

SPIE / COS 
Photonics Asia

Connecting minds for global solutions
Showcasing Photonics and Optical Technologies
and Applications

Technical Program

18 – 20 October 2010
China National Convention Center
Beijing, China



SPIE

Connecting minds. Advancing light.



SPIE/COS Photonics Asia

Photonics Asia will showcase the power of light and photonics technologies and applications, focusing on: health care and medicine, energy and environment, manufacturing, information systems and communications, display, defense and aerospace, and entertainment technology.

A broad technical program

SPIE/COS Photonics Asia program provides the broad interdisciplinary reach you need to advance your research in lasers, biomedical optics, quantum and nonlinear optics, holography, optoelectronic imaging, LED and sensor technologies.

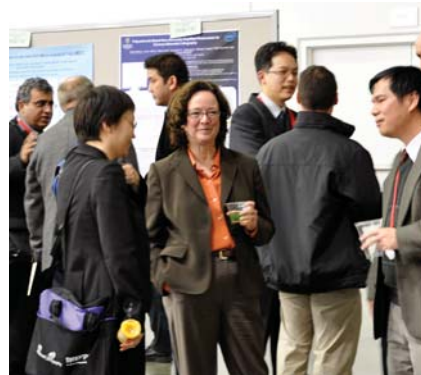
Collaborate with your colleagues

In a world where interdisciplinary collaboration is the rule rather than the exception, the scope of SPIE/COS Photonics Asia gives you opportunities to collaborate across disciplines that no other event can.

Technical Program

18 – 20 October 2010
China National Convention Center
Beijing, China





SPECIAL EVENTS

Photonics Asia Banquet

Monday 18 October
18.30 to 20.30 pm

Join us for the official conference banquet. One ticket is included with each full paid registration. Additional tickets will be available for purchase online and at the registration desk. Banquet performances include the famous Beijing Opera and other programs.

Evening Poster Sessions

Tuesday and Wednesday from 18.30 to 20.30
Hallway outside of conference rooms 302-305

Conference attendees are invited to attend the poster sessions on Tuesday and Wednesday evening. Come view the posters, enjoy light refreshments, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster sessions.

Poster authors can set up their presentations between 11.00 and 15.00. Posters that are not set up by 18.30 will be considered a No Show and will not be published in the proceedings volume.

SPIE would like to express its deepest appreciation to the symposium chairs, conference chairs, program committees, session chairs, and authors who have so generously given their time and advice to make this symposium possible.

The symposium, like our other conferences and activities, would not be possible without the dedicated contribution of our participants and members. This program is based on commitments received up to the time of publication and is subject to change without notice.

CONTENTS

Special Events

Conference Organizers and Committees	2
China National Convention Center Floor Plans	4-5
Conference Session Daily Schedule	6-7
Plenary Session	8-9

Technical Conferences

7843	High-Power Lasers and Applications V (Singh, Fan, Yao, Walter)	10
7844	Semiconductor Lasers and Applications IV (Zhu, Li, Amzajeradian, Suzuki)	13
7845	Optics in Health Care and Biomedical Optics IV (Luo, Gu, Li)	15
7846	Quantum and Nonlinear Optics (Gong, Guo, Shen)	20
7847	Optoelectronic Devices and Integration III (Zhang, Ming, Wang)	22
7848	Holography, Diffractive Optics and Applications (Sheng, Yu, Chen)	25
7849	Optical Design and Testing IV (Wang, Bentley, Du, Tatsuno, Urbach)	29
7850	Optoelectronic Imaging and Multimedia Technology (Yoshizawa, Wei, Zheng)	33
7851	Information Optics and Optical Data Storage (Song, Tao, Yu, Jutamulia, Immink, Shono)	36
7852	LED and Display Technologies (Yu, Hou)	38
7853	Advanced Sensor Systems and Applications IV (Culshaw, Liao, Wang, Bao, Fan, Zhang, Shimura)	40
7854	Infrared, Millimeter Wave, and Terahertz Technologies (Zhang, Zhang, Siegel, He, Shi)	44
7855	Optical Metrology and Inspection for Industrial Applications (Harding, Huang, Yoshizawa)	48
	Proceedings of SPIE and Searchable CD-ROM of SPIE	51

SPIE/COS Photonics Asia

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Welcome to Photonics Asia 2010

We would like to welcome all members and attendees exhibitors to Photonics Asia 2010. Photonics and optical technologies are becoming increasingly important in health care and medicine, environment and energy, manufacturing, information systems and communications, display, defense and aerospace, entertainment, etc. China is an important market for the global optics and photonics industries.

Photonics Asia strives to be the must-attend event for the global photonics community who need to keep up with what is happening in the Asia optics and photonics industry, especially the dynamic Chinese optics and photonics industry, and develop new partnerships and new markets. It will provide a unique forum for the reporting and review of new developments in photonics and optoelectronics ranging from material and devices to advanced systems and applications. Cutting-edge technologies, applications, product announcement and demonstration, market analysis and investment opportunities will be discussed in various conference sections and products exhibition.

Again, we extend our warmest greetings to you and hope that you have a rewarding and exciting experience at Photonics Asia.

Photonics Asia 2010 General Chairs

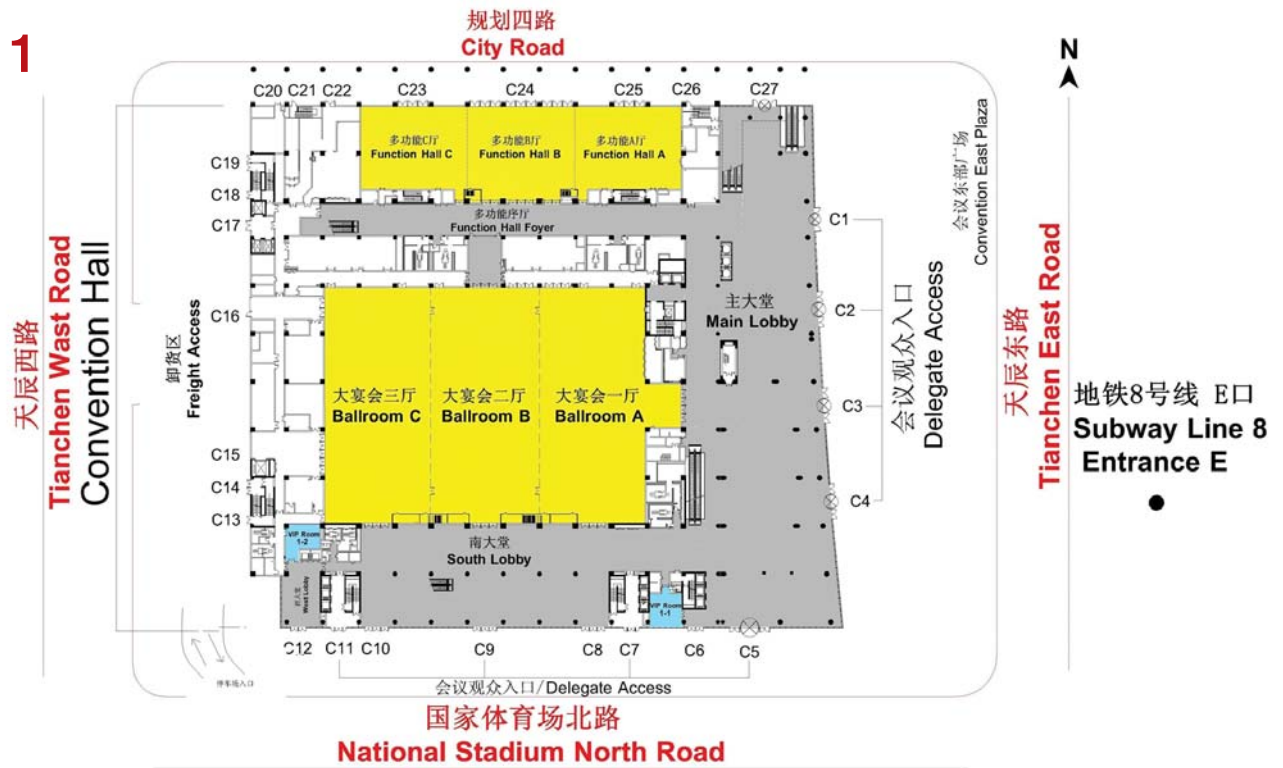


Ralph James
SPIE President
Brookhaven National
Lab. (United States)



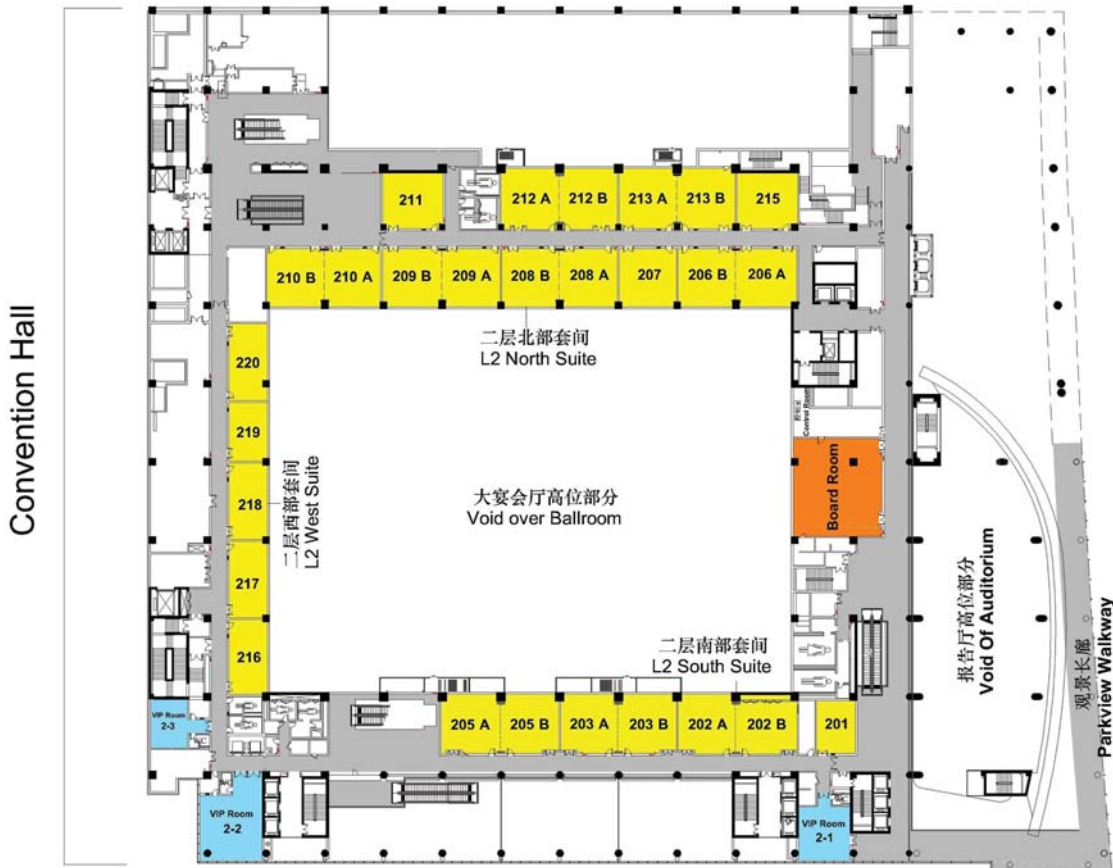
Bingkun Zhou
COS President
Tsinghua Univ. (China)

Level 1

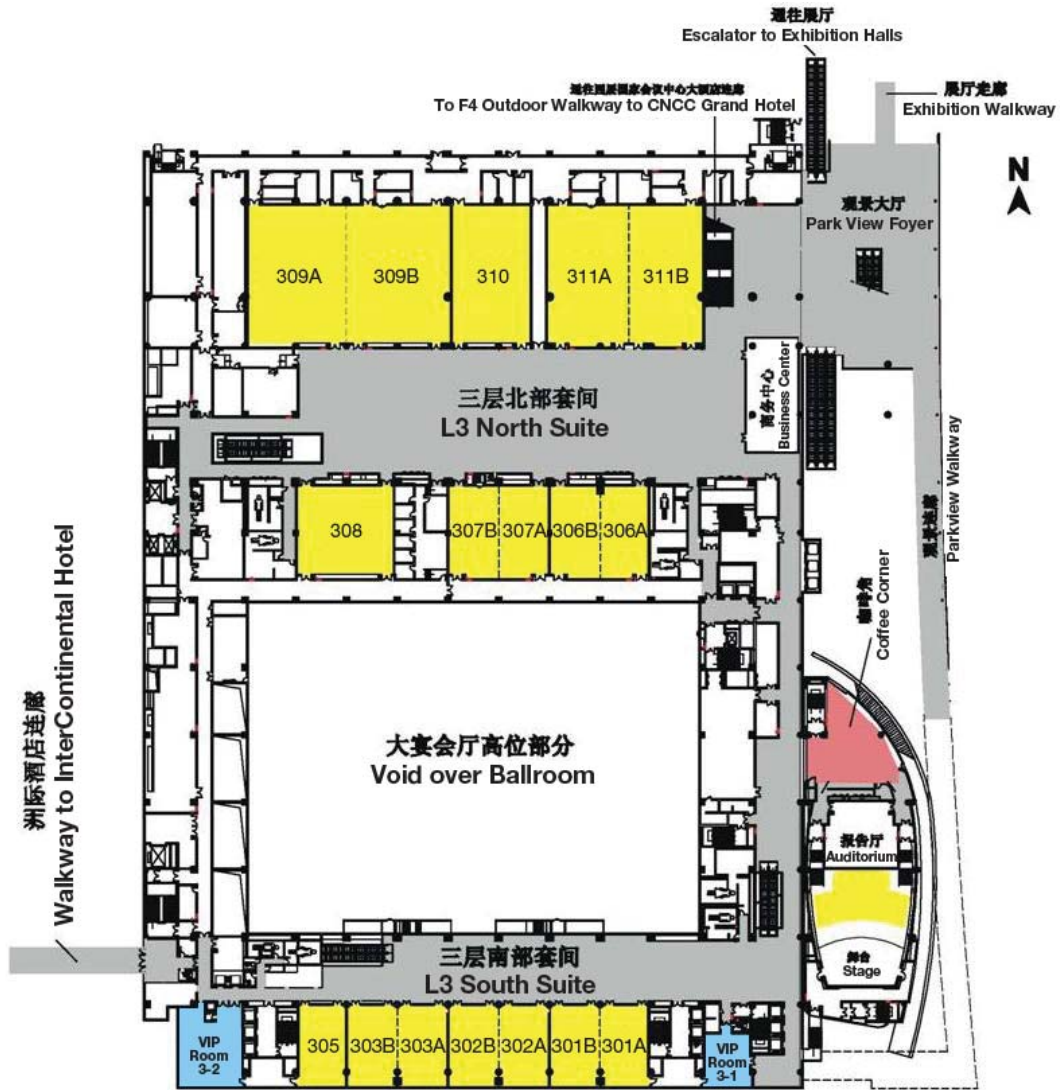


国家会议中心一层会议平面图

Level 2



Level 3



Conference Session Daily Schedule

Conference 7843
High-Power Lasers and Applications V

Room: 303A

Conference 7844
Semiconductor Lasers and Applications IV

Room: 215

Conference 7845
Optics in Health Care and Biomedical Optics IV

Room: 302 A+B

Conference 7846
Quantum and Nonlinear Optics

Room: 211

Conference 7847
Optoelectronic Devices and Integration III

Room: 213 A+B

Conference 7848
Holography, Diffractive Optics, and Applications IV

Room: 301 A+B

TIME

08.30 to 12.00

Monday 18 October

Opening Ceremony and Plenary Session

12.00 to 13.30

Lunch Break

13.30 to 15.30

SESSION 1
Fiber Lasers I
(Mali Gong)

SESSION 1
Novel Semiconductor Lasers
(Frank Henry Peters, Wanhua Zheng)

SESSION 1
Multimodal Biomedical Imaging
(Jing Bai)

SESSION 1
Optical Manipulation and Frequency Conversion
(Qihung Gong)

SESSION 1
Photonic Materials and Devices
(Xuping Zhang, Ray T.Chen)

SESSION 1
Diffraction of Plasmonic Structures
(Yuniong Sheng)

15.50 to 17.20

SESSION 2
Fiber Lasers II
(DeYuan Shen)

SESSION 2
Optical Methods for Biomedical Applications
(Yudong Zhang)

SESSION 2
Nonlinear Fiber Optics and Nonlinear Materials
(Junhee Park)

SESSION 2
Optical Metrology
(Dahe Liu)

Tuesday 19 October

08.30 to 12.00

SESSION 3
High Power Lasers
(Jianquan Yao)

SESSION 2
Semiconductor Laser Applications
(Changyuan Yu, Lianshan Yan)

SESSION 3
Advanced Optical Techniques for Diagnosis
(Qingming Luo)

SESSION 3
Quantum Optics Phenomena in Laser and Atom-System Interactions
(Honglin An)

SESSION 2
Silicon Photonics
(Alan X. Wang, Zhongcheng Liang)

SESSION 3
Nano-Optics
(Chunlei Du)

SESSION 4
Biomedical Imaging and Analysis
(Avraham Mayevsky)

SESSION 4
Quantum Communication Related Nonlinear Optical Phenomena
(Boris V. Zhdanov)

SESSION 4
Photonics Crystals
(Toyohiko Yatagai)

12.00 to 13.40

Lunch Break

13.20 to 17.15

SESSION 4
Laser Beam Propagation and Beam Control
(Dianyuan Fan)

SESSION 3
Simulation, Characteristics, and Packaging
(Kun Xu, Yongzhi Liu)

SESSION 5
Diffuse Optical Imaging and Scattering Analysis
(Xunbin Wei)

SESSION 6
Spectroscopy and Tissue Diagnosis
(Dan Zhu)

SESSION 3
Passive Component I
(Alan X. Wang, Zhongcheng Liang)

SESSION 5
Diffractive Optics I: Design and Fabrication
(Chongxiu Yu)

SESSION 6
Diffractive Optics II: Design and Fabrication
(Guoqiang Li)

18.30 to 20.30

POSTERS

Wednesday 20 October

Sessions A & B run concurrently

Sessions A & B run concurrently

08.30 to 12.10

SESSION 5
Lasers in Material Processing and Manufacturing
(ShuShen Deng)

SESSION 7A (Room 302A+B)
Multiphoton Microscopy and Applications
(Kevin D. Belfield)

SESSION 4
Passive Component II
(Hai Ming, Lixin Xu)

SESSION 7
Volume and Dynamic Hologram Storage
(Linsen Chen)

SESSION 7B (Room 305)
Optical Interactions with Tissues and Cells
(Xujie Xia)

SESSION 5
Fiber Lasers and Amplifiers
(Hai Ming, Lixin Xu)

SESSION 8
Diffractive Optics Applications I
(Changhe Zhou)

SESSION 8A (Room 302A+B)
Nano-/Biophotonics
(Linhong Deng)

SESSION 8B (Room 305)
Photo-thermal Interaction and Calculations
(Feng Gao)

12.00 to 13.30

Lunch Break

SESSION 9A (Room 302A+B)
Optical Techniques: Advances in Research
(Hui Li)

SESSION 9A (Room 301A+B)
Diffractive Optics Applications II
(Jiabi Chen)

SESSION 9B (Room 305)
Mechanisms and Techniques in Photodynamic Therapy
(Ying Gu)

SESSION 9B (Room 303A)
Integrated Imaging and Wavefront Encoding
(Ching-Cherng Sun)

SESSION 10A (Room 302A+B)
Advanced Biomedical and Clinical Systems
(Timon Cheng-Yi Liu)

SESSION 10A (Room 301A+B)
Digital Holography
(Hongpu Li)

SESSION 10B (Room 305)
Optical Techniques in Urology
(Ying Gu)

SESSION 10B (Room 303A)
Optical Display
(Xiaocong Yuan)

18.30 to 20.30

POSTERS

Conference 7849
Optical Design and Testing IV

Room: 208 A+B

Conference 7850
Optoelectronic Imaging and Multimedia Technology

Room: 303 B

Conference 7851
Information Optics and Optical Data Storage

Room: 207

Conference 7852
LED and Display Technologies

Room: 305

Conference 7853
Advanced Sensor Systems and Applications IV

Room: 209 A+B

Conference 7854
Infrared, Millimeter Wave, and Terahertz Technologies

Room: 210 A+B

Conference 7855
Optical Metrology and Inspection for Industrial Applications

Room: 212 A+B

Monday 18 October

Opening Ceremony and Plenary Session

Lunch Break

SESSION 1
Novel Optical System Design I (Kimio Tatsuno)

SESSION 1
Cameras and Devices for Imaging (Toru Yoshizawa)

SESSION 1
Neural Processors and Correlators (Feijun Song)

SESSION 1
Display Session (Gang Yu, Yanbing Hou)

SESSION 1
(ByoungHo Lee, Yuanhong Yang)

SESSION 1
(Cunlin Zhang)

SESSION 1
Optical Metrology for Nondestructive Testing (Toru Yoshizawa)

SESSION 2
Fabrication and Testing (Julie Bentley)

SESSION 2
Imaging and Processing Techniques (Jesse Zhang)

SESSION 2
Fiber Sensor (Feijun Song)

SESSION 2
(ByoungHo Lee, Yuanhong Yang)

SESSION 2
(Cunlin Zhang)

SESSION 3
Phase Retrieval and Optical Encryption (Suganda Jutamulia)

Tuesday 19 October

SESSION 3
Aberration Theory and Image Analysis (Yongtian Wang)

SESSION 3
Imaging for Measurement and Inspection (Ping Wei)

SESSION 4
Optical Storage (Shiquan Tao)

SESSION 2
LED Session (Hong Wang)

SESSION 3
(Wei Jin, José Miguel López-Higuera)

SESSION 3
(Xi-Cheng Zhang)

SESSION 2
Optical Metrology Devices (Kevin Harding)

SESSION 4
Optical Measurement (Changsheng Li)

SESSION 4
Algorithm and Data Processing in Imaging (Hao Zhang)

SESSION 5
Holography and THz Wave (Joewono Widjaja)

SESSION 3
OLED Session (Zhaosin Wu, Xianyu Deng)

SESSION 4
(Wei Jin, José Miguel López-Higuera)

SESSION 4
(Xi-Cheng Zhang)

Lunch Break

SESSION 5
Nonimaging Optics and Illumination Optics (Hong Liu)

SESSION 5
Machine Vision and Ranging by Imaging (Jesse Zheng)

SESSION 6
Medical Applications (Shizhuo Yin)

SESSION 5
(Libo Yuan, Jianmin Gong)

SESSION 5
(Li He)

SESSION 3
Optical Metrology Methods (Peisen S. Huang, Guiju Song)

SESSION 6
Display System Design (Jannick P. Rolland)

SESSION 6
Imaging for Detection and Tracking

SESSION 7
Fiber Bragg Grating (Shizhuo Yin)

SESSION 6
(Libo Yuan, Jianmin Gong)

SESSION 6
(Li He)

SESSION 8
EM Wave, Beam, and Signal (Suganda Jutamulia)

POSTERS

Wednesday 20 October

SESSION 7
Novel Optical System Design II (Hongbo Xie)

SESSION 7
Imaging Systems and Applications (Ping Wei)

SESSION 7
(Min Li, Irina V. Severin)

SESSION 7
(Sheng-Cai Shi)

SESSION 4
Analysis and Calibration Methods for Optical Metrology (Qingying Hu)

SESSION 8
LED Illumination System (Hong Wang)

SESSION 8
Spectrometric Techniques in Imaging (Toru Yoshizawa)

SESSION 8
(Min Li, Irina V. Severin)

SESSION 8
(Sheng-Cai Shi)

SESSION 9
Metamaterial Design and Novel Photonics Devices (Chunlei Du)

SESSION 10
Interferometry in Optical Testing (Jian Bai)

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SESSION 5
Optical Metrology Applications (Jiangtao Xi)

POSTERS

8.30 to 9.00

Opening Ceremony

9.00 to 9.30

Fibre Optic Systems for Gas Detection: Progress and Prospects



Brian Culshaw
Univ. of Strathclyde (United Kingdom)

Abstract: Fibre optic based systems for gas detection facilitate extensive spatially multiplexed monitoring systems capable of operating over areas extending to many kilometers in dimensions. They can be based on one or two principles, namely direct absorption spectroscopy and optodes based on intermediate chemistry. In this paper we shall concentrate on the former which offer benefits in terms of selectivity and measurement reliability and are often adequately sensitive despite the relatively weak absorption lines which are typical within the near infrared wavelength range which is compatible with operation through fibres. We shall explore the basic principles of these systems which are usually based upon semiconductor diode lasers. We shall also demonstrate techniques through which precise spectral line width measurements may be realized, thereby facilitating temperature/pressure measurements in parallel with concentration monitoring. Finally we shall present examples of potential and real and prospective applications with particular emphasis on safety systems and environmental monitoring.

Biography: Brian Culshaw graduated from University College London with a First Class Honours Degree in Physics in 1966 and a PhD in Electrical Engineering in 1970. He has held appointments at Cornell University (1970), Bell Northern Research, Ottawa, Canada (1971-1973), University College London (1974-1983), Stanford University (1982), and has been Professor of Electronics at Strathclyde University since September 1983 where he has set up the Optoelectronics Division within the Department of Electronic and Electrical Engineering. He also served as Vice Dean of the Faculty of Engineering. Professor Culshaw was a founding director of OptoSci Ltd. which was established in 1994 with the primary objective of exploiting innovative optical technologies developed within Strathclyde University. Professor Culshaw's research activities have centered on optical fiber sensor system and network studies and novel technologies for optical fiber instrumentation including pressure measurement systems, strain and temperature measuring systems, gyroscopes and structural assessment techniques. He has been involved in journal and book publishing in both editorial and author roles. He has served as a Director of SPIE - The International Society for Optical Engineering based in Bellingham, Washington and was the 2007 President of the society. He has also acted as consultant to numerous industrial and government organizations including the role of company director. He has published in excess of 300 technical papers, several conference proceedings, 7 textbooks and a dozen patents.

