INDC-340

International Atomic Energy Agency

INDC(NDS)-20/G
DRAFT

INDC INTERNATIONAL NUCLEAR DATA COMMITTEE

NON-EANDC REQUEST LIST
FOR NEUTRON NUCLEAR DATA MEASUREMENTS

May 1970

IAEA NUCLEAR DATA SECTION, KÄRNTNER RING 11, A-1010 VIENNA

FOREWORD

This report contains the first complete listing of requests for neutron data measurements received so far by the IAEA Nuclear Data Section (NDS) from countries in its service area and from the USSR; these countries do not belong to EANDC and are therefore called briefly Non-EANDC countries. The service area of the NDS comprises Eastern Europe, Central and South America, Africa and the Middle East, Asia and the Far East.

The list is split up into two parts. The first part consists of altogether 250 requests received in 1969 from:

Australia (16)
Brazil (9)
Bulgaria (6)
Canada/IAEA (14)
East Germany (5)
East Pakistan (15)
Finland (4)
Hungary (12)
India (8)
South Africa (6)
Taiwan (3)
USSR (152)

The second part reproduces 383 EANDC requests from RENDA-edition INDC-226, 1968, which, according to information received by NDS in August 1969, are supported by USSR scientists.

The first part contains, in addition to comments given by the requestors, comments added by NDS and marked with IAE in the LAB column. These add some information on the experimental status of the requested quantities and should help to indicate to which degree a request can be considered fulfilled or not. In most cases the priorities have been assigned by the requestors, otherwise by NDS in agreement with indications given by the requestors.

Many of the requests contained in the second part have been withdrawn or are no more listed in the most recent RENDA edition of April 1970, EANDC-85"U", briefly called RENDA 70, because they were considered fulfilled by the EANDC requestors. Those requests are marked by the entries "Withdrawn" (from RENDA 70) or "No more in RENDA 70".

The information received by requestors, even after reminders, was not always sufficient, nor was it possible to discuss the requests and their background to the desirable detail. This list is therefore first submitted by NDS as a draft for consideration by INDC. It will then be corrected according to the recommendations of INDC with due recourse to the requestors. Thereafter it is suggested to merge the remainder of the two parts in one comprehensive Non-EANDC request list omitting all reference to EANDC requests in the second part and, in cooperation with ENEA/CCDN, to combine this new list with RENDA 70 in a first world-wide RENDA list to be edited and distributed in the fall of this year.

Regarding the description of the requests we refer entirely to the corresponding paragraphs in RENDA 70. This assumes in particular the validity of the priority definitions as given in RENDA 70 also for all requests contained in the present report. The combined IAEA/Canada requests emanating from the 2200 m/sec fission constants review by G.C. Hanna et al. (At.En.Rev. 7,3,1969) do not seem to necessitate modifications in the present priority definitions, which are formulated in a sufficiently general way.

For ease of reference the tables 1, 2, 3 and 6 from RENDA 70 have been reproduced in the following pages. A number of entries had to be added to table 4, Laboratories, of RENDA 70. Table 5, List of Requestors, only contains those requestors occurring in the present report.

TABLE 1

LIST OF ELEMENTS

H	1	hydrogen	Kr	36	krypton	Lu	71	lutetium
He	2	helium	Rb	37	rubidium	Hf	72	hafnium
Li	3	lithium	Sr	38	strontium	Ta	73	tantalum
Be	4	beryllium	Y	39	yttrium	W	74	tungsten
B	5	boron	Zr	40	zirconium	Re	75	rhenium
C	6	carbon	Nb	41	niobium	Os	76	osmium
N	7	nitrogen	Mo	42	molybdenum	Ir	77	iridium
O	8	oxygen	Tc	43	technetium	Pt	78	platinum
F	9	fluorine	Ru	44	ruthenium	Au	79	gold
Ne	10	neon	Rh	45	rhodium	Hg	80	mercury
Na	11	sodium	Pd	46	palladium	Tl	81	thallium
Mg	12	magnesium	Ag	47	silver	Pb	82	lead
Al	13	aluminium	Cd	48	cadmium	Bi	83	bismuth
Si	14	silicon	In	49	indium	Po	84	polonium
P	15	phosphorus	Sn	50	tin	At	85	astatine
S	16	sulphur	Sb	51	antimony	Rn	86	radon
Cl	17	chlorine	Te	52	tellurium	Fr	87	francium
Ar	18	argon	I	53	iodine	Ra	88	radium
K	19	potassium	Xe	54	zenon	Ac	89	octinium
Ca	20	calcium	Cs	55	cesium	Th	90	thorium
Sc	21	scandium	Ba	56	barium	Pa	91	protactinium
Ti	22	titanium	La	57	lanthanum	U	92	uranium
V	23	vanadium	Ce	58	cerium	Np	93	neptunium
Cr	24	chromium	Pr	59	proseodymium	Pu	94	plutonium
Mn	25	manganese	Nd	60	neodymium	Am	95	americium
Fe	26	iron	Pm	61	promethium	Cm	96	curium
Co	27	cobalt	Sm	62	samarium	Bk	97	berkelium
Ni	28	nickel	Eu	63	europium	Cf	98	californium
Cu	29	copper	Gd	64	gadolinium	Es	99	einsteinium
Zn	30	zinc	Tb	65	terbium	Fm	100	fermium
Ga	31	gallium	Dy	66	dysprosium	Md	101	mendelevium
Ge	32	germanium	Ho	67	holmium	No	102	nobelium
As	33	arsenic	Er	68	erbium	Lw	103	lawrencium
Se	34	selenium	Tm	69	thulium	Ku	104	kurchatovium
Br	35	bromine	Yb	70	ytterbium			

TABLE 2

QUANTITIES (CROSS SECTIONS AND PARAMETERS)

(Notation used is that of H. Goldstein: "Nomenclature Scheme for Experimental Monoenergetic Nuclear Cross Sections", Fast Neutron Physics, Vol. II, p. 2227, Interscience, New York (1963).)

Printout	Symbolic notation	Description
TOTAL XSECT	$\sigma_{nT}(E)$	Total neutron cross section
RESON PARAMS	$\Gamma, \Gamma_n, \Gamma_p, \Gamma_\gamma$, etc.	Parameters characterizing a resonance or derived from properties of sets of resonances
ELASTIC	$\sigma_{n,n}(E)$	Total elastic scattering cross section
DIFF ELASTIC	$\sigma_{n,n}(E, \theta)$	Differential elastic scattering cross section
SCATTERING	$\sigma_{nS}(E)$ $\sigma_{nS}(E, \theta)$	Information on the total scattering cross section; $\sigma_{nS} = \sigma_{n,n} + \sigma_{n,n'}$
N PRODUCTION	$\sigma_{nP}(E)$ $\sigma_{nP}(E, \theta)$ $\sigma_{nP}(E, E')$ $\sigma_{nP}(E; E', \theta)$	Information on the collection of all processes in which one or more neutrons are produced; $\sigma_{nP} = \sigma_{n,n} + \sigma_{nM} = \sigma_{n,n} + \sigma_{n,n'} + 2\sigma_{n,2n} + 3\sigma_{n,3n} + \bar{\nu}\sigma_{n,f} + \sigma_{n,np} + \ldots$
NONELASTIC	$\sigma_{nX}(E)$ $\sigma_{nX}(E, \theta)$ $\sigma_{nX}(E, E')$ $\sigma_{nX}(E; E', \theta)$	Information on the cross section for nonelastic processes: $\sigma_{nX}(E) = \sigma_T(E) - \sigma_{n,n}(E)$
EMISS XSECT	$\sigma_{nM}(E)$ $\sigma_{nM}(E, \theta)$ $\sigma_{nM}(E, E')$ $\sigma_{nM}(E; E', \theta)$	Information on neutron emission, i.e. on the collection of all processes in which one or more neutrons are emitted; $\sigma_{nM} = \sigma_{nP} - \sigma_{n,n}$
NONEL GAMMAS	$\sigma_{nG}(E)$ $\sigma_{nG}(E; E_\gamma)$ $\sigma_{nG}(E; E_\gamma, \psi)$	Information on the production of gamma rays by neutron interactions
TOT INELASTIC	$\sigma_{n,n'}(E)$	Total neutron inelastic scattering cross section
DIFF INELAST	$\sigma_{n,n'}(E, \theta)$ $\sigma_{n,n'}(E, E')$ $\sigma_{n,n'}(E; E', \theta)$	Cross section for inelastic scattering of neutrons represented as a function of angle, energy (or both) for the scattered neutron

Printout	Symbolic notation	Description
INELST GAMMA	$\sigma_{n,n'\gamma}(E,\psi)$ $\sigma_{n,n'\gamma}(E, E_\gamma)$ $\sigma_{n,n'\gamma}(E; E_\gamma,\psi)$	Information on photons emitted in inelastic neutron scattering processes
N2N XSECTION	$\sigma_{n,2n}(E)$ $\sigma_{n,2n}(E, E')$ $\sigma_{n,2n}(E; E',\theta)$	All information on the (n,2n) cross section, whether or not accompanied by other particles
N3N XSECTION	$\sigma_{n,3n}(E)$	All information on the (n,3n) cross section, whether or not accompanied by other particles
THRMLSCATLAW		All information on the thermal scattering law, on the scattering, both elastic and inelastic, of neutrons of thermal energies from molecules, liquids, crystals, etc.
FISSION	$\sigma_{n,f}(E)$	Cross section for neutron induced fission
ETA	η	Number of neutrons emitted per neutron absorption; $\eta = \bar{\nu}\cdot\frac{\sigma_{n,f}}{\sigma_{n,\gamma}+\sigma_{n,f}}$
ALPHA	α	The capture to fission ratio; $\alpha = \frac{\sigma_{n,\gamma}}{\sigma_{n,f}}$
NU	ν	All information on the number of neutrons emitted per fission, chiefly as $\bar{\nu}$ total, where not otherwise specified, but <u>not</u> delayed yields
F NEUT DELAY		All information, yields, energies, etc., on delayed neutrons from fission
FRAG NEUTS		Information on neutrons emitted by a given fission fragment
SPECT FISS N	$N_f(E, E')$	Spectrum of neutrons emitted in fission
SPECT FISS G	$N_f(E, E_\gamma)$	Spectrum of prompt photons emitted in fission
FISS YIELD		Yields of fission products or fission fragments
FRAG SPECTRA		Information on the energy, angle or velocity distribution of the fission fragments as a function of each other or of the fragment mass
FRAG CHARGE		Information on the charge distribution of fission fragments

Printout	Symbolic notation	Description
PHOTO-FISSN		Information on photon induced fission
FISS PROD GS		Information on gamma rays from fission products
RES INT FISS	$\int \frac{\sigma_{n,f}(E)}{E} dE$	Resonance integral for fission
ABSORPTION	$\sigma_{nA}(E)$	Absorption cross section; $\sigma_{nA} = \sigma_{nT} - \sigma_{nS}$
RES INT ABS	$\int \frac{\sigma_{nA}(E)}{E} dE$	Resonance integral for absorption (For fissionable nuclei includes RES INT FISS and RES INT CAPT)
DISAPPEARANC	$\sigma_{nD}(E)$	Neutron disappearance (or removal) cross sections; $\sigma_{nD}(E) = \sigma_{n,\gamma} + \sigma_{nC}$ (C = charged particle)
ACTIVATION	$\sigma_{act}(E \mid {}^{A}Z)$	Activation cross section for nuclide ${}^{A}Z$
RES INT ACT	$\int \frac{\sigma_{act}(E)}{E} dE$	Resonance integral for activation
RES INT CAPT	$\int \frac{\sigma_{n,\gamma}(E)}{E} dE$	Resonance integral for capture. Restricted in principle to fissionable nuclides - for non-fissionable nuclides see RES INT ABS
N, GAMMA	$\sigma_{n,\gamma}(E)$	Radiative capture cross section
SPECT NGAMMA	$N_{\gamma}(E; E_{\gamma})$	Spectrum of gamma rays from radiative neutron capture
N, PROTON	$\sigma_{n,p}$ E) $\sigma_{n,p}(E,\theta)$	Information on reactions emitting one or more protons only
N, DEUTERON	$\sigma_{n,d}(E)$ $\sigma_{n,d}(E,\theta)$	Information on reactions emitting one or more deuterons only
N, TRITON	$\sigma_{n,t}(E)$ $\sigma_{n,t}(E,\theta)$	Information on reactions emitting one or more tritons only
N, HELIUM3	$\sigma_{n,{}^{3}He}(E)$ $\sigma_{n,{}^{3}He}(E,\theta)$	Information on reactions emitting one or more helium-3 particles only
N, ALPHA	$\sigma_{n,\alpha}(E)$ $\sigma_{n,\alpha}(E,\theta)$	Information on reactions emitting one or more alpha-particles only
N, N PROTON	$\sigma_{n,np}(E)$	Information on the (n,np) reactions
PROTON, N	$\sigma_{p,n}(E)$	Information on the (p,n) reactions

Printout	Symbolic notation	Description
GAMMA,N	$\sigma_{\gamma,n}(E_\gamma)$	Cross sections of photoneutron reactions
NUCL. LEVELS		Information on details of nuclear structure: levels, spins and parities, etc.
LVL DEN LAW		All information on the density of levels in the continuum range: temperature, functional forms, etc.
MISCELLANEOS		Information on various quantities defined in the associated comment, which are not naturally included in any one of the quantities listed

A few of the "collective" cross sections might be unfamiliar, and some "sum rules" for these cross sections may be helpful.

Total $= \sigma_{nT} = \sigma_{n,n} + \sigma_{nX}$ = Elastic + Nonelastic

$= \sigma_{nS} + \sigma_{nA}$ = Scattering and Absorption

Scattering $= \sigma_{nS} = \sigma_{n,n} + \sigma_{n,n'}$ = Elastic + Inelastic

Nonelastic $= \sigma_{nX} = \sigma_{nT} - \sigma_{n,n}$

N Production = $\sigma_{nP} = \sigma_{n,n} + \sigma_{n,n'} + 2\sigma_{n,2n} + 3\sigma_{n,3n} + \bar{\nu}\gamma_{n,f} + ..$

Emission = $\sigma_{nM} = \sigma_{n,n'} + 2\sigma_{n,2n} + 3\sigma_{n,3n} + \bar{\nu}\gamma_{n,f} + \dots$

Absorption = $\sigma_{nA} = \sigma_{nT} - \sigma_{nS}$

Disappearance = $\sigma_{nD} = \sigma_{n,\gamma} + \sigma_{nC}$ (C = charged particle)

TABLE 3

QUANTITY MODIFIERS

Printout	Description
energy dist	energy distribution (spectrum) of emitted particles or photons
(energy)	energy distribution requested as a secondary or alternative quantity
<energy>	average over the energy interval stated is requested as a supplementary or alternative quantity
angular dist	angular distribution of emitted particles or photons
expans.coeff	coefficients for expansion in orthogonal polynomials
energy, angle	energy distributions requested as a function of angle
(averaged)	a specified average (see comment) of the principal quantity is requested as secondary or alternative quantity
spectrum	(specified in comment)
ratio xsect	ratio of cross sections or cross section measured relative to standard specified in comment
relative	quantity other than cross section measured relative to standard specified in comment
(alpha)	capture to fission ratio
(eta)	the number of neutrons emitted per absorption
reson.integ	resonance integral of principal quantity
(res. int)	resonance integral requested as secondary or alternative quantity
( ) res. int	resonance integral requested for region above energy range stated for principal request
(res. param)	resonance parameters requested as secondary or alternative quantity
see comment	more extensive explanation given in comment
gammaspectra	energy spectra of emitted gamma rays
absolute	an absolute measurement (i.e. not directly or indirectly related to a standard)
yield	yield of emitted particles is requested as secondary or alternative quantity
res.energy alpha width fissionwidth gamma width neutronwidth protonwidth total width absorpwidth	For requests on resonance parameters the Quantity "Resonance Parameters" is used and the request is specified by supplementary modifiers or in the comment

TABLE 4

LABORATORIES (ALPHABETIC BY ABBREVIATION)

AC	AEROSPACE CORPORATION, SAN BERNADINO, CALIFORNIA	USA
AE	AB ATOMENERGI, STUDSVIK + STOCKHOLM	SWEDEN
AFT	AIR FORCE INSTITUTE OF TECHNOLOGY	USA
AFW	AIR FORCE WEAPONS LABORATORY, KIRTLAND, NEW MEXICO	USA
AI	ATOMICS INTERNATIONAL, CANOGA PARK, CALIF.	USA
ALD	AWRE, ALDERMASTON	UNITED KINGDOM
AMS	U. OF AMSTERDAM + IKO	NETHERLANDS
ANL	ARGONNE NATIONAL LAB., LEMONT, ILLINOIS	USA
AUA	AAEC RES.EST., LUCAS HEIGHTS, NSW	AUSTRALIA
BBC	BROWN-BOVERI/KRUPP, MANNHEIM	GERMANY
BCM	BOSTON COLLEGE, BOSTON, MASS.	USA
BET	WESTINGHOUSE, BETTIS ATOMIC POWER LAB. PITTSBURGH	USA
BLG	BELGIUM	BELGIUM
BN	BELGONUCLEAIRE	BELGIUM
BNL	BROOKHAVEN NATIONAL LAB., UPTON, N.Y.	USA
BNW	BATTELLE-NORTHWEST, RICHLAND, WASH. (FORM.HANF.AT.PROD.)	USA
BOL	BOLOGNA	ITALY
BOS	BOSE INST., CALCUTTA	INDIA
BRC	CEN BRUYERE LE CHATEL	FRANCE
BUC	INST. FOR ATOMIC PHYSICS, BUCHAREST	ROMANIA
BUL	BULGARIA	BULGARIA
CAD	CADARACHE, BOUCHES DU RHONE	FRANCE
CCP	USSR	USSR
COL	COLUMBIA U., NEW YORK CITY, N.Y.	USA
CRC	CHALK RIVER, ONTARIO	CANADA
DAV	U. OF CALIFORNIA, AT DAVIS	USA
DEB	ATOMMAG KUTATO INTEZ., DEBRECEN	HUNGARY
DGE	DOSIMETRY GROUP OF EURATOM, GEEL	BELGIUM
DKE	DUKE UNIV., DURHAM, NORTH CAROLINA	USA
DOD	DEPT. OF DEFENSE, DASA, WASHINGTON, D.C.	USA

DUB	JOINT INSTITUTE FOR NUCLEAR RESEARCH, DUBNA	USSR
DUR	U. OF DURHAM, ENGLAND	UK
FAR	FONTENAY-AUX-ROSES, SEINE	FRANCE
FEI	FIZIKO-ENERGETICHESKIJ INSTITUT, OBNINSK	USSR
FOA	RESEARCH INSTITUTE OF NAT'L DEFENSE, STOCKHOLM	SWEDEN
FR	FRANCE	FRANCE
FRK	J.W. GOETHE UNIVERSITY, FRANKFURT	GERMANY
FSU	FLORIDA STATE U., TALLAHASSEE, FLORIDA	USA
GA	GENERAL ATOMIC, SAN DIEGO, CALIFORNIA	USA
GDT	GENERAL DYNAMICS, FORTH WORTH, TEXAS	USA
GE	GENERAL ELECTRIC - NUCLEAR MATERIALS	USA
GEL	B.C.M.N. EURATOM, GEEL	BELGIUM
GES	GE-SCHENECTADY (DIFFERENT FROM KAPL)	USA
GEV	GENERAL ELECTRIC, VALLECITOS ATOM. LAB., CALIF.	USA
HAM	INST. FUER EXPERIMENTALPHYSIK, HAMBURG	GERMANY
HAR	AERE, HARWELL	UNITED KINGDOM
HLT	HELSINKI TECH. UNIV., OTANIEMI	FINLAND
IAE	INTERN. ATOMIC ENERGY AGENCY, VIENNA	AUSTRIA
IFU	INSTITUT FIZIKI AN UKRAINSKOI SSR, KIEV	USSR
INC	IDAHO NUCLEAR CORPORATION, IDAHO FALLS, IDAHO.	USA
ISP	EURATOM, ISPRA	ITALY
ITE	INST. TEORET. + EXPERIMENT. FIZIKI, MOSCOW	USSR
ITK	IND. INST. OF TECHNOL., KANPUR	INDIA
JAE	JAPAN ATOMIC ENERGY RESEARCH INST. TOKAI	JAPAN
JUL	KERNFORSCHUNGSANLAGE JUELICH	GERMANY
KAP	KNOLLS ATOMIC POWER LAB., SCHENECTADY, NEW YORK	USA
KFK	KERNFORSCHUNGSZENTRUM KARLSRUHE	GERMANY
KIL	U. OF KIEL	GERMANY
KUR	I.V. KURCHATOV ATOMIC ENERGY INST., MOSCOW	USSR
LAS	LOS ALAMOS SCIENTIFIC LAB., NEW MEXICO	USA
LEB	LEBEDEV-FIZ-TEKH INST. (FIAN), MOSCOW	USSR
LOK	LOCKHEED AIRCRAFT, SUNNYVALE, CALIF.	USA
LON	U. OF LONDON	UNITED KINGDOM
LRC	NASA LEWIS RES. CENTRE, CLEVELAND, OHIO	USA
LRL	LAWRENCE RADIATION LAB., LIVERMORE, CALIFORNIA	USA
MCM	MCMASTER U., ONTARIO	CANADA

MND	MOUND LAB., MIAMISBURG, OHIO	USA
MOL	CEN MOL	BELGIUM
MTR	PHILLIPS PETROLEUM CO.-MTR., IDAHO FALLS, IDAHO	USA
MUA	MUSLIM UNIVERSITY, ALIGARH	INDIA
MUN	TECHNISCHE HOCHSCHULE MUENCHEN, MUNICH	GERMANY
NAP	U. OF NAPLES	ITALY
NBS	NATL. BUREAU OF STANDARDS, WASHINGTON, D.C.	USA
NCS	NORTH CAROLINA STATE COLLEGE, RALEIGH	USA
NDL	U.S. ARMY NUCLEAR DEFENCE LAB.	USA
NED	NETHERLANDS	NETHERLANDS
NPL	NATIONAL PHYSICAL LABORATORY, TEDDINGTON	UNITED KINGDOM
NWU	NORTHWESTERN UNIV., EVANSTON, ILL.	USA
ORL	OAK RIDGE NATIONAL LAB., TENNESSEE	USA
PAD	U. OF PADUA	ITALY
PEL	A.E. BOARD, PELINDABA, PRETORIA	SOUTH AFRICA
RAM	ATOMIC ENERG. CEN., RAMNA, DACCA	EAST PAKISTAN
RDT	DIV. OF REACTOR DEV. + TECH., USAEC	USA
RIC	RICE INST., HOUSTON, TEXAS	USA
RIO	CENTRO BRAZIL. DE PESQUISAS FISICAS, RIO DE JANEIRO	BRAZIL
ROS	ROSSENDORF BEI DRESDEN	GERMANY
RPI	RENSSELAER POLYTECHNIC INST., TROY, NEW YORK	USA
SAC	CEN SACLAY, SEINE ET OISE	FRANCE
SCT	U. OF CAPE TOWN	SOUTH AFRICA
SNP	SPACE NUCLEAR PROPULSION OFFICE, CLEVELAND, OHIO	USA
SRE	SIEMENS REACTORENTWICKLUNG, ERLANGEN	GERMANY
SRL	SAVANNAH RIVER LAB., AIKEN, S.C.	USA
TSU	NATIONAL TSING HUA UNIV., HSIN-CHU, TAIWAN	CHINA
TNC	TEXAS NUCLEAR CORP., AUSTIN, TEXAS	USA
TUR	U. OF TORINO	ITALY
UI	U. OF ILLINOIS	USA
UKW	WINDSCALE REACTOR DEVELOPMENT LABS. UKAEA	UNITED KINGDOM
UPR	UNIV. OF PRETORIA, HATFIELD, PRETORIA	SOUTH AFRICA
VIR	UNIV. OF VIRGINIA, CHARLOTTESVILLE, VA.	USA
VNV	CEN VILLENEUVE	FRANCE
WAL	WESTINGHOUSE ASTRONUCLEAR LAB., PITTSBURGH	USA
WIN	AEE, WINFRITH	UNITED KINGDOM

WIS	UNIV. OF WISCONSIN, MADISON, WIS.	USA
WUR	EIDG. INSTITUT FUER REAKTORFORSCHUNG, WUERENLINGEN	SWITZERLAND
WWA	U. OF WARSAW + PAN.	POLAND
YAL	YALE U., NEW HAVEN, CONNECTICUT	USA

TABLE 5

LIST OF REQUESTORS

ABRAMOV, A.I.
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and Energetics
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USSR

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TABLE 6

JOURNALS (CINDA ABBREVIATIONS)

(JOURNAL ABBREVIATIONS GENERALLY FOLLOW THOSE GIVEN IN
NUCL.SCI.ABSTRACTS VOLUME 20,1)
(FOR REPORTS SEE ALSO REPORT CODE INDEX IN NUCL.SCI.ABSTRACTS)

55GENEVA	UN. CONF. ON PEACEFUL USES OF AT. ENERGY, GENEVA 1955	
55MOSKVA	CONF.USSR ACAD.SCI ON PEACEFUL USE OF AT.EN.	USSR
56KIEV	KIEV CONFERENCE, 1956	USSR
57COLUMBIA	CONFERENCE AT COLUMBIA UNIVERSITY,1967	USA
58GENEVA	UN. CONF. ON PEACEFUL USES OF AT. ENERGY, GENEVA 1958	
58PARIS	PARIS CONF.ON NUCLEAR SPECTROSCOPY,JULY 1958	FRANCE
59TASHKNT	TASHKENT CONF.	USSR
60KINGSTON	(FORMERLY ENTERED AS PIC KNGTN) U.N.CONFERENCE,	
	KINGSTON,CANADA,AUG.1960	CANADA
60VIENNA	PILE NEUTRON RESEARCH IN PHYSICS,OCTOBER 1960	IAEA
60VIN-IN	(TO BE CHANGED TO 60WIEN)	
	INEL SCAT NEUTRONS IN LIQUIDS+SOLIDS,VIENNA,OCT1960	IAEA
60WALTAIR	NUCLEAR PHYSICS SYMPOSIUM,WALTAIR,FEBRUARY 1960	INDIA
61BOMBAY	NUCLEAR PHYSICS SYMPOSIUM,BOMBAY,FEBRUARY 1961	INDIA
61MANCH	PROCEEDINGS OF THE RUTHERFORD JUBILEE INTERNATIONAL CONFERENCE	
	MANCHESTER 4-8 SEPTEMBER 1961 J.B. BIRKS EDITOR. LONDON 1961	
62RPI	(=NEUTPHYS. YEATR.)	
61SACLAY	EANDC TIME-OF-FLIGHT CONF.SACLAY,JULY1961=NEUTTOF(EANDC)	
	JULY 1961=NEUTTOF(EANDC)	FRANCE
61VIENNA	PHYSICS OF FAST AND INTERMEDIATE REACTORS, VIENNA, AUGUST 1961	
	IAEA STI/PUB/49	
62BNL	PROCEEDINGS OF THE BROOKHAVEN CONFERENCE ON NEUTRON	
	THERMALIZATION,BROOKHAVEN NATIONAL LAB.,	
	UPTON,N.Y,APRIL 30-MAY 2,1962.PUBLISHED AS BNL-719	
62CHALKR	INELASTIC SCAT OF NEUTRONS IN LIQUIDS+SOLIDS,	
	SYMPOSIUM CHALK RIVER,SEPTEMBER 1962	CANADA
62MADRAS	NUCLEAR PHYSICS SYMPOSIUM,MADRAS,FEBRUARY 1962	INDIA
62PADUA	DIRECT INTERACTIONS AND NUCLEAR REACTION MECHANISMS,	
	PADUA, SEPTEMBER 3-8, 1962. GORDON AND BREACH	
	NEW YORK 1963	
62VIENNA	OLD 61 VIENNA ENTRIES WERE MADE AS 62VIENNA	
63ANL	INTERNATIONAL CONFERENCE ON NUCLEAR PHYSICS WITH	
	REACTOR NEUTRONS,ARGONNE NATIONAL LAB.,ARGONNE,	
	ILLINOIS, OCTOBER 15-17,1963.PUBLISHED AS ANL-6797	
63HOUST	PROGRESS IN FAST NEUTRON PHYS., RICE U. U.S.A	
63MANCH	CONF.ON LOW+MEDIUM ENERGY NUC.PHYS,MANCHESTER	UK
63SPAULO	UTILISATION OF RESEARCH REACTORS SYMPOSIUM,	
	SAO PAULO 1963	BRAZIL
64DUBNA	DUBNA CONFERENCE,1964	USSR
64GENEVA	UN. CONF. ON PEACEFUL USES OF AT. ENERGY, GENEVA 1964	
64BOMBAY	PROC. OF AN IAEA SYMPOSIUM ON 'INELASTIC SCATTERING OF NEUTRONS	
	IN SOLIDS AND LIQUIDS' BOMBAY 1964	
64CHANDGRH	NUCLEAR+SOLID STATE PHYS.SYMPOSIUM,CHANDIGARH	

	FEBRUARY 1964	INDIA
64PARIS	COMPTES RENDUS DU CONGRES INTERNATIONAL DE PHYSIQUE NUCLEAIRE, PARIS, 2-8 JUILLET 1964	
65CALCUTTA	NUCLEAR+SOLID STATE PHYS.SYMPOSIUM,CALCUTTA, FEBRUARY 1965	INDIA
65IAEA	PERSONNEL DOSIMETRY FOR RADIATION ACCIDENTS. PROC.SYMP. VIENNA 8-12 MARCH 1965	
65ANTWRP	INTERNATIONAL CONFERENCE ON THE STUDY OF NUCLEAR STRUCTURE WITH NEUTRON ANTWERP, 19-23 JULY 1965	
65KFK	INT.SYM. ON POLARIZ.PHEN.IN NUCLEI,KARLSRUHE	GERMANY
65KRLSRH	SYMPOSIUM ON PULSED NEUTRON RESEARCH, KARLSRUHE, 10-14 MAY 1965	
65MINSK	NUC.SPECTROSCOPY CONFERENCE,JAN.1965.PAPERS IN IZV 29-30, 1965/66	USSR
65SALZB	CONF. ON THE PHYSICS AND CHEMISTRY OF FISSION, SALZBURG, 1965	
66ANL	CONF.ARGONNE NAT.LAB,OCT.1966 PUBLISHED AS ANL-7320	USA
66BERKELEY	RADIATION MEASUREMENTS IN NUCLEAR POWER CEGB CONFERENCE,BERKELEY,ENGLAND,SEPTEMBER 1966	UK
66BOMBAY	NUCLEAR+SOLID STATE PHYS. SYMPOSIUM,BOMBAY,	
ACA	ANALYTICA CHIMICA ACTA	NETHERLANDS
ACJ	ACTA CHEM. SCANDINAVICA	DENMARK
ACR	ACTA CRYSTALLOGRAPHICA	DENMARK
ACT	(THE ACTINIDE ELEMENTS) NAT'L NUCLEAR ENERGY SERIES, DIVISION IV, VOL. 14A, 1954	
AD-	DEPT OF DEFENSE,REPORT SERIES	USA
ADC	ANNALES DE CHIMIE	FRANCE
ADP	ANN. PHYSIK (ANNALEN DER PHYSIK)	GERMANY
AE	ATOMNAYA ENERGIYA /SJA//EAF/(/JNF/)	USSR
AE-	AKTIEBOLAGET ATOMENERGI, STOCKHOLM, REPORT SERIES	SWEDEN
AEC-TR-	DIV.OF TECH.INFORM.EXT.AEC TRANSLATIONS	USA
AECD-	(CONT.OF MDDC-) D.T.I.E.REPORT SER.DISCONT.1960	USA
AECD/	REPORTS OF ATOMIC ENERGY CENTRE, DACCA	PAKISTAN
AECL-	ATOMIC EN. OF CAN. LIM.,CHALK RIVER,REPORT SERIES	CANADA
AECU-	DIV.OF TECH.INFORM.EXT.AEC REPORT SERIES.EXTINCT	USA
AEET	ATOMIC ENERGY EST. TROMBAY REPORT SERIES	INDIA
AEEW-	AEEW-WINFRITH REPORT SERIES	UK
AEJ	J.AT.ENERGY SOC.JAPAN (NIPPON GENSHIRYOKU GAKKAISHI)	JAPAN
AERE-	AERE-HARWELL REPORT SERIES	UK
AF	ARKIV FOR FYSIK	SWEDEN
AFSWC-TR-	AIR FORCE SPEC.WEAP.CENTER,KIRTLAND REPORT SERIES	USA
AFSWC-TDR-	AIR FORCE SPEC.WEAP.CENTER,KIRTLAND REPORT SERIES	USA
AFWL-	AIR FORCE WEAPONS LAB, KIRTLAND, NEW MEXICO	USA
AHP	ACTA PHYS. ACAD. SCI. HUNG.	HUNGARY
AHT	ACTA TECH. ACAD. SCI. HUNG.	HUNGARY
AHSB(S)R	UKAEA, HEALTH+SAFETY BRANCH, RISLEY, REPORTS.	UK
AI	ATOMICS INTERNATIONAL, CANOGA PARK, CALIF. REPORTS.	USA
AIP	ADVANCES IN PHYSICS (SUPPL. TO PHIL. MAG.)	UK
AJ	ASTROPHYSICAL JOURNAL	USA
AJP	AMERICAN J. OF PHYSICS	USA
AJS	AUSTRALIAN J. SCI.	AUSTRALIA
AK	ATOMKI KOZLEMENYEK	HUNGARY
AKE	ATOMKERNENERGIE	GERMANY
AKS	ATOMKI KOZLEMENYEK, SUPPLEMENT	HUNGARY
AN-	AEROJET GENERAL NUCLEONICS, SAN RAMON, CALIF.	USA
ANA	ANALYST,THE	UK
ANL-	ARGONNE NAT'L LABORATORY, REPORT SERIES	USA

ANN REV N SCI	(SEE ARN) ANNUAL REVW. OF NUC. SCIENCE	USA
ANS	TRANS. AMER. NUCL. SOC.	USA
AP	ANN. PHYS. (NY) (ANNALS OF PHYSICS)	USA
APA	ACTA PHYSICA AUSTRIACA	AUSTRIA
APEX-	GEN.EL.CO., AIRCRAFT NUCL.PROP.DEPT.,CINC.,EXTINCT.	USA
APH	ANN. PHYS. (PARIS) (ANNALES DE PHYSIQUE)	FRANCE
APL	APPLIED PHYSICS LETTERS	USA
APP	ACTA PHYSICA POLONICA	POLAND
APS	ACTA POLYTECH. SCAND., PHYS.NUCL. SER.	SWEDEN
ARF-	ARMOUR RESEARCH FOUNDATION REPORTS	USA
ARI	INTERN. J. APPL. RADIATION ISOTOPES	UK
ARN	ANNUAL REVIEW OF NUCLEAR SCIENCE	USA
ARS	ANALES REAL SOC. ESPAN. FIS. QUIM. (MADRID)	SPAIN
ASI	ACTA PHYSICA SINICA	CHINA
ASS	ANN. SOC.SCI. BRUXELLES. SER. I	BELGIUM
AT	ATOMES (PARIS)	FRANCE
ATP	ATOMPRAXIS	GERMANY
ATT	ATOMTECHNIKAI	HUNGARY
ATW	ATOMWIRTSCHAFT	GERMANY
AUJ	AUSTRALIAN J. PHYS.	AUSTRALIA
AWRE-	AWRE-ALDERMASTON REPORT SERIES	UK
AWS	SHOULD BE OAWS. THE ENTRIES WILL BE CHANGED	
BAP	BULL. AM. PHYS. SOC.	USA
BAPS	EARLIER FORM FOR BULL. AM. PHYS. SOC.	USA
BARC-	TROMBAY REPORT SERIES,FORMERLY AEET	INDIA
BAS	BULL. ACAD. SCI. USSR, PHYS. SER.(COLUMBIA TRANSL.)	//IZV//
BAW-	BABCOCK AND WILCOX CO,LYNCHBURG,REPORT SERIES	USA
BAW-TM-	BABCOCK AND WILCOX CO,LYNCHBURG,REPORT SERIES	USA
BCF	BULL. SOC. CHIM.	FRANCE
BCI	BULL. RES. COUNCIL ISRAEL, SECTION F.	ISRAEL
BCS	BULL. CLASSE SCI. , ACAD. ROY. BELG.	BELGIUM
BJA	BRITISH J. OF APPLIED PHYSICS	UK
BJAP	(OBSOLETE) BRITISH JOURNAL OF APPL.PHYSICS	UK
BJAPSUP	SUPPLEMENT TO BRITISH JOURN.APPLIED PHYSICS	UK
BKE	BULL. INST. BORIS KIDRIC, VOL.18 ELECTRONICS	YUGOSLAVIA
BKN	BULL. INST. BORIS KIDRIC, VOL.18 NUCL.ENG.	YUGOSLAVIA
BKP	BULL. INST. BORIS KIDRIC, VOL.18 PHYSICS	YUGOSLAVIA
BNE	J. BRIT. NUCL. ENERGY SOC.	UK
BNL-	BROOKHAVEN NATIONAL LAB. REPORT SERIES	USA
BNWL-	BATTELLE-NORTHWEST,RICHLAND,REPORT SERIES	USA
BOS	TRANS. BOSE RES. INST. (CALCUTTA)	INDIA
BPC	BULL. ACAD. POLON. SCI., SER. SCI. CHIM.	POLAND
BPP	BULL. ACAD. POLON. SCI.,SER. SCI. MATH. ASTRO. PHYS.	POLAND
BPT	BULL. ACAD. POLON. SCI.,SER. SCI. TECH.	POLAND
BR-	EARLY REPORTS FROM CAVENDISH LAB.	UK
BSI	BOLLETINO DELLA SOCIETA ITALIANA DI FISICA	ITALY
CAHP	(SEE CDP) CAHIERS DE PHYSIQUE	FRANCE
CCDN-	NEUTRON DATA COMP. CENTRE, SACLAY. REPORTS	FRANCE
CDP	CAHIERS DE PHYSIQUE	FRANCE
CEA-	CENTRE D'ETUDES NUCLEAIRES, SACLAY, REPORT SERIES	FRANCE
CJC	CAN. J. CHEM.	CANADA
CHP	CHINESE J.PHYS. (TAIWAN)	FORMOSA
CJP	CAN. J. PHYS. (FORMERLY CAN J. OF RESEARCH VOL 1-28)	CANADA
CJR	CAN. J. OF RESEARCH (EXTINCT)	CANADA
CLOR-	REPO. BIURO PELNOM.RZADU DO SPRAW WYKORZYST.EN.JAD.	POLAND

