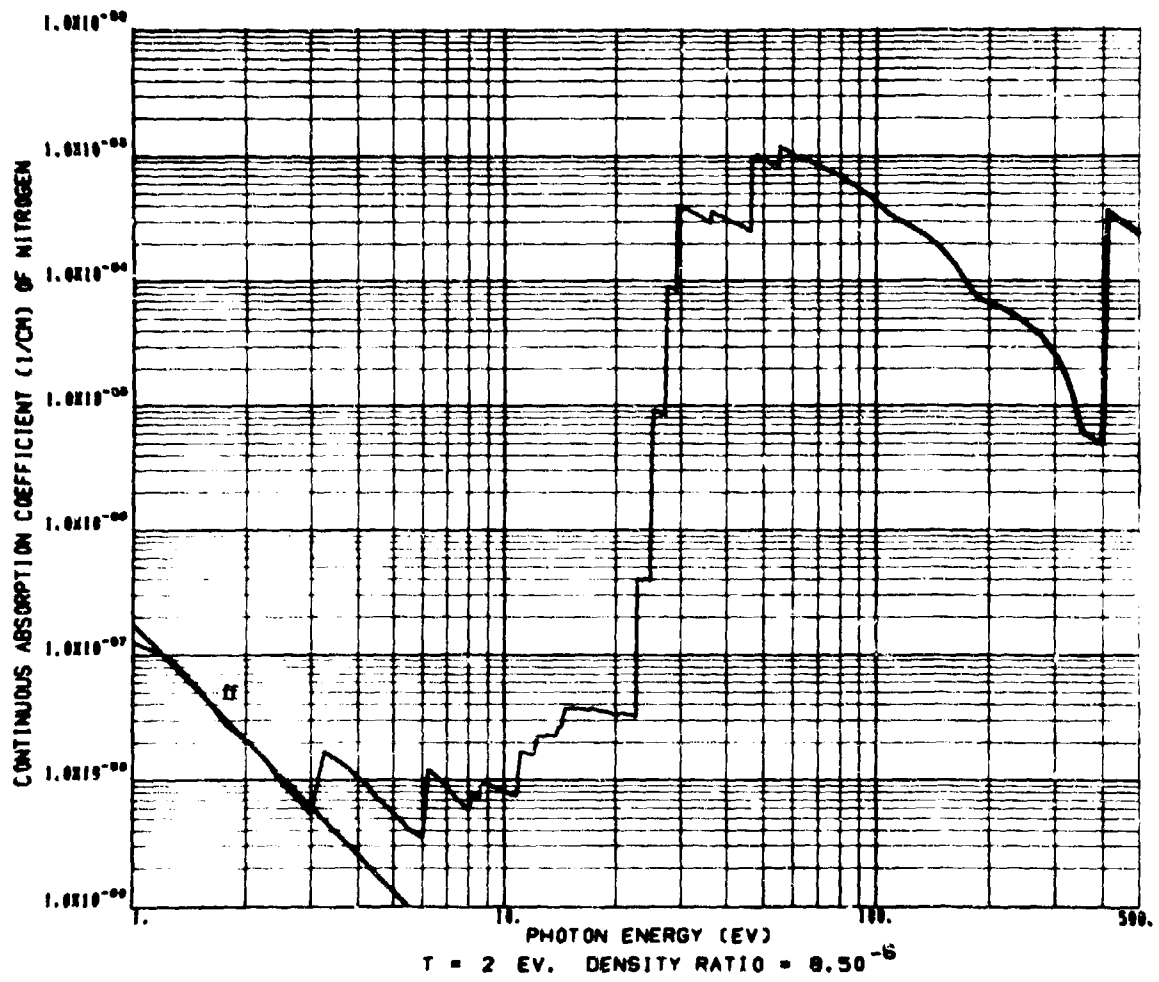


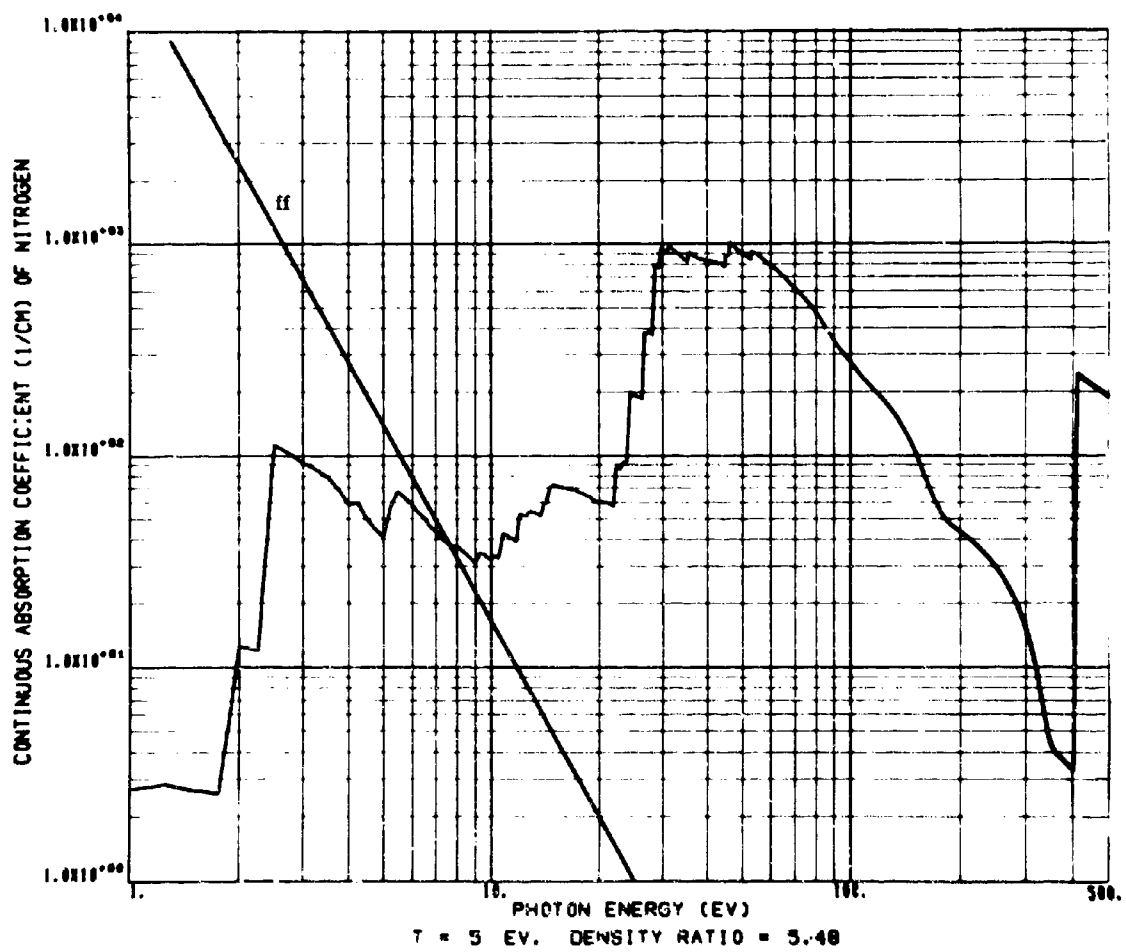




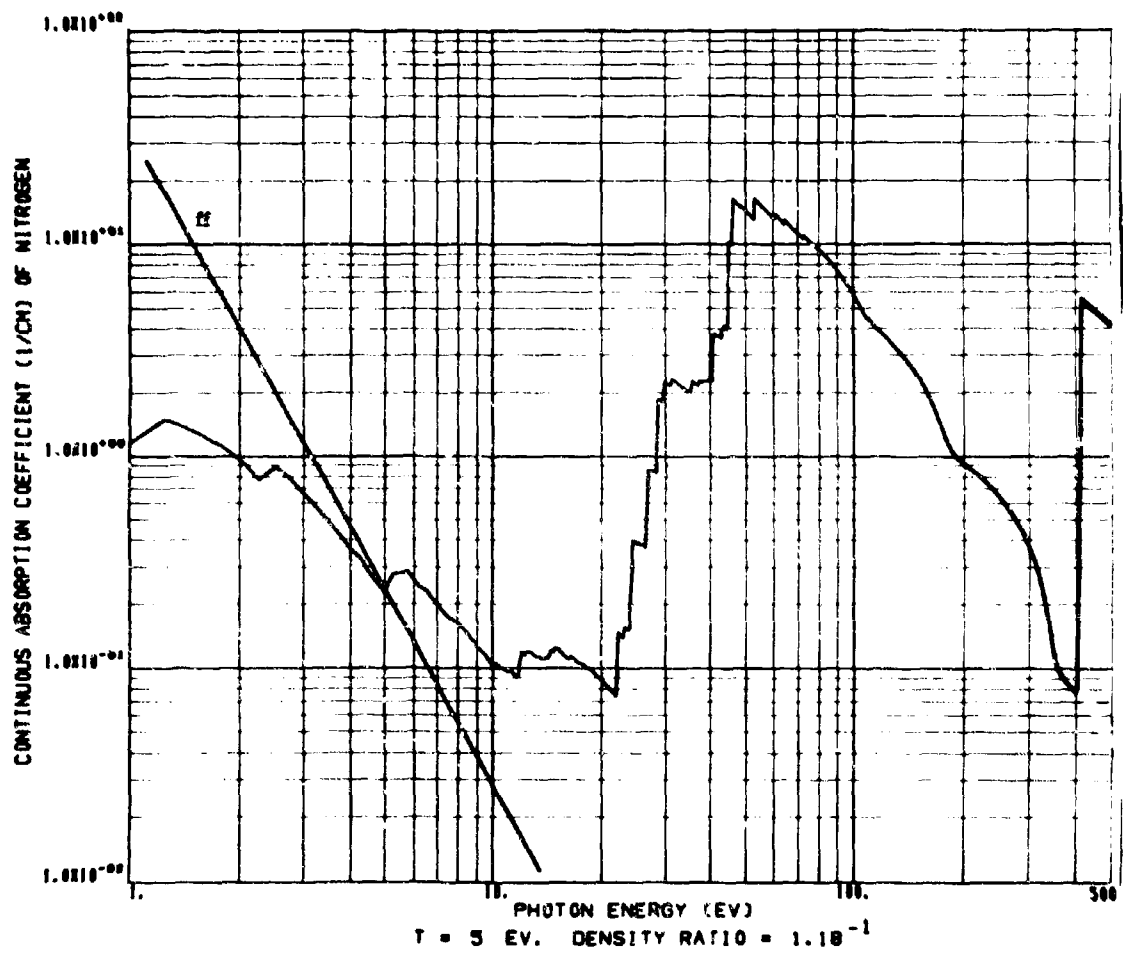


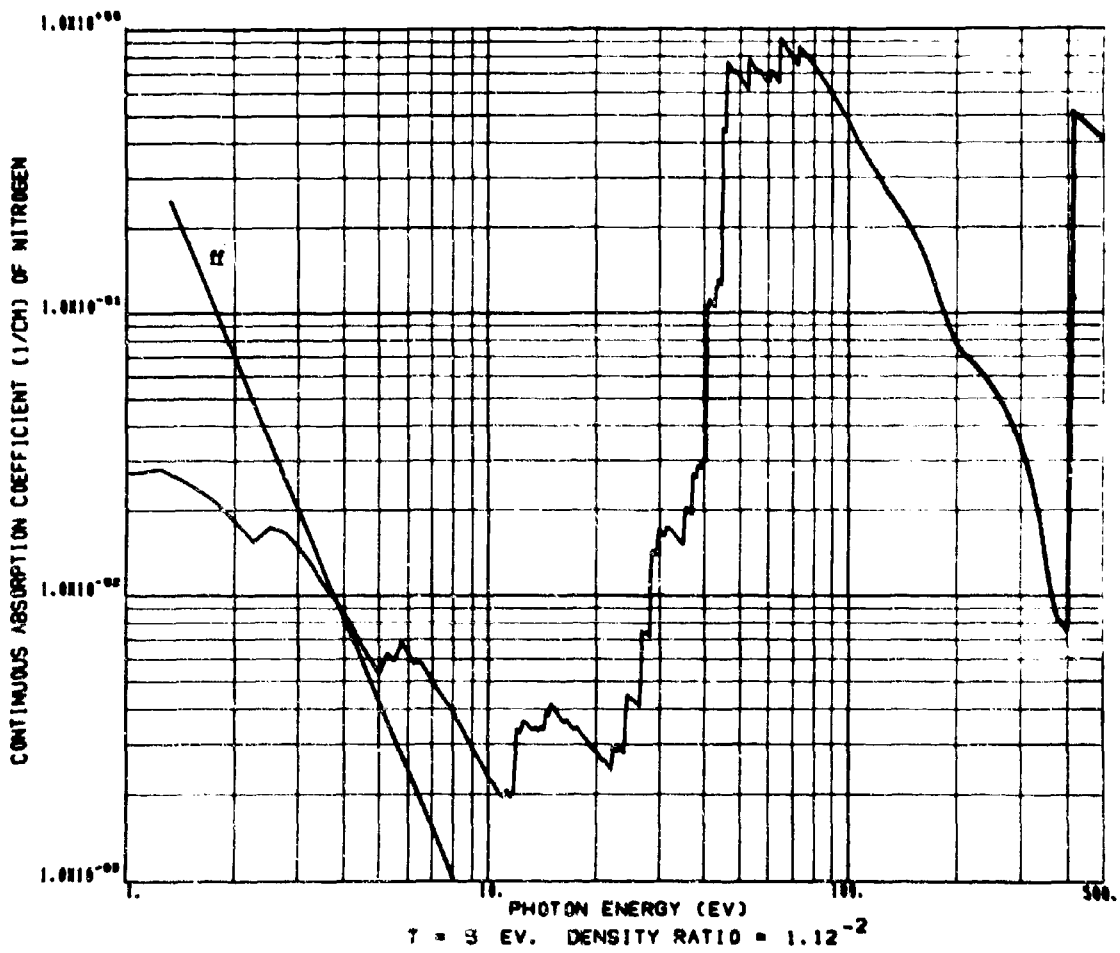


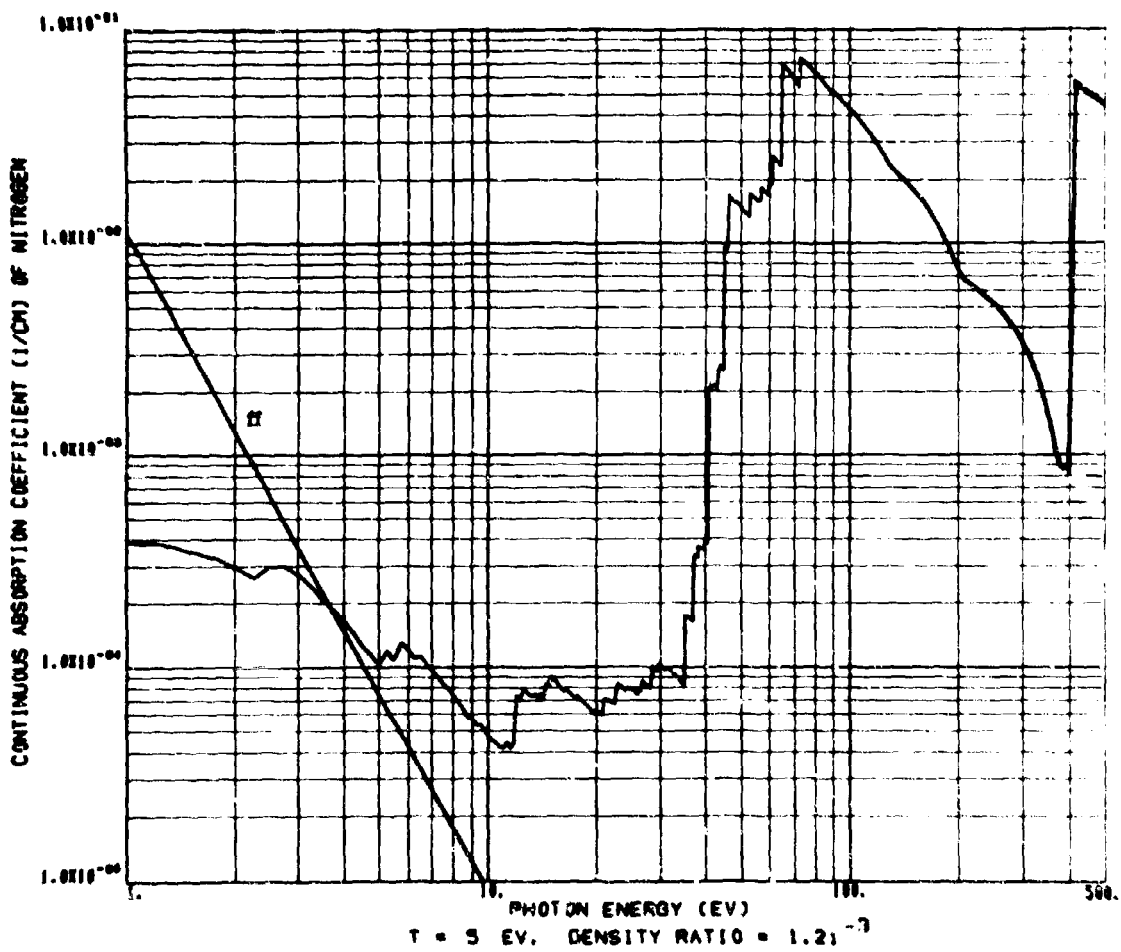


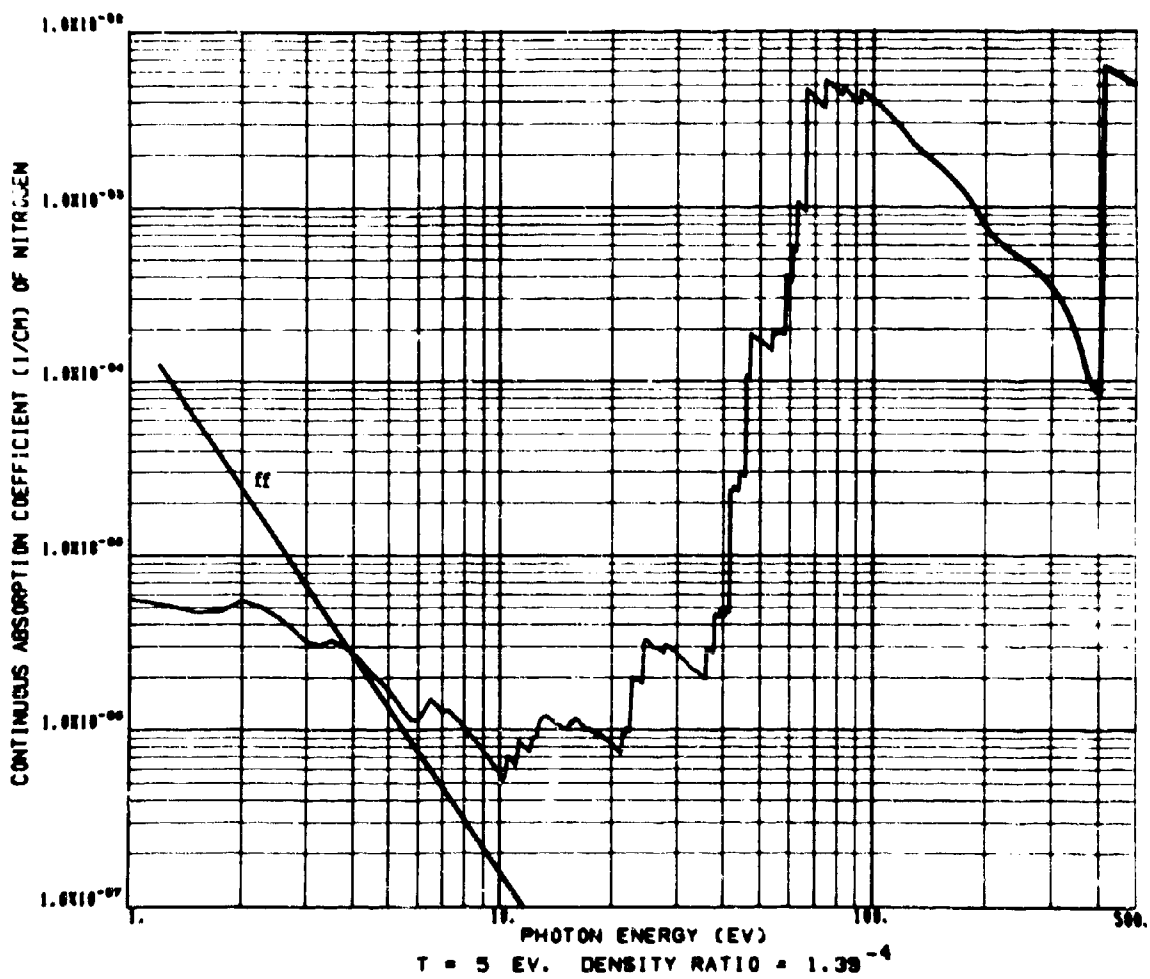


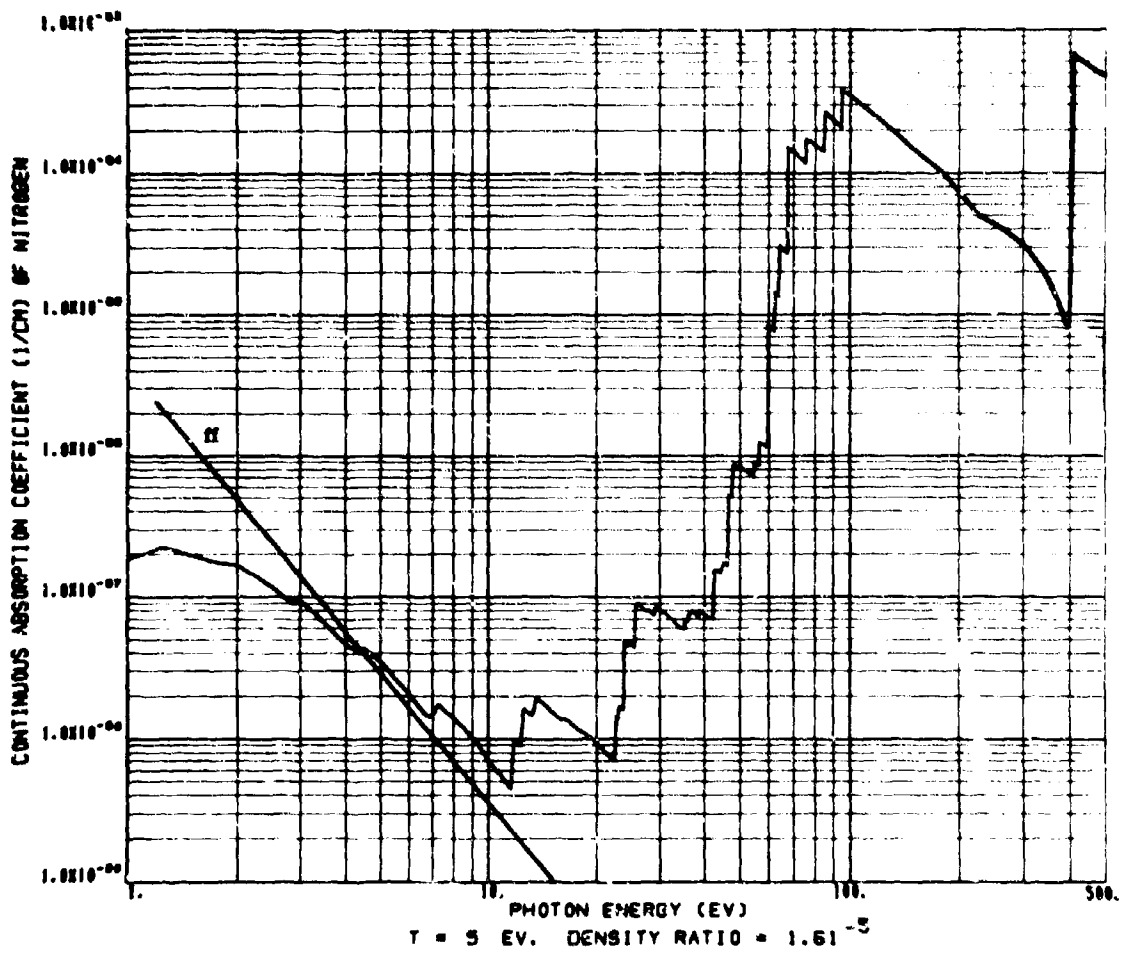


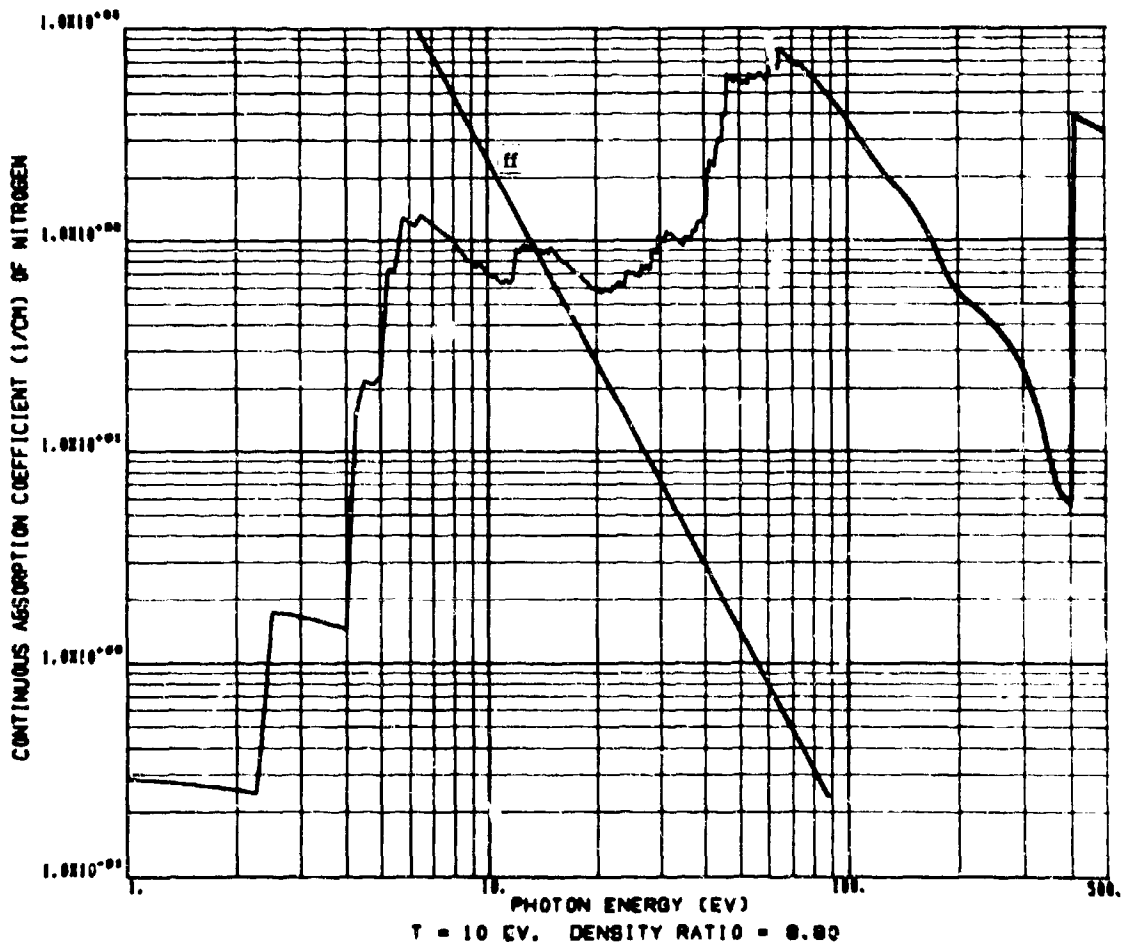


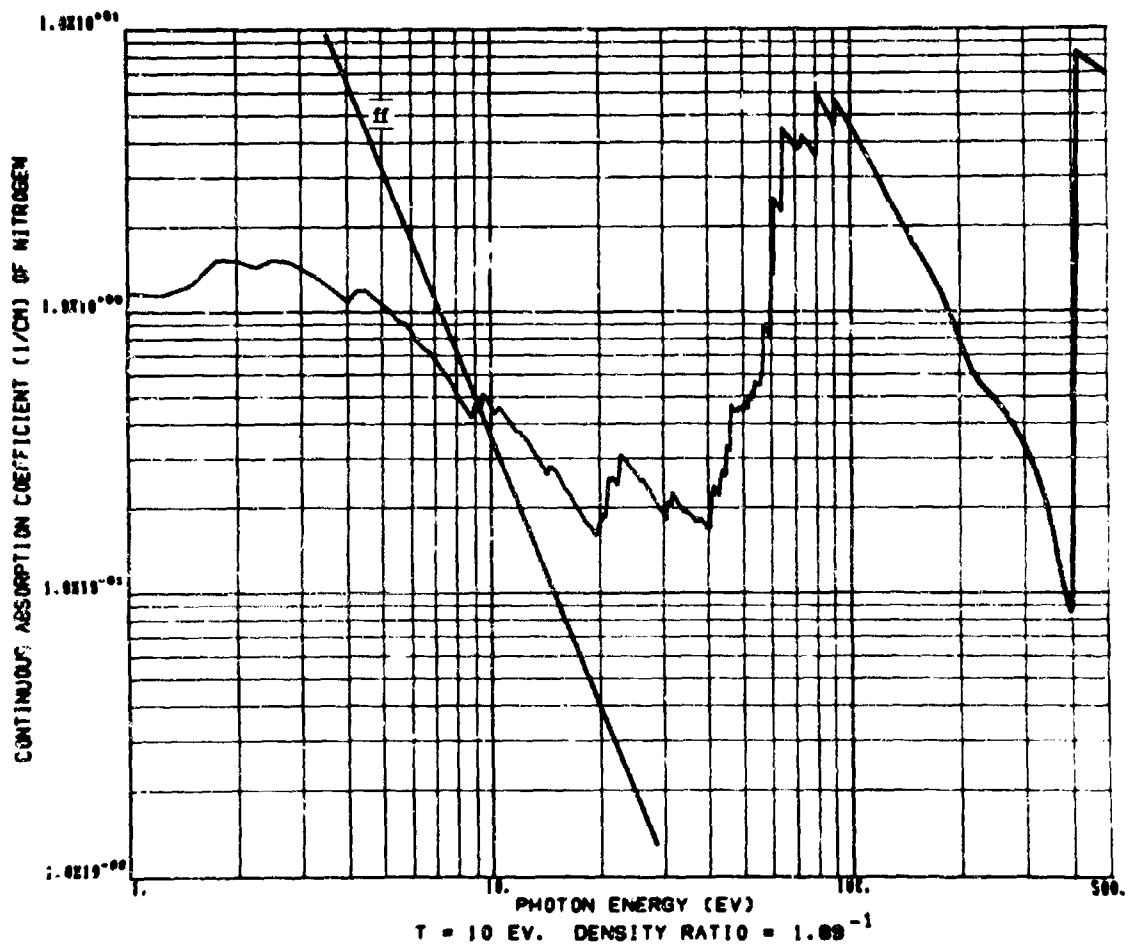


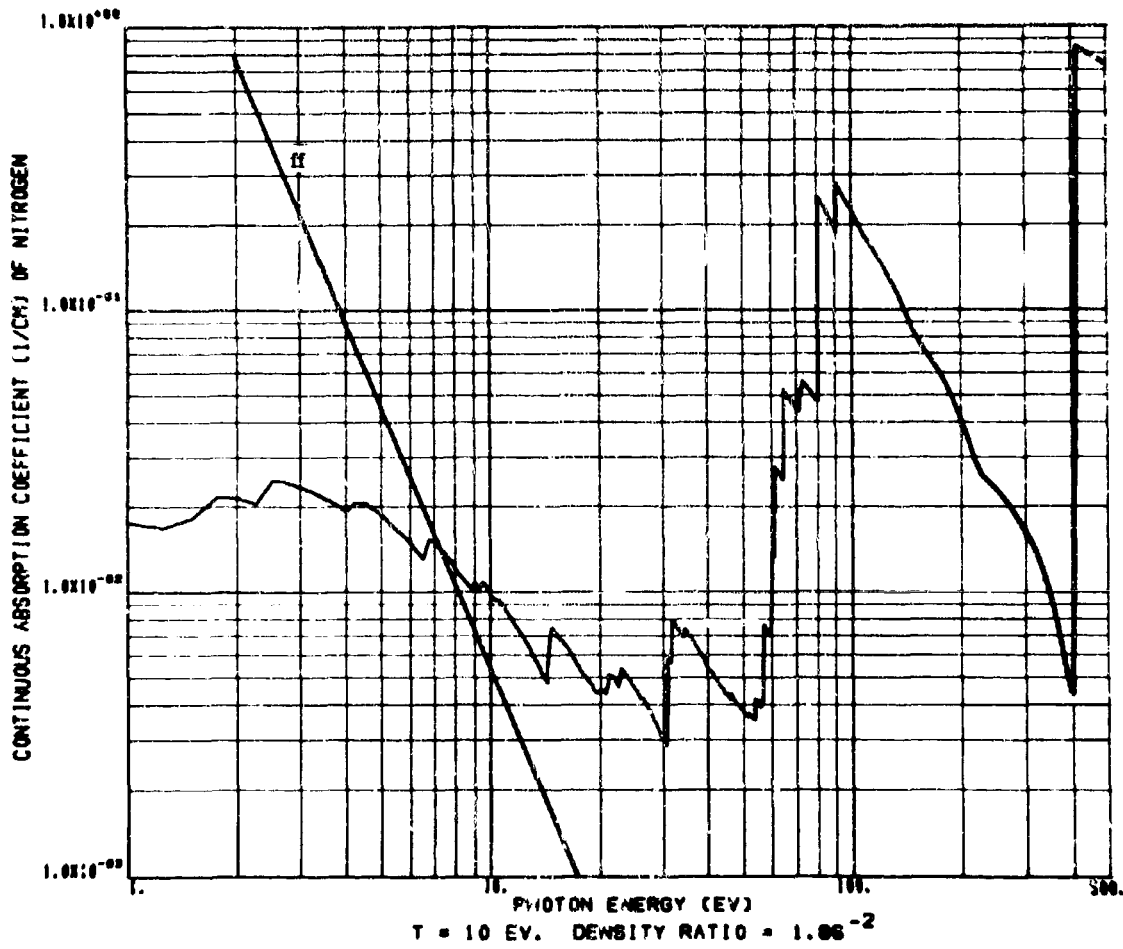




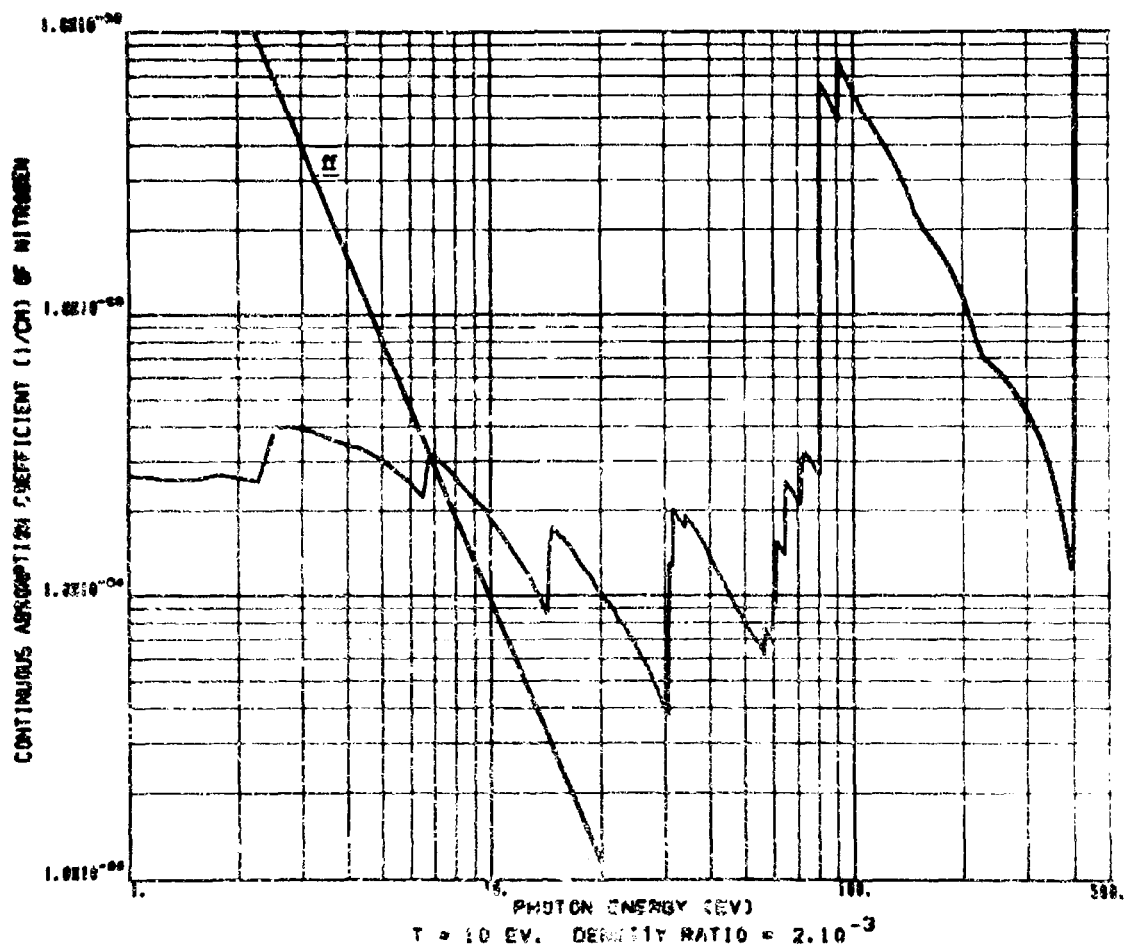


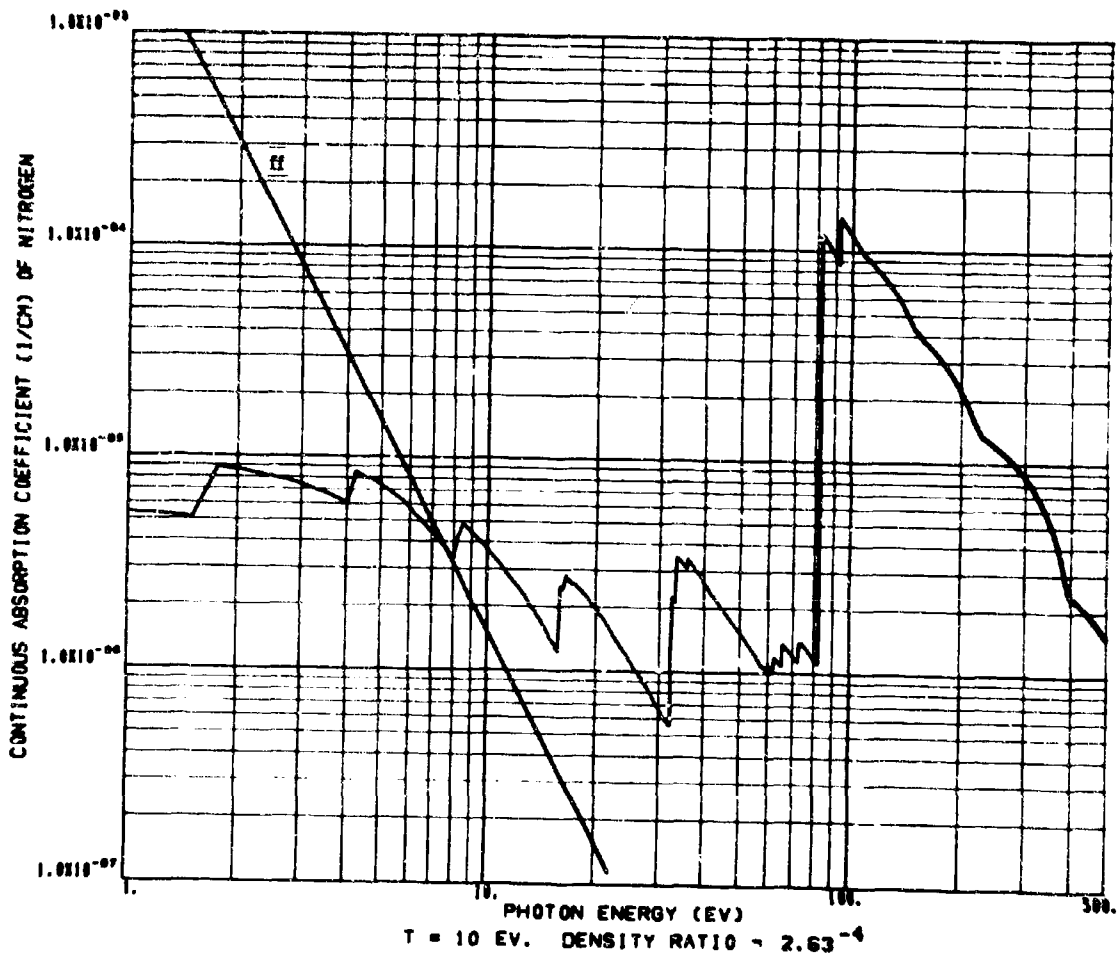


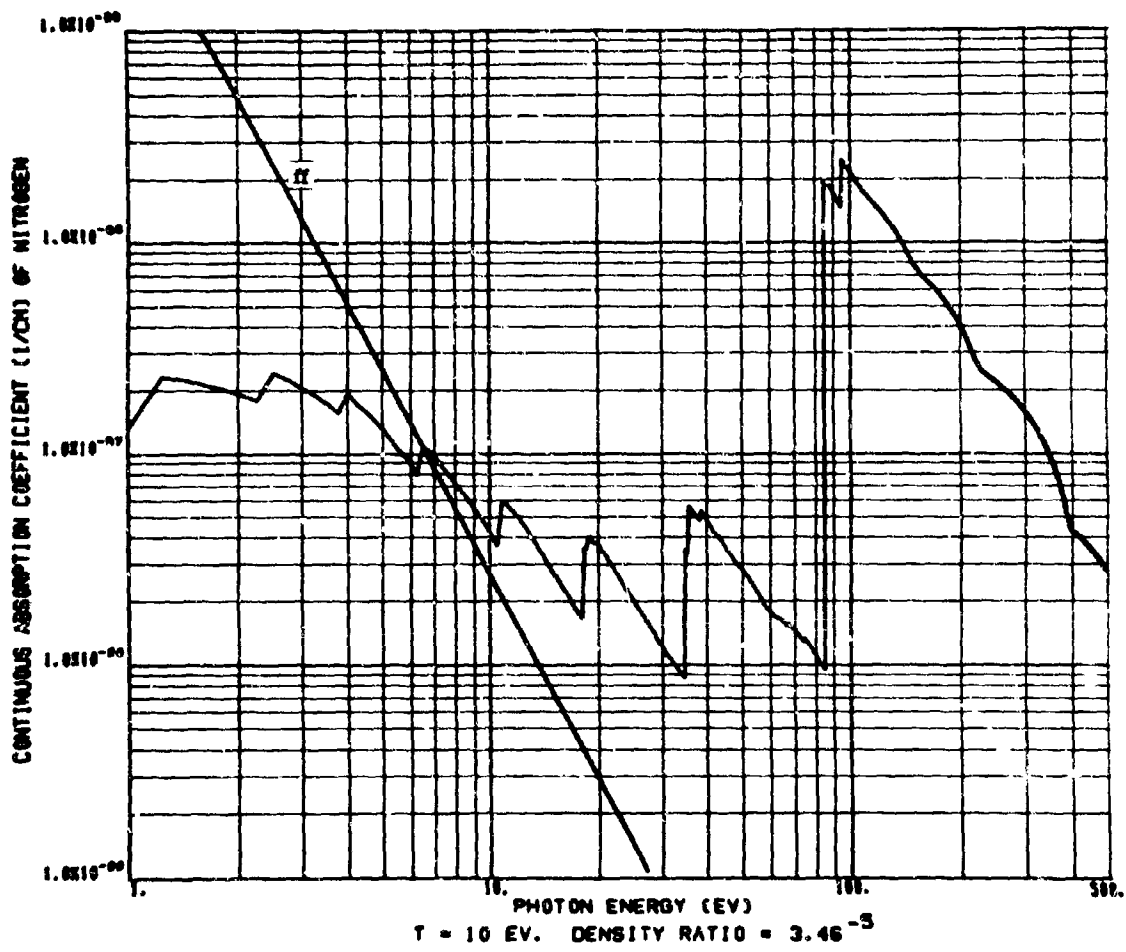


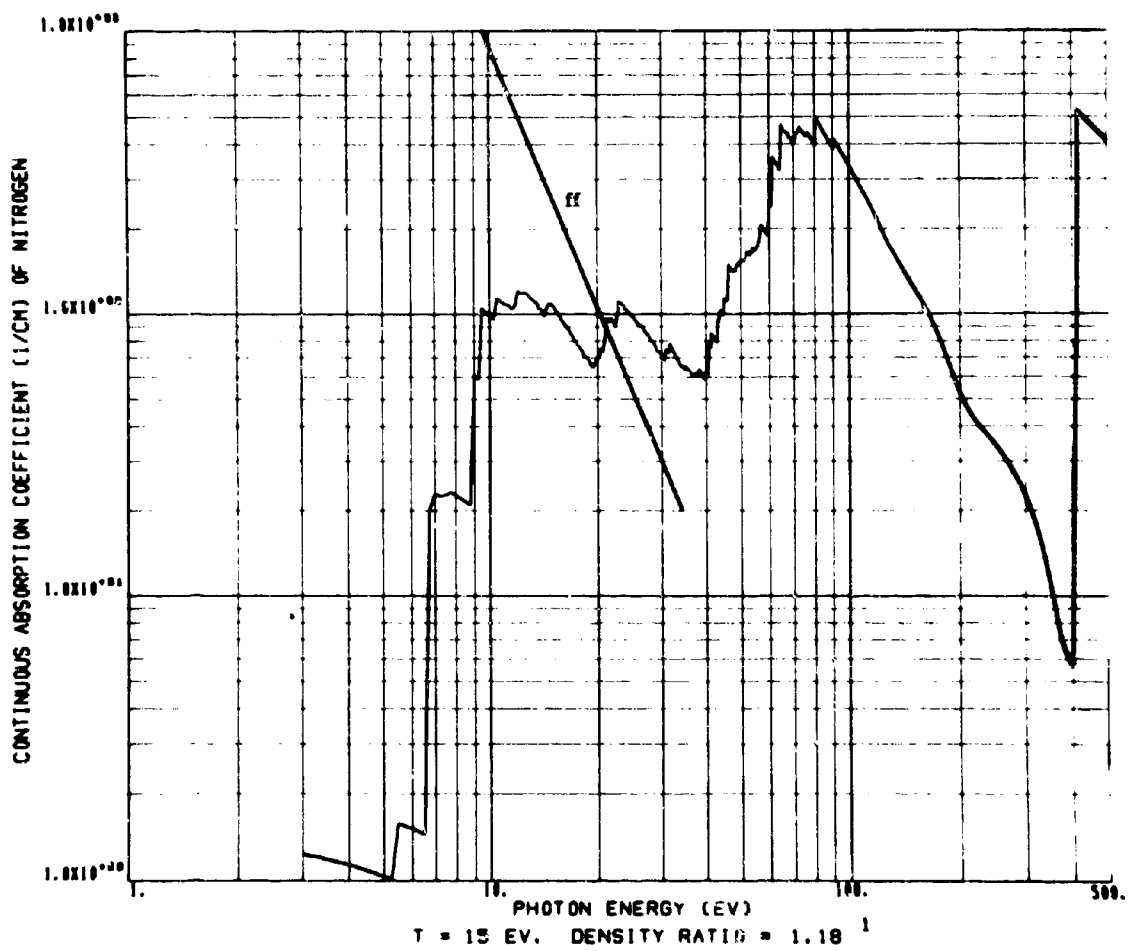


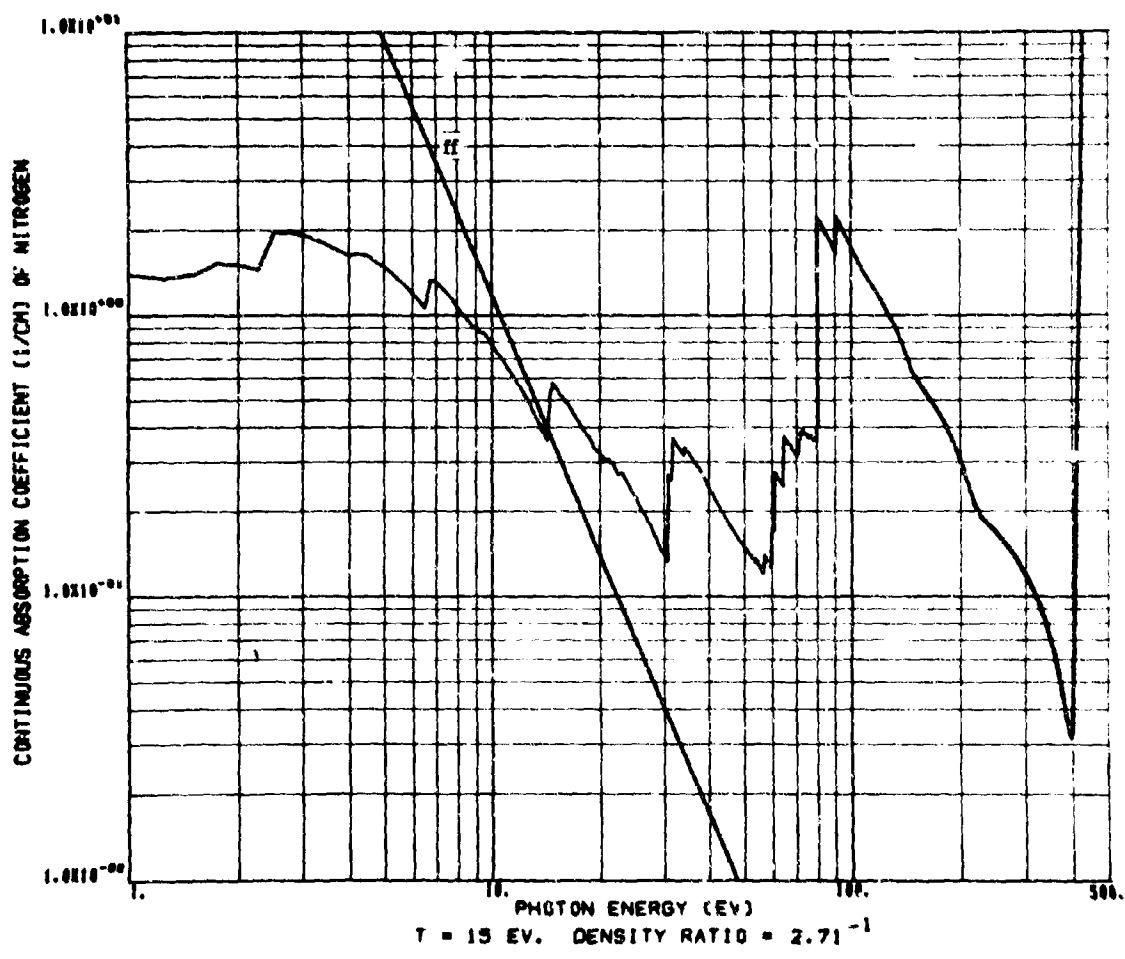


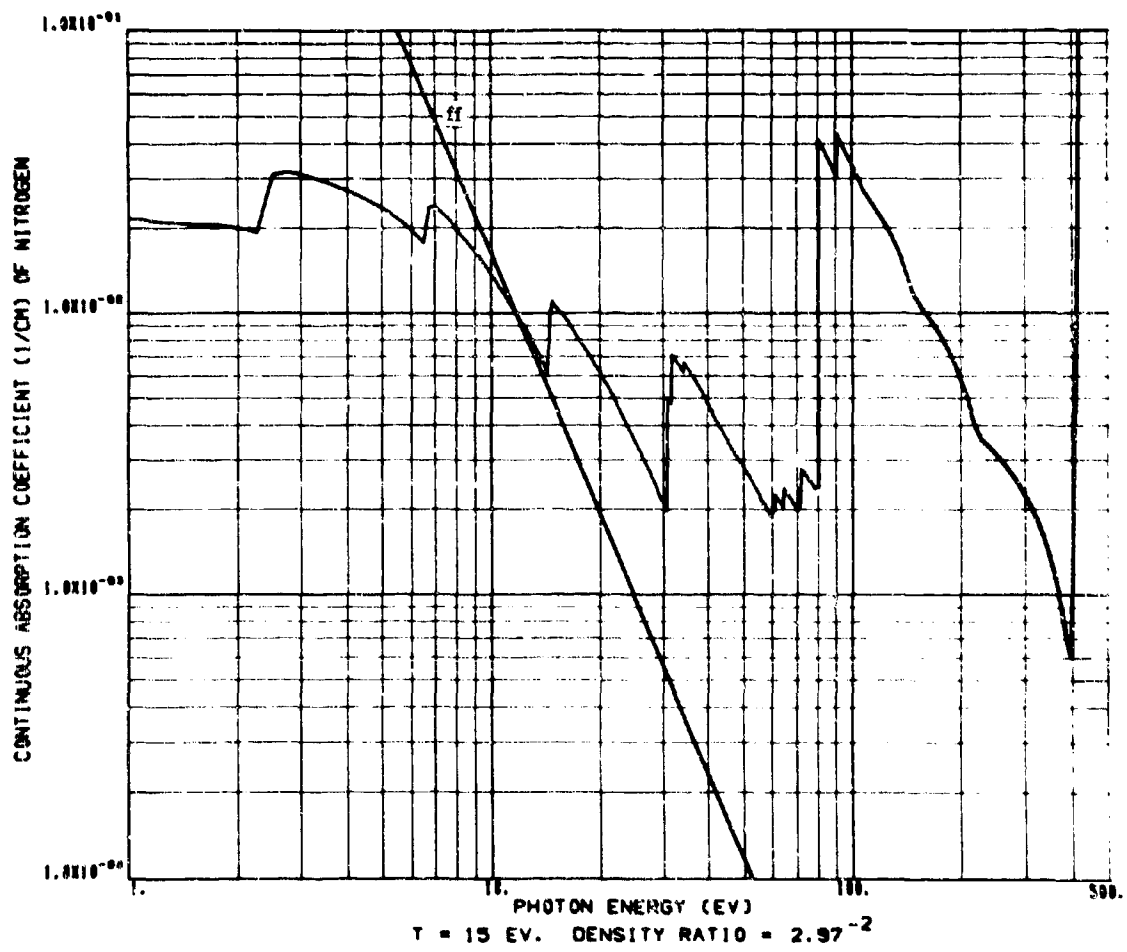


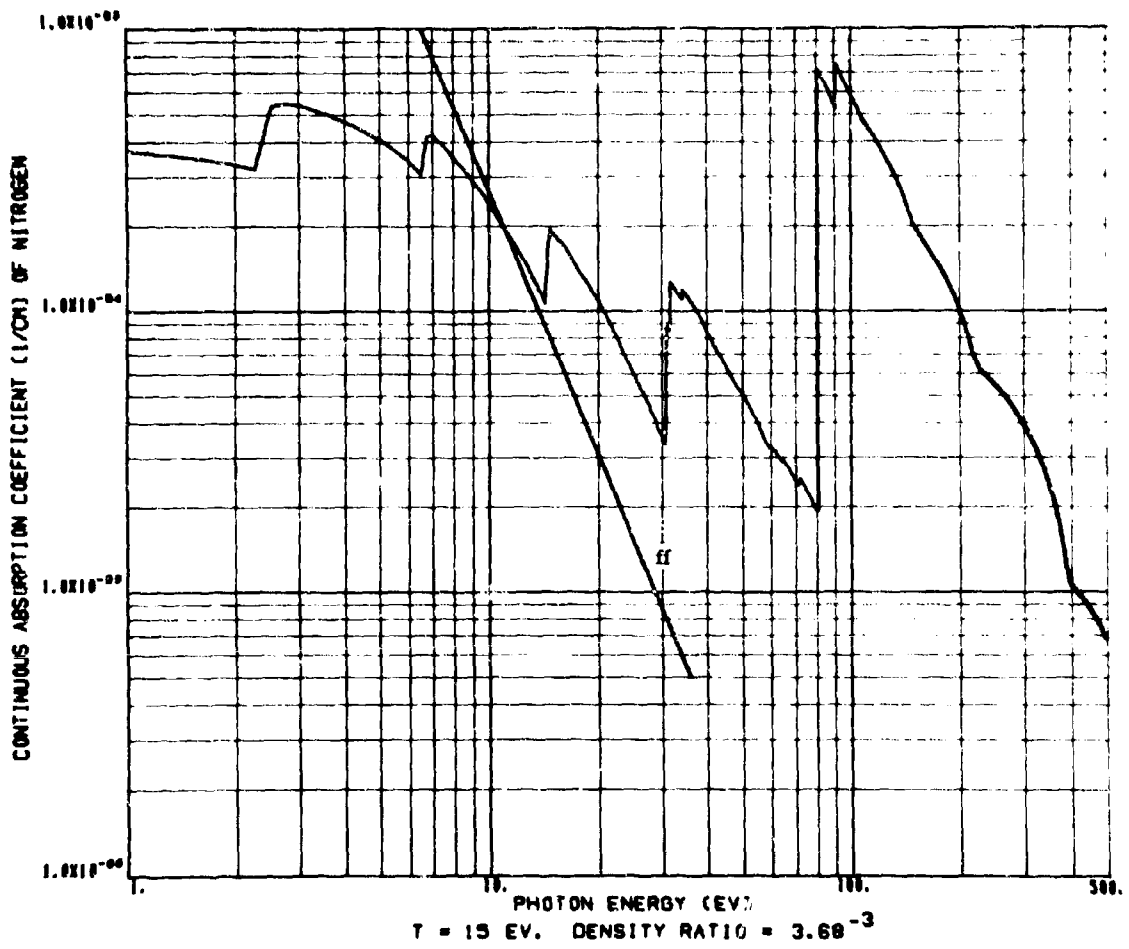


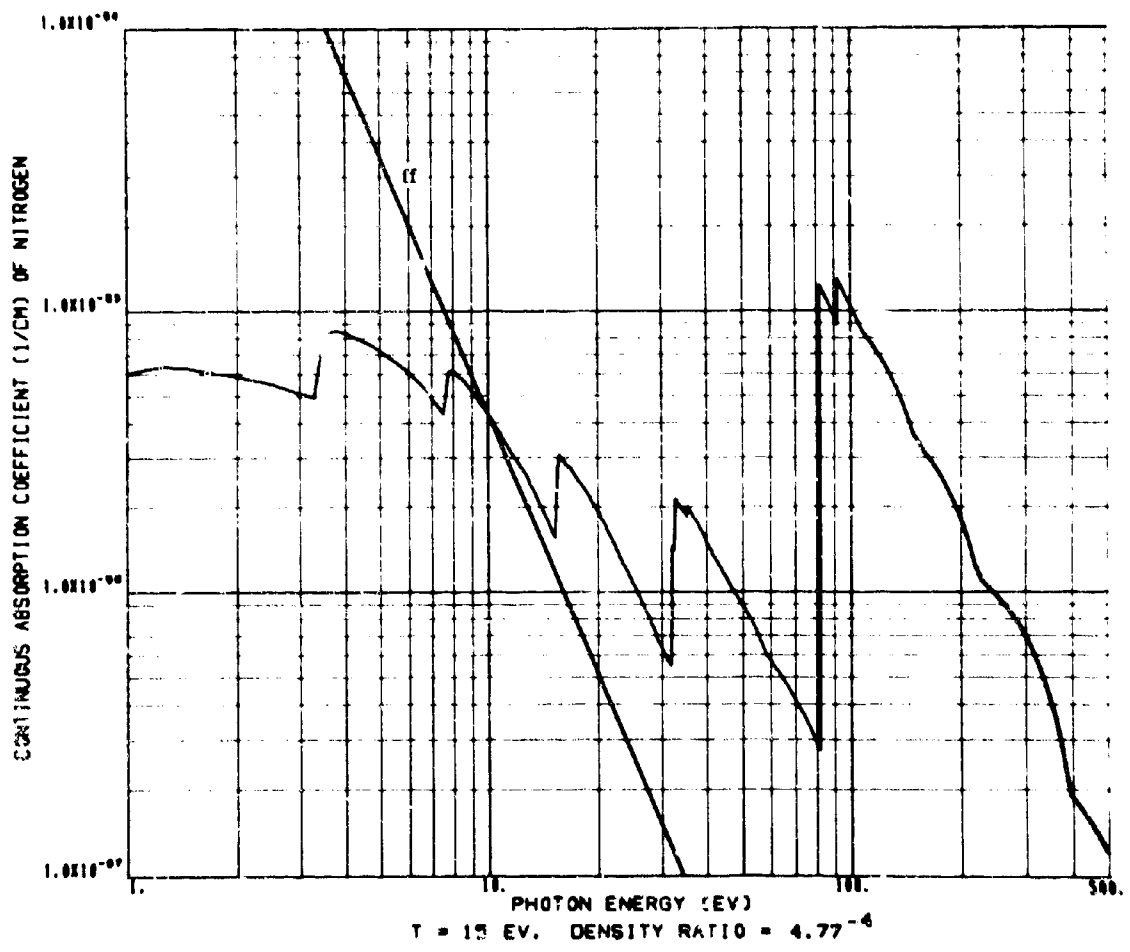




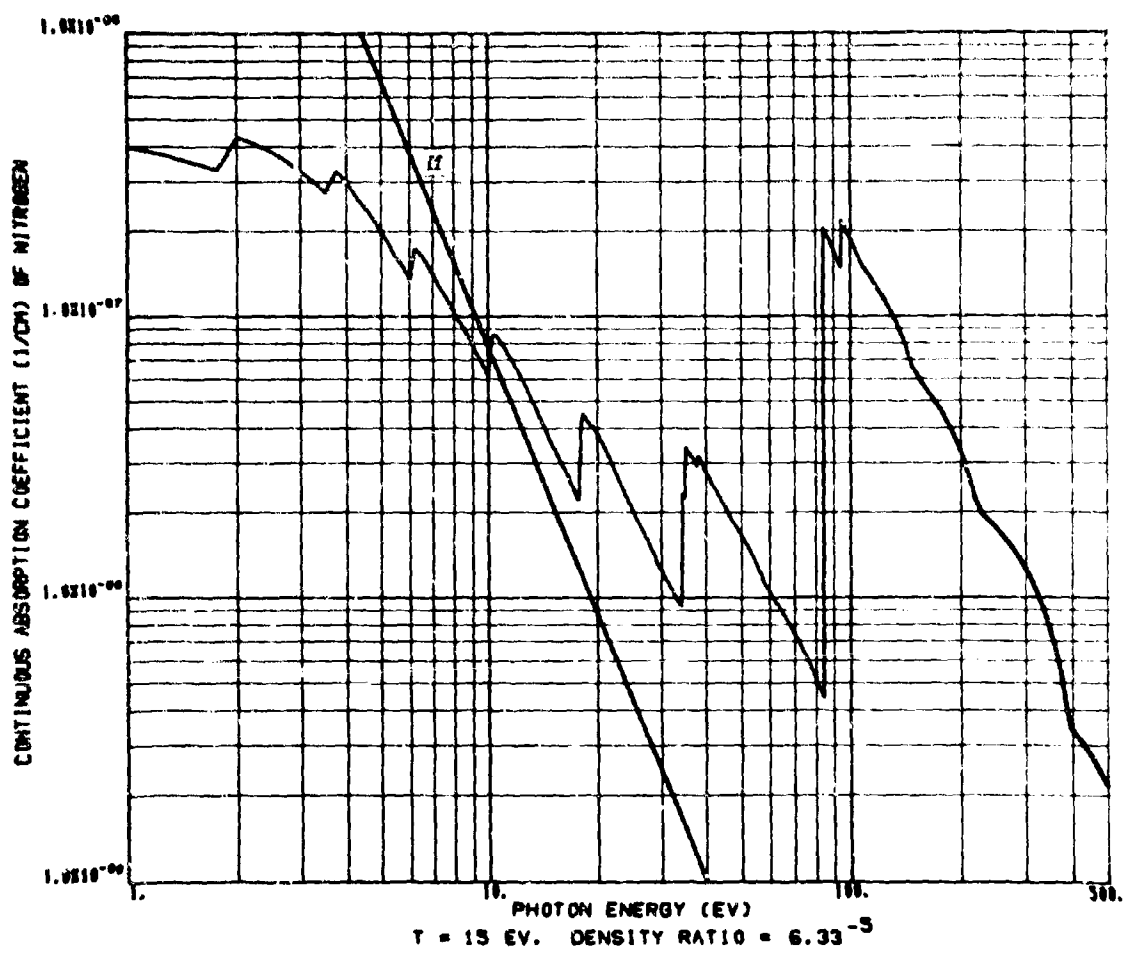


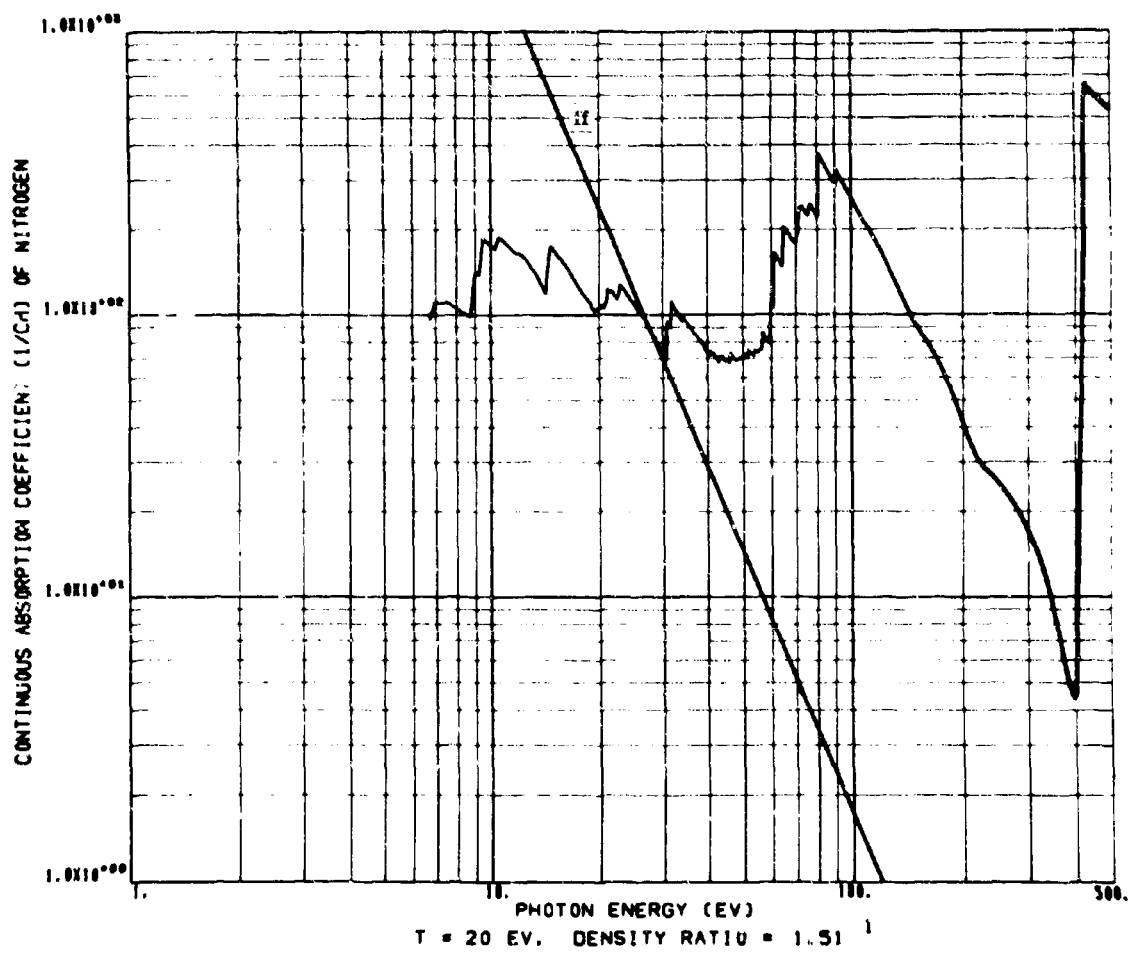


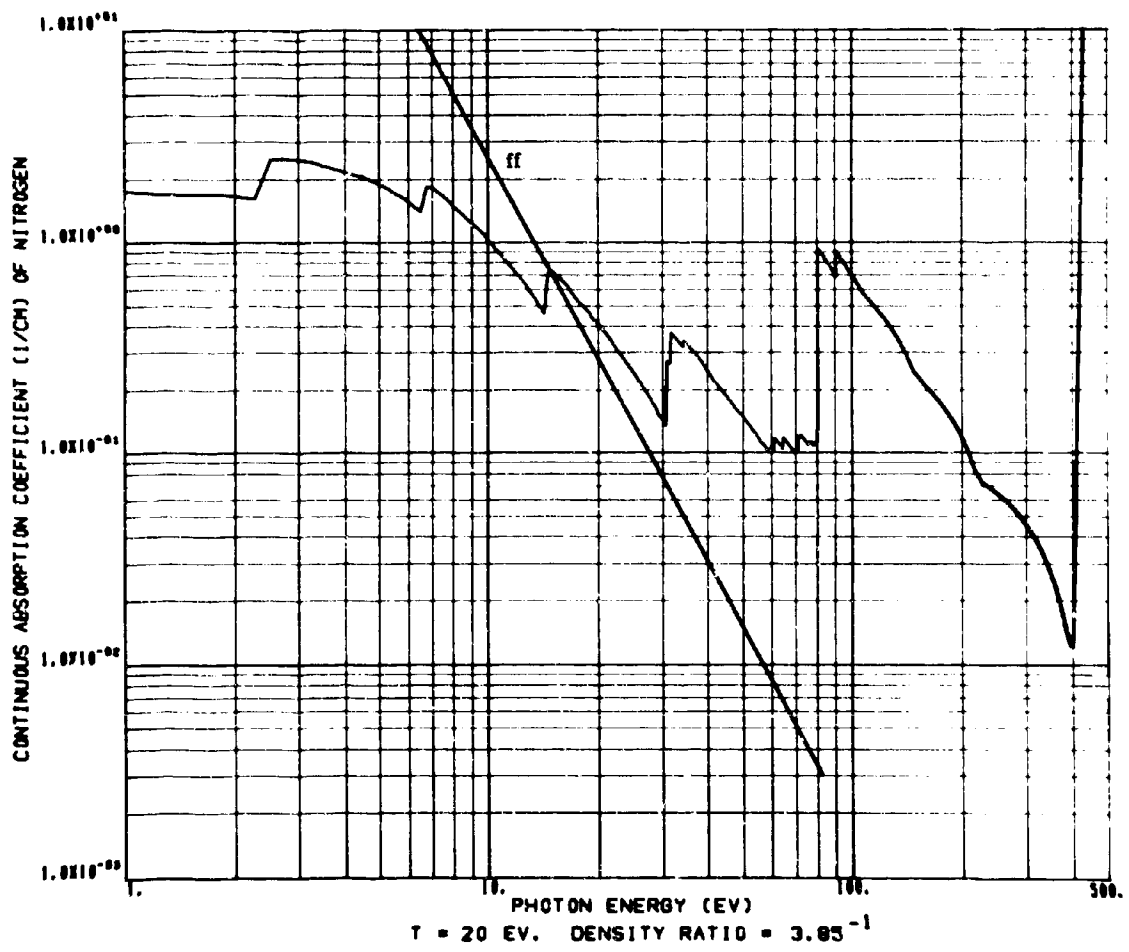


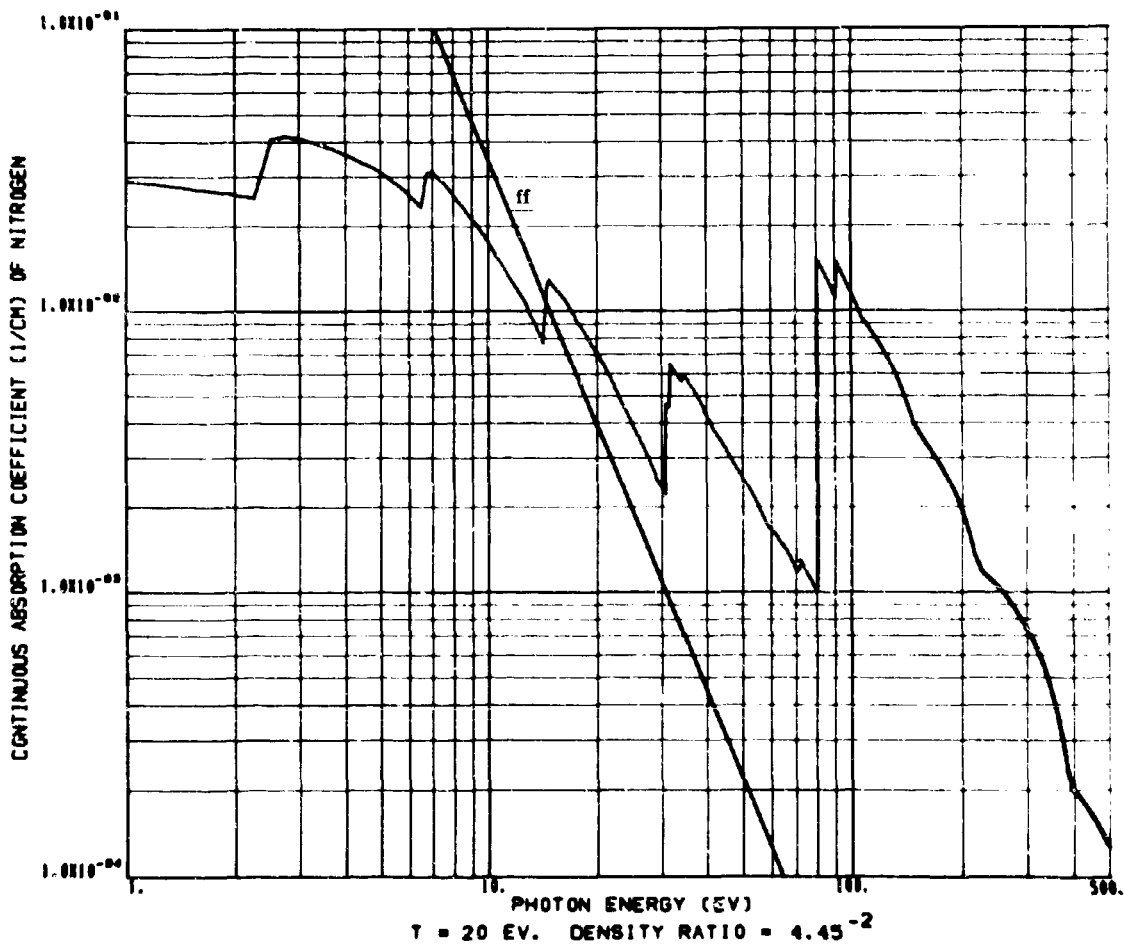


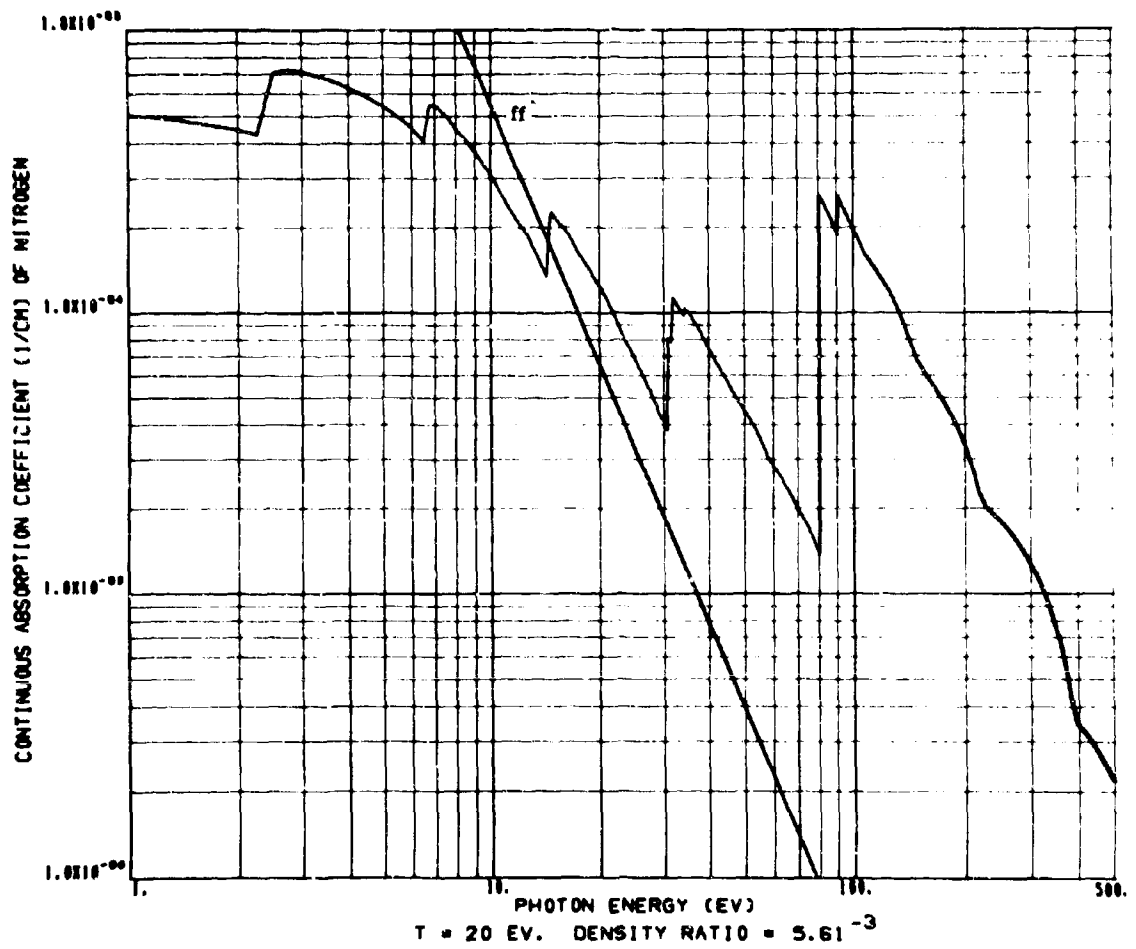


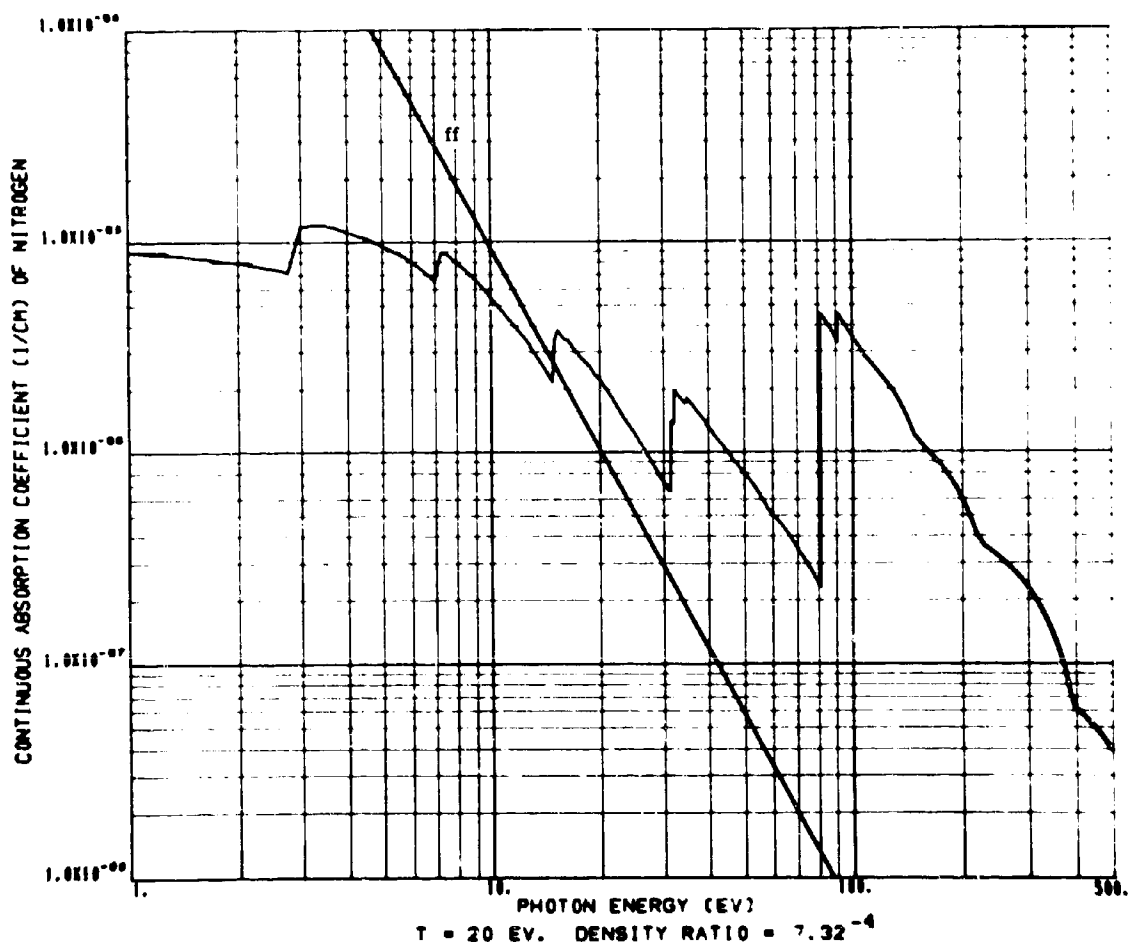


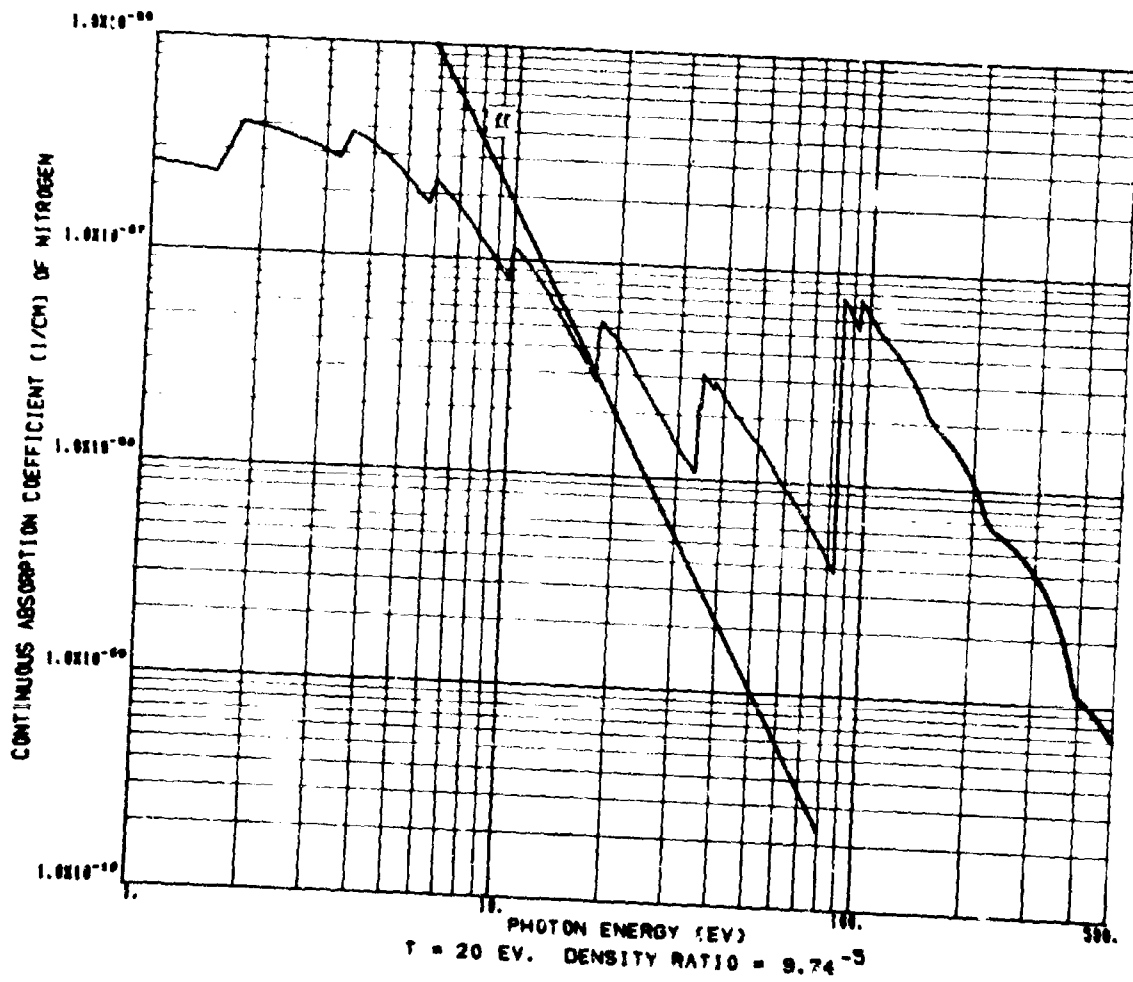












## 2. Mean Absorption Coefficients of Air

If conditions of local thermodynamic equilibrium prevail, the source function  $I_\nu$  in the transfer equation

$$-\frac{1}{\mu_\nu} \frac{dI_\nu}{ds} = I_\nu - J_\nu$$

becomes the well-known Planck function

$$B_\nu(T) = \frac{2h\nu^3}{c^2} \left( e^{h\nu/kT} - 1 \right)^{-1}$$

plus a term that accounts for induced emission. There are then two limiting cases for which simple solutions to the transfer equation exist. If the optical depth  $\mu'_\nu x$  of the radiating sample of gas is small ( $\mu_\nu x \ll 1$ ), where  $x$  is the sample dimension in the direction of radiation, the radiant energy emitted by the sample is given in terms of the Planck mean absorption coefficient:

$$\bar{\mu}_P = \frac{\int \mu'_\nu B_\nu(T) d\nu}{\int B_\nu(T) d\nu}$$

where  $\mu'_\nu = [1 - \exp(-h\nu/kT)] \mu_\nu$ . If the optical depth is large ( $\mu_\nu x \gg 1$ ), one passes to the diffusion limit, and the emission of radiant energy is governed by the Rosseland mean absorption coefficient:

$$\frac{1}{\bar{\mu}_R} = \frac{\int \frac{1}{\mu'_\nu} \frac{\partial B_\nu(T)}{\partial T} d\nu}{\int \frac{\partial B_\nu(T)}{\partial T} d\nu}$$