9.30 to 10.00

Optical Tweezers Based Micro-rheology



Arthur Chiou
National Yang Ming Univ. (Taiwan, China)

Abstract: Most of the materials, in general, are neither purely elastic nor purely viscous; they exhibit both elastic property (revealing its capability to store mechanical energy) and viscous property (manifesting its characteristic to dissipate energy, often in the form of heat). The study of the complex viscoelastic property of matter is known as rheology. Macro-rheology, or synonymously, classical rheometry, for the measurement of the bulk-average viscoelastic property of a material via a conventional rheometer often expresses the results in terms of either the magnitude of the complex viscosity $|\eta^*|$ or both the real part (η') which is related to the elastic property and the imaginary part (η'') which is related to the viscous property, both in the units of Pascal sec. (or poise; 1 poise = 0.1 Pa sec.), as a function of the shear rate. Likewise, micro-rheology allows us to probe the localized rheological properties of soft matter (often liquid) with one or more micron-size particles with a spatial resolution on the order of a few microns; the results are often expressed in terms of the complex modulus $G^* = G' + i G''$ (where the real part G' is the elastic modulus, and the imaginary part G'' is the loss modulus), all in the unit of Pascal, as a function of angular frequency (ω).

Micro-rheology can be broadly classified into the passive approach and the active approach. In the passive approach, known as particle tracking microrheology (PTM), the Brownian motion of one or more micron-size particles embedded in the sample medium are tracked and analyzed to deduce the viscoelastic property of the sample. In the active approach, the particle embedded in the sample medium is actively manipulated by an external force, and the dynamic response of the particle to the external force is measured to obtain the viscoelastic property of the sample solution.

The shear rate (in Macro-rheology) and the angular frequency (in microrheology) play a similar role in probing the time response of the materials, or the property of the material at different time scale. For example, many liquid behaves more elastic than viscous (i.e., $G' > G''$) at relatively slow time scale, and vice versa (i.e., $G'' > G'$) at relatively fast time scale.

In this talk, I will give a very brief introduction and focus mainly on the active approach based on optical tweezers to trap and oscillate a micron-size particle embedded in the sample solution, where the amplitude and the relative phase of the oscillating particle are measured, and the viscoelastic properties of the sample solution (G' and G'') as a function of the oscillation frequency are deduced. The methodology and the experimental results for different solutions, both from the literatures and from my own lab will be presented and a wide range of potential applications will be highlighted.

Biography: Arthur Chiou received his Ph.D. in Applied Physics from California Institute of Technology. He had been an Engineer at the Jet Propulsion Lab (JPL), NASA, a Post-Doctoral Research Fellow at IBM San Jose Research Lab, a Principal Investigator, a Senior Scientist and a Program Manager at Rockwell Science Center in the US, a Professor of the Electrical Engineering Department and the Dean of the College of Science and Engineering at the National Dong Hwa University in Hualien, Taiwan, and the Dean of the School of Biomedical Science and Engineering at the National Yang-Ming University (NYMU) in Taipei, Taiwan. He is currently a Professor of the Institute of Biophotonics, and the Director of the Biophotonics Interdisciplinary Research Center at NYMU in Taipei, Taiwan. Dr. Chiou's recent research interest has been in the field of optical manipulation & sensing, and spectroscopic laser microscopy for biomedical applications. He has nearly 300 publications and presentations and holds two US patents (with 2 other pending) and one Taiwan patent (with 2 other pending). Professional Honors and Awards include: NASA "Recognition of Innovative Technical Achievement" Award (1982); SPIE's 1989 Rudolph Kingslake Medal & Award (1990); Senior Member, IEEE (since 1992); Fellow, Optical Society of America (since 1993); Fellow, SPIE (since 1993); Fellow, Photonics Society of Chinese Americans (since 1997); ROCES's Optical Engineering Award (2008)

10.00 to 10.30 Coffee/Tea Break

10.30 to 11.00

Integration and Function Enhancements of Planar Lightwave Circuits (PLCs) for Optical Communication



Ray T. Chen
Microelectronics Research Ctr.
The Univ. of Texas, Austin (United States)

Abstract: In this presentation, we review the status of monolithic and hybrid integration of planar lightwave circuits (PLCs). Building blocks needed for system integration based on polymeric materials, III-V semiconductor materials, LiNbO₃ and SOI on Silicon are summarized

with pros and cons. New photonic crystal based devices are also presented. Due to the maturity of silicon CMOS technology, silicon becomes the platform of choice for optical application specific integrated circuits (OASICs). However, the indirect bandgap of silicon makes the formation of electrically pumped silicon laser a remote plausibility which requires hybrid integration of laser sources made out of III-V compound semiconductors. Novel applications using PLC for remote sensing, water pollution sensing and others will also be presented.

Biography: Ray Chen holds the Cullen Trust for Higher Education Endowed Professorship at UT Austin and the director of nanophotonics and optical interconnects research lab within the microelectronics research center. He is also the director of a newly formed AFOSR MURI-Center for Silicon Nanomembrane involving faculty from Stanford, UIUC, Rutgers and UT Austin. He received his BS degree in Physics from National Tsing-Hua University in 1980 in Taiwan and his MS degree in physics in 1983 and his PhD degree in Electrical Engineering in 1988, both from the University of California. He joined UT Austin as a faculty to start optical interconnect research program in the ECE Department in 1992.

His research work has been awarded with 99 research grants and contracts from such sponsors as DOD, NSF, DOE, NASA, the State of Texas, and private industry. The research topics are focused on three main subjects, (1) Nano-photonic passive and active devices for optical interconnect applications, (2) Polymer-based guided-wave optical interconnection and packaging, and (3) True time delay (TTD) wide band phased array antenna (PAA).

Chen's group at UT Austin has reported its research findings in more than 540 published articles including over 80 invited papers. He has chaired or been a program committee member for more than 90 domestic and international conferences organized by IEEE, SPIE, OSA, and PSC. He has served as an editor, co-editor or coauthor for 22 books. Chen has also served as a consultant for various federal agencies and private companies and delivered numerous invited talks to professional societies. Dr. Chen is a Fellow of IEEE, OSA and SPIE. He received IEEE Teaching Award in 2008.

11.00 to 11.30

Modern Optical System Design: Holistic Optimization of Innovative Design Concepts



Wilhelm Ulrich
Carl Zeiss AG, Corporate Research and
Technology (Germany)

Abstract: Optical lithography has followed Moore's law in an impressive way for about 45 years - computer performance has been doubled every 18 months. This success story was made possible through a constant dialogue between optical designers and engineers about

the potential of and need for new technologies and modern components in order to enable and transfer surprisingly new and disruptive design concepts into reality. The extreme pressure exerted by Moore's law on time to market for leading-edge systems with continuously increasing system complexity and functionalities has necessitated significant improvements to existing simulation tools and the development of new, dedicated simulation tools to ensure first time right development. The race in optical lithography is still

going on. Again, new technologies as well as great ideas for their effective are already available or will emerge in the future. At the same time, however, system complexity is constantly increasing, again demanding improved or new simulation tools. And this is valid not just for optical lithography but also for most other applications in the photonic industry.

The future will remain extremely exciting for optical designers, who will face major challenges to push the boundaries of optics and provide excellent and cost-effective solutions for the customer's application needs. This challenge cannot be solved solely by ray tracing and spot optimization, but demands experienced and passionate lens designers using optimization and simulation tools, which take into account the whole imaging chain from the light source to the detector as well as the whole value chain of product development and the production process. And of course, all relevant physical-optical and opto-mechanical effects must be considered for this holistic optimization and simulation approach.

Biography: Wilhelm Ulrich received his engineer's degree from the University for Applied Science Hamburg. In 1980 he joined the mathematical department for optical design at Carl Zeiss and has worked on various advanced optical design projects for several business units. Between 1997 and 2009 he was head of optical design for leading-edge microlithography systems at Carl Zeiss SMT AG. Since 2009 he is senior director of optical design in the corporate research & technology division at Carl Zeiss.

11.30 to 12.00

Index Guiding Microstructured Fibers and its Applications



Libo Yuan
Photonics Research Ctr., Harbin Engineering
Univ. (China)

Abstract: The recent progress of refractive index guiding microstructured optical fibers such as multi-core fibers, multi-core PM fibers, and linear-core-array fibers has been proposed and demonstrated in this presentation.

The index guiding microstructured fibers are different from the photonic crystal fiber or holey fiber. Its propagation characteristics are also depends on the totally reflective mechanism and guided the light by the higher refractive index waveguide. The fabrication techniques of this kind microstructured fiber are discussed. It could be used in varieties circumstances, for example, to make an in-fiber integrated 1×N beam splitter or combiner, to build an in-fiber integrated Michelson or Mach-Zehnder interferometer, to write two dimensional fiber Bragg grating. The sensor applications potential of the special designed microstructured fibers is illustrated.

Biography: Libo Yuan is with the Department of Physics, School of Science, Harbin Engineering University (HEU), as a professor and director of Photonics Research Center. He received his Ph.D. (Photonics, 2003), M. Eng. (Communication & Electronic Systems, 1990) and B.S. (Physics, 1984), from The Hong Kong Polytechnic University, Harbin Shipbuilding Engineering Institute and Heilongjiang University, respectively. From 1984 to 1995, he worked in the Department of Physics, Harbin Shipbuilding Engineering Institute (HSEI), where he worked on fiber optics and established a light wave propagation theoretical model for tapered fiber. He worked as a Research Fellow in Smart Sensors and NDT Laboratory, New Jersey Institute of Technology, USA from 1995 to 1997. He developed white light fiber optic interferometers and demonstrated several multiplexing ways for fiber optic interferometric sensory. In April 1997, he joined the Harbin Engineering University as Professor of Physics. He established a fiber optic sensor laboratory and developed it into a key laboratory of Heilongjiang Province.

Professor Yuan's general area of research is fiber optics, fiber-optic sensors and applications. He has led 28 projects as principle investigator, including 5 projects from National Natural Science Foundation of China. As chief supervisor, he has supervised many research students, including 12 obtaining the Ph.D. degree and 36 receiving M. Eng. Degree in Photonics. He has authored and co-authored over 300 technical articles mainly in the area of fiber optics and fiber optic sensors, including 205 Journal papers and 97 conference papers. He holds 20 patents related to fiber optic technology and has published 5 books and 3 book chapters.

12.00 to 13.30 Lunch Break

High-Power Lasers and Applications V

Conference Chairs: **Upendra N. Singh**, NASA Langley Research Ctr. (USA); **Dianyuan Fan**, Shanghai Institute of Optics and Fine Mechanics (China); **Jianquan Yao**, Tianjin Univ. (China); **Robert F. Walter**, Schafer Corp. (USA)

Program Committee: **Willy L. Bohn**, BohnLaser Consult (Germany); **Robert L. Byer**, Stanford Univ. (USA); **ShuShen Deng**, China Daheng Corp. (China); **Tomoo Fujioka**, Tokai Univ. (Japan); **Mali Gong**, Tsinghua Univ. (China); **Shibin Jiang**, AdValue Photonics, Inc. (USA); **Do-Kyeong Ko**, Gwangju Institute of Science and Technology (Korea, Republic of); **Ruxin Li**, Shanghai Institute of Optics and Fine Mechanics (China); **Zejin Liu**, National Univ. of Defense Technology (China); **DeYuan Shen**, Xi'an Institute of Optics and Precision Mechanics (China); **Yi Su**, Institute of Applied Electronics (China); **Shuangchun Wen**, Hunan Univ. (China); **Zuyan Xu**, Institute of Physics (China); **Tai Hyun Yoon**, Korea Research Institute of Standards and Science (Korea, Republic of); **Jirong Yu**, NASA Langley Research Ctr (USA); **Xiaomin Zhang**, Chinese Academy of Engineering Physics (China); **Shouhuan Zhou**, North China Research Institute of Electro-Optics (China)

Monday 18 October

Opening Ceremony and Plenary Session. Mon. 08.30 to 12.00

- 8.30: Opening Ceremony
- 9.00: **Fibre Optic Systems for Gas Detection: Progress and Prospects**, Brian Culshaw, Univ. of Strathclyde (United Kingdom)
- 9.30: **Optical Tweezers Based Micro-rheology**, Arthur Chiou, National Yang Ming Univ. (Taiwan, China)
- Coffee/Tea Break 10:00 to 10:30 am
- 10.30: **Integration and Function Enhancements of Planar Lightwave Circuits (PLCs) for Optical Communication**, Ray T. Chen, The Univ. of Texas, Austin (United States)
- 11.00: **Modern Optical System Design: Holistic Optimization of Innovative Design Concepts**, Willi Ulrich, Carl Zeiss AG (Germany)
- 11.30: **Index Guiding Microstructured Fibers and its Applications**, Libo Yuan, Photonics Research Ctr., Harbin Engineering Univ. (China)

Lunch Break 12.00 to 13.30

SESSION 1

Room: 303A Mon. 13.30 to 15.20

Fiber Lasers I

Session Chair: **Mali Gong**, Tsinghua Univ. (China)

- 13.30: **Narrow linewidth and widely tunable operation of Tm: fiber laser with volume Bragg gratings** (*Invited Paper*), DeYuan Shen, Yishan Wang, Wei Zhao, Cheng Li, Kailiang Duan, Xi'an Institute of Optics and Precision Mechanics (China) [7843-01]
- 14.00: **High-power Tm³⁺-doped fiber amplifier with 100-W pulsed laser output**, Yu-Long Tang, Jianqiu Xu, Shanghai Institute of Optics and Fine Mechanics (China) [7843-02]
- 14.20: **Amplification of spontaneous emission in 2µm single frequency master oscillator and fiber power amplifier**, Suhui Yang, Jing Li, Changming Zhao, Haiyang Zhang, Wen Xie, Beijing Institute of Technology (China) . [7843-03]
- 14.40: **Analysis and suppression of modal noise in single mode large mode area double cladding fiber amplifier**, Ying Deng, Jian-jun Wang, Longbo Xu, Mingzhong Li, Honghuan Lin, Rui Zhang, Dangpeng Xu, Chinese Academy of Engineering Physics (China) [7843-04]
- 15.00: **The slope efficiency of 2µm thulium doped fiber laser**, Ping Zhao, Jinglin Liu, Chujun Zhao, Hunan Univ. (China) [7843-05]
- Coffee/Tea Break 15.20 to 15.50

SESSION 2

Room: 303A Mon. 15.50 to 17.20

Fiber Lasers II

Session Chair: **DeYuan Shen**,

Xi'an Institute of Optics and Precision Mechanics (China)

- 15.50: **Active and passive coherent beam combining of thulium-doped fiber lasers** (*Invited Paper*), Pu Zhou, Xiao-Lin Wang, Yanxing Ma, Kai Han, Zejin Liu, National Univ. of Defense Technology (China) [7843-06]
- 16.20: **Coherent beam combining of stimulated Brillouin scattering based multiwavelength lasers**, Xiao-Lin Wang, Pu Zhou, Hongwei Chen, Yanxing Ma, Xiaojun Xu, Zejin Liu, Yijun Zhao, National Univ. of Defense Technology (China) [7843-07]
- 16.40: **Mutual injection phase-locked and coherent combined of inter-related fiber lasers**, Mengzhen Zhu, Yong Chen, Huishen Wang, Yang Liu, Chaowei Mi, Changyong Lu, Wuhan Mechanical Technology College (China) [7843-08]
- 17.00: **Thulium-doped silica fibers with enhanced 3H4 level lifetime: modelling the devices for 800-820 nm band**, Pavel Peterka, Ivan Kasik, Institute of Photonics and Electronics of the ASCR, v.v.i. (Czech Republic); Anirban Dhar, Institute of Photonics and Electronics of the ASCR, v.v.i. (Czech Republic) and Central Glass and Ceramic Research Institute (India); Bernard Dussardier, Wilfried Blanc, Univ. de Nice Sophia Antipolis (France) [7843-09]

Tuesday 19 October

SESSION 3

Room: 303A Tues. 08.30 to 12.10

High Power Lasers

Session Chair: **Jianquan Yao**, Tianjin Univ. (China)

- 08.30: **High power high stability green laser based on LD pumped composite ceramic Nd:YAG rod** (*Invited Paper*), Degang Xu, Tianjin Univ. (China) . [7843-10]
- 09.00: **Microstructure and NIR to VIS upconversion luminescence of Y₂O₃:Er translucent ceramics**, Dianyuan Wang, Yanyan Guo, Qingkai Wang, Zhangyong Chang, Wei Zeng, Jiujiang Univ. (China) [7843-11]
- 09.20: **Investigation of thermal effects in a diode end-pumped Tm,Ho:YLF solid state laser**, Yufeng Peng, Xinlu Zhang, Li Li, Bo Jiang, Harbin Engineering Univ. (China) [7843-13]
- 09.40: **Study on second harmonic generation output in pulsed TEA CO₂ laser**, Ruhai Guo, Dianjun Li, Changchun Institute of Optics, Fine Mechanics and Physics (China) [7843-14]
- 10.00: **Evolution of shock wave in TEA gas laser**, Chenguang Yang, Duluo Zuo, Zuhai Cheng, Wuhan National Lab. for Optoelectronics (China) and Huazhong Univ. of Science and Technology (China); Yongyue Xu, Wuhan National Lab. for Optoelectronics (China); Yanzhao Lu, Wuhan National Lab. for Optoelectronics (China) and Huazhong Univ. of Science and Technology (China); Liang Miao, Wuhan National Lab. for Optoelectronics (China) [7843-15]
- Coffee/Tea Break 10.20 to 10.50

- 10.50: **Optimization algorithm for compact slab lasers**, Changqing Cao, Xidian Univ. (China)[7843-16]
- 11.10: **Mechanism analysis and numerical investigation of optical bistability in 2 μ m Tm:Ho:YLF solid laser**, Bo Jiang, Xin-Lu Zhang, Li Li, Yu-Feng Peng, Harbin Engineering Univ. (China)[7843-17]
- 11.30: **Coupled finite element simulation of laser ultrasonic**, Wei Liao, Dexing Yang, Northwestern Polytechnical Univ. (China)[7843-18]
- 11.50: **Effect of variable oxygen partial pressure for SrTiO₃ thin films preparation with pulsed laser deposition**, Xiaojing Wan, Li Wang, Jiangbo Chen, Xueqiong Su, Beijing Univ. of Technology (China)[7843-19]
- Lunch Break 12.10 to 13.40

SESSION 4

Room: 303ATues. 13.40 to 16.50

Laser Beam Propagation and Beam Control

Session Chair: Dianyuan Fan, Hunan Univ. (China)

- 13.40: **One new quality of the maximum-likelihood estimation of laser pointing system by use of return photon counts**, Lei Zhou, Institute of Optics and Electronics (China)[7843-20]
- 14.00: **Adaptive inverse control of a fast steering mirror for electro-optical fine tracking**, Yun Xia Xia, Institute of Optics and Electronics (China)[7843-21]
- 14.20: **The spatial and temporal evolution of the broadband chirped pulse with small-scale self-focusing**, Yanchao Hou, Xiquan Fu, Hui Liu, Lifu Zhang, Hunan Univ. (China)[7843-22]
- 14.40: **Control of high power laser in nonlinear media by lens-focusing and beam self-focusing**, Hui Liu, Xiquan Fu, Yanchao Hou, Jianqin Deng, Hunan Univ. (China)[7843-23]
- Coffee/Tea Break 15.00 to 15.30
- 15.30: **The beam propagation factor of nonparaxial truncated Hermite-Gaussian beams**, Zhong He, Xiaoping Kang, Qiongzhou Univ. (China)[7843-24]
- 15.50: **Adaptive conversion of a wavefront-distortion beam to near-diffraction-limited flat-top beam based on stochastic parallel gradient descent algorithm**, Haotong Ma, Zhan Yu, Xiao-Lin Wang, Yanxing Ma, Pu Zhou, Xiaojun Xu, Zejin Liu, National Univ. of Defense Technology (China)[7843-25]
- 16.10: **Optimization of apodized Bragg gratings for spectral beam combining**, Benjian Shen, Guangwei Zheng, Jichun Tan, Yanlan He, National Univ. of Defense Technology (China)[7843-26]
- 16.30: **Detection of sulfur dioxide in air by laser induced breakdown spectroscopy**, Qi Xu, Xiaohong Ma, Huafeng Zhao, Tsinghua Univ. (China)[7843-27]

POSTERS-Tuesday

Hallway Outside Rooms 302-305Tues. 18.30 to 20.30

- The influence of the shape of ultrathin foils on the generation of attosecond pulses by femtosecond pulses**, Jianyin Zhu, Yanrong Song, Li Wang, Peng Zhang, Beijing Univ. of Technology (China)[7843-12]
- High beam quality 400W practical all-solid-state laser for laser beam texture**, Aicong Geng, Ci Zhao, Baohe Li, Beijing Technology and Business Univ. (China)[7843-38]
- Analysis of light propagation in a circular double clad fiber using coupled mode method**, Zhongnan Xu, National Univ. of Defense Technology (China) and Xi'an Institute of Optics and Precision Mechanics (China); Zejin Liu, National Univ. of Defense Technology (China); Kailiang Duan, Wei Zhao, Xi'an Institute of Optics and Precision Mechanics (China)[7843-39]
- Build-up time of the random laser in R6G dye solution with TiO₂ scatters**, Shuzhen Fan, Xingyu Zhang, Qingpu Wang, Zhang Chen, Zhengping Wang, Ruijun Lan, Shandong Univ. (China)[7843-40]
- Broadly tunable ytterbium-doped photonic crystal fibre laser and high power superfluorescent fibre source**, Bingzhang Wang, Shengping Chen, Cangzhou Normal Univ. (China); Jiyou Wang, Beijing Univ. of Technology (China); Yigang Li, Nankai Univ. (China)[7843-41]
- Supermode analysis in multi-core photonic crystal fiber laser**, Yibo Zheng, Tianjin Univ. (China) and Shijiazhuang Univ. of Economics (China); Jianquan Yao, Tianjin Univ. (China); Lei Zhang, Shijiazhuang Univ. of Economics (China); Yuan Wang, Wuqi Wen, Rui Zhou, Zhigang Di, Tianjin Univ. (China)[7843-42]
- Numerical optimization of Yb-signal assisted high power Er/Yb codoped double-clad fiber amplifier**, Qun Han, Jiping Ning, Weiyi Zhang, Bo Chen, Xin Wang, Tianjin Univ. (China)[7843-43]

- Pulsed Nd:YAG laser cutting of silicon wafer by controlled fracture technique**, Jian Liu, Jian Lu, Xiaowu Ni, Gang Dai, Liang Zhang, Nanjing Univ. of Science and Technology (China)[7843-44]
- Study on the supermode and in-phase locking in multicore fiber lasers**, Yuan Wang, Jianquan Yao, Yibo Zheng, Wuqi Wen, Rui Zhou, Tianjin Univ. (China)[7843-45]
- A potential approach to ~10fs, >2 petawatt pulses by hybrid laser based on Ti:chrysoberyl and Ti:sapphire**, Bao Cao, Xingqiang Lu, Dianyuan Fan, Shanghai Institute of Optics and Fine Mechanics (China)[7843-46]
- Detection of surface breaking on cylinder material using surface acoustic wave generated by scanning laser source**, Yifei Shi, Lu Zhang, Liangxu Cai, China Aero-Polytechnology Establishment (China)[7843-47]
- Optical-mechatronics high peak power ultrashort pulse UV laser system**, Junewen Chen, Chung-Hua Univ. (Taiwan)[7843-48]
- Femtosecond optical parametric oscillator based on periodically poled potassium titanium phosphate**, Xiao Ma, Jinrong Tian, Xinpeng Zhang, Beijing Univ. of Technology (China)[7843-49]
- Signal-to-noise ratio of airborne lidar system**, Huang Hao, Beijing Institute of Technology (China)[7843-50]
- Nonlinear images of gain defects**, Yonghua Hu, Haibo Wu, Qiuyun Zheng, Jianbo Xu, Hunan Univ. of Science and Technology (China)[7843-52]
- High power widely tunable all solid state pulsed titanium-doped sapphire laser**, Quan Sheng, Xin Ding, Jianquan Yao, Na Chen, Bin Li, Tianjin Univ. (China); Xuanyi Yu, Nankai Univ. (China); Xue Li, Wuqi Wen, Rui Zhou, Tianjin Univ. (China)[7843-53]
- A new fluid state laser system realizes laser output**, Luo Gui, Shanghai Institute of Optics and Fine Mechanics (China)[7843-54]
- Fiber laser intensity noise suppression through optoelectronic feedback**, Fei Zhang, Jun Zhu, Yang Ke, Liang Jing, Xiaolong Shi, Can Li, Benli Yu, Anhui Univ. (China)[7843-55]
- Optical frequency comb generation based on stimulated Brillouin scattering in highly nonlinear fibers**, Xifen Zhang, Zhigang Cao, Fei Ai, Benli Yu, Anhui Univ. (China)[7843-56]
- Mode competition in concentric-type multicore fiber lasers combined with large mode area single mode fiber**, Xiaolei Zhang, Shandong Univ. (China); Gangding Peng, The Univ. of New South Wales (Australia); Xingyu Zhang, Jun Chang, Qingpu Wang, Ping Li, Sasa Zhang, Shandong Univ. (China)[7843-57]
- Effect of process parameters on the growth of dendrite in laser clad bead**, Qindong Li, Hunan Univ. (China)[7843-58]
- Laser surface hardening of ductile cast iron for vehicle die**, Yanghui Xu, Hunan Univ. (China)[7843-59]
- Beam cleanup of a 5mJ-200 μ s pulsed green solid state laser using a bimorph mirror**, Xiang Lei, Ning Yu, Ping Yang, Lizhi Dong, Wenjing Liu, Yan Hu, Bing Xu, Institute of Optics and Electronics (China)[7843-60]
- Fresnel diffraction by circular aperture illuminated with a phase modulated and spectral dispersed laser beams**, Jianqin Deng, Xiquan Fu, Lifu Zhang, Zhang Jin, Shuangchun Wen, Hunan Univ. (China)[7843-61]
- Optimum design of DBR Er/Yb co-doped double cladding fiber laser**, Hongxin Su, Yifan Geng, Zelin Guan, Qinglin Guo, Hebei Univ. (China)[7843-62]
- An efficient algorithm based on propagation equations of Tm-doped double-clad fiber laser**, Jinglin Liu, Chunjun Zhao, Xiquan Fu, Shuangchun Wen, Hunan Univ. (China)[7843-63]
- Effects of the gas flow and the defocusing distance from laser beam focus on powder-feed laser cladding**, Yuanyuan Li, Hunan Univ. (China)[7843-64]
- Experimental measured for the effects of broadband pulse on the B-integral of small-scale self-focusing**, Zhang Jin, Xiquan Fu, Lifu Zhang, Jianqin Deng, Shuangchun Wen, Dianyuan Fan, Hunan Univ. (China)[7843-65]
- Time-resolved digital holographic diagnosis of the shock wave in water induced by femtosecond laser pulses**, Xiaolei Wang, Pan Wang, Nankai Univ. (China)[7843-66]
- Study on laser cladding of Ni-based alloy on aluminum**, Yunshan Wang, Nengwen Liu, Tianjin Polytechnic Univ. (China)[7843-67]