CNAEM	CEKMECE NUCL. RES.+TRAINING CENTER, REPORTS.	TURKEY
CNEA-	COMISION NACIONAL DE ENERGIA ATOMICA REPORT SER.	ARGENTINA
CNEN-RI/PI	COM. NAZ. PER L'ENERGIA NUCLEARE REP'T SER.	ITALY
CNT	CAN. NUCL. TECHNOL.	CANADA
CONF-	USAEC CONFERENCE PROCEEDINGS	USA
COO	AEC, CHICAGO OPERATIONS OFFICE REPORTS	USA
CP-	REPORTS OF ARGONNE NATIONAL LAB.LEMONT ILLINOIS	USA
CR	COMPTES RENDUS	FRANCE
CRAS	(SEE CR) COMPTES RENDUS	FRANCE
CRB	COMPTES RENDUS DE L'ACAD. BULGARE DES SCIENCES	BULGARIA
CRC-	NATN'L RES.COUN.OF CAN. CHALK RIVER, REPORT SERIES	CANADA
CRGP-	CHALK RIVER, ONTARIO. EARLY REPORTS	CANADA
CRRP-	CHALK RIVER REPORT SERIES	CANADA
CRT-	NATN'L RES.COUNC.OF CAN., CHALK RIVER REPORT SERIES	CANADA
CU-	COLUMBIA U.,NEW YORK REPORT SERIES	USA
CVAC-	CONS.VOLTEE AIRCRAFT CORP.,REPORT SERIES.EXTINCT	USA
CWR-	CURTISS-WRIGHT CORP. REPORT SERIES EXTINCT	USA
CZC	COLLECTION OF CZECHOSLOVAK CHEMICAL COMMUNICATIONS	CZECHOSLOVAKIA
CZJ	CZECHOSLOVAK JOURNAL OF PHYSICS	CZECHOSLOVAKIA
D2-	BOEING AIRPLANE CO., SEATTLE EXTINCT	USA
DA	DISSERTATION ABSTRACTS	USA
DC-	GEN.EL.CO., AIRCRAFT NUCL.PROP.PROJ. EXTINCT	USA
DOK	DOKLADY AKADEMII NAUK SSSR /SPD/	USSR
DP-	DU PONT DE NEMOURS&CO.SAVANNAH RIVER LAB,AIKEN,REP.	USA
DUB-	DUBNA REPORT SERIES,ALSO KNOWN AS JINR-REPORTS	USSR
EAF	ENERGIE ATOMIQUE	//AE//
EANDC(CAN)	EUROPEAN-AMERICAN NUCL. DATA COMMITTEE DOCUMNTS	CANADA
EANDC(E)	EUROPEAN-AMERICAN NUCL. DATA COMMITTEE DOCUMNTS	EUROPE (6)
EANDC(J)	EUROPEAN-AMERICAN NUCL. DATA COMMITTEE DOCUMNTS	JAPAN
EANDC(OR)	EUROPEAN-AMERICAN NUCL. DATA COMMITTEE DOCUMNTS	OUTER REGION
EANDC(UK)	EUROPEAN-AMERICAN NUCL. DATA COMMITTEE DOCUMNTS	UK
EANDC(US)	EUROPEAN-AMERICAN NUCL. DATA COMMITTEE DOCUMNTS	USA
EAT	ENERGIA ES ATOMTECHNIKA	HUNGARY
EDF-	REPORTS,ELECTRICITE DE FRANCE	FRANCE
EEN	ERGEBNISSE DER EXAKTEN NATURWISSENSCHAFTEN	GERMANY
EIR-	EIDG.INST.REAKTORFORSCH.WUERENLINGEN REPORT SERIES	SWITZERLAND
EN	ENERGIA NUCLEARE (MILAN)	ITALY
ENF	ENERGIE NUCLEAIRE	FRANCE
ENP	EXPERIMENTAL NUCLEAR PHYSICS,E. SEGRE,1959	
EON	EURONUCLEAR (EXTINCT MAY 1966)	UK
ETP	EXPTL. TECH. PHYSIK	GERMANY
EUR-	EURATOM REPORTS (FROM BCMN)	EURATOM
EXP	EXPERIENTIA	SWITZERLAND
FASTTRISYMIAEA	PHYSICS OF FAST AND INTERMEDIATE REACTORS,VIENNA,AUGUST 1961,IAEA STI/PUB/49	
FDP	FORTSCHR. PHYSIK	GERMANY
FEI-	FIZ.-ENERG.INSTITUT,OBNINSK,REPORT SERIES	USSR
FNP	FAST NEUTRON PHYSICS, MARION AND FOWLER, N.Y., 1960	
FOAN-	RES. INST. OF NATN'L DEFENCE DEP'T4 REPORT SERIES	SWEDEN
FRC	'FAST REACTOR CROSS SECTIONS', S.YIFTAH ET AL. INTERNATIONAL SERIES OF MONOGRAPHS ON NUCLEAR ENERGY, PERGAMON PRESS 1960	
FRM-	FORSCHUNGS REACTOR MUENCHEN, REPORT SERIES	GERMANY
FT	FYSISK TIDSSKRIFT	DENMARK

FZK-	REPORTS GENERAL DYNAMICS,FORT WORTH,TEXAS	USA
GA-	GENERAL ATOMIC DIV.,GEN.DYN.CORP, REPORT SERIES	USA
GACD-	GENERAL ATOMIC DIV.,GEN.DYN.CORP,REPORT SERIES	USA
GEAP-	REPORTS GENERAL ELECTRIC CO,CALIFORNIA	USA
GEMP-	GEN.EL.CO.FLIGHT PROP.LAB.CINCINNATI REPORT SERIES	USA
GK	GENSHIRYOKU KOGYO (NUCL. ENG.)	JAPAN
HAR	SYM. ON NEUTRON DETECTION, DOSIMETRY AND STANDARDISATION, HARWELL, 1962	
HMI-B-	HAHN-MEITNER INSTITUT, BERLIN, REPORT SERIES	GERMANY
HP	HEALTH PHYSICS	UK-USA
HPA	HELV. PHYS. ACTA	SWITZERLAND
HW-	HANFORD REPORT SERIES(FROM 1965 BNWL)	USA
HW-SA-	GEN.EL.CO., HANFORD AT.PROD.OP.REP.SER.(NOW BNWL)	USA
IA-	ISRAEL AEC, REHOVOT, REPORT SERIES	ISRAEL
IAB	IAEA BULLETIN	IAEA
IAE-	REPORTS FROM INST. ATOMNOJ ENERGII,KURCHATOV,MOSKVA	USSR
IAN-	INST. DE ASUNTOS NUCLEARES, BOGOTA, REPORT SERIES	COLOMBIA
IAN-E	IZV.AKAD.NAUK.EST SSR, SER.FIZ.MATH.I TECHN. NAUK	USSR
IBJ-	INST. BADAN JADROWYCH REPORT SERIES	POLAND
IBK	BULL. INST. BORIS KIDRIC, VOL.1-17	YUGOSLAVIA
ICD-	BULL.INF.CENT.PO JADERNYM DANNYM,OBNINSK	USSR
IDO-	IDAHO OPERATIONS OFFICE, AEC, REPORT SERIES	USA
IEA-	INSTITUTO DE ENERGIA ATOMICA,UNIVERSIDADE SAO PAULO	BRAZIL
IFA-	REPTS.RUMANIAN ACAD.SCI.INST.ATOMIC PHYS.	RUMANIA
IITRI-	REPORTS OF ILLINOIS INST. OF TECHNOLOGY	USA
IJM	ISRAEL JOURNAL OF MATHEMATICS	ISRAEL
IJP	INDIAN J. PHYS.	INDIA
IKF-	INSTITUT FUR KERNPHYSIK,FRANKFURT REPORT SERIES	GERMANY
IN-	REPORTS IDAHO OP-OFFICE,AEC	USA
INDC-	REPORTS IAEA NUCL DATA UNIT,INT.NUCL.DATA COMMITTEE,	IAEA
INDSWG-	DOCUMENTS DISTR. BY IAEA NUCL. DATA UNIT, VIENNA	IAEA
INFN	INST. NAZIONALE FISICA NUCLEARE, FLORENCE, REPORTS	ITALY
INP-	INST.FIZ.JADROWEJ (NUCL.PHYS.)PAN KRAKOW, REPORTS	POLAND
INR-	INST. BADAN JADROWYCH (NUCL.RES.),WARSAW, REPORTS	POLAND
IPA	INDIAN J. OF PURE AND APPLIED PHYSICS	INDIA
IPPCZ	CZECHOSLOVAK PLASMA PHYSICS REPORTS	CZECHOSLOVAKIA
IRE	IEEE TRANS.ON NUCL.SCI. (VOLS 1-9=IRE TRANS.NUCL.SC.)	USA
IS/P	BNL REPORT SERIES	USA
ITE-	REPORTS OF ITE,MOSCOW	USSR
IVU	IZV. VYSSHIKH UCHEB.ZAVEDNIJ FIZIKA	USSR
IZV	IZV. AKAD. NAUK SSSR, SER. FIZ /BAS/	USSR
JAERI-	ATOMIC ENERGY RESEARCH INST.,TOKYO	JAPAN
JAP	J. APPL. PHYS.	USA
JBS	J. RES. NATL. BUR. STD.	USA
JCP	J. CHEM. PHYS.	USA
JE	JADERNA ENERGIE	CZECHOSLOVAKIA
JEL	JETP LETTERS	//ZEP//
JENER-	JOINT ESTABL. NUCL. RES., KJELLER REP. SERIES	NORWAY
JET	SOVIET PHYS.-JETP	//ZET//
JFI	J. FRANKLIN INST.	USA
JIN	J. INORG. NUCL. CHEM.	UK
JINC	EARLIER FORM FOR J. INORG. NUCL. CHEM.	UK
JNE	J. NUCL. ENERG.	UK
JNM	J. NUCL. MATER.	NETHERLANDS
JPC	JOURNAL DE CHIMIE PHYS. ET DE PHYSICOCHIMIE BIOLOG.	FRANCE

JPJ	J. PHYS. SOC. JAPAN	JAPAN
JPR	JOURNAL DE PHYSIQUE(VOLS 1-23=J.PHYS.RADIUM)	FRANCE
JPST	(SEE JPJ) J. PHY. SOC. JAPAN	JAPAN
JUEL-	KERNFORSCHUNGSANLAGE, JUELICH, REPORT SERIES	GERMANY
KAPL CSN	KNOLLS AT.POW.LAB. CROSS SECTION NEWSLETTERS	USA
KAPL-	KNOLLS ATOMIC POWER LAB., REPORT SERIES,	USA
KDV	KGL.DANSKE VIDENSKAB. SELSKAB, MAT.-FYS. MEDD.	DENMARK
KE	KERNENERGIE	GERMANY
KFI	KFKI KOZLEMENYEK	HUNGARY
KFK-	KERNFORSCHUNGSZENTRUM KARLSRUHE REPORT SERIES	GERMANY
KRI	KRISTALLOGRAFIYA /SPC/	USSR
KT	KERNTECHNIK, ISOTOPENTECHNIK UND -CHEMIE	GERMANY
KUR-	KURCHATOV INST. REPORT SER.ALSO KNOWN AS IAE-REPTS	USSR
LADC-	LOS ALAMOS REP. SER. CLOSED SEPT.1964	USA
LAMS-	LOS ALAMOS SC.LAB.REPORT SERIES CLOSED SEPT.1964	USA
LA-	LOS ALAMOS SCIENTIFIC LAB. REPORT SERIES	USA
LA-DC-	LOS ALAMOS SCIENTIFIC LAB. REPORT SERIES	USA
LA-T	LOS ALAMOS REPT.SERIES	USA
LMSD-	LOCKHEED AIRCRAFT CORP. REPORT SERIES	USA
LRL-	CALIF.RES. AND DEVELOP. CO. REPORT SERIES	USA
LR-	REPORTS OF INST.INVESTIGACION AERONAUTICA Y ESP.	ARGENTINA
MAB	MONATSBER.DEUT.AKAD.WISS.BERLIN	GERMANY
MDDC-	MANHATTAN DISTR.,OAK RIDGE,(CONT'D AS AECD-)REP.SER.	USA
MIT	MIT, CAMBRIDGE, MASS. REPORTS	USA
MITNE-	MIT,DEP'T OF NUCL.ENGINEERING, REPORT SERIES	USA
MFF	MAGYAR FIZIKAI FOLYOIRAT	HUNGARY
MSL	MEM. SOC. ROY. SCI. LIEGE	BELGIUM
NAA-	NORTH AMERICAN AVIATION, DOWNEY,CALIF, REPORT SER.	USA
NAT	NATURE	UK
NAW	PROC. K. NED. AKAD. WETENSCH.	NETHERLANDS
NC	NUOVO CIMENTO	ITALY
NCS	NUOVO CIMENTO (SUPPL.)	ITALY
NC-S	(SEE NCS) NUOVO CIMENTO (SUPPL)	ITALY
ND	NUCLEAR DATA	USA
NDA-	UNITED NUCLEAR CORP. REPORT SERIES EXTINCT	USA
NDA-PHYS.-	UNITED NUCLEAR CORP. REPORT SERIES EXTINCT	USA
NDF	NOTAS FIS., CENTRO BRESIL, PESQUISAS FIS.	BRAZIL
NDL-TR-	ARMY CHEM.CORPS NUCL.DEF.LAB., MD. REPORT SERIES	USA
NE	NUCLEAR ENGINEERING	UK
NEJTRONFIZ	NEJTRONNAJA FIZIKA(MOSCOW 1961). TRANSLATED AS SOVIET PROGRESS IN NEUTRON PHYSICS(CONSULTANTS BUREAU,N.Y)	
NEN	NUKLEARNA ENERGIJA	YUGOSLAVIA
NEUTPHYS YEATR	NEUTRON PHYSICS,RPI, MAY 1961. PROCEEDINGS EDITED BY M.L. YEATER	
NEUTRDIFFR	NEUTRON DIFFRACTION (BACON)	
NEUTTOF(EANDC)	PROCEEDINGS OF THE NEUTRON TIME-OF-FLIGHT CONFERENCE,SACLAY,JULY 1961=61SACLAY	FRANCE
NF	NUCLEAR FUSION	IAEA
NI	(SEE NIM) NUCLEAR INSTRUMENTS AND METHODS	NETHERLANDS
NIM	NUCLEAR INSTRUMENTS AND METHODS	NETHERLANDS
NIJS-	REPORTS OF NUK.INST JOSEF STEFAN, LJUBLJANA	YUGOSLAVIA
NKA	NUKLEONIKA	POLAND
NP	NUCLEAR PHYSICS	NETHERLANDS
NP-	D.T.I.E NUMBERING OF NON PROJECT REPORTS	USA
NPOW	UNKNOWN	UK

NRDC-	AERE-HARWELL REPORT SERIES	UK
NRL-	NAVAL RES.LAB. WASHINGTON DC, REPORT SERIES	USA
NR/P	UKAEA WEAPONS GROUP AWRE,ALDERMASTON REP.SER.	UK
NSA	NUCLEAR SCIENCE ABSTRACTS	USA
NSE	NUCLEAR SCI. ENG.	USA
NSJ	NUCL. SCI. ABSTR. JAPAN	JAPAN
NSP	NUCLEAR SCIENCE AND APPLICATIONS	PAKISTAN
NST	NUCLEAR SCIENCE AND TECHNOLOGY	JAPAN
NTN	NED. TIJDSCHR. NATUURK.	NETHERLANDS
NUC	NUCLEONICS	USA
NUCL	(OBSOLETE) NUCLEONICS	USA
NUK	NUKLEONIK	GERMANY
NUKL	(SEE NUK) NUCKLEONIK	GERMANY
NWS	NATURWISSENSCHAFTEN	GERMANY
NYA	TRANS N.Y. ACAD. SCI.	USA
NYO	NEW YORK OPERATIONS OFFICE, REPORT SERIES	USA
OAWA	OESTERR. AKAD. WISS.,MATH+NATURW.ANZEIGER	AUSTRIA
OAWS	(PREV.OAW) OESTERR.AKAD.WISS.,MATH+NATURW, SITZBER	AUSTRIA
OE	L'ONDE ELECTRIQUE	FRANCE
ORNL-	OAK RIDGE NATN'L LAB. REPORT SERIES	USA
ORNL-P-	OAK RIDGE NATN'L LAB. PREPRINTS	USA
ORNL-TM-	OAK RIDGE NATN'L LAB. TECHNICAL MEMOS	USA
ORO-	REPORTS OAK RIDGE OPERATIONS OFFICE,AEC	USA
*P	A PRIVATE COMMUNICATION IS INDICATED BY *P FOLLOWED BY A READER SYMBOL. USERS SHOULD CONTACT THE CENTRE COVERING THEIR GEOGRAPHICAL AREA FOR FURTHER INFORMATION.	
PA	PHYSICS ABSTRACTS	UK
PAN	POLISH ACADEMY OF SCIENCES REPORTS	POLAND
PAS	PHYSIKALISCHE ABHANDLUNGEN AUS DER SOWJETUNION (EXTINCT 1963)	
PB	PHYSIKALISCHE BLAETTER	GERMANY
PCP	PROC. CAMBRIDGE PHIL. SOC.	UK
PF	POSTEPY FIZYKI	POLAND
PFN	PROGR. IN FAST NEUTRON PHYSICS,PHILLIPS, RISSER, MARION RICE UNIVERSITY 1963	
PHN	NOTES SCIENTIFIQUES, U. OF GRENOBLE	FRANCE
PHY	PHYSICA	NETHERLANDS
PHYS	(OBSOLETE) PHYSICA	NETHERLANDS
PIA	PROC. INDIAN ACAD. SCI., SECT A	INDIA
PIC	GENEVA CONFERENCES (EARLIER FORM)	IAEA
PIC KNGTON	U.N.CONFERENCE,KINGSTON,JAMAICA,1961	IAEA
PJA	PROC. JAPAN ACAD. (TOKYO)	JAPAN
PL	PHYSICS LETTERS	NETHERLANDS
PM	PHIL. MAG.	UK
PNA	PROC. NATL. ACAD. SCI. U.S.	USA
PNE	PROGRESS IN NUCLEAR ENERGY SERIES I. PHYSICS AND MATHEMATICS, HUGHES, LANDERS, AND HOROWITZ, 1958	
PNJ	PHILIPPINES NUCLEAR JOURNAL	PHILIPPINES
PNP	PROGRESS IN NUCLEAR PHYS.,FRISCH, LONDON	UK
PNS	PROC.OF THE NUCL.PHYS. AND SOLID STATE PHYS. SYMP. 1962 MADRAS, 1963 BOMBAY, 1964 CHANDIGARH, 1965 CALCUTTA	INDIA
PNY	PHYSICA NORVEGICA	NORWAY
PPA	PROCEEDINGS OF PAKISTAN ACAD. SCI.	PAKISTAN
PPS	PROC. PHYS. SOC. (LONDON)	UK
PR	PHYS. REV.	USA

PR-P-	AT.EN.OF CAN.LTD, CHALK RIVER, REPORT SERIES	CANADA
PRE	PROC. ROY. SOC. EDINBURGH	UK
PRL	PHYS. REV. LETTERS	USA
PRS	PROC. ROY. SOC. (LONDON)	UK
PSS	PHYSICA STATUS SOLIDI	GERMANY
PT	PHYSICS TODAY	USA
PTE	PRIBORY I TEKHNIKA EKSPERIMENTA	USSR
PTP	PROGR. THEORET. PHYS. (KYOTO)	JAPAN
PTPJ	(OBSOLETE) PROG.THEORETICAL PHYS.,KYOTO	JAPAN
PUC-	REPORTS PRINCETON UNIVERSITY,N.J.,PALMER PHYS. LAB.	USA
PWAC-	PRATT AND WHITNEY AIRCRAFT DIV.,HARTFORD,REP.SERIES	USA
PZ	PHYSIKALISCHE ZEITSCHRIFT	GERMANY
RAK	RADIOKHIMIYA /SRA/	USSR
RCA	RADIOCHIMICA ACTA	GERMANY
REA	ATOMIC ENERGY REVIEW	IAEA
RFR-	AKTIEBOLAGET ATOMENERGI, STOCKHOLM REPORT SERIES	SWEDEN
RIC	RIC. SCI. REND., SEZ. A	ITALY
RISO-	RISO RESEACH INST. REPORT SERIES	DENMARK
RIZ	RADIOAKTIVNI IZOTOPI I ZRACENJA	YUGOSLAVIA
RLO-	USAEC MISCELLANEOUS REPORT SERIES	USA
RMF	REVISTA MEXICANA DE FISICA	MEXICO
RMP	REV. MOD. PHYS.	USA
RPC	REACTOR PHYSICS CONSTANTS NEWSLETTER (ARGONNE)	USA
RPC-	REPORTS RADIOPLANE CO.,VAN NUYS,CALIF.	USA
RPI-	RENNESLAER POLYTECHNIC INST.REPORTS	USA
RPP	REPORTS ON PROGRESS IN PHYSICS	UK
RR	RADIATION RESEARCH	USA
RRP	REVUE ROMAINE DE PHYSIQUE	RUMANIA
RSE	TRANS. ROY. SOC. EDINBURGH	UK
RSI	REV. SCI. INSTR.	USA
SAJ	S. AFRICAN J. SCI.	SOUTH AFRICA
SCF	ACAD. REP. POPULARE. ROMINE, STUDII CERCETARI FIZ.	RUMANIA
SCI	SCIENCE, (AMER. ASSN. FOR ADV. OF SCI.)	USA
SCP	SCI. PAPERS INST. PHYS. CHEM. RES. (TOKYO)	JAPAN
SCS	SCIENTIA SINICA (PEKING)	CHINA
SGAE-	OESTERR.GESELLS.ATOMEN.VIENNA REPORT SERIES	AUSTRIA
SJA	SOVIET J. OF AT. ENERGY	//AE//
SNP	SOVIET J. OF NUCL. PHYS.	//YF//
SP	UNKNOWN	USSR
SPC	SOVIET PHYSICS-CRYSTALLOGRAPHY	//KRI//
SPD	SOVIET PHYSICS - DOKLADY	//DOK//
SPN	SOVIET PROGRESS IN NEUTRON PHYSICS,MOSCOW, 1961	
SPT	SOVIET PHYS.-TECH. PHYS.	//ZTF//
SPU	SOVIET PHYS.-USPEKHI	//UFN//
SRA	SOVIET RADIOCHEMISTRY	//RAK//
SUI-	IOWA STATE U. IOWA CITY, REPORT SERIES	USA
TDS-	AECL, NUCL.POW.PLANT DIV., REPORT SERIES	CANADA
THAI-	REPTS ATOMIC ENERGY FOR PEACE,BANGKOK	THAILAND
TID-	DIV.OF TECH.INFORM.EXT., AEC REPORT SERIES	USA
TNCC(CAN)-	TRIPARTITE NUCL. CROSS-SECTIONS COMMITTEE EXTINCT	CANADA
TNCC(UK)-	TRIPARTITE NUCL. CROSS-SECTIONS COMMITTEE EXTINCT	UK
TNCC(US)-	TRIPARTITE NUCL. CROSS-SECTIONS COMMITTEE EXTINCT	USA
TUE	'THE TRANSURANIUM ELEMENTS' NAT'L NUCLEAR ENERGY SERIES, DIVISION IV, VOL. 14B,1954	
TUG	TRANS. CHALMERS UNIV. TECHNOL., GOTHENBURG	SWEDEN

UCRL-	CALIFORNIA U. REPORT SERIES	USA
UFN	USPEKHI FIZ. NAUK /SPD/	USSR
UFZ	UKRAINSKIJ FIZICHNII ZHURNAL	USSR
UJV-	USTAV JAD.VIZKUMU(INST.NUCL.RES.),PRAGUE REP'T SER.	CZECHOSLOVAKIA
UNC-	UNITED NUCLEAR CORP., REPORT SERIES	USA
UK/C	REPTS ATOM.EN.OF CANADA,CHALK RIVER PROJECT	CANADA
UR-	REPORTS OF UNIV. ROCHESTER,NEW YORK	USA
USNRDL-	NAVAL RADIOLOG. DEF.LAB.,SAN FRANCISCO REP.SERIES	USA
VAN	VESTNIK AKADEMII NAUK SSSR	USSR
WADC-	WRIGHT AIR DEV. CENTER, OHIO, REPORT SERIES	USA
WADC-TN	WRIGHT AIR DEV. CENTER, OHIO, REPORT SERIES	USA
WADD-TR	WRIGHT AIR DEV. DIV., OHIO, REPORT SERIES	USA
WANL-	REPORTS WESTINGHOUSE ELECTR. CORP. ASTRONUCL. LAB,	USA
WANL-TME	WESTINGHOUSE ASTRO-NUCLEAR LAB, PITTSBURG	USA
WAPD-	WESTINGHOUSE, ATOMIC POWER DIV., REPORT SERIES	USA
WASH-	AEC,WASHINGTON REPORTS TO THE NCSAG	USA
XDC-	GEN.EL.CO., CINCINNATI, REPORT SERIES.FINISHED	USA
YF	YADERNAYA FIZIKA /SNP/	USSR
YFI	JADERNO-FIZICHESKIE ISSLEDOVANIJA (PROGRESS REPORTS)	USSR
YTN	YUAN TZU NENG	CHINA
ZAP	Z. ANGEW. PHYS.	GERMANY
ZEP	ZETF LETTERS TO THE EDITOR /JEL/	USSR
ZET	ZH. EKSPERIM. I TEOR. FIZ. /JET/	USSR
ZFK-RN-	ZENTRALINST.KERNPHYSIK, ROSSENDORF REPORT SERIES	GERMANY
ZFK-TPH-	ZENTRALINST.KERNPHYSIK, ROSSENDORF REPORT SERIES	GERMANY
ZFK-DOS-	ZENTRALINST.KERNPHYSIK, ROSSENDORF REPORT SERIES	GERMANY
ZFK-WP-	ZENTRALINST.KERNPHYSIK, ROSSENDORF REPORT SERIES	GERMANY
ZK	Z. KRISTALLOGRAPHIE	GERMANY
ZMM	Z. ANGEW. MATH. MECH.	GERMANY
ZMP	Z. ANGEW. MATH. PHYS.	SWITZERLAND
ZN	Z. NATURFORSCH.	GERMANY
ZP	Z. PHYSIK	GERMANY
ZPC	Z. PHYSIK. CHEM. (LEIPZIG)	GERMANY
ZPF	Z.PHYSIK.CHEM.(FRANKFURT)	GERMANY
ZTF	ZH. TEKHN. FIZ.	USSR

PART I

Requests from the USSR and from countries within the service area of the Nuclear Data Section.

REQ. NO.	NUCLIDE	QUANTITY	ENERGY MIN	(EV) MAX	ACCURACY (%)	P	LAB	REQUESTOR, COMMENTS	YEAR
1	H	THRMLSCATLAW	0. +0	1. -1		2	HLT	Tunkelo Scattering law for solid and liquid hydrogen wanted, both ortho and para. For design of refrigerated neutron source.	69
2	H 001	N,GAMMA	THR		0.3	2	CRC IAE	Hanna, Westcott Lemmel Absolute measurement of cross section required in context of 2200 m/s fission constants evaluation. Recent existing data are discrepant by 3.5% although better accuracy is claimed for individual data.	69
3	LI	TOTAL XSECT	3. +6	1.4+7	1.5	1	FEI BNW	Broder, D.L. For calculating the passage of neutrons in shielding over a distance approx. 20 times the mean free path. Foster data (NIM 36,1,1965) between 2.2 and 15 MeV with accuracies between 1 and 3% probably satisfy request.	68
4	LI	DIFF ELASTIC	8. +6	1.4+7	10	1	FEI ALD	Broder, D.L. For calculating the angular distributions of neutrons in layers of shielding. Measurements are requested in the range of small angles. Cookson has measured at 10 MeV for Li-6 and Li-7 in 1966. Aldermaston 14 MeV data for Li-6 and Li-7 in EANDC 57"U".	68
5	LI	NONEL GAMMAS ENERGY,ANGLE	TR	1.4+7	15	1	FEI FRK	Broder, D.L. For calculating the formation, yield and angular distributions of gamma rays in shielding. It is requested that information be supplied on the nuclear levels. Bass has measured inelastic excitation cross section of 3.56 MeV level in Li-6 between 3.6 and 7.0 MeV (EANDC(E)-115"U", p.65,1969)	68
6	LI	DIFF INELAST ENERGY,ANGLE	5. +5	1.4+7	10	1	FEI FRK	Broder, D.L. For calculating neutron spectra and angular distributions in shielding. Bass has measured inelastic excitation cross section of 3.56 MeV level in Li-6 between 3.6 and 7.0 MeV (EANDC(E)-115"U",p.65,1969)	68
7	BE	TOTAL XSECT	7. +6	1.4+7	1.5	2	FEI IAE	Broder, D.L. For calculating the passage of neutrons in shielding over a distance approx. 20 times the mean free path. Available data do not satisfy requested accuracy.	68
8	B	TOTAL XSECT	3. +6	1.4+7	1.5	1	FEI BNW	Broder, D.L. For calculating the passage of neutrons in shielding over a distance approx. 20 times the mean free path. Foster data (NIM 36,1,1965) between 2.2 and 15 MeV with accuracies between 1 and 3% probably satisfy request.	68
9	B	DIFF ELASTIC	1.5+6	1.4+7	10	1	FEI --- LAS ALD	Broder, D.L. For calculating the angular distributions of neutrons in layers of shielding. Measurements are requested in the range of small angles. Isotopic data available for B-10 and B-11. Hopkins, Drake measured at 7.0 to 7.6 MeV (NSE 36,275,1969) Porter measured at 2.0 to 4.8 MeV and Cookson at 9.2 MeV	68
10	C	TOTAL XSECT	7. +6	1.4+7	1.5	2	FEI IAE KFK	Broder, D.L. For calculating the passage of neutrons in shielding over a distance approx. 20 times the mean free path. Available data probably satisfy request. See e.g. recent data of Cierjacks (KFK 1000, 1968) between 500 keV and 30 MeV with accuracy better than 3%	68

REG. NO.	NUCLIDE	QUANTITY	ENERGY MIN	(EV) MAX	ACCURACY (%)	P	LAB	REQUESTOR, COMMENTS	YEAR
11	N	TOTAL XSECT	7. +6	1.4+7	1.5	2	FEI	Broder, D.L. For calculating the passage of neutrons in shielding over a distance approx. 20 times the mean free path.	68
							BNW	Foster data (NIM 36,1,1965) between 2.2 and 15 MeV with accuracies between 1 and 3% probably satisfy request.	
12	N	DIFF ELASTIC	5. +5	1.4+7	10	2	FEI	Broder, D.L. For calculating the angular distributions of neutrons in layers of shielding. Measurements are requested in the range of small angles.	68
							LRL	Bauer (NP A93,673,1967) measured at 12 energies between 6.8 and 14 MeV	
							RIC	Velkley (WASH 1124, p.168,1968) will measure between 5 and 12 MeV	
							TNC	Experiments planned fall 1969 at 9 and 11 MeV.	
13	N 14	N2N XSECTION	1.4+7		10.0	3	DEB	Csikai, J. Needed for neutron activation analysis and cross section systematics. Incident energy resolution 2.0+5eV. For reference see At.En.Rev.7,93,1969.	69
14	O	TOTAL XSECT	7. +6	1.4+7	1.5	2	FEI	Broder, D.L. For calculating the passage of neutrons in shielding over a distance approx. 20 times the mean free path.	68
							IAE	Available data probably satisfy request.	
							KFK	See e.g. recent data of Cierjacks (KFK 1000, 1968) between 500 keV and 30 MeV with accuracy better than 3%	
15	O 16	N,PROTON	1.4+7		10.0	3	DEB	Csikai, J. Needed for neutron activation analysis and cross section systematics. Incident energy resolution 2.0+5eV. For reference see At.En.Rev.7,93,1969.	69
16	F 19	N2N XSECTION	1.4+7		10.0	3	DEB	Csikai, J. Needed for neutron activation analysis and cross section systematics. Incident energy resolution 2.0+5eV. For reference see At. En.Rev.7,93,1969.	69
17	NA	TOTAL XSECT	7. +6	1.4+7	1.5	2	FEI	Broder, D.L. For calculating the passage of neutrons in shielding over a distance approx. 20 times the mean free path.	68
							IAE	Available data probably satisfy request.	
							KFK	See e.g. recent data of Cierjacks (KFK 1000,1968) between 500 keV and 30 MeV with accuracy better than 3%.	
18	NA	DIFF ELASTIC	4. +6	1.4+7	10	2	FEI	Broder, D.L. For calculating the angular distributions of neutrons in layers of shielding. Measurements are requested in the range of small angles.	68
							ALD	Porter measured at 5 MeV.	
							PAD	Fasoli (NP A125,227,1969) measured at 4.0 and 6.5 MeV	
							ORL	Perey (WASH 1124, p.136,1968) measured between 5.5 and 8.5 MeV	
							IAE	More detailed experimental data needed.	
19	NA 23	N,GAMMA res.param	1.0+2	6.5+4	10.0	2	AUA	Symonds, J.L. Resonance parameters wanted, neutron and gamma width, J for 2.85 keV resonance. Available information on capture width inconsistent. Particularly query for 35 keV resonance parameters.	69
20	AL	TOTAL XSECT	3. +6	1.4+7	1.5	2	FEI	Broder, D.L. For calculating the passage of neutrons in shielding over a distance approx. 20 times the mean free path.	68
							IAE	Request probably satisfied. Data available from	
							WIS	Carlson (PR 158,1142,1967) for 4.5 to 13 MeV with 1% statistical accuracy,	
							KFK	Cierjacks (KFK 1000, 1968) for 0.5 to 30 MeV with accuracy better than 3%	

REG. NO.	NUCLIDE		QUANTITY	ENERGY MIN	(EV) MAX	ACCURACY (%)	P	LAB	REQUESTOR, COMMENTS	YEAR
21	AL		NONEL GAMMAS energy,angle	TR	1.4+7	15	2	FEI	Broder, D.L. For calculating the formation, yield and angular distributions of gamma rays in shielding. It is requested that information be supplied on the nuclear levels.	68
								LAS	Drake (WASH 1136, p.120,1969) measured between 4.0 and 7.5 MeV	
								GA	Hoot (WASH 1136, p.35,1969) is completing measurements between threshold and 16 MeV	
22	AL		DIFF ELASTIC	7. +6	1.4+7	10	2	FEI	Broder, D.L. For calculating the angular distributions of neutrons in layers of shielding. Measurements are requested in the range of small angles.	68
								IAE	Almost no data available.	
23	AL	27	DIFF ELASTIC	1.0+3	5.0+6	10.0	2	PEL	De Beer, G.P. For shielding calculations.	69
24	AL	27	DIFF INELAST energy,angle	TR	5.0+6	10.0	2	PEL	De Beer, G.P. For shielding calculations.	69
25	AL	27	NONEL GAMMAS energy,angle	TR	5.0+6	10.0	2	PEL	De Beer, G.P. For shielding calculations.	69
26	CL		DIFF ELASTIC angular dist	5. +5	1.4+7	20.0	2	FEI	Popov, V.I. Angular distribution wanted with accuracy better than 20%.	69
								IAE	Very few data available.	
27	CL		EMISS XSECT energy dist	5. +5	1.4+7	20.0	2	FEI	Popov, V.I. Yield and spectra of neutrons from inelastic scattering and (n,2n)-reaction wanted.	69
								IAE	Available inelastic scattering data not sufficient. No (n,2n) data available.	
28	CL		N2N XSECTION	TR	1.4+7	20.0	2	FEI	Popov, V.I. For fast reactors.	69
								IAE	No data available.	
29	CL		NONELASTIC	5. +5	1.4+7	20.0	2	FEI	Popov, V.I. Total cross section for nonelastic processes wanted.	69
								IFU	Korzh (AE 20,8,1966) reports data at 2.5 and 4.1 MeV	
30	CL		TOTAL XSECT	5. +5	1.4+7	20.0	2	FEI	Popov, V.I.	69
								KFK	Request fulfilled. Cierjacks (EANDC(E)-115"U", p.8,1969) measured with less than 3% accuracy at 0.5 - 30 MeV.	
31	CL	36	NONEL GAMMAS see comment				3	RIO	Aghina, L.O.B. Gamma spectra between resonances wanted. Special interest on interference and direct capture.	69
32	A	40	N,PROTON	1.4+7		10.0	3	DEB	Csikai, J. Needed for neutron activation analysis and cross section systematics. Incident energy resolution 2.0+5eV. For reference see At.En.Rev.7,93,1969.	69
33	K		TOTAL XSECT	7. +6	1.4+7	1.5	2	FEI	Broder, D.L. For calculating the passage of neutrons in shielding over a distance approx. 20 times the mean free path.	68
								IAE	Request probably satisfied.	
								BNW	Foster (NIM 36,1,1965) measured between 2.2 and 15 MeV with accuracies between 1 and 3%.	
								KFK	Cierjacks (EANDC(E)-115"U", p.8,1969) completed measurements between 0.5 and 30 MeV with accuracy better than 3%.	
34	K	41	N,PROTON	1.4+7		10.0	3	DEB	Csikai, J. Needed for neutron activation analysis and cross section systematics. Incident energy resolution 2.0+5eV. For reference see At.En.Rev. 7,93,1969.	69
35	TI		DIFF ELASTIC	1. +6	1.4+7	10	2	FEI	Broder, D.L. For calculating the angular distributions of neutrons in layers of shielding. Measurements are requested in the range of small angles.	68
								IAE	Only scattered data available.	