Table 1 lists values of  $\bar{\mu}_p$  as obtained from the work of Armstrong, Johnston, and Kelly (1965), for nitrogen and oxygen. The continuum (i.e., photoelectric and free-free) contributions and line (bound-bound) contributions are displayed separately, and given for six density values (from, roughly, 10 normal to  $10^{-5}$  normal) at each of the six temperatures 1, 2, 5, 10, 15, and 20 eV. Non-hydrogenic matrix elements were employed in this calculation for all but the free-free contributions.

Table 2 presents a comparison of the non-hydrogenic continuum Planck mean coefficients of Armstrong, Johnston, and Kelly (1965) with the earlier hydrogenic calculations of Armstrong (1959), and of Stewart and Pyatt (1961). The listed coefficients are for nitrogen and oxygen. The six density points for each temperature are the same as those in Table 1, and a comparison is given for temperatures  $kT = 2, 5, 10, 15, \text{ and } 20 \text{ eV}$ .

Table 3 presents Rosseland mean absorption coefficients of nitrogen, oxygen, and air as obtained from the work of Armstrong, Johnston, and Kelly (1965), along with some hydrogenic Rosseland mean results of Stewart and Pyatt (1961) for comparison. The temperature-density grid is identical to that of Table A.

The foregoing definitions and results are discussed in detail by Armstrong and Nicholls (1966), Parts A and B.

#### References

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- Armstrong, B.H., R.R. Johnston and P.S. Kelly, Opacity of High-Temperature Air, Air Force Weapons Laboratory Report, TR 65-17, 1965.
- Armstrong, B.H. and R. Nicholls, The Radiative Properties of Heated Air, Thermal Radiation Phenomena, Lockheed, Palo Alto, 1966.
- Stewart, J.C. and K.D. Pyatt, Jr., Theoretical Studies of Optical Properties, Air Force Special Weapons Center Report, AFSWC-TR-61-71, 1961.

Table 1

PLANCK MEAN ABSORPTION COEFFICIENTS FOR NITROGEN AND OXYGEN

Temperature (eV)	J	Nitrogen Ion Density (nuclei cm <sup>-3</sup> )	Mean Absorption Coefficients (cm <sup>-1</sup> )			Oxygen Ion Density (nuclei cm <sup>-3</sup> )	Mean Absorption Coefficients (cm <sup>-1</sup> )		
			Lines	Continuum	Total		Lines	Continuum	Total
1	1	5.26 <sup>18</sup>	1.70	3.48 <sup>2</sup>	1.74	5.38 <sup>16</sup>	5.20 <sup>1</sup>	2.04 <sup>2</sup>	5.40 <sup>1</sup>
	2	5.36 <sup>17</sup>	1.68 <sup>-1</sup>	3.40 <sup>-3</sup>	1.71 <sup>-1</sup>	5.39 <sup>17</sup>	4.67 <sup>-2</sup>	1.82 <sup>3</sup>	4.86 <sup>-2</sup>
	3	5.37 <sup>16</sup>	1.51 <sup>-2</sup>	2.84 <sup>4</sup>	1.54 <sup>2</sup>	5.37 <sup>16</sup>	4.22 <sup>3</sup>	1.80 <sup>-4</sup>	4.36 <sup>-3</sup>
	4	5.38 <sup>15</sup>	1.10 <sup>-3</sup>	1.71 <sup>5</sup>	1.12 <sup>3</sup>	5.38 <sup>15</sup>	3.09 <sup>4</sup>	1.13 <sup>5</sup>	3.20 <sup>4</sup>