Lasers in Material Processing and Manufacturing

Session Chair: ShuShen Deng, China Daheng Corp. (China)

- 08.30: **Experimental study of monitoring plasma light in laser cladding**, Lei Hong, Zhaowei Hu, Baoliang Ma, Guangming Song, Shanghai Maritime Univ. (China) [7843-28]
- 08.50: **Numerical simulation of curved surface of gear in laser cladding**, Zhaowei Hu, Lei Hong, Gang Wu, Shanghai Maritime Univ. (China) [7843-30]
- 09.10: **Shock induced phenomena in high fluence femtosecond laser ablation of silica glass**, Xiaolei Wang, Nankai Univ. (China) [7843-31]
- 09.30: **Investigation on femtosecond laser-assisted microfabrication in silica glasses**, Feng Chen, Hwei Liu, Xuexin Niu, Qing Yang, Xianhua Wang, Jinhai Si, Xun Hou, Xi'an Jiaotong Univ. (China) [7843-32]
- 09.50: **The state-of-the-art laser bio-cladding technology**, Jichang Liu, Hunan Univ. (China) [7843-33]
- Coffee/Tea Break 10.10 to 10.40
- 10.40: **Effect of laser cladding variables on the microstructure and crack of laser clad Ni-alloy on ductile cast iron**, Qindong Li, Hunan Univ. (China) [7843-34]
- 11.00: **Effect of laser power and heat treatment process on microstructure and property of multi-pass Ni based alloy laser cladding coating**, Hongxi Liu, Kunming Univ. of Science and Technology (China) [7843-35]
- 11.20: **The behavior of powder particles in coaxial laser cladding**, Nan Yang, Tianjin Univ. of Technology (China) and Tianjin Polytechnic Univ. (China); Hua-jun Dong, Dalian Jiao Tong Univ. (China) [7843-36]
- 11.40: **Investigating material removal mechanisms during laser ablation of InSb**, Amit Garg, Surendra K. Bansal, Kailash N. Tripathi, Avinashi Kapoor, Univ. of Delhi (India) [7843-37]

Optimization of reflector design for diode-pumped Nd:YAG laser with single-side pumping geometry, Kangin Lee, Youngjung Kim, Yeungnam Univ. (Korea, Republic of); Hyeon Cheul Lee, Jae-Chul Lee, Joon-Yong Cho, Hanwha Corp. (Korea, Republic of); Yong Geun Jeon, Agency for Defense Development (Korea, Republic of); Jonghoon Yi, Yeungnam Univ. (Korea, Republic of) [7843-68]

Research on laser atmospheric transmittance in the slant path on the sea, Yan-Wu Liu, Shandong Institute of Business and Technology (China) [7843-69]

Fast axis coupling and phase-locking of semiconductor laser by external-cavity feedback, Haoyang Pi, Shanghai Institute of Optics and Fine Mechanics (China) [7843-70]

Laser doping of phosphorous in grooved silicone surface, Kwangwon Lee, Sangyoon Bae, Youngjung Kim, Young-Gull Joh, Jonghoon Yi, Yeungnam Univ. (Korea, Republic of); Min-Su Jeon, Ja-Eik Lee, Jeong-Eui Hong, Millinet Solar (Korea, Republic of) [7843-71]

Analysis and simulation of stimulated Brillouin scattering in all-fiber single-frequency fiber amplifiers with delivery fibers, Jinyong Leng, National Univ. of Defense Technology (China) [7843-72]

Microstructure and high-temperature oxidation resistance of TiN/Ti₃Al intermetallic matrix composite coatings on Ti₆Al₄V alloy surface by laser cladding, Hongxi Liu V, Kunming Univ. of Science and Technology (China) [7843-73]

Study on temperature field of nodular cast iron in laser transformation hardening, Shunxi Hu, Hunan Univ. (China) [7843-74]

Approximate calculation of pulse laser heat treatment, Yanmei Wu, The Academy of Equipment Command & Technology (China); Junchang Li, Yunchang Fu, Kunming Univ. of Science and Technology (China) [7843-75]

Simulation and measurement of temperature field of nodular cast iron in laser transformation hardening, Shunxi Hu, Hunan Univ. (China) [7843-76]

Experimental investigation on multiwavelength Raman fiber laser based on chirped FBG and sagnac filter, Zujun Qin, Guilin Univ. of Electronic Technology (China); Xiao-jun Zhou, Univ. of Electronic Science and Technology of China (China) [7843-77]

PMMA transmission welding with fiber lasers, Junke Jiao, Institute of Industry Technology (China); Xinbing Wang, Huazhong Univ. of Science and Technology (China); Xiaobo Bai, Changw Peng, Institute of Industry Technology (China) [7843-78]

Aberrations correction of a Nd:YAG slab amplifier using a compact adaptive optics system, Ping Yang, Lizhi Dong, Xiang Lei, Ning Yu, Wenjing Liu, Bing Xu, Institute of Optics and Electronics (China) [7843-79]

Different types of sideband generation in a passively mode-locked soliton fiber laser, He-Ping Li, Zhang Jing, JinKun Liao, Xiongguo Tang, Rongguo Lu, Yongzhi Liu, Univ. of Electronic Science and Technology of China (China) [7843-80]

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Semiconductor Lasers and Applications IV

Conference Chairs: **Ning-Hua Zhu**, Institute of Semiconductors (China); **Jinmin Li**, Institute of Semiconductors (China); **Farzin Amzajerdian**, NASA Langley Research Ctr. (USA); **Hiroyuki Suzuki**, NTT Photonics Labs. (Japan)

Program Committee: **Jian Chen**, A*STAR Institute for Infocomm Research (Singapore); **Xiangfei Chen**, Nanjing Univ. (China); **Nan Chi**, Fudan Univ. (China); **Brian Corbett**, Tyndall National Institute (Ireland); **Jianjun Gao**, East China Normal Univ. (China); **Xia Guo**, Beijing Univ. of Technology (China); **Werner Hofmann**, Technische Univ. Berlin (Germany); **Yongqing Huang**, Beijing Univ. of Posts and Telecommunications (China); **Yong-Zhen Huang**, Institute of Semiconductors (China); **Shan Jiang**, Accelink Technologies Co., Ltd. (China); **Takaaki Kakitsuka**, NTT Photonics Labs. (Japan); **Fouad Karouta**, Technische Univ. Eindhoven (Netherlands); **Xianjie Li**, Hebei Semiconductor Research Institute (China); **Park Liu**, Shagrow Telecom Co., Ltd. (China); **Wen Liu**, Accelink Technologies Co., Ltd. (China); **Yong Liu**, Univ. of Electronic Science and Technology of China (China); **Yi Luo**, Tsinghua Univ. (China); **Frank H. Peters**, Tyndall National Institute (Ireland); **Edwin Yue-Bun Pun**, City Univ. of Hong Kong (Hong Kong, China); **Weifeng Rong**, A*STAR Institute for Infocomm Research (Singapore); **Guang-Di Shen**, Beijing Univ. of Technology (China); **Jeffrey E. Ungar**, Laser Operations LLC / QPC Lasers (USA); **Guohong Wang**, Institute of Semiconductors (China); **Guang-Qiong Xia**, Southwest Univ. (China); **Kun Xu**, Beijing Univ. of Posts and Telecommunications (China); **Lianshan Yan**, Southwest Jiaotong Univ. (China); **Jinlong Yu**, Tianjin Univ. (China); **Guo-Yi Zhang**, Peking Univ. (China); **Hongliang Zhu**, Institute of Semiconductors (China)

Monday 18 October

Opening Ceremony and Plenary Session. Mon. 08.30 to 12.00

- 8.30: Opening Ceremony
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- 9.30: **Optical Tweezers Based Micro-rheology**, Arthur Chiou, National Yang Ming Univ. (Taiwan, China)
- Coffee/Tea Break 10:00 to 10:30 am
- 10.30: **Integration and Function Enhancements of Planar Lightwave Circuits (PLCs) for Optical Communication**, Ray T. Chen, The Univ. of Texas, Austin (United States)
- 11.00: **Modern Optical System Design: Holistic Optimization of Innovative Design Concepts**, Willi Ulrich, Carl Zeiss AG (Germany)
- 11.30: **Index Guiding Microstructured Fibers and its Applications**, Libo Yuan, Photonics Research Ctr., Harbin Engineering Univ. (China)

Lunch Break 12.00 to 13.30

SESSION 1

Room: 215 Mon. 13.30 to 17.50

Novel Semiconductor Lasers

Session Chairs: **Frank H. Peters**, Tyndall National Institute (Ireland); **Wanhua Zheng**, Institute of Semiconductors (China)

- 13.30: **Novel semiconductor lasers and integrated photonic devices** (*Invited Paper*), Jianjun He, Zhejiang Univ. (China) [7844-01]
- 14.00: **Phase control in photonic crystal VCSEL** (*Invited Paper*), Wanhua Zheng, Anjin Liu, Wenjun Zhou, Wei Chen, Hailing Wang, Hongwei Qu, Lianghui Chen, Institute of Semiconductors (China) [7844-02]
- 14.30: **High brightness InAs/GaAs quantum dot tapered laser at 1.3 μm with high temperature stability**, Yu-lian Cao, Peng-Fei Xu, Hai-Ming Ji, Lianghui Chen, Tao Yang, Institute of Semiconductors (China) [7844-03]
- 14.50: **Beam-shaping of laser diode stack for uniform illumination by cylindrical micro-lenses**, WangPin ShangGuan, Huimin Yan, Yanbing Jiang, Xiuda Zhang, Chao Yang, Zhejiang Univ. (China) [7844-04]
- 15.10: **Single-mode laser diode modified by one-dimensional photonic crystal**, Wei Chen, Anjin Liu, Wenjun Zhou, Wanhua Zheng, Institute of Semiconductors (China) [7844-05]
- Coffee/Tea Break 15.30 to 16.00

- 16.00: **Research on amplified feedback DFB lasers and their application in all optical clock recovery** (*Invited Paper*), Lingjuan Zhao, Yu Sun, Jiaoqing Pan, Institute of Semiconductors (China); Xiaofan Zhao, Li Hou, Tsinghua Univ. (China); Hongliang Zhu, Cheng Chen, Institute of Semiconductors (China); Caiyun Lou, Tsinghua Univ. (China); Wei Wang, Institute of Semiconductors (China) . [7844-06]
- 16.20: **MEMS-tunable wavelength vertical-cavity surface-emitting lasers** (*Invited Paper*), Xia Guo, B. L. Guan, X. J. Ren, S. Li, C. C. Li, S. Guo, C. X. Hao, Guang-Di Shen, Beijing Univ. of Technology (China) [7844-07]
- 16.50: **Experimental demonstration of a widely tunable two-section DFB laser**, Yin Wang, Mingxin Li, Jian-Jun He, Zhejiang Univ. (China) [7844-08]
- 17.10: **Complex coupled green VCSELs based on organic and inorganic optical thin films**, Yanqi Wang, Thomas Kusserow, Ferdinand Messow, Hartmut H. Hillmer, Univ. Kassel (Germany) [7844-09]
- 17.30: **High-power optically pumped semiconductor lasers for THz generation and sodium guidestar laser**, Li Fan, Lasertel, Inc. (United States) [7844-10]

Tuesday 19 October

SESSION 2

Room: 215 Tues. 08.30 to 12.20

Semiconductor Laser Applications

Session Chairs: **Changyuan Yu**, National Univ. of Singapore (Singapore); **Lianshan Yan**, Southwest Jiaotong Univ. (China)

- 08.30: **Optical signal processing using highly nonlinear optical fiber** (*Invited Paper*), Lianshan Yan, Anlin Yi, Wei Pan, Bin Luo, Jia Ye, Southwest Jiaotong Univ. (China) [7844-11]
- 09.00: **Optical fiber sensors for landslide monitoring** (*Invited Paper*), Yong Liu, Zhiyong Dai, Jianfeng Li, Lixun Zhang, Zhonghua Ou, Ce Zhou, Yongzhi Liu, Univ. of Electronic Science and Technology of China (China) [7844-12]
- 09.30: **Suppression of time delay signatures of chaotic output in mutually delay-coupled semiconductor lasers**, Jia-Gui Wu, Zheng-Mao Wu, Jin-Ting Shen, Ling Ding, Neng-Yao Li, Guang-Qiong Xia, Southwest Univ. (China) [7844-13]
- 09.50: **Modulation-free frequency stabilization system of external cavity diode laser based on Sagnac interferometer**, Fang Wei, Shanghai Institute of Optics and Fine Mechanics (China) [7844-14]
- Coffee/Tea Break 10.10 to 10.40
- 10.40: **The equivalent modulation inside the periodic structures: from devices to systems** (*Invited Paper*), Yitang Dai, Tsinghua Univ. (China); Kun Xu, Jian Wu, Jintong Lin, Beijing Univ. of Posts and Telecommunications (China) . . . [7844-15]
- 11.10: **Power equalization using nonlinear polarization rotation in a single semiconductor optical amplifier** (*Invited Paper*), Shang-Jian Zhang, Ya Li Zhang, Kan Zhang, Shuang Liu, Yongzhi Liu, Yong Liu, Univ. of Electronic Science and Technology of China (China) [7844-16]
- 11.40: **A novel optical heterodyne approach for measuring frequency responses of photodetectors**, Qiang Yan, Beijing Univ. of Posts and Telecommunications (China) [7844-17]

Conference 7844

12.00: **Adaptive nano- and nonlinear- photonics engineering**, Jianying Zhou, Xiangsheng Xie, Yefeng Guan, Peiqing Zhang, Sun Yat-Sen Univ. (China)[7844-18]
Lunch Break 12.20 to 13.50

SESSION 3

Room: 215 Tues. 13.50 to 18.10

Simulation, Characteristics, and Packaging

Session Chairs: **Kun Xu**, Beijing Univ. of Posts and Telecommunications (China); **Yongzhi Liu**, Univ. of Electronic Science and Technology of China (China)

13.50: **Phase estimation in coherent communication systems with semiconductor laser noises** (*Invited Paper*), Changyuan Yu, National Univ. of Singapore (Singapore)[7844-19]

14.20: **Theoretical analysis of emission characteristics of second-order distributed feedback semiconductor lasers**, Li Qin, Changchun Institute of Optics, Fine Mechanics and Physics (China); Shujuan Ye, Yongsheng Hu, Nan Zhang, Changchun Institute of Optics, Fine Mechanics and Physics (China) and Graduate Univ. of Chinese Academy of Sciences (China); Yongqiang Ning, Yun Liu, Lijun Wang, Changchun Institute of Optics, Fine Mechanics and Physics (China)[7844-20]

14.40: **Research of the intracavity second harmonic generation characteristics of optically pumped semiconductor disk laser**, Zili Li, Yanrong Song, Peng Zhang, Beijing Univ. of Technology (China)[7844-21]

15.00: **Optical bistability in InP/InAlGaAs multi-quantum-well semiconductor ring lasers**, Yan Chen, Lu-Hong Mao, Weilian Guo, Shilin Zhang, Sheng Xie, Jinlong Yu, Xin Yu, Tianjin Univ. (China); Xiao Gu, Tianjin Polytechnic Univ. (China); Xianjie Li, Lifang Qi, China Electronics Technology Group Corp. (China)[7844-22]

Coffee/Tea Break 15.20 to 15.50

15.50: **Electromagnetic optimization of high-speed TO laser modules** (*Invited Paper*), Wei Han, Peter O'Brien, Marc Rensing, Tyndall National Institute (Ireland); Frank H. Peters, Tyndall National Institute (Ireland) and Univ. College Cork (Ireland)[7844-23]

16.20: **High-speed analog DFB laser module operated in direct modulation for Ku-band** (*Invited Paper*), Yu Liu, Jiangwei Man, Wei Han, Xin Wang, Haiqing Yuan, Hongliang Zhu, Liang Xie, Ninghua Zhu, Institute of Semiconductors (China)[7844-24]

16.50: **Experimental observations of bistable characteristics of an optically injected semiconductor laser biased nearby the threshold current**, Xiaodong Lin, Zheng-Mao Wu, Li Wang, Xin-Xin Ping, Guang-Qiong Xia, Southwest Univ. (China)[7844-25]

17.10: **Influence of asymmetrical bias currents on chaos synchronization performance of mutually coupled semiconductor lasers**, Tao Deng, Guang-Qiong Xia, Yuan He, Yuan-Yuan Liu, Zheng-Mao Wu, Southwest Univ. (China)[7844-26]

17.30: **Analysis of strain energy in nanowire heterostructures with component gradient buffer section**, Liu Yang, Xian Ye, Beijing Univ. of Posts and Telecommunications (China)[7844-27]

17.50: **Experimental study of laser dicing sapphire substrate by green DPSS laser**, Xiaozhu Xie, Fumin Huang, Xin Wei, Wei Hu, Guangdong Univ. of Technology (China)[7844-28]

POSTERS-Tuesday

Hallway Outside Rooms 302-305 Tues. 18.30 to 20.30

Growth of Au-assisted GaAs/InGaAs core-shell nanowires by metalorganic chemical vapor deposition, Jingwei Guo, Hui Huang, Xian Ye, Xiaomin Ren, Shiwei Cai, Wei Wang, Qi Wang, Yongqing Huang, Xia Zhang, Beijing Univ. of Posts and Telecommunications (China)[7844-30]

Design and experiments of common aperture active imaging system, Ning Zhang, Tang Yi, Lei Wang, Beijing Institute of Technology (China)[7844-31]

The effect of injection-locked FP-LD source on WDM-PON system, Lei Wang, Liang Xu, Accelink Technologies Co., Ltd. (China) and SKL of OCTN (China); Chuan Huang, FiberHome Telecommunication Technologies Co., Ltd. (China); Kai Zhang, Wuhan Telecommunication Devices Co., Ltd. (China); Yanfeng Fu, Accelink Technologies Co., Ltd. (China)[7844-32]

Self-mixing interference effect of VCSEL and the application on micro-displacement measurement, Hui Hao, Ming Wang, Guo Dong Mei, Wei Xia, Nanjing Normal Univ. (China)[7844-33]

Distributed Bragg reflector mirror with a double-wavelength reflection: design and calculation, Changling Yan, Changchun Univ. of Science and Technology (China)[7844-34]

A novel wavelength-locking system of tunable three-electrode distributed Bragg reflector (DBR) laser for multiple ITU channels, Nan Ye, Institute of Semiconductors (China)[7844-35]

Optical influence of different standard illuminant on Nephrite's green color **From Manasi**, Hong-mei Du, Guo Ying, China Univ. of Geosciences (China)[7844-36]

Application of CIELAB-based color difference formulae in quantitative grading of jadeite-jade, Guo Ying, China Univ. of Geosciences (China) .[7844-37]

Lifetime estimation of high power lasers, Guoguang Lu, Changchun Institute of Optics, Fine Mechanics and Physics (China)[7844-38]

Numerical simulation of echo power for semi-active laser detection, Huimin Chen, Beijing Institute of Technology (China)[7844-39]

Modeling of BRDF based on genetic algorithm, Huimin Chen, Beijing Institute of Technology (China)[7844-40]

An InP based wide gain spectrum asymmetrical quantum wells for large scale optoelectronic monolithic integration, Hongyun Xie, Zhiyi Lu, Pei Shen, Beijing Univ. of Technology (China)[7844-41]

A special sampling technology for sampled grating laser, Yating Zhou, Nanjing Univ. (China) and Changzhou Institute of Technology (China); Yuechun Shi, Simin Li, Xiangfei Chen, Nanjing Univ. (China)[7844-42]

Multiple phase shifts DFB semiconductor laser based on reconstruction equivalent chirp technology, Yuechun Shi, Simin Li, Linlin Lu, Xiangfei Chen, Nanjing Univ. (China)[7844-43]

Hydrogen and argon plasma passivating technology in GaAs/AlGaAs LD cavity surfaces, Chun-ling Liu, Chun-Wu Wang, Yanping Yao, Jilin Normal Univ. (China)[7844-44]

Collimated the laser diode beam by the focus lens, Qiang Xu, Jing Li, Wei Zhang, Xidian Univ. (China)[7844-45]

Control of DBR microcavity disturbed thickness errors and determination of the effective cavity length, Xuanke Zhao, Zhaoxin Wu, Guojin Xu, Shixiong Liang, Xun Hou, Xi'an Jiaotong Univ. (China)[7844-46]

Demonstrations of beam quality of semiconductor lasers, Changqing Cao, Xidian Univ. (China)[7844-47]

Design and research of a tunnel shape measuring system based on MCU, Pan Xi, Liaoning Technical Univ. (China)[7844-48]

Optimization of low threshold currents in proton implanted vertical cavity surface emitting lasers, Hong-Dong Zhao, Mei Sun, Qi Liu, Wei Wang, Hui-Li Liu, Wen-Chao Li, Hebei Univ. of Technology (China)[7844-49]

Frequency stability system of the reference laser diode for space-borne Fourier transform spectrometer, Xiaoqiang Jin, Shanghai Institute of Technical Physics (China)[7844-50]

The theoretical research of carrier distribution in semiconductor quantum dot, Zhao Chang, Man Zhao, Beijing Institute of Petrochemical Technology (China)[7844-51]

High-power mode-locking external-cavity feedback diode-pumped laser based on SHG in PPKTP, Wen-Chao Li, Hebei Univ. of Technology (China); Zhengjun Liu, Yanshan Univ. (China); Hongdong Zhao, Hebei Univ. of Technology (China); Zhiqian Li, Yanshan Univ. (China)[7844-52]

Study of damage induced by trigger pulse at high repetition frequency in GaAs PCSS's material, Xiang Shan, Air Force Engineering Univ. (China)[7844-53]

Multi-modulation frequencies high accuracy semiconductor laser range finder, Junewen Chen, Chung-Hua Univ. (Taiwan)[7844-54]

Optics in Health Care and Biomedical Optics IV

Conference Chairs: **Qingming Luo**, Huazhong Univ. of Science and Technology (China); **Ying Gu**, Chinese PLA General Hospital (China); **Xingde Li**, The Johns Hopkins Univ. (USA)

Program Committee: **Jing Bai**, Tsinghua Univ. (China); **Stephen Allen Boppart**, Univ. of Illinois at Urbana-Champaign (USA); **Wei R. Chen**, Univ. of Central Oklahoma (USA); **Yu Chen**, Polytechnic Institute of New York Univ. (USA); **Linhong Deng**, Chongqing Univ. (China); **Zhihua Ding**, Zhejiang Univ. (China); **Qiyong Gong**, West China Hospital of Sichuan Univ. (China); **Hui Li**, Fujian Normal Univ. (China); **Hong Liu**, The Univ. of Oklahoma (USA); **Hui Ma**, Tsinghua Univ. (China); **Atsushi Maki**, Hitachi, Ltd. (Japan); **Yingtian Pan**, Stony Brook Univ. (USA); **Yuwen Qin**, National Natural Science Foundation of China (China); **Qiushi Ren**, Peking Univ. (China); **Jie Tian**, Institute of Automation (China); **Valery V. Tuchin**, N.G. Chernyshevsky Saratov State Univ. (Russian Federation); **Lihong V. Wang**, Washington Univ. in St. Louis (USA); **Ruikang K. Wang**, Oregon Health & Science Univ. (USA); **Xunbin Wei**, Fudan Univ. (China); **Xujie Xia**, Shanghai Jiao Tong Univ. (China); **Da Xing**, South China Normal Univ. (China); **Kexin Xu**, Tianjin Univ. (China); **Yudong Zhang**, Institute of Optics and Electronics (China); **Zhenxi Zhang**, Xi'an Jiaotong Univ. (China); **Dan Zhu**, Huazhong Univ. of Science and Technology (China)

Monday 18 October

Opening Ceremony and Plenary Session. Mon. 08.30 to 12.00

- 8.30: Opening Ceremony
- 9.00: **Fibre Optic Systems for Gas Detection: Progress and Prospects**, Brian Culshaw, Univ. of Strathclyde (United Kingdom)
- 9.30: **Optical Tweezers Based Micro-rheology**, Arthur Chiou, National Yang Ming Univ. (Taiwan, China)
- Coffee/Tea Break 10:00 to 10:30 am
- 10.30: **Integration and Function Enhancements of Planar Lightwave Circuits (PLCs) for Optical Communication**, Ray T. Chen, The Univ. of Texas, Austin (United States)
- 11.00: **Modern Optical System Design: Holistic Optimization of Innovative Design Concepts**, Willi Ulrich, Carl Zeiss AG (Germany)
- 11.30: **Index Guiding Microstructured Fibers and its Applications**, Libo Yuan, Photonics Research Ctr., Harbin Engineering Univ. (China)

Lunch Break 12.00 to 13.30

SESSION 1

Room: 302 A+B Mon. 13.30 to 15.20

Multimodal Biomedical Imaging

Session Chair: **Jing Bai**, Tsinghua Univ. (China)