REQ. NO.	NUCLIDE	QUANTITY	ENERGY MIN	(EV) MAX	ACCURACY (%)	P	LAB	REQUESTOR, COMMENTS	YEAR
36	TI	NONEL GAMMAS energy,angle	TR	1.4+7	15	2	FEI	Broder, D.L. For calculating the formation, yield and angular distributions of gamma rays in shielding. It is requested that information be supplied on the nuclear levels.	68
							$\overline{IAE}$	Almost no data available.	
37	TI	N,GAMMA	1. +3	2.0+5	20	3	FEI	Abramov, A.I. For design of fast-intermediate reactors.	68
							$\overline{IAE}$	Available few data do not satisfy request.	
38	TI	N,GAMMA	1.0+4	1.0+5	20.0	2	AUA	Symonds, J.L.	69
							$\overline{AUA}$	AAEC is studying this-J.R. Bird.	
39	V	NONEL GAMMAS energy,angle	TR	1.4+7	15	3	FEI	Broder, D.L. For calculating the formation, yield and angular distributions of gamma rays in shielding. It is requested that information be supplied on the nuclear levels.	68
							$\overline{IAE}$	Almost no data available.	
40	CR	RES INT ABS	+		15	2	FEI	Nikolaev, M.N.	68
							$\overline{IAE}$	Available direct measurements discrepant.	
41	MN 55	N,GAMMA res.param	3.3+2		2.0	2	AUA	Symonds, J.L. Accuracy 2% gamma width desired for monitor.	69
							$\overline{AUA}$	Stroud has work in progress to 5%.	
42	MN 55	NONEL GAMMAS see comment				3	RIO	Aghina, L.O.B. Gamma spectra between resonances wanted. Special interest on interference and direct capture.	69
43	FE	TOTAL XSECT	3. +6	1.4+7	1.5	1	FEI	Broder, D.L. For calculating the passage of neutrons in shielding over a distance approx. 20 times the mean free path.	68
							$\overline{IAE}$	Available extensive recent measurements (GA, NBS, KFK) (cf. CINDA 69 and supplement January 70) should satisfy request.	
44	FE	NONEL GAMMAS energy,angle	TR	1.4+7	15	1	FEI	Broder, D.L. For calculating the formation, yield and angular distributions of gamma rays in shielding. It is requested that information be supplied on the nuclear levels.	68
							$\overline{SAC}$	Delobeau (EANDC(E)-89"U",1968) measured between 5 and 14 MeV	
							GA	Hoot (WASH 1136, p.35,1969) is completing measurements between threshold and 16 MeV.	
45	FE	RES INT ABS	+		15	2	FEI	Nikolaev, M.N.	68
							$\overline{HAR}$	Recent Moxon capture measurements 0.02 - 200 eV reduced considerably discrepancy between direct measurements and integrals calculated from differential data.	
46	FE 56	NONEL GAMMAS see comment				3	RIO	Aghina, L.O.B. Gamma spectra between resonances wanted. Special interest on interference and direct capture.	69
47	CO 59	N,GAMMA res.param	1.3+2		2.0	2	AUA	Symonds, J.L. Accuracy of 2% gamma width desired for monitor.	69
							$\overline{AUA}$	Wall and Stroud-Montreal Conf.Aug.1969-give gamma width to 10%. Stroud redoing to 5%.	
48	CO 60	NONEL GAMMAS see comment				3	RIO	Aghina, L.O.B. Gamma spectra between resonances wanted. Special interest on interference and direct capture.	69
49	NI	TOTAL XSECT	3. +6	1.4+7	1.5	1	FEI	Broder, D.L. For calculating the passage of neutrons in shielding over a distance approx. 20 times the mean free path.	68
							$\overline{IAE}$	Available data probably satisfy request.	
							BNW	Foster (NIM 36,1.1965) measured between 2.2 and 15 MeV with accuracies between 1 and 3%	
							KFK	Cierjacks (EANDC(E)-115"U", p.8,1969) completed measurements between 0.5 and 30 MeV with accuracy better than 3%.	

REQ. NO.	NUCLIDE	QUANTITY	ENERGY MIN	(EV) MAX	ACCURACY (%)	P	LAB	REQUESTOR, COMMENTS	YEAR
50	NI	DIFF ELASTIC	5. +6	1.4+7	10	1	FEI	Broder, D.L. For calculating the angular distributions of neutrons in layers of shielding. Measurements are requested in the range of small angles.	68
							AE	Holmqvist (68WASH,paper E23,1968) measured between 3 and 8 MeV.	
							ANL	Cox (WASH-1079,1968) measured between 0.4 and 15 MeV.	
51	NI	NONEL GAMMAS energy,angle	TR	1.4+7	15	1	FEI	Broder, D.L. For calculating the formation, yield and angular distributions of gamma rays in shielding. It is requested that information be supplied on the nuclear levels.	68
							ALD	Perkin published data between 3.5 and 8.5 MeV (NP60,561,1964).	
52	NI	RES INT ABS			15	2	FEI	Nikolaev, M.N.	68
							IAE	Discrepancy between integral result for non-1/v-part of resonance integral and calculations from differential measurements (KFK 120, part I, p.C128,1966) still not resolved	
53	NI 58	N,ALPHA	0. +0	1.0+6	20.0	2	ITK	Mehta No data available.	69
54	CU	NONEL GAMMAS energy,angle	TR	1.4+7	15	2	FEI	Broder, D.L. For calculating the formation, yield and angular distributions of gamma rays in shielding. It is requested that information be supplied on the nuclear levels.	68
							IAE	Available scattered data do not satisfy request.	
55	ZN 64	N2N XSECTION	1.4+7		10.0	3	DEB	Csikai, J. Needed for neutron activation analysis and cross section systematics. Incident energy resolution 2.0+5eV. For reference see At.En.Rev.7,93,1969.	69
56	GA 69	N2N XSECTION	1.4+7		10.0	3	DEB	Csikai, J. Needed for neutron activation analysis and cross section systematics. Incident energy resolution 2.0+5eV. For reference see At.En.Rev.7,93,1969.	69
57	Y	TOTAL XSECT	3. +6	1.4+7	1.5	2	FEI	Broder, D.L. For calculating the passage of neutrons in shielding over a distance approx. 20 times the mean free path.	68
							BNW	Foster (NIM 36,1,1965) measured between 2.2 and 15 MeV with accuracies between 1 and 3%.	
58	Y	DIFF ELASTIC	6. +6	1.4+7	10	2	FEI	Broder, D.L. For calculating the angular distributions of neutrons in layers of shielding. Measurements are requested in the range of small angles.	68
							IAE	No data available.	
59	Y	NONEL GAMMAS energy,angle	TR	1.4+7	15	2	FEI	Broder, D.L. For calculating the formation, yield and angular distributions of gamma rays in shielding. It is requested that information be supplied on the nuclear levels.	68
							IAE	No data available.	
60	ZR	TOTAL XSECT	7. +6	1.4+7	1.5	2	FEI	Broder, D.L. For calculating the passage of neutrons in shielding over a distance approx. 20 times the mean free path.	68
							BNW	Foster (NIM 36,1,1965) measured between 2.2 and 15 MeV with accuracies between 1 and 3%.	
61	ZR	DIFF ELASTIC	7. +6	1.4+7	10	2	FEI	Broder, D.L. For calculating the angular distributions of neutrons in layers of shielding. Measurements are requested in the range of small angles.	68
							IAE	No data available.	
62	ZR	NONEL GAMMAS energy,angle	TR	1.4+7	15	2	FEI	Broder, D.L. For calculating the formation, yield and angular distributions of gamma rays in shielding. It is requested that information be supplied on the nuclear levels.	68
							IAE	Almost no data available.	
							COL	Stamatelos (WASH 1136,p.32,1969) measured gamma spectrum at 14 MeV.	

REG. NO.	NUCLIDE	QUANTITY	ENERGY MIN	(EV) MAX	ACCURACY (%)	P	LAB	REQUESTOR, COMMENTS	YEAR
63	ZR	RESON PARAMS	0. +0	1. +4	10.0	2	HLT	Saastamoinen For reactivity effects.	69
64	NB	NONEL GAMMAS energy,angle	TR	1.4+7	15	2	FEI LAS	Brodor, D.L. For calculating the formation, yield and angular distributions of gamma rays in shielding. It is requested that information be supplied on the nuclear levels. Hopkins, Drake (WASH 1071, p.126,1966; WASH 1074, p.72, 1967) measured between 4.0 and 7.5 MeV.	68
65	MO	NONEL GAMMAS energy,angle	TR	1.4+7	15	2	FEI IAE	Broder, D.L. For calculating the formation, yield and angular distributions of gamma rays in shielding. It is roquested that information be supplied on the nuclear levels. Except old (1954) Sherrer measurement at 3.2 MeV (PR 96,386,1954) no data available.	68
66	MO 96	N,GAMMA res.param	1.0+4	1.0+5	10.0	2	AUA	Symonds, J.L. P-wave strength function for fission product calculations and astrophysics.	69
67	AG 107	N,ALPHA	THR		10.0	3	DEB IAE	Csikai, J. For neutron activation analysis and cross section systematics wanted. No measurements available.	69
68	CD	DIFF ELASTIC angular dist	5. +5	1.4+7	20.0	2	FEI IAE	Popov, V.I. Angular distribution wanted with accuracy better than 20%. Available data as given in BNL-400, second ed., not sufficient.	69
69	CD	INELST GAMMA energy dist	5. +5	1.4+7	20.0	2	FEI IAE	Popov, V.I. Yield and energy distribution of gamma rays wanted. Only very sparse data available.	69
70	CD	EMISS XSECT energy dist	5. +5	1.4+7	20.0	2	FEI IAE	Popov, V.I. Yield and spectra of neutrons from inelastic scattering and (n,2n)-reaction wanted. Few available data insufficient.	69
71	CD	N2N XSECTION	TR	1.4+7	20.0	2	FEI IAE	Popov, V.I. Only around 14 MeV some data available for several of the stable isotopes.	69
72	CD	NONELASTIC	5. +5	1.4+7	20.0	2	FEI IAE	Popov, V.I. Total cross section for nonelastic processes wanted. Accuracy achieved by existing measurements.	69
73	CD	TOTAL XSECT	5. +5	1.4+7	20.0	2	FEI IAE	Popov, V.I. Accuracy achieved by existing measurements.	69
74	CD 110	N,GAMMA res.param	1.0+4	1.0+5	10.0	2	AUA	Symonds, J.L. P-wave strength function for fission product calculations; and astrophysics.	69
75	BA 136	N,GAMMA res.param	1.0+4	1.0+5	10.0	2	AUA	Symonds, J.L. P- and d-wave strength function for fission product calculations and astrophysics.	69
76	SM 144	N2N XSECTION	1.4+7		10.0	3	DEB	Csikai, J. Needed for neutron activation analysis and cross section systematics. Incident energy resolution 2.0+5eV. For reference see At.En.Rev.7,93(1969).	69
77	EU 151	ACTIVATION	1. -3	1. +1	5.0	2	ROS	Albert, D. Cross section data needed for evaluation of measured activation rates by means of foils (especially spectral indices) for thermal neutron fluxes.	69
78	EU 151	ACTIVATION	0. +0	1. +0	5.0	2	BUL	Christov, V. For activation detectors for thermal neutron flux determination.	69

REG. NO.	NUCLIDE	QUANTITY	ENERGY MIN	(EV) MAX	ACCURACY (%)	P	LAB	REQUESTOR, COMMENTS	YEAR
79	EU 151	RES INT ACT	THR	1. +4	5.0	2	ROS	Albert, D. Cross section data needed for evaluation of measured activation rates by means of foils (especially spectral indices) for thermal neutron flux.	69
80	EU 151	RES INT ACT	0. +0	1. +0	5.0	2	BUL	Christov, V. For activation detectors for thermal neutron flux determination.	69
81	GD 155	N,GAMMA	1.0+2	1.0+6	20	1	FEI GA	Abramov, A.I. Friesenhahn (WASH 1136,33,1969) measured between 1 eV and 40 keV.	68
82	GD 157	N,GAMMA	1.0+2	1.0+6	20	1	FEI GA	Abramov, A.I. Friesenhahn (WASH 1136,33,1969) measured between 1 eV and 40 keV.	68
83	DY 164	N,GAMMA	1. -3	1. +1	5.0	2	ROS	Albert, D. Cross section data needed for evaluation of measured activation rates by means of foils (especially spectral indices) for thermal neutron fluxes.	69
84	ER 168	N,ALPHA	THR		10.0	3	DEB CCP	Csikai, J. For neutron activation analysis and cross section systematics wanted. Ionisation chamber measurement available from Andreev (YF 1,252,1965).	69
85	YB 168	ACTIVATION	0. +0	1. +0	5.0	2	BUL	Christov, V. For activation detectors for thermal neutron flux determination.	69
86	YB 168	RES INT ACT	0. +0	1. +0	5.0	2	BUL	Christov, V. For activation detectors for thermal neutron flux determination.	69
87	LU 176	ACTIVATION	0. +0	1. +0	5.0	2	BUL	Christov, V. For activation detectors for thermal neutron flux determination.	69
88	LU 176	N,GAMMA	1. -3	1. +1	5.0	2	ROS	Albert, D. Cross section data needed for evaluation of measured activation rates by means of foils (especially spectral indices) for thermal neutron fluxes.	69
89	LU 176	RES INT ACT	THR	1. +4	5.0	2	ROS	Albert, D. Cross section data needed for evaluation of measured activation rates by means of foils (especially spectral indices) for thermal neutron fluxes.	69
90	LU 176	RES INT ACT	0. +0	1. +0	5.0	2	BUL	Christov, V. For activation detectors for thermal neutron flux determination.	69
91	HF 179	N,GAMMA	THR	1. +1	5.0	2	TSU	Chien, J.P. Sigma (n,g)-reaction leading to hf180 metastable state at 1.143 MeV with 5.5 H half life required. No measurements available. Needed for reactor control rod design.	69
92	HF 180	DIFF INELAST see comment	1. +5	2. +6	20.0	2	TSU	Chien, J.P. Differential inelastic scattering cross-section of Hf 180 metastable (n,n') as a function of energy for the scattered neutron wanted. No measurements available. Needed for neutron conversion experiment (to convert thermal neutrons into fast neutrons). Accuracy from 10 to 30% required.	69
93	HF 180	DIFF INELAST energy dist	1. +5	2. +6	20.0	2	TSU	Chien, J.P. No measurements available. Wanted for reactor design. Accuracy from 10 to 30% required.	69

REG. NO.	NUCLIDE	QUANTITY	ENERGY MIN	(EV) MAX	ACCURACY (%)	P	LAB	REQUESTOR, COMMENTS	YEAR
94	W	TOTAL XSECT	3. +6	1.4+7	1.5	1	FEI	Broder, D.L. For calculating the passage of neutrons in shielding over a distance approx. 20 times the free path length.	68
							IAE	Available measurements (e.g. RPI, CHF, BNW, NHH) probably satisfy request (cf. CINDA 69 and supplement January 70)	
95	W	DIFF ELASTIC	5. +6	1.4+7	10	1	FEI	Broder, D.L. For calculating the angular distributions of neutrons in layers of shielding. Measurements are requested in the range of small angles.	68
							IAE	No data available.	
96	W	NONEL GAMMAS energy, angle	TR	1.4+7	15	1	FEI	Broder, D.L. For calculating the formation, yield and angular distributions of gamma rays in shielding. It is requested that information be supplied on the nuclear levels.	68
							ALD	Perkin published data between 3.5 and 8.5 MeV (NP 60,561,1964)	
							LAS	Hopkins, Drake (WASH 1074,p.72,1967) measured between 4.0 and 7.7 MeV	
97	W 182	N,ALPHA	THR		10.0	3	DEB	Csikai, J. For neutron activation analysis and cross section systematics wanted. No measurements available.	69
98	OS 186	N,ALPHA	THR		10.0	3	DEB	Csikai, J. For neutron activation analysis and cross section systematics wanted.	69
							CCP	Ionization chamber measurement available from Andreev (YF 1,252,1965)	
99	AU 197	NONEL GAMMAS see comment				3	RIO	Aghina, L.O.B. Gamma spectra between resonances wanted. Special interest on interference and direct capture.	69
100	AU 197	RESON PARAMS	2. +3			3	RIO	Aghina, L.O.B. Special interest on the ratio s-wave strength functions S (J=1)/S (J=2) and its variation as a function of the energy interval.	69
							SAC	Extensive results available from Saclay linac measurements up to 3 keV (CEA-R-3385,1968; NP A131,450,1969)	
101	HG 198	NONEL GAMMAS see comment				3	RIO	Aghina, L.O.B. Gamma spectra between resonances wanted. Special interest on interference and direct capture.	69
102	HG 200	NONEL GAMMAS see comment				3	RIO	Aghina, L.O.B. Gamma spectra between resonances wanted. Special interest on interference and direct capture.	69
103	HG 201	NONEL GAMMAS see comment				3	RIO	Aghina, L.O.B. Gamma spectra between resonances wanted. Special interest on interference and direct capture.	69
104	PB	TOTAL XSECT	3. +6	1.4+7	1.5	1	FEI	Broder, D.L. For calculating the passage of neutrons in shielding over a distance approx. 20 times the free path length.	68
							IAE	Available measurements (e.g. NBS, WIS, CSE, BNW, NHH) probably satisfy request (cf. CINDA 69 and supplement Jan. 70)	
105	PB	DIFF ELASTIC	5. +6	1.4+7	10	1	FEI	Broder, D.L. For calculating the angular distributions of neutrons in layers of shielding. Measurements are requested in the range of small angles.	68
							IAE	No data available.	
106	PB	NONEL GAMMAS energy, angle	TR	1.4+7	15	1	FEI	Broder, D.L. For calculating the formation, yield and angular distributions of gamma rays in shielding. It is requested that information be supplied on the nuclear levels.	68
							ALD	Perkin published data between 3.5 and 8.5 MeV (NP 60,561,1964)	

REG. NO.	NUCLIDE	QUANTITY	ENERGY MIN	(EV) MAX	ACCURACY (%)	P	LAB	REQUESTOR, COMMENTS	YEAR
107	BI	NONEL GAMMAS energy,angle	TR	1.4+7	15	2	FEI	Broder, D.L. For calculating the formation, yield and angular distributions of gamma rays in shielding. It is requested that information be supplied on the nuclear levels.	68
108	BI 209	DIFF ELASTIC angular dist	5. +5	1.4+7	20.0	2	FEI IAE	Popov, V.I. Angular distribution wanted with accuracy better than 20%. Below 7 MeV available data (BNL 400, second ed.) fulfill accuracy required. No data available between 7 and 14 MeV.	69
109	BI 209	INELST GAMMA energy dist	5. +5	1.4+7	20.0	2	FEI IAE	Popov, V.I. Yield and energy distribution of gamma rays wanted. Evaluation of available data needed.	69
110	BI 209	EMISS XSECT energy dist	5. +5	1.4+7	20.0	2	FEI IAE	Popov, V.I. Yield and spectra of neutrons from inelastic scattering and (n,2n)-reaction wanted. Evaluation of available data needed.	69
111	BI 209	N2N XSECTION	TR	1.4+7	20.0	2	FEI IAE	Popov, V.I. Only very sparse data available.	69
112	BI 209	NONELASTIC	5. +5	1.4+7	20.0	2	FEI IAE	Popov, V.I. Total cross section for nonelastic processes wanted. Request fulfilled by existing measurements.	69
113	BI 209	TOTAL XSECT	5. +5	1.4+7	20.0	2	FEI IAE	Popov, V.I. Request fulfilled by existing measurements.	69
114	TH 232	DIFF INELAST energy dist	TR	1.8+6	10	1	CCP IAE	Smirenkin, G.N. Spins and parities and excitation functions of discrete levels wanted. For calculation of fast neutron reactors and channel analysis of fission cross-sections. Available data not sufficient to meet request.	68
115	TH 232	NUCL.LEVELS	TR	1.8+6	10	1	CCP	Smirenkin, G.N.	68
116	TH	FISSION	THR	1.0+6	35	2	FEI ORL	Smirenkin, G.N. Requested for isotopes with atomic weight equal to or higher than 235. Except Lamphere measurements (ORNL-P-1082,1964) on Th-236 between 400 and 850 keV no experimental data available.	68
117	TH	FISSION	THR	1.0+6	15	3	FEI LAS	Smirenkin, G.N. For the isotopes 233 and 234. Cramer (WASH-1136,p.126,1969) derived(n,f) data between 0.5 and 2.0 MeV for Th-233 from (t,pf) fission probability measurements and Hauser-Feshbach calculations.	68
118	TH	N,GAMMA	THR	1.0+6	35	2	FEI IAE	Abramov, A.I. Requested for isotopes with atomic weight equal to or higher than 235. No experimental data available.	68
119	TH	N,GAMMA	THR	1.0+6	15	3	FEI IAE	Abramov, A.I. For the isotopes 233 and 234. No data available.	68
120	PA	FISSION	THR	1.0+6	35	2	FEI IAE	Smirenkin, G.N. Requested for isotopes with atomic weight equal to or higher than 235. No experimental data available.	68
121	PA	FISSION	THR	1.0+6	15	3	FEI LAS IAE	Smirenkin, G.N. For the isotopes 233 and 234. Pommard shot data (WASH-1124, p.99,1968) for Pa-233 cover energies between 20 eV and 1 MeV. No experimental data available for Pa-234.	68
122	PA	N,GAMMA	THR	1.0+6	35	2	FEI IAE	Abramov, A.I. Requested for isotopes with atomic weight equal to or higher than 235. Except statistical theory estimates by Bell (LAS) and Truran (GSF) at keV energies for a number of isotopes no data available.	68

REG. NO.	NUCLIDE	QUANTITY	ENERGY MIN	(EV) MAX	ACCURACY (%)	P	LAB	REQUESTOR, COMMENTS	YEAR
123	PA	N,GAMMA	THR	1.0+6	15	3	FEI	Abramov, A.I. For the isotopes 233 and 234.	68
							IAE	Available data for Pa-233 do not satisfy requested accuracy. For Pa-234 only statistical theory estimate by Truran (GSF) (AF 36,509,1967) at keV energies available.	
124	U	TOTAL XSECT	7. +6	1.4+7	1.5	2	FEI	Broder, D.L. For calculating the passage of neutrons in shielding over a distance approx. 20 times the mean free path.	68
							KFK	Cierjacks will measure between 0.5 and 30 MeV.	
125	U	DIFF ELASTIC	7. +6	1.4+7	10	2	FEI	Broder, D.L. For calculating the angular distributions of neutrons in layers of shielding. Measurements are requested in the range of small angles.	68
							ALD	Cookson (AWRE-CNR/PR/10,1968) measured at 9.8 MeV.	
							IAE	Otherwise, except at 14-15 MeV, no data available.	
126	U	NONEL GAMMAS energy,angle	TR	1.4+7	15	2	FEI	Broder, D.L. For calculating the formation, yield and angular distributions of gamma rays in shielding. It is requested that information be supplied on the nuclear levels.	68
							SAC	Delobeau (EANDC(E)-89"U", 1968) is measuring between 5 and 14 MeV.	
127	U 233	MISCELLANEOUS see comment			0.2	2	CRC IAE	Hanna, Westcott Lemmel Alpha-half-life required for 2200 m/s fission constants. Recent existing data are discrepant by 4.5% although better accuracy is claimed for individual data.	69
128	U 233	FISSION	2.0+4	2.0+6	3.0	2	ITK	Mehta Cross section required at 60 keV, 150 keV, 200 keV, 500 keV, 1 MeV with energy resolution of 5%.	69
							KFK	Pfletschinger and Käppeler have measured fission cross section ratio U-233/U-235 in energy range 5 keV to 1 MeV with accuracy of 2-3%.	
129	U 233	NU	THR	1.0+7	1.0	2	AUA	Symonds, J.L.	69
							AUA	Boldeman has data rel.to Cf-252. Accuracy 0.6% from thermal to 2 MeV.	
130	U 233	FRAG NEUTS see comment	5.0+4	1.0+6	10.0	2	ITK	Mehta Prompt neutrons as a function of mass of the fission product wanted.	69
131	U 233	SPECT FISS N see comment	THR		1.0	1	CRC IAE	Hanna, Westcott Lemmel Mean spectrum energy with accuracy of 1% required, spectrum shape also, for calibration of nu-bar measurements. Absolute or relative to other fissile isotopes requested.	69
132	U	FISSION	THR	1.0+6	35	2	FEI	Smirenkin, G.N. Requested for isotopes with atomic weight equal to or higher than 240.	68
							IAE	No experimental data available.	
133	U	FISSION	THR	1.0+6	15	3	FEI	Smirenkin, G.N. For the isotopes 234, 236, 237 and 239.	68
							---	U-234 and U-236:	
							LAS	Physics-8 shot data by Silbert (WASH-1136,p.110, 1969) for U-234 and U-236 in stage of analysis	
							NWU	Behkami (PR171,1267,1968) measured U-234 (n,f) between 200 and 840 keV	
							ORL	Lamphere (NP 38,561,1962) measured U-234 (n,f) between 50 keV and 4 MeV	
							ALD	White (65SALZB Proc.Vol.I,p.219,1965) measured U-234 and U-236 (n,f) at selected energy points between 40 and 500 keV	
							KFK	Cierjacks (EANDC(E)-127"U",p.67,1970) plans U-234 and U-236 (n,f) measurements around thresholds and above U-237 and U-239:	
							LAS	Cramer (WASH-1136,p.126,1969) derived (n,f) data for U-237 and U-239 between 0.5 and 2 MeV from (t,pf) fission probability measurements and Hauser-Feshbach calculations	
							LAS	McNally (BAPS 13,1665,1968) gives average bomb shot data for U-237 between 100 eV and 1 keV.	

REG. NO.	NUCLIDE	QUANTITY	ENERGY MIN	(EV) MAX	ACCURACY (%)	P	LAB	REQUESTOR, COMMENTS	YEAR
134	U	N,GAMMA	THR	1.0+6	35	2	FEI LRL	Abramov, A.I. Requested for isotopes with atomic weight equal to or higher than 240. Except 20 keV values by Ingley (NP A124,130,1969) no experimental data available.	68
135	U	N,GAMMA	THR	1.0+6	15	3	FEI --- LAS GA ALD IAE	Abramov, A.I. For the isotopes 234, 236, 237 and 239. U-234 and U-236: Physics-8 shot data by Silbert (WASH-1136,p.11C, 1969) for U-234 and U-236 in stage of analysis. Carlson (GA-9057,1968) measured U-236 (n,gamma) between 0.01 eV and 20 keV. Higher energy (n,gamma) knowledge for U-236 still based on Barry measurements (PPS 78,801,1961) between 300 keV and 4 MeV. U-237 and U-239: No experimental data available.	68
136	U 234	DIFF INELAST energy dist	TR	1.5+7	15	2	FEI IAE	Smirenkin, G.N. Excitation functions of discrete levels wanted. No experimental data available.	68
137	U 234	FISSION	1. +3	5.0+5	5	1	FEI IAE	Smirenkin, G.N. See comments under request 133.	68
138	U 234	NUCL.LEVELS	TR	1.5+7	15	2	FEI	Smirenkin, G.N. Excitation functions of discrete levels wanted. For channel analysis of fission cross sections.	68
139	U 234	MISCELLANEOUS	TR	4. +6		1	FEI	Smirenkin, G.N. U234 (t,pf) Fissility and angular anisotropy of fission wanted. To confirm the divergence in the data for the lowest threshold -1.0 MeV in U234 (t,pf); Eccleshall, Yates, Proc.of the Salzburg Symposium,(1965).	68
140	U 234	MISCELLANEOUS see comment			0.2	1	CRC IAE	Hanna, Westcott Lemmel Alpha-half-life required for 2200 m/s fission constant evaluation. Existing data are discrepant by 3% although better accuracy is claimed for individual data.	69
141	U 235	RESON PARAMS	5.0+1	5.0+2	10	1	FEI IAE	Nikolaev, M.N. Neutron-, fission- and gamma width wanted. Available single and multilevel resonance parameters analyzed cover energies up to 150 eV. New data and analyses to be reported at Helsinki Nuclear Data Conference.	68
142	U 235	RESON PARAMS	THR	5.0+1	5	1	FEI LAS	Nikolaev, M.N. Multi-level description of all partial cross-sections (n,gamma, fission and total cross-section). Cramer (NP A126,471,1969) made multilevel fit to resonances between 17 and 71 eV. Further multi-level analyses by Adler (CN-26/50, de Saussure (CN-26/93) and Ribon (CN-26/64,65) to be reported at Helsinki Nuclear Data Conference.	68
143	U 235	DIFF INELAST energy dist	TR	5. +5	10	2	FEI HAR	Smirenkin, G.N. Excitation functions of discrete levels wanted. Armitage (66 Paris, Proc. Vol. I, p.383,1967) measured between 130 keV and 1.5MeV.	68
144	U 235	DIFF INELAST energy,angle	3.0+5	1.9+7	10.0	1	RAM	Islam, M.M. For fast reactors	
145	U 235	INELST GAMMA energy,angle	3.0+5	4.0+6	10.0	1	RAM	Islam, M.M. For fast reactors	
146	U 235	NONELASTIC	1.0+5	1.9+7	10.0	2	RAM	Islam, M.M. For fast reactors	
147	U 235	FISSION	2.0+4	2.0+6	3.0	2	ITK IAE	Mehta Cross sections required at 60 keV, 150 keV, 200 keV, 500 keV, 1 MeV with energy resolution of 5%. Accuracy requested probably not met by the many measurements available. Situation to be reviewed after Helsinki Nuclear Data Conference.	69

REG. NO.	NUCLIDE	QUANTITY	ENERGY MIN	(EV) MAX	ACCURACY (%)	P	LAB	REQUESTOR, COMMENTS	YEAR
148	U 235	FISSION	1.0+0	5.0+6	5.0	2	UPR IAE	Koen, J. Calculations for pulsed heterogeneous systems. Accuracy requested probably not met by the many measurements available. Situation to be reviewed after Helsinki Nuclear Data Conference.	69
149	U 235	FISSION	THR	1.9+7	5.0	1	RAM IAE	Islam, M.M. For fast reactors Accuracy requested probably not met by the many measurements available. Situation to be reviewed after Helsinki Nuclear Data Conference.	
150	U 235	FISSION	1. +2	1.0+5	2.5	1	FEI IAE	Smirenkin, G.N. Accuracy required probably not met by the many measurements available. Situation to be reviewed after Helsinki Nuclear Data Conference.	68
151	U 235	FISSION	2.5+6	1.0+7	2.5	1	FEI IAE	Smirenkin, G.N. Accuracy required not met by the available measurements. Situation to be reviewed after Helsinki Nuclear Data Conference.	68
152	U 235	FISSION	1.0+7	2.0+7	5	1	FEI LAS	Smirenkin, G.N. Hansen (WASH-1079, p.106,1967) revised 1956 experimental Los Alamos results between 2.2 and 20 MeV.	68
153	U 235	ALPHA	1. +2	5.0+4	5	1	FEI IAE	Abramov, A.I. Accuracy required not met by available measurements.	68
154	U 235	ALPHA	1. +6	1.0+7	10	3	FEI IAE	Abramov, A.I. No experimental data available.	68
155	U 235	RES INT CAPT	+		10	2	FEI IAE BET CRC KAP	Abramov, A.I. Accuracy required achieved by recent measurements Conway (NSE 29,1,1967) measured 136 ± 8 (b) Durham (66Paris, Proc.Vol.2,p.17,1967) measured 143 ± 7 (b) Feiner (66SDiego,Proc.Vol.II,p.299,1967) reviewed available data and recommended 140 ± 8 (b)	68
156	U 235	N,GAMMA	THR	3.0+4	3.0	2	RAM	Islam, M.M. For fast reactors	
157	U 235	N,GAMMA (alpha)	1. +2	5.0+4	5	1	FEI IAE	Abramov, A.I. For calculating design of fast-neutron reactors. Accuracy required not met by available measurements.	68
158	U 235	N,GAMMA (alpha)	1. +6	1.0+7	10	3	FEI IAE	Abramov, A.I. No experimental data available.	68
159	U 235	NU	THR		1	1	FEI IAE	Smirenkin, G.N. See evaluation by Hanna et al. (At.En.Rev.7,3,1969)	68
160	U 235	NU	THR	1.0+7	1.0	2	AUA AUA IAE	Symonds, J.L. Boldeman has data rel to Cf-252. Accuracy 0.6% from thermal to 2 MeV. See forthcoming status reports for nubar values discussed at IAEA nubar Meeting, Studsvik, June 1970	69
161	U 235	FRAG NEUTS see comment	5.0+4	1.0+6	10.0	2	ITK	Mehta Prompt neutrons as a function of mass of the fission product wanted.	69
162	U 235	SPECT FISS N see comment	THR		1.0	1	CRC IAE	Hanna, Westcott Lemmel Mean spectrum energy with accuracy of 1% plus spectrum shape requested for calibration of nu-bar measurements. Absolute or relative to other fissile isotopes wanted.	69
163	U 235	SPECT FISS N	5. +3	2.0+6	2	1	FEI HAR FOA	Smirenkin, G.N. Barnard (NP71,228,1965) measured at 100 keV Condé (AF29,313,1965) measured at 40 keV and 1.5 MeV	68

REG. NO.	NUCLIDE	QUANTITY	ENERGY MIN	(EV) MAX	ACCURACY (%)	P	LAB	REQUESTOR, COMMENTS	YEAR
164	U 235	NUCL.LEVELS	TR	5. +5	10	2	FEI	Smirenkin, G.N.	68
165	U 235	MISCELLANEOUS	TR	4. +6		1	FEI	Smirenkin, G.N. U-235 (d,pf) Fissility and angular anisotropy of fission wanted. To confirm the divergence in the data for the lowest threshold -0.6 MeV in U235 (d,pf); Northrop et al. Phys.Rev.115,1277 (1955).	68
166	U 236	RESON PARAMS	1.0+2	1. +3	10	1	FEI	Nikolaev, M.N. Neutron- and gamma width wanted.	68
							GA	Carlson (GA-9057,1968) measured (n,gamma) and self-indication from 0.01 eV to 20 keV; gives resolved resonance parameters to 415 eV, resonance energies only between 415 eV and 1 keV, derives s and p wave strength function.	
167	U 236	DIFF INELAST energy dist	TR	1.5+7	15	2	FEI	Smirenkin, G.N. Excitation functions of discrete levels wanted.	68
							IAE	No experimental data available.	
168	U 236	N,GAMMA	THR	1.0+7	20	1	FEI IAE	Abramov, A.I. See comment under request 135.	68
169	U 236	NUCL.LEVELS	TR	1.5+7	15	2	FEI	Smirenkin, G.N. Spins, parities and excitation functions of discrete levels wanted.	68
170	U 238	FISSION	TR	1.9+7	5.0	1	RAM	Islam, M.M. For fast reactors	
							KFK	Cierjacks (EANDC(E)-127"U",p.67,1970) will measure around threshold and above.	
							LAS	Stein (WASH68,Proceed.p.627) measured fission cross section ratio U-238/U-235 between 1 and 5 MeV.	
							ALD	White (JNE 21,671,1967) measured same ratio at three energies between 1 and 14 MeV.	
171	U 238	FISSION	TR	6.0+6	5.0	2	UPR	Koen, J. Calculations for pulsed heterogeneous systems.	69
							KFK	Cierjacks (EANDC(E)-127"U",p.67,1970) will measure around threshold and above.	
							LAS	Stein (WASH68,Proceed.p.627) measured fission cross section ratio U-238/U-235 between 1 and 5 MeV.	
							ALD	White (JNE 21,671,1967) measured same ratio at three energies between 1 and 14 MeV.	
172	U 238	N,GAMMA	THR	3.0+4	3.0	2	RAM	Islam, M.M. For fast reactors	
173	U 238	N,GAMMA	1.0+4	1. +6	5	1	FEI	Abramov, A.I. There is a great divergence in the existing experimental data.	68
174	U 238	DIFF INELAST energy,angle	3.0+5	1.9+7	10.0	1	RAM	Islam, M.M. For fast reactors	
175	U 238	INELST GAMMA energy,angle	3.0+5	4.0+6	10.0	1	RAM	Islam, M.M. For fast reactors	
176	U 238	NONELASTIC	1.0+5	1.9+7	10.0	2	RAM	Islam, M.M. For fast reactors	
177	NP	FISSION	THR	1.0+6	35	2	FEI	Smirenkin, G.N. Requested for isotopes with atomic weight equal to or higher than 240.	68
							IAE	No experimental data available.	
178	NP	FISSION	THR	1.0+6	15	3	FEI	Smirenkin, G.N. For the isotopes 237, 238, 239 and 240	68
							---	<u>Np-237:</u>	
							LAS	Physics-8 shot data by Silbert (WASH-1136,p.110, 1969) available	
							SAC	Michaudon (EANDC(E)-89"U",p.178,1968) measured between 10 eV and 4 keV	
							ALD	White (65SALZB,Proc.Vol.I,p.219,1965) measured at selected energy points between 40 and 500 keV <u>Np-236, 238, 239, 240:</u>	
							IAE	Except occasionally at thermal no experimental data available.	