	5	5.38 <sup>14</sup>	5.89 <sup>-5</sup>	5.27 <sup>7</sup>	5.94 <sup>5</sup>	5.38 <sup>14</sup>	1.37 <sup>-5</sup>	3.53 <sup>-7</sup>	1.41 <sup>5</sup>
	6	5.38 <sup>13</sup>	3.90 <sup>-6</sup>	6.61 <sup>9</sup>	3.91 <sup>6</sup>	5.38 <sup>13</sup>	5.41 <sup>7</sup>	5.51 <sup>8</sup>	5.47 <sup>-7</sup>
2	1	2.34 <sup>20</sup>	8.04 <sup>2</sup>	1.61 <sup>2</sup>	9.65 <sup>2</sup>	3.32 <sup>20</sup>	5.16 <sup>2</sup>	1.61 <sup>2</sup>	6.77 <sup>2</sup>
	2	3.16 <sup>18</sup>	6.61	4.01 <sup>1</sup>	7.01	3.77 <sup>18</sup>	3.21	4.19 <sup>-1</sup>	3.63
	3	3.32 <sup>17</sup>	6.08 <sup>-1</sup>	7.20 <sup>3</sup>	6.13 <sup>-1</sup>	3.85 <sup>17</sup>	2.67 <sup>-1</sup>	6.97 <sup>-3</sup>	2.74 <sup>-1</sup>
	4	3.86 <sup>16</sup>	6.75 <sup>-2</sup>	1.92 <sup>4</sup>	6.77 <sup>-2</sup>	4.68 <sup>16</sup>	3.09 <sup>-2</sup>	1.31 <sup>-4</sup>	3.10 <sup>-2</sup>
	5	3.90 <sup>15</sup>	6.18 <sup>-3</sup>	6.21 <sup>6</sup>	6.10 <sup>-3</sup>	5.59 <sup>15</sup>	3.57 <sup>-3</sup>	3.23 <sup>-6</sup>	3.57 <sup>-3</sup>
	6	3.97 <sup>14</sup>	4.41 <sup>-4</sup>	1.43 <sup>7</sup>	5.41 <sup>-4</sup>	5.59 <sup>14</sup>	3.26 <sup>-4</sup>	9.71 <sup>-6</sup>	3.20 <sup>-4</sup>
5	1	2.56 <sup>20</sup>	1.20 <sup>3</sup>	2.32 <sup>2</sup>	1.43 <sup>3</sup>	3.02 <sup>20</sup>	1.05 <sup>3</sup>	2.01 <sup>2</sup>	1.25 <sup>3</sup>
	2	5.50 <sup>18</sup>	1.99 <sup>1</sup>	7.97 <sup>-1</sup>	3.07 <sup>1</sup>	6.57 <sup>18</sup>	1.83 <sup>1</sup>	6.73 <sup>-1</sup>	1.90 <sup>1</sup>
	3	5.24 <sup>17</sup>	1.50	2.11 <sup>-2</sup>	1.52	6.45 <sup>17</sup>	1.61	1.98 <sup>-2</sup>	1.63
	4	5.65 <sup>16</sup>	1.28 <sup>-1</sup>	4.75 <sup>-4</sup>	1.29 <sup>-1</sup>	6.76 <sup>16</sup>	1.50 <sup>-1</sup>	5.16 <sup>-4</sup>	1.51 <sup>-1</sup>
	5	6.49 <sup>15</sup>	1.09 <sup>-2</sup>	8.99 <sup>-6</sup>	1.09 <sup>-2</sup>	7.97 <sup>15</sup>	1.67 <sup>-2</sup>	9.64 <sup>-6</sup>	1.67 <sup>-2</sup>
	6	7.50 <sup>14</sup>	7.02 <sup>-4</sup>	1.64 <sup>7</sup>	7.02 <sup>-4</sup>	9.25 <sup>14</sup>	1.80 <sup>-3</sup>	1.96 <sup>7</sup>	1.80 <sup>-3</sup>
10	1	4.11 <sup>20</sup>	9.14 <sup>2</sup>	2.87 <sup>2</sup>	12.01 <sup>2</sup>	4.76 <sup>20</sup>	1.13 <sup>1</sup>	3.11 <sup>2</sup>	1.47 <sup>3</sup>
	2	8.81 <sup>18</sup>	0.99 <sup>1</sup>	8.15 <sup>1</sup>	1.07 <sup>1</sup>	1.04 <sup>19</sup>	1.63 <sup>1</sup>	1.07	1.74 <sup>1</sup>
	3	8.71 <sup>17</sup>	4.31 <sup>-1</sup>	1.72 <sup>2</sup>	4.48 <sup>-1</sup>	1.03 <sup>18</sup>	9.78 <sup>-1</sup>	2.50 <sup>-2</sup>	1.00