- 13.30: **Optical monitoring of tissue vitality in health care and biomedical research** (*Invited Paper*), Avraham Mayevsky, Bar-Ilan Univ. (Israel). [7845-01]
- 14.00: **Optical molecular imaging**, Qingming Luo, Huazhong Univ. of Science and Technology (China). [7845-02]
- 14.20: **A simultaneous FMT-PET imaging system for small animals**, Xin Wang, Bin Zhang, Tsinghua Univ. (China); Shuangquan Liu, Institute of High Energy Physics (China); Xin Liu, Tsinghua Univ. (China); Baoci Shan, Institute of High Energy Physics (China); Jing Bai, Tsinghua Univ. (China). [7845-03]
- 14.40: **Quantitative phase imaging of red blood cells based on the slightly off-axis interference tomographic microscopy**, Liang Xue, Jian-cheng Lai, Zhen-hua Li, Nanjing Univ. of Science and Technology (China). [7845-04]
- 15.00: **Elimination of the twist distortion in IVUS and CAG image fusion based on the Frenet-Serret formulas**, Hongxiao Li, Xiaodong Chen, Daoyin Yu, Tianjin Univ. (China) [7845-05]
- Coffee/Tea Break 15.20 to 15.50

SESSION 2

Room: 302 A+B Mon. 15.50 to 17.20

Optical Methods for Biomedical Applications

Session Chair: **Yudong Zhang**, Institute of Optics and Electronics (China)

- 15.50: **Depletion kinetics of circulating prostate cancer cells studied by in vivo flow cytometer** (*Invited Paper*), Xunbin Wei, Guangda Liu, Fudan Univ. (China) [7845-06]
- 16.20: **Evaluation of whole blood coagulation process by optical coherence tomography**, Jia Lin, Xiangqun Xu, Zhejiang Sci-Tech Univ. (China). [7845-07]
- 16.40: **Dynamic temperature monitoring and control with fully distributed fiber Bragg grating sensor**, Yuetong Ding, Na Chen, Zhenyi Chen, Fufei Pang, Xianglong Zeng, Tingyun Wang, Shanghai Univ. (China) [7845-08]
- 17.00: **Effects of the optical transfer function on velocity estimation with optical coherence tomography**, Xianling Zhang, Wanrong Gao, Peng Li, Nanjing Univ. of Science and Technology (China) [7845-09]

Tuesday 19 October

SESSION 3

Room: 302 A+B Tues. 08.30 to 10.20

Advanced Optical Techniques for Diagnosis

Session Chair: **Qingming Luo**, Huazhong Univ. of Science and Technology (China)

- 08.30: **Latest progress of adaptive optics for human eye in IOE** (*Invited Paper*), Yudong Zhang, Institute of Optics and Electronics (China) [7845-10]
- 09.00: **Wavelength probing optical coherence tomography**, Shoude Chang, Youxin Mao, Costel Flueraru, National Research Council Canada (Canada) [7845-11]
- 09.20: **Quantitative microflow mapping with wide-field optical heterodyne detection**, Michael Atlan, Caroline V. Magnain, Benjamin Samson, Ecole Supérieure de Physique et de Chimie Industrielles (France); Michel Gross, Ecole Normale Supérieure (France). [7845-12]
- 09.40: **Single-detector polarization-sensitive OCT for biological tissue imaging**, Yi Wang, Xiaodong Chen, Haifeng Li, Yong Lei, Daoyin Yu, Tianjin Univ. (China) [7845-13]
- 10.00: **Monitoring collagen remodeling on opto-thermal response of photoaged skin irradiated by Er:YAG laser with optical coherence tomography**, Xiaoman Zhang, Shulian Wu, Hui Li, Fujian Normal Univ. (China) [7845-14]
- Coffee/Tea Break 10.20 to 10.50

SESSION 4

Room: 302 A+B Tues. 10.50 to 12.10

Biomedical Imaging and Analysis

Session Chair: Avraham Mayevsky, Bar-Ilan Univ. (Israel)

10.50: **Performance of hybrid system for fluorescence and micro-computed tomography in synchronous mode**, Xin Liu, Fei Liu, Xiaolian Guo, Yi Zhang, Xin Wang, Jing Bai, Tsinghua Univ. (China)[7845-15]

11.10: **Effect of electrode structure on the focal spot of x-ray tube**, Jinchuan Guo, Xikui Ren, Bin Zhou, Hanben Niu, Shenzhen Univ. (China)[7845-16]

11.30: **Characterization of photoacoustic signal using wavelet analysis**, Zhifang Li, Hui Li, Wenming Xie, Fujian Normal Univ. (China)[7845-17]

11.50: **Multispectral colour analysis for quantitative evaluation of pseudoisochromatic color deficiency tests**, Maris Ozolinsh, Sergejs Fomins, Univ. of Latvia (Latvia)[7845-18]

Lunch Break 12.10 to 13.40

SESSION 5

Room: 302 A+B Tues. 13.40 to 15.10

Diffuse Optical Imaging and Scattering Analysis

Session Chair: Xunbin Wei, Fudan Univ. (China)

13.40: **Time-domain diffuse optical tomography: principle and practice (Invited Paper)**, Feng Gao, Tianjin Univ. (China)[7845-19]

14.10: **Quantitative analysis of dehydration in porcine skin caused by optical clearing agents**, Tingting Yu, Xiang Wen, Duan Shu, Dan Zhu, Huazhong Univ. of Science and Technology (China)[7845-20]

14.30: **Study on the backscattering Mueller matrix of the sphere-cylinder scattering model of anisotropic tissues**, Nan Zeng, Honghui He, Tianliang Yun, Hui Ma, Tsinghua Univ. (China)[7845-21]

14.50: **Surface enhanced Raman scattering of molecules adsorbed on gold nanostructures**, Xingfang Zhang, Yuanyun Zhang, Qinghe Mao, Anhui Institute of Optics and Fine Mechanics (China)[7845-22]

Coffee/Tea Break 15.10 to 15.40

SESSION 6

Room: 302 A+B Tues. 15.40 to 17.00

Spectroscopy and Tissue Diagnosis

Session Chair: Dan Zhu,

Huazhong Univ. of Science and Technology (China)

15.40: **Rapid measurement of alanine aminotransferase with near-infrared transmission spectroscopy**, Furong Huang, Jinan Univ. (China)[7845-24]

16.00: **Discriminant analysis for the classification of colonic tissue autofluorescence spectra**, Lina Liu, Bingyang Liu, Fujian Normal Univ. (China); Weihua Li, Fujian Provincial Hospital (China); Lisheng Lin, Buhong Li, Shusen Xie, Fujian Normal Univ. (China)[7845-25]

16.20: **Improvement of measurement accuracy for quantitative analysis of blood contents with near-infrared spectroscopy**, Yunhan Luo, Jinan Univ. (China)[7845-26]

16.40: **Raman micro-spectroscopy of nasopharyngeal carcinoma in vitro**, Yongzeng Li, Fujian Normal Univ. (China); Ying Su, Fujian Medical Univ. (China); Wei Huang, Fujian Normal Univ. (China); Jianji Pan, Fujian Medical Univ. (China); Shangyuan Feng, Shusen Xie, Rong Chen, Fujian Normal Univ. (China)[7845-23]

Wednesday 20 October

Sessions 7A and 7B run concurrently

SESSION 7A

Room: 302 A+B Wed. 08.30 to 10.20

Multiphoton Microscopy and Applications

Session Chair: Kevin D. Belfield, Univ. of Central Florida (USA)

08.30: **The analysis of aging skin based on multiphoton microscopy (Invited Paper)**, Shulian Wu, Zhifang Li, Xiaoman Zhang, Hui Li, Fujian Normal Univ. (China)[7845-27]

09.00: **Morphological and quantity changes of collagen and elastic fiber components in keloid disease studied by multiphoton microscopy**, Jianxin Chen, Fujian Normal Univ. (China)[7845-28]

09.20: **Cell flow analysis with a two-photon fluorescence fiber probe**, Yu-Chung Chang, National Changhua Univ. of Education (Taiwan); Jing Yong Ye, The Univ. of Texas at San Antonio (United States); Thommey P. Thomas, James R. Baker, Jr., Theodore B. Norris, Univ. of Michigan (United States)[7845-29]

09.40: **Fast localization microscopy for super-resolution imaging of living cells**, Zhenli Huang, Huazhong Univ. of Science and Technology (China) and Institute of Applied Physics and Ctr. for Functional Nanostructures (Germany)[7845-30]

10.00: **Quantitatively linking collagen alteration and epithelial tumor progression by second harmonic generation microscopy**, Shuangmu Zhuo, Jianxin Chen, Shusen Xie, Fujian Normal Univ. (China)[7845-31]

Coffee/Tea Break 10.20 to 10.50

SESSION 7B

Room: 305 Wed. 08.20 to 10.30

Optical Interactions with Tissues and Cells

Session Chair: Xujie Xia, Shanghai Jiao Tong Univ. (China)

08.20: **A role for Nrf2 in UVA-mediated heme oxygenase induction and protection in human skin fibroblasts (Invited Paper)**, Li Zhong, Linhong Deng, Li Yang, Haibin Li, Gurinder Singh, Chongqing Univ. (China); Rex M. Tyrrell, Univ. of Bath (United Kingdom)[7845-45]

08.50: **Photonic homeostatics**, Timon C. Y. Liu, Fan-Hui Li, South China Normal Univ. (China)[7845-46]

09.10: **Light-induced negative regulation of heme oxygenase 1 in human skin cells**, Li Zhong, Li Yang, Linhong Deng, Ruoqi Xu, Chongqing Univ. (China); Rex M. Tyrrell, Univ. of Bath (United Kingdom)[7845-47]

09.30: **The effect of 630-nm light stimulation on the sEMG signal of forearm muscle**, Wensheng Hou, Chongqing Univ. (China)[7845-48]

09.50: **Brain lesion induced by 1319-nm laser radiation**, Zaifu Yang, Beijing Institute of Radiation Medicine (China); Hongxia Chen, Chinese PLA General Hospital (China); Peng Chen, Jiarui Wang, Ping Ma, Huanwen Qian, Chenggang Zhang, Beijing Institute of Radiation Medicine (China)[7845-49]

10.10: **1.32 μ m laser stimulus causing pain in human skin of lateral margin of forearm**, Jiarui Wang, Dongdong Hu, Zaifu Yang, Chenggang Zhang, Beijing Institute of Radiation Medicine (China)[7845-50]

Coffee/Tea Break 10.30 to 11.00

Sessions 8A and 8B run concurrently

SESSION 8A

Room: 302 A+B Wed. 10.50 to 12.10

Nano-/Biophotonics

Session Chair: Linhong Deng, Chongqing Univ. (China)

10.50: **Near-infrared fluorescent dyes with native cancer targeting and imaging properties**, Chunmeng Shi, Third Military Medical Univ. (China)[7845-32]11.10: **Study the effects of divalent (Mg²⁺, Ca²⁺, Mn²⁺) ions on the interaction of DNA and histones with fluorescence anisotropy assays**, Yuying Liu, Xuejin Wang, Weiwei Zhang, Shiqiu Zhu, Hongyi Sang, China Agricultural Univ. (China)[7845-33]11.30: **Photosensitizer-conjugated magnetic nanoparticles for targeting photodynamic therapy**, Peng Huang, Zhiming Li, Jing Lin, Daxiang Cui, Shanghai Jiao Tong Univ. (China)[7845-34]11.50: **The effects of Ce³⁺ and Ce⁴⁺ on the stability of fibroblast growth factor-2**, Liwei Sun, Hao Feng, Rui Jiang, Beihua Univ. (China); Liping Niu, Huazhong Normal Univ. (China); Yu Song, Kai Feng, Beihua Univ. (China); Chao Qi, Huazhong Normal Univ. (China).[7845-35]

Lunch Break 12.10 to 13.40

SESSION 8B

Room: 305 Wed. 11.00 to 12.00

Photo-thermal Interaction and Calculations

Session Chair: Feng Gao, Tianjin Univ. (China)

11.00: **Effects of spatial and temporal parameters of MTZs on temperature and thermal damage distributions during non-ablative fractional photothermolysis treatments: a numerical study**, Jing Bo Ma, Shanghai Jiao Tong Univ. (China); Ji Zhuang Zhang, Tsinghua Univ. (China)[7845-53]11.20: **A numerical investigation of photo-thermal interactions during laser sebaceous gland treatment**, Ji Zhuang Zhang, Tsinghua Univ. (China); Jing Bo Ma, Shanghai Jiao Tong Univ. (China)[7845-51]11.40: **Monte Carlo simulation of noninvasive glucose measurement based on FMCW lidar**, Xiong Bing, Wenxiang Wei, Jianjun He, Zhejiang Univ. (China)[7845-52]

Lunch Break 12.00 to 13.30

Sessions 9A and 9B run concurrently

SESSION 9A

Room: 302 A+B Wed. 13.40 to 15.30

Optical Techniques: Advances in Research

Session Chair: Hui Li, Fujian Normal Univ. (China)

13.40: **New probes for two-photon fluorescence folate receptor bioimaging (Invited Paper)**, Kevin D. Belfield, Xuhua Wang, Alma R. Morales, Univ. of Central Florida (United States)[7845-36]14.10: **Quantitative FRET measurement by high-speed fluorescence excitation and emission spectrometer**, Jing Yuan, Massachusetts General Hospital (United States) and Huazhong Univ. of Science & Technology (China); Leilei L. Peng, Massachusetts General Hospital (United States) and The Univ. of Arizona (United States); Brett E. Bouma, Guillermo J. Tearney, Massachusetts General Hospital (United States)[7845-37]14.30: **A simple method to fulfill particle trapping by optical tweezers array**, Qin Li, Yanhuang Zhou, Jingfang Li, Beijing Institute of Technology (China)[7845-38]14.50: **Fast confocal endomicroscopy based on multi-fiber parallel scanning**, Shi Yan, China Jiliang Univ. (China); Liqiang Wang, Zhejiang Univ. (China)[7845-39]15.10: **Noninvasive evaluation system of fractured bone based on speckle interferometry**, Shinya Yamanada, Shigeru Murata, Yohsuke Tanaka, Kyoto Institute of Technology (Japan)[7845-40]

Coffee/Tea Break 15.30 to 16.00

SESSION 9B

Room: 305 Wed. 13.30 to 16.10

Mechanisms and Techniques in Photodynamic Therapy

Session Chair: Ying Gu, Chinese PLA General Hospital (China)

13.30: **Anti-HIV-1 activities of photodynamic therapy using hematoporphyrin monomethyl ether (Invited Paper)**, Huijuan Yin, Yingxin Li, Chinese Academy of Medical Sciences (China)[7845-54]14.00: **Kinetic analysis of singlet oxygen generation within a living cell using singlet oxygen sensor green**, Buhong Li, Yi Shen, Huiyun Lin, Lifu Xiao, Zufang Huang, Shusen Xie, Fujian Normal Univ. (China)[7845-55]14.20: **Photodynamic therapy for port wine stains assisted by a novel robotic system**, Naiyan Huang, Jianguo Zhu, Ying Wang, Ying Gu, Chinese PLA General Hospital (China); Guibin Bian, Xingguang Duan, Xintao Wang, Shihu Cui, Weifeng Liu, Xiaoying Tang, Chunyu Zhang, Beijing Institute of Technology (China)[7845-56]14.40: **Influence of photodynamic therapy on dental plaque of oral biofilm of artificial dental caries**, Zhaohui Zou D.D.S., Dental Hospital of Tianjin (China); Huijuan Yin, Yingxin Li, Chinese Academy of Medical Sciences (China)[7845-57]

Coffee/Tea Break 15.00 to 15.30

15.30: **Effect of concentration on photobleaching of hematoporphyrin monomethyl ether (HMME) in solutions**, Ying Wang, Ying Gu, Chinese PLA General Hospital (China)[7845-58]15.50: **Determination of singlet oxygen quantum yield of HiPorphin using singlet oxygen sensor green**, Huiyun Lin, Defu Chen, Yi Shen, Lisheng Lin, Buhong Li, Shusen Xie, Fujian Normal Univ. (China)[7845-59]

Sessions 10A and 9B run concurrently

SESSION 10A

Room: 302 A+B Wed. 16.00 to 17.20

Advanced Biomedical and Clinical Systems

Session Chair: Timon Cheng-Yi Liu, South China Normal Univ. (China)

16.00: **Novel optogenetic experiment apparatus based on spatial light modulator and solid state light source**, Chung-Jen Ou, Hsiuping Institute of Technology (Taiwan); Hong Lin Su, Ching-I Shen, National Chung Hsing Univ. (Taiwan)[7845-41]16.20: **Optical requirement and the mechanism relevance between optogenetic and optical neural guiding**, Chung-Jen Ou, Hsiuping Institute of Technology (Taiwan)[7845-42]16.40: **Confocal fluorescence microendoscopy using a digital micro-mirror device**, Zhifeng Feng, Liqiang Wang, Huilong Duan, Zhejiang Univ. (China)[7845-43]17.00: **Evaluation of bovine bone ablation by assisted with a liquid film on the target tissue**, Xianzeng Zhang, Fujian Normal Univ. (China)[7845-44]

SESSION 10B

Room: 305 Wed. 16.10 to 16.40

Optical Techniques in Urology

Session Chair: Ying Gu, Chinese PLA General Hospital (China)

16.10: **Ureterscopy in detecting upper urinary tract neoplasms in patients with asymptomatic hematuria and abnormal computerized tomography urography or cytology (Invited Paper)**, Shu-Jie Xia, Affiliated First People's Hospital of Shanghai Jiaotong Univ. (China)[7845-60]

POSTERS-Wednesday

Hallway Outside Rooms 302-305 Wed. 18.30 to 20.30

Variation of absorption coefficient of glucose water in consideration of water displacement, Zhonghai He, Northeastern Univ. (China) [7845-61]

Uniform mesoporous dye-doped silica nanoparticles as a multifunctional drug carrier for in vivo early tumor diagnosis, Jie Cao, Dawei Deng, Yueqing Gu, China Pharmaceutical Univ. (China) [7845-62]

A novel detector for chromatography and estradiol immune sensor based on surface plasma resonance, Huibin Chen, Xiaoping Wang, Hongwei Wu, Shuyue Zhan, Zhejiang Univ. (China) [7845-63]

The influences of turbid media on the optical property of different ultra short Gauss laser pulse, Man Zhao, Zhao Chang, Beijing Institute of Petrochemical Technology (China) [7845-64]

Optical trapping gold nanoparticles by a pulse laser, XiaoYu Liu, Feng Wang, Harbin Engineering Univ. (China) [7845-65]

Fluorescence lifetime imaging using multi-dimension time-correlated single photon counting method, Cuixia Sheng, Heijing Tang, Shandong Univ. of Technology (China) [7845-66]

An analytic two-dimensional circular scheme for time-domain diffuse fluorescence tomography: methodology and phantom validation, Jiao Li, Feng Gao, Xin Wang, Limin Zhang, Huijuan Zhao, Tianjin Univ. (China) . [7845-67]

Development of a novel spectrometer for tongue coating analyzer based on volume holography transmissive grating, Ren Zhong, Guodong Liu, Jiangxi Science and Technology Normal Univ. (China); Longmin Dai, China Eastern Airlines Co. Ltd. (China); Huang Zhen, Lvming Zeng, Jiangxi Science and Technology Normal Univ. (China) [7845-68]

Improvement of the frequency-domain inverse Monte Carlo simulation, Xiaoqing Zhou, Huijuan Zhao, Shuying Zhang, Zhuanning Qin, Feng Gao, Tianjin Univ. (China) [7845-69]

Comparison between radiation forces on gold nanoparticles and on polystyrene nanobeads, XiaoYu Liu, Feng Wang, Harbin Engineering Univ. (China) [7845-70]

Signal and noise analysis of optical coherence tomography inscattering media with discontinuity structure at 1550 nm, Lin Lin, Yingjun Gao, Guangdong Medical College (China) and Jinan Univ. (China); Mei Zhang, Dongguan Univ. of Technology (China) [7845-71]

Imaging model of optical sectioning of thick specimen, Chen Hua, Guangxi Univ. (China) [7845-72]

Experimental study on measurements of optically characteristic parameters of tissue based on diffused theory, Ping Sun, Beijing Normal Univ. (China) [7845-73]

Comparative study of 980-nm diode laser and 810-nm diode laser to skin and mucosa vascular lesions and benign growths, Haixia Qiu, Ying Gu, Ying Wang, Jing Zeng, NaiYan Huang, Hongxia Chen, Chinese PLA General Hospital (China) [7845-74]

Surface-enhanced Raman spectroscopy of nasopharyngeal carcinoma cell using gold nanoparticles, Rong Chen, Fujian Normal Univ. (China); Hao Huang, Fujian Univ. of Traditional Chinese Medicine (China); Li-qing Sun, Fuzhou First Hospital (China); Jian-ji Pan, Fujian Medical Univ. (China); Wei-wei Chen, Fujian Normal Univ. (China) and Fujian Univ. of Traditional Chinese Medicine (China); Ying Su, Fujian Medical Univ. (China); Shang-yuan Feng, Yong-zeng Li, Fujian Normal Univ. (China) [7845-75]

New optical method for noninvasive blood glucose measurement by optical ultrasonic modulation, Lili Zhu, Jieqing Lin, Wenming Xie, Hui Li, Fujian Normal Univ. (China) [7845-76]

Determination of the anisotropy complex refractive indices of chicken tissues in vitro at 650 nm, Ping Sun, Beijing Normal Univ. (China) . . . [7845-77]

Hematoporphyrin effect on tissue optical properties of gastric cancer in nude mice in near-infrared spectra, Meng Kong, South China Normal Univ. (China) [7845-78]

Marginal characteristics of skin scarred dermis quantitatively extracted from multiphoton microscopic imaging, Xiaoqin Zhu, Shuangmu Zhuo, Liqin Zheng, Jianxin Chen, Fujian Normal Univ. (China) [7845-79]

A processing technology of two-photon microscopic image of nasopharyngeal cancer cells, Hongxin Lin, Rong Chen, Guannan Chen, Fujian Normal Univ. (China) [7845-80]

The theoretical and experimental study on light scattering property of dental enamel, Qingguang Chen, Bin Lin, Dahai Liu, Hui Wang, Huanbo Shen, Zhejiang Univ. (China) [7845-81]

Radiation force on a chiral sphere by a Gaussian beam, Qingchao Shang, Zhensen Wu, Zhengjun Li, Huan Li, Xidian Univ. (China) [7845-82]

A novel cancer detection based on human plasma surface-enhanced Raman scattering combined with PCA-LDA statistical analysis, Shang-yuan Feng, Rong Chen, Jiesi Chen, Fujian Normal Univ. (China); Jianji Pan, Fujian Medical Univ. (China); Haishan Zeng, The BC Cancer Agency Research Ctr. (Canada) [7845-83]

The targeted behavior of folate-decorated N-succinyl-N'-octyl chitosan evaluated by NIR system in mouse model, Hongyan Zhu, Dawei Deng, Haiyan Chen, China Pharmaceutical Univ. (China); Zhiyu Qian, Nanjing Univ. of Aeronautics and Astronautics (China); Yueqing Gu, China Pharmaceutical Univ. (China) [7845-84]

Monitoring the process of tissue healing of rat skin in vivo after laser irradiation based on optical coherence tomography, Youwu He, Shoudong Cai, Shulian Wu, Zhifang Li, Hui Li, Fujian Normal Univ. (China) [7845-85]

Monitoring change of optical attenuation coefficient of acupoint and nonacupoint tissues during laser acupuncture by optical coherence tomography, Yimei Huang, Hongqin Yang, Yuhua Wang, Liqin Zheng, Shusen Xie, Fujian Normal Univ. (China) [7845-86]

Autofluorescence characteristics of normal and leukemia cell lines, Lifu Xiao, Fujian Normal Univ. (China); Xiaoying Liao, Fujian Medical Univ. (China); Lisheng Lin, Fujian Normal Univ. (China); Yuanzhong Chen, Fujian Medical Univ. (China); Buhong Li, Shusen Xie, Fujian Normal Univ. (China) [7845-87]

Shear bond strength of a self-etch adhesive to Er:YAG laser-prepared dentin, Zhenlin Zhan, Fujian Normal Univ. (China) and Fujian Provincial Key Lab. for Photonics Technology (China); Weiliang Wu, Fujian Medical Univ. (China); Xianzeng Zhang, Haibin Zhao, Fujian Normal Univ. (China); Shi Lin, Fujian Medical Univ. (China); Shusen Xie, Fujian Normal Univ. (China) [7845-88]

Studying multiple scattering effects on low-coherence optical signal for tissue phantom, Mei Zhang, Dongguan Univ. of Technology (China); Lin Lin, Guangdong Medical College (China) [7845-89]

Wavelength-swept laser around 1060 nm based on polygon filter in Littrow telescope-less configuration, Minghui Chen, Zhihua Ding, Ling Wang, Tong Wu, Baoyong Wang, Zhejiang Univ. (China) [7845-91]

Photothermal optical coherence tomography using gold nanoshells, Ling Wang, Zhihua Ding, Minghui Chen, Zhejiang Univ. (China) [7845-90]

Comparison of two linear differential polarization imaging methods in tissue characterization, Dongzhi Li, Ran Liao, Nan Zeng, Yonghong He, Hui Ma, Tsinghua Univ. (China) [7845-92]

A large format x-ray image detector of high resolution and sensitivity, Jinchuan Guo, Bin Zhou, Xin Liu, Yaohu Lei, Qiang Yang, Hanben Niu, Yuncheng Wang, Xiaomei Kuo, Shenzhen Univ. (China) [7845-93]

A sphere-cylinder scattering model for skeletal muscle, Tianliang Yun, Nan Zeng, Hui Ma, Tsinghua Univ. (China) [7845-94]

Study on structural change of early artificial caries using linear polarization PS-OCT and polarized sensitive Monte Carlo simulation, Lei Li, Nan Zeng, Tsinghua Univ. (China) [7845-95]

Pulse compression in two-photon excitation fluorescence microscopy, Xiaobao Liang, Wenyan Hu, Shaoqun Zeng, Qingming Luo, Ling Fu, Huazhong Univ. of Science and Technology (China) [7845-96]