REQ. NO.	NUCLIDE	QUANTITY	ENERGY (EV) MIN	MAX	ACCURACY (%)	P	LAB	REQUESTOR, COMMENTS	YEAR
179	NP	N,GAMMA	THR	1.0+6	35	2	FEI	Abramov, A.I. Requested for isotopes with atomic weight equal to or higher than 240.	68
							IAE	No experimental data available.	
180	NP	N,GAMMA	THR	1.0+6	15	3	FEI	Abramov, A.I. For the isotopes 237, 238, 239 and 240.	68
							---	Np-237:	
							ANL	Stupegia (NSE 29,218,1967) measured between 150 keV and 1.5 MeV.	
							LAS	Physics-8 shot data (WASH-1136,p.110,114;1969) available	
								Np-236, 238, 239, 240:	
							IAE	Except for Np-239 at thermal no experimental data available.	
181	PU	FISSION	THR	1.0+6	35	2	FEI	Smirenkin, G.N. Requested for isotopes with atomic weight equal to or higher than 246.	68
							LAS	Except estimates by Bell (PR 158,1127,1967) for 10 keV for several odd isotopes from TWEED event no experimental data available.	
182	PU	FISSION	THR	1.0+6	15	3	FEI	Smirenkin, G.N. For the isotopes 238, 241, 242, 243, 244 and 245.	68
							---	Pu-238:	
							CCP	Ermagambetov (AE 25,527,1968) measured between 0.5 and 17 MeV.	
							LAS	Persimmon shot data (WASH-1124,p.99,1968) cover energies between 18 eV and 3 MeV.	
							LRL	Bowman data (PR 154,1111,1967) useful between 2 and 300 eV.	
							ITE	Vorotnikov (YF 3,479,1966) measured between 50 keV and 1.4 MeV.	
							KUR	Gerasimov (66Paris,Proc.Vol.II,p.129,1967) measured between 0.024 and 420 eV.	
								Pu-241:	
							IAE	Available experimental data (cf. CINDA 69) should satisfy requested accuracy.	
								Pu-242,243,244:	
							HAR	James (NP A123,24,1969) measured sub-threshold Pu-242 (n,f) between 15 eV and 35 keV.	
							LAS	Physics-8 shot data (WASH-1136,95,110;1969) for Pu-242 and Pu-244 in stage of analysis.	
							LAS	Cramer (WASH-1136,p.126,1969) derived (n,f) data for Pu-243 between 0.5 and 2 MeV from (t,pf) fission probability measurements and Hauser-Feshbach calculations.	
183	PU	N,GAMMA	THR	1.0+6	35	2	FEI	Abramov, A.I. Requested for isotopes with atomic weight equal to or higher than 246.	68
							LRL	Except 20 keV values derived by Ingley (AF 36,509, 1967) for several isotopes from TWEED yield no experimental data available.	
184	PU	N,GAMMA	THR	1.0+6	15	3	FEI	Abramov, A.I. For the isotopes 238, 241, 242, 243, 244 and 245.	68
							LAS	Silbert (WASH-1124,p.99,1968) has data for Pu-238 in the range 30 eV to 1 MeV to be analyzed.	
							IAE	For isotopes 241 through 245 except at thermal no experimental data available.	
185	PU 239	FISSION	THR	2.0+7	5	1	FEI	Smirenkin, G.N. Accuracy below 10 MeV 3%; above 10 MeV 5%.	68
							IAE	Accuracy requested not met by presently available experimental data.	
186	PU 239	FISSION	1. +2	1.0+5	3	1	FEI	Smirenkin, G.N.	68
							IAE	Accuracy requested not met by presently available experimental data.	
187	PU 239	FISSION	2.5+6	1.0+7	3	1	FEI	Smirenkin, G.N.	68
							IAE	Accuracy requested not met by presently available experimental data.	
188	PU 239	FISSION	1.0+7	2.0+7	5	1	FEI	Smirenkin, G.N.	68

REG. NO.	NUCLIDE	QUANTITY	ENERGY MIN	(EV) MAX	ACCURACY (%)	P	LAB	REQUESTOR, COMMENTS	YEAR
189	PU 239	FISSION	THR	1.9+7	5.0	1	RAM IAE	Islam, M.M. For fast reactors. Accuracy requested not met for the whole energy region by presently available data.	
190	PU 239	FISSION	2.0+4	2.0+6	3.0	2	ITK IAE	Mehta Cross sections required at 60 keV, 150 keV, 200 keV, 500 keV, 1 MeV with energy resolution of 5%. Forthcoming IAEA review by Byer and Konshin on Pu-239 (n,f) and alpha (report INDC(NDS)-17/N). Accuracy requested not met by available data.	69
191	PU 239	FISSION	THR		1	2	CRC IAE	Hanna, Westcott Lemmel Serious discrepancies between available direct measurements (RENDA 70, request no. 1151).	
192	PU 239	N,GAMMA (alpha)	1. +2	1.5+5	5	1	FEI IAE	Abramov, A.I. Accuracy requested not met by presently available data.	68
193	PU 239	N,GAMMA (alpha)	1. +6	1.0+7	10	3	FEI IAE	Abramov, A.I. No experimental data available.	68
194	PU 239	ALPHA	1. +3	5.0+4	10	1	FEI IAE	Abramov, A.I. Present experimental situation to be reviewed at IAEA Studsvik alpha (Pu-239) meeting in June 1970. See also forthcoming IAEA review by Byer and Konshin on Pu-239 (n,f) and alpha, INDC(NDS)-17/N.	68
195	PU 239	ALPHA	1. +6	1.0+7	10	3	FEI IAE	Abramov, A.I. No experimental data available.	68
196	PU 239	ALPHA	1.0+2	1.0+7	5.0	2	PEL IAE	Van der Walt, R. For fast reactor calculations. Present experimental situation to be reviewed at IAEA Studsvik alpha (Pu-239) meeting in June 1970. See also forthcoming IAEA review by Byer and Konshin on Pu-239 (n,f) and alpha, INDC(NDS)-17/N.	69
197	PU 239	ALPHA	1.0+2	1.0+5	5.0	2	AUA IAE	Symonds, J.L. Present experimental situation to be reviewed at IAEA Studsvik alpha (Pu-239) meeting in June 1970. See also forthcoming IAEA review by Byer and Konshin on Pu-239 (n,f) and alpha, INDC(NDS)-17/N.	69
198	PU 239	N,GAMMA	THR	3.0+4	3.0	2	RAM	Islam, M.M. For fast reactors.	
199	PU 239	N,GAMMA	1.0+2	1.0+6	5.0	2	ITK	Mehta Energy dependence required.	69
200	PU 239	N,GAMMA	THR		1	2	CRC IAE	Hanna, Westcott Lemmel Confirmation of existing alpha values desirable (RENDA 70, request no. 1199)	
201	PU 239	NU	THR	1.0+7	1.0	1	AUA AUA IAE	Symonds, J.L. Work in progress from thermal to 2 MeV, to 1% accur. (Boldeman). Forthcoming review by Konshin and Manero on energy dependent nubar values for the main fissile isotopes (report INDC(NDS)-19/N).	69
202	PU 239	NU	THR		1	1	FEI IAE	Smirenkin, G.N. See evaluation by Hanna et al. (At.En.Rev.7,3,1969)	68
203	PU 239	FRAG NEUTS see comment	5.0+4	1.0+6	10.0	2	ITK	Mehta Prompt neutrons as a function of mass of the fission product wanted.	69
204	PU-239	ETA	1. -2	1. +0	0.5	2	CRC IAE	Hanna, Westcott Lemmel Discrepancy between Macklin (manganese bath) and Smith (monokinetic measurement) (RENDA 70, request no. 1168)	

REG. NO.	NUCLIDE	QUANTITY	ENERGY MIN	(EV) MAX	ACCURACY (%)	P	LAB	REQUESTOR, COMMENTS	YEAR
205	PU 239	SPECT FISS N see comment	THR		1.0	1	CRC IAE	Hanna, Westcott Lemmel Mean spectrum energy with accuracy of 1% plus spectrum shape requested for calibration of nu-bar measurements. Absolute or relative to other fissile isotopes wanted.	69
206	PU 239	NONELASTIC	1.0+5	1.9+7	10.0	2	RAM	Islam, M.M. For fast reactors.	
207	PU 239	DIFF INELAST energy dist	TR	5. +4	10	1	FEI HAR ANL	Smirenkin, G.N. Excitation function of discrete levels wanted. Measurements of Cavanagh (AERE-R 5972, EANDC(UK)-101) cover level excitation cross sections for energies between 150 and 1550 keV. Smith (WASH-1136,p.3,1969) is completing measurements up to 1.5 MeV.	68
208	PU 239	DIFF INELAST energy,angle	3.0+5	1.9+7	10.0	1	RAM	Islam, M.M.	
209	PU 239	INELAST GAMMA energy,angle	3.0+5	4.0+6	10.0	1	RAM	Islam, M.M. For fast reactors.	
210	PU 239	RESON PARAMS	THR	5.0+1	5	1	FEI ANL BNL	Nikolaev, M.N. Multi-level description of all partial cross-sections (n-gamma, fission and total cross-section). Lambropoulos (WASH-1136,p.12,1969) made Adler multilevel analysis of Saclay data between 40 and 100 eV. Stephenson is performing Adler multilevel analysis.	68
211	PU 239	RESON PARAMS	5.0+1	5.0+2	10	1	FEI SAC	Nikolaev, M.N. Neutron-, fission- and gamma width wanted Most comprehensive resonance parameter set obtained in Saclay work (66 Paris,Proc.Vol.II, p.195,1967). More Saclay results to be reported at Helsinki Nuclear Data Conference.	68
212	PU 239	NUCL.LEVELS	THR	5.0+1	5	1	CCP		68
213	PU 239	NUCL.LEVELS	TR	5. +4	10	1	FEI	Smirenkin, G.N.	68
214	PU 240	FISSION	1. +2	3.0+4	10	1	FEI RPI GEL LAS KFK IAE	Smirenkin, G.N. For design of fast neutron reactors. Hockenbury (WASH-1136,p.143,1969) to complete analysis of measurements from 60 eV to 90 keV. Migneco (NP A112,527,1968) measured from 200 eV to 8 keV. Diven (LA-3586,1966; 66WASH,Proc.p.903,1966) measured in PETREL bomb shot from 20 eV to 2 MeV. Gilboy (66Paris,Proc.Vol.1,p.295,1967) measured between 5 and 150 keV. These most recent and other available measurements probably satisfy request.	68
215	PU 241	NU	THR	1.0+7	1.0	1	AUA AUA FOA	Symonds, J.L. Work in progress from thermal to 2 MeV, to 1% accuracy (Boldeman). Condé (JNE 22,79,1968) measured at 5 energies between 0.5 and 15 MeV.	69
216	PU 241	ALPHA	1.0+2	1.0+6	10.0	2	AUA IAE	Symonds, J.L. No experimental data available.	69
217	PU 241	ETA	THR		1.5	2	CRC IAE	Hanna, Westcott Lemmel For thermal reactors (RENDA 70,request no.1263)	
218	PU 241	SPECT FISS N see comment	THR		1.0	1	CRC IAE	Hanna, Westcott Lemmel Mean spectrum energy with accuracy of 1% plus spectrum shape requested for calibration of nu-bar measurements. Absolute or relative to other fissile isotopes wanted.	69
219	PU 241	MISCELLANEOUS see comment			0.2	1	CRC IAE	Hanna, Westcott Lemmel Beta-decay half-life required for 2200 m/s fission constant evaluation. Recent existing data are discrepant by 6% although better accuracy is claimed for individual data.	69

REG. NO.	NUCLIDE	QUANTITY	ENERGY MIN	(EV) MAX	ACCURACY (%)	P	LAB	REQUESTOR, COMMENTS	YEAR
220	AM	FISSION	THR	1.0+6	35	2	FEI	Smirenkin, G.N. Requested for isotopes with atomic weight equal to or higher than 245.	68
							IAE	No experimental data available.	
221	AM	FISSION	THR	1.0+6	15	3	FEI	Smirenkin, G.N. For the isotopes 241, 242, 243, 244 and 245.	68
							LAS	Diven (LA-3586,1966; NP A96, 605,1967) measured in Petrel bomb shot on Am-241 and Am-242 between 20 eV and 1 MeV.	
							LRL	Bowman (66Paris Proc.Vol.II,p.149,1966) measured on Am-241 between 4 eV and 1 keV.	
							KUR	Gerasimov (66Paris Proc.Vol.II,p.229,1966) measured on Am-241 between 0.02 and 50 eV.	
							LRL	Perkins (NSE 32,131,1968) gives 68 group averaged Am-242 (n,f) data at 0.41 eV to 3.7 MeV.	
							LRL	Bowman (PR 166,1219,1968) measured on Am-242 between 0.02 eV and 6 MeV.	
							LAS	Physics-8 shot data by Silbert (WASH-1136,110,1969) for Am-243 in stage of analysis.	
							IAE	Except at thermal for Am-244 no experimental data available for Am-244 and Am-245.	
222	AM	N,GAMMA	THR	1.0+6	35	2	FEI	Abramov, A.I. Requested for isotopes with atomic weight equal to or higher than 245.	68
							IAE	No experimental data available.	
223	AM	N,GAMMA	THR	1.0+6	15	3	FEI	Abramov, A.I. For the isotopes 241, 242, 243, 244 and 245.	68
							BUC	Boca measured excitation of Am-242m by Am-241 (n,gamma) between 200 keV and 7.2 MeV (RRP13,181,1968) and Am-243 (n,gamma) at 2.6 MeV (IFA-CRD-34,1967).	
							DUB	Flerov (NP 102,A443,1967) measured excitation of Am-242m by Am-241 (n,gamma) at 0 to 6.5 MeV.	
							IAE	Except thermal values and the above measurements no experimental data available.	
224	CM	FISSION	THR	1.0+6	35	2	FEI	Smirenkin, G.N. Requested for isotopes with atomic weight equal to or higher than 250.	68
							IAE	No experimental data available.	
225	CM	FISSION	THR	1.0+6	15	3	FEI	Smirenkin, G.N. For the isotopes 242,243, 244, 245, 246, 247, 248 and 249.	68
							LAS	Physics-8 shot data (WASH-1136,110,1969) for isotopes 243 through 248 in stage of analysis.	
							LAS	Fullwood (68WASH,Proc.p.567,1968) measured by bomb shot on Cm-244 between 20 eV and 2 MeV.	
							IAE	Except thermal values and the above LA measurements no experimental data available.	
226	CM	N,GAMMA	THR	1.0+6	35	2	FEI	Abramov, A.I. Requested for isotopes with atomic weight equal to or higher than 250.	68
							IAE	No experimental data available.	
227	CM	N,GAMMA	THR	1.0+6	15	3	FEI	Abramov, A.I. For the isotopes 242, 243, 244, 245, 246, 247, 248 and 249.	68
							LAS	Physics-8 shot data by Silbert (WASH-1136,110,1969) for isotopes 243 through 248 in stage of analysis.	
							IAE	Except thermal values and the above LA measurements no experimental data available.	
228	BK	FISSION	THR	1.0+6	35	2	FEI	Smirenkin, G.N. Requested for isotopes with atomic weight equal to or higher than 251.	68
							IAE	No experimental data available.	
229	BK	FISSION	THR	1.0+6	15	3	FEI	Smirenkin, G.N. For the isotopes 249, 250 and 251.	68
							LAS	Physics-8 shot data by Silbert (WASH-1136,p.110, 1969) for Bk-249 in stage of analysis.	
							IAE	Except early thermal values for Bk-249 and the above LA measurements no experimental data available.	

REQ. NO.	NUCLIDE	QUANTITY	ENERGY MIN	(EV) MAX	ACCURACY (%)	P	LAB	REQUESTOR, COMMENTS	YEAR
230	BK	N,GAMMA	THR	1.0+6	35	2	FEI	Abramov, A.I. Requested for isotopes with atomic weight equal to or higher than 251.	68
							IAE	No experimental data available.	
231	BK	N,GAMMA	THR	1.0+6	15	3	FEI	Abramov, A.I. For the isotopes 249, 250 and 251.	68
							LAS	Physics-8 shot data by Silbert (WASH-1136,p.110, 1969) for Bk-249 in stage of analysis.	
							IAE	Except thermal values for Bk-250 by Diamond/ANL (JIN 30,2553,1968) and above LA measurements no experimental data available.	
232	CF	FISSION	THR	1.0+6	35	2	FEI	Smirenkin, G.N. Requested for isotopes with atomic weight equal to or higher than 255.	68
							IAE	No experimental data available.	
233	CF	FISSION	THR	1.0+6	15	3	FEI	Smirenkin, G.N. For the isotopes 249, 250, 251, 252, 253, 254 and 255.	68
							LAS	Physics-8 shot data (WASH-1136,p.95,110;1969) for Cf-249 and Cf-252 in stage of analysis.	
							IAE	Except thermal values for Cf-249 and Cf-251 and above LA measurements no experimental data available.	
234	CF	N,GAMMA	THR	1.0+6	35	2	FEI	Abramov, A.I. Requested for isotopes with atomic weight equal to or higher than 255.	68
							IAE	No experimental data available.	
235	CF	N,GAMMA	THR	1.0+6	15	3	FEI	Abramov, A.I. For the isotopes 249, 250, 251, 252, 253, 254, and 255.	68
							LAS	Physics-8 shot data by Silbert (WASH-1136,p.110, 1969) for Cf-249 and Cf-252 in stage of analysis.	
							IAE	Except thermal values for most of the isotopes and above LA measurements no experimental data available.	
236	CF 252	NU	SPON		0.5	2	AUA	Symonds, J.L. For obtaining Nu from relative measurements on U-233, U-235, Pu-239, Pu-241.	69
							IAE	See extensive recent review in Hanna IAEA 2200 m/sec parameters evaluation (At.En.Rev.7,3,1969).	
237	CF 252	NU	SPON		0.5	2	CRC	Hanna, Westcott	
							IAE	Lemmel Serious discrepancies between available direct measurements (RENDA 70, request no. 1359).	
238	CF 252	F NEUT DELAY see comment	SPON		20.0	2	AUA	Symonds, J.L. Delayed gamma yield wanted. Required for correcting Cf-252 Nu calibrations. Refer G.C.Hanna IAEA 2200 m/s param.evaluation. (At.En.Rev.7,3,1969)	69
							AUA	Boldeman planning measurements to 20%.	
239	CF 252	SPECT FISS N see comment	SPON		1.0	1	CRC	Hanna,Westcott	69
							IAE	Lemmel Meanspectrum energy with accuracy of 1% plus spectrum shape requested for calibration of Nu-bar measurements. Absolute or relative to other fissile isotopes wanted.	
240	ES	FISSION	THR	1.0+6	35	2	FEI	Smirenkin, G.N. Requested for isotopes with atomic weight equal to or higher than 255.	68
							IAE	No experimental data available.	
241	ES	FISSION	THR	1.0+6	15	3	FEI	Smirenkin, G.N. For the isotopes 253, 254 and 255.	68
							LAS	Physics-8 shot data (WASH-1136,p.95,110;1969) for Es-253 in stage of analysis.	
							ANL	Diamond (JIN 30,2553,1968) measured at thermal for Es-254 .	
							IAE	Otherwise no data available.	
242	ES	N,GAMMA	THR	1.0+6	35	2	FEI	Abramov, A.I. Requested for isotopes with atomic weight equal to or higher than 255.	68
							IAE	No experimental data available.	

REG. NO.	NUCLIDE	QUANTITY	ENERGY MIN	(EV) MAX	ACCURACY (%)	P	LAB	REQUESTOR, COMMENTS	YEAR
243	ES	N,GAMMA	THR	1.0+6	15	3	FEI	Abramov, A.I. For the isotopes 253, 254 and 255.	68
							LAS	Physics-8 shot data by Silbert (WASH-1136,p.110, 1969) for Es-253 in stage of analysis.	
							IAE	Except thermal values for Es-253 and above LA measurements no data available.	
244	FM	FISSION	THR	1.0+6	35	2	FEI	Smirenkin, G.N. Requested for isotopes with atomic weight equal to or higher than 255.	68
							IAE	No experimental data available.	
245	FM	FISSION	THR	1.0+6	15	3	FEI	Smirenkin, G.N. For the isotopes 253, 254 and 255.	68
							IAE	No experimental data available.	
246	FM	N,GAMMA	THR	1.0+6	35	2	FEI	Abramov, A.I. Requested for isotopes with atomic weight equal to or higher than 255.	68
							IAE	No experimental data available.	
247	FM	N,GAMMA	THR	1.0+6	15	3	FEI	Abramov, A.I. For the isotopes 253, 254 and 255.	68
							LRL	Hulet (WASH-1071,83,1966) measured at thermal for Fm-255	
							IAE	Otherwise no experimental data available.	
248	FPROD	N,GAMMA res.param	THR	1.0+5		2	AUA	Symonds, J.L. Sigma and s-p-d wave strength functions for theoretical prediction of cross sections for masses 80-160.	69
							AUA	Bird et al working in keV region using capture gamma rays.	
							BOL	Extensive evaluation of Benzi et al. (CEC(70)-2, April 1970) available.	
249	H2 O	THRMLSCATLAW	0. +0	2. -1		2	HLT	Jauho Scattering Law for water at higher temprt (100 dgr centigrade) wanted for calculation of reactivity effects as a function of temperature.	69
250	METAN	THRMLSCATLAW	0. +0	1. -1		2	HLT	Tunkelo Scattering law for solid and liquid methan wanted. For design of refrigerated neutron source.	69

PART II

EANDC requests supported by the USSR.

No.	Ref (Reg)	Nuclide	Quantity	Energy(EV) Min	Max	(%) Accuracy	P	Lab	Requestor, Comments	Year
1.	13 (120)	Li	DIFF ELASTIC Withdrawn	4. +6	1.6+7	<20	2	ORL COL --- LAS ALD	MAIENSCHEIN GOLDSTEIN ACCURACY 10% BUT 20% WOULD BE USEFUL REQUIRES 10-20% IN AVERAGE(1-COS). ENERGY RESOLUTION 0.5 MEV.ANGULAR RESOLUTION 5-10/. NEEDED FOR SHIELDING CALCULATIONS. NEW DATA FOR SEPARATED ISOTOPES AVAILABLE. LASL(HOPKINS) 3.35 AND 4.83 MEV FOR LI7,AT 4.83 MEV FOR LI6,1966.ALD(COOKSON) 10 MEV FOR LI7, LI6.1966. ALD 14 MEV DATA.SEE EANDC 57 U,LI7, LI6.	
2.	16 (14)	Li	NONELASTIC No more in RENDA 70	+0	1.4+7			AE	WEITMAN FOR FEASIBILITY STUDIES OF THERMONUCLEAR REACTORS.	
3.	19 (15)	^{6}Li	TOTAL XSECT	THR	1.0+5	2	1	LAS	MOTZ NEEDED TO DETERMINE STANDARD. LINAC MEASUREMENT WANTED TO CHECK VAN DE GRAFF RESULTS. NO ACTIVE WORK.	66
4.	20 (16)	^{6}Li	TOTAL XSECT	5. +3	3. +6	2	1	LAS	DIVEN NEEDED FOR EVALUATING LI6 (N-ALPHA)X-SECT, DISCREPANCIES OF 20% EXIST. ABSOLUTE CROSS-SECTION NECESSARY. ANL(WHALEN)MEASURING FROM 100 KEV TO 1.5 MEV,1966. ANL(MOORING)MEASURING 10 KEV TO 300 KEV,1966.	65
5.	21 (17)	^{6}Li	EMISS XSECT energy,angle No more in RENDA 70	8. +6	1.4+7	10	1	LAS	DIVEN ACCURACY 10% OR AT LEAST 20% SPECTRUM AT SEVERAL ANGLES NEEDED.ABSOLUTE CROSS- SECTION REQUIRED.ALD(COOKSON) HAS ANGULAR DISTRIBUTIONS AT 10 MEV, NO SPECTRA.1966	65
6.	22 (18)	^{6}Li	N2N REACTION No more in RENDA 70	8. +6	1.6+7	5	1	LAS	MOTZ ABSOLUTE CROSS SECTIONS REQUIRED. MORE ENERGY POINTS AND BETTER PRECISION REQUIRED. ALD UNDER WAY AT 14 MEV.1966	66
7.	23 (19)	^{6}Li	ABSORPTION Withdrawn	1.0+4	2.0+5	2	2	WIN ---	CAMPBELL FOR FAST REACTORS. SEE COX JNE 21,271 (3/67)	
8.	24 (20)	^{6}Li	ABSORPTION Withdrawn	2.0+5	1. +6	5	2	WIN ---	CAMPBELL FOR FAST REACTORS. SEE COX JNE 21,271 (3/67)	
9.	25 (21)	^{6}Li	ABSORPTION Withdrawn	1. +6	5. +6	10	2	WIN ---	CAMPBELL FOR FAST REACTORS. SEE COX JNE 21,271 (3/67)	
10.	26 (22)	^{6}Li	N,ALPHA	5. +3	1.3+7	< 5	1	LAS	MOTZ ABSOLUTE CROSS-SECTION REQUIRED; NEEDED AS ABSOLUTE STANDARD UP TO ABOUT 5 MEV AVAILABLE DATA DO NOT PRODUCE REQUIRED ACCURACY AT ANY ENERGY EXCEPT 100 KEV	66
11.	27 (23)	^{6}Li	N,ALPHA	1.0+4	1.0+7	10	2	MOL	BEETS DISCUSSION ON ALL AVAILABLE DATA FROM THERMAL TO 1 MEV BY SPAEPEN (IAEA, PARIS, CONF. 1966, PAPER NO. CN-23/119). SEE ALSO EXTENSIVE DISCUSSION OF EXPERIMENTAL DISCREPANCIES BY EENGSTEON ET AL. IN CCDN-NEWSLETTER NR. 3, OCT. 66.	
12.	28 (24)	^{6}Li	N,ALPHA Withdrawn	1.0+4	5. +6	2	2	HAR WIN ---	WRIGHT CAMPBELL FLUX MONITOR FOR NEUTRON SPECTRUM MEASUREMENTS AND FOR FAST REACTORS.NOTE EXTENDED ENERGY RANGE. SEE SCHWARZ CCDN-NW/3 (0/66)--ALSO COATES AERE-PR/NP 11 AND WASH 1074,68 (4/67) AND WASH 1071,135 (8/66)	
13.	29 (26)	^{6}Li	N,ALPHA angular dist	1.0+4	5. +6	5	3	HAR WIN ---	WRIGHT CAMPBELL FLUX MONITOR FOR NEUTRON SPECTRUM MEASUREMENTS NOTE EXTENDED ENERGY RANGE AND INCREASED ACCURACY REQUIREMENT	
14.	30 (25)	^{6}Li	N,ALPHA	2.0+5	1.4+7	10	3	ORL	CLARK ACCURACY 10% OR AT LEAST 20% NEUTRON ENERGY RESOLUTION 0.1 MEV FOR 0.2-1.0 MEV 1.0 MEV IN THE INTERVAL 1-14 MEV. L.EIBAND AT LIEGE IS WORKING BELOW 1.2 MEV,1964.EANDC PRIOR.2.	63

No.	Ref (Reg)	Nuclide	Quantity	Energy(EV) Min	Max	(%) Accuracy	P	Lab	Requestor, Comments	Year
15.	31 (27)	7Li	TOTAL XSECT	THR	1.0+5	2	1	LAS	MOTZ NEEDED TO DETERMINE STANDARD. LINAC MEASUREMENT WANTED TO CHECK VAN DE GRAAFF RESULTS. NO ACTIVE WORK.	66
16.	32 (28)	7Li	TOTAL XSECT	5. +3	3. +6	2	1	LAS	NIVEN ABSOLUTE CROSS SECTION REQUIRED.ANL(WHALEN) MEASURING FROM 100-1500 KEV, 1966. ANL(MOORING)MEASURING 10 KEV TO 300 KEV, 1966.	65
17.	33 (29)	7Li	EMISS XSECT energy,angle No more in RENDA 70	5. +6	1.6+7	10	1	LAS	NIVEN SPECTRUM NEEDED AT SEVERAL ANGLES.ALD(COOKSON) HAS DATA AT 10 MEV.NO SPECTRA GIVEN,1966. EANDC PRIORITY 2.	63
18.	34 (30)	7Li	NONEL GAMMAS angular dist No more in RENDA 70	5. +6	1.6+7	10	2	ORT	KIDD ACCURACY 10% OR AT LEAST 20% ONLY THE 480 KEV GAMMA-RAY WANTED, CONTRIBUTIONS FROM OTHER GAMMA-RAYS SHOULD BE SMALL. TNC SHOULD HAVE SOME DATA. 1966. LASL(HOPKINS)HAS WORK IN PROGRESS, 1966. PRESSER,UNIV.OF FRANKFURT,1965,HAS RESULTS 1-8 MEV. ANTWERP CONF. P-35 1965.	63
19.	35 (31)	7Li	N2N REACTION No more in RENDA 70	8. +6	1.6+7	5	1	LAS	NIVEN ABSOLUT XSECT REQUIRED.ALD UNDERWAY AT 14 MEV, 1966.EANDC PRIORITY 2	65
20.	37 (32)	Be	DIFF ELASTIC Withdrawn	6. +6	1.6+7	<20	1	PAR	BASTOIN ACCURACY ON AVE (1 - COS), 10% DESIRED ENERGY RESOL 0.5 MEV,ANG RESOL 5 / TO 10 /	
21.	38 (33)	Be	DIFF ELASTIC	7. +6	1.6+7	10	1	COL LRL	GOLDSTEIN HOWERTON ACCURACY 10%, BUT 20% WOULD BE ACCEPTABLE ENERGY RESOLUTION 0.5 MEV,ANGULAR RESOLUTION 5-10/. ERROR PERTAINS TO AVE (1-COS) SHIELDING STUDIES.NO ACTIVITY IN THIS ENERGY RANGE.	62
22.	39 (34)	Be	NONELASTIC No more in RENDA 70	+0	1.4+7			AE	WEITMAN FOR FEASIBILITY STUDIES OF THERMONUCLEAR REACTORS.	
23.	40 (35)	Be	EMISS XSECT energy,angle	2. +6	1.6+7	10	2	LRL	HOWERTON ACCURACY 10%,20% AT WORST.ANGULAR DISTRIBUTION IMPORTANT IF ANISOTROPIC.EANDC PRIOR 2	62
24.	41 (36)	Be	EMISS XSECT energy,angle	2. +6	1.6+7	<10	1	RDT ORL	MAIENSCHEIN ACCURACY 5-10%,ENERGY RESOLUTION 0.5 MEV.ANGULAR RESOLUTION 5/-10/.ERROR PERTAINS TO AVERAGE OF (1-COS),NEEDED FOR SHIELDING STUDIES. NO ACTIVE WORK.	66
25.	42 (37)	Be	NONEL GAMMAS energy,angle No more in RENDA 70	1.5+2	1.5+7	<40	1	LAS	BENNETT ACCURACY 30-40% ABSOLUTE.ABSOLUTE CROSS SECTION REQUIRED.ENERGY SPECTRUM OF ALL GAMMAS NEEDED INCLUDING SOFT GAMMAE.MEASUREMENT AT ONE ANGLE ACCEPTABLE WITH 30-40% ERROR ON INTEGRAL VALUE. (65/ PREFERRED).UPPER LIMIT SUFFICIENT IF EQUAL TO OR LESS THAN 10 MICRO-BARNS/(SR-MEV) OR EQUIVALENT.NEUTRON ENERGY RESOLUTION--FROM 150 EV TO 5 MEV-10%.FROM 5 TO 15 MEV-0.5 TO 1.0 MEV.GAMMA ENERGY RESOLUTION--FROM 50 KEV TO 5 MEV-10%.FROM 5 TO 15 MEV-0.5 TO 1.0 MEV.NO ACTIVE WORK	66
26.	43 (38)	Be	DIFF INELAST energy,angle No more in RENDA 70	THR	5. -1	50	2	MOL SAC	MOTTE FUSSAC FOR REACTOR SPECTRA CALCULATIONS. MEASUREMENTS AT HIGH TEMPERATURE ARE DIFFICULT BUT SOME ARE BEING MADE AT CHALK RIVER. HAYWOOD AND SINCLAIR (AERE-R-4732, 1964) REPORT 10% ACCURATE RESULTS AT 22 / C NOT CORRECTED FOR MULTIPLE SCATTERING. NO ACTION IN EURATOM COMMUNITY.	
27.	44 (40)	Be	N2N REACTION	TR	1.4+7	10	2	SBC JUL SAC	GIBBONS HERZIN FUSSAC FOR NEUTRON MULTIPLICATION IN BE. ACCURACY OF EXISTING DATA (BNL 325, SUPPL. 2) NOT HIGH ENOUGH.	