	4	9.79 <sup>16</sup>	1.18 <sup>-2</sup>	3.40 <sup>4</sup>	1.19 <sup>-2</sup>	1.11 <sup>17</sup>	5.08 <sup>-2</sup>	5.81 <sup>-4</sup>	5.14 <sup>-2</sup>
	5	1.23 <sup>16</sup>	2.25 <sup>-4</sup>	5.36 <sup>-5</sup>	2.30 <sup>-4</sup>	1.29 <sup>16</sup>	2.36 <sup>-3</sup>	1.05 <sup>-5</sup>	2.37 <sup>-3</sup>
	6	1.62 <sup>15</sup>	4.09 <sup>-6</sup>	8.02 <sup>8</sup>	4.17 <sup>-6</sup>	1.56 <sup>15</sup>	6.63 <sup>-5</sup>	1.65 <sup>-7</sup>	6.65 <sup>-5</sup>
15	1	5.53 <sup>20</sup>	6.05 <sup>2</sup>	2.42 <sup>2</sup>	8.47 <sup>2</sup>	6.49 <sup>20</sup>	9.62 <sup>2</sup>	3.33 <sup>2</sup>	1.30 <sup>3</sup>
	2	1.27 <sup>19</sup>	3.72	5.54 <sup>1</sup>	4.27	1.42 <sup>19</sup>	1.07 <sup>1</sup>	9.61 <sup>1</sup>	1.17 <sup>1</sup>
	3	1.39 <sup>18</sup>	7.51 <sup>2</sup>	9.38 <sup>3</sup>	8.45 <sup>2</sup>	1.44 <sup>18</sup>	4.20 <sup>1</sup>	1.95 <sup>2</sup>	4.40 <sup>1</sup>
	4	1.72 <sup>17</sup>	1.34 <sup>-3</sup>	1.60 <sup>-4</sup>	1.50 <sup>-3</sup>	1.68 <sup>17</sup>	9.95 <sup>-3</sup>	3.65 <sup>-4</sup>	1.03 <sup>-2</sup>
	5	2.23 <sup>16</sup>	2.42 <sup>-5</sup>	2.68 <sup>-6</sup>	2.69 <sup>-5</sup>	2.14 <sup>16</sup>	1.87 <sup>-4</sup>	5.98 <sup>-6</sup>	1.93 <sup>-4</sup>
	6	2.96 <sup>15</sup>	4.39 <sup>-7</sup>	4.32 <sup>-8</sup>	4.82 <sup>-7</sup>	2.83 <sup>15</sup>	3.41 <sup>-6</sup>	8.89 <sup>-8</sup>	3.50 <sup>-6</sup>
20	1	7.07 <sup>20</sup>	3.42 <sup>2</sup>	1.67 <sup>2</sup>	5.29 <sup>2</sup>	6.01 <sup>20</sup>	7.02 <sup>2</sup>	3.04 <sup>2</sup>	1.01 <sup>3</sup>
	2	1.80 <sup>19</sup>	1.21	3.58 <sup>-1</sup>	1.57	1.96 <sup>19</sup>	5.45	7.10 <sup>1</sup>	6.16
	3	2.08 <sup>18</sup>	2.12 <sup>2</sup>	5.72 <sup>-3</sup>	2.69 <sup>-2</sup>	2.04 <sup>18</sup>	1.21 <sup>1</sup>	1.23 <sup>-2</sup>	1.33 <sup>1</sup>
	4	2.62 <sup>17</sup>	3.71 <sup>-4</sup>	9.78 <sup>-5</sup>	4.69 <sup>-4</sup>	2.52 <sup>17</sup>	2.16 <sup>3</sup>	2.11 <sup>-4</sup>	2.37 <sup>-3</sup>
	5	3.42 <sup>16</sup>	6.62 <sup>-6</sup>	1.70 <sup>-6</sup>	8.32 <sup>-6</sup>	3.27 <sup>16</sup>	3.86 <sup>-5</sup>	3.62 <sup>-6</sup>	4.22 <sup>-5</sup>
	6	4.55 <sup>15</sup>	1.23 <sup>-7</sup>	2.82 <sup>-8</sup>	1.51 <sup>-7</sup>	4.34 <sup>15</sup>	6.96 <sup>-7</sup>	5.64 <sup>-8</sup>	7.52 <sup>-7</sup>

Table 2  
CONTINUUM PLANCK MEAN ABSORPTION COEFFICIENTS  
FOR NITROGEN AND OXYGEN

Temperature (eV)	J	Mean Absorption Coefficients (cm <sup>-1</sup> )				
		Nitrogen			Oxygen	
		Present Calculation	Ref. 1	Ref. 2	Present Calculation	Ref. 1
2	1	1.61 <sup>2</sup>	1.28 <sup>2</sup>		1.61 <sup>2</sup>	1.08 <sup>2</sup>
	2	4.01 <sup>1</sup>	3.00 <sup>1</sup>		1.19 <sup>1</sup>	2.81 <sup>1</sup>