Measurement of retina temperature increase during photodynamic therapy for choroidal neovascularization, Hongxia Chen, Chinese PLA General Hospital (China); Zaifu Yang, Beijing Institute of Radiation Medicine (China); Xiaoxia Li, Tianjin Univ. (China); Ying Gu, Chinese PLA General Hospital (China); Youquan Zhao, Tianjin Univ. (China) [7845-97]

Sensitivities of the spatial-resolved diffuse reflectance to scattering parameter, Xiaojuan Zhang, Civil Aviation Univ. of China (China); Ying Liu, Tianjin Univ. (China); Wei Yang, Civil Aviation Univ. of China (China) [7845-98]

Sampling brain volume using photon migration in visible Chinese human head for functional near-infrared spectroscopy, Ting Li, Hui Gong, Qingming Luo, Huazhong Univ. of Science and Technology (China) [7845-99]

Dual-modality imaging system combined fluorescence molecular tomography and micro-CT for small animal imaging, Xiaoquan Yang, Guotao Quan, Hui Gong, Qingming Luo, Huazhong Univ. of Science and Technology (China) [7845-100]

Statistical analysis of CCD noise in laser speckle contrast imaging, Jianjun Qiu, Pengcheng Li, Qingming Luo, Huazhong Univ. of Science and Technology (China) [7845-101]

Minimal invasive treatment using 6.02 micrometer DFG laser for carious dentin., Kunio Awazu, Osaka Univ. (Japan) and Fukui Univ. (Japan); Katsunori Ishii, Masayuki Saiki, Osaka Univ. (Japan) [7845-102]

Optical imaging of Caspase-3 activity based on the genetically encoded FqRET probe, Shun Liu, Jie Yang, Zhihong Zhang, Huazhong Univ. of Science and Technology (China) [7845-103]

Finger temperature controller for non-invasive blood glucose measurement, Xiqin Zhang, Choon Meng Ting M.D., GlucoStats System Pte Ltd. (Singapore); Joon Hock Yeo, Nanyang Technological Univ. (Singapore) [7845-104]

Imaging of cysteine cathepsins activity during apoptosis, Fengkai Fan, Si Nie, Dongmei Yang, Yuhui Zhang, Huazhong Univ. of Science and Technology (China) [7845-105]

The fMRI study of Electro- acupuncture at different acupoints modulating the relative specific brain network, Jiliang Fang, Yin Wang, Xiao Ling Wang, Jun Liu, Yang Hong, China Academy of Traditional Chinese Medicine (China) [7845-106]

Microscopic mechanism analysis on rheology and harmful effects by low level laser irradiation of blood, Lili Zhang, Hongwei Zhang, Canban Zhang, Honghe Univ. (China); Lin Xu, Yunnan Normal Univ. (China); Ling-Yun Zhou, Kunming Univ. of Science and Technology (China) [7845-107]

Study on pathological area of knee by infrared imaging, Shuwang Chen, Congcong Wang, Hebei Univ. of Science and Technology (China) [7845-108]

Optimization of fibre optic probes for biomedical spectroscopy, Bowen Wang, Yan Tang, Shandong Univ. (China) [7845-109]

A study about change of chlorophyll content in seedling after He-Ne laser mutation on seeds of *Erigeron breviscapus*, Zhang Canbang, Bo Gao, Jia-Jin Tian, He Li, Lifei Lin, Jucheng Zhang, Honghe Univ. (China) [7845-110]

Diagnosis gynecological tumors based on urine first derivative spectra, Shumei Gao, Jun Lu, Guoqing Chen, Jiangnan Univ. (China). [7845-111]

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Quantum and Nonlinear Optics

Conference Chairs: **Qihuang Gong**, Peking Univ. (China); **Guang-Can Guo**, Univ. of Science and Technology of China (China); **Yuen-Ron Shen**, Univ. of California, Berkeley (USA)

Program Committee: **Yiping Cui**, Southeast Univ. (China); **Luming Duan**, Univ. of Michigan (USA); **Byoung Seung Ham**, Inha Univ. (Korea, Republic of); **Osamu Hirota**, Tamagawa Univ. (Japan); **Xiaoyong Hu**, Peking Univ. (China); **François Kajzar**, Univ. d'Angers (France); **Ursula E. Keller**, ETH Zurich (Switzerland); **Dai-Sik Kim**, Seoul National Univ. (Korea, Republic of); **Songhao Liu**, South China Normal Univ. (China); **Jianwei Pan**, Univ. of Science and Technology of China (China); **Kunchi Peng**, Shanxi Univ. (China); **Jingjun Xu**, Nankai Univ. (China); **Zuyan Xu**, Institute of Physics (China); **Toyohiko Yatagai**, Univ. of Tsukuba (Japan); **Victor N. Zadkov**, Lomonosov Moscow State Univ. (Russian Federation); **Weiping Zhang**, East China Normal Univ. (China); **Cuiling Li**, Beijing Institute of Technology (China)

Monday 18 October

Opening Ceremony and Plenary Session. Mon. 08.30 to 12.00

- 8.30: Opening Ceremony
- 9.00: **Fibre Optic Systems for Gas Detection: Progress and Prospects**, Brian Culshaw, Univ. of Strathclyde (United Kingdom)
- 9.30: **Optical Tweezers Based Micro-rheology**, Arthur Chiou, National Yang Ming Univ. (Taiwan, China)
- Coffee/Tea Break 10:00 to 10:30 am
- 10.30: **Integration and Function Enhancements of Planar Lightwave Circuits (PLCs) for Optical Communication**, Ray T. Chen, The Univ. of Texas, Austin (United States)
- 11.00: **Modern Optical System Design: Holistic Optimization of Innovative Design Concepts**, Willi Ulrich, Carl Zeiss AG (Germany)
- 11.30: **Index Guiding Microstructured Fibers and its Applications**, Libo Yuan, Photonics Research Ctr., Harbin Engineering Univ. (China)

Lunch Break 12.00 to 13.30

SESSION 1

Room: 211 Mon. 13.30 to 15.30

Optical Manipulation and Frequency Conversion

Session Chair: Qihuang Gong, Peking Univ. (China)

- 14.00: **Dynamic complex optical lattices for soliton manipulation** (*Invited Paper*), Servando Lopez-Aguayo, Adrian Ruelas, Julio C. Gutiérrez-Vega, Instituto Tecnológico y de Estudios Superiores de Monterrey (Mexico). .[7846-02]
- 14.30: **Rabi splitting in a subwavelength cavity constructed by metamaterials**, Tuanhui Feng, Tongji Univ. (China); Yuanmin Zhang, Xuchang Univ. (China); Yunhui Li, Tongji Univ. (China); Fei Yang, Xuchang Univ. (China).[7846-03]
- 14.50: **Chirped-dual-periodic structure for quasi-phase-matching**, Xiaopeng Hu, Jie Yang, Gang Zhao, Nanjing Univ. (China).[7846-04]
- 15.10: **Generation of 1178 nm based on cascaded stimulated Raman scattering in KTA crystal**, Kai Zhong, Tianjin Univ. (China)[7846-05]

Coffee/Tea Break 15.30 to 16.00

SESSION 2

Room: 211 Mon. 16.00 to 18.00

Nonlinear Fiber Optics and Nonlinear Materials

- 16.00: **Periodically erasing the second-order optical nonlinearity in thermally poled optical fibers with UV light** (*Invited Paper*), Honglin An, Seong-sik Min, Simon Fleming, The Univ. of Sydney (Australia)[7846-06]
- 16.30: **Observation of the fast and slow light in an optical fiber based on sbs gain region** (*Invited Paper*), Shoujun Zhang, Xiaoyan Li, XianPu Su, Xiaodan Wei, Ming Feng, Yigang Li, Nankai Univ. (China)[7846-07]
- 17.00: **A novel type of low-dispersion high-birefringence photonic crystal fiber with high-nonlinear for four-wave mixing**, Yani Zhang, Xi'an Institute of Optics and Precision Mechanics (China)[7846-08]

17.20: **Donor strengthening strategy for FTC-based organic nonlinear chromophore**, Xianqing Piao, Xianmin Zhang, Shiyoshi Yokoyama, Kyushu Univ. (Japan); Akira Otomo, National Institute of Information and Communications Technology (Japan)[7846-09]

17.40: **Microwave signal generation with the optical frequency-selectively injection-locking of semiconductor laser diodes**, Hongbo Xue, Yanying Feng, Zhaoying Zhou, Xiongying Ye, Tsinghua Univ. (China); Xiaojia Wang, North Univ. of China (China); Xu Chen, Univ. of Science and Technology Beijing (China)[7846-10]

Tuesday 19 October

SESSION 3

Room: 211 Tues. 08.20 to 10.40

Quantum Optics Phenomena in Laser and Atom-System Interactions

Session Chair: Honglin An, The Univ. of Sydney (Australia)

08.20: **Performance comparison of nonlinear crystals for frequency doubling of an 894nm Cs vapor laser** (*Invited Paper*), Boris V. Zhdanov, Michael K. Shaffer, Yalin Lu, Ben Naumann, Tim Genda, U.S. Air Force Academy (United States)[7846-11]

08.50: **Dynamic responses of cold atoms to the magnetic field in an unbalanced 3D MOT** (*Invited Paper*), Xiaojia Wang, North Univ. of China (China) and Tsinghua University (China); Yanying Feng, Zhaoying Zhou, Hongbo Xue, Tsinghua Univ. (China); Xu Chen, Univ. of Science and Technology Beijing (China)[7846-12]

09.20: **Phase modulation of electromagnetically induced grating in a four-level system**, ZhiHong Xiao, SungGuk Shin, Kisik Kim, Inha Univ. (Korea, Republic of)[7846-13]

09.40: **Characterizing double-resonance optical-pumping spectra of cesium 6P_{3/2} - 8S_{1/2} excited-states transitions and its application**, Baodong Yang, Qiangbing Liang, Tiancai Zhang, Junmin Wang, Shanxi Univ. (China)[7846-14]

10.00: **Ghost imaging with XY phase series space light modulator**, Jiexin Qin, Shichao Liu, Genghua Huang, Shanghai Institute of Technical Physics (China); Shensheng Han, Xia Shen, Shanghai Institute of Optics and Fine Mechanics (China); Hong Shu, Shanghai Institute of Technical Physics (China)[7846-15]

10.20: **Dynamics of ultrashort dissipative fiber solitons**, Sofia C. Latas, Margarida M. Facão, Mário F. S. Ferreira, Univ. de Aveiro (Portugal)[7846-16]

Coffee/Tea Break 10.40 to 11.00

SESSION 4

Room: 211 Tues. 11.00 to 12.40

Quantum Communication Related Nonlinear optical Phenomena

Session Chair: Boris V. Zhdanov, U.S. Air Force Academy (USA)

11.00: **Comparison of dispersion compensation in a 40Gbps WDM optical communication system** (*Invited Paper*), Kaikai Xu, Univ. of California, Irvine (United States)[7846-17]

11.30: **Unconditional security of relativistic quantum key distribution protocol** (*Invited Paper*), Sushuai Zhuang, Li Yang, Graduate Univ. of the Chinese Academy of Sciences (China)[7846-18]

12.00: **Analysis of the coefficient of QBER and its influence on QKD**, Feng Zhao, Shaanxi Univ. of Science & Technology (China)[7846-19]

12.20: **Principles and improvements of quadrature-based quantum key distribution**, Wenhao Hu, Daqing Wang, Yu Liu, Huazhong Univ. of Science and Technology (China)[7846-20]

POSTERS-Tuesday

Hallway Outside Rooms 302-305 Tues. 18.30 to 20.30

- Efficient preparation of multipartite entanglement of atomic ensembles**, Feng Zhao, Shaanxi Univ. of Science & Technology (China) [7846-21]
- Achieving efficient and stable coherent population transfer by ultrashort double pulses**, Zhendong Wang, Xijun Fan, Shandong Normal Univ. (China) [7846-23]
- An analytic expression of spontaneous emission FWHM in GaAs planar micro-cavity**, Hongdong Zhao, Mei Sun, Zhi-long Kang, Zhi Gao, Hebei Univ. of Technology (China) [7846-24]
- Spatial characteristics of radiation from an electron driven by an intense few-cycle laser pulse**, Youwei Tian, Nanjing Univ. of Posts and Telecommunications (China) [7846-25]
- Investigation of parabolic pulse generation in a normal dispersion-decreasing-linearly fiber**, Ge Xia, Wuhan Univ. of Science and Engineering (China); Dexiu Huang, Huazhong Univ. of Science and Technology (China) [7846-26]
- Phase-dependent gain without inversion in an inhomogeneous broadened quasi Λ -type four-level system with VIC**, Zhongbo Liu, Zhendong Wang, Kening Jia, Shandong Normal Univ. (China); Dianmin Tong, Shandong Univ. (China); Xijun Fan, Shandong Normal Univ. (China) [7846-27]
- Spectral properties of femtosecond chirped Gaussian pulse propagating in a dense three-level Λ -type atomic medium**, Zhendong Wang, Xijun Fan, Shandong Normal Univ. (China) [7846-28]
- Generation of tunable coherent nanosecond 8-12 μ m mid-infrared pulses based on difference frequency generation in GaSe and ZnGeP₂**, Kai Zhong, Tianjin Univ. (China) [7846-29]
- Dispersion and nonlinearity in subwavelength-diameter optical fiber with high-index-contrast dielectric thin films**, Wei Shu, Chujun Zhao, Shuangchun Wen, Hunan Univ. (China) [7846-30]
- Incoherent dark solitons splitting in LiNbO₃: Fe crystal**, Y. H. Zhang, Xi'an Institute of Optics and Precision Mechanics (China) and Xi'an Technological University (China) [7846-31]
- Pulse compression of negatively chirped pulses in silicon photonic nanowire**, Wanjie Meng, Chujun Zhao, Shuangchun Wen, Hunan Univ. (China) [7846-32]
- The exact dark soliton solutions to the higher-order nonlinear Schrödinger equation with variable coefficients**, Yan Guo, Wuhan Institute of Technology (China) [7846-33]
- Phase control of linewidth of electromagnetically induced transparency coupled by double fields**, Xiaomin Feng, Lianshui Zhang, Lijun Yang, Xiaoli Li, Hebei Univ. (China) [7846-34]
- Observation of bistable upconversion emission in Tm,Yb codoped yttria nanocrystal**, Li Li, Xinlu Zhang, Yufeng Peng, Bo Jiang, Ming Nie, Harbin Engineering Univ. (China) [7846-35]
- Phase control of electromagnetically induced transparency in a four-level system**, Lijun Yang, Hebei Univ. (China) [7846-36]
- Synthesis and 3PA induced optical limiting effect of a carbazole derivative**, Yuxia Chen, Junhui Liu, Mingju Huang, Henan Univ. (China) [7846-37]

- The entanglement properties of photon subtracted two-mode Gaussian states**, Liang-Neng Wu, China Jiliang Univ. (China); Xiao-yu Chen, Zhejiang Gongshang Univ. (China) [7846-38]
- The cumulants of bosonic quantum states**, Li-Zhen Jiang, Zhejiang Gongshang Univ. (China) [7846-39]
- Evaluating the quantum capacity of bosonic dephasing channel**, Li-Zhen Jiang, Xiao-yu Chen, Zhejiang Gongshang Univ. (China) [7846-40]
- Studying the VCSEL to VCSEL injection locking for enhanced chromatic dispersion compensation**, Linfu Li, Guizhou Univ. (China) [7846-41]
- Supercontinuum source with tapered photonic crystal fiber**, Hongwei Chen, Xiaoming Xi, National Univ. of Defense Technology (China); Guilin Sun, National Univ. of Defense Technology (China) and Institute of systems and mathematics, Naval Aeronautical Engineering Institute (China); Zhihong Li, Zhihe Huang, Zilun Chen, Shengping Chen, Jing Hou, National Univ. of Defense Technology (China) [7846-42]
- Backward propagation of light pulse in phthalocyanine gallium polymethyl methacrylate**, Hao Wang, Chunguang Zhang, Fujian Normal Univ. (China) [7846-43]
- The switch between electromagnetically induced transparency and absorption due to the power broadening of probing field**, Xiaoli Li, Chao He, Hebei Univ. (China) [7846-44]
- Double-resonance optical-pumping spectra of rubidium 5S_{1/2} - 5P_{3/2} - 4D_{3/2}, 5/2 transitions and frequency stabilization of 1.5 micro-meter laser**, Jing Gao, Jie Wang, Baodong Yang, Tiancai Zhang, Junmin Wang, Shanxi Univ. (China) [7846-45]
- Frequency doubling of 1560nm diode laser via PPLN and PPKTP crystals and laser frequency stabilization to rubidium absorption line**, Shanlong Guo, Jianfeng Yang, Baodong Yang, Tiancai Zhang, Junmin Wang, Shanxi Univ. (China) [7846-46]
- Theoretical study of optically controlled group velocity of light in an optical fiber**, Xianpu Su, Xiaoyan Li, Shoujun Zhang, Xiaodan Wei, Ming Feng, Yigang Li, Nankai Univ. (China) [7846-47]
- Experimental studies of the coherence properties of supercontinuum generated in photonic crystal fiber**, Zefeng Wang, Jing Hou, Aijun Jin, National Univ. of Defense Technology (China) [7846-48]
- All-optical control of polarization and intensity of light in periodically poled lithium niobate**, Yan Kong, Jiangnan Univ. (China); Xianfeng Chen, Shanghai Jiao Tong Univ. (China) [7846-49]
- Mode behavior of second harmonic wave in a ridge-type periodically poled lithium niobate waveguide**, Junhee Park, Woo-Kyung Kim, Korea Electronics Technology Institute (Korea, Republic of); Woo Jin Jeong, The Univ. of Seoul (Korea, Republic of); Myung-Gun Song, Hun-Hwa Kim, Kyunghwan Koo, Commax Co., Ltd. (Korea, Republic of); Ju-Han Lee, The Univ. of Seoul (Korea, Republic of); Han-Young Lee, Korea Electronics Technology Institute (Korea, Republic of) [7846-50]
- Shaping complex optical lattices for soliton manipulation**, Servando Lopez-Aguayo, Adrian Ruelas, Julio C. Gutiérrez-Vega, Instituto Tecnológico y de Estudios Superiores de Monterrey (Mexico) [7846-51]

Optoelectronic Devices and Integration III

Conference Chairs: **Xuping Zhang**, Nanjing Univ. (China); **Hai Ming**, Univ. of Science and Technology of China (China); **Alan Xiaolong Wang**, Omega Optics, Inc. (USA)

Program Committee: **Seth R. Bank**, The Univ. of Texas at Austin (USA); **Xiaoyi Bao**, Univ. of Ottawa (Canada); **Maggie Yihong Chen**, Texas State Univ. San Marcos (USA); **Kin-Seng Chiang**, City Univ. of Hong Kong (Hong Kong, China); **Zhong-Cheng Liang**, Nanjing Univ. of Posts and Telecommunications (China); **Xuejun Lu**, Univ. of Massachusetts Lowell (USA); **Gang-Ding Peng**, The Univ. of New South Wales (Australia); **Yuejiang Song**, Nanjing Univ. (China); **Harish Subbaraman**, Omega Optics, Inc. (USA); **Hwa-Yaw Tam**, The Hong Kong Polytechnic Univ. (Hong Kong, China); **Lixin Xu**, Univ. of Science and Technology of China (China)

Monday 18 October

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- Coffee/Tea Break 10:00 to 10:30 am
- 10.30: **Integration and Function Enhancements of Planar Lightwave Circuits (PLCs) for Optical Communication**, Ray T. Chen, The Univ. of Texas, Austin (United States)
- 11.00: **Modern Optical System Design: Holistic Optimization of Innovative Design Concepts**, Willi Ulrich, Carl Zeiss AG (Germany)
- 11.30: **Index Guiding Microstructured Fibers and its Applications**, Libo Yuan, Photonics Research Ctr., Harbin Engineering Univ. (China)

Lunch Break 12.00 to 13.30

SESSION 1

Room: 213 A+B Mon. 13.30 to 17.50

Photonic Materials and Devices

Session Chairs: **Xuping Zhang**, Nanjing Univ. (China); **Ray T. Chen**, The Univ. of Texas at Austin (USA)

- 13.30: **Prospects and challenges of InN based nanoscale heterostructures and devices integrated on Si** (*Invited Paper*), Zetian Mi, Yi-Lu Chang, Hieu P. T. Nguyen, McGill Univ. (Canada) [7847-01]
- 14.00: **Advanced nanocomposite lens materials for wafer level optics**, Haiyong Gan, National Institute of Metrology (China) [7847-02]
- 14.20: **Optical properties of CdSe_{1-x}S_x nanoparticles**, Sebastiampillai G. Raymond, Grant V. M. Williams, David Clark, My T. Do, Stefaan Janssens, Najeh Al-Salim, Industrial Research Ltd. (New Zealand) [7847-03]
- 14.40: **Design and fabrication of high performance InGaAs/InP photodiodes**, Hua Yang, Tyndall National Institute (Ireland) [7847-04]
- 15.00: **Correlation between dislocations and internal electric field of CdZnTe radiation detectors**, Ge Yang, Aleksey E. Bolotnikov, Giuseppe S. Camarda, Yonggang Cui, Anwar M. Hossain, Ki Hyun Kim, Ralph B. James, Brookhaven National Lab. (United States) [7847-05]
- Coffee/Tea Break 15.20 to 15.50
- 15.50: **Low-cost light-emitting-diode based leaf color meter for nitrogen estimation in the rice field**, Sarun Sumriddetchkajorn, Yuttana Intaravanne, National Electronics and Computer Technology Ctr. (Thailand) [7847-06]
- 16.10: **The study of the high time resolution PMTs in T0 system for beam test**, Sen Qian, Institute of High Energy Physics (China) [7847-07]
- 16.30: **Effects of solvents on the performance of P3HT:PCBM solar cells**, Weimin Li, Jinchuan Guo, Xiquan Sun, Bin Zhou, Shenzhen Univ. (China) [7847-08]
- 16.50: **Image restoration for indirect far-field image using microlenses array integrated with LCD**, Fugui Yang, Anting Wang, Hong Chang, Lei Dong, Hai Ming, Univ. of Science and Technology of China (China) [7847-09]

17.10: **Asymmetrical design for non-relaxed near-UV AlGaIn/GaN Distributed Bragg Reflectors**, Tarik Moudakir, Bich-Thuy Doan, Etienne Demarly, Supélec (France); Mohamed Abid, Georgia Institute of Technology (France); Simon Gautier, Gaëlle Orsal, Joël Jacquet, Supélec (France); Abdallah Ougazzaden, Georgia Institute of Technology (France); Frédéric Genty, Supélec (France) [7847-10]

17.30: **Magnetically modulated refractive index of a magnetic fluid film based on cigar shaped ferrite submicron particles**, Pasquale Mormile, Lucia L. Petti, Massimo Rippa, Consiglio Nazionale delle Ricerche (Italy); J. Guo, W. Song, Institute of Material Technology and Engineering (China); J. Zhou, Ningbo Univ. (China) [7847-11]

Tuesday 19 October

SESSION 2

Room: 213 A+B Tues. 08.20 to 12.30

Silicon Photonics

Session Chairs: **Alan X. Wang**, Omega Optics, Inc. (USA); **Zhongcheng Liang**, Nanjing Univ. of Posts and Telecommunications (China)

- 08.20: **Research on SOI-based micro-resonator devices** (*Invited Paper*), Xiao Xi, Haihua Xu, Yingtao Hu, Liang Zhou, Kang Xiong, Zhiyong Li, Yuntao Li, Zhongchao Fan, Weihua Han, Yude Yu, Jinzhong Yu, Institute of Semiconductors (China) [7847-12]
- 08.50: **Study of silicon photonics based on standard CMOS foundry** (*Invited Paper*), Jianyi Yang, Zhejiang Univ. (China) [7847-13]
- 09.20: **Performance improvement to silicon-on-insulator waveguide directional coupler based devices**, DeGui Sun, Univ. of Ottawa (Canada) [7847-14]
- 09.40: **Pump to signal RIN transfer in silicon Raman lasers**, Xiqing Liu, Xinzhu Sang, Beijing Univ. of Posts and Telecommunications (China) [7847-15]
- 10.00: **Compact resonant Bragg grating filters using submicron silicon-on-insulator(SOI)waveguide for optical communication network**, Patinharekandy Prabhathan, Vadakke Matham Murukeshan, Nanyang Technological Univ. (Singapore); Jing Zhang, A*STAR Institute of Microelectronics (Singapore) [7847-16]
- Coffee/Tea Break 10.20 to 10.50
- 10.50: **Thermal dissipation in a laser and semiconductor optical amplifier**, Joel Jacquet, Yannick Abner, Manish Choffla, Claire-Astrid Paepegaey, Kinda Mheidly, Supélec (France) [7847-17]
- 11.10: **Single-mode low-divergence-angle holey VCSEL based on separated confinement principle**, Anjin Liu, Wei Chen, Wenjun Zhou, Hongwei Qu, Wanhua Zheng, Institute of Semiconductors (China) [7847-18]
- 11.30: **Ytterbium-doped double-cladding fiber laser**, Xiao Zhang, Yanrong Song, Huihui Li, Peng Zhang, Jinrong Tian, Xinpeng Zhang, Beijing Univ. of Technology (China) [7847-19]
- 11.50: **Glass-based integrated optical splitters: engineering-oriented research**, Yinlei Hao, Weiwei Zheng, Jianyi Yang, Xiaoqing Jiang, Minghua Wang, Zhejiang Univ. (China) [7847-20]
- 12.10: **Photoconductive ultraviolet detectors based on ZnO films**, Jun Zhang, Xiangli Ma, Jianguo Lu, Zhizhen Ye, Zhejiang Univ. (China) [7847-21]
- Lunch Break 12.30 to 14.00

SESSION 3

Room: 213 A+B Tues. 14.00 to 17.50

Passive Component I

Session Chairs: Alan X. Wang, Omega Optics, Inc. (USA);

Zhongcheng Liang, Nanjing Univ. of Posts and Telecommunications (China)