No.	Ref (Reg)	Nuclide	Quantity	Energy(EV) Min	Max	(%) Accuracy	P	Lab	Requestor, Comments	Year
28.	45 (42)	Be	N2N REACTION No more in RENDA 70	TH	4. +6		2	LAS	RIVEN ACCURACY+-20 PR. THRESHOLD TO 3.5 MEV WANTED. NO ACTIVE WORK	66
29.	46 (43)	Be	N2N REACTION energy dist No more in RENDA 70	TH	5. +6	15	2	RPT GEV AI BNL	 SNYDER ALTER CHERNICK ACCURACY 15% OR 50 MB AT 2-3 MEV FOR BE-MODERATED FAST SPECTRUM REACTORS AND THERMAL BREEDERS OR CONVERTERS;NEUTRON ECONOMY CALCULATIONS.NEED SECONDARY NEUTRON SPECTRUM.IAEA PARIS CONF B/18 1966. EANDC PRIOR. 2.	62
30.	47 (44)	Be	THRMLSCATLAW No more in RENDA 70	THR		10	2	JAE	S (K, EPSILON); 1 < K < 20/A, 0 < | EPSILON | < 0.15 EV, SOLID STATE. DATA BY SINCLAIR AND THOSE BY SCHMUNK ARE NOT IN AGREEMENT WITH EACH OTHER. FOR DETERMINATION OF FREQUENCY DISTRIBUTION.	
31.	48 (46)	Be	N,GAMMA	1.0+2	1. +6	50	2	JUL	GERWIN	
32.	49 (47)	Be	N,ALPHA	TH	1.0+7	10	2	JUL	GERWIN	
33.	50 (48)	Be	GAMMA,N No more in RENDA 70	1.7+6	1.0+7	20	2	NOL	NOTTE FOR REACTOR DYNAMICS EXPERIMENTS IN BE-MODERATED REACTORS. NO ACTION IN EURATOM COMMUNITY.	
34.	51 (49)	7Be	ABSORPTION No more in RENDA 70	+6	1.5+7	10	2	LAS	NOTE CROSS-SECTION FOR DESTRUCTION OF BE7 WANTED (HALF LIFE OF 54 DAYS).LAS (BAM) WILL CALCULATE GROUND STATE (N,P)FROM INVERSE REACTION, SAME FOR (N,D) GROUND STATE, 1966.	66
35.	52 (41*)	9Be	N2N REACTION No more in RENDA 70	TH	5. +6	10	3	WIN ----.	SMITH FOR FAST REACTORS REQUIREMENT EST.-H.HOLMBERG CR 23/18	
36.	53 (39*)	9Be	THRMLSCATLAW Withdrawn	THR			3	WIN ---	KINCHIN TEMPERATURE RANGE 20 /C TO 1200 /C EXISTING ACCURACY MAY BE SUFFICIENT. SEE EGELSTAFF JAERI 1095 (0/65)--ALSO BEYSTER GA-7952 (4/67)--AND SINCLAIR IAEA,CHALK RIVER (/62)	
37.	54 (45-)	9Be	N,GAMMA No more in RENDA 70	THR		1	3	WIN ---	KINCHIN FOR THERMAL REACTORS. WITHDRAWN.	
38.	55 (50)	9Be	N,TRITON No more in RENDA 70	1.1+7	1.5+7	20	3	LAS	NOTE AVAILABLE DATA DIFFER BY FACTORS OF TWO TO FIVE. NO ACTIVE WORK.	66
39.	58 (51)	10B	TOTAL XSECT	THR	1.0+5	2	1	LAS	NOTE NEEDED TO DETERMINE STANDARD,LINAC MEASUREMENT WANTED TO CHECK VAN DE GRAAFF RESULTS. NO ACTIVE WORK.	66
40.	59 (52*)	10B	TOTAL XSECT No more in RENDA 70	1. +3	4.0+4	5	3	WIN ---	SMITH FOR FAST REACTORS. REQUIREMENT EST.K.SIEBERT-AERE/R5224	
41.	60 (53*)	10B	DIFF ELASTIC Withdrawn	4.0+4	5. +6	10	2	WIN --- HAR ALD	CAMPBELL FOR FAST REACTORS. ASAMI IN PROGRESS 40-150KEV. TOWLE IN PROGRESS 0.15-5MEV SEE LANE NAP 12,87,FD10 (1/67)--ALSO AGEE LA-3538-MS VI (9/66)	

No.	Ref (Reg)	Nuclide	Quantity	Energy(EV) Min	Max	(%) Accuracy	P	Lab	Requestor, Comments	Year
42.	61 (54*)	10B	DIFF INELAST energy dist Withdrawn	TE	5. +6	30	2	WIN --- HAR ALD	CAMPBELL FOR FAST REACTORS. ASAMI -IN PROGRESS 40-150KEV. TOWLE -IN PROGRESS 0.15-5MEV . SEE GLAZKOV JNE 18,656 (/64)--ALSO HOPKINS WASH1056 VIIIB3 (3/65)--AND WELLIS WASH1074,119 (4/67)	
43.	62 (55*)	10B	ABSORPTION	1.0+4	2.0+5	2	2	WIN --- HAR	CAMPBELL FOR FAST REACTORS. DIMENT DATA AVAILABLE ON TOT X-SECT (E) AERE/R5224 SEE MOORING NP 82,16 (7/66)--ALSO COX JNE 21,271 (3/67)	
44.	63 (56)	10B	ABSORPTION	1.0+5	3. +6	<10	1	CAD	NAVIER ACCURACY 5% BELOW 0.5MEV NEEDED FOR CONTROL ROD CALCULATIONS AND AS A STANDARD FOR MEASUREMENTS.	
45.	64 (57*)	10B	ABSORPTION	2.0+5	1. +6	5	2	WIN --- HAR	CAMPBELL FOR FAST REACTORS. DIMENT DATA AVAILABLE ON TOT X-SECT (E) AERE/R5224 SEE MOORING NP 82,16 (7/66)--ALSO COX JNE 21,271 (3/67)	
46.	65 (58*)	10B	ABSORPTION	1. +6	5. +6	10	2	WIN --- HAR	CAMPBELL FOR FAST REACTORS. DIMENT DATA AVAILABLE ON TOT X-SECT (E) AERE/R5224 SEE MOORING NP 82,16 (7/66)--ALSO COX JNE 21,271 (3/67)	
47.	66 (59) No more in RENDA 70	10B	N,TRITON	5. +6	1.5+7		3	LAS	MOTZ NO ACTIVE WORK.	66
48.	67 (60*)	10B	N,ALPHA	1.0+4	1. +6	2	1	WIN HAR	KINCHIN USED AS A STANDARD IN CROSS-SECTION MEASUREMENTS. ENERGY DEPENDENCE NEEDED MORE ACCURATELY.NOTE REDUCED ENERGY RANGE. DIMENT -SOME DATA AVAILABLE AERE/R5224. ALSO ELASTIC SCATTERING IN PROGRESS BELOW 100KEV. SEE MACKLIN WASH1074,90 (4/67)--ALSO SOWERBY JNE AB 20,135 (2/66)--AND DERUYTTER EANDC(E)76U,140 (1/67)	
49.	68 (1134*) Withdrawn	11B	TOTAL XSECT	5. +5	5. +6	10	2	WIN ---	CAMPBELL FOR FAST REACTORS SEE AGEE LA-3538-MS VI (9/66)	68
50.	69 (62*) Withdrawn	11B	DIFF ELASTIC	5. +5	5. +6	10	2	WIN --- ALD	CAMPBELL FOR FAST REACTORS.NOTE REDUCED ENERGY RANGE. TOWLE MEASUREMENT PLANNED..SEE LANE BAP 12,87, PD10 (1/67)--ALSO AGEE LA-3538-MS VI (9/66)	
51.	70 (63) No more in RENDA 70	C	TOTAL XSECT	1. -4	2. -3	10	2	JAE	GRAPHITE. - 80 / C TO 600 / C. FOR NATURAL GRAPHITE, PYROLYTIC GRAPHITE AND VARIOUS ARTIFICIAL GRAPHITES. FOR CHECKING IT UP WITH THE THEORY. NO DATA AVAILABLE BELOW 1 MILLI-EV AT 20 / C. ABOVE 0.4 MILLI-EV FOR 205 / C, 507 / C AND 747 / C, DATA ARE COMPILED IN BNL-325.	
52.	72 (64)	C	DIFF ELASTIC	2. +6	1.6+7	5	2	LAS	HIGGINS ACCURACY PERTAINS TO INTEGRATED CROSS SECTION. DESIRED INCIDENT ENERGY INTERVALS 0.25 MEV.ANGULAR RESOLUTION 5/ FROM 0-30/ AND 10/ FROM 30-180/. OMIT 14 MEV POINT.DESIRED ENERGY RESOLUTION 1.0 MEV. LASL (HOPKINS) WORKING AT 7.5 MEV, 1966.	66
53.	73 (66)	C	DIFF ELASTIC	6. +6	1.6+7	<20	1	PAR	BASTOIN ACCURACY ON AVE (1 - COS), 10% DESIRED ABOVE 6 MEV INELAST XSECT FOR THE FIRST LEVEL HAS TO BE INCLUDED. ENERGY RESOL 0.5 MEV; 5 / TO 10 / ANG RESOL	
54.	74 (67)	C	DIFF ELASTIC	7. +6	1.4+7	10	1	LRL	HOWERTON ACCURACY 20% ACCEPTED.NO ACTIVE WORK	62

No. Ref Nuclide Energy(EV) (%) P Lab Requestor, Comments Year
(Reg) Quantity Min Max Accuracy

55. 75 (68) C DIFF ELASTIC 7. +6 1.4+7 <20 1 COL KAP RDT LRL GOLDSTEIN 62
EHRLICH
ROBERTSON
ACCURACY 10% BUT 20% WOULD BE ACCEPTABLE.DESIRED ACCURACY IS+-10 MB/SR AT ALL ENERGIES.RESOLUTION 50 KEV FROM 7 TO 8.4 MEV,100 KEV FROM 8.2 TO 10.0 MEV AND LARGER AT HIGHER INCIDENT ENERGIES.BELOW 8.4 MEV ANGULAR RESOLUTION SHOULD BE 3/;AT HIGHER ENERGIES 10/.WANTED FOR SHIELDING INCLUDING RESONANCE PARAMETERS AND OPTICAL FITTING.GRENOBLE HAS DATA AT 14 MEV. LASL(HOPKINS)WORKING AT 7.5MEV. RANDC PRIOR. 2.

56. 76 (69) C NONELASTIC +0 1.4+7 AE BRITMAN
No more in RENDA 70
FOR FEASIBILITY STUDIES OF THERMONUCLEAR REACTORS.

57. 77 (70) C EMISS XSECT 7. +6 1.6+7 5 2 LAS BIGGERS 66
energy,angle
ALL EMITTED NEUTRONS OTHER THAN ELASTICS WANTED. INCIDENT AND EXIT ENERGY RESOLUTION 0.25 MEV. ANGULAR RESOLUTION 5/ FROM 0-30/ AND 10/ FROM 30-180/.OMIT 14 MEV POINT.ANGULAR DISTRIBUTION WANTED ONLY IF SIGNIFICANTLY ANISOTROPIC. NO ACTIVE WORK.

58. 78 (71) C NONEL GAMMAS +0 1.0+7 20 2 RDT KAP EHRLICH
energy dist
No more in RENDA 70
SAMPLE STUDIED IS POLYETHYLENE;DESIRED GAMMA-RAY RESOLUTION IS 20%,WANTED FOR SHIELDING STUDIES, MEASUREMENTS WANTED AT 1 EV AND AT 1,10 MEV.NEUTRON RESOLUTION 20%.NO ACTIVE WORK.

59. 79 (72) C NONEL GAMMAS 6. +6 1.6+7 10 3 LAS BIGGERS 65
energy,angle
CONTRIBUTION OF 4.4 MEV GAMMA AND UPPER LIMIT FOR CONTRIBUTIONS FROM GAMMA-RAYS OF OTHER ENERGIES. OMIT 14.3 MEV INCIDENT ENERGY.HOPKINS AND DRAKE WORKING AT 6,7,7.5 MEV.1966

60. 80 (75) C DIFF INELAST 1. +0 <10 2 RDT AI ALTER 66
energy,angle
No more in RENDA 70
ENERGY UP TO 1EV. ACCURACY 5-10% FOR THERMAL SPECTRUM CALCULATIONS IN GRAPHITE MODERATED REACTORS.INCIDENT AND EXIT ENERGY RESOLUTION10%..ANGULAR RESOLUTION 5-10/.HAR (EGELSTAFF) AERE-R3931(62) AT 20,380,600/ C. PPC(BRUGGER) IDO-16699(62)20,300-400,600/C. RANDC PRIOR 2.

61. 81 (76) C THERLSCATLAW THR <20 2 JAE
No more in RENDA 70
GRAPHITE. PYROLYTIC STATE. S (K, EPSILON); 1 < K < 10/A, 0 < | EPSILON | < 0.1 EV. IN-PLANE (K PERPENDICULAR TO C-AXIS) SCATTERING IS NEEDED
A GOOD ANGULAR RESOLUTION AND THE MULTIPLE SCATTERING CORRECTIONS ARE WANTED.
FOR COMPARISON OF THE THEORY WITH THE DATA.
NO DATA AVAILABLE.

62. 82 (73) C THERLSCATLAW THR 3 WIN KINCHIN
Withdrawn
TEMPERATURE RANGE 1000/C TO 3000/C
EXISTING ACCURACY MAY BE SUFFICIENT.
--- NOTE REDUCED PRIORITY
HAR PAGE PROVISIONAL DATA--SEE NOR ANS 10,293 (6/67)-- ALSO THOMSON RANDC(CAN)28 L(3/66)--AND BEYSTER GA 7091 (8/66)

63. 83 (77) C THERLSCATLAW THR <20 2 JAE
No more in RENDA 70
GRAPHITE. POLYCRYSTAL STATE. S(K, EPSILON); 1 < K < 20/A, 0 < | EPSILON | < 0.15 EV. A GOOD ANGULAR RESOLUTION AND THE CORRECTION FOR THE MULTIPLE SCATTERING ARE WANTED, PARTICULARLY FOR K < 5/A.
EGELSTAFF HAS THE DATA FOR 20/C AND 336/C TO 425 / C. HAYWOOD HAS THE DATA FOR 22/C. BRUGGER HAS THE DATA FOR 20/C, 300/C TO 400/C AND 600/C. SEE RANDC(E) 67U,TO BE PUBLISHED IN NSE

64. 84 (78-) C N,GAMMA THR 1 3 WIN KINCHIN
Withdrawn
--- FOR THERMAL REACTORS.
WITHDRAWN.

No.	Ref (Reg)	Nuclide	Quantity	Energy(EV) Min	Energy(EV) Max	(%) Accuracy	F	Lab	Requestor, Comments	Year
65.	86 (798)	N	DIFF ELASTIC		1.4+7	10	3	NAR ---	BUTLER AIR SCATTERING CALCULATIONS. SEE BAUER NP A93,673 (3/67)--ALSO ANDERSON WASH 1068,64 (3/66)	
66.	88 (80)	N	DIFF ELASTIC Withdrawn	1. +6	1.6+7	<20	2	FAR	NASTOIN ACCURACY ON (1 - COS), 10% DESIRED. ABOVE 6 MEV, INELAST XSECT FOR THE FIRST LEVEL TO BE INCLUDED. ANG RESOL 2.5 / UP TO 20 / AND 5 / FROM 20 / TO 180 /	
67.	89 (81)	N	DIFF ELASTIC	8. +6	1.4+7	10	2	FOA	ZETTERSTROEM SHIELDING	
68.	90 (82)	N	DIFF ELASTIC No more in RENDA 70	9. +6	1.5+7	10	[illegible]	DOD	DESIRED INCIDENT ENERGY INTERVALS 0.25 MEV,ANGULAR RESOLUTION 5/ FOR 0-30/ AND 10/ IN RANGE 30-180/ DESIRED ENERGY RESOLUTION 1.0 MEV.OMIT 14 MEV POINT.LRL(ANDERSON)HAS RESULTS 7-14 MEV;LRL DATA IN BNL-325,400 SHOULD BE CHANGED TO ACCOUNT FOR RE-ANALYSIS OF TARGET.	62
69.	91 (83)	N	EMISS XSECT (energy)	8. +6	1.4+7	10	2	FOA	ZETTERSTROEM SHIELDING	
70.	92 (84)	N	N PRODUCTION energy,angle	4. +6	1.6+7	<20	2	FAR	NASTOIN ACCURACY ON AVE (1 - COS), 10% DESIRED.	
71.	93 (85)	N	NONEL GAMMAS (energy) No more in RENDA 70	1.5+2	1.5+7	35	2	LAS	BENNETT ABSOLUTE CROSS SECTION REQUIRED.ENERGY SPECTRUM OF ALL GAMMAS NEEDED INCLUDING SOFT GAMMAS. MEASUREMENT AT ONE ANGLE ACCEPTABLE WITH 30-40% ERROR ON INTEGRAL VALUE.(55/ PREFERRED) UPPER LIMIT SUFFICIENT IF EQUAL TO OR LESS THAN 10 MICRO-BARNS/(SR-MEV) OR EQUIVALENT.NEUTRON ENERGY RESOLUTION--FROM 150 KV TO 5 MEV-10%,FROM 5 TO 15 MEV-0.5 TO 1.0 MEV.GAMMA ENERGY RESOLUTION--FROM 50 KEV TO 5 MEV-10% FROM 5 TO 15 MEV-0.5 TO	66
72.	94 (86)	N	NONEL GAMMAS energy,angle No more in RENDA 70	3. +6	8. +6	10	1	LAS	BIGGERS INCIDENT INTERVAL AND ENERGY RESOLUTION AND EXIT ENERGY RESOLUTION 0.25 MEV.ANGULAR RESOLUTION 5/ FROM 0-30/ AND 10/ FROM 30-180/, ANGULAR DISTRIBUTION ONLY IF SIGNIFICANTLY ANISOTROPIC.NO ACTIVE WORK.	66
73.	95 (87)	N	NONEL GAMMAS energy,angle	4. +6	1.6+7	<20	2	FAR	NASTOIN ACCURACY 10% DESIRED. 0.5 MEV ENERGY RESOL FOR N AND GAMMA ANGULAR DISTRIBUTION ONLY IF SIGNIFICANT ANISOTROPY.	
74.	96 (88)	N	NONEL GAMMAS energy,angle	4. +6	1.6+7	<20	1	LRL	MORRETON BOTH THE CROSS SECTION AND ANGULAR DISTRIBUTION AS WELL AS GAMMA RAY SPECTRUM ARE REQUIRED. INCIDENT NEUTRON AND EXIT GAMMA RAY RESOLUTION SHOULD BE 0.25 MEV.ANGULAR RESOLUTION WANTED 5/ FROM 0/-30/ AND 10/ FROM 30/-180/. NO WORK IN PROGRESS.	63
75.	97 (89)	N	NONEL GAMMAS energy,angle No more in RENDA 70	8. +6	1.5+7	10	1	DOD	INCIDENT AND EXIT RESOLUTION 0.25 MEV,ANGULAR RESOLUTION 5/ FOR 0-30/,10/ FOR 30-180/.ANGULAR DISTRIBUTION ONLY IF SIGNIFICANTLY ANISOTROPIC. OMIT 14 MEV INCIDENT ENERGY.DESIRED INCIDENT NEUTRON ENERGY INTERVALS 0.25 MEV. NO ACTIVE WORK.	66
76.	98 (900)	N	DIFF INELAST energy,angle Withdrawn		1.4+7	5	3	NAR ---	BUTLER SPOT VALUES UP TO 14MEV.AIR SCATTERING CALCULATIONS. SEE WASH 1056 XI-C (3/65)--ALSO BUCHER WASH 1068,129 (3/66)	
77.	99 (91)	N	DIFF INELAST energy,angle No more in RENDA 70	8. +6	1.5+7	10	1	DOD LAS	BIGGERS DESIRED INCIDENT RESOLUTION 0.25 MEV,EXIT ENERGY RESOLUTION 0.25 MEV.INCIDENT ENERGY INTERVALS 0.25 MEV.ANGULAR RESOLUTION 5/ FROM 0-30/ AND 10/ FROM 30-180/ THE 14 MEV POINT CAN BE OMITTED. ANGULAR DISTRIBUTION IF SIGNIFICANTLY ANISOTROPIC.LASL(BIGGERS)DESIRES TOTAL EMISSION CROSS-SECTION.NO ACTIVE WORK.	66

No.	Ref (Reg)	Nuclide	Quantity	Energy(EV) Min	Max	(%) Accuracy	P	Lab	Requestor, Comments	Year
78.	100 (92)	N	DISAPPEARANC	2. +6	8. +6	5	1	LAS	DIGGERS INCIDENT RESOLUTION AND INTERVAL 0.25 MEV OR BETTER,AS NEEDED TO GIVE 5% ACCURACY.LASL CONFLICTING DATA AVAILABLE FOR PARTIALS.	66
79.	101 (93)	N	DISAPPEARANC	8. +6	1.5+7	10	1	DOD	DESIRED INCIDENT RESOLUTION 0.25 MEV,INCIDENT INTERVALS SHOULD BE 0.25 MEV.NO ACTIVE WORK.	66
80.	102 (94)	N	N,ALPHA No more in RENDA 70	8. +6	1.5+7	10	1	DOD	INCIDENT ENERGY RESOLUTION SHOULD BE 0.25 MEV. INCIDENT ENERGY INTERVALS 0.25 MEV.ALSO SECONDARY GAMMA-RAY SPECTRUM IS DESIRED WITH A RESOLUTION OF 100 KEV.OMIT 14 MEV POINT.NO ACTIVE WORK.	66
81.	103 (95*)	O	TOTAL XSECT No more in RENDA 70	1. +3	3. +5	5	3	WIN	[illegible] FOR FAST REACTORS REQUIREMENT NET-HOOKING. NUC.PHYS.82,16 (1966)	
82.	105 (96)	O	DIFF ELASTIC	1.7+6	3.1+6	10	2	KFK	SCHMIDT AVAILABLE MEASUREMENTS DO NOT SUFFICIENTLY ACCOUNT FOR RAPID VARIATION OF DIFF ELAST XSECT THROUGH RESONANCES. MEASUREMENTS DESIRED IN ENERGY STEPS OF 20 KEV AND ANGLE STEPS BETWEEN 5 / AND 10 /.	
83.	106 (97)	O	DIFF ELASTIC	4. +6	1.6+7	4	1	ORL NDT	BAIRNSCHEIN ERROR PERTAINS TO(1-COS),ENERGY RESOLUTION SHOULD BE 0.5 MEV,ANGULAR RESOLUTION 2.5/ FROM 0-20/ AND 5/ FROM 20-180/.FOR SHIELDING CALCULATIONS.COL(SAYRES)HAS DATA BELOW 5 MEV.USE OPTICAL MODEL ABOVE 5 MEV.	66
84.	107 (98)	O	DIFF ELASTIC	4. +6	1.6+7	<20	1	COL LAS	GOLDSTEIN DIGGERS ACCURACY 10% DESIRABLE 20% ERROR IN AVERAGE OF(1-COS) WANTED.ANGULAR RESOLUTION 2.5/ FROM 0-20/,5/ FROM 20-180/, ENERGY RESOLUTION 0.5 MEV.OMIT 14.0 MEV ENERGY. WANTED FOR SHIELDING.LASL(DIGGERS)WANTS 5% ACCURACY IN INTEGRATED CROSS-SECTION.COL(SAYRES) HAS DATA BELOW 5.0 MEV.USE OPTICAL MODEL ABOVE 5 MEV.HANDC PRIOR.2FOR RANGE 2-14 MEV.	62
85.	108 (99)	O	DIFF ELASTIC	4.7+6	1.4+7	10	2	KFK	SCHMIDT ONLY FEW MEASUREMENT POINTS AVAILABLE. MEASUREMENTS DESIRED IN ENERGY STEPS INCREASING FROM 30 KEV TO 100 KEV AND ANG RESOL BETWEEN 5 / AND 10 /.	
86.	109 (100)	O	DIFF ELASTIC	8. +6	1.4+7	10	2	FOA	SETTERSTROM SHIELDING	
87.	110 (101)	O	DIFF ELASTIC No more in RENDA 70	1. +7	1.5+7	10	1	DOD	INCIDENT NEUTRON ENERGY INTERVALS 1 MEV,(OMIT 14 MEV),INCIDENT RESOLUTION 0.25 MEV,ANGLE RESOLUTION 5/ FOR 0-30/,10/ FOR 30-180/.USE OPTICAL MODEL ABOVE 5 MEV.	66
88.	111 (102)	O	EMISS XSECT (energy)	8. +6	1.4+7	10	2	FOA	SETTERSTROM SHIELDING	
89.	112 (103)	O	EMISS XSECT energy,angle	6. +6	1.0+7	<20	2	FAR	RASTOIN ACCURACY ON AVE (1 - COS); 10% DESIRED	
90.	113 (104)	O	EMISS XSECT energy,angle	1.0+7	1.6+7	<20	1	FAR	RASTOIN 0.5 MEV ENERGY RESOL;ANGLE STEPS < 10 / IF SIGNIF. ANISOTROPY.	
91.	114 (105)	O	NONEL GAMMAS energy dist No more in RENDA 70	+0	1.0+7	20	1	NDT KAP ORL	EHRLICH BAIRNSCHEIN GAMMA RESOLUTION 20%.MEASUREMENTS WANTED AT 1 MV, AND 1 AND 10 MEV,FOR SHIELDING.NEUTRON RESOLUTION 20%,WATER IS SAMPLE STUDIED.NO ACTIVE WORK.	
92.	115 (106)	O	NONEL GAMMAS energy,angle	4. +6	1.6+7	<20	2	FAR	RASTOIN ACCURACY 10% DESIRED. 1 MEV ENERGY RESOL FOR NEUTRON 0.5 MEV FOR GAMMA ANGULAR DISTRIBUTION ONLY IF SIGNIFICANT ANISOTROPY.	
93.	116 (107)	O	NONEL GAMMAS energy,angle No more in RENDA 70	1. +7	1.5+7	10	1	DOD	INCIDENT ENERGY INTERVALS 0.25 MEV,INCIDENT ENERGY RESOLUTION BETTER THAN 0.25 MEV,ANGULAR RESOLUTION 5/ FOR 0-30/,10/ FOR 30-180/. LASL(HOPKINS)HAS WORK IN PROGRESS 4-7.5 MEV.1966	62

No.	Ref (Reg)	Nuclide	Quantity	Energy(EV) Min	Max	(%) Accuracy	P	Lab	Requestor, Comments	Year
94.	117 (108)	O	DIFF INELAST energy,angle No more in RENDA 70	1. +7	1.5+7	10	1	DOD	DESIRED INCIDENT AND EXIT ENERGY RESOLUTION 0.25 MEV,ANGULAR RESOLUTION 5/ FROM (~30/ AND 10/ FROM 30-180/,OMIT THE 14 MEV POINT.INCIDENT ENERGY INTERVALS OF 0.25 MEV DESIRED.NO ACTIVE WORK.	66
95.	118 (109)	O	DISAPPEARANC No more in RENDA 70	2. +6	1.5+7	10	1	DOD LAS	HIGGINS DESIRED INCIDENT ENERGY RANGE 2.25-5 AND 8.5-15 MEV,(OMIT 14 MEV),INCIDENT ENERGY INTERVALS 0.25 MEV,RESOLUTION 0.25 MEV.NO ACTIVE WORK.	66
96.	119 (110)	O	DISAPPEARANC No more in RENDA 70	2. +6	1.6+7	10	3	NBS	CASWELL INCIDENT ENERGY RESOLUTION SHOULD BE 0.25 MEV OR BETTER.DASA INTERESTED IN RANGE 2.25-5 AND 8.5-15 MEV.OMIT 14 MEV POINT.NO ACTIVE WORK.	62
97.	120 (111-)	O	N,ALPHA Withdrawn	7.3+6	1.1+7	20	3	HAR WIN ---	WRIGHT CAMPBELL RADIATION DAMAGE CALCULATIONS WITHDRAWN	
98.	121 (112)	O	N,ALPHA No more in RENDA 70	8. +6	1.3+7		2	NDT KAP	EHRLICH 25 KEV RESOLUTION AND 10 MB ACCURACY BELOW 10 MEV;RESOLUTION 0.5 MEV ABOVE 10 MEV AND 30 MB ACCURACY.NEEDED TO DETERMINE ELASTICS BY SUBTRACTION OF NONELASTIC FROM TOTAL.RECENT VALUES IN 5-9 MEV REGION DIFFER FROM PREDICTIONS. NO ACTIVE WORK.	66
99.	122 (113)	O	N,ALPHA	8.8+6	1.1+7	10	2	FAR	RASTOIN FOR DAMAGE CALCULATIONS.	
100.	123 (114)	O	DEUTERON,N	TR	1.0+7	10	2	RUB	BRENRINGER PRODUCTION OF F-17 IN D20 REACTORS. MEASUREMENT PLANNED IN SUMMER	
101.	124 (115)	17O	N,GAMMA	THR			2	CRC	HANNA ACCURACY 0.2 B FOR UNDERSTANDING ABSORPTION IN D20.	
102.	125 (116)	17O	ALPHA,N	TR	7.6+6	20	2	NDT KAP	EHRLICH ALPHA-N CROSS SECTION.ALPHA RESOLUTION 0.1 MEV WANTED FROM THRESHOLD TO 7 MEV,NEEDED FOR CALCULATION OF NEUTRON SOURCE STRENGTHS. NO ACTIVE WORK	66
103.	126 (117)	18O	ALPHA,N	TR	7. +6	10	3	NDT BNT	HAYARD ALPHA-N CROSS SECTION.ALPHA RESOLUTION 0.2 MEV. TO RESOLVE DISCREPANCIES BETWEEN ALPHA-N AND NEUTRON YIELD DATA.NO ACTIVE WORK	66
104.	135 (127)	Na	RESON PARAMS	+0	5. +3	10	1	ANL	AVERY RESONANCE PARAMETERS PARTICULARLY FOR 3 KEV RES. FOR FAST REACTOR CALCULATIONS,GAMMA-N AND GAMMA-GAMMA WANTED.HAR(MOXON)IAEA PARIS CONF 1966 RPI(BLOCK)IAEA PARIS CONF 1966	62
105.	136 (129)	Na	DIFF ELASTIC	2.2+6	1.0+7	<10	2	KFK CAD	SCHMIDT RAVIER TOWLE AND GILBOY (NUCL. PHYS. 32,610,1962) MEASURED AT 4 ENERGIES BETWEEN 1 AND 4 MEV. BECAUSE OF RESONANCE FLUCTUATIONS IN TOT XSECT, FLUCTUATIONS IN DIFF ELAST XSECT EXPECTED. THEREFORE, MORE EXPERIMENTAL DATA NEEDED. SEPARATION OF ELASTIC AND INELASTIC SCATTERING ANGULAR DEPENDENCES DESIRED. NO MEASUREMENTS BETWEEN 4 AND 10 MEV. ENERGY RESOLUTION 100 KEV TO SEVERAL 100 KEV;ANGLE STEPS 5 / - 10 /	

No.	Ref (Reg)	Nuclide	Quantity	Energy(EV) Min	Max	(%) Accuracy	P	Lab	Requestor, Comments	Year
106.	138 (131)	Na	NONEL GAMMAS energy,angle No more in RENDA 70	1. +6	1.4+7	<20	3	LAS	BIGGERS ACCURACY 10%,OR AT LEAST 20% THC PLANS WORK.	66
107.	139 (132)	Na	TOT INELASTC	4. +6	1.5+7	10	2	KFK CAD	SCHMIDT RAVIER NO MEASUREMENTS AVAILABLE. GEL WILL MEASURE SOME POINTS.	
108.	140 (133)	Na	DIFF INELAST energy dist	2. +6	1.4+7	10	2	BDT AI	ALTER NEEDED FOR FAST BREEDER CALCULATIONS.INCIDENT AND EXIT ENERGY RESOLUTION 10%.NO ACTIVE WORK. EANDC PRIORITY 1.ALD (TOWLE) HAS PUBLISHED DATA AT SOME ENERGIES,1966.	62
109.	141 (134)	Na	DIFF INELAST	4. +6	1.0+7	10	2	BOL JUL	PIERANTONI GERVIS TOWLE AND GILBOY, AERE, HAVE MEASURED AT 7 MEV (EANDC (UK) 34 "L", 1964). NO ACTION IN EURATOM COMMUNITY. PADUA WILL MEASURE SOME POINTS IN THE INTERVAL 4 - 6 MEV.	
110.	142 (137)	Na	N,GAMMA	THR		1	3	AMS	ATEN FOR CALIBRATION OF NEUTRON SOURCES; CF. P.W.F. LOUWRIER, THESIS, UNIV. OF AMSTERDAM, 1966.	
111.	143 (125#)	^{23}Na	TOTAL XSECT Withdrawn	4.0+4	1. +6		2	WIN --- HAR	CAMPBELL WITH HIGH RESOLUTION RESONANCE STRUCTURE. FOR FAST REACTORS LANGSFORD PR/NP12,37 (8/67--SEE NEAL IN WASH1071,5 (B,66)--ALSO RIBON 66PARIS I,119 (0/66)--AND MOXON 66PARIS I,129 (0/66)	
112.	144 (126-)	^{23}Na	TOTAL XSECT Withdrawn	4. +5	1. +6	7	2	WIN ---	SMITH FOR FAST REACTORS WITHDRAWN-SEE SCHMIDT KFK 120	
113.	145 (128-)	^{23}Na	DIFF ELASTIC Withdrawn	4. +5	1. +6	20	2	WIN ---	SMITH FOR FAST REACTORS. WITHDRAWN-SEE SCHMIDT KFK 120	
114.	146 (130#)	^{23}Na	DIFF ELASTIC	4. +6	1.0+7	10	2	HAR WIN --- ALD	BUTLER CAMPBELL SPOT VALUES.FOR FAST REACTOR SHIELDING. TOWLE IN PROGRESS--SEE AGEE LA-3538-MS VI (9/66)	
115.	147 (135#)	^{23}Na	DIFF INELAST energy dist	4. +6	1.0+7	5	2	HAR --- ALD	BUTLER SPOT VALUES.FOR REACTOR SHIELDING. TOWLE IN PROGRESS	
116.	148 (136#)	^{23}Na	DIFF INELAST energy,angle Withdrawn	4. +6	1.0+7	10	2	WIN --- ALD	CAMPBELL SPOT VALUES.FOR FAST REACTORS. TOWLE IN PROGRESS--SEE BUNDSCHUH RP 73,54 (N/65)--ALSO TOWLE NP A100,257 (7/67)	
117.	149 (140)	^{23}Na	N,GAMMA (res. param)	1.0+2	1.0+4	10	1	JUL KFK BN CAD	GRAVIR KUCHLE TAVERNIER RAVIER RESON PARAMS GAMMA-N GAMMA GAMMA AND J AT 2.8 KEV NEEDED FOR INTERMEDIATE AND FAST REACTORS AND FOR ACTIVATION DETECTORS. MEASUREMENTS BETWEEN 10 AND 140 KEV AT CEA CADARACHE (EANDC (E) 57 U, P. 123). BLOCK ET AL. (IAEA PARIS CONF., 1966, PAPER CN-23/126) MEASURED IN THE RANGE 100 EV 200 KEV WITH 10-20% ACCURACY. ALSO MEASUREMENTS AVAILABLE FROM MOXON (IAEA PARIS CONF. 66).	
118.	150 (138#)	^{23}Na	N,GAMMA	1.0+2	1.0+4	10	1	WIN ---	CAMPBELL FOR FAST REACTORS. SEE MOXON 66PARIS I,129 (0/66),FURTHER WORK IN PROGRESS--ALSO BLOCK NAP 12,512DE14(4/67)--AND HOCKENBURY WASH 1074,97 (4/67)	
119.	151 (141-)	^{24}Mg	N,PROTON ratio xsect No more in RENDA 70	TR	8. +6	1	2	HAR ---	BUTLER RELATIVE TO 32S(N,P).DETECTOR APPLICATIONS. WITHDRAWN. PASQUARELLI (POLITECHNICO DI TORINO) HAS MEASURED AT 14.7+- 0.1MEV BY ABSOLUTE METHODS WITH HIGH ACCURACY 182+- 5MB (NUCL.PHYS.93,218(1967))	