	3	7.20 <sup>3</sup>	4.99 <sup>3</sup>		6.97 <sup>3</sup>	4.60 <sup>3</sup>
	4	1.92 <sup>4</sup>	1.05 <sup>4</sup>		1.31 <sup>4</sup>	8.11 <sup>5</sup>
	5	6.21 <sup>6</sup>	2.98 <sup>6</sup>		3.23 <sup>6</sup>	1.82 <sup>6</sup>
	6	1.43 <sup>7</sup>	7.08 <sup>8</sup>		9.71 <sup>8</sup>	5.82 <sup>8</sup>
5	1	2.32 <sup>2</sup>	1.70 <sup>2</sup>	1.1 <sup>2</sup>	2.01 <sup>2</sup>	1.52 <sup>2</sup>
	2	7.97 <sup>1</sup>	3.87 <sup>1</sup>	3.5 <sup>1</sup>	6.73 <sup>1</sup>	5.03 <sup>1</sup>
	3	2.11 <sup>2</sup>	8.58 <sup>3</sup>	8.4 <sup>3</sup>	1.98 <sup>2</sup>	7.61 <sup>3</sup>
	4	1.75 <sup>4</sup>	1.69 <sup>4</sup>	1.9 <sup>4</sup>	5.16 <sup>4</sup>	1.68 <sup>4</sup>
	5	8.99 <sup>6</sup>	3.85 <sup>6</sup>	4.1 <sup>6</sup>	9.61 <sup>6</sup>	3.50 <sup>6</sup>
	6	1.64 <sup>7</sup>	8.99 <sup>8</sup>	9.1 <sup>8</sup>	1.96 <sup>7</sup>	8.42 <sup>8</sup>
10	1	2.87 <sup>2</sup>	2.12 <sup>2</sup>	1.3 <sup>2</sup>	3.11 <sup>2</sup>	2.11 <sup>2</sup>
	2	8.15 <sup>1</sup>	4.63 <sup>1</sup>	3.8 <sup>1</sup>	1.07	1.66 <sup>1</sup>
	3	1.72 <sup>2</sup>	9.13 <sup>3</sup>	9.0 <sup>3</sup>	2.50 <sup>2</sup>	9.77 <sup>3</sup>
	4	3.40 <sup>4</sup>	1.79 <sup>4</sup>	1.9 <sup>4</sup>	5.81 <sup>4</sup>	2.02 <sup>4</sup>
	5	5.36 <sup>6</sup>	3.25 <sup>6</sup>	3.4 <sup>6</sup>	1.08 <sup>5</sup>	3.78 <sup>6</sup>
	6	8.02 <sup>8</sup>	5.81 <sup>8</sup>	6.0 <sup>8</sup>	1.65 <sup>7</sup>	7.11 <sup>8</sup>
15	1	2.42 <sup>2</sup>	2.11 <sup>2</sup>	1.2 <sup>2</sup>	3.33 <sup>2</sup>	2.28 <sup>2</sup>
	2	5.54 <sup>1</sup>	3.84 <sup>1</sup>	3.2 <sup>1</sup>	9.61 <sup>1</sup>	4.68 <sup>1</sup>
	3	9.38 <sup>3</sup>	6.50 <sup>3</sup>	6.2 <sup>3</sup>	1.95 <sup>2</sup>	8.59 <sup>3</sup>
	4	1.60 <sup>4</sup>	1.03 <sup>4</sup>	1.1 <sup>4</sup>	3.65 <sup>4</sup>	1.35 <sup>4</sup>
	5	2.68 <sup>6</sup>	1.79 <sup>6</sup>	1.9 <sup>6</sup>	5.98 <sup>6</sup>	2.34 <sup>6</sup>
	6	4.32 <sup>8</sup>	3.16 <sup>8</sup>	3.4 <sup>8</sup>	8.89 <sup>8</sup>	4.19 <sup>8</sup>
20	1	1.87 <sup>2</sup>	1.61 <sup>2</sup>	1.2 <sup>2</sup>	3.04 <sup>2</sup>	2.15 <sup>2</sup>
	2	3.58 <sup>1</sup>	2.30 <sup>1</sup>	3.0 <sup>1</sup>	7.10 <sup>1</sup>	3.66 <sup>1</sup>
	3	5.72 <sup>3</sup>	3.48 <sup>3</sup>	5.9 <sup>3</sup>	1.23 <sup>2</sup>	5.96 <sup>3</sup>
	4	9.78 <sup>5</sup>	5.66 <sup>5</sup>	1.1 <sup>4</sup>	2.11 <sup>4</sup>	9.26 <sup>5</sup>
	5	1.70 <sup>6</sup>	9.90 <sup>7</sup>	2.0 <sup>6</sup>	3.62 <sup>6</sup>	1.60 <sup>6</sup>
	6	2.82 <sup>8</sup>	1.75 <sup>8</sup>	3.6 <sup>8</sup>	5.61 <sup>8</sup>	2.81 <sup>8</sup>