14.00: **Fabrication of a multimode-interference-based multimode power splitter in glass**, Wei Xiang, Minghua Wang, Jianyi Yang, Xiaoqing Jiang, Shuhang Jiang, Yinlei Hao, Weiwei Zheng, Zhejiang Univ. (China)[7847-22]14.20: **Hybridized low-loss plasmonic-optical waveguides for ultracompact integration**, Zhijun Sun, Xiamen Univ. (China)[7847-23]14.40: **An intrinsic limitation to silicon-on-insulator waveguide Mach-Zehnder interference based electro-optic devices**, DeGui Sun, Univ. of Ottawa (Canada)[7847-24]15.00: **Based on micro-ring resonators silicon-based modulator performance improvement**, Zhang Yan, Xi'an Univ. of Technology (China)[7847-25]

Coffee/Tea Break 15.20 to 15.50

15.50: **Design and implementation of a dichroic beam combiner based on the theory of photonic crystals**, Ping Li, Zhuo Li, Beijing Institute of Technology (China)[7847-26]16.10: **Criterion of single-mode photonic liquid crystal fibers**, Weimin Sun, Xiaoqi Liu, Yongjun Liu, Jiang Yu, Harbin Engineering Univ. (China)[7847-27]16.30: **New configuration of photonic logic gates based on single hexagonal-lattice photonic crystal ring resonator**, Junzhen Jiang, Junqin Wang, Xiaofu Xu, Junjun Li, Fujian Normal Univ. (China); Xiyao Chen, Minjiang Univ. (China); Yishen Qiu, Zexuan Qiang, Fujian Normal Univ. (China)[7847-28]16.50: **Simulation on Mikaelian lens of triangular lattice photonic crystals using multiple scattering method**, Sen Yuan, Youwen Liu, Nanjing Univ. of Aeronautics and Astronautics (China)[7847-29]17.10: **Compensation of the influence of birefringence dispersion on a long distance distributed stress sensor using high birefringent fiber**, Hongxia Zhang, Feng Shi, Xinwei Chen, Dagong Jia, Yimo Zhang, Tianjin Univ. (China)[7847-30]17.30: **The polarization properties analysis on photonic crystal fibers side-pulsed by CO₂ laser**, Wenwen Qian, Chunliu Zhao, Xinyong Dong, Juan Chen Kang, China Jiliang Univ. (China); Jiangtao Guo, Huifeng Wei, Yangtze Optical Fibre and Cable Co., Ltd. (China)[7847-31]

Wednesday 20 October

SESSION 4

Room: 213 A+B Wed. 08.00 to 11.50

Passive Component II

Session Chairs: Hai Ming, Univ. of Science and Technology of China (China); Lixin Xu, Univ. of Science and Technology of China (China)

08.00: **Optical waveguide oscillating field sensor (Invited Paper)**, Zhuangqi Cao, Shanghai Jiao Tong Univ. (China)[7847-32]08.30: **1.54- μ m electroluminescence from silicon-rich erbium silicate (Invited Paper)**, Guangzhao Ran, Yan Yin, Fang Wei, Wanqing Xu, Guogang Qin, Peking Univ. (China)[7847-33]09.00: **Design of narrow channel spacing photonic wire AWG on SOI with three stigmatic points**, Ren Bai, Ao Shen, Yubo Li, Yinlei Hao, Xiaoqing Jiang, Jianyi Yang, Zhejiang Univ. (China)[7847-34]09.20: **The transmission characteristics of a kind of chiral fiber Bragg gratings**, Junqing Li, Ruiyi Mu, Xiaou Wang, Harbin Institute of Technology (China)[7847-35]09.40: **A novel high birefringence photonic crystal fiber with squeezed elliptical holes**, Peng Song, Univ. of Jinan (China); Lu Zhang, Shandong Univ. (China)[7847-36]

Coffee/Tea Break 10.00 to 10.30

10.30: **The thermal analysis of polysiloxane rib waveguide**, Changli Wen, National Univ. of Defense Technology (China)[7847-37]10.50: **Principle and applications of Faraday-Fabry-Perot cavity**, Nan Di, Jianlin Zhao, Northwestern Polytechnical Univ. (China)[7847-38]11.10: **Optical Implementation of Tree-Type Interconnection Network Using Polarization Control Method**, Junbo Wang, National Univ. of Defense Technology (China)[7847-39]11.30: **Proposal and study on Band-stop filters based on MIM waveguides**, Junxian Ma, Chao Li, Rui-hu Tan, Shenzhen Univ. (China)[7847-40]

Lunch Break 12.00 to 13.30

SESSION 5

Room: 213 A+B Wed. 13.30 to 18.00

Fiber Lasers and Amplifiers

Session Chairs: Hai Ming, Univ. of Science and Technology of China (China); Lixin Xu, Univ. of Science and Technology of China (China)

13.30: **All-fiber laser for cylindrical vector beam (Invited Paper)**, Lixin Xu, Rui Zheng, Chun Gu, Anting Wang, Hai Ming, Univ. of Science and Technology of China (China)[7847-41]14.00: **Studies on nonlinear loss and laser dynamics: from multiwavelength CW lasing to multi-pulsing transition (Invited Paper)**, Feng Li, The Hong Kong Polytechnic Univ. (Hong Kong, China); J. Nathan Kutz, Univ. of Washington (United States); Ping-Kong A. Wai, The Hong Kong Polytechnic Univ. (Hong Kong, China)[7847-42]14.30: **Experimental measurements of ultrashort pulse from an all-normal-dispersion Yb-doped fiber laser with SHG-FROG using principal component generalized projections algorithm**, Chenghou Tu, Nankai Univ. (China)[7847-43]14.50: **Research on the distortion of low duty cycle pulse amplified by erbium-doped fiber amplifier**, Cunlei Li, Yuangang Lu, Xuping Zhang, Feng Wang, Mengmeng Chen, Nanjing Univ. (China)[7847-44]15.10: **Design and simulation of ultrashort pulsed waveguide lasers using single-walled carbon nanotube saturable absorber**, Haiyan Chen, Chunxiong Huang, Yangtze Univ. (China)[7847-45]

Coffee/Tea Break 15.30 to 16.00

16.00: **Design and fabrication of InGaAsP electroabsorption modulated laser for wide temperature range operation**, Yang Wang, Wei Wang, Institute of Semiconductors (China)[7847-46]16.20: **The optical property of single eccentric split-ring resonator**, Yufei Wang, Institute of Semiconductors (China)[7847-47]16.40: **The refractive index distribution of the even-numbered polygonal GRIN lens**, Zigang Zhou, Southwest Univ. of Science and Technology (China)[7847-48]17.00: **Investigation on an off-axis fiber rotary connector**, Dagong Jia, Caibin Ma, Baiquan Hu, Hongxia Zhang, Wencai Jing, Yimo Zhang, Tianjin Univ. (China)[7847-49]17.20: **Theoretical model and simulation of bi-layered micro resonator on optical fiber top**, Yueming Liu, China Jiliang Univ. (China)[7847-50]17.40: **DFB fiber laser hydrophone based on a intensity demodulation**, Xingliang Li, Quan Chai, Jianzhong Zhang, Qi Li, Harbin Engineering Univ. (China); Gangding Peng, The Univ. of New South Wales (Australia); Weimin Sun, Libo Yuan, Harbin Engineering Univ. (China)[7847-51]

POSTERS-Wednesday

Hallway Outside Rooms 302-305 Wed. 18.30 to 20.30

Large blue shift of the absorption edge in modified potential InGaAs/InAlAs coupled quantum wells, Zhixin Xu, Zhejiang Univ. of Science and Technology (China)[7847-52]**Effect of buffer layers on the performance of P3HT:PCBM solar cells**, Weimin Li, Jinchuan Guo, Bin Zhou, Xiuquan Sun, Shenzhen Univ. (China)[7847-53]**The 3D buried optical splitter under non-uniform electric field**, Zigang Zhou, Southwest Univ. of Science and Technology (China)[7847-54]**Calculation of electromechanical coupling coefficient of quartz crystal in decoupling plane**, Kuanxin Yu, Tao Liu, Beijing Univ. of Technology (China)[7847-55]**Ultracompact channel filters based on race-track photonic crystal ring resonators**, Xiaofu Xu, Junqin Wang, Junzhen Jiang, Junjun Li, Fujian Normal Univ. (China); Xiyao Chen, Minjiang Univ. (China); Yishen Qiu, Zexuan Qiang, Fujian Normal Univ. (China)[7847-56]**Influence of varied doping structure on the photoemissive property of photocathode**, Niu Jun, Nanyang Institute of Technology (China)[7847-57]**Ferromagnetism in transparent thin film of Co-doped ZnO**, Xueqiong Su, Li Wang, Jiangbo Chen, Xiaoqing Wan, Kong Le, Xinpeng Zhang, Beijing Univ. of Technology (China)[7847-58]**Research of broadband waveguide amplifiers based on long-period waveguide grating and multilayer medium thin film**, Haiyan Chen, Chunxiong Huang, Yangtze Univ. (China)[7847-59]**Amplification of evanescent waves in waveguides with an anisotropic metamaterials layer**, Wenqiang Qiu, Min Cheng, Rong Chen, Fujian Normal Univ. (China)[7847-60]

Conference 7847

- Hydrophone based on the feedback effect of composite cavity optical fiber laser**, Qianqian Hao, Quan Chai, Xingliang Li, Jianzhong Zhang, Qi Li, Harbin Engineering Univ. (China); Ping Lu, Communications Research Ctr. Canada (Canada); Gangding Peng, The Univ. of New South Wales (Australia) . . . [7847-61]
- Eight-channel reconfigurable optical add-drop multiplexers based on micro-ring resonators on silicon-on-insulator substrate**, Yonghui Tian, Ruiqiang Ji, Zhang Lei, Lianxi Jia, Lin Yang, Institute of Semiconductors (China) . . . [7847-62]
- Tunable localized modes in random medium by means of external magnetic fields**, Wang Hong, Zhenzhu Wan, China Univ. of Geosciences (China) . [7847-63]
- Analysis of clustering in Eu(DBM)3Phen polymer optical fiber by effective-medium approximation**, Zhuohong Feng, Zhiqiang Zheng, Lin Lin, Fujian Normal Univ. (China); Hai Ming, Univ. of Science and Technology of China (China) . . . [7847-64]
- Research of thermal stress between long linear MCT arrays and lead board using FEM**, Wen Wu, Wang Xia, Dafu Liu, Shanghai Institute of Technical Physics (China) . . . [7847-65]
- Magneto-optical effects in surface plasmon waveguides**, Xiaoyang Wu, China Jiliang Univ. (China) . . . [7847-66]
- Analysis on the Gaussian approximation for the far-field of optical fiber**, Lianhuang Li, Fuyuan Guo, Fujian Normal Univ. (China) . . . [7847-67]
- Design of planar lightwave interleavers based on Echelle gratings structure**, wenkai Liu, North China Univ. of Technology (China) . . . [7847-68]
- Study of vacuum packaging technology for uncooled focal plane array**, Dafu Liu, Qinfei Xu, Shanghai Institute of Technical Physics (China) . . . [7847-69]
- Numerical simulation and analysis of the sensitivity of strength-based optical fiber sensors**, Jijun Dai, Liang Lu, Di Jin, Guang-Qi Wang, Xuqiang Wu, Anhui Univ. (China) . . . [7847-70]
- Design and simulation of pulse control signal generator for the electro-holographic optical switch**, Yansheng Song, Jiarong Ji, Wenhua Dou, National Univ. of Defense Technology (China) . . . [7847-71]
- A novel optical approach based on subjective speckle for tracking on smooth glass**, Dong Lei, Univ. of Science and Technology of China (China) . . . [7847-72]
- A modified squeezed radio model of squeezed photonic crystal fibers**, Peng Song, Univ. of Jinan (China); Lu Zhang, Shandong Univ. (China) . . . [7847-73]
- Fabrication of polysiloxane optical ridge waveguides for optical interconnection**, Xianghua Feng, National Univ. of Defense Technology (China) . . . [7847-74]
- A narrow line-width single longitudinal mode fiber laser and its frequency instability measurement**, Wen Ji, Shufen Chen, Lei Fu, Beijing Institute of Technology (China) . . . [7847-75]
- Research on C+L band multiwavelength fiber laser**, Lei Zhang, Miaomiao Hu, Tianjin Univ. (China) . . . [7847-76]
- A LED-induced capillary fluorescent detection device designed for the space lab**, Xiaoqiong Lee, Beijing Institute of Technology (China) . . . [7847-77]
- Multiphoton upconversion emission switching in Tm,Yb codoped nanocrystalline yttria**, Li Li, Xinlu Zhang, Yufeng Peng, Bo Jiang, Ming Nie, Harbin Engineering Univ. (China) . . . [7847-78]
- Research on ultrawideband wavelength tunable erbium doped fiber ring laser**, Qi Wang, Northeastern Univ. (China); Qingxu Yu, Dalian Univ. of Technology (China); Yong Zhao, Northeastern Univ. (China) . . . [7847-79]
- Wavelength-switchable erbium-doped fiber ring laser employing chirped Moiré fiber grating and tunable Sagnac loop interferometer filter**, Shaohua Lu, Beijing Vocational College of Labour and Social Security (China); Suchun Feng, Jingjing Zheng, Beijing Jiaotong Univ. (China) . . . [7847-80]
- Theoretical analysis of a novel polarization-insensitive arrayed waveguide grating demultiplexer based on Si nanowire and slot waveguides**, Lei Zhao, Junming An, Jiashun Zhang, Shijiao Song, Yuanda Wu, Xiongwei Hu, Institute of Semiconductors (China) . . . [7847-81]
- Waveform monitoring based on symmetric Mach-Zehnder interferometer optical switch and low-bandwidth PIN**, Yi Yang, Donghua Univ. (China); Jian Cui, BeiHang Univ. (China) . . . [7847-82]
- Thermal research of infrared sight thermoelectric cooler control circuit under temperature environment**, Youtang Gao, Nanjing Univ. of Science and Technology (China) . . . [7847-83]
- Modification of voltage model for electric-field-assisted ion-exchange method of glass-based waveguide**, Shuhang Jiang, Weiwei Zheng, Yinlei Hao, Minghua Wang, Xiaoqing Jiang, Jianyi Yang, Zhejiang Univ. (China) . . . [7847-84]
- Flat-top steep-edge response of photodetectors by circuit control method**, Li Wang, Beijing Univ. of Posts and Telecommunications (China) . . . [7847-85]
- Optimization of an ultracompact triplexer using planar photonic crystal waveguide**, Lingjuan He, Xuming Xu, Tianbao Yu, Nanchang Univ. (China); Feng Xin, PingXiang College (China) . . . [7847-86]
- Drop filters in a rod-type photonic crystal based on self-collimation ring resonators**, Guimin Lin, Xiyao Chen, Minjiang Univ. (China); Junjun Li, Yishen Qiu, Fujian Normal Univ. (China) . . . [7847-87]
- The study on high reliability InGaAs detector arrays hermetic encapsulation technology**, Qinfei Xu, Dafu Liu, Shanghai Institute of Technical Physics (China) . . . [7847-88]
- A novel optical scanning device based on electrowetting micro-prism**, Tao Chen, Zhongcheng Liang, Nanjing Univ. of Posts and Telecommunications (China) . . . [7847-89]
- A novel silica-waveguide acoustooptic frequency shifter using ZnO piezoelectric films and its beam propagation analysis**, Chen Chen, Changchun Univ. of Science and Technology (China) . . . [7847-90]
- Low-loss high-strength lens-coupling connection on photonic crystal fibers**, Lu Zhang, Shandong Univ. (China); Peng Song, Univ. of Jinan (China) . [7847-91]
- Effects of PDL and second-order PMD on the DOP-feedback PMD compensation**, Lu Zhang, Shandong Univ. (China); Peng Song, Univ. of Jinan (China) . . . [7847-92]
- A polarization splitter based on squeezed photonic crystal fiber with elliptical air holes**, Peng Song, Univ. of Jinan (China) . . . [7847-93]
- Experimental study on temperature dependence of dispersion of G.652 fiber and its effect on high speed optical communication system and compensation**, Kangping Zhong, Nan Jia, Tangjun Li, Muguang Wang, Jianfeng Chi, Beijing Jiaotong Univ. (China) . . . [7847-94]
- Study on the characteristics of transient signal transmission based on GaAs photoconductive switches**, Wei Liu, Capital Normal Univ. (China); Tian Lan, Beijing Institute of Technology (China) . . . [7847-95]
- Light output enhancement of light-emitting diodes with photonic crystal structure**, Xiaoling Wang, Beijing Institute of Machinery (China) . . . [7847-96]
- Characterization and fabrication of rare-earth doped amplifying fibers based on atomic layer deposition**, Xiaolan Sun, Yanhua Dong, Chao Li, Xiaohong Liu, Shanghai Univ. (China); Shuo Li, Aalto Univ. School of Science and Technology (Finland) . . . [7847-97]
- A novel design of dispersion and dispersion slope compensator for LEAF fiber in WDM systems**, Hao Zhang, Yishen Qiu, Fujian Normal Univ. (China) . . . [7847-98]
- Parallel-cascaded micro-ring resonators waveguide photodetector with flat-top and steep-edge response**, Yuanfang Qin, Beijing Univ. of Posts and Telecommunications (China) . . . [7847-99]
- Experimental investigation on erbium-doped superfluorescent fiber source by using high performance erbium-doped fiber for the fiber optic gyroscope**, Desheng Zhang, Shanghai HengTong Optic & Electric Technologies Co., Ltd. (China); Hongdan Wan, Southeast Univ. (China); Jianwei Lai, Huabei Rong, Xin Zhao, Yiqiang Wang, Delin Yang, Shanghai HengTong Optic & Electric Technologies Co., Ltd. (China); Xiaohan Sun, Southeast Univ. (China) . [7847-100]
- Investigation of the coupling efficiency for specialty solid coupled optical taper**, Xinghu Fu, Zhenyi Chen, Qiang Guo, Fufei Pang, Tingyun Wang, Shanghai Univ. (China) . . . [7847-101]
- Fluorescence properties of RE-doped SiO₂ spheres**, Changqing Huang, Qing Cai, Weijian Tian, China Jiliang Univ. (China) . . . [7847-102]
- The effects of annealing temperature on structure and photoluminescence of SiC/AIN bilayer thin film**, Xiaoxiong He, Heqin Li, Hefei Univ. of Technology (China) . . . [7847-103]
- Tunable drop filters based on photonic crystal self-collimation ring resonators**, Junjun Li, Fujian Normal Univ. (China); Xiyao Chen, Guimin Lin, Minjiang Univ. (China); Xiaofu Xu, Junzhen Jiang, Zexuan Qiang, Yishen Qiu, Hui Li, Fujian Normal Univ. (China) . . . [7847-104]
- Gradient-doping GaAs NEA photocathode grown by MBE**, Junju Zhang, Nanjing Univ. of Science and Technology (China) . . . [7847-105]
- Semiconductor quantum dots fiber amplifier excited by evanescent wave**, Lungang Liu, Fufei Pang, Hairun Guo, Zhenyi Chen, Tingyun Wang, Shanghai Univ. (China) . . . [7847-106]
- A united model of fiber coupler based on the variation technique**, Jianguo Ren, Yongming Hu, Xueliang Zhang, Zhengliang Hu, National Univ. of Defense Technology (China) . . . [7847-107]
- Numerical study on laser and infrared compatible stealth with "Spectral Hole" of doped photonic crystal**, Qingwu Zhao, Xuanke Zhao, Lianfen Wang, Xi'an Research Institute of High Technology (China) . . . [7847-109]
- Calculation of reciprocal velocity curves of intrinsic surface acoustic wave in quartz crystal**, Tao Liu, Kuanxin Yu, Beijing Univ. of Technology (China) . . . [7847-110]

Holography, Diffractive Optics, and Applications IV

Conference Chairs: **Yunlong Sheng**, Univ. Laval (Canada); **Chongxiu Yu**, Beijing Univ. of Posts and Telecommunications (China); **Linsen Chen**, Soochow Univ. (China)

Program Committee: **Chunlei Du**, Institute of Optics and Electronics (China); **Min Gu**, Swinburne Univ. of Technology (Australia); **Anzhi He**, Nanjing Univ. of Science & Technology (China); **Dahsiung Hsu**, Beijing Univ. of Posts and Telecommunications (China); **ByoungHo Lee**, Seoul National Univ. (Korea, Republic of); **Junchang Li**, Kunming Univ. of Science and Technology (China); **Hoang-Yan Lin**, National Taiwan Univ. (Taiwan, China); **Ai-Qun Liu**, Nanyang Technological Univ. (Singapore); **Dahe Liu**, Beijing Normal Univ. (China); **Hai Ming**, Univ. of Science and Technology of China (China); **Ting-Chung Poon**, Virginia Polytechnic Institute and State Univ. (USA); **Ching-Cherng Sun**, National Central Univ. (Taiwan, China); **Toyohiko Yatagai**, Univ. of Tsukuba (Japan); **Xiaocong Yuan**, Nankai Univ. (China); **Jianlin Zhao**, Northwestern Polytechnical Univ. (China); **Changhe Zhou**, Shanghai Institute of Optics and Fine Mechanics (China)

Monday 18 October

Opening Ceremony and Plenary Session. Mon. 08.30 to 12.00

- 8.30: Opening Ceremony
- 9.00: **Fibre Optic Systems for Gas Detection: Progress and Prospects**, Brian Culshaw, Univ. of Strathclyde (United Kingdom)
- 9.30: **Optical Tweezers Based Micro-rheology**, Arthur Chiou, National Yang Ming Univ. (Taiwan, China)
- Coffee/Tea Break 10:00 to 10:30 am
- 10.30: **Integration and Function Enhancements of Planar Lightwave Circuits (PLCs) for Optical Communication**, Ray T. Chen, The Univ. of Texas, Austin (United States)
- 11.00: **Modern Optical System Design: Holistic Optimization of Innovative Design Concepts**, Willi Ulrich, Carl Zeiss AG (Germany)
- 11.30: **Index Guiding Microstructured Fibers and its Applications**, Libo Yuan, Photonics Research Ctr., Harbin Engineering Univ. (China)

Lunch Break 12.00 to 13.30

SESSION 1

Room: 301 A+B Mon. 13.30 to 15.20

Diffraction of Plasmonic Structures

Session Chair: Yunlong Sheng, Univ. Laval (Canada)

- 13.30: **Resonance mechanism for the electromagnetic enhancement by an isolated subwavelength metallic groove** (*Invited Paper*), Siwen Zhang, Haitao Liu, Guoguang Mu, Nankai Univ. (China) [7848-01]
- 14.00: **The influence on the luminescence europium complex by local surface plasmon of silver and gold nanoparticles** (*Invited Paper*), Feng Song, Nankai Univ. (China) and City Univ. of Hong Kong (Hong Kong, China); Qingru Wang, Nankai Univ. (China); Hongyan Zhao, Jiadong Liu, Chengguo Ming, Jianguo Tian, Jingjun Xu, Nankai Univ. (China); Shangxin Lin, Edwin Y. B. Pun, City Univ. of Hong Kong (Hong Kong, China) [7848-03]
- 14.30: **Single-slit and inter-slit effects of the extraordinary optical transmission in subwavelength metal double slit structure**, Xiao-Lan Zhong, Yun-Song Zhou, Capital Normal Univ. (China); Huai-Yu Wang, Tsinghua Univ. (China); Fu-He Wang, Capital Normal Univ. (China) [7848-04]
- 14.50: **Beam shaping by the use of plasmonics** (*Invited Paper*), ByoungHo Lee, Seyoon Kim, Dawoon Choi, Seoul National Univ. (Korea, Republic of) [7848-02]
- Coffee/Tea Break 15.20 to 15.50

SESSION 2

Room: 301 A+B Mon. 15.50 to 18.00

Optical Metrology

Session Chair: Dahe Liu, Beijing Normal Univ. (China)

- 15.50: **Doppler phase-shifting interferometry and holography** (*Invited Paper*), Toyohiko Yatagai, Utsunomiya Univ. (Japan) [7848-05]
- 16.20: **Three-dimensional information encryption with phase extraction and phase shifting interferometry**, Yishi Shi, Yali Wang, Graduate Univ. of the Chinese Academy of Sciences (China); Yuhua Yang, Beijing Univ. of Technology (China); Jingjuan Zhang, Graduate Univ. of the Chinese Academy of Sciences (China) [7848-06]
- 16.40: **The study of spatial phase shifting by triple-grating interferometer**, Song Yang, Zhimin Zhao, Nanjing Univ. of Aeronautics and Astronautics (China); Yunyun Chen, Nan Sun, Anzhi He, Nanjing Univ. of Science and Technology (China) [7848-07]
- 17.00: **The research of image matching technique for spatial phase shifting interferograms**, Song Yang, Nanjing Univ. of Science and Technology (China) [7848-08]
- 17.20: **3D Tire Size Code Measurement by Digital Speckle Pattern Interferometry**, Meng Zhu, Zhanhua Huang, Huaiyu Cai, Hao Zhang, Tianjin Univ. (China) [7848-09]
- 17.40: **The feasibility of moiré deflectometry in rocket exhaust's temperature and electron number density diagnosis**, Yun-Yun Chen, Nanjing Univ. of Science and Technology (China) [7848-10]

Tuesday 19 October

SESSION 3

Room: 301 A+B Tues. 08.00 to 10.20

Nano-Optics

Session Chair: Chunlei Du, Institute of Optics and Electronics (China)