No.	Ref (Reg)	Nuclide	Quantity	Energy(EV) Min	Max	(%) Accuracy	F	Lab	Requestor, Comments	Year
120.	152 (141B)	24Mg	N,PROTON No more in RENDA 70	TR	8. +6		2	HAR --- TUR	BUTLER, ACCURACY 1% RELATIVE TO 32S(N,P). DETECTOR APPLICATIONS BUTLER AND SANTRY, CAN. J. PHYS. 41 372 (1963) PASQUARELLI(POLITECHNICO DI TORINO) HAS MEASURED AT 14.7+-0.1MEV BY ABSOLUTE METHODS WITH HIGH ACCURACY 182+-5MB (NP93,218(1967).	
121.	154 (142)	AL	RESON PARAMS	5. +3	3.5+4	10	2	RDT KAP	EHRLICH GAMMA-GAMMA DESIRED FOR RESONANCES AT 5.9 AND 35 KEV,DESIRED ERROR IS IN GAMMA-GAMMA.WANTED TO EXPLAIN DISCREPANCY BETWEEN MEASURED AND CALCULATED REACTIVITY.GAMMA-N ALSO WANTED. NO ACTIVE WORK.	66
122.	155 (143B)	AL	DIFF ELASTIC	5. +6	1.6+7	<20	2	DOD LAS	BIGGERS ENERGY RESOLUTION OF 0.25 MEV OR BETTER WANTED, ANGULAR RESOLUTION 5/ FROM 0-30/ AND 10/ FROM 30-180/.INCIDENT ENERGY INTERVALS OF 0.25 MEV DESIRED.LAS(BIGGERS) WANTS 5% IN INTEGRATED XSECT PROBABLY SATISFIELD UP TO 8-10MEV	66
123.	156 (144)	AL	EMISS XSECT energy,angle	9. +5	1.6+7	<20	2	FAR	MASTOIN 10% ACCURACY DESIRED.0.5 MEV RESOLUTION IN ENERGY ANGULAR DISTRIBUTION NEEDED IF SIGNIFICANT ANISOTROPY.	
124.	159 (145)	AL	NONEL GAMMAS (energy) No more in RENDA 70	1.5+2	1.5+7	<40	2	LAS	BENNETT ABSOLUTE ACCURACY 30-40% ABSOLUTE CROSS SECTION REQUIRED.ENERGY SPECTRUM OF ALL GAMMAS NEEDED INCLUDING SOFT GAMMAS, MEASUREMENT AT ONE ANGLE ACCEPTABLE WITH 30-40% ERROR ON INTEGRAL VALUE,(55/ PREFERRED).UPPER LIMIT SUFFICIENT IF EQUAL TO OR LESS THAN 10 MICRO-BARNS/(SR-MEV)OR EQUIVALENT.NEUTRON ENERGY RESOLUTION--FROM 150 EV TO 5 MEV-10% FROM 5 TO 15 MEV-0.5 TO 1.0 MEV.GAMMA ENERGY RESOLUTION--FROM 50 KEV TO 5 MEV-10% FROM 5 TO 15 MEV-0.5 TO 1.0 MEV.LAS(DRAKE AND HOPKINS)WORK IN PROGRESS 4-7.5 MEV 1966	66
125.	160 (146)	AL	NONEL GAMMAS energy,angle	1. +6	1.6+7	10	1	DOD GDT LAS	KIDD BIGGERS INCIDENT AND EXIT ENERGY RESOLUTION SHOULD BE 0.25 MEV,INCIDENT ENERGY INTERVALS 0.25 MEV, ANGULAR RESOLUTION 5/ FROM 0-30/ AND 10/ FROM 30-180/.KIDD WANTS DATA ONLY ABOVE 4 MEV.NEFEDOV, SOV.PROG.IN NEUT.PHY.,241 1961,TNC HAVE SOME DATA.1966.SEE PROC.OF ANTWERP NEUTRON CONF.1965. LASL(HOPKINS)WORKING AT 4-7.5 MEV.1966	63
126.	161 (147)	AL	NONEL GAMMAS energy,angle	4. +6	1.6+7	<20	2	FAR	MASTOIN 10% ACCURACY DESIRED 1 MEV RESOLUTION IN ENERGY 0.5 MEV RESOLUTION IN GAMMA ENERGY ANGULAR DISTRIBUTION NEEDED IF SIGNIFICANT ANISOTROPY.	
127.	162 (148)	AL	DIFF INELAST energy,angle No more in RENDA 70	1. +6	1.6+7	10	1	DOD GDT LAS	KIDD BIGGERS INCIDENT NEUTRON INTERVALS 0.25 MEV,INCIDENT AND EXIT ENERGY RESOLUTION 0.25 MEV,ANGULAR RESOLUTION 5/ FOR 0-30/,10/ FOR 30-180/.ANGULAR DISTRIBUTION DESIRED IF SIGNIFICANTLY ANISOTROPIC.KIDD HAS INTEREST ABOVE 4 MEV. LASL(BIGGERS)WANTS TOTAL NEUTRON EMISSION. ANL(SMITH)HAS DATA TO 1.5 MEV.	66

No.	Ref (Reg)	Nuclide	Quantity	Energy(EV) Min	Energy(EV) Max	(%) Accuracy	P	Lab	Requestor, Comments	Year
128.	163 (149)	Al	DIFF INELAST energy,angle No more in RENDA 70	4. +6	1.4+7	10	2	BET KAP	EHRLICH INCIDENT AND EXIT ENERGY RESOLUTIONS OF 10%. DATA NEEDED TO EXPLAIN DISCREPANCIES BETWEEN CALCULATIONS AND MEASUREMENTS ON CRITICAL ASSEMBLIES CONTAINING AL AND ALSO TO EXPLAIN AL-H2O AGES;EXCITATION CROSS SECTIONS DESIRED FOR CHECK ON LEVEL MEASUREMENTS.EANDC PRIOR,2,DATA AT ANTWERP CONF.1965.	62
129.	164 (152-)	Al	N,ALPHA ratio xsect No more in RENDA 70	TR	1.4+7	1	2	HAR ---	BUTLER RELATIVE TO 32S(N,P) SHIELDING DETECTOR APPLICATIONS WITHDRAWN. HEMINGWAY ET AL. (UNIVERSITY OF DURHAM) HAVE MEASURED ABSOLUTELY AT 13.5+- 0.1MEV(118+-6MB) AND DETERMINED A RELATIVE EXCITATION FUNCTION BETWEEN 13.5 AND 14.8MEV. A FURTHER ABSOLUTE DETERMINATION AT 14.6+-0.15MEV WITH VERY HIGH OVERALL ACCURACY (106+-2.3MB) WAS REPORTED BY AVON ET AL. ATOMN. ENERG. 16,370 (1964)	
130.	165 (1520)	Al	N,ALPHA No more in RENDA 70	TR	1.4+7		2	HAR --- DUR	BUTLER, J. ACCURACY 1% REL. TO 32S(N,P). SHIELDING, DETECTOR APPLICATIONS - SEE LISKIEN AND PAULSEN EUR 119 E (1963). HEMMINGWAY ET AL.(UNIVERSITY OF DURHAM) HAVE MEASURED ABSOLUTELY AT 13.5+-0.1MEV(118+-6MB) AND DETERMINED A RELATIVE EXCITATION FUNCTION BETWEEN 13.5 AND 14.8MEV A FURTHER ABSOLUTE DETERMINATION AT 14.6+-0.15MEV WITH VERY HIGH OVERALL ACCURACY (106+-2.3MB) WAS REPORTED BY AVON ET AL. ATOMN.ENERG.16,370(1964).	
131.	166 (153)	^{27}Al	RESON PARAMS	5.9+3	3.5+4	10	1	KFK	KUCHLE RESON PARAMS GAMMA GAMMA AND J AT 5.9 KEV GAMMA GAMMA AT 35 KEV KFK IS CONTEMPLATING MEASUREMENTS.	
132.	167 (1500)	^{27}Al	DIFF INELAST energy,angle Withdrawn	4. +6	1.0+7	10	2	WIN --- HAR	CAMPBELL SPOT VALUES.FOR FAST REACTORS. CURRIE DATA AT 6MEV AERE/R5618,ALSO EANDC(UK) 90AL SEE PERRY NAP 12,512 DN12 (4/67)--ALSO TOWLE NP A100, 257 (/67)	
133.	168 (1510)	^{27}Al	N,GAMMA Withdrawn	1.0+2	1.0+4	20	2	WIN --- HAR	CAMPBELL FOR FAST REACTORS. MOXON MEASUREMENTS COMPLETE,ANALYSIS IN PROGRESS--SEE BLOCK NAP 12,512 DN14 (4/67)--AND ROCKENBURY WASH 1074,97 (4/67)	
134.	169 (1540)	^{27}Al	N,PROTON	TR	8. +6	4	2	DGB	THRESHOLD DETECTOR. CALVI ET AL. (NUCL. PHYS. 39, 621,1962) MEASURED TO +OR- 10% RELAT. TO THE ABSOL. MEAS. OF GRUNDL ET AL. (PHYS. REV. 109,425,1958), WHICH HAVE 15% ACCURACY.	
135.	170 (1550)	^{27}Al	N,PROTON	TR	1.5+7	10	2	WUR --- BOS	BERNINGER FAST FLUX MEASUREMENTS.MITRA AND BOSE(BOSE INSTITUTE, CALCUTTA) HAVE REMEASURED THIS XSECTION AT 14.8+-0.1 MEV. WITH SPECIAL ATTENTION TO THE INVOLVED UNCERTAINTIES (97+-10MB,NP83,157(1966).	
136.	171 (1560)	^{27}Al	N,PROTON	8. +6	1.4+7	8	2	DGB	THRESHOLD DETECTOR. CALVI ET AL. (NUCL. PHYS. 39, 621,1962) MEASURED TO +OR- 10% RELAT. TO THE ABSOL. MEAS. OF GRUNDL ET AL. (PHYS. REV. 109,425,1958), WHICH HAVE 15% ACCURACY. BORASSOLA ET AL. (NUCL. PHYS. 51,337,1957) MEASURED ABSOL. AT 14 MEV.	
137.	172 (158)	Si	DIFF ELASTIC No more in RENDA 70	1. +6	1.6+7	<20	1	DOD LAS	BIGGERS ACCURACY 10-20% ENERGY RESOLUTION 0.2 MEV OR LESS,INCIDENT INTERVALS 0.25 MEV,ANGULAR RESOLUTION 5/ FOR 0-30/,10/ FOR 30-180/.LASL(BIGGERS) WANTS 5% IN INTEGRATED CROSS-SECTION.ABOVE 5 MEV USE OPTICAL MODEL.ORL(DICKENS)WILL MEASURE AT 5 MEV 1965. LASL(HOPKINS)WORKING AT 4-7.5 MEV,1966.ANL(LANE ET AL.)HAVE TOTAL SCAT.DATA TO 2.3 MEV. SEE COPPOLA,ANTWERP CONFERENCE.1965 EANDC PRIOR 2	62

No. Ref Nuclide Energy(EV) (%) P Lab Requestor, Comments Year
(Reg) Quantity Min Max Accuracy

138. 173 (157-) Si DIFF ELASTIC 1. +6 4. +6 10 2 HAR BUTLER
--- SHIELDING.
WITHDRAWN.
No more in RENDA 70

139. 174 (159) Si DIFF ELASTIC (averaged) 2. +6 1.6+7 <20 2 FAR RASTOIN
(1 - COS) AND XSECT NEEDED; 1 MEV RESOL. IN ENERGY

140. 175 (160) Si NONEL GAMMAS energy,angle 1. +6 3. +6 <20 2 FAR RASTOIN
10% ACCURACY DESIRED,
0.5 MEV ENERGY RESOL FOR N AND GAMMA
ANGULAR DISTRIBUTION NEEDED IF SIGNIFICANT
ANISOTROPY.

141. 176 (161) Si NONEL GAMMAS energy,angle 3. +6 1.6+7 10 1 DOD 62
LAS BIGGERS
ACCURACY 10%,20% AT WORST
INCIDENT AND EXIT ENERGY RESOLUTION SHOULD BE
0.25 MEV.INCIDENT INTERVALS 0.25 MEV.ANGULAR
RESOLUTION 5/ FROM 0-30/ AND 10/ FROM 30-180/.
TNC IS WORKING ON THIS BELOW 5 MEV.1966
LASL(HOPKINS AND DRAKE)WORKING AT 4-7.5 MEV.1966
No more in RENDA 70

142. 177 (162) Si NONEL GAMMAS energy,angle 5. +6 1.6+7 <20 2 FAR RASTOIN
10% ACCURACY DESIRED
0.5 MEV ENERGY RESOL.ANGULAR DISTRIBUTION
NEEDED IF SIGNIFICANT ANISOTROPY.

143. 178 (163*) Si TOT INELASTC 2. +6 1.4+7 10 2 HAR BUTLER
--- SHIELDING.
REQUIREMENT MET.-COPPOLA
No more in RENDA 70

144. 179 (165) Si DIFF INELAST energy,angle 2. +6 1.4+7 5 1 RDT 66
ORL MAIENSCHEIN
ERROR IS IN TOTAL INELASTIC.INDIVIDUAL EXCITATION
CROSS-SECTIONS SHOULD BE GIVEN TO 20%.NEEDED FOR
SHIELDING CALCULATIONS.DUKE(LEWIS) 1962.GEEL HAS
SOME LOW ENERGY RESULTS.1966.LASL(HOPKINS) WORKING
4-7.5 MEV,1966.EANDC PRIOR 2.
No more in RENDA 70

145. 180 (167) Si TOTAL XSECT 4. +6 1.6+7 5 2 LAS BIGGERS 66
INCIDENT ENERGY RESOLUTION AND INTERVAL 0.25 MEV
OR BETTER AS REQUIRED TO GIVE 5% ACCURACY.
CONFLICTING DATA ON PARTIAL X-SECTIONS.
No more in RENDA 70

146. 181 (1153*) Si DIFF INELAST energy dist 2.5+6 1.4+7 20 2 HAR BUTLER
--- SHIELDING
RELAXED ACCURACY REQUIREMENT MET-CURRIE-AERE/R5618
ALD AWRE-TOWLE IN PROGRESS AT 7MEV.
No more in RENDA 70

147. 182 (164#) Si DIFF INELAST energy dist 4. +6 1.0+7 5 2 HAR BUTLER
--- SHIELDING
HAR CURRIE DATA AT 6MEV AERE/R5618
ALD TOWLE IN PROGRESS AT 7MEV. SEE HOPKINS WASH1074,72
(4/67),ALSO COPPOLA EANDC(E) 76(1/67) AND BIGGERSTAFF
WASH1071,150(8/66)
Withdrawn

148. 183 (166#) Si DIFF INELAST energy,angle 5. +6 1.6+7 10 1 DOD 62
LAS BIGGERS
INCIDENT ENERGY INTERVALS 0.25 MEV.ENERGY
RESOLUTION INCIDENT AND EXIT SHOULD BE 0.25 MEV.
--- ANGULAR RESOLUTION 5/ FROM 0-30/ AND 10/ FROM
DKE 30-180/.DUKE(LEWIS)WILL LOOK AT THIS 1962.
EANDC PRIOR 2. RECENT WORK(ORNL,LASL,BCMN) SHOULD
MEET REQUEST BELOW 10MEV.
No more in RENDA 70

149. 184 (168#) Si N,PROTON TR 1.5+7 10 2 EUR
SURFACE BARRIER COUNTERS
BASS ET AL.(FRANCKFURT UNIVERSITY) HAVE MEASURED
BETWEEN 6 AND 9MEV IN STEPS OF 25KEV WITH +-15%
ACCURACY.PASQUARELLI (POLITECNICO DI TORINO) HAS
MEASURED AT 14.7+-0.1MEV BY ABSOLUTE METHODS
222+-12MB (NUCL.PHYS.93,218(1967)).MITRA AND
GHOSE (BOSE INSTITUT, CALCUTTA) HAVE MEASURED
THIS CROSS-SECTION AT 14.8+-0.1MEV WITH SPECIAL
ATTENTION TO THE INVOLVED UNCERTAINTIES
(222+-12MB, NUCL.PHYS.83,157 (1966)).

150. 185 (169#) Si N,ALPHA TR 1.5+7 10 2 EUR BERRINGER
ANDERSSON-LINDSTROM (THESIS HAMBURG UNIVERSITY 1964)
HAS MEASURED BETWEEN 5.2 AND 9MEV WITH+-20% ACCURACY

No.	Ref (Reg)	Nuclide	Quantity	Energy(EV) Min	Max	(%) Accuracy	P	Lab	Requestor, Comments	Year
151.	197 (181)	Cl	NONEL GAMMAS energy dist No more in RENDA 70	5. +6	1.4+7	10	3	LAS	BIGGERS LOW ENERGY REQUIRED IF CONTRIBUTION TO SPECTRUM IS LARGE NO ACTIVE WORK.	66
152.	198 (182*)	Cl	N,PROTON	1.0+4	2. +6	10	3	WIN	CAMPBELL FOR FAST REACTORS.NOTE REDUCED PRIORITY	
153.	203 (186)	Ca	TOTAL XSECT No more in RENDA 70	1. +0	1.0+4	5	2	FAR	RASTOIN	
154.	204 (187)	Ca	TOTAL XSECT	6. +5	3. +6	3	2	RDT ORL	MAIENSCHEIN FOR SHIELDING CALCULATIONS.DESIRED ENERGY RESOLUTION 10%.DUKE(WILENZICK)WASH-1029 UP TO 1 MEV.	62
155.	205 (188*)	Ca	DIFF ELASTIC	1. +6	1.4+7	10	2	FAR	RASTOIN PROBABLY SATISFIED UP TO 6MEV	
156.	206 (189)	Ca	DIFF ELASTIC (averaged) No more in RENDA 70	6. +6	1.6+7	<20	2	FAR	RASTOIN 10% ACCURACY DESIRED AVE (1 - COS) AND XSECT NEEDED ENERGY RESOLUTION 1 MEV.	
157.	207 (190)	Ca	EMISS XSECT energy,angle No more in RENDA 70	3. +6	1.6+7	<20	1	RDT ORL	MAIENSCHEIN ACCURACY 10-20%NEEDED FOR SHIELDING.INTEGRATED VALUES USEFUL IF ANGULAR DISTRIBUTION NOT HIGHLY ANISOTROPIC.INCIDENT AND EXIT ENERGY RESOLUTION 0.5 MEV.ANGULAR RESOLUTION 10%.AVERAGE OF (1-COS) WANTED.NBS(CASWELL)DOING AT 12-15 MEV,1962. NANDC PRIOR.2	62
158.	208 (191)	Ca	NONEL GAMMAS energy dist No more in RENDA 70	5. +6	1.4+7	10	3	LAS	BIGGERS LOW ENERGIES REQUIRED IF CONTRIBUTION TO SPECTRUM IS LARGE. NO ACTIVE WORK.	66
159.	209 (192)	Ca	NONEL GAMMAS energy,angle	3. +6	1.6+7	<20	2	FAR	RASTOIN 10% ACCURACY DESIRED FOR GAMMA ENERGIES HIGHER THAN 3.3 MEV. 0.5 MEV ENERGY RESOL FOR N AND GAMMA	
160.	210 (193-)	Ca	TOT INELASTC Withdrawn	1.0+7	1.4+7	10	2	HAR ---	BUTLER SHIELDING WITHDRAWN	
161.	211 (194*)	Ca	DIFF INELAST energy dist Withdrawn	4. +6	1.0+7	5	2	HAR ---	BUTLER SPOT VALUES IN ENERGY RANGE.FOR SHIELDING. SEE BIGGERSTAFF WASH1071,150(N/66)	
162.	239 (217*)	Cr	DIFF ELASTIC No more in RENDA 70	8. +5	3. +6	15	2	WIN ---	SMITH FOR FAST REACTORS REQUIREMENT MET. SIMPSON NSE 28,133(1967)	
163.	240 (218*)	Cr	DIFF ELASTIC	1.5+6	3. +6	15	2	KFK	SCHMIDT ABOUT 100 KEV ENERGY RESOL AND ABOUT 10 / ANG RESOL REQUIRED. SEE SIMPSON NSE 28,133 (1967) PROBABLY MEETING THE REQUEST	
164.	241 (219)	Cr	DIFF ELASTIC	3. +6	1.5+7	20	2	KFK FON	SCHMIDT RASTOIN ABOUT 500 KEV ENERGY RESOL AND ABOUT 10 / ANG RESOL REQUIRED.	
165.	242 (220)	Cr	NONELASTIC No more in RENDA 70	+0	1.4+7			AE	WEITMAN FOR FEASIBILITY STUDIES OF THERMONUCLEAR REACTORS.	
166.	243 (221)	Cr	NONEL GAMMAS energy,angle	+0	1.0+7	10	2	RDT BET	BAYARD ACCURACY IN GAMMA SPECTRUM. THE 10% ACCURACY IS REQUESTED IN 0.5 MEV GAMMA-RAY RESOLUTION INTERVALS.DATA NEEDED FOR SHIELDING CALCULATIONS,GAMMAS OF ALL ENERGIES OF INTEREST.NO ACTIVE WORK.	66

No.	Ref (Reg)	Nuclide	Quantity	Energy(EV) Min	Max	(%) Accuracy	P	Lab	Requestor, Comments	Year
167.	244 (223*)	Cr	DIFF INELAST energy,angle Withdrawn	TR	7. +6	10	2	WIN ---	SMITH FOR FAST REACTORS WITHDRAWN	
168.	245 (222*)	Cr	DIFF INELAST energy dist	TR	1.0+7	15	2	RDT CRV	SNYDER INCIDENT AND EXIT ENERGY RESOLUTION 15%.WANTED FROM THRESHOLD UP;FOR FAST REACTOR CALCULATIONS. RECENT DATA (AE) MAY SATISFY REQUEST.	66
169.	247 (224)	Cr	N,GAMMA (res. param)	1. +3	2.0+5	10	1	KFK CAD FAR	SCHMIDT RAVIER RASTOIN CR ISOTOPES PARTICULARLY 52CR, 53CR GAMMA GAMMA RES PARAMS ALSO WANTED IN VIEW OF LARGE DISCREPANCIES BETWEEN DIRECTLY MEASURED INFINITE GAMMA RES INT AND THOSE CALCULATED FROM DIFFERENTIAL GAMMA XSECT-MEASUREMENTS AND FOR CONFIRMATION OF KAPCHIGASHEV, POPOV'S (SAE 16,306,1964). RATHER INACCURATE RESULTS ADDITIONAL XSECT MEASUREMENTS AND GAMMA GAMMA RESON PARAM DETERMINATIONS FOR INDIVIDUAL RESONANCES DESIRED.	
170.	248 (225)	Cr	N,GAMMA (res. param)	1. +3	1.5+5	20	2	RDT ORL	MAIENSCHEIN ACCURACY 20% OR 5MB RESONANCE PARAMETERS NEEDED,ESPECIALLY GAMMA-GAMMA.INCIDENT RESOLUTION 20%.AVAILABLE INFORMATION UNSATISFACTORY.	65
171.	249 (226-)	Cr	N,GAMMA Withdrawn	4.0+4	2. +6	20	2	ANL ---	BUTLER STEEL ACTIVATION WITHDRAWN	
172.	254 (231)	52Cr	EMISS XSECT energy dist No more in RENDA 70	2. +6	1.4+7	10	2	FAR	RASTOIN 10% ENERGY RESOL	
173.	255 (232)	52Cr	NONEL GAMMAS energy,angle No more in RENDA 70	2. +6	1.4+7	10	2	FAR	RASTOIN FOR GAMMA ENERGIES HIGHER THAN 0.5 MEV 0.5 MEV (OR 10%) ENERGY RESOL FOR N AND GAMMA	
174.	256 (233)	52Cr	N,PROTON	TR	1.4+7	<20	2	KFK	SCHMIDT ACCURACY 10-20% DESIRED MAIN ABSORPTION PROCESS IN MEV RANGE. ONLY NP XSECT DATA OF KERN (NP 10,226,1959) AVAILABLE BETWEEN 12.3 AND 18.3 MEV. EXPERIMENTAL VERIFICATION OF EVAPORATION THEORY ESTIMATES OF RINGLE (UCRL-10732,1963) AND BUTTNER (NP 63,615,1965) DESIRED.	
175.	272 (249*)	Fe	TOTAL XSECT Withdrawn	5.0+4	3.0+5	3	2	WIN ---	CAMPBELL FOR FAST REACTORS. SEE ROHR 66PARIS I·137(0/66),ALSO BAPS 11,471 EC1(6/66) AND 66MOSCOW NSP (2/66)	
176.	274 (250*)	Fe	DIFF ELASTIC Withdrawn	5.0+4	3.0+5	20	2	WIN ---	CAMPBELL FOR FAST REACTORS. SEE SMITH BAP 12,107GD17(1/67)	
177.	275 (251)	Fe	DIFF ELASTIC Withdrawn	1.0+5	1. +6	10	2	CAD KFK --- ANL	RAVIER SCHMIDT 10 - 100 KEV ENERGY RESOL;5 / ~ 10 / ANG RESOL SMITH HAS MEASURED FROM 0.3 TO 1.5MEV.	
178.	276 (253*)	Fe	DIFF ELASTIC	8. +6	1.4+7	10	3	KFK --- ORL	SCHMIDT RATHER FEW DATA AVAILABLE, PARTICULARLY BETWEEN 4 AND 14 MEV. MEASUREMENTS DESIRED IN ENERGY STEPS INCREASING FROM 50 KEV TO SEVERAL 100 KEV AND ANGLE STEPS BETWEEN 5 / AND 10 /. ,LAS,JAE AND AE HAVE DATA UP TO 8MEV.	

No.	Ref (Reg)	Nuclide	Quantity	Energy(EV) Min	Max	Accuracy (%)	F	Lab	Requestor, Comments	Year
179.	277 (252)	Fe	DIFF ELASTIC	7. +6	1.6+7	10	1	DOD LAS	BIGGERS ENERGY RESOLUTION OF 0.25 MEV OR BETTER WANTED. INCIDENT ENERGY INTERVALS 0.25 MEV.ANGULAR RESOLUTION 5/ FROM 0-30/ AND 10/ FROM 30/-180/ LASL(BIGGERS)WANTS INTEGRATED CROSS-SECTION TO 5%.NO ACTIVE WORK.	66
180.	278 (254)	Fe	NNISS XSECT energy,angle	3. +6	1.6+7	<20	2	FAR	RASTOIN 1 MEV ENERGY RESOL, (PRIMARY AND SECONDARY) ; ACCURACY 10% DESIRED.	
181.	279 (255)	Fe	NNISS XSECT energy,angle No more in RENDA 70	3. +6	1.6+7	10	1	RDT ORL	MAIENSCHEIN INCIDENT AND EXIT RESOLUTION SHOULD BE 1 MEV. ERROR PERTAINS TO(1-COS).IF ANGULAR DISTRIBUTION IS NOT HIGHLY AN-ISOTROPIC INTEGRATED CROSS SECTION WILL DO.DATA NEEDED FOR SHIELDING.THC HAS SOME USEFUL GAMMA-RAY DATA.1966	62
182.	281 (256)	Fe	NONEL GAMMAS energy,angle	+0	1.0+7		1	RDT BET ORL	BAYARD MAIENSCHEIN DESIRED ACCURACY 10% IN GAMMA SPECTRUM.INCIDENT AND EXIT ENERGY RESOLUTION 0.5 MEV.NEEDED FOR SHIELDING CALCULATIONS.BET(BAYARD)WANTS MEASUREMENTS AT 1 EV,10 KEV,1 MEV AND 10 MEV WITH NEUTRON AND GAMMA ENERGY RESOLUTIONS OF 20% AND 20% IN CROSS-SECTION.ALL GAMMA ENERGIES ARE OF INTEREST.THC 1-5 AND 14 MEV COMPLETED.1966 LASL(HOPKINS)WORKING 4-7.5 MEV.1966	66
183.	282 (257)	Fe	NONEL GAMMAS energy,angle No more in RENDA 70	1.5+2	1.5+7	<40	1	LAS	BENNETT ACCURACY 30-40%.ABSOLUTE CROSS SECTION REQUIRED. ENERGY SPECTRUM OF ALL GAMMAS NEEDED INCLUDING SOFT GAMMAS,MEASUREMENT AT ONE ANGLE ACCEPTABLE WITH 30-40% ERROR ON INTEGRAL VALUE,(55/ PREFERRED) UPPER LIMIT SUFFICIENT IF EQUAL TO OR LESS THAN 10 MICRO-BARNS/(SR-MEV) OR EQUIVALENT.NEUTRON ENERGY RESOLUTION--FROM 150 EV TO 5 MEV-10%,FROM 5 TO 15 MEV-0.5 TO 1.0 MEV. GAMMA ENERGY RESOLUTION --FROM 50 KEV TO 5 MEV-10%,FROM 5 TO 15 MEV-0.5 TO 1.0 MEV.ALD DATA TO 8 MEV AT 90/ AND FOR GAMAS ABOVE 2.0 MEV.THC 1-5 MEV AND 14 MEV.LAS DRAKE AND HOPKINS WORKING 4-7.5 MEV.1966	66
184.	283 (258)	Fe	NONEL GAMMAS energy,angle	4. +6	1.6+7	<20	2	FAR	RASTOIN ACCURACY 10% DESIRED. 0.5 MEV ENERGY RESOL FOR N AND GAMMA ANGULAR DISTRIBUTION NEEDED IF SIGNIFICANT ANISOTROPY.	
185.	284 (259)	Fe	NONEL GAMMAS energy,angle	4. +6	1.6+7	10	1	DOD LAS	BIGGERS INCIDENT NEUTRON ENERGY INTERVALS 0.25 MEV. INCIDENT AND EXIT ENERGY RESOLUTION 0.25 MEV. ANGULAR RESOLUTION 5/ FOR 0-30/ AND 10/ FOR 30-180/.THC 1-5 AND 14 MEV COMPLETED.1966 LASL(HOPKINS)WORKING 4-7.5 MEV.1966	66
186.	285 (260)	Fe	NONEL GAMMAS energy,angle	4. +6	1.6+7	10	2	GDT	KIRD INCIDENT AND EXIT ENERGY RESOLUTION 0.5 MEV, ANGULAR RESOLUTION 10/.GAMMAS ABOVE 0.8 MEV ARE IMPORTANT.ANGULAR DISTRIBUTIONS ONLY IF SIGNIFICANTLY ANISOTROPIC.LASL(HOPKINS) WORKING 4-7.5 MEV.1966.THC 1-5 AND 14 MEV AVAILABLE.	65
187.	286 (262)	Fe	DIFF INELAST energy dist	+6	1.0+7	10	2	RDT GEV	SNYDER FROM THRESHOLD UP.INCIDENT AND EXIT ENERGY RESOLUTION 10%.FOR FAST BREEDER CALCULATIONS. ADL(TOWLE)HAS DATA AT SELECTED ENERGIES. LASL(HOPKINS)HAS DATA AT 55/,ONLY SOME ENERGIES.1966	66

No.	Ref (Reg)	Nuclide	Quantity	Energy(EV) Min	Max	(%) Accuracy	P	Lab	Requestor, Comments	Year
188.	287 (266)	Fe	DIFF INELAST energy,angle No more in RENDA 70	3. +6	1.6+7	10	1	DOD LAS	BIGGERS INCIDENT AND EXIT ENERGY RESOLUTION SHOULD BE 0.25 MEV,ANGULAR RESOLUTION 5/ FROM 0-30/ AND 10/ FROM 30-180/ INCIDENT ENERGY INTERVALS 0.25 MEV.ANGULAR DISTRIBUTIONS ONLY IF SIGNIFICANTLY ANISOTROPIC.LASL (BIGGERS) WANTS TOTAL EMISSION CROSS-SECTION.ALD (TOWLE) HAS SOME DATA AT SELECTED ENERGIES,1966.LASL (HOPKINS) HAS SOME DATA AT SELECTED ENERGIES AND 55/ ONLY,1966.	66
189.	288 (267)	Fe	DIFF INELAST energy,angle No more in RENDA 70	4. +6	1.6+7	10		GDT	KIDD RESOLUTION IN ENERGY 0.5 MEV,IN ANGLE 5-10/ ALD(TOWLE) HAS DATA AT SELECTED ENERGIES,1966. LASL (HOPKINS) HAS SOME DATA AT 55/,1966.	66
190.	289 (264*)	Fe	DIFF INELAST energy dist	4. +6	1.0+7	5	2	HAR --- HAR	BUTLER SPOT VALUES IN ENERGY RANGE.FOR SHIELDING. MARTIN PRELIMINARY DATA AVAILABLE AT 6MEV. SEE TOWLE NP A100,257(7/67),ALSO WILMERICK NP62,511 (2/65)	
191.	290 (265*)	Fe	DIFF INELAST energy,angle	TH	4. +6	2 5	2	WIN --- HAR	CAMPBELL FOR FAST REACTORS. THIS ACCURACY IS NOT READILY MET BY CURRENT METHODS,NOR BY INTEGRAL MEASUREMENTS. MARTIN PRELIMINARY DATA AVAILABLE AT 6MEV. SEE TOWLE NP A100,257(7/67),ALSO WILMERICK NP62,511 (2/65),AND BIGGERSTAFF WASH1071,150(N/66),AND MALISHEV NP 76,232(2/66)	
192.	291 (268*)	Fe	DIFF INELAST energy,angle Withdrawn	4. +6	7. +6	<10	2	WIN --- HAR	CAMPBELL ACCURACY 3-10%.FOR FAST REACTORS. MARTIN PRELIMINARY DATA AVAILABLE AT 6MEV. SEE TOWLE NP A100,257(7/67),ALSO WILMERICK NP62,511 (2/65),AND BIGGERSTAFF WASH1071,150(N/66),AND MALISHEV NP 76,232(2/66)	
193.	292 (263*)	Fe	DIFF INELAST energy dist	4. +6	1.0+7	20	2	CAD KFK ---	HAVIER SCHMIDT 100 KEV ENERGY RESOL FOR INCIDENT N AND 200 KEV FOR EMERGING N.MEASUREMENTS LIKE THOSE BY GILBOY AND TOWLE (NP 64,130,1965), JACQUOT AND ROUSSEAU (NP 84,239,1966), HOPKINS (WASH-1046,1964, P. 60), MONTAGUE AND PAUL (NP 30,93,1962) AND OTHERS. EXTENSIVELY DISCUSSED IN KFK 120/PART I,1966, SECTION V 3F.PROBABLY SATISFIED BY AVAILABLE DATA.	
194.	294 (269*)	Fe	N,GAMMA	1.0+2	1. +6	10	1	WIN --- HAR	CAMPBELL FOR FAST REACTORS.BOTH EXTENDED ENERGY RANGE. MOXON IN PROGRESS. SEE HOCKENBURY WASH1074,97(4/67),ALSO MACKLIN ORNL-P-2899(/66),AND MALISHEV JNE19,918(/65),AND BLOCK MAP 12,512DN14(4/67)	
195.	295 (270)	Fe	N,GAMMA	1. +3	1.0+5	10	1	CAD KFK	HAVIER SCHMIDT EXISTING DATA INCOHERENT UP TO 200%. STRONG DISAGREEMENTS IN THE 10 - 100 KEV ENERGY RANGE. R.C. BLOCK (R.C. BLOCK ET AL., CN 23/126, IAEA PARIS CONF. 1966, AND R.C. BLOCK, PRIVATE COM.) MEASURED NEW DATA IN THE 0.1 -200 KEV RANGE WITH 20% ACCURACY. R.L. MACKLIN AND J.H. GIBBONS (R.L. MACKLIN AND J.H. GIBBONS, PRIVATE COM.) MEASURED BETWEEN 125 AND 182 KEV WITH 25% ACCURACY. M.C. MOXON (M.C. MOXON, P 88, ANTWERP CONF. 1965) MEASURED IN THE 1 - 100 KEV RANGE. THE ACCURACY SHOULD BE IMPROVED.	
196.	296 (271)	Fe	N,GAMMA No more in RENDA 70	1. +3	1.0+5	10	2	GEV ANL RDT	SNYDER AVERY ACCURACY 10% OR AT WORST A FEW MB.CAPTURE IN 1-5 KEV RANGE OF PARTICULAR INTEREST.NEEDED FOR FAST BREEDER CALCULATIONS.RPI(BLOCK) IAEA PARIS CONF 1966	62

No.	Ref (Reg)	Nuclide	Quantity	Energy(EV) Min	Max	(%) Accuracy	F	Lab	Requestor, Comments	Year
197.	298 (273)	Fe	N,ALPHA	TH	1.4+7	20	2	KFK CAD	SCHMIDT CHAUMONT NO DATA AVAILABLE.	
198.	320 (297*) No more in RENDA 70	Ni	TOTAL XSECT	3. +5	1.5+6	6	2	WIN ---	SMITH FOR FAST REACTORS REQUIREMENT SET.-SEE SCHMIDT KFK120	
199.	322 (298*) No more in RENDA 70	Ni	DIFF ELASTIC	3. +5	1.5+6	20	2	WIN ---	SMITH FOR FAST REACTORS. REQUIREMENT SET.-SEE SCHMIDT KFK 120	
200.	323 (299)	Ni	DIFF ELASTIC	1. +6	3. +6	10	2	BDT ABL	AVERY FOR FAST REACTOR CALCULATIONS.ENERGY RESOLUTION 0.1 MEV,ANGLE RESOLUTION 10/.ABL(SMITH)HAS DATA TO 1.5 MEV,1966.	65
201.	324 (300)	Ni	DIFF ELASTIC	1.5+6	3. +6	15	1	CAD KFK	RAVIER SCHMIDT ABOUT 100 KEV ENERGY RESOL AND ABOUT 10 / ANG RESOL REQUIRED.	
202.	325 (301*) No more in RENDA 70	Ni	DIFF ELASTIC	1.5+6	5. +6	25	2	WIN ---	SMITH FOR FAST REACTORS. REQUIREMENT SET.-J.TOWLE CN-23/35,SEE B.HOLMQVIST AE 303 (1967)	
203.	326 (302*)	Ni	DIFF ELASTIC	3. +6	1.5+7	20	2	CAD FAR KFK --- AE ALD	RAVIER BASTOIN SCHMIDT ABOUT 500 KEV ENERGY RESOL AND ABOUT 10./ ANG RESOL REQUIRED. 10% ON AVE COS DATA UP TO 8MEV AVAILABLE	
204.	328 (303)	Ni	MISS XSECT energy dist	2. +6	1.4+7	10	2	FAR	BASTOIN 10% ENERGY RESOLUTION IN PRIM.AND SECOND.ENERGY.	
205.	329 (304) No more in RENDA 70	Ni	NONELASTIC	+0	1.4+7			AE	WRITMAN FOR FEASIBILITY STUDIES OF THERMONUCLEAR REACTORS.	
206.	331 (305)	Ni	NONEL GAMMAS energy dist	+0	1.0+7	10	2	BDT BET	BAYARD GAMMA RESOLUTION 0.5 MEV.ALL GAMMAS OF INTEREST. FOR SHIELDING CALCULATIONS.NO ACTIVE WORK.	66
207.	332 (306)	Ni	NONEL GAMMAS energy dist	0. +0	1.8+4		1	BDT ORL	MAIENSCHEIN ENERGY RANGE 0 EV TO 175 KEV FOR SHIELDING CALCULATIONS 10% ACCURACY WANTED IN GAMMA SPECTRUM GAMMA RESOLUTION SHOULD BE 0.5 MEV NO WORK IN PROGRESS	62
208.	333 (307)	Ni	NONEL GAMMAS energy dist	2. +6	1.4+7	<25	2	BDT ORL	MAIENSCHEIN CROSS SECTION WANTED TO 10% OR AT LEAST 25% ACCURACY.INCIDENT AND EXIT RESOLUTION SHOULD BE 10%.WANT GAMMAS ABOVE 0.5 MEV.WANTED FOR SHIELDING CALCULATIONS.NO ACTIVE WORK.	63
209.	334 (308)	Ni	NONEL GAMMAS energy,angle	3. +6	1.6+7	<20	2	FAR	BASTOIN ACCURACY 10% DESIRED.	
210.	335 (310*)	Ni	DIFF INELAST energy,angle	TH	4. +6	5	2	WIN --- ALD	CAMPBELL FOR FAST REACTORS TOWLE SOME DATA AVAILABLE BELOW 4MEV.IN PROGRESS ABOVE 4MEV. SEE HOLMQVIST AE/303(/67),ALSO PASECHNIK INDSWG-126,22(/66).	
211.	336 (312*)	Ni	DIFF INELAST energy,angle	4. +6	7. +6	<10	2	WIN --- ALD	CAMPBELL ACCURACY 5-10%.FOR FAST REACTORS. TOWLE SOME DATA AVAILABLE BELOW 4MEV. IN PROGRESS ABOVE 4MEV. SEE HOLMQVIST AE/303(/67),ALSO PASECHNIK INDSWG-126,22(/66).	