Table 3

ROSSELAND MEAN ABSORPTION COEFFICIENTS FOR NITROGEN,  
OXYGEN, AND AIR

Temperature (eV)	Nitrogen Ion Density (nuclei cm <sup>-3</sup> )	Mean Absorption Coefficients (cm <sup>-1</sup> )		Oxygen Ion Density (nuclei cm <sup>-3</sup> )	LMSC Mean Absorption Coefficients (cm <sup>-1</sup> )	Air Ion Density (nuclei cm <sup>-3</sup> )	LMSC Mean Absorption Coefficients (cm <sup>-1</sup> )
		LMSC	Ref. 2				
1	5.25 <sup>18</sup>	1.22 <sup>3</sup>		5.38 <sup>18</sup>	2.48 <sup>3</sup>	5.28 <sup>18</sup>	
	5.36 <sup>17</sup>	1.10 <sup>4</sup>		5.39 <sup>17</sup>	1.78 <sup>6</sup>	5.37 <sup>17</sup>	
	5.37 <sup>16</sup>	9.13 <sup>6</sup>		5.37 <sup>16</sup>	1.47 <sup>5</sup>	5.37 <sup>16</sup>	
	5.38 <sup>15</sup>	5.40 <sup>7</sup>		5.38 <sup>15</sup>	9.36 <sup>7</sup>	5.38 <sup>15</sup>	
	5.38 <sup>14</sup>	1.56 <sup>8</sup>		5.38 <sup>14</sup>	2.93 <sup>8</sup>	5.38 <sup>14</sup>	
2	5.38 <sup>13</sup>	2.06 <sup>10</sup>		5.38 <sup>13</sup>	3.74 <sup>10</sup>	5.38 <sup>13</sup>	
	2.34 <sup>20</sup>	6.68 <sup>1</sup>		3.32 <sup>20</sup>	1.18 <sup>2</sup>	2.55 <sup>20</sup>	9.78 <sup>1</sup>
	3.16 <sup>18</sup>	1.16 <sup>1</sup>		3.77 <sup>18</sup>	2.27 <sup>1</sup>	3.20 <sup>18</sup>	1.52 <sup>1</sup>
	3.32 <sup>17</sup>	1.07 <sup>3</sup>		3.85 <sup>17</sup>	1.47 <sup>3</sup>	3.43 <sup>17</sup>	1.24 <sup>3</sup>
	3.86 <sup>13</sup>	1.97 <sup>5</sup>		4.69 <sup>16</sup>	2.35 <sup>5</sup>	4.03 <sup>16</sup>	2.09 <sup>5</sup>
5	3.90 <sup>15</sup>	5.58 <sup>7</sup>		5.59 <sup>15</sup>	3.28 <sup>7</sup>	4.26 <sup>15</sup>	5.19 <sup>7</sup>
	3.97 <sup>14</sup>	1.19 <sup>8</sup>		5.59 <sup>14</sup>	4.10 <sup>9</sup>	4.31 <sup>14</sup>	1.06 <sup>8</sup>
	4.56 <sup>20</sup>	2.81 <sup>2</sup>	1.5 <sup>2</sup>	3.02 <sup>20</sup>	2.62 <sup>2</sup>	2.66 <sup>20</sup>	3.35 <sup>2</sup>
	5.50 <sup>18</sup>	5.15 <sup>1</sup>	3.2 <sup>-1</sup>	6.57 <sup>18</sup>	4.10 <sup>1</sup>	5.73 <sup>18</sup>	6.05 <sup>1</sup>
	5.24 <sup>17</sup>	6.35 <sup>3</sup>	6.3 <sup>3</sup>	6.45 <sup>17</sup>	5.96 <sup>3</sup>	5.50 <sup>17</sup>	6.92 <sup>3</sup>
10	5.65 <sup>16</sup>	1.06 <sup>-4</sup>	1.0 <sup>-4</sup>	6.76 <sup>16</sup>	9.61 <sup>5</sup>	5.88 <sup>16</sup>	1.12 <sup>-4</sup>
	6.49 <sup>15</sup>	1.67 <sup>6</sup>	1.8 <sup>6</sup>	7.97 <sup>15</sup>	1.45 <sup>6</sup>	6.80 <sup>15</sup>	1.76 <sup>6</sup>
	7.50 <sup>14</sup>	2.41 <sup>8</sup>	3.6 <sup>8</sup>	9.25 <sup>14</sup>	1.99 <sup>8</sup>	7.87 <sup>14</sup>	2.51 <sup>8</sup>
	4.11 <sup>20</sup>	6.92 <sup>2</sup>	3.4 <sup>2</sup>	4.76 <sup>20</sup>	3.20 <sup>2</sup>	4.25 <sup>20</sup>	7.78 <sup>2</sup>
	6.81 <sup>18</sup>	1.01 <sup>1</sup>	7.3 <sup>1</sup>	1.04 <sup>19</sup>	7.97 <sup>1</sup>	9.14 <sup>18</sup>	1.09 <sup>1</sup>
15	8.71 <sup>17</sup>	1.04 <sup>-2</sup>	9.6 <sup>3</sup>	1.03 <sup>18</sup>	1.02 <sup>-2</sup>	9.04 <sup>17</sup>	1.16 <sup>-2</sup>
	9.78 <sup>16</sup>	1.27 <sup>-4</sup>	1.2 <sup>-4</sup>	1.11 <sup>17</sup>	1.69 <sup>4</sup>	1.01 <sup>17</sup>	1.17 <sup>-4</sup>
	1.23 <sup>16</sup>	1.67 <sup>6</sup>	1.5 <sup>6</sup>	1.29 <sup>16</sup>	2.96 <sup>6</sup>	1.25 <sup>16</sup>	2.15 <sup>6</sup>
	1.62 <sup>15</sup>	2.95 <sup>8</sup>	2.8 <sup>8</sup>	1.56 <sup>15</sup>	4.36 <sup>8</sup>	1.61 <sup>15</sup>	3.81 <sup>8</sup>
	5.53 <sup>20</sup>	4.19 <sup>2</sup>	2.5 <sup>2</sup>	6.40 <sup>20</sup>	7.73 <sup>2</sup>	5.72 <sup>20</sup>	3.50 <sup>2</sup>
20	1.27 <sup>19</sup>	6.55 <sup>1</sup>	6.3 <sup>1</sup>	1.42 <sup>19</sup>	1.08 <sup>1</sup>	1.30 <sup>19</sup>	8.16 <sup>1</sup>
	1.39 <sup>18</sup>	5.48 <sup>3</sup>	5.8 <sup>3</sup>	1.44 <sup>18</sup>	1.12 <sup>-2</sup>	1.40 <sup>18</sup>	8.01 <sup>3</sup>
	1.72 <sup>17</sup>	7.01 <sup>5</sup>	5.9 <sup>5</sup>	1.68 <sup>17</sup>	1.34 <sup>4</sup>	1.71 <sup>17</sup>	1.01 <sup>4</sup>
	2.23 <sup>16</sup>	1.16 <sup>6</sup>	9.8 <sup>7</sup>	2.14 <sup>16</sup>	1.85 <sup>6</sup>	2.22 <sup>16</sup>	1.66 <sup>6</sup>
	2.96 <sup>15</sup>	3.17 <sup>8</sup>	3.2 <sup>8</sup>	2.83 <sup>15</sup>	3.78 <sup>8</sup>	2.94 <sup>15</sup>	3.88 <sup>8</sup>
20	7.07 <sup>20</sup>	1.87 <sup>2</sup>	1.6 <sup>2</sup>	8.01 <sup>20</sup>	5.42 <sup>2</sup>	7.27 <sup>20</sup>	2.81 <sup>2</sup>
	1.80 <sup>19</sup>	3.15 <sup>1</sup>	5.0 <sup>-1</sup>	1.86 <sup>19</sup>	7.44 <sup>1</sup>	1.81 <sup>19</sup>	5.11 <sup>1</sup>
	2.08 <sup>18</sup>	3.67 <sup>-3</sup>	6.1 <sup>-3</sup>	2.04 <sup>18</sup>	6.30 <sup>3</sup>	2.07 <sup>18</sup>	5.80 <sup>3</sup>
	2.62 <sup>17</sup>	5.74 <sup>5</sup>	6.9 <sup>5</sup>	2.52 <sup>17</sup>	8.01 <sup>5</sup>	2.59 <sup>17</sup>	8.91 <sup>5</sup>
	3.12 <sup>16</sup>	1.11 <sup>6</sup>	1.2 <sup>6</sup>	3.27 <sup>16</sup>	1.35 <sup>6</sup>	3.19 <sup>16</sup>	1.59 <sup>6</sup>
4.55 <sup>15</sup>	3.58 <sup>8</sup>	4.2 <sup>8</sup>	4.34 <sup>15</sup>	4.04 <sup>8</sup>	4.51 <sup>15</sup>	4.33 <sup>8</sup>	

### E. Mean Air Absorption Coefficients (above 20 eV)

The tables which follow list values for air of the Planck and Rosseland opacities, or mean mass absorption coefficients (in  $\text{cm}^2/\text{gm}$ ),

$$\bar{K}_P = \bar{\mu}_P / \rho$$

$$\bar{K}_R = \bar{\mu}_R / \rho$$

where  $\bar{\mu}_P$  and  $\bar{\mu}_R$  are the Planck and Rosseland mean absorption coefficients, respectively, defined in Sections D.1 and D.2 (see also Armstrong and Nicholls, 1966, Parts A and B). Also included in the tables are the Planck and Rosseland mean free paths defined, respectively, by

$$\Lambda_P = 1/\bar{\mu}_P$$

$$\Lambda_R = 1/\bar{\mu}_R$$

and given in units of cm.

These quantities are tabulated as functions of density  $\rho$  (in  $\text{gm}/\text{cm}^3$ ), or log density, for selected temperatures from 22.5 eV to 2,250 eV, and have been obtained from the work of Freeman (1963). The Stewart-Pyatt (1961) DIAPHANOUS code was used in the computation. The results, therefore, include line, or bound-bound transitions, and make use of hydrogenic approximations to the matrix elements with Gaunt factors set equal to unity. Approximations to the electron-impact line broadening theory of Baranger (see Stewart and Pyatt, 1961) were employed to obtain line shapes and widths.

It should be noted that the Rosseland means include scattering, which may lead to errors if these are used for calculating absorption. The Planck

means, on the other hand, do not include a scattering contribution.

#### References

- Armstrong, B.H. and R. Nicholls, The Radiative Properties of Heated Air, Thermal Radiation Phenomena, Lockheed, Palo Alto, 1966.
- Freeman, B.E., Opacity and Absorption Coefficients for Ionic Air, General Atomic Report, GAMD-4566, 1963.
- Stewart, J.C. and K.D. Pyatt, Jr., Theoretical Studies of Optical Properties, Air Force Special Weapons Center Report, AFSWC-TR-61-71, 1961.

kT (eV) = 22.5

RHO (GM/CM3)	LOG RHO (GM/CM3)	KROS (CM2/GM)	KPLK (CM2/GM)	LMDAROS (CM)	LMDAPLK (CM)
2.300-01	-1.470+00	1.034+04	5.788+04	4.206-04	7.513-05
4.020-02	-3.214+00	8.090+03	3.693+04	3.075-03	6.736-04
7.047-03	-4.955+00	4.973+03	2.042+04	2.854-02	6.948-03
1.281-03	-6.660+00	1.747+03	8.160+03	4.470-01	9.568-02
2.457-04	-8.311+00	3.683+02	2.366+03	1.105+01	1.720+00
4.828-05	-9.938+00	6.700+01	5.634+02	3.091+02	3.676+01
8.811-06	-1.164+01	1.121+01	1.126+02	1.012+04	1.008+03
1.496-06	-1.341+01	1.972+00	2.034+01	3.391+05	3.288+04
2.300-07	-1.529+01	4.951-01	3.850+00	8.781+06	1.129+06
2.989-08	-1.733+01	2.433-01	1.210+00	1.375+08	2.766+07

kT (eV) = 34

RHO (GM/CM3)	LOG RHO (GM/CM3)	KROS (CM2/GM)	KPLK (CM2/GM)	LMDAROS (CM)	LMDAPLK (CM)
3.618-01	-1.017+00	3.092+03	2.720+04	8.937-04	1.016-04
6.493-02	-2.734+00	1.722+03	1.353+04	8.943-03	1.138-03
1.201-02	-4.422+00	6.948+02	5.145+03	1.199-01	1.619-02
2.300-03	-6.075+00	1.966+02	1.540+03	2.211+00	2.823-01
4.503-04	-7.706+00	4.614+01	4.493+02	4.813+01	4.942+00
8.930-05	-9.323+00	1.016+01	1.784+02	1.102+03	6.277+01
1.622-05	-1.103+01	2.313+00	1.147+02	2.666+04	5.377+02
2.672-06	-1.283+01	7.007-01	8.377+01	5.342+05	4.468+03
3.858-07	-1.477+01	3.123-01	4.108+01	8.298+06	6.309+04
4.772-08	-1.686+01	2.198-01	1.620+01	9.533+07	1.293+06
4.420-09	-1.924+01	2.024-01	5.813+00	1.118+09	3.892+07

kT (eV) = 50

RHO (GM/CM3)	LOG RHO (GM/CM3)	KROS (CM2/GM)	KPLK (CM2/GM)	LMDAROS (CM)	LMDAPLK (CM)
5.858-01	-5.348-01	1.525+03	1.221+04	1.120-03	1.398-04
1.092-01	-2.215+00	6.087+02	5.464+02	1.505-02	1.677-03
2.060-02	-3.883+00	1.937+02	2.616+03	2.506-01	1.856-02
3.990-03	-5.524+00	5.126+01	1.607+03	4.890+00	1.560-01
7.649-04	-7.176+00	1.399+01	1.147+03	9.348+01	1.140+00
1.436-04	-8.849+00	4.155+00	6.887+02	1.676+03	1.011+01
2.474-05	-1.061+01	1.346+00	3.618+02	3.004+04	1.117+02
3.910-06	-1.245+01	5.291-01	1.513+02	4.834+05	1.691+03
5.728-07	-1.437+01	2.715-01	3.827+01	6.431+06	4.562+04
7.268-08	-1.644+01	2.119-01	7.807+00	6.494+07	1.762+06
7.179-09	-1.875+01	2.011-01	9.932-01	6.927+08	1.402+08

kT (eV) = 70

RHO (GM/CM3)	LOG RHO (GM/CM3)	KROS (CM2/GM)	KPLK (CM2/GM)	LMDAROS (CM)	LMDAPLK (CM)
9.224-01	-8.073-02	1.544+03	9.421+03	7.022-04	1.151-04
1.724-01	-1.758+00	5.191+02	5.864+03	1.117-02	9.892-04
3.219-02	-3.436+00	1.550+02	4.120+03	2.004-01	7.538-03
5.940-03	-5.126+00	4.560+01	2.701+03	3.692+00	6.233-02
1.098-03	-6.814+00	1.245+01	1.493+03	7.313+01	6.096-01
2.044-04	-8.495+00	3.408+00	6.230+02	1.435+03	7.852+00
3.595-05	-1.023+01	9.530-01	1.834+02	2.919+04	1.517+02
5.980-06	-1.203+01	3.669-01	4.176+01	4.558+05	4.005+03
9.140-07	-1.391+01	2.353-01	7.058+00	4.649+06	1.550+05
1.187-07	-1.595+01	2.097-01	9.350-01	4.018+07	9.013+06
1.186-08	-1.825+01	2.026-01	9.380-02	4.159+08	8.985+08

kT (eV) = 100

RHO (GM/CM3)	LOG RHO (GM/CM3)	KROS (CM2/GM)	KPLK (CM2/GM)	LMDAROS (CM)	LMDAPLK (CM)
1.470+00	3.855-01	2.242+03	9.735+03	3.033-04	6.986-05
2.672-01	-1.320+00	7.415+02	6.559+03	5.047-03	5.705-04
4.821-02	-3.032+00	2.115+02	3.960+03	9.808-02	5.237-03
8.844-03	-4.728+00	5.044+01	1.859+03	2.241+00	6.082-02
1.678-03	-6.390+00	1.017+01	6.111+02	5.861+01	9.755-01
3.279-04	-8.023+00	2.063+00	1.564+02	1.478+03	1.950+01
5.979-05	-9.725+00	5.871-01	3.139+01	2.849+04	5.328+02
1.014-05	-1.150+01	3.157-01	5.503+00	3.125+05	1.793+04
1.559-06	-1.337+01	2.432-01	8.535-01	2.638+06	7.518+05
2.026-07	-1.541+01	2.118-01	1.112-01	2.330+07	4.438+07
2.026-08	-1.771+01	2.010-01	1.113-02	2.456+08	4.434+09

kT (eV) = 150

RHO (GM/CM3)	LOG RHO (GM/CM3)	KROS (CM2/GM)	KPLK (CM2/GM)	LMDAROS (CM)	LMDAPLK (CM)
2.393+00	8.725-01	2.319+03	7.079+03	1.802-04	5.903-05
4.307-01	-8.424-01	9.122+02	3.876+03	2.545-03	5.990-04
7.930-02	-2.535+00	2.289+02	1.563+03	5.509-02	8.068-03
1.524-02	-4.184+00	4.086+01	4.467+02	1.606+00	1.469-01
3.002-03	-5.809+00	6.856+00	1.038+02	4.859+01	3.209+00
5.977-04	-7.422+00	1.531+00	2.192+01	1.093+03	7.634+01
1.097-04	-9.118+00	5.651-01	4.123+00	1.613+04	2.211+03
1.862-05	-1.089+01	3.122-01	7.118-01	1.721+05	7.548+04
2.863-06	-1.276+01	2.234-01	1.100-01	1.563+06	3.175+06
3.722-07	-1.480+01	2.028-01	1.432-02	1.325+07	1.876+08
3.722-08	-1.711+01	1.997-01	1.433-03	1.345+08	1.875+10



kT (eV) = 225

RHO (GM/CM3)	LOG RHO (GM/CM3)	KROS (CM2/GM)	KPLK (CM2/GM)	LMDAROS (CM)	LMDAPLK (CM)
3.975+00	1.380+00	6.672+02	3.255+03	3.771-04	7.729-05
7.323-01	-3.115-01	2.632+02	1.231+03	5.187-03	1.109-03
1.406-01	-1.962+00	7.290+01	3.632+02	9.758-02	1.959-02
2.763-02	-3.589+00	1.591+01	8.623+01	2.275+00	4.198-01
5.499-03	-5.203+00	3.468+00	1.847+01	5.244+01	9.847+00
1.097-03	-6.815+00	9.305-01	3.816+00	9.794+02	2.388+02
2.015-04	-8.510+00	3.714-01	7.115-01	1.337+04	6.976+03
3.420-05	-1.028+01	2.350-01	1.223-01	1.244+05	2.391+05
5.260-06	-1.216+01	2.052-01	1.889-02	9.265+05	1.007+07
6.837-07	-1.420+01	2.001-01	2.458-03	7.308+06	5.950+08
6.837-08	-1.650+01	1.995-01	2.459-04	7.333+07	5.947+10