- 08.00: **Efficiency improvement for a color filter based on a submicron metal grating with energy recycling system**, Yan Ye, Soochow Univ. (China) [7848-11]
- 08.20: **Evanescence excitation of a plasmonic nano-array for single molecular sensing** (*Invited Paper*), Hong-Liang Cui, Alexander Raspopin, Polytechnic Institute of NYU (United States) [7848-12]
- 08.50: **Efficiency improvement in nanorod amorphous silicon thin film with ultrathin metal electrode for photovoltaic application**, Chun-Chieh Chin, Ya-Han Ye, Ding-wei Huang, National Taiwan Univ. (Taiwan) [7848-13]
- 09.10: **Surface plasmon resonance imaging biosensor based on silicon photodiode array** (*Invited Paper*), Shaoyun Yin, Qiling Deng, Liangping Xia, Chunlei Du, Institute of Optics and Electronics (China) [7848-14]
- 09.40: **Metallic superlens designed with close-to-cutoff the long range SPP mode**, Yunlong Sheng, Guillaume Tremblay, Univ. Laval (Canada) [7848-15]
- 10.00: **Passive microrheology of polysodium styrene sulfonate**, Yin-Quan Chen, National Yang-Ming Univ. (Taiwan) and Lehigh Univ. (United States) and Univ. de Rennes 1 (France); Chia-Chun Chiang, Yi-Chiao Huang, Pei-Wen Yen, National Yang-Ming Univ. (Taiwan); Ming-Tzo Wei, Lehigh Univ. (United States); Jun-Yeh Jun-Yeh, National Yang-Ming Univ. (Taiwan); Olivier Lavastre, Husson Guillaume, Darsy Guillaume, Univ. de Rennes 1 (France); Arthur E. T. Chiou, National Yang-Ming Univ. (Taiwan) [7848-16]
- Coffee/Tea Break 10.20 to 10.50

SESSION 4

Room: 301 A+B Tues. 10.50 to 12.10

Phonics Crystals

Session Chair: Toyohiko Yatagai, Utsunomiya Univ. (Japan)

- 10.50: **Studies of optical properties of two-dimensional square lattice photonic crystal based on holographic polymer-dispersed liquid crystal**, Ming-Shian Li, Shing Trong Wu, San Yi Huang, Hui-Chi Lin, Andy Y. Fuh, National Cheng Kung Univ. (Taiwan) [7848-17]
- 11.10: **Spontaneous-emission control by the local density of states of photonic crystal cavity**, Bin Jiang, Yejin Zhang, Anjin Liu, Wei Chen, WenJun Zhou, Wanhua Zheng, Institute of Semiconductors (China) [7848-18]
- 11.30: **Novel families of vortex solitons in the photonic superlattice**, Jianlin Zhao, Xuetao Gan, Sheng Liu, Northwestern Polytechnical Univ. (China) [7848-19]
- 11.50: **Controlling light flow with optically induced anisotropic triangle photonic lattices**, Sheng Liu, Xuetao Gan, Peng Zhang, Jianlin Zhao, Northwestern Polytechnical Univ. (China) [7848-20]
- Lunch Break 12.10 to 13.20

SESSION 5

Room: 301 A+B Tues. 13.20 to 15.30

Diffraction Optics I: Design and Fabrication

Session Chair: Chongxiu Yu, Beijing Univ. of Posts and Telecommunications (China)

- 13.20: **Properties of Fraunhofer and Fresnel diffraction by a high-order spiral phase plate made by direct laser writing lithography**, Changjiang Fan, Jiancheng Xu, Hui Pang, Chao-Fu Ying, Hui Wang, Zhejiang Normal Univ. (China) [7848-123]
- 13.40: **Proposal for the synthesis of kinoforms to eliminate reconstruction speckles with a noise immune method**, Shiyuan Yang, Kyushu Institute of Technology (Japan) [7848-21]
- 14.00: **Design of an encapsulated subwavelength fused-silica grating for wideband two-port beam splitter**, Wenting Sun, Changhe Zhou, Shanghai Institute of Optics and Fine Mechanics (China) [7848-22]
- 14.20: **Diffraction efficiency analysis of blazed grating fabricated by direct laser writing**, Dengfeng Kuang, Zhi-liang Fang, Nankai Univ. (China) [7848-23]
- 14.40: **Improved Simulated Annealing Algorithm Applied in Near Field Beam Shaping**, Zhan Yu, National Univ. of Defense Technology (China) [7848-24]
- 15.00: **Deep-etched fused silica gratings and applications** (*Invited Paper*), Changhe Zhou, Shanghai Institute of Optics and Fine Mechanics (China) [7848-25]
- Coffee/Tea Break 15.30 to 16.00

SESSION 6

Room: 301 A+B Tues. 16.00 to 17.50

Diffraction Optics II: Design and Fabrication

Session Chair: Guoqiang Li, Univ. of Missouri-St. Louis (USA)

- 16.00: **Fabrication of optical mosaic gratings by consecutive holographic exposures employing a latent-fringe based alignment technique** (*Invited Paper*), Lei Shi, Lijiang Zeng, Lifeng Li, Tsinghua Univ. (China) [7848-26]
- 16.30: **Projection photolithography method used for fabricating continuous surface structure with aperture less than 10um**, Lifang Shi, Weiguo Zhang, Xiaochun Dong, Institute of Optics and Electronics (China); Chunlei Du, Institute of Optics and Electronics (China) [7848-27]
- 16.50: **Compound eye lenses array on a spherical plane with a controllable imaging plane**, Yukun Zhang, Sichuan Univ. (China) and Institute of Optics and Electronics (China); Jinglei Du, Sichuan Univ. (China); Lifang Shi, Xiaochun Dong, Chunlei Du, Institute of Optics and Electronics (China) [7848-28]
- 17.10: **Fabrication of the convex blazed grating**, Quan Liu, Haibin Wang, Peng Sun, Jianhong Wu, Soochow Univ. (China) [7848-29]
- 17.30: **Fabrication of microstructures on silicon by multiple beam holographic method using nanosecond laser pulses**, Heng Zhang, Zongbao Fang, Soochow Univ. (China) [7848-30]

Wednesday 20 October

SESSION 7

Room: 301 A+B Wed. 08.00 to 10.10

Volume and Dynamic Hologram Storage

Session Chair: Linsen Chen, Soochow Univ. (China)

- 08.00: **Compensation for pixel mismatch based on a three-pixel model in volume holographic data storage**, Huarong Gu, Liangcai Cao, Qingsheng He, Guofan Jin, Tsinghua Univ. (China) [7848-31]
- 08.20: **Study of collinear VHS: point spread function, shift selectivity, and temperature tolerance** (*Invited Paper*), Ching-Cherng Sun, Yeh-Wei Yu, Chih-Yuan Cheng, National Central Univ. (Taiwan) [7848-32]
- 08.50: **Increase of signal-to-noise ratio of a collinear holographic storage system with reference modulated by a ring lens array**, Yeh-Wei Yu, Chih-Yuan Cheng, Ching-Cherng Sun, National Central Univ. (Taiwan) [7848-33]
- 09.10: **Deformation originated from the thermal expansion of volume holograms**, Chi Shou Wu, National Central Univ. (Taiwan); Chien Min Shih, Hwia May Chu, Chung Yuan Christian Univ. (Taiwan); Te Yuan Chung, Yeh Wei Yu, Ching Cherng Sun, National Central Univ. (Taiwan) [7848-34]
- 09.30: **Experimental investigation of the two-color holographic recording in nearly stoichiometric LiNbO₃:Fe:Mn crystals**, Minjun Zhu, Youwen Liu, Nanjing Univ. of Aeronautics and Astronautics (China) [7848-35]
- 09.50: **Rewritable Collinear Holographic Image Storage with BR-D96N Film**, An-Qi Ning, Menkemeimule Wei, Inner Mongolia Univ. (China) [7848-36]
- Coffee/Tea Break 10.10 to 10.40

SESSION 8

Room: 301 A+B Wed. 10.40 to 11.50

Diffraction Optics Applications I

Session Chair: Changhe Zhou, Shanghai Institute of Optics and Fine Mechanics (China)

- 10.40: **Dynamic holograms with photorefractive polymers** (*Invited Paper*), Guoqiang Li, Univ. of Missouri-St. Louis (United States) [7848-37]
- 11.10: **Experimental results of measuring picosecond laser pulses using an autocorrelator**, Linwei Zhu, Changhe Zhou, Jia Wei, Shanghai Institute of Optics and Fine Mechanics (China); Zhongwei Fan, Yunfeng Ma, Beijing GK Laser Technology Co., Ltd. (China) and The Academy of Opto-Electronics (China); Gang Niu, Beijing GK Laser Technology Co., Ltd. (China) [7848-39]
- 11.30: **Focal shift and axial dispersion of binary pure-phase filters in focusing systems**, Junjie Yu, Changhe Zhou, Wei Jia, Anduo Hu, Shanghai Institute of Optics and Fine Mechanics (China) [7848-40]
- Lunch Break 11.50 to 13.40

Sessions 9A and 9B run concurrently

SESSION 9A

Room: 301 A+B Wed. 13.40 to 15.20

Diffraction Optics Applications II

Session Chair: Jiabi Chen,

Univ. of Shanghai for Science and Technology (China)

- 13.40: **Ultra-high channel-count fiber Bragg grating based on the utilization of the phase-only sampling** (*Invited Paper*), Hongpu Li, Shizuoka Univ. (Japan) [7848-41]
- 14.00: **Linearly chirped supercontinuum for time-stretched analog-to-digital conversion**, Yun Teng, Beijing Univ. of Posts and Telecommunications (China) [7848-42]
- 14.20: **Application to the design of guide-mode resonance grating filter with using simulated annealing method**, Jianyong Ma, Shanghai Institute of Optics and Fine Mechanics (China) [7848-43]
- 14.40: **Research on the recording hologram with foveon in digital color holography**, Qinghe Song, Kunming Univ. of Science and Technology (China) [7848-44]
- 15.00: **Measurement of inner surface profile of a tube using two wavelength phase-shifting digital holography**, Masayuki Yokota, Toru Adachi, Yusuke Sakamoto, Shimane Univ. (Japan) [7848-45]
- Coffee/Tea Break 15.20 to 15.50

SESSION 9B

Room: 303A Wed. 13.40 to 15.30

Integrated Imaging and Wavefront Encoding

Session Chair: Ching-Cherng Sun,

National Central Univ. (Taiwan, China)

- 13.40: **Capture of the three-dimensional information based on integral imaging and its sampling analysis** (*Invited Paper*), Jae-Hyeung Park, Dongbiao Han, Nam Kim, Chungbuk National Univ. (Korea, Republic of) [7848-52]
- 14.10: **Application of wavefront coding technology to multiband IR optical system**, Xiong Dun M.D., Tianjin Jinhang Institute of Technology Physics (China) [7848-53]
- 14.30: **Compressive imaging and spectroscopy**, Kevin F. Kelly, Rice Univ. (United States) [7848-54]
- 14.50: **Phase compensation for eliminating black-matrix effect of phase-only spatial light modulator**, Jindong Tian, Haiou Qi, Jianfeng Zheng, Dong Li, Shenzhen Univ. (China) [7848-55]
- 15.10: **Phase calibration of spatial light modulators by heterodyne interferometry**, Ruisong Wang, Mingxi Hu, Shenzhen Univ. (China) [7848-56]
- Coffee/Tea Break 15.30 to 16.00

Sessions 10A and 10B run concurrently

SESSION 10A

Room: 301 A+B Wed. 15.50 to 17.50

Digital Holography

Session Chair: Hongpu Li, Shizuoka Univ. (Japan)

- 15.50: **High resolution digital holographic technique based on image filter**, Lijun Deng, Hui Wang, Lihong Ma, Zhejiang Normal Univ. (United States) [7848-46]
- 16.10: **Polarization imaging and angular multiplexing in digital holography for high resolution reconstruction**, Jianglei Di, Jianlin Zhao, Northwestern Polytechnical Univ. (China) [7848-47]
- 16.30: **Contrast between wavelet transform and the traditional frequency domain filtering method for digital hologram reconstruction**, Haohan Xia, Ming Li, Minxue Tang, Soochow Univ. (China) [7848-48]
- 16.50: **Application of phase unwrapping based on least-squares and iteration in digital holography**, Haiting Xia, Rongxin Guo, Zebin Fan, Xiaofan Qian, Bangcheng Yang, Kunming Univ. of Science and Technology (China) [7848-49]
- 17.10: **Study of color digital holography of large size object with zero-order elimination**, Jinbin Gui, Junchang Li, Yongan Zhang, Yuli Lou, Zebin Fan, Kunming Univ. of Science and Technology (China) [7848-50]
- 17.30: **Optimization research for digital hologram recording system of big objects**, Yuli Lou, Junchang Li, Yongan Zhang, Jinbin Gui, Chongguang Li, Zebin Fan, Kunming Univ. of Science and Technology (China) [7848-51]

SESSION 10B

Room: 303A Wed. 16.00 to 17.20

Optical Display

Session Chair: Xiacong Yuan, Nankai Univ. (China)

- 16.00: **Analysis on the 3D crosstalk in stereoscopic display** (*Invited Paper*), Hee-Jin Choi, Sejong Univ. (Korea, Republic of) [7848-57]
- 16.20: **Design of color separation resonant grating used in Fresnel diffraction region**, Yue Fang, Qiaofeng Tan, Guofan Jin, Tsinghua Univ. (China) [7848-58]
- 16.40: **Depth-fused display using polarization distribution**, Soon-gi Park, Sung-Wook Min, Kyung Hee Univ. (Korea, Republic of) [7848-59]
- 17.00: **Laser imaging method using computational holography**, Tao Wang, Yingjie Yu, Huadong Zheng, Linmao Zheng, Shanghai Univ. (China) [7848-60]

POSTERS-Wednesday

Hallway Outside Rooms 302-305 Wed. 18.30 to 20.30

- A new method of reconstructing polarization distribution of light wave**, Chunhui Niu, Univ. of Science and Technology Beijing (China) [7848-61]
- Numerical study on radially polarized beam focusing through dielectric interface and metallic film**, Xingyu Gao, Lihua Ning, Guilin Univ. of Electronic Technology (China); Xiaosong Gan, Swinburne Univ. of Technology (Australia) [7848-62]
- Theoretical and experimental analysis of Maxwell fish-eye spherical lens diffraction intensity**, Hao Lv, Xiaogang Univ. (China) [7848-63]
- Diffraction calculation method suitable for both far and near field**, Chongguang Li, Xiuxin Wang, Shengping Yuan, Kunming Univ. of Science and Technology (China) [7848-64]
- Glasses-free 3D display system using grating film for parallax image separation**, Masahide Kuwata, Kunio Sakamoto, Konan Univ. (Japan) [7848-65]
- Fabrication of photonic crystals using holography and study for the lattice constant changes**, Jing Han, He-Ling Zhang, Tianqi Zhao, Capital Normal Univ. (China) [7848-66]

- Multi-mode Laser beam uniformizing using phased Damman grating**, Chongxi Zhou, Yuanyuan Li, Institute of Optics and Electronics (China) [7848-67]
- Design of diffraction optical element for homogeneous and quadrupole illumination in lithography system**, Yuanyuan Li, Chongxi Zhou, Yuanming Feng, Xingpin Wang, Institute of Optics and Electronics (China) [7848-68]
- Research on eliminating zero-order diffraction interruption for wavefront reconstruction of digital holography with adjustable magnification**, Qinghe Song, Kunming Univ. of Science and Technology (China) [7848-69]
- Application of the angular spectrum diffraction transform in the design of binary optical element**, Yanmei Wu, The Academy of Equipment Command & Technology (China); Junchang Li, Kunming Univ. of Science and Technology (China) [7848-70]
- 4-views flat tabletop display using prism film for viewing angle control**, Tomoyuki Honda, Kunio Sakamoto, Konan Univ. (Japan) [7848-71]
- The scattering characteristic of diffractive optics**, Wenwu Jia, Yuefeng Wang, Feng Huang, Cheng Zhao, Junyan Hou, Mechanical Engineering College (China) [7848-72]

Conference 7848

- Analysis on light intensity distribution of diffraction of unequal slit width gratings**, Zhengping Hong, Shandong Normal Univ. (China); Xiu'e Wang, Xiong Li, Beijing Technology and Business Univ. (China) [7848-73]
- Design and analysis of waveguide grating coupling with gradually changing periods for optical interconnection**, Xianghua Feng, National Univ. of Defense Technology (China) [7848-74]
- Modeling and characterization of tunable photonic crystal waveguides based on two-dimensional periodic arrays of silicon pillars**, Qing Dai, Haider Butt, Timothy D. Wilkinson, Univ. of Cambridge (United Kingdom) [7848-75]
- Study on multi-image hiding method based on polarization multiplexing digital holography**, Zhuqing Zhu, Jiajie Zhang, Shaotong Feng, Shouping Nie, Tian Gan, Wanzhen Dai, Nanjing Normal Univ. (China) [7848-76]
- Single-exposure color digital holography**, Shaotong Feng, Yanhui Wang, Zhuqing Zhu, Nanjing Normal Univ. (China) [7848-77]
- Improved algorithm for diffraction calculation**, Xiuxin Wang, Chongguang Li, Kunming Univ. of Science and Technology (China) [7848-78]
- Optimization of multiplexed holograms for tomographic imaging**, Lei Song, Zhuqing Jiang, Zhiqiang Xu, Jing Yang, Beijing Univ. of Technology (China) [7848-79]
- Subwavelength focusing of nanopatterned photon sieves**, Yinfei Xue, Weihao Ge, Chinhua Wang, Soochow Univ. (China) [7848-80]
- Tunable volume holographic filter based on the photorefractive grating**, Ming Zhang, Huiyun Meng, Zichun Le, Zhejiang Univ. of Technology (China) . [7848-81]
- Controlling the propagating features of light through a two-dimensional coupled-cavity photonic crystal waveguides**, Shuai Feng, Minzu Univ. of China (China) [7848-82]
- Research of microspectrometer based on flat field holographic concave grating**, Chaoming Li, Soochow Univ. (China) [7848-83]
- Position of virtual image formed by bi-grating imaging**, Weiping Zhang, Tingjun Luo, Guanlang Huang, Yufei Xiao, Guangxi Univ. (China) [7848-84]
- Dual wavelength interferometry for micro-nano structure topographic measurement**, Guofeng Cheng, Zhuqing Jiang, Dayong Wang, Huakun Cui, Beijing Univ. of Technology (China) [7848-85]
- Label stacking of the time stacked SAC labels in optical packet switching with a simple label recognition based on FWM**, Yan Shi, Qi Zhang, Chongxiu Yu, Xiangjun Xin, Beijing Univ. of Posts and Telecommunications (China) [7848-86]
- A new method of calculating the diffraction efficiency for diffraction/refraction infrared hybrid system**, Tao Wang, Zhejiang Univ. (China) . [7848-87]
- Air impurity in holographic photonic crystals made with dichromated gelatin**, Zhi Ren, Songtao Li, North China Electric Power Univ. (China); Dahe Liu, Beijing Normal Univ. (China) [7848-88]
- Diffraction intensity analysis of a transmission prism grating**, XiaoYu Liu, Harbin Engineering Univ. (China); Guosheng Zhang, Beijing Institute of Graphic Communication (China) [7848-89]
- Characteristics analysis of a transmission prism grating based on blazed gratings**, Guosheng Zhang, Beijing Institute of Graphic Communication (China); Xiaoyu Liu, Harbin Engineering Univ. (China) [7848-90]
- A novel structure photonic crystal fiber based on bismuth-oxide for optical parametric amplification**, Cang Jin, Xinzhu Sang, Jinhui Yuan, Wenjing Li, Chongxiu Yu, Beijing Univ. of Posts and Telecommunications (China) . [7848-91]
- Study of sub-wavelength metal polarization gratings array used in polarization imaging**, Peng Sun, Jianhong Wu, Quan Liu, Soochow Univ. (China) [7848-92]
- Study on thermal fixing of holographic grating in paraelectric potassium tantalate-niobate crystals at large modulation depths based on the finite element method**, Yansheng Song, Jiarong Ji, Wenhua Dou, Changli Wen, National Univ. of Defense Technology (China) [7848-93]
- Reference wavefront reconstruction based on spatial light modulator**, Nie Liang, Xi'an Institute of Technology (China) [7848-94]
- Characteristics of subwavelength photolithography based on surface plasmon polaritons**, Weihao Ge, Chinhua Wang, Yinfei Xue, Soochow Univ. (China) [7848-95]
- Security enhancement of double random phase encryption by phase extraction**, Yishi Shi, Yali Wang, Graduate Univ. of the Chinese Academy of Sciences (China); Yuhua Yang, Beijing Univ. of Technology (China); Jingjuan Zhang, Graduate Univ. of the Chinese Academy of Sciences (China) . . [7848-96]
- Multiple-image encryption with spatial information prechoosing and cascaded blocks scrambling**, Yuhua Yang, Beijing Univ. of Technology (China); Yali Wang, Yishi Shi, Jingjuan Zhang, Graduate Univ. of the Chinese Academy of Sciences (China) [7848-97]
- Comparative research on the crosstalk characteristics of acoustic-optic tunable filters with different bandwidth used in the communication**, Wei Liu, Capital Normal Univ. (China); Yu-nan Sun, Beijing Institute of Technology (China) [7848-98]
- Research of bi-grating imaging by computer simulating**, Weiping Zhang, Yufei Xiao, Xinmin Huang, Lingyu Wan, Guangxi Univ. (China) [7848-99]
- A study of OCDMA over WDM PON system using DQPSK modulation and balanced detection**, Fuxiang Deng, Qi Zhang, Chongxiu Yu, Beijing Univ. of Posts and Telecommunications (China) [7848-100]
- Design and simulation of a polarized color filter based on sub-wavelength metal gratings**, Yueyu Zhang, Yun Zhou, Linsen Chen, Soochow Univ. (China) [7848-101]
- Application of digital holography in temperature distribution measurement**, Yan Li, Beijing Univ. of Technology (China) [7848-102]
- Study on diffraction spectrum of variable line space plane grating at oblique incidence**, Yanping Luo, Jun Lou, Yueming Liu, Weijian Tian, China Jiliang Univ. (China) [7848-103]
- High-resolution digital holographic imaging technology of digital microscope image plane holography**, Huaying Wang, Wendi Gong, Hebei Univ. of Engineering (China) [7848-104]
- Analysis of diffraction spectrum of holographic variable line space plane grating based on rigorous vector theory**, Jun Lou, Yanping Luo, Yueming Liu, Weijian Tian, China Jiliang Univ. (China) [7848-105]
- Cell imaging techniques based on digital image plane holography**, Zhaoji Chen, Handan College (China); Huaying Wang, Wendi Gong, Hebei Univ. of Engineering (China) [7848-106]
- Studies on the unweighted least-squares phase unwrapping algorithm**, Huaying Wang, Zhihui Zhang, Hebei Univ. of Engineering (China) [7848-107]
- Computer generated holograms of 3D objects with reduced number of projections**, Sujuan Huang, Daojin Liu, Jingjing Zhao, Shanghai Univ. (China) [7848-108]
- Reduction of speckle noise in digital holography by using of multiple holograms**, Huaying Wang, Zhongjia Guo, Hebei Univ. of Engineering (China) [7848-109]
- Theory analysis and numerical simulation of multi-pumps wavelength conversion solution with different wavelength spacing and different polarization in photonic crystal fibre**, Ruihong Xu, Chongxiu Yu, Dahsiung Xu, Beijing Univ. of Posts and Telecommunications (China); Haitao Hu, Henan Institute of Engineering (China) [7848-110]
- Cells of Chinese herbal medicine measuring with digital holographic microscopy**, Zhaoji Chen, Handan College (China); Huaying Wang, Feifei Liu, Hebei Univ. of Engineering (China) [7848-111]
- Applications of the filter designed by fdatoool in digital holography**, Pei Xie, Haohan Xia, Minxue Tang, Soochow Univ. (China) [7848-112]
- Performance of transmission volume phase holographic gratings recorded in DCG**, Ming Li, Haohan Xia, Minxue Tang, Soochow Univ. (China) [7848-113]
- 40-Gbit/s PON over OCDMA uplink using DQPSK/OOK orthogonal remodulation**, Jianbo Chen, Qi Zhang, Fuxiang Deng, Chongxiu Yu, Xiangjun Xin, Beijing Univ. of Posts and Telecommunications (China) [7848-114]
- Study on the polarization grating working in 1053 nm wavelength**, Quan Liu, Peng Sun, Haibin Wang, Jianhong Wu, Soochow Univ. (China) [7848-115]
- Eight-channel Fourier transform computer generated holograms**, Rongli Guo, Xi'an Technological Univ. (China) [7848-116]
- Measurement of Stress Field among Inclusions by Digital Holography**, Haiting Xia, Rongxin Guo, Zebin Fan, Bangcheng Yang, Kunming Univ. of Science and Technology (China) [7848-117]
- The Monte Carlo simulation of focused Gaussian beam for aberration system**, Shuping Li, Xugang Cui, Yongbin Niu, Dandan Zhang, Junli Zhu, Yujuan Zhang, Fenfen Li, Tibet Nationalities Institute (China) [7848-118]
- Application of fractal masks to determination phase discontinuities in transparent objects**, Alexander A. Zinchik, Yana B. Muzychenko, Sergey C. Stafeev, Saint-Petersburg State Univ. of Information Technologies, Mechanics and Optics (Russian Federation) [7848-119]
- Study of focusing properties of fractal phase-type zone plates**, Yana B. Muzychenko, Alexander A. Zinchik, Sergey C. Stafeev, Saint-Petersburg State Univ. of Information Technologies, Mechanics and Optics (Russian Federation) [7848-120]
- An FPGA based controlling and data acquisition scheme for the demodulation of quasi-distributed FBG sensing system**, Run Yu, Yongjun Wang, Kuiru Wang, Beijing Univ. of Posts and Telecommunications (China) [7848-121]
- Design And Fabrication Of DCG-based Reflection Volume Holographic Grating**, Chunhuan Fang, Minxue Tang, Ming Li, Soochow Univ. (China) [7848-122]
- Analysis and control of thin film stresses during extreme ultraviolet lithography mask blank fabrication**, L. Zheng, Harbin Institute of Technology (China) [7848-124]
- Investigation and prediction of image placement errors in extreme ultraviolet lithography masks**, Liang Zheng, Harbin Institute of Technology (China) [7848-125]

Optical Design and Testing IV

Conference Chairs: **Yongtian Wang**, Beijing Institute of Technology (China); **Julie Bentley**, Univ. of Rochester (USA); **Chunlei Du**, Institute of Optics and Electronics (China); **Kimio Tatsuno**, Hitachi, Ltd. (Japan); **Hendrik P. Urbach**, Technische Univ. Delft (Netherlands)