No.	Ref (Reg)	Nuclide	Quantity	Energy(EV) Min	Max	Accuracy (%)	P	Lab	Requestor, Comments	Year
212.	337 (309)	Ni	DIFF INELAST energy dist	5. +6	1.0+7	10	2	RDT GEV	SNYDER FOR FAST BREEDER CALCULATIONS.INCIDENT AND EXIT ENERGY RESOLUTION 10%.ALD(TOWLE)HAS DATA AT SELECTED ENERGIES.SEE IAEA PARIS CONF 1966.	66
213.	338 (311)	Ni	DIFF INELAST energy,angle No more in RENDA 70	3. +6	1.6+7	10		GDT	KIDD INCIDENT AND EXIT RESOLUTION 0.5 MEV,ANGLE RESOLUTION 5-10/ ASSOCIATED GAMMA RAYS ARE WANTED PARTICULARLY WHEN ENERGIES ARE ABOVE 1.3 MEV.ALD (TOWLE)HAS DATA NEAR 4 MEV.SEE IAEA PARIS CONF. 1966.	66
214.	340 (313-)	Ni	N,GAMMA No more in RENDA 70	2.5-2	4.0+4	20	2	WAN ---	BUTLER SHIELDING WITHDRAWN	
215.	341 (314)	Ni	N,GAMMA	1. +0	1. +6	5	2	AE	HANGCHLOR THE REQUESTED ACCURACY IS ESPECIALLY IMPORTANT IN THE RANGE 10 KEV - 0.5 MEV. ENERGY RESOLUTION 10% OR BETTER. NEEDED FOR FAST REACTOR CALCULATIONS.	
216.	343 (317)	Ni	N,GAMMA	1. +3	1.5+5	20	2	RDT ANL	AVERY ENERGY RESOLUTION 20%.FOR FAST BREEDERS.RPI(BLOCK) IAEA PARIS CONF 1966	66
217.	344 (3190)	Ni	N,GAMMA	1. +3	1. +6	20	2	WIN ---	CAMPBELL ACCURACY 20% OR 2 MB. FOR FAST REACTORS.NOTE EXTENDED ENERGY RANGE AND RELAXED ACCURACY REQUIREMENT. SEE HOCKENBURY WASH1074,97(4/67),BLOCK BAP 12,512EN14 (4/67),MACKLIN ORNL-P-2899(/66),AND INDSWG-64,43(/64	
218.	369 (3390)	Y	DIFF ELASTIC No more in RENDA 70	6. +6	1.6+7	<20	3	GDT --- ORL	KIDD RESOLUTION IN ENERGY 0.5 MEV,RESOLUTION IN ANGLE 5-10/.AVE OF(1-COS)DESIRED.USE OPTICAL MODEL ABOVE 5 MEV. SOME DATA AT 5MEV.	63
219.	375 (340)	Zr	NONEL GAMMAS energy,angle No more in RENDA 70	+0	1.0+7	10	1	RDT NRT ORL	BAYARD MAIENSCHEIN INCIDENT AND EXIT ENERGY RESOLUTIONS OF 0.5 MEV DESIRED.NEEDED FOR SHIELDING CALCULATIONS.ERROR IS IN GAMMA SPECTRUM.GAMMA SPECTRUM SHOULD BE MEASURED AT 0.5 MEV INTERVALS.NO ACTIVE WORK.	66
220.	376 (3410)	Zr	DIFF INELAST energy dist	2. +6	1.4+7	10	1	RDT KAP ANL --- ANL VIR	EHRLICH AVERY FOR DESIGN OF PRESSURIZED WATER REACTORS USING ZR AND FOR FAST BREEDER CALCULATIONS,INCIDENT AND EXIT ENERGY RESOLUTION 10%.ORL(DICKENS)WILL DO 1966 WORK IN PROGRESS (ANL AND VIR)	62
221.	377 (342)	Zr	N,GAMMA	THR	+3	5	2	RDT BNW	DAWSON FOR REACTOR NORMALIZATION AND REACTIVITY EFFECTS. NO ACTIVE WORK.	66
222.	378 (343)	Zr	N,GAMMA (res. param) Withdrawn	1. +0	3.0+4	20	2	FAN	BASTOIN GAMMA GAMMA DESIRED. ACCURACY 20% OR 5 MB S.P. KAPCHIGASHEV (S.P. KAPCHIGASHEV, ATOMNAYA ENERGIYA 19,294,1965) MEASURED IN THIS RANGE WITH SLOWING DOWN SPECTROMETER.	
223.	379 (344) 45	Zr	NUCL.LEVELS	1. +6	3. +6		2	RDT KAP	EHRLICH QUANTITY SPIN AND PARITY ASSIGNMENTS WANTED FOR CALCULATION OF INELASTIC CROSS SECTIONS FOR PRESSURIZED WATER REACTORS.NO ACTIVE WORK.	66

No.	Ref (Req)	Nuclide	Quantity	Energy(EV) Min	Max	(%) Accuracy	F	Lab	Requestor, Comments	Year
224.	380 (345)	^{90}Zr	TOTAL XSECT (res. param)	+0	1.0+4	10	1	NDT GEV KAP BET	 SNYDER EHRLICH BAYARD ACCURACY 10% IN PARAMETERS.DESIGN OF PRESSURIZED WATER REACTORS.INDIVIDUAL AND AVERAGE RESONANCE PARAMETERS WANTED.NO ACTIVE WORK.	66
225.	381 (346)	^{90}Zr	DIFF ELASTIC	+0	1.0+7	10	1	NDT BET	 BAYARD SCATTERING FROM THE SEPARATED ISOTOPES 90-91,92-94 AND 96 IS DESIRED TO CHECK THE SHELL EFFECT ON THE OPTICAL POTENTIAL AND DERIVE USEFUL PARAMETERS.ANL (SMITH)IS WORKING BELOW 1.5 MEV.1966	66
226.	382 (347*)	^{90}Zr	DIFF INELAST energy dist	TR	1.5+7	10	1	NDT BET KAP --- ANL VIN	 BAYARD EHRLICH INDIVIDUAL EXCITATION CROSS SECTIONS DESIRED TO 20% ACCURACY.NEEDED FOR THE DESIGN OF PRESSURIZED WATER REACTORS WITH ZR.WANTED FROM THRESHOLD UP. WORK IN PROGRESS	66
227.	383 (348*)	^{90}Zr	N,GAMMA (res. param)	+0	1.0+4	10	1	NDT GEV KAP BET --- RPI	 SNYDER EHRLICH BAYARD ACCURACY 10% IN PARAMETERS.DESIGN OF PRESSURIZED WATER REACTORS.INDIVIDUAL AND AVERAGE RESONANCE PARAMETERS WANTED.IS GAMMA-GAMMA SAME FOR S AND P WAVES? R.C.BLOCK WILL MEASURE BETWEEN 100EV AND 100KEV WITH 10 TO 20% ACCURACY, SEE CN23/126 (PARIS CONF. 1966).	66
228.	384 (349)	^{91}Zr	TOTAL XSECT (res. param)	+0	1.0+4	10	1	NDT BET KAP	 BAYARD EHRLICH ACCURACY 10% IN PARAMETERS.DESIGN OF PRESSURIZED WATER REACTORS.ATTENTION TO RESONANCES AT 180,291, 675,1518 EV.INDIVIDUAL AND AVERAGE PARAMETERS OF INTEREST.GAMMA-N RESULTS DISAGREE BY 10%.NO ACTIVE WORK.	66
229.	385 (350)	^{91}Zr	RESON PARAMS	+0		10	1	NDT BET KAP	 BAYARD EHRLICH NEUTRON-AND GAMMA WIDTH WANTED FOR RESONANCES AT 180,291,675,1518 EV.NEEDED FOR PRESSURIZED WATER REACTORS TO REMOVE DISCREPANCIES IN MEASURED VALUES.NO ACTIVE WORK.	66
230.	386 (351)	^{91}Zr	DIFF ELASTIC	+0	1. +7	10	1	NDT BET	 BAYARD SCATTERING FROM THE SEPARATED ISOTOPES 90-91,92-94 AND 96 IS DESIRED TO CHECK THE SHELL EFFECT ON THE OPTICAL POTENTIAL AND DERIVE USEFUL PARAMETERS.ANL (SMITH)IS WORKING BELOW 1.5 MEV 1966	66
231.	387 (352*)	^{91}Zr	DIFF INELAST energy dist	TR	1.5+7	10	1	NDT KAP --- ANL VIN	 EHRLICH INDIVIDUAL EXCITATION CROSS SECTIONS DESIRED TO 20% ACCURACY.NEEDED FOR THE DESIGN OF PRESSURIZED WATER REACTORS WITH ZR.WANTED FROM THRESHOLD UP. WORK IN PROGRESS.	66
232.	388 (353*)	^{91}Zr	N,GAMMA (res. param)	+0	1.0+4	10	1	NDT BET KAP --- RPI	 BAYARD EHRLICH ACCURACY 10% IN PARAMETERS.DESIGN OF PRESSURIZED WATER REACTORS.ATTENTION TO RESONANCES AT 180,291, 675,1518 EV.INDIVIDUAL AND AVERAGE PARAMETERS OF INTEREST.IS GAMMA GAMMA SAME FOR S AND P WAVES? R.C.BLOCK WILL MEASURE BETWEEN 100EV AND 10KEV WITH 10 TO 20% ACCURACY, SEE CN23/126 (PARIS CONF. 1966)	66
233.	389 (354)	^{92}Zr	TOTAL XSECT (res. param)	+0	1.0+4	10	1	NDT BET KAP	 BAYARD EHRLICH ACCURACY 10% IN PARAMETERS.DESIGN OF PRESSURIZED WATER REACTORS.INDIVIDUAL AND AVERAGE RESONANCES NEEDED.NO ACTIVE WORK.	66

No.	Ref (Reg)	Nuclide	Quantity	Energy (EV) Min	Max	Accuracy (%)	F	Lab	Requestor, Comments	Year
234.	390 (355)	92Zr	DIFF ELASTIC	+0	1.0+7	10	1	RDT BET	 BAYARD SCATTERING FROM THE SEPARATED ISOTOPES 90-91,92-94 AND 96 IS DESIRED TO CHECK THE SHELL EFFECT ON THE OPTICAL POTENTIAL AND DERIVE USEFUL PARAMETERS.ANL (SMITH)IS WORKING BELOW 1.5 MEV.1960	66
235.	391 (356#)	92Zr	DIFF INELAST energy dist	TH	1.5+7	10	1	RDT KAP --- ANL VIE	 EHRLICH INDIVIDUAL EXCITATION CROSS SECTIONS DESIRED TO 20% ACCURACY.NEEDED FOR THE DESIGN OF PRESSURIZED WATER REACTORS WITH ZR.WANTED FROM THRESHOLD UP. WORK IN PROGRESS	66
236.	392 (357#)	92Zr	N,GAMMA (res. param)	+0	1.0+4	10	1	RDT BET KAP --- RPI	 BAYARD EHRLICH ACCURACY 10% IN PARAMETERS.DESIGN OF PRESSURIZED WATER REACTORS.INDIVIDUAL AND AVERAGE RESONANCES NEEDED.IS GAMMA GAMMA THE SAME FOR S AND P WAVES? R.C.BLOCK ET AL.(CN23/126(PARIS CONF.1966)) WILL MEASURE BETWEEN 100EV AND 100KEV WITH 10-20% ACCURACY	66
237.	406 (373)	Nb	NONELASTIC Withdrawn	+0	1.4+7			AE	WEITMAN FOR FEASIBILITY STUDIES OF THERMONUCLEAR REACTORS.	
238.	408 (374)	Nb	NONEL GAMMAS energy,angle No more in RENDA 70	1.5+2	1.5+7	<40	3	LAS	BENNETT ACCURACY ?0-40% ABSOLUTE CROSS SECTION REQUIRED, ENERGY SPECTRUM OF ALL GAMMAS NEEDED INCLUDING SOFT GAMMAS,MEASUREMENT AT ONE ANGLE ACCEPTABLE WITH 30-40% ERROR ON INTEGRAL VALUE,(55/ PREFERRED) UPPER LIMIT SUFFICIENT IF EQUAL TO OR LESS THAN 10 MICRO-BARNS/(SR-MEV) OR EQUIVALENT,NEUTRON ENERGY RESOLUTION--FROM 150 EV TO 5 MEV-10% FROM 5 TO 15 MEV-0.5 TO 1.C MEV.GAMMA ENERGY RESOLUTION--FROM 50 KEV TO 5 MEV-10% FROM 5 TO 15 MEV-0.5 TO 1.0 MEV. TNC MORGAN HAS DATA 1.7,2.7,3.5 MEV,1966 LAS DRAKE AND HOPKINS PLAN WORK 4-7.5 MEV,1966	66
239.	409 (375)	Nb	NONEL GAMMAS energy,angle No more in RENDA 70	1. +6	7. +6	10	2	LAS	DIVEN ANG.DIST.REQUIRED ONLY IF SIGNIFICANTLY ANISOTROPIC. TNC(MORGAN)HAS DATA AT 1-7,2-7,3.5 MEV,1966.LASL (DRAKE AND HOPKINS)PLAN WORK AT 4-7.5 MEV,1966.	65
240.	410 (377)	Nb	DIFF INELAST energy,angle	1. +6	1.0+7	10	2	RDT BET	 BAYARD RESOLUTION IN INCIDENT AND EXIT ENERGY 10%.FOR THERMAL REACTOR CALCULATIONS.LASL(HOPKINS AND DRAKE)WORKING 6-7.5 MEV 1966 NANDC PRIORITY 2.	62
241.	411 (378)	Nb	N,GAMMA (res. int)	1. +0	1.0+4	5	2	RDT BET	 BAYARD ACCURACY 5% IN RES INT.DESIRED ACCURACY OF 5% IN CALCULATED DILUTE AND SELF-SHIELDED RES.INT.FOR THERMAL REACTOR CALCULATIONS.NO WORK IN PROGRESS.	62
242.	412 (380)	Nb	N,ALPHA (averaged) No more in RENDA 70	FISS		20	3	AE	WEITMAN CALCULATION OF HE-PRODUCTION IN FUEL CLADDING	
243.	413 (372#)	Nb	DIFF ELASTIC	1. +6	5. +6	10	2	RDT BET ---	 BAYARD FOR THERMAL REACTOR CALCULATIONS.ACCURACY 10% IN THE AVERAGE OF(1-COS)WANTED.KASAKOVA AT ANTWERP CONFERENCE,1965,HAS DATA AT 2 MEV.RECENT JAPANESE DATA AT HIGHER ENERGIES.	63
244.	414 (379#)	Nb	N,GAMMA	1. +3	2. +6	25	2	RDT ANL AI --- ORL	 AVERY ALTER ACCURACY 25% OR AT WORST 10 MB.FOR FAST REACTOR CALCULATIONS. M.H.LOPEZ ET AL.MEASURED NB-RESONANCE PARAMETERS, SEE GA-7364(1966) D.KOMPE MEASURED BETWEEN 15 AND 170KEV WITH AN ACCURACY BETTER THAN 20%,SEE CN 13/10(PARIS CONF. 1966). MACKLIN AND GIBBONS MEASURED BETWEEN 70AND182KEV. REQUEST PARTLY FULFILLED. NO VALUES ABOVE 1MEV.	62

No.	Ref (Reg)	Nuclide	Quantity	Energy (EV) Min	Max	Accuracy (%)	F	Lab	Requestor, Comments	Year
245.	425 (388)	Mo	RESON PARAMS Withdrawn	7.0+2	1.0+4	10	2	KFK	SCHMIDT NEUTRON AND GAMMA WIDTH. PEVZNER ET AL. (ZETF 44, 1178, 1963) MEASURED GAMMA N (ACCURACY +OR- 10 TO 20%) OF RESONANCES FOR ALL STABLE ISOTOPES UP TO SEVERAL KEV; NO GAMMA-GAMMA MEASURED. RESONANCE ENERGIES UP TO 2 KEV BY CORGE ET AL. (COMPT.REND.254,4287,1962) AND UP TO 1 KEV BY BOLLINGER ET AL. (ANL-6534, 1962) WITHOUT ISOTOPIC IDENTIFICATION. TO CHECK AND IMPROVE THESE RESULTS, MORE ISOTOPIC MEASUREMENTS OF GAMMA N AND PARTICULARLY GAMMA GAMMA NEEDED.	
246.	426 (389)	Mo	NONELASTIC No more in RENDA 70	+0	1.4+7			AE	BRITMAN FOR FEASIBILITY STUDIES OF THERMONUCLEAR REACTORS.	
247.	428 (390*)	Mo	DIFF INELAST energy dist	1. +6	3. +6	20	2	EDT ANL --- ANL	AVERY FOR FAST REACTOR CALCULATIONS INCIDENT AND EXIT ENERGY RESOLUTION 20%. EANDC PRIORITY 1 REQUEST. ANL (SMITH) HAS DATA TO 1.5 MEV. REASONABLE EXTRAPOLATION SHOULD PROVIDE SATISFACTORY DATA	62
248.	429 (391*)	Mo	DIFF INELAST energy,angle	1.5+6	5. +6	10	3	WIN ---	CAMPBELL FOR FAST REACTORS. NOTE REDUCED PRIORITY AND REDUCED ENERGY RANGE DATA BELOW 1.5MEV-NUCLEAR PHYSICS A93,609.	
249.	430 (392*)	Mo	N,GAMMA	1.0+2	1. +6	20	3	WIN ---	SMITH FOR FAST REACTORS. RELAXED ACCURACY REQUIREMENT MET BY AVAILABLE DATA	
250.	431 (394)	Mo	N,GAMMA	1. +6	1.0+7	10	3	BN	TAVERNIER ACCURACY 10% OR 2 MB NO VALUES AVAILABLE.	
251.	432 (395)	Mo	N,PROTON	TH	1.4+7	10	2	KFK	SCHMIDT NO DATA AVAILABLE.	
252.	433 (396*)	Mo	N,PROTON Withdrawn	FISS		25	3	WIN ---	CAMPBELL FOR FAST REACTORS SEE PABRY AND RAO EANDC(E)66U(2/66). ALSO BOLDEMAN JNE AB18,417 (8/64)	
253.	434 (397*)	Mo	N,ALPHA Withdrawn	FISS		25	3	WIN --- ALD	CAMPBELL FOR FAST REACTORS. NOTE REDUCED PRIORITY FREEMAN IN PROGRESS SEE ROCHLIN NUCL17 1,54GE(1/59), ALSO RAO EANDC(E) 66U(2/66)	
254.	435 (398*)	Mo	N,ALPHA (averaged) No more in RENDA 70	FISS		20	3	AE	BRITMAN CALCULATION OF HE-PRODUCTION IN FUEL CLADDING	
255.	478 (1167*)	Cd	ABSORPTION	1. -3	5. -1	1	2	NOB	BRUNNER SPECTRUM MEASUREMENTS IN POISONED MODERATORS. MEASUREMENTS IN PROGRESS IN SWITZERLAND, SEE EANDC(OR)-61.	
256.	479 (439)	Cd	N,GAMMA No more in RENDA 70	THR		1	1	SAC	NUSSAC	
257.	549 (503)	Sm	TOTAL XSECT Withdrawn	1. +4	5.0+4	5	2	KFK	SCHMIDT NO MEASUREMENTS AVAILABLE.	
258.	550 (504)	Sm	TOTAL XSECT Withdrawn	2. +6	1.0+7	10	3	KFK	SCHMIDT NO MEASUREMENTS AVAILABLE.	
259.	551 (505)	Sm	RESON PARAMS gamma width		2. +2	<15	3	BOL	BENZI ACCURACY 10% WANTED. SINGLE TRANSITION.	
260.	552 (506*)	Sm	DIFF ELASTIC energy dist	1.5+6	1.0+7	10	3	KFK	SCHMIDT NO MEASUREMENTS AVAILABLE.	
261.	553 (507*)	Sm	TOT INELASTC	TR	2. +6	20	3	KFK --- ANL	SCHMIDT RESULTS UP TO 1.5MEV AVAILABLE.	

No.	Ref (Reg)	Nuclide	Quantity	Energy(EV) Min	Max	Accuracy (%)	P	Lab	Requestor, Comments	Year
262.	554 (508)	Sm	TOT INELASTC	2. +6	1.0+7	10	3	KFK	SCHMIDT NO MEASUREMENTS AVAILABLE.	
263.	555 (5090)	Sm	DIFF INELAST energy dist	TH	2. +6	20	3	KFK --- ANL	SCHMIDT MEASUREMENTS OF INELASTIC SCATTERING TO GROUPS OF LEVELS DESIRED. RESULTS UP TO 1.5MEV AVAILABLE.	
264.	556 (1168+)	Sm	ABSORPTION	1. -3	2. -1	1	2	WUR	BRUNNER SPECTRUM MEASUREMENTS IN POISONED MODERATORS. MEASUREMENTS PLANNED IN SWITZERLAND.	
265.	557 (511)	Sm	N,GAMMA	5. +3	2. +6	10	2	KFK	SCHMIDT ONLY MEASUREMENTS OF N-GAMMA XSECT OF (154SM) BY JOHNSRUD ET AL. (PHYS. REV. 116,927,1959) BETWEEN 0.15 AND 6.2 MEV AVAILABLE.	
266.	673 (623)	W	NNISS XSECT energy,angle Withdrawn	2. +6	1.6+7	<20	3	FAR	NASTOIN 10% ACCURACY WANTED. AVE (1 - COS) AND XSECT NEEDED (1 MEV) ENERGY RESOL.	
267.	674 (624)	W	NNISS XSECT energy,angle	2. +6	1.6+7	15	2	RDT ORL	MAIENSCHEIN INCIDENT AND EXIT ENERGY RESOLUTION SHOULD BE 0.5 MEV.ANGLE RESOLUTION 10/.ANGLE OF INTEREST ONLY IF ANISOTROPIC,CROSS SECTION.(1-COS) NEEDED FOR SHIELDING CALCULATIONS.NO ACTIVE WORK.	66
268.	675 (625)	W	NNISS XSECT energy,angle	2. +6	1.6+7	10	2	GDT	KIDD RESOLUTION IN ENERGY 0.5 MEV,IN ANGLE 5-10/,ANGULAR DISTRIBUTION REQUIRED IF SIGNIFICANTLY ANISOTROPIC.	66
269.	676 (626)	W	NONEL GAMMAS	THR	2. +6	10	1	RDT ORL	MAIENSCHEIN NEEDED FOR SHIELDING CALCULATIONS.NO WORK IN PROGRESS.	62
270.	678 (627)	W	NONEL GAMMAS (energy) No more in RENDA 70	1.5+2	1.5+7	35	1	LAS	BENNETT ACCURACY 30-40% ABSOLUTE CROSS SECTION REQUIRED, ENERGY SPECTRUM OF ALL GAMMAS NEEDED INCLUDING SOFT GAMMAS.MEASUREMENT AT ONE ANGLE ACCEPTABLE WITH 30-40% ERROR ON INTEGRAL VALUE,(55/ PREFERRED) UPPER LIMIT SUFFICIENT IF EQUAL TO OR LESS THAN 10 MICRO-BARNS/(SR-MEV)OR EQUIVALENT.NEUTRON ENERGY RESOLUTION--FROM 150 EV TO 5 MEV-10%-FROM 5 TO 15 MEV-0.5 TO 1.0 MEV.GAMMA ENERGY RESOLUTION--FROM 50 KEV TO 5 MEV-10% FROM 5 TO 15 MEV-0.5 TO 1.0 MEV. LAS DRAKE AND HOPKINS WORKING 4-7.5 MEV.1966 TNC MAY HAVE DATA.1966	66
271.	679 (628)	W	NONEL GAMMAS energy,angle Withdrawn	2. +6	1.6+7	<20	3	FAR	NASTOIN 10% ACCURACY WANTED 0.5 MEV ENERGY RESOL FOR N AND GAMMA ANGULAR DISTRIBUTION NEEDED IF SIGNIFICANT ANISOTROPY.	
272.	680 (629)	W	NONEL GAMMAS energy,angle	2. +6	1.6+7	<20	2	RDT ORL	MAIENSCHEIN INCIDENT AND EXIT RESOLUTION SHOULD BE 0.5 MEV. THE ANGULAR DISTRIBUTION IMPORTANT ONLY IF SIGNIFICANTLY ANISOTROPIC.NEEDED FOR SHIELDING CALCULATIONS.GAMMA ENERGIES ABOVE 500 KEV OF INTEREST.LASL(HOPKINS AND DRAKE)WORKING AT 4 - 7.5 MEV,1966.TNC WORKING BELOW 5 MEV AND AT 14 MEV.1966	63
273.	681 (6310)	W	DIFF INELAST energy dist Withdrawn	4. +6	1.0+7	5	3	BAB ---	BUTLER SPOT VALUES IN ENERGY RANGE.NOTE REDUCED PRIORITY. SEE DA 24,4252 (4/64),ALSO BUCCINO NP 60,17 (8/65) AND BERGQVIST 65 ANTWERP 28 (7/65),AND SALISBURY NP 76,232 (2/66)	
274.	682 (632)	W	ABSORPTION No more in RENDA 70	1. +3	1.0+5	20	2	BN	TAVERNIER FAST REACTOR CALCULATION AND ACTIVATION. R.C. BLOCK (R.C. BLOCK ET AL., CN 23/126, IAEA PARIS CONF. 1966, AND R.C. BLOCK, PRIVAT COM.) MEASURED BETWEEN 5 EV - 10 KEV. D. KOMPE (D. KOMPE, CN 23/10, IAEA PARIS CONF. 1966) MEASURED BETWEEN 15 - 170 KEV. R.L. MACKLIN AND J.H. GIBBONS (R.L. MACKLIN AND J.H. GIBBONS, PRIVAT COM.) MEASURED BETWEEN 125 AND 220 KEV.	

No.	Ref (Reg)	Nuclide	Quantity	Energy(EV) Min	Max	(%) Accuracy	P	Lab	Requestor, Comments	Year
275.	683 (633#)	W	N,GAMMA No more in RENDA 70	1. +3	5.0+4	20	2	NDT ORL ANL --- RPI KFK ORL	 MAIENSCHEIN AVERY NEEDED FOR SHIELDING AND FAST REACTOR CALCULATIONS. BLOCK MEASURED BETWEEN 5EV-10KEV,SEE CN/23/126 (PARIS CONF. 1966). D.KOMPE MEASURED BETWEEN 15-170KEV,SEE CN/23/10 (PARIS CONF.1966). MACKLIN AND GIBBONS MEASURED BETWEEN 125 AND 220KEV. THE VALUES OF KOMPE AND MACKLIN ARE IN AGREEMENT WITH RENORMALIZED VALUES OF PREVIOUSLY MEASURED CROSS SECTIONS (MORWITZ CN23/6,PARIS 1966) WITHIN 20-30%. THESE REQUESTS SEEM TOBE SATISFIED.	62
276.	684 (634-)	W	N,GAMMA Withdrawn	4.0+4	1.5+5	20	3	MAN ---	BUTLER SHIELDING. WITHDRAWN.	
277.	697 (646)	Pb	NEISS XSECT energy,angle	2. +6	1.6+7	<20	2	FAR	NASTOIR AVE (1 - COS) AND XSECT NEEDED.1 MEV ENERGY RESOL	
278.	698 (647)	Pb	NEISS XSECT energy,angle	2. +6	1.6+7	<20	2	NDT ORL	 MAIENSCHEIN INCIDENT AND EXIT RESOLUTION SHOULD BE 0.5 MEV. DESIRED ANGLE RESOLUTION IS 10%.ANGULAR DISTRIBUTION IMPORTANT ONLY IF SIGNIFICANTLY ANISOTROPIC.WANTED FOR SHIELDING CALCULATIONS ORL (STELSON) HAS DATA 12-14 MEV.1965.	63
279.	700 (648)	Pb	NONEL GAMMAS energy,angle No more in RENDA 70	1. +0	1.0+7	10	2	NDT KAP	 NEMLICH MEASUREMENTS WANTED AT 1 EV-1 MEV-10 MEV WITH INCIDENT AND EXIT RESOLUTION OF 20% NEEDED FOR SHIELDING STUDIES.THE DATA AVAILABLE AT WIDE ENERGY INTERVALS.	63
280.	701 (649)	Pb	NONEL GAMMAS energy,angle	6. +6	1.6+7	<20	2	FAR	NASTOIR 0.5 MEV ENERGY RESOL FOR N AND GAMMA ANG. DIST. NEEDED IF SIGNIFICANT ANISOTROPY.	
281.	702 (650#)	Pb	DIFF INELAST energy dist Withdrawn	6. +6	1.0+7	5	2	MAN ---	BUTLER SHIELDING SEE BERGQVIST EANDC(OR) 44L (3/66),ALSO PR 142,775 (2/66)	
282.	703 (652#)	Pb	N2N REACTION Withdrawn	TH	1.4+7	10	3	MAN --- ALD	BUTLER SHIELDING.NOTE INCREASED ACCURACY REQUIREMENT MATHER IN PROGRESS SEE PEARLSTEIN NSE 23,238 (8/65)	
283.	704 (653)	Pb	ABSORPTION	1. +3	1.0+4	20	2	BN	TAVERNIER FAST REACTOR CALCULATION MACKLIN AND GIBBONS MEASURED BETWEEN 30 AND 160 KEV.	
284.	705 (654#)	Pb	N,GAMMA No more in RENDA 70	1. +3	5.0+4	20	2	NDT ORL --- ORL	 MAIENSCHEIN ARE THERE ANY P-WAVE RESONANCES,NEEDED FOR SHIELDING CALCULATIONS.TOTALS WELL KNOWN,ESTIMATE FROM THESE EANDC REQ. R.L. MACKLIN AND J.H.GIBBONS MEASURED BETWEEN 30 AND 157KEV.	62
285.	706 (655-)	Pb	N,GAMMA Withdrawn	4.0+4	5.0+4	20	3	MAN ---	BUTLER SHIELDING. WITHDRAWN.	
286.	829 (756)	2[illegible]U	RESON PARAMS	THR	5. +3	<20	1	NDT ANL NET GEV	 AVERY MAYARD SNYDER INTERVAL THR TO 100 EV WANTED TO 10%.INTERVAL 100 EV TO 5 KEV WANTED TO 20%.MULTI-LEVEL FIT WANTED WHERE FEASIBLE.FOR THERMAL AND FAST REACTORS. REQUEST IS PRIORITY 2 BETWEEN 100 EV AND 5 KEV.SAC (MICHAUDON)THESIS,UNIV.OF PARIS(1964).UI(ADLER) TRANS.ANS,7,86 ANALYSIS.ORL(DESAUSSURE) IN WASH-1068	
287.	830 (757)	2[illegible]U	RESON PARAMS No more in RENDA 70	5. +1	3.0+2	10	1	JAE	QUANTITY GAMMA-N, GAMMA-FISS, AND GAMMA-GAMMA WANTED. N-ZERO-VALUE WAS MEASURED BY J.B. GARG.	