kT (eV) = 340

RHO (GM/CM3)	LOG RHO (GM/CM3)	KROS (CM2/GM)	KPLK (CM2/GM)	LMDAROS (CM)	LMDAPLK (CM)
6.892+00	1.930+00	1.089+02	1.014+03	1.332-03	1.431-04
1.312+00	2.719-01	3.784+01	3.363+02	2.014-02	2.266-03
2.576-01	-1.357+00	9.975+00	8.344+01	3.893-01	4.653-02
5.117-02	-2.973+00	2.617+00	1.857+01	7.468+00	1.053+00
1.020-02	-4.586+00	8.341-01	3.871+00	1.176+02	2.533+01
2.037-03	-6.196+00	3.786-01	7.907-01	1.296+03	6.209+02
3.741-04	-7.891+00	2.439-01	1.471-01	1.096+04	1.817+04
6.352-05	-9.664+00	2.081-01	2.520-02	7.565+04	6.247+05
9.770-06	-1.154+01	2.008-01	3.888-03	5.098+05	2.633+07
1.270-06	-1.358+01	1.996-01	5.059-04	3.945+06	1.556+09
1.270-07	-1.588+01	1.994-01	5.060-05	3.949+07	1.556+11

kT (eV) = 500

RHO (GM/CM3)	LOG RHO (GM/CM3)	KROS (CM2/GM)	KPLK (CM2/GM)	LMDAROS (CM)	LMDAPLK (CM)
1.180+01	2.468+00	2.583+01	3.656+02	3.281-03	2.318-04
2.313+00	8.388-01	7.891+00	1.021+02	5.476-02	4.234-03
4.575-01	-7.821-01	2.208+00	2.343+01	9.899-01	9.329-02
9.119-02	-2.395+00	7.611-01	4.966+00	1.441+01	2.208+00
1.818-02	-4.008+00	3.746-01	1.032+00	1.469+02	5.328+01
3.631-03	-5.618+00	2.535-01	2.101-01	1.087+03	1.311+03
6.670-04	-7.313+00	2.128-01	3.896-02	7.045+03	3.848+04
1.133-04	-9.086+00	2.018-01	6.662-03	4.373+04	1.325+06
1.742-05	-1.096+01	1.998-01	1.027-03	2.873+05	5.587+07
2.265-06	-1.300+01	1.994-01	1.336-04	2.214+06	3.304+09
2.265-07	-1.530+01	1.994-01	1.337-05	2.214+07	3.303+11

kT (eV) = 700

RHO (GM/CM3)	LOG RHO (GM/CM3)	KROS (CM2/GM)	KPLK (CM2/GM)	LMDAROS (CM)	LMDAPLK (CM)
1.925+01	2.958+00	8.576+00	1.478+02	6.057-03	3.515-04
3.819+00	1.340+00	2.563+00	3.712+01	1.022-01	7.054-03
7.570-01	-2.784-01	8.764-01	8.253+00	1.507+00	1.601-01
1.507-01	-1.892+00	4.103-01	1.733+00	1.617+01	3.830+00

kT (eV) = 1000

RHO (GM/CM3)	LOG RHO (GM/CM3)	KROS (CM2/GM)	KPLK (CM2/GM)	LMDAROS (CM)	LMDAPLK (CM)
3.270+01	3.487+00	3.083+00	5.662+01	9.919-03	5.401-04
6.508+00	1.873+00	1.056+00	1.348+01	1.455-01	1.140-02
1.292+00	2.560-01	4.654-01	2.891+00	1.663+00	2.677-01
2.572-01	-1.358+00	2.872-01	6.097-01	1.354+01	6.378+00

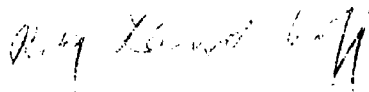
kT (eV) = 2250

RHO (GM/CM3)	LOG RHO (GM/CM3)	KROS (CM2/GM)	KPLK (CM2/GM)	LMDAROS (CM)	LMDAPLK (CM)
1.098+02	4.699+00	6.583-01	7.478+00	1.384-02	1.218-03
2.174+01	3.079+00	3.494-01	1.603+00	1.316-01	2.869-02
4.337+00	1.467+00	2.492-01	3.417-01	9.252-01	6.748-01
8.677-01	-1.419-01	2.144-01	7.009-02	5.376+00	1.644+01

AD-654 773

18 June 1968

Two of the tables in the report NASA 1917-3 Thermal Radiation Phenomena, Vol. 3, Tables of Radiative Properties of Air were incorrect and should be replaced by the enclosed tables. One table goes from page 425 to 427 and the other one from page 446 to 449. Another correction should be made on page 422 where the factor  $\frac{\pi^4}{15}$  in the two equations should really be  $\frac{15}{\pi^4}$ .



R. Landshoff

LOCKHEED MISSILES & SPACE COMPANY

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JUL 8 1968  
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TOTAL AND CUT-OFF PLANK VEAN ABSORPTION COEFFICIENTS (CM<sup>-1</sup>)

TEMPERATURE C (DEG. K)	DENSITY (TIMES NORMAL)								
	1.0E 01	1.0E 00	1.0E-01	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07	
1000.	TOTAL	1.84E-05	1.84E-06	1.84E-07	1.84E-08	1.84E-09	1.84E-10	1.84E-11	1.84E-12
	CNT.	9.42E-10	2.88E-11	9.42E-13	2.92E-14	9.42E-16	2.99E-17	9.42E-19	2.99E-20
	1	1.84E-05	1.84E-06	1.84E-07	1.84E-08	1.84E-09	1.84E-10	1.84E-11	1.84E-12
	2	1.84E-05	1.84E-06	1.84E-07	1.84E-08	1.84E-09	1.84E-10	1.84E-11	1.84E-12
	3	1.84E-05	1.84E-06	1.84E-07	1.84E-08	1.84E-09	1.84E-10	1.84E-11	1.84E-12
	4	1.84E-05	1.84E-06	1.84E-07	1.84E-08	1.84E-09	1.84E-10	1.84E-11	1.84E-12
2000.	TOTAL	1.20E-03	1.17E-04	1.16E-05	1.16E-06	1.15E-07	1.14E-08	1.11E-09	1.01E-10
	CNT.	6.04E-05	1.28E-06	4.03E-08	1.27E-09	4.09E-11	1.28E-12	3.71E-14	9.79E-16
	1	1.20E-03	1.17E-04	1.16E-05	1.16E-06	1.15E-07	1.14E-08	1.11E-09	1.01E-10
	2	1.20E-03	1.17E-04	1.16E-05	1.16E-06	1.15E-07	1.14E-08	1.11E-09	1.01E-10
	3	1.46E-04	1.17E-04	1.16E-05	1.16E-06	1.15E-07	1.14E-08	1.11E-09	1.01E-10
	4	1.13E-04	1.17E-04	1.16E-05	1.16E-06	1.15E-07	1.14E-08	1.11E-09	1.01E-10
3000.	TOTAL	6.87E-07	8.49E-07	1.10E-06	1.07E-07	1.15E-07	1.14E-08	1.11E-09	1.01E-10
	CNT.	3.36E-03	3.06E-04	2.71E-05	2.33E-06	1.60E-07	7.19E-09	2.45E-10	7.96E-12
	1	1.11E-03	3.43E-05	1.01E-06	4.13E-10	3.24E-12	2.05E-14	1.29E-16	7.96E-18
	2	1.63E-03	3.06E-04	2.71E-05	2.33E-06	1.60E-07	7.19E-09	2.45E-10	7.96E-12
	3	1.08E-03	8.57E-05	2.69E-05	2.33E-06	1.60E-07	7.19E-09	2.45E-10	7.96E-12
	4	1.29E-04	8.30E-05	5.95E-06	2.33E-06	1.60E-07	7.19E-09	2.45E-10	7.96E-12
4000.	TOTAL	1.27E-06	1.89E-06	1.38E-06	4.52E-07	3.05E-08	7.18E-09	2.45E-10	7.86E-12
	CNT.	1.24E-02	8.04E-04	4.24E-05	1.51E-06	4.70E-09	1.61E-09	6.55E-11	3.27E-12
	1	4.54E-03	1.29E-04	2.83E-06	4.17E-08	5.38E-10	7.66E-12	1.18E-13	1.86E-15
	2	9.26E-03	7.84E-04	4.24E-05	1.51E-06	4.70E-09	1.61E-09	6.55E-11	3.27E-12
	3	1.81E-03	2.49E-04	3.33E-05	1.50E-06	4.70E-09	1.61E-09	6.55E-11	3.27E-12
	4	1.79E-04	1.40E-04	1.16E-05	1.35E-06	4.70E-09	1.61E-09	6.55E-11	3.27E-12
5000.	TOTAL	5.93E-07	2.65E-03	8.35E-05	2.37E-06	1.35E-07	7.57E-09	3.45E-10	9.83E-12
	CNT.	1.61E-02	4.60E-04	8.07E-06	1.25E-07	1.95E-09	3.08E-11	5.04E-13	1.09E-16
	1	2.50E-02	2.47E-03	9.35E-05	2.87E-06	1.35E-07	7.57E-09	3.45E-10	9.83E-12
	2	1.44E-02	1.18E-03	9.35E-05	2.87E-06	1.35E-07	7.57E-09	3.45E-10	9.83E-12
	3	0.	5.66E-04	6.42E-05	2.87E-06	1.35E-07	7.57E-09	3.45E-10	9.83E-12
	4	0.	3.11E-04	2.62E-05	2.87E-06	1.35E-07	7.57E-09	3.45E-10	9.83E-12
6000.	TOTAL	1.56E-01	5.79E-03	2.13E-04	1.01E-05	4.83E-07	1.50E-08	3.54E-10	1.11E-11
	CNT.	3.91E-02	1.02E-03	1.85E-05	3.16E-07	7.26E-09	4.05E-10	3.47E-11	3.26E-12
	1	5.72E-02	5.75E-03	2.13E-04	1.01E-05	4.83E-07	1.50E-08	3.54E-10	1.11E-11
	2	7.51E-02	3.44E-03	2.13E-04	1.01E-05	4.83E-07	1.50E-08	3.54E-10	1.11E-11
	3	1.40E-04	1.98E-03	2.06E-04	1.01E-05	4.83E-07	1.50E-08	3.54E-10	1.11E-11
	4	0.	1.01E-04	1.11E-04	1.00E-05	4.91E-07	1.49E-08	3.46E-10	1.11E-11
5	0.	0.	9.94E-05	3.33E-06	4.79E-07	1.43E-08	3.41E-10	1.03E-11	
6	0.	0.	2.13E-06	2.13E-06	4.77E-07	1.47E-08	3.32E-10	9.30E-12	

TOTAL AND CUT-OFF PLANK MEAN ABSORPTION COEFFICIENTS (cm<sup>-1</sup>)

TEMPERATURE C (DEG. K)	DENSITY (TIMES NORMAL)									
	1.0E 01	1.0E 00	1.0E 00	1.0E 01	1.0E 02	1.0E 03	1.0E 04	1.0E 05	1.0E 06	1.0E 07
7000.	TOTAL	2.85E-01	1.09E-02	4.78E-04	2.09E-05	6.35E-07	2.14E-08	1.31E-09	1.31E-09	1.09E-10
	CONT.	8.62E-02	2.02E-03	4.12E-05	1.52E-06	1.29E-07	1.11E-08	1.07E-09	1.01E-10	
	1	1.27E-01	1.08E-02	4.75E-04	2.06E-05	6.35E-07	2.14E-08	1.31E-09	1.31E-09	1.09E-10
	2	2.81E-02	8.81E-03	4.72E-04	2.05E-05	5.96E-07	2.14E-08	1.31E-09	1.31E-09	1.08E-10
	3	0.	3.04E-03	4.65E-04	2.03E-05	5.52E-07	1.95E-08	1.21E-09	1.21E-09	1.08E-10
	4	0.	1.38E-05	3.32E-04	1.98E-05	5.35E-07	1.89E-08	1.20E-09	1.20E-09	1.05E-11
5	0.	0.	7.89E-06	1.94E-05	5.33E-07	1.20E-08	5.84E-10	5.84E-10	8.05E-11	
6	0.	0.	0.	1.21E-06	5.27E-07	1.20E-08	3.77E-10	3.77E-10	3.55E-11	
8000.	TOTAL	4.65E-01	1.54E-02	6.68E-04	3.48E-05	1.92E-06	1.59E-07	1.32E-08	1.32E-08	1.06E-09
	CONT.	1.59E-01	4.82E-03	1.78E-04	1.58E-05	1.58E-06	1.52E-07	1.30E-08	1.30E-08	1.05E-09
	1	2.37E-01	1.86E-02	7.85E-04	2.96E-05	1.92E-06	1.59E-07	1.32E-08	1.32E-08	1.06E-09
	2	1.52E-03	1.73E-02	7.66E-04	2.35E-05	1.36E-06	1.59E-07	1.32E-08	1.32E-08	1.06E-09
	3	0.	1.60E-03	7.36E-04	2.14E-05	7.77E-07	1.05E-07	1.37E-08	1.37E-08	1.06E-09
	4	0.	0.	2.70E-04	2.10E-05	5.31E-07	6.68E-08	9.37E-09	9.37E-09	1.06E-09
5	0.	0.	4.69E-06	2.04E-05	5.31E-07	2.44E-08	3.75E-09	3.75E-09	7.49E-10	
6	0.	0.	0.	1.44E-06	5.46E-07	2.44E-08	1.65E-09	1.65E-09	2.90E-10	
9000.	TOTAL	7.32E-01	3.51E-02	1.90E-03	1.27E-04	1.13E-05	1.00E-06	7.91E-08	7.91E-08	3.74E-09
	CONT.	2.79E-01	1.27E-02	1.15E-04	1.15E-04	1.11E-05	9.96E-07	7.90E-08	7.90E-08	3.73E-09
	1	3.77E-01	2.79E-02	1.06E-03	8.70E-05	1.13E-05	1.00E-06	7.91E-08	7.91E-08	3.74E-09
	2	0.	2.59E-02	9.42E-04	4.33E-05	7.32E-06	1.00E-06	7.91E-08	7.91E-08	3.74E-09
	3	0.	9.44E-04	8.89E-04	2.94E-05	2.94E-05	6.25E-07	7.91E-08	7.91E-08	3.74E-09
	4	0.	0.	3.19E-04	2.84E-05	1.49E-06	2.52E-07	4.93E-09	4.93E-09	3.74E-09
5	0.	0.	0.	2.75E-05	1.49E-06	1.14E-07	1.94E-08	1.94E-08	2.56E-09	
6	0.	0.	0.	2.55E-07	1.49E-06	1.14E-07	6.46E-09	6.46E-09	9.65E-10	
10000.	TOTAL	1.23E 00	7.91E-02	6.34E-03	5.61E-04	4.31E-05	3.83E-06	2.12E-07	2.12E-07	4.93E-09
	CONT.	6.05E-01	5.30E-02	5.33E-03	5.33E-04	4.30E-05	3.83E-06	2.12E-07	2.12E-07	4.83E-09
	1	2.32E-01	3.95E-02	2.11E-03	3.35E-04	4.31E-05	3.83E-06	2.12E-07	2.12E-07	4.93E-09
	2	0.	3.47E-02	1.76E-03	1.29E-04	2.68E-05	3.83E-06	2.12E-07	2.12E-07	4.93E-09
	3	0.	0.	1.33E-03	7.23E-05	1.15E-05	2.33E-06	2.12E-07	2.12E-07	4.83E-09
	4	0.	0.	3.01E-04	7.23E-05	5.47E-06	9.16E-07	1.29E-07	1.29E-07	4.33E-09
5	0.	0.	0.	4.21E-05	5.47E-06	4.23E-07	4.93E-09	4.93E-09	4.33E-09	
6	0.	0.	0.	3.09E-06	4.23E-07	4.23E-07	2.39E-09	2.39E-09	2.50E-09	
11000.	TOTAL	2.35E 00	2.07E-01	1.97E-02	1.79E-03	1.54E-04	9.36E-06	2.90E-07	2.90E-07	3.90E-09
	CONT.	1.59E 00	1.95E-01	1.93E-02	1.78E-03	1.54E-04	9.36E-06	2.90E-07	2.90E-07	3.85E-09
	1	1.59E-01	5.60E-02	5.15E-03	1.02E-03	1.54E-04	9.36E-06	2.90E-07	2.90E-07	3.30E-09
	2	0.	4.10E-02	2.81E-03	3.79E-04	3.69E-05	9.36E-06	2.90E-07	2.90E-07	3.30E-09
	3	0.	0.	2.29E-03	2.09E-04	3.13E-05	5.63E-06	2.90E-07	2.90E-07	3.30E-09
	4	0.	0.	0.	1.60E-04	1.55E-05	2.10E-06	2.90E-07	2.90E-07	3.80E-09
5	0.	0.	0.	1.39E-05	1.31E-05	1.02E-06	1.37E-07	1.37E-07	3.80E-09	
6	0.	0.	0.	3.65E-06	3.65E-06	9.05E-07	3.25E-08	3.25E-08	3.60E-09	
12000.	TOTAL	5.16F 00	5.29E-01	5.07E-02	4.60E-03	3.37E-04	1.43E-05	2.93E-07	2.93E-07	2.72E-09
	CONT.	4.34E 00	5.09E-01	5.05E-02	4.50E-03	3.37E-04	1.43E-05	2.93E-07	2.93E-07	2.72E-09
	1	3.73E-02	9.22E-02	6.30E-03	2.57E-03	3.37E-04	1.43E-05	2.93E-07	2.93E-07	2.72E-09
	2	0.	5.51E-02	6.12E-03	5.13E-04	2.05E-04	1.43E-05	2.93E-07	2.93E-07	2.72E-09
	3	0.	0.	3.61E-03	4.96E-04	5.85E-05	3.34E-06	2.93E-07	2.93E-07	2.72E-09
	4	0.	0.	0.	2.93E-04	3.11E-06	3.11E-06	2.93E-07	2.93E-07	2.72E-09
5	0.	0.	0.	0.	2.10E-05	1.50E-06	1.47E-07	1.47E-07	2.72E-09	
6	0.	0.	0.	0.	1.21E-06	1.21E-06	5.70E-08	5.70E-08	2.72E-09	

TOTAL AND CUT-OFF PLANCK MEAN ABSORPTION COEFFICIENTS (cm<sup>-1</sup>)