No.	Ref (Reg)	Nuclide	Quantity	Energy(EV) Min	Max	(%) Accuracy	F	Lab	Requestor, Comments	Year
288.	833 (758)	^{235}U	RESON PARAMS neutronwidth	1.5+2	2.0+2	10	2	KFK CAD	SCHMIDT RAVIER RESONANCE PARAMETERS MEASURED. BY MICHAUDON ET AL. (NUCL. PHYS. 69,545,165); TRANSMISSION MEASUREMENTS OF GARG ET AL. UP TO 400 EV ARE BEING ANALYZED IN TERMS OF NEUTRON WIDTH REVIEWS OF AVAILABLE MEASURED RESON PARAMS TO BE FOUND IN KFK 120/PART I, PAR. IV 1, AND IN BNL-325, 2ND ED., SUPPL. NO. 2, VOL. III, 1965.	
289.	834 (759)	^{235}U	RESON PARAMS	5.0+1	2.0+2	10	2	KFK CAD	SCHMIDT RAVIER FISSION-NEUTRON-AND GAMMA WIDTH. RESONANCE PARAMETERS MEASURED BY MICHAUDON ET AL. (NUCL. PHYS. 69,545,1965); TRANSMISSION MEASUREMENTS OF GARG ET AL. UP TO 400 EV ARE BEING ANALYZED IN TERMS OF NEUTRON WIDTH REVIEWS OF AVAILABLE MEASURED RESON PARAMS TO BE FOUND IN KFK 120/PART I, PAR. IV 1, AND IN BNL-325, 2ND ED., SUPPL. NO. 2, VOL. III, 1965.	
290.	835 (763*)	^{235}U	ELASTIC	THR		10	3	WIN	KINCHIN FOR LONG-TERM IMPROVEMENT OF SHA.	
291.	836 (760*) No more in RENDA 70	^{235}U	DIFF ELASTIC	5.0+4	1. +6	10	1	WIN ---	SMITH FOR FAST REACTORS. REQUIREMENT MET.FERGUSON DATA AVAILABLE CN23/22,ALSO A.B.SMITH PHYS.REV.LET.16,525	
292.	837 (761)	^{235}U	DIFF ELASTIC	1. +6	7. +6	<10	2	LAS	DIVEN ACCURACY 5 TO 10%.DATA AVAILABLE TO 1.5 MEV;DESIRE 1.5 - 7.0 MEV.NO ACTIVE WORK.	
293.	838 (762)	^{235}U	DIFF ELASTIC	1. +6	5. +6	10	2	RDT ANL	AVERY ACCURACY 10%,20% USEFUL.ENERGY RESOLUTION OF 0.5 MEV OR BETTER WANTED.FOR FAST REACTOR CALCULATIONS. ANL(SMITH)HAS DATA TO 1.5 MEV RANDC PRIORITY 1, BELOW 1 MEV.	
294.	839 (764)	^{238}U	NONELASTIC	TR	1.5+7	<20	2	CAD KFK	RAVIER SCHMIDT ACCURACY 10% FOR THRESHOLD - 1.5 MEV 20% FOR 1.5 - 15 MEV ENERGY RESOL ABOUT 100 KEV.FERGUSON'S DATA HAVE TO BE COMPLETED.	
295.	840 (765) Withdrawn	^{238}U	TOT INELASTC	1. +6	2. +6	<10	2	KFK	SCHMIDT ALMOST NO DATA AVAILABLE.	
296.	841 (766)	^{238}U	NEMISS XSECT energy dist	6. +6	1.4+7	5	1	LAS LRL	GOAD HOWERTON ONE MEASUREMENT NEAR 10 MEV WOULD HELP.NO WORK IN PROGRESS.RANDC PRIORITY 1.	
297.	842 (767) No more in RENDA 70	^{238}U	NEMISS XSECT energy,angle	1. +6	7. +6	<10	2	LAS	GOAD ACCURACY 5 TO 10%.ANGULAR DISTRIBUTION DESIRED ONLY IF SIGNIFICANTLY ANISOTROPIC.IDENTIFY INELASTIC NEUTRONS WHERE POSSIBLE.ALD(TOWLE)HAS SOME DATA.	
298.	843 (768) No more in RENDA 70	^{238}U	NONEL GAMMAS (energy)	1.5+5	1.5+7	<40	1	LAS	BENNETT ACCURACY 30-40%.ABSOLUTE CROSS-SECTION REQUIRED, ENERGY SPECTRUM OF ALL GAMMAS NEEDED INCLUDING SOFT GAMMAS.MEASUREMENT AT ONE ANGLE ACCEPTABLE WITH 30-40% ERROR ON INTEGRAL VALUE.(55/ PREFERRED) UPPER LIMIT SUFFICIENT IF EQUAL TO OR LESS THAN 10 MICRO- BARNS/(SR-MEV)OR EQUIVALENT.NEUTRON ENERGY RESOLUTION--FROM 150 EV TO 5 MEV-10%-FROM 5 TO 15 MEV-0.5 TO 1.0 MEV.GAMMA ENERGY RESOLUTION--FROM 50 KEV TO 5 MEV-10% FROM 5 TO 15 MEV-0.5 TO 1.0 MEV TNC MORGAN ET AL.1-5 MEV AND AT 14 MEV.1966 LAS DRAKE AND HOPKINS 4-7.5 MEV DATA AVAILABLE.1966	60
299.	844 (816*)	^{238}U	NONEL GAMMAS spectrum	THR		10	3	WIN ---	CAMPBELL FOR STUDY OF ACTIVATION AND HEAT RELEASE IN CORE.	
300.	845 (769)	^{238}U	TOT INELASTC	TR		<10	2	AE	HAGGBLOM FOR FAST REACTOR CALCULATIONS	
301.	846 (774*)	^{238}U	DIFF INELAST energy,angle	TR	4. +6	20	1	WIN --- MBR ALD	CAMPBELL FOR FAST REACTORS. FERGUSON DATA AVAILABLE TO 1.5MEV (CN23/22).ALSO BATCHELOR IN PROGRESS.SEE BRAID PL 18,149 (8/65)	

No.	Ref (Reg)	Nuclide	Quantity	Energy(EV) Min	Max	(%) Accuracy	P	Lab	Requestor, Comments	Year
302.	848 (770)	^{235}U	DIFF INELAST energy dist	1.5+4	1. +6	10	2	KFK	SCHMIDT ALMOST NO DATA AVAILABLE. XSECT FOR EXCITATION OF INDIVIDUAL LEVELS OR GROUPS OF LEVELS DESIRED.	
303.	849 (771)	^{235}U	DIFF INELAST energy dist	TR	1.5+7	<20	2	CAD KFK	RAVIER SCHMIDT ACCURACY 10% FOR THRESHOLD - 1.5 MEV 20% FOR 1.5 - 15 MEV ENERGY RESOL ABOUT 100 KEV FERGUSON'S DATA HAVE TO BE COMPLETED.	
304.	850 (772)	^{235}U	DIFF INELAST energy dist	1.0+5	6. +6	10		LRL	HOWERTON NOT SATISFIED.ANL(SMITH)WORKING BELOW 1.5 MEV.HAR WORK IN PROGRESS.SEE PARIS CONF. 1966.RANDC PRIORITY 2.	
305.	851 (773)	^{235}U	DIFF INELAST energy dist	1.0+5	6. +6	10	2	RDT ANL	AVERY RELATIVE YIELD ABOVE U238 THRESH-HOLD OF INTEREST, NEEDED FOR FAST BREEDER CALCULATIONS,INCIDENT AND EXIT RESOLUTIONS SHOULD BE 10%.ANL(SMITH)WORKING BELOW 1.5 MEV.HAR WORK IN PROGRESS.SEE PARIS MEETING 1966.RANDC PRIORITY 2 REQUEST.	
306.	852 (775) No more in RENDA 70	^{235}U	N3N REACTION	TR	1.6+7	10	2	LAS	DIVEN REGION FROM THRESHOLD TO 16 MEV WANTED.NO ACTIVE WORK.	
307.	853 (776) No more in RENDA 70	^{235}U	FISSION	THR	2. +3	5	1	WOR	THERMAL REACTOR CRITICALITY	
308.	854 (778) No more in RENDA 70	^{235}U	FISSION	5. -1	1.0+4	10	1	JAE	FOR THERMAL REACTORS AND INTERMEDIATE-FAST REACTORS.	
309.	855 (779)	^{235}U	FISSION	1. +0	1.0+7	3	2	RDT KAP GRV	EHRLICH SNYDER CROSS-SECTION WANTED AT 1,10,100 EV.,1,10,100 KEV AND 1,10 MEV WITH 3% ACCURACY AND ENERGY RESOLUTION OF 1%.NEEDED FOR NORMALIZATION PURPOSES.NO ACTIVE WORK.	
310.	856 (781)	^{235}U	FISSION	1. +2	1.0+7	< 5	1	CAD JUL	RAVIER GERWIN ACCURACY 5% FOR 100 EV-10 KEV 2% FOR 10 KEV-1 MEV 5% FOR 1 MEV-10 MEV SPECTRUM INDICES. STANDARD CROSS SECTION. ACCORDING TO 1966 EVALUATION KFK 120/2 PRESENT ACCURACY 5 - 10%.	
311.	857 (782) No more in RENDA 70	^{235}U	FISSION	1. +2	1. +3	10	1	JAE	FOR THERMAL REACTORS AND INTERMEDIATE-FAST REACTORS.	
312.	859 (780) Withdrawn	^{235}U	FISSION	5. +3	4. +4	3	2	WIN --- HAR	KIRCHNER CAMPBELL ACCURACY 3% (N-2N).FOR THERMAL AND FAST REACTORS. NOTE REDUCED PRIORITY AND ENERGY RANGE. JAMES DATA AVAILABLE (ANL 7320),ALSO GEEL(RANDC(E) 82 AL),SEE KNOLL JNE21,643(8/67),ALSO HANSEN WASH 1074, 75(4/67),AND DIVEN LA-3586 P348(D066),AND CONDE 66 PARIS I,419 (0/66)	
313.	860 (783)	^{235}U	FISSION	1.0+4	1.4+7	1	1	LAS	HANSEN EXCITATION FUNCTIONS AT MANY ENERGY POINTS NEEDED. ABSOLUTE CALIBRATION AT FEW MORE ENERGY POINTS THAN PRESENTLY AVAILABLE. RELATIVE XSECT ERROR TO 1%,DE/E RESOLUTION TO 3%.DE/E CALIBRATION TO 1%.NO ACTIVE WORK.	
314.	861 (784)	^{235}U	FISSION	1. +4	8. +6	1	1	RDT ORL	HAIRSCHEIN FOR FAST REACTOR CALCULATIONS AND USE AS A STANDARD IN MEV RANGE,A FEW SELECTED POINTS USEFUL. NO WORK TO REQ.ACCURACY.RANDC PRIORITY I.REQUEST MAY BE BEYOND PRESENT TECHNIQUES.	

No.	Ref (Reg)	Nuclide	Quantity	Energy (EV) Min	Energy (EV) Max	(%) Accuracy	P	Lab	Requestor, Comments	Year
315.	862 (7860) Withdrawn	235U	FISSION	4.0+4	1. +6	0.5	3	WIN ---	SMITH FOR FAST REACTORS. ACCURACY AT PRESENT UNOBTAINABLE.MAY BE MET BY INTE- GRAL MEASUREMENTS	
316.	863 (7870)	235U	FISSION	4.0+4	5. +6	3	1	WIN --- ALD HAR	CAMPBELL FOR FAST REACTORS.NOTE RELAXED ACCURACY REQUIREMENT. WHITE JNE 19,325 (1965) COATES IN PROGRESS.	
317.	866 (788)	235U	ETA	THR	5.0+4	2	1	RDT GRV ANL	 SNYDER AVERY FOR THERMAL AND FAST REACTORS,0.5% ACCURACY WANTED AT THERMAL,2% ELSEWHERE.HAR(UTTLEY)AERE-R 1272 (1963) EANDC PRIORITY I.	
318.	867 (789) No more in RENDA 70	235U	ETA	THR	2. +3	2	1	WUR	THERMAL REACTOR CRITICALITY	
319.	868 (791) No more in RENDA 70	235U	ETA	1. -2	2. +0	1	2	WUR	QUANTITY ETA (E)/ETA-ZERO TEMPERATURE COEFFICIENT	
320.	869 (7920)	235U	ETA	1. -2	2. -1	0.5	2	WIN --- ITE	KINCHIN QUANTITY ETA(E)/ETA(ZERO).MESURE IN 0.02EV STEPS. FOR TEMPERATURE COEFFICIENT WORK.NOTE INCREASED PRIORITY. KIRPICHNIKOV IN PROGRESS SEE SMITH 66WASH 919 (0/66),AND IGNATIEV JNE 18,719 (/64)	
321.	870 (7930)	235U	ETA	1. -2	4. -1	0.5	3	WIN ---	KINCHIN QUANTITY ETA(E)/ETA(ZERO).MEASURE IN 0.05EV STEPS FOR TEMPERATURE COEFFICIENT WORK.	
322.	871 (790*) No more in RENDA 70	235U	ETA	2.5-2		0.5	3	WIN ---	KINCHIN TO CHECK MACKLIN'S VALUE,NSE8,1960 REQUIREMENT MET.J.SMITH IDO/17083	
323.	873 (7950) Withdrawn	235U	ALPHA	1.0+2	1.0+5	5	2	WIN --- ORL	CAMPBELL ACCURACY 5% (N-2N).FOR FAST REACTORS. DE SAUSSURE DATA AVAILABLE CN-23/48AND ORNL/TM 1804 SEE VAN SHI-DI 65ALSEB I P287(3/65),ALSO DIVEN NASE 1056VIIIB1(3/65),AND BELL LADC 8513 (1/67)	
324.	876 (1152*) Withdrawn	235U	ALPHA	1. +3	4.0+4	2	3	WIN ---	SMITH ACCURACY 2% (N-2N).BETTER ACC.THAN 5% WOULD BE ACCEPTABLE. ACCURACY AT PRESENT UNOBTAINABLE.MAY BE MET BY INTE- GRAL MEASUREMENTS	
325.	877 (796*) No more in RENDA 70	235U	NU	2.5-2		0.5	3	WIN ---	KINCHIN FOR THERMAL REACTORS. REQUIREMENT MET.WESTCOTT ET AL AT.EN.REV.VOL 3,E02 (1965)	
326.	878 (1148*) Withdrawn	235U	NU	1.0+4	1. +6	1	3	WIN ---	CAMPBELL FOR FAST REACTORS. SEE PROKHOROVA INDC-187E (5/67),AND KUZNECOV FPI-4 18 (5/67),ALSO MEADOWS JNE 21,157 (2/67),AND COLVIN 65SALZB II P25 (3/65),AND CONDE 65SALZB II P57 (3/65) AND FILLMORE JNE 22,79 (2/68)	68
327.	880 (797)	235U	P NEUT DELAY	THR			2	RDT KAP	 EHRLICH DELAYED N YIELDS,ABUNDANCES,HALFLIFES,SPECTRUM. DESIRED SPECTRAL ACCURACY DE(E)/E(E) = 15 (NEEDED TO CHECK.KEEPIN DATA.NO ACTIVE WORK.	
328.	881 (798)	235U	SPECT FISS N	THR			2	RDT KAP ANL	 EHRLICH AVERY FISSION N SPECTRUM FROM THERMAL INDUCED FISSION. DESIRED DE/E = 5% DE(E)/E(E) = 10%.ENERGY REGION 10-18 MEV AND BELOW 0.3 MEV ARE WANTED,NEEDED FOR FAST REACTORS AND FOR ACTIVATION ANALYSIS.NO ACTIVE WORK.	

No.	Ref (Req)	Nuclide	Quantity	Energy(EV) Min	Max	(%) Accuracy	P	Lab	Requestor, Comments	Year
329.	883 (7990)	U235	SPECT FISS N	1.0+5		2	2	WIN --- HAR	CAMPBELL ACCURACY 2% ON MEAN E'.FOR FAST REACTORS.NOTE RELAXED ENERGY SPECIFICATION BARNARD DATA AVAILABLE NUC.PHYS. 71,228 (1965)	
330.	884 (800)	U235	FISS YIELD	THR		3	2	RDT BRT	BAYARD FISSION PRODUCT YIELD OF SM149.FOR CALCULATION OF FISSION PRODUCT POISONS.NO ACTIVE WORK.	
331.	885 (801)	U235	FISS YIELD	THR		1	2	RDT SRL BRT	DESSAUER BAYARD FISSION PRODUCT YIELD OF CS137.FOR BURNUP INDICATOR STANDARDS.NO ACTIVE WORK.	
332.	886 (802) No more in RENDA 70	U235	FISS YIELD	THR		3	2	RDT BRT	BAYARD FISSION PRODUCT YIELD OF XE135.FOR CALCULATION OF FISSION PRODUCT POISONS,CUMULATIVE AND DIRECT (INCLUSIVE OF 15 M ISOMER)YIELDS WANTED.NO ACTIVE WORK.	
333.	887 (803*) No more in RENDA 70	U235	ABSORPTION	1. -2	1. +0	1.5	1	WIN ---	KINCHIN FOR THERMAL REACTORS. REQUIREMENT SET.AERE/M1670	
334.	888 (804*) No more in RENDA 70	U235	ABSORPTION	1. +0	1.5+1	5	1	WIN ---	KINCHIN ACCURACY 5% (N-2N).FOR THERMAL REACTORS. REQUIREMENT SET.AERE/M1670 AND NSE 23,45 (1965)	
335.	889 (805*) No more in RENDA 70	U235	ABSORPTION	1.5+1	1.0+2	6	1	WIN ---	KINCHIN ACCURACY 6%(N-2N).FOR THERMAL REACTORS. REQUIREMENT SET.NSE 23,45 (1965)	
336.	891 (806)	U235	N,GAMMA (alpha)	THR	3.0+4	3	2	RDT ABL BRT	AVERY BAYARD N-GAMMA AND ALPHA WANTED FOR THERMAL AND FAST REACTOR CALCULATIONS.SAC(MICHAUDON)THESIS UNIV.OF PARIS 64,HAR(UTTLEY)AERE-R 1272(1963),ORL(RPI) DESAUSSURE IAEA PARIS CONF.1966,FISSION AND N-GAMMA TO 3 KEV.EANDC PRIORITY 1.	
337.	892 (807) No more in RENDA 70	U235	N,GAMMA	THR	2. +3	5	1	WOR	THERMAL REACTOR CRITICALITY	
338.	893 (808) Withdrawn	U235	N,GAMMA (alpha)	1.0+1	1.0+4		2	JUL CAD	GERWIN RAVIER ACCURACY ALPHA WITHIN 0.05 ANALYSIS OF CRITICAL EXPERIMENTS.	
339.	895 (810)	U235	N,GAMMA	1. +4	1.0+7		2	JUL CAD	GERWIN RAVIER ACCURACY ALPHA WITHIN 0.01 ANALYSIS OF CRITICAL EXPERIMENTS. THE EXPERIMENTAL EFFORT IN THIS REGION IS VERY SMALL AND RESTRICTED IN THE ENERGY RANGE.	
340.	896 (811) No more in RENDA 70	U235	N,GAMMA (alpha)	3.0+4	1.5+5	4	2	RDT AI GRV	ALTER SNYDER N-GAMMA AND ALPHA WANTED FOR THERMAL AND FAST REACTOR CALCULATIONS.HAR(UTTLEY)AERE-R 1272(1963), ORL(RPI) DESAUSSURE,IAEA PARIS CONF.1966, ALPHA BETWEEN 20 AND 600 KEV,EANDC PRIORITY 1.	
341.	897 (813)	U235	N,GAMMA (alpha)	1.5+5	7. +6	<10	2	RDT ABL	AVERY ACCURACY 5 TO 10%.N-GAMMA AND ALPHA WANTED FOR FAST REACTOR CALCULATIONS.ORL(RPI)DESAUSSURE IAEA,PARIS CONF.1966 HAVE ALPHA TO 600 KEV	

No. Ref Nuclide Energy(EV) (%) P Lab Requestor, Comments Year
(Reg) Quantity Min Max Accuracy

342. 900 [illegible] SPECT NGAMMA THR 2 RDT KAP
(815)
ENGLICH
CAPTURE GAMMA RAY SPECTRUM
INCIDENT ENERGY THERMAL.SPECTRUM RESOLUTION
DE(E)/E(E) = 20%.LOW RESOLUTION FOR SHIELDING.NO
ACTIVE WORK.

343. 901 [illegible] SPECT NGAMMA +0 1.5+1 2 RDT BET
(817)
BAYARD
RELATIVE RADIATIVE CAPTURE GAMMA SPECTRUM
DESIRED INCIDENT ENERGY RANGE 0-15EV. DE(E)/E(E)
SHOULD BE 10% AT 50 KEV INTERVALS.FOR GAMMAS OF 100
KEV AND ABOVE,NEEDED FOR SHIELDING AND GAMMA
HEATING.IS SPECTRUM SAME FOR THERMAL AND RESONANCE
NEUTRON CAPTURE?NO WORK IN PROGRESS.

344. 903 [illegible] NUCL.LEVELS 5.0+5 1. +6 2 KPK
(818)
SCHMIDT
QUANTITY EJ, I, P.
ALMOST NO DATA AVAILABLE.

345. 923 [illegible] TOTAL XSECT 4.1+3 1.0+7 10 JAE
(833) No more in RENDA 70
FOR FAST REACTORS.

346. 924 [illegible] TOTAL XSECT 1. +5 2.5+6 8 1 CAD
(834)
RAVIER
ACCURACY OF EXISTING DATA INSUFFICIENT (12%).

347. 925 [illegible] RESON PARAMS 1.8+3 1.0+4 10 1 JAE
(835) No more in RENDA 70
QUANTITY GAMMA-N AND GAMMA-GAMMA.
FOR FAST REACTORS. FOR 1.8 TO 4 KEV, E-ZERO
AND GAMMA-N-ZERO VALUES WERE MEASURED BY J.B. GARG
PHYS. REV. 134 B 985 (1964)

348. 926 [illegible] RESON PARAMS 2.0+3 5.0+3 3 2 AE
(1161+)
HABGGBLOM 68
FAST REACTOR CALCULATIONS
FISSION-NEUTRON-AND GAMMA WIDTH WANTED

349. 928 [illegible] DIFF ELASTIC 4.0+4 5. +6 3 1 WIN --- HAR
(1149+)
CAMPBELL 68
FOR FAST REACTORS.
BARNARD DATA AVAILABLE FROM 0.075 1.6MEV NUC.PHYS.
80,46
SEE WILMORE 66PARIS 1,443 (0/66),AND DUNFORD 66PARIS
1,429 (0/66),ALSO KAWAI JAERI 1126 PI (1/67),AND AGEE
LA-3538-MS V2 (9/66),AND STROMBERG NP 71,511 (9/65)

350. 930 [illegible] DIFF ELASTIC 2. +6 5. +6 10 2 RDT AI
(838)
ALTER
ACCURACY 20% USEFUL.BOTH CROSS-SECTION AND AVE.
(1-COS) DESIRED,ENERGY RESOLUTION BETTER THAN 1 MEV.
WANTED FOR FAST BREEDER CALCULATIONS.NO ACTIVE WORK
IN PROGRESS.USE OPTICAL MODEL ABOVE 6 MEV.RANDC
PRIOR 2 TO 10 MEV.ALD (BATCHELOR ET AL.) AT 2-3-4-7
MEV.EP-65-236.

351. 931 [illegible] NONELASTIC TR 4. +6 5 1 CAD
(839) No more in RENDA 70
RAVIER

352. 932 [illegible] NONEL GAMMAS 1.5+5 1.5+7 <40 1 LAS
(840) energy dist
No more in RENDA 70
BENNETT
ACCURACY 30 TO 40% ABSOLUTE.ENERGY SPECTRUM OF ALL
GAMMAS WANTED.DESIRED RESOLUTION
A.150 EV-5 MEV-----10%
B.5 MEV-15 MEV-----0.5-1.0 MEV
TNC(MORGAN ET AL.)HAVE DATA 1-5 MEV AND 14 MEV.

353. 933 [illegible] NONEL GAMMAS +0 1.0+7 10 2 RDT BET
(841) energy,angle
BAYARD
ACCURACY 10% IN SPECTRUM.GAMMA-RAY SPECTRUM DESIRED
AT INTERVALS OF 0.5 MEV IN GAMMA ENERGY.GAMMAS OF
ALL ENERGIES WANTED FOR SHIELDING AND GAMMA HEATING
CALCULATIONS.TNC (MORGAN)HAS SOME RESULTS.

354. 934 [illegible] NONEL GAMMAS 2.5-2 1.4+7 20 3 WIN ---
(874+) spectrum
Withdrawn
CAMPBELL
ACTIVATION AND HEAT RELEASE IN CORE
SEE CHRIEN PL 258,195 (8/67),ALSO PR 151,1011 (8/66),
AND BESSNER KPK 540(8/66) AND BERGQVIST NP 74,15
(D/65)

No.	Ref (Reg)	Nuclide	Quantity	Energy(EV) Min	Max	(%) Accuracy	F	Lab	Requestor, Comments	Year
355.	936 (843)	238U	TOT INELASTC	7.0+4	2.0+5	10	2	AE	HANGGBLOM FAST REACTOR CALCULATIONS.	
356.	937 (844)	238U	DIFF INELAST	TR	1.0+7	10	1	CAD	RAVIER SEPARATION OF LEVELS UP TO 2MEV. ABOVE 2MEV ACCURACY ON NUCLEAR TEMPERATURE.	
357.	938 (845)	238U	DIFF INELAST	TR	2. +6	10	2	KFK	SCHMIDT AVAILABLE DATA INSUFFICIENT. SEE EXTENSIVE DISCUSSION IN KFK 120/PART I. 1.2 MEV <E' <2MEV	
358.	939 (8500)	238U	DIFF INELAST energy,angle	5. +5	2.5+6	3	1	WIN --- HAR	CAMPBELL FOR FAST REACTORS. BARNARD DATA AVAILABLE FROM 0.75 1.6MEV NUC.PHYS. 80,46 SEE DUNFORD 66PARIS I,429 (0/66),ALSO HOLDAUER 66WASH 613 (3/66),AND WILMORE 65ANTWERP 30 (7/65),AND HARCHUK JNE 20,77 (/66)	
359.	940 (846)	238U	DIFF INELAST energy dist	1. +6	1.0+7	<20	1	EDT GEV ANL ORL	 SNYDER AVERY HAIRENSCHEIN INCIDENT AND EXIT RESOLUTION 5% FOR FAST BREEDER CALCULATIONS.ANL(SMITH)HAS TO 1.5 MEV.HAR DATA AVAILABLE,TO 2 MEV SEE EP-1966 ALD(BATCHELOR)HAS DATA BETWEEN 4-6 MEV.	
360.	941 (847)	238U	DIFF INELAST	1.2+6	2. +6	10	2	KFK	SCHMIDT E' = 0.045 E' = 0.148 NO DATA AVAILABLE. SEE EXTENSIVE DISCUSSION IN KFK 120/PART I.	
361.	942 (848) No more in RENDA 70	238U	DIFF INELAST	6. +6	1.4+7	5	1	LAS	GOAD ONE POINT NEAR 10 MEV WOULD HELP.LASL THOMSON HAS MEAS.TEMP AT 7 MEV.EANDC PRIOR.1 REQUEST.	
362.	943 (849)	238U	DIFF INELAST energy dist	7. +6	1.0+7	5	2	KFK	SCHMIDT FORMER NX XSECT MEASUREMENTS AT 2.5,4,6 AND 7 MEV (HUGHES, GENEVA CONF. 1958, P/2483, ANTSTER, LA-2099,1957), DIFF INELAST XSECT MEASUREMENTS AND T ASSIGNMENTS AT 2.45 MEV (CRANBERG ET AL., PHYS. REV. 103,343,1956) AND AT 2.5 AND 3.5 MEV (SEE MANDEVILLE, KAVANAGH, CUR-4028,1958). NEW MEASUREMENTS OF TOTAL AND DIFF INELAST XSECT AND T AVAILABLE FROM BATCHELOR ET AL. (EANDC (UK) 48 "S", 1964) AT 2,3,4 AND 7 MEV AND FROM BUCCINO ET AL. (EANDC (US) 38,1963) AT 4,5,6 AND 6.5 MEV. DIFF INELAST XSECT MEASUREMENTS AT 3 AND 14 MEV AT STUDSVIK IN PROGRESS (DURING, JANSSON), EANDC (OR) 33 "L"). NO DATA AVAILABLE FROM 7 TO 10 MEV.	
363.	944 (851) No more in RENDA 70	238U	DIFF INELAST energy,angle	2. +6	1.6+7	10		GDT	KIDD INCIDENT AND EXIT RESOLUTION SHOULD BE 0.5 MEV. ANGULAR RESOLUTION 5-10/ INELASTIC GAMMAS WITH ENERGIES ABOVE 0.5 MEV ARE IMPORTANT.NO ACTIVE WORK	
364.	945 (852)	238U	N2N REACTION	TR	1.0+7	10	2	CAD NN	RAVIER TAVERNIER NEUTRON ECONOMY OF FAST REACTORS.	
365.	946 (8530) Withdrawn	238U	FISSION	TR	5. +6	5	3	WIN --- ALU	CAMPBELL FOR FAST REACTORS.NOTE EXTENDED ENERGY RANGE AND RELAXED ACCURACY REQUIREMENT. WHITE MAY BE SET,JNE 21,671 SEE ALSO WASH 1074 (1967) SEE HANSEN WASH 1074,75 (4/67),ALSO STEIN WASH 1071, 129 (N/66),AND DUNFORD 66PARIS 1,429 (0/66)	
366.	947 (854)	238U	FISSION ratio xsect	5.0+5	1.5+7	5	1	LAS	HANSEN ABSOLUTE FISSION RATIO WITH RESPECT TO U235. ENERGY INTERVAL.0.5-1.5 1.5-15.0 MEV RESOL.IN ENERGY 3% 3% CAL.ON ENERGY 1% 1% RATIO ERROR 5% 1% LASL(STEIN)HAS COMPLETED 1-5 MEV REGION WITH AN ERROR OF ABOUT 2.5%.	

No. Ref Nuclide Energy(EV) (%) P Lab Requestor, Comments Year
(Reg) Quantity Min Max Accuracy

367. 948 238U NU TR 5. +6 2 1 WIN CAMPBELL
(8568) Withdrawn
FOR FAST REACTORS. NOTE INCREASED PRIORITY AND RELAXED
--- ACCURACY REQUIREMENT
NPL AXTON MAY DO
SEE FILLMORE JNE 22,79 (2/68) AND MATHER NUCL. PHYS.
66,149 (1965) ASPLUND-NILSSON NUCL.SCI.ENG. 20,527
(1964) EXPERIMENTS PLANNED BY SOLEILHAC ET AL.
(1.4-14MEV) MORE WORK REQUIRED.

368. 949 238U NU 5.0+5 1.4+7 LRL HOWERTON
(857) No more in RENDA 70
INCONSISTENT RESULTS TO DATE OBSCURE ENERGY
DEPENDENCE. SWEDEN (ASPLUND-NILSSON) AT 1.5 AND 15 MEV
ANL (SMITH) ANL-6792. EANDC PRIOR. 2

369. 950 238U SPECT FISS N 0. +0 1.0+5 10 2 CAD RAVIER
(858)

370. 951 238U N,GAMMA THR < 1 2 CRC WESTCOTT.
(860)
CRC HANNA
ACCURACY 0.5-1%. FOR ACCURATE ALPHA OF NATURAL URANIUM.
RECENT VALUES AGREE FAIRLY WELL BUT OLDER (1951)
U.S. VALUES UNEXPLAINED.

371. 952 238U N,GAMMA THR 3. +0 3 1 JAE
(861)
No more in RENDA 70
FOR THERMAL REACTORS.
NO DATA AVAILABLE EXCEPT TOT ISECT.

372. 953 238U N,GAMMA THR 0.7 2 WIN KINCHIN
(8590)
CAMPBELL
--- FOR THERMAL AND FAST REACTORS
SEE ERTEK EANDC(OR) 50L (3/66), ALSO STAVISSKII SJA
19,1210 (9/65), AND MACKLIN RMP 37,166 (1/65)

373. 954 238U N,GAMMA 5. -1 1.0+4 10 1 JAE
(862) No more in RENDA 70
FOR THERMAL AND INTERMEDIATE-FAST REACTORS.

374. 955 238U N,GAMMA 5. +2 3.0+5 <10 1 NDT
(864)
AI ALTER
GEV SNYDER
ANL AVERY
FOR FAST REACTOR CALCULATIONS, BELOW 20 KEV, GAMMA-F
AND GAMMA-GAMMA WANTED TO 10%, 20% WOULD BE USEFUL.
SAC(CONGE) UP TO 2 KEV. COL(GANG) UP TO 4 KEV. HAR
(FERGUSON-MOXON) ANL-6792 EANDC PRIORITY I.

375. 956 238U N,GAMMA 5.0+2 8.0+5 5 1 CAD RAVIER
(865)
JUL GERWIN
ACCURACY 3% FOR 500 EV-10 KEV; 2% FOR 10 KEV-400 KEV;
3% FOR 400 KEV-800 KEV
R.O. MENLOVE AND W. PONITZ (R.O. MENLOVE
AND W. PONITZ, UNPUBLISHED) MEASURED AT 30 KEV
AND PREPARE MEASUREMENTS IN THE RANGE 30 KEV -
300 KEV (ACCURACY ANTICIPATED 5%). M.C. MOXON
(M.C. MOXON, PRIV. COMM.) WILL MEASURE IN THE
ENERGY RANGE 1-100 KEV WITH 5% ACCURACY.
FAST REACTOR CALCULATIONS. INCOHERENCE
IN EXISTING DATA UP TO 25%.

376. 957 238U N,GAMMA 2. +3 6. +5 3 1 WIN CAMPBELL
(8678)
ACCURACY 3% (N-2N). FOR FAST REACTORS. NOTE INCREASED
--- ACCURACY REQUIREMENT
HAR MOXON IN PROGRESS
NPL AXTON MAY DO
SEE MIESSNER 66PARIS 1,502 (0/66), AND BUNFORD 66
BETRON JNE AB20,146(2/66) AND MARCHUK JNE 20,77
(/66), AND DARE JNE AB 18,481 (9/64) TO 5%

377. 958 238U N,GAMMA 1. +4 1. +6 < 3 2 AE MARGGELON 68
(11624)
AE JIRLON
FAST REACTOR CALCULATIONS

378. 960 238U N,GAMMA 4.0+4 1. +6 1 3 WIN SMITH
(8688) Withdrawn
--- FOR FAST REACTORS.
ACCURACY AT PRESENT UNOBTAINABLE. MAY BE MET BY INTEGRAL MEASUREMENTS

No.	Ref (Reg)	Nuclide	Quantity	Energy(EV) Min	Max	(%) Accuracy	P	Lab	Requestor, Comments	Year
379.	961 (869)	238U	N,GAMMA	3. +5	1.0+7	3	2	RDT AI GEV ANL	 ALTER SNYDER AVERY FOR FAST REACTOR CALCULATIONS.NO ACTIVE WORK.	
380.	962 (8700) Withdrawn	238U	N,GAMMA	6. +5	5. +6		1	NIB --- NPL	CAMPBELL ACCURACY 0.005E(MEV)BARNS.FOR FAST REACTORS AXTON MAY DO SEE BARR JNE AB 18,481 (9/64),AND MARCHUK JNE 20,77 (66),AND DUNFORD 66PARIS 1,429 (0/66)	
381.	963 (872) No more in RENDA 70	238U	N,GAMMA	5. +6	1.0+7	10	2	JAE	FOR FAST REACTORS.	
382.	964 (8710) No more in RENDA 70	238U	N,GAMMA	5. +6	1.0+7			WIN ---	SMITH ACCURACY 0.025-0.1 BARNS.FOR FAST REACTORS. WITHDRAWN.CURRENT DATA ACCEPTABLE	
383.	965 (875) No more in RENDA 70	238U	N,PROTON	1.4+7		20	2	LAS	BELL FOR INTERPRETATION OF RAPID NEUTRON CAPTURE IN SYNTHESIZING HEAVY NUCLEI.NO WORK IN PROGRESS.	67

Columbia University in the City of New York | New York, N.Y. 10027

DEPARTMENT OF PHYSICS

Pegram Nuclear Physics Laboratories

538 West 120th Street

19 August, 1970

MEMORANDUM

TO: Members of the EANDC

SUBJECT: World Wide Compliation of Requests for Nuclear Data Measurements

FROM: W. W. Havens, Jr., Chairman

Gentlemen:

Enclosed is a copy of a letter I received from George Kolstad, the Chairman of the INDC, requesting that the "Non-EANDC Request List for Neutron Nuclear Data Measurements" be combined with RENDA to create one world wide request list for nuclear data measurements which will be widely distributed. The desirability of combining these two request lists will be discussed at the next meeting of the EANDC. If the Committee decides that it is desirable to combine these two request lists and widely distribute the world request compilation, then several other questions must be answered. Some of these are as follows:

1. Who will prepare the combined world request list?
2. What distribution should this world request list receive?
3. Who will pay for publication and distribution of the request list?
4. What concessions will be granted to individuals or laboratories which make measurements which are on the request list?

I would appreciate it if you would discuss the implications of this combined request list with the authorities in your government and come prepared to make specific recommendations on the questions mentioned above and any others which occur to you which result from the combination of the two request lists.

Sincerely yours,

W. W. Havens, Jr.

Encl.

WWH:ljt

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

RECEIVED
AUG 19 1970
W. W. HAVENS Jr.

August 13, 1970

Professor William W. Havens, Jr.
(Chairman, EANDC)
Division of Nuclear Sci. & Engineering
Columbia University
New York, New York 10027

Dear Bill:

On February 4, 1969, Dr. Peter Weinzierl (Chairman of the EANDC) informed Dr. George Kinchin (Chairman of the INDC) that the EANDC had agreed to transmit the current request compilation (EANDC-78) to the INDC with the understanding that this compilation will not be merged into a broader document without prior agreement of the EANDC. He further requested that the IAEA make available to the EANDC a sufficient number of copies of a request compilation covering non-EANDC states so that the EANDC could consider the question of merging the two request compilations into a single world compilation for nuclear data which could be widely distributed. A copy of Dr. Weinzierl's letter to Dr. Kinchin is enclosed herewith.

The Nuclear Data Section of the IAEA has now prepared a document entitled, "Non-EANDC Request List for Neutron Nuclear Data Measurements" (INDC(NDS)-20/G). I have asked Dr. J. J. Schmidt, Scientific Secretary of the INDC and Head of the IAEA's Nuclear Data Section, to distribute this report to the members of the EANDC so that they may become aware of its contents. I would appreciate it if you would arrange for the EANDC at its next meeting to discuss the possibility of combining the new RENDA (EANDC-85 "U") with this "Non-EANDC Request List for Neutron Nuclear Data Measurements" into one single world compilation of requests for nuclear data which would then receive wide distribution (presumably by the IAEA). I would appreciate your informing me of the EANDC decision in this matter as soon after its meeting as possible.

Sincerely,

George A. Kolstad, Chairman
International Nuclear Data
Committee

Enclosure

cc: G. C. Hanna, Exec. Secy., INDC (AECL)
J. J. Schmidt, Sci. Secy., INDC (IAEA)