TEMPERATURE C (DEG. K)	DENSITY (TIMES NORMAL)		10.0E-03		10.0E-04		10.0E-05		10.0E-06		10.0E-07	
	1.0E 01	1.0E 00	1.0E-01	1.0E-02	1.0E-03	1.0E-04	1.0E-05	1.0E-06	1.0E-07	1.0E-08	1.0E-09	1.0E-10
13000.	TOTAL	3.17E 00	1.97E-01	1.57E-02	1.26E-03	6.22E-05	1.77E-06	2.32E-08	2.32E-09	2.32E-10	2.32E-10	2.32E-10
	CONT.	2.41E 00	1.55E-01	1.57E-02	1.26E-03	6.22E-05	1.77E-06	2.32E-08	2.32E-09	2.32E-10	2.32E-10	2.32E-10
	1	0.	1.41E-01	1.31E-02	1.06E-03	6.22E-05	1.77E-06	2.32E-08	2.32E-09	2.32E-10	2.32E-10	2.32E-10
	2	0.	1.10E-03	1.03E-02	1.04E-03	6.22E-05	1.77E-06	2.32E-08	2.32E-09	2.32E-10	2.32E-10	2.32E-10
	3	0.	0.	4.34E-03	8.50E-04	6.22E-05	1.77E-06	2.32E-08	2.32E-09	2.32E-10	2.32E-10	2.32E-10
	4	0.	0.	0.	3.78E-04	5.56E-05	1.77E-06	2.32E-08	2.32E-09	2.32E-10	2.32E-10	2.32E-10
14000.	TOTAL	2.19E 01	2.23E 00	2.05E-01	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.47E-07	1.47E-07	1.47E-07	
	CONT.	2.12E 01	2.22E 00	2.05E-01	1.57E-02	7.20E-04	1.34E-05	1.47E-07	1.47E-07	1.47E-07	1.47E-07	
	1	0.	2.09E-01	2.42E-02	6.10E-03	1.34E-05	1.47E-07	1.47E-07	1.47E-07	1.47E-07	1.47E-07	
	2	0.	0.	1.57E-02	1.80E-03	4.03E-04	1.34E-05	1.47E-07	1.47E-07	1.47E-07	1.47E-07	
	3	0.	0.	1.20E-03	1.20E-03	1.34E-05	1.47E-07	1.47E-07	1.47E-07	1.47E-07	1.47E-07	
	4	0.	0.	0.	3.91E-04	6.82E-05	1.47E-07	1.47E-07	1.47E-07	1.47E-07	1.47E-07	
15000.	TOTAL	7.45E 00	5.75E-01	4.67E-02	3.04E-03	9.04E-05	1.29E-06	1.35E-08	1.35E-08	1.35E-08	1.35E-08	
	CONT.	6.95E 00	5.69E-01	4.66E-02	3.07E-03	9.04E-05	1.29E-06	1.35E-08	1.35E-08	1.35E-08	1.35E-08	
	1	0.	2.89E-01	3.78E-02	3.58E-03	9.04E-05	1.29E-06	1.35E-08	1.35E-08	1.35E-08	1.35E-08	
	2	0.	0.	2.24E-02	2.86E-03	9.04E-05	1.29E-06	1.35E-08	1.35E-08	1.35E-08	1.35E-08	
	3	0.	0.	0.	1.64E-03	9.04E-05	1.29E-06	1.35E-08	1.35E-08	1.35E-08	1.35E-08	
	4	0.	0.	0.	1.22E-04	1.29E-06	1.35E-08	1.35E-08	1.35E-08	1.35E-08	1.35E-08	
16000.	TOTAL	6.27E 01	6.02E 00	5.64E-01	3.04E-02	7.37E-04	3.75E-06	9.14E-09	9.14E-09	9.14E-09	9.14E-09	
	CONT.	6.23E 01	6.02E 00	5.64E-01	3.04E-02	7.37E-04	3.75E-06	9.14E-09	9.14E-09	9.14E-09	9.14E-09	
	1	0.	3.72E-01	5.05E-02	1.52E-02	7.37E-04	3.75E-06	9.14E-09	9.14E-09	9.14E-09	9.14E-09	
	2	0.	0.	2.98E-02	3.19E-03	7.37E-04	3.75E-06	9.14E-09	9.14E-09	9.14E-09	9.14E-09	
	3	0.	0.	0.	1.91E-03	1.30E-04	9.73E-06	9.14E-09	9.14E-09	9.14E-09	9.14E-09	
	4	0.	0.	0.	0.	5.81E-05	9.71E-06	9.14E-09	9.14E-09	9.14E-09	9.14E-09	
17000.	TOTAL	1.57E 01	1.27E 00	9.37E-02	4.33E-03	7.44E-05	9.24E-07	9.17E-09	9.17E-09	9.17E-09	9.17E-09	
	CONT.	1.54E 01	1.27E 00	9.36E-02	4.33E-03	7.44E-05	9.24E-07	9.17E-09	9.17E-09	9.17E-09	9.17E-09	
	1	0.	4.59E-01	6.42E-02	4.33E-03	7.44E-05	9.24E-07	9.17E-09	9.17E-09	9.17E-09	9.17E-09	
	2	0.	0.	3.46E-02	3.97E-03	7.44E-05	9.24E-07	9.17E-09	9.17E-09	9.17E-09	9.17E-09	
	3	0.	0.	0.	2.15E-03	7.44E-05	9.24E-07	9.17E-09	9.17E-09	9.17E-09	9.17E-09	
	4	0.	0.	0.	0.	6.00E-05	9.24E-07	9.17E-09	9.17E-09	9.17E-09	9.17E-09	
18000.	TOTAL	1.31E 02	1.17E 01	6.46E-01	2.55E-02	3.14E-04	4.21E-06	6.55E-09	6.55E-09	6.55E-09	6.55E-09	
	CONT.	1.33E 02	1.17E 01	6.46E-01	2.55E-02	3.14E-04	4.21E-06	6.55E-09	6.55E-09	6.55E-09	6.55E-09	
	1	0.	3.31E-01	7.52E-02	2.65E-02	3.14E-04	4.21E-06	6.55E-09	6.55E-09	6.55E-09	6.55E-09	
	2	0.	0.	6.03E-02	5.64E-03	3.14E-04	4.21E-06	6.55E-09	6.55E-09	6.55E-09	6.55E-09	
	3	0.	0.	0.	2.20E-03	3.14E-04	4.21E-06	6.55E-09	6.55E-09	6.55E-09	6.55E-09	
	4	0.	0.	0.	0.	5.03E-05	3.14E-04	4.21E-06	6.55E-09	6.55E-09	6.55E-09	

TOTAL AND CUT-OFF ROSSELAND MEAN FREE PATMS (CM)

TEMPERATURE C (DEG. K)	TOTAL CONT.	DENSITY (TIMES NORMAL)											
		1.0E 01	1.0E 00	1.0E-01	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07	10.0E-08	10.0E-09	10.0E-10	
1000.	TOTAL CONT.	4.87E 09	4.87E 10	4.87E 11	4.87E 12	4.87E 13	4.87E 14	4.87E 15	4.87E 16	4.87E 17	4.87E 18	4.87E 19	4.87E 20
	1	1.37E 01	4.34E 02	1.37E 04	4.33E 05	1.37E 07	4.34E 08	1.37E 10	4.34E 11	1.37E 13	4.33E 14	1.37E 16	4.34E 17
	2	2.11E 03	2.98E 02	1.43E-16	1.53E-19	4.79E-21	5.35E-24	9.57E-27	2.47E-29	0.	0.	0.	0.
	3	2.63E-02	1.43E-17	1.53E-20	4.79E-22	5.35E-25	9.57E-28	2.47E-30	0.	0.	0.	0.	0.
	4	4.30E-06	1.53E-21	4.79E-22	5.35E-25	9.57E-28	2.47E-30	0.	0.	0.	0.	0.	0.
	5	1.53E-22	4.79E-23	5.35E-25	9.57E-28	2.47E-30	0.	0.	0.	0.	0.	0.	0.
	6	4.79E-24	5.35E-26	9.57E-30	2.47E-30	0.	0.	0.	0.	0.	0.	0.	0.
	TOTAL CONT.	5.35E-29	9.57E-31	2.47E-31	0.	0.	0.	0.	0.	0.	0.	0.	0.
2000.	TOTAL CONT.	2.06E 11	2.06E 12	2.06E 13	2.06E 14	2.06E 15	2.06E 16	2.06E 17	2.06E 18	2.06E 19	2.06E 20	2.06E 21	2.06E 22
	1	1.17E 02	3.70E 03	1.17E 05	3.71E 06	1.17E 08	3.80E 09	1.27E 11	4.93E 12	1.27E 14	4.93E 15	1.27E 17	4.93E 18
	2	1.62E 04	5.76E 03	1.97E 02	1.54E 03	5.55E-04	4.71E-05	1.33E-09	5.31E-09	4.92E-10	0.	0.	0.
	3	2.05E 01	1.64E 01	5.52E-05	4.62E-07	1.70E-11	5.37E-11	0.	0.	0.	0.	0.	0.
	4	1.60E 00	5.47E-07	4.62E-08	1.69E-12	5.39E-12	0.	0.	0.	0.	0.	0.	0.
	5	5.34E-08	4.61E-09	1.69E-13	8.23E-13	0.	0.	0.	0.	0.	0.	0.	0.
	6	4.61E-10	1.69E-14	8.23E-14	0.	0.	0.	0.	0.	0.	0.	0.	0.
3000.	TOTAL CONT.	3.79E 05	3.69E 06	3.79E 07	3.67E 08	4.77E 09	1.24E 11	1.54E 12	9.45E 13	1.54E 14	9.45E 15	1.54E 16	9.45E 17
	1	1.44E 12	1.46E 13	1.52E 14	1.72E 15	2.47E 16	5.44E 17	1.77E 18	0.	0.	0.	0.	0.
	2	2.64E 03	9.60E 03	6.34E 03	1.64E 02	1.59E 03	1.77E 01	1.42E-04	0.	0.	0.	0.	0.
	3	1.51E 03	1.23E 03	1.76E 01	1.10E 02	5.71E-02	1.42E-06	0.	0.	0.	0.	0.	0.
	4	1.09E 02	2.98E 00	9.20E 00	1.19E-02	7.25E-06	0.	0.	0.	0.	0.	0.	0.
	5	7.42E 00	9.42E-01	1.72E-03	3.50E-07	1.46E-07	0.	0.	0.	0.	0.	0.	0.
	6	9.41E-02	1.62E-04	2.74E-08	1.39E-07	0.	0.	0.	0.	0.	0.	0.	0.
	TOTAL CONT.	1.58E-05	2.52E-09	1.71E-08	0.	0.	0.	0.	0.	0.	0.	0.	0.
4000.	TOTAL CONT.	5.81E 02	1.45E 04	4.41E 05	1.16E 07	2.75E 08	7.34E 09	2.12E 11	3.43E 12	2.12E 13	3.43E 14	2.12E 15	3.43E 16
	1	6.91E 06	7.92E 07	1.16E 09	2.62E 10	9.29E 11	4.09E 13	3.29E 15	0.	0.	0.	0.	0.
	2	5.81E 02	1.45E 04	7.30E 03	9.20E 02	6.38E 01	1.09E-04	0.	0.	0.	0.	0.	0.
	3	1.12E 02	3.42E 01	7.47E 00	2.61E-01	0.	0.	0.	0.	0.	0.	0.	0.
	4	2.26E 01	7.55E-01	5.95E-02	2.61E-04	0.	0.	0.	0.	0.	0.	0.	0.
	5	1.19E-01	1.57E-02	2.63E-05	0.	0.	0.	0.	0.	0.	0.	0.	0.
	6	2.67E-03	1.70E-06	6.69E-09	0.	0.	0.	0.	0.	0.	0.	0.	0.
5000.	TOTAL CONT.	5.87E 01	2.17E 03	6.02E 04	1.56E 06	4.53E 07	9.79E 08	1.35E 10	5.56E 11	1.35E 12	5.56E 13	1.35E 14	5.56E 15
	1	5.87E 01	4.09E 03	5.00E 05	1.10E 08	2.20E 10	2.00E 12	4.12E-02	0.	0.	0.	0.	0.
	2	5.87E 01	2.17E 03	3.14E 02	1.10E 02	7.11E-03	0.	0.	0.	0.	0.	0.	0.
	3	5.87E 01	7.09E 01	1.35E 01	1.39E-02	0.	0.	0.	0.	0.	0.	0.	0.
	4	5.87E 01	2.74E 00	2.46E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.
	5	3.43E-01	1.10E-01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	6	1.43E-02	1.06E-04	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL AND CUT-OFF POSSELAND MEAN FREE PATHS (CM)

TEMPERATURE C (DEG. K)	DENSITY (TIMES NORMAL)									
	1.0E 01	1.0E 00	1.2E-01	1.5E-01	10.0E-03	10.0E-04	10.0E-05	10.0E-06	10.0E-07	10.0E-07
6000.										
TOTAL	2.92E 01	6.51E 02	1.64E 04	6.73E 05	4.73E 05	1.03E 07	2.54E 08	1.07E 10	5.32E 11	
CONT.	7.31E 01	6.92E 03	8.85E 05	4.03E 07	3.65E 06	6.12E 09	6.77E 09	1.49E 11	2.30E 12	
1	2.92E 01	6.51E 02	1.64E 04	2.19E 04	1.51E 01	6.52E-01	1.31E-03	1.20E-07	1.19E-03	
2	2.92E 01	6.51E 02	2.69E 03	2.73E 01	6.98E-02	2.03E-04	1.29E-05	3.75E-06	3.76E-05	
3	2.92E 01	6.51E 02	5.07E 00	3.19E-04	1.29E-04	1.29E-04	6.26E-07	0.	0.	
4	2.92E 01	6.51E 02	3.85E-05	1.31E-07	5.82E-08	0.	0.	0.	0.	
5	2.92E 01	6.51E 02	1.51E-09	1.66E-08	0.	0.	0.	0.	0.	
6	2.92E 01	6.51E 02	1.51E-09	1.66E-08	0.	0.	0.	0.	0.	
7000.										
TOTAL	9.79E 00	2.32E 02	6.47E 03	1.52E 05	4.29E 06	1.70E 09	6.94E 09	9.37E 10	9.37E 10	
CONT.	6.63E 01	3.73E 03	1.02E 05	1.79E 06	3.65E 07	6.21E 08	9.51E 09	1.19E 11	1.19E 11	
1	9.79E 00	2.32E 02	6.47E 03	3.07E 04	4.55E 01	6.73E-01	4.71E 00	5.94E-01	5.94E-01	
2	9.79E 00	2.32E 02	2.63E 03	5.59E 01	6.14E-01	6.73E-01	9.54E-02	1.23E-03	1.23E-03	
3	9.79E 00	1.98E 02	6.57E 01	3.09E 01	5.09E-02	9.48E-03	1.18E-04	0.	0.	
4	9.79E 00	2.91E 01	5.35E-02	1.42E-04	1.30E-03	1.11E-05	0.	0.	0.	
5	9.12E 00	2.39E-01	5.97E-04	2.33E-06	1.78E-06	0.	0.	0.	0.	
6	7.13E-02	7.41E-05	4.46E-07	2.39E-07	0.	0.	0.	0.	0.	
8000.										
TOTAL	4.01E 00	1.05E 02	2.67E 03	7.69E 04	2.55E 06	5.43E 07	9.46E 08	1.23E 10	1.23E 10	
CONT.	2.40E 01	5.31E 02	1.34E 04	2.99E 05	5.33E 06	7.94E 07	1.31E 08	1.01E 09	1.31E 10	
1	4.01E 00	1.05E 02	2.67E 03	3.56E 04	6.41E 01	1.31E 01	1.31E 01	1.40E 01	5.63E 02	
2	4.01E 00	1.05E 02	2.00E 03	3.49E 01	1.29E-01	1.29E-01	1.31E 00	4.56E-01	1.93E-02	
3	4.01E 00	1.05E 02	2.77E 02	6.09E-01	1.29E-01	1.29E-01	4.23E-02	1.57E-03	0.	
4	4.01E 00	3.20E 01	1.90E-01	1.39E-02	4.20E-03	2.01E-04	0.	0.	0.	
5	3.53E 00	1.09E-01	3.66E-03	4.23E-04	1.99E-05	0.	0.	0.	0.	
6	1.14E-01	4.44E-04	6.34E-05	2.12E-06	0.	0.	0.	0.	0.	
9000.										
TOTAL	2.10E 00	5.41E 01	1.67E 03	6.46E 04	9.07E 05	1.31E 07	1.93E 09	3.99E 09	3.99E 09	
CONT.	6.63E 00	1.83E 02	3.94E 03	7.42E 04	1.12E 05	1.43E 07	1.93E 09	4.31E 09	4.31E 09	
1	2.10E 00	5.41E 01	1.67E 03	4.19E 04	2.70E-01	2.91E 00	3.57E 01	3.51E 01	3.51E 01	
2	2.10E 00	5.41E 01	3.21E 02	2.65E-02	2.70E-01	1.39E-01	1.74E-02	2.61E-01	2.61E-01	
3	2.10E 00	3.50E 01	4.04E-01	2.69E-02	1.23E-02	1.39E-03	0.	0.	0.	
4	2.10E 00	1.37E-01	2.80E-02	1.23E-03	1.30E-04	0.	0.	0.	0.	
5	2.01E-01	1.73E-03	1.90E-04	1.29E-05	0.	0.	0.	0.	0.	
10000.										
TOTAL	1.78E 00	3.24E 01	8.85E 02	1.91E 04	2.93E 05	4.09E 06	7.56E 07	3.13E 09	3.13E 09	
CONT.	2.79E 00	6.94E 01	1.39E 03	2.26E 04	3.09E 05	4.16E 06	7.57E 07	3.13E 09	3.13E 09	
1	1.26E 00	3.24E 01	8.85E 02	1.91E 04	5.70E 03	6.04E 00	1.11E 02	2.65E 01	2.65E 01	
2	1.26E 00	3.24E 01	8.85E 02	5.72E 02	4.92E-01	6.04E 00	1.12E 00	3.39E-07	3.39E-07	
3	1.26E 00	3.24E 01	4.56E 02	4.19E-02	4.92E-01	3.91E-01	1.27E-01	0.	0.	
4	1.26E 00	3.24E 01	4.03E-01	4.19E-02	3.04E-02	7.08E-03	0.	0.	0.	
5	1.26E 00	1.96E-01	5.52E-03	3.79E-03	1.77E-03	0.	0.	0.	0.	
6	6.54E-01	2.04E-03	3.39E-04	1.69E-04	0.	0.	0.	0.	0.	



TOTAL AND CUT-OFF ROSSELAND WEAN FREE PATHS (CM)

TEMPERATURE C (DEG. K)	TOTAL COUNT	DENSITY (TIMES NORMAL)									
		1.0E 01	1.0E 00	1.0E 01	1.0E 02	1.0E 03	1.0E 04	1.0E 05	1.0E 06	1.0E 07	1.0E 08
11000.	TOTAL	3.26E-01	2.08E 01	4.75E 02	7.89E 03	1.09E 05	1.79E 06	5.59E 07	4.02E 09		
	COUNT	1.52E 00	3.26E 01	5.69E 02	9.30E 03	1.10E 05	1.79E 06	5.60E 07	4.02E 09		
	1	3.26E-01	2.08E 01	4.75E 02	7.89E 03	2.52E 04	1.31E 05	4.27E 06	2.34E 08		
	2	4.26E-01	2.09E 01	6.75E 02	5.63E 03	1.59E 05	1.04E 06	7.35E 07	5.70E 08		
	3	5.26E-01	2.09E 01	6.75E 02	5.63E 03	1.59E 05	1.04E 06	7.35E 07	5.70E 08		
	4	6.26E-01	2.09E 01	6.75E 02	5.63E 03	1.59E 05	1.04E 06	7.35E 07	5.70E 08		
12000.	TOTAL	5.53E-01	1.29E 01	2.44E 02	3.51E 03	5.16E 04	1.16E 06	6.20E 07	5.53E 09		
	COUNT	5.53E-01	1.29E 01	2.44E 02	3.51E 03	5.16E 04	1.16E 06	6.20E 07	5.53E 09		
	1	5.53E-01	1.29E 01	2.44E 02	3.51E 03	5.16E 04	1.16E 06	6.20E 07	5.53E 09		
	2	5.53E-01	1.29E 01	2.44E 02	3.51E 03	5.16E 04	1.16E 06	6.20E 07	5.53E 09		
	3	5.53E-01	1.29E 01	2.44E 02	3.51E 03	5.16E 04	1.16E 06	6.20E 07	5.53E 09		
	4	5.53E-01	1.29E 01	2.44E 02	3.51E 03	5.16E 04	1.16E 06	6.20E 07	5.53E 09		
13000.	TOTAL	3.71E-01	7.36E 00	1.29E 02	1.79E 03	3.04E 04	1.05E 06	7.92E 07	7.70E 09		
	COUNT	3.71E-01	7.36E 00	1.29E 02	1.79E 03	3.04E 04	1.05E 06	7.92E 07	7.70E 09		
	1	3.71E-01	7.36E 00	1.29E 02	1.79E 03	3.04E 04	1.05E 06	7.92E 07	7.70E 09		
	2	3.71E-01	7.36E 00	1.29E 02	1.79E 03	3.04E 04	1.05E 06	7.92E 07	7.70E 09		
	3	3.71E-01	7.36E 00	1.29E 02	1.79E 03	3.04E 04	1.05E 06	7.92E 07	7.70E 09		
	4	3.71E-01	7.36E 00	1.29E 02	1.79E 03	3.04E 04	1.05E 06	7.92E 07	7.70E 09		
14000.	TOTAL	2.53E-01	4.92E 00	7.21E 01	1.04E 03	2.25E 04	1.14E 05	1.03E 07	9.37E 09		
	COUNT	2.53E-01	4.92E 00	7.21E 01	1.04E 03	2.25E 04	1.14E 05	1.03E 07	9.37E 09		
	1	2.53E-01	4.92E 00	7.21E 01	1.04E 03	2.25E 04	1.14E 05	1.03E 07	9.37E 09		
	2	2.53E-01	4.92E 00	7.21E 01	1.04E 03	2.25E 04	1.14E 05	1.03E 07	9.37E 09		
	3	2.53E-01	4.92E 00	7.21E 01	1.04E 03	2.25E 04	1.14E 05	1.03E 07	9.37E 09		
	4	2.53E-01	4.92E 00	7.21E 01	1.04E 03	2.25E 04	1.14E 05	1.03E 07	9.37E 09		
15000.	TOTAL	1.75E-01	3.02E 00	4.33E 01	6.97E 02	2.00E 04	1.37E 05	1.28E 07	1.12E 10		
	COUNT	1.75E-01	3.02E 00	4.33E 01	6.97E 02	2.00E 04	1.37E 05	1.28E 07	1.12E 10		
	1	1.75E-01	3.02E 00	4.33E 01	6.97E 02	2.00E 04	1.37E 05	1.28E 07	1.12E 10		
	2	1.75E-01	3.02E 00	4.33E 01	6.97E 02	2.00E 04	1.37E 05	1.28E 07	1.12E 10		
	3	1.75E-01	3.02E 00	4.33E 01	6.97E 02	2.00E 04	1.37E 05	1.28E 07	1.12E 10		
	4	1.75E-01	3.02E 00	4.33E 01	6.97E 02	2.00E 04	1.37E 05	1.28E 07	1.12E 10		

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