Program Committee: **Jian Bai**, Zhejiang Univ. (China); **Toshihide Dohi**, OptiWorks, Inc. (Japan); **Shanhui Fan**, Stanford Univ. (USA); **Qun Hao**, Beijing Institute of Technology (China); **Kyung-Hee Hong**, Korea Research Institute of Standards and Science (Korea, Republic of); **Hong Hua**, College of Optical Sciences, The Univ. of Arizona (USA); **Tsuyoshi Konishi**, Osaka Univ. (Japan); **Irina L. Livshits**, Saint-Petersburg State Univ. of Information Technologies, Mechanics and Optics (Russian Federation); **Juan C. Miñano**, Univ. Politécnica de Madrid (Spain); **Sung Chan Park**, Dankook Univ. (Korea, Republic of); **Xiang Peng**, Shenzhen Univ. (China); **Jannick P. Rolland-Thompson**, Univ. of Rochester (USA); **Keiji Sasaki**, Hokkaido Univ. (Japan); **José Sasián**, College of Optical Sciences, The Univ. of Arizona (USA); **Qiaofeng Tan**, Tsinghua Univ. (China); **Kevin P. Thompson**, Optical Research Associates (USA); **Sandy To**, The Hong Kong Polytechnic Univ. (Hong Kong, China); **Theo Tschudi**, Technische Univ. Darmstadt (Germany); **Wilhelm Ulrich**, Carl Zeiss SMT AG (Germany)

Monday 18 October

Opening Ceremony and Plenary Session. Mon. 08.30 to 12.00

- 8.30: Opening Ceremony
- 9.00: **Fibre Optic Systems for Gas Detection: Progress and Prospects**, Brian Culshaw, Univ. of Strathclyde (United Kingdom)
- 9.30: **Optical Tweezers Based Micro-rheology**, Arthur Chiou, National Yang Ming Univ. (Taiwan, China)
- Coffee/Tea Break 10:00 to 10:30 am
- 10.30: **Integration and Function Enhancements of Planar Lightwave Circuits (PLCs) for Optical Communication**, Ray T. Chen, The Univ. of Texas, Austin (United States)
- 11.00: **Modern Optical System Design: Holistic Optimization of Innovative Design Concepts**, Willi Ulrich, Carl Zeiss AG (Germany)
- 11.30: **Index Guiding Microstructured Fibers and its Applications**, Libo Yuan, Photonics Research Ctr., Harbin Engineering Univ. (China)

Lunch Break 12.00 to 13.30

SESSION 1

Room: 208 A+B Mon. 13.30 to 15.10

Novel Optical System Design I

Session Chair: **Kimio Tatsuno**, Hitachi, Ltd. (Japan)

- 13.30: **Developments in optical coherence microscopy** (*Invited Paper*), Jannick P. Rolland, Univ. of Rochester (United States) [7849-01]
- 14.00: **Optical design rules of a camera module with a liquid lens and principle of command for AF and OIS functions** (*Invited Paper*), Eric Simon, Bruno Berge, Franck Fillit, Hilario Gatón, Martin Guillet, Olivier Jacques-Sermet, Frédéric Laune, Julien Legrand, Mathieu Maillard, Nicolas Tallaron, Varioptic SA (France) [7849-02]
- 14.30: **The design of nonsymmetrical optical system in the detection of laser echo**, Hongbo Xie, Han Lin, Honglang Yu, Renmin Gong, Tianjin Univ. (China) [7849-03]
- 14.50: **Modeling anamorphic optical surfaces in the MOEMS-based zoom lens**, Xuemin Cheng, Tsinghua Univ. (China); Qun Hao, Beijing Institute of Technology (China) [7849-04]
- Coffee/Tea Break 15.10 to 15.40

SESSION 2

Room: 208 A+B Mon. 15.40 to 17.50

Fabrication and Testing

Session Chair: **Julie Bentley**, Univ. of Rochester (USA)

- 15.40: **Incorporating field dependence into the FRINGE Zernike polynomial** (*Invited Paper*), Kevin P. Thompson, Optical Research Associates (United States) [7849-05]
- 16.10: **Corrective, deterministic, and/or generative?: sub-aperture finishing**, Ken Tanimura, Kazuto Hori, Noboru Sugimoto, Toshihide Dohi, OptiWorks, Inc. (Japan) [7849-06]
- 16.30: **Design of optical stress sensor using single electrooptic and photoelastic crystal**, Changsheng Li, BeiHang Univ. (China) [7849-07]
- 16.50: **Separating misalignment from misfigure in autocollimation test of off-axis conic mirrors**, Qinfang Chen, Ma Zhen, Yingcai Li, Xi'an Institute of Optics and Precision Mechanics (China) [7849-08]
- 17.10: **MTF measurement and imaging quality evaluation of digital camera with slanted-edge method**, Chunchang Xiang, Xinhua Chen, Yuheng Chen, Jiankang Zhou, Weimin Shen, Soochow Univ. (China) [7849-09]
- 17.30: **The ground calibration system of vacuum ultraviolet imaging spectrometer**, Yan Wu, Tang Yi, Guoqiang Ni, Beijing Institute of Technology (China) [7849-10]

Tuesday 19 October

SESSION 3

Room: 208 A+B Tues. 08.30 to 10.20

Aberration Theory and Image Analysis

Session Chair: **Yongtian Wang**, Beijing Institute of Technology (China)

- 08.30: **In the era of global optimization, the understanding of aberrations remains the key to designing superior optical systems** (*Invited Paper*), Julie Bentley, Univ. of Rochester (United States); Richard N. Youngworth, Light Capture, Inc. (United States); Craig Olson, L-3 Communications Sonoma EO (United States) [7849-11]
- 09.00: **Why are there so many system shapes in lens design?**, Florian Bociort, Technische Univ. Delft (Netherlands) [7849-12]
- 09.20: **A simulation imaging method for actual optical system and results analysis**, Fen Neng, Zhaofeng Cen, Xiaotong Li, Qiangsheng Liu, Hongbo Shang, Zhejiang Univ. (China) [7849-13]
- 09.40: **Several factors affecting self-thermal radiation of cryogenic infrared optical system**, Li Lin, Beijing Institute of Technology (China); Baolin Du, Luoyang Institute of Electro-Optical Equipment (China) [7849-14]
- 10.00: **Analysis methods for polarization state and energy transmission of rays propagating in optical systems**, Chao Liu, Qiangsheng Liu, Zhaofeng Cen, Xiaotong Li, Zhejiang Univ. (China) [7849-15]
- Coffee/Tea Break 10.20 to 10.50

SESSION 4

Room: 208 A+B Tues. 10.50 to 12.00

Optical Measurement

Session Chair: **Changsheng Li**, BeiHang Univ. (China)

10.50: **Adaptive intensity stabilization of ultra-short optical pulse for optical measurement and metrology** (*Invited Paper*), Tsuyoshi Konishi, Kentaro Kawanishi, Osaka Univ. (Japan) [7849-16]

11.20: **Experimental simulation and parameters measurement of the atmospheric turbulence**, Xiwen Qiang, Xi'an Jiaotong Univ. (China); Fei Zong, Yan Li, Junwei Zhao, Jingru Liu, Northwest Institute of Nuclear Technology (China); Jianping Song, Xi'an Jiaotong Univ. (China) [7849-17]

11.40: **Extraction and analysis of the image in the sight field of comparison goniometer to measure IR gratings**, Zhishan Wang, Beijing Institute of Technology (China) and Henan Univ. of Technology (China); Yuejin Zhao, Zhuo Li, Liquan Dong, Beijing Institute of Technology (China) [7849-18]

Lunch Break 12.00 to 13.30

SESSION 5

Room: 208 A+B Tues. 13.30 to 15.20

Nonimaging Optics and Illumination Optics

Session Chair: **Hong Liu**, Zhejiang Univ. of Technology (China)

13.30: **Free-form Kohler nonimaging optics for photovoltaic concentration** (*Invited Paper*), Pablo Benitez, Juan C. Miñano, Pablo Zamora, Univ. Politécnica de Madrid (Spain); Maikel M. Hernandez, Aleksandra Cvetković, Light Prescriptions Innovators Europe, S. L. (Spain); Marina Bulyan, Univ. Politécnica de Madrid (Spain) [7849-19]

14.00: **Study on SMS design method for LED illumination**, Hong Wang, Qihui Zhang, Haihong Wang, South China Univ. of Technology (China) [7849-20]

14.20: **Endoscope illumination system based on freeform lens**, Shi Yan, China Jiliang Univ. (China); Liqiang Wang, Zhejiang Univ. (China) [7849-21]

14.40: **Different illumination modes in microlithography illumination system**, Han Xing, Li Lin, Beijing Institute of Technology (China) [7849-22]

15.00: **Temporal shaping of the femtosecond pulse by deformable mirrors and spatial light modulators**, Yongming Nie, Xiujian Li, Jiankun Yang, Wenhua Hu, Shishang Luo, National Univ. of Defense Technology (China) [7849-23]

Coffee/Tea Break 15.20 to 15.50

SESSION 6

Room: 208 A+B Tues. 15.50 to 17.30

Display System Design

Session Chair: **Jannick P. Rolland**, Univ. of Rochester (USA)

15.50: **Depth-fused multi-focal plane displays enable accurate depth perception** (*Invited Paper*), Hong Hua, College of Optical Sciences, The Univ. of Arizona (United States) [7849-24]

16.20: **Free form optical system design with differential equations** (*Invited Paper*), Dewen Cheng, Beijing Institute of Technology (China) and College of Optical Sciences, The Univ. of Arizona (United States); Yongtian Wang, Beijing Institute of Technology (China); Hong Hua, College of Optical Sciences, The Univ. of Arizona (United States) [7849-25]

16.50: **The design of light pipe with microstructures for touch screen**, Yang Bo, Kan Lu, Liupeng Fei, Xiaona Wei, Univ. of Shanghai for Science and Technology (China) [7849-26]

17.10: **Carrier feed-through analysis of heterodyne lidar system**, Jiqiang Wang, Shandong Academy of Sciences (China) [7849-27]

Wednesday 20 October

SESSION 7

Room: 208 A+B Wed. 08.30 to 10.00

Novel Optical System Design II

Session Chair: **Hongbo Xie**, Tianjin Univ. (China)

08.30: **Principles of optical and software development in document scanners/readers applications** (*Invited Paper*), Irina L. Livshits, Matvey Pashkovskiy, Vladimir Vasiliev, Saint-Petersburg State Univ. of Information Technologies, Mechanics and Optics (Russian Federation) [7849-28]

09.00: **Optical design of non-CaF₂ of middle and low power flat-field apochromatic metallographic micro-objective**, Zexin Xiao, Jie Cao, Xiao Ran, Peng Li, Guilin Univ. of Electronic Technology (China) [7849-29]

09.20: **Conceptual design of airborne daytime infrared star cameras**, Yuying Zhou, Weimin Shen, Feng Wu, Soochow Univ. (China) [7849-30]

09.40: **Design of a multi-channel quasi-optical front-end at terahertz bands**, Zheng Lou, Sheng-Cai Shi, Purple Mountain Observatory (China) [7849-31]

Coffee/Tea Break 10.00 to 10.30

SESSION 8

Room: 208 A+B Wed. 10.30 to 12.00

LED Illumination Systems

Session Chair: **Hong Wang**, South China Univ. of Technology (China)

10.30: **LED lighting module design based on a prescribed candle-power distribution for uniform illumination** (*Invited Paper*), Jin-Jia Chen, Chuen-Ching Wang, Te-Yuan Wang, National Changhua Univ. of Education (Taiwan, China); Yi-Chih Wang, National Tsing Hua Univ. (Taiwan, China); Shiou-Shian Wu, National Changhua Univ. of Education (Taiwan, China) [7849-32]

11.00: **The design method of tailored-intensity distribution lens based on LED**, Wenkui Wang, Suet To, Wing Bun Lee, The Hong Kong Polytechnic Univ. (Hong Kong, China) [7849-33]

11.20: **Lens design of street lamp for integrated high power LED**, Hong Liu, Lanfang Jiang, Lida Hu, Zhejiang Univ. of Technology (China) [7849-34]

11.40: **Multi-segment free form surface LED lens for large scale uniform illumination**, Liangping Xia, Hongtao Gao, Xiaochun Dong, Chunlei Du, Institute of Optics and Electronics (China) [7849-35]

Lunch Break 12.00 to 13.20

SESSION 9

Room: 208 A+B Wed. 13.20 to 15.30

Metamaterial Design and Novel Photonics Devices

Session Chair: **Chunlei Du**, Institute of Optics and Electronics (China)

13.20: **Frequency tunable electromagnetic metamaterial based on mechanical movement method** (*Invited Paper*), Yifu Wang, Xiaochun Dong, Guishan Yuan, Qiling Deng, Chunlei Du, Institute of Optics and Electronics (China) [7849-36]

13.50: **Plasmonic analogue of atom systems with two-level to four-level configurations in metamaterials**, Hua Xu, Byoung Seung Ham, Inha Univ. (Korea, Republic of) [7849-37]

14.10: **Emission enhancement of an organic light-emitting by localized surface plasmons**, Maoguo Zhang, Sichuan Univ. (China) and Institute of Optics and Electronics (China); Jinglei Du, Sichuan Univ. (China); Hongtao Gao, Chunlei Du, Institute of Optics and Electronics (China) [7849-38]

14.30: **LC Parameter based analysis of coupled gold nanorods**, Kalpesh B. Mehta, Nanguang Chen, National Univ. of Singapore (Singapore) [7849-39]

14.50: **Performance analysis of wavelength conversion in SOI waveguides**, Ashiq Hussain, Beijing Univ. of Posts and Telecommunications (China) and PTCL (Pakistan); Xinzhu Sang, Chongxiu Yu, Ying Wang, Beijing Univ. of Posts and Telecommunications (China); Abid Muneer, Beijing Univ. of Posts and Telecommunications (China) and PTCL (Pakistan); Abdul Latif, Beijing Univ. of Posts and Telecommunications (China); Aftab H. Bangash, PTCL (Pakistan) [7849-40]

15.10: **The high numerical aperture photonic crystal fibers and application in the astronomy**, Weimin Sun, Xiaoqi Liu, Jiang Yu, Harbin Engineering Univ. (China); Zhongwen Hu, Nanjing Institute of Astronomical Optics & Technology (China) [7849-41]

Coffee/Tea Break 15.30 to 16.00

SESSION 10

Room: 208 A+B Wed. 16.00 to 17.30

Interferometry in Optical Testing

Session Chair: Jian Bai, Zhejiang Univ. (China)

- 16.00: **An asphericity definition for aspheric surface testing** (*Invited Paper*), Feng Xie, Qun Hao, Qiudong Zhu, Beijing Institute of Technology (China) [7849-42]
- 16.30: **White light interferometry for fast area surface measurement based on GPGPU**, Jing Wang, Kaiwei Wang, Jian Bai, Zhejiang Univ. (China) [7849-43]
- 16.50: **Accurate alignment error removal for interferometry spherical surfaces testing**, Kaiwei Wang, Dongsheng Wang, Jian Bai, Zhejiang Univ. (China) [7849-44]
- 17.10: **Single-shot two-dimensional dispersive interferometric profilometer**, Pei Zhu, Kaiwei Wang, Zhejiang Univ. (China) [7849-45]

POSTERS-Wednesday

Hallway Outside Rooms 302-305 Wed. 18.30 to 20.30

- Comprehensive performance analysis of popular odd-symmetric phase masks used for wave-front coded imaging system**, Hui Zhao, Xi'an Institute of Optics and Precision Mechanics (China) [7849-46]
- Measuring focal length of microlens-array by grating prismatic interferometry**, Xianchang Zhu, Xuedong Cao, Shibin Wu, Peng Zhang, Institute of Optics and Electronics (China) [7849-48]
- Index profile of gradient refractive index ball lens using the nondestructive measurement method**, Hao Lv, Xiaogan Univ. (China) [7849-49]
- Design of x-ray array detector based on S8865**, Xiaojing Liu, Changyun Miao, Feng Rong, Tianjin Polytechnic Univ. (China) [7849-50]
- Resonance absorption from tunable metamaterial in mid-infrared region**, Hao Dong, Chuankai Qiu, Institute of Optics and Electronics (China) [7849-51]
- Optimization design and error analysis of moiré deflection system**, Litong Song, Shibin Wu, Xuedong Cao, Long Kuang, Institute of Optics and Electronics (China) [7849-52]
- The design of foveated optical imaging system based on reflective liquid crystal SLM**, Qingqing Peng, Jun Chang, Beijing Institute of Technology (China); Shu-long Feng, Changchun Institute of Optics, Fine Mechanics and Physics (China) [7849-53]
- The research on optical mirror's thermal characteristic in aerospace working condition**, Suiian S. Dai, Shengli Chang, Kun Zhang, Zili Jiang, National Univ. of Defense Technology (China) [7849-54]
- Design and analysis of a sub-aperture scanning machine for the transmittance measurements of large-aperture optical system**, Yingwei He, Ping Li, National Institute of Metrology (China) [7849-55]
- Numerical analysis of SPP interference lithography based on prism coupling**, Xiaowei Guo, Univ. of Electronic Science and Technology of China (China) [7849-56]
- Research on part-compensation aspheric surface testing via slope asphericity**, Feng Xie, Qun Hao, Qiudong Zhu, Beijing Institute of Technology (China) [7849-57]
- Research on special type vertical illumination system of metalloscope**, Xiao Ran, Zexin Xiao, Jie Cao, Guilin Univ. of Electronic Technology (China) [7849-58]
- Tip-tilt adaptive correction based on stochastic parallel gradient descent optimization algorithm**, Huimin Ma, Jinghui Zhang, Pengfei Zhang, Chunhong Qiao, Chengyu Fan, Anhui Institute of Optics and Fine Mechanics (China) [7849-59]
- Thermal difference analysis and athermalization design of infrared optical system**, Xingqiao Ai, Changchun Institute of Optics, Fine Mechanics and Physics (China); Bo Liu, Changchun Institute of Optics, Fine Mechanics and Physics (United States) [7849-60]
- Comparison of two algorithms for annular subaperture testing method based on Hartmann Shack sensor**, Hongyan Xu, Hao Xian, Yudong Zhang, Institute of Optics and Electronics (China) [7849-61]
- Design of IR correctors for ground aspheric surface**, Yongqian Wu, Yudong Zhang, Institute of Optics and Electronics (China) [7849-62]
- Test for optical systems in laser projection imaging for PCB**, Ouyang Qin, Jin Yun Zhou, Qinghua Lin, Guangdong Univ. of Technology (China) [7849-63]
- Design of a testing compensator for F/3 hyperbolic mirror**, Yinghua Y. Yuan, Jianjun Hu, Junhua Pan, Soochow Univ. (China) [7849-64]
- The invariance of statistical law for aerosol scattering pulse signal modulated by random noise**, Zhengang Yan, Nanjing Univ. of Science and Technology (China) [7849-65]
- The figure error separation modeling and simulation of optical measurement**, Xiaoyan Qiao, Linsheng Li, Hebei Univ. of Engineering (China) [7849-66]
- The analysis of the wave front aberration caused by gravity of the tunable-focus liquid-filled membrane lens**, Wei Zhang, Univ. of Shanghai for Science and Technology (China) and Xi'an Institute of Optics and Precision Mechanics (China); Xiaona Wei, Songlin Zhuang, Yang Bo, Univ. of Shanghai for Science and Technology (China) [7849-67]
- Using different interpolation techniques in unwrapping the distorted images from panoramic annular lens camera**, Guo Yu, Lingjin Fu, Jian Bai, Zhejiang Univ. (China) [7849-68]
- Design of the structure parameters of the photo-resist grating**, Xingrong Chen, Soochow Univ. (China) [7849-69]
- A multispectrum fish-eye lens for rice canopy detecting**, Huang Zhi, Jian Bai, Xiyun Hou, Zhejiang Univ. (China) [7849-70]
- A method of video analysis in vehicle based on a single PAL camera**, Yi Yang, Zhejiang Univ. of Science and Technology (China); Guo Yu, Jian Bai, Zhejiang Univ. (China) [7849-71]
- Compact mid-wavelength infrared zoom system with positive zoom lens**, Shenghui Li, Huazhong Institute of Electro-Optics (China) [7849-72]
- Narcissus analysis in DFOV scanning infrared zoom system**, Changcheng Yang, Shenghui Li, Huazhong Institute of Electro-Optics (China) [7849-73]
- Improved azimuthal alignment technology of polarization maintaining fiber based on side-viewing image**, Jun Zhang, Wen Gu, Zhe Chen, Jianhui Yu, Dan Guo, Lisheng Huang, Jinan Univ. (China) [7849-74]
- Gimbal displacement errors analysis on an electro-optical seeker**, Zhenhai Jiang, Graduate Univ. of the Chinese Academy of Sciences (China) and Changchun Institute of Optics, Fine Mechanics and Physics (China); Xin Zhang, Changchun Institute of Optics, Fine Mechanics and Physics (China); Xingqiao Ai, Graduate Univ. of the Chinese Academy of Sciences (China) and Changchun Institute of Optics, Fine Mechanics and Physics (China); Hongguang Jia, Changchun Institute of Optics, Fine Mechanics and Physics (China) [7849-75]
- The design of a laser transmittance measurement system**, Qianqian Wang, Minglei Li, Beijing Institute of Technology (China) [7849-76]
- Development of a real time MTF test bench for visible optical systems**, Xinhua Chen, Yuheng Chen, Jiming Fan, Chunchang Xiang, Weimin Shen, Soochow Univ. (China) [7849-77]
- Numerical study of fluid properties in opening-up optical fibers**, Yi Yang, Donghua Univ. (China); Jian Cui, BeiHang Univ. (China) [7849-78]
- Testbed for an adaptive secondary of 1.8-m telescope**, Xinlong Fan, Chunlin Guan, Changhui Rao, Institute of Optics and Electronics (China) [7849-79]
- Method of noiseproof wavefront testing in time- and spatial-domain**, Tang Lei, Beijing Institute of Special Electromechanical Technology (China) [7849-80]
- Analysis of heat dissipation for integrated high power LED lamp**, Lanfang Jiang, Hong Liu, Qin Zhao, Lida Hu, Zhejiang Univ. of Technology (China) [7849-81]
- Research and analysis of edge backlighting light guide panel for handset**, Jun Zhang, Hongyin Wang, Zhe Chen, Jianhui Yu, Donghua Zhou, Cai Chang, Jinan Univ. (China) [7849-82]
- The design of auto thermal-structural-optical integrated analysis software based on MATLAB**, Yushan Liu, Xiaomei Chen, Guoqiang Ni, Beijing Institute of Technology (China) [7849-83]
- The concept of constructing system for adaptive-selective assembly of optical devices**, Alexey D. Frolov, Saint-Petersburg State Univ. of Information Technologies, Mechanics and Optics (Russian Federation) [7849-85]
- The manufacture of rectangle aperture off-axis ellipsoidal aspheric mirror**, Xiaoyin Yao, Peiji Guo, Jianfeng Ren, Chen Xi, Soochow Univ. (China) [7849-86]
- Smart high ratio zoom optics with global optimization**, Hua Liu, Luoyang Institute of Electro-Optical Equipment (China) [7849-87]
- The wavefront sensorless wide field of view adaptive optics correction based on SPGD algorithm**, Xiaofang Zhang, Jing Guo, Yu Xin, Xingzi Han, Beijing Institute of Technology (China) [7849-88]
- Design of imaging spectrometer based on Czerny-Turner in FUV**, Jianpeng Liu, Tang Yi, Beijing Institute of Technology (China) [7849-89]
- The optical system design and application of micro 2D barcode**, Yijia Zhu, Liang-Liang Li, Qian Chen, Zhongcheng Liang, Nanjing Univ. of Posts and Telecommunications (China) [7849-91]
- A new algorithm for compensating misalignment in optical spherical surface testing form State Key Laboratory of Modern Optical Instrumentation**, JinChun Zhang, Kaiwei Wang, Jian Bai, Zhejiang Univ. (China) [7849-92]
- Design of lunar-based common aperture multi-spectrum solar telescope**, Zhige Zhang, Li-Jun Zhang, Jingmin Wang, Huishi Zhu, Jie Zhang, Beijing Institute of Technology (China) [7849-93]
- Optical design of objectives with forced performance for metallographic light microscopes**, Alexey D. Frolov, Saint-Petersburg State Univ. of Information Technologies, Mechanics and Optics (Russian Federation) [7849-94]

Conference 7849

Optimal design of optical lens based on metallic nano-slits using Yang-Gu algorithm, Qiaofen Zhu, Capital Normal Univ. (China) [7849-95]

A sub-aperture scanning method for detecting wavefront of long-focus lens from State Key laboratory of Modern Optical Instrumentation, Zhejiang Univ., Yao Li, Jing Wang, Chang-Lun Hou, Jian Bai, Zhejiang Univ. (China) . . . [7849-96]

Flat surface measurement on fiber point diffraction phase-shifting interferometer, Jie Li, Ling Feng Chen, Yaqing Ren, Beijing Institute of Technology (China) [7849-97]

Optical design used in Z-stack imaging based on liquid lens, Tianling Yang, Liqiang Wang, Zhejiang Univ. (China) [7849-98]

Measurement of the radius of curvature of a mini spherical surface with virtual grating phase shift technique, Yongxiang Xu, Nanjing Univ. of Science and Technology (China) [7849-99]

Research of the optimum operating modes of combined acousto-optic and electro-optic modulator based on beam steering theory, Zhaoguang Pang, Hebei Normal Univ. (China) [7849-100]

Optical systems design of Surface Roughness photoelectric inspection instrument, Zexin Xiao, Peng Li, Jie Cao, Xiao Ran, Guilin Univ. of Electronic Technology (China) [7849-101]

Research on the surface reflectance measurement of optical elements with transparent substrate, Xia Guo, Xingzhi Gong, Liang Cheng, Feihong Yu, Zhejiang Univ. (China) [7849-102]

Frequency-tunable cloaking with external control, Peining Li, Youwen Liu, Nanjing Univ. of Aeronautics and Astronautics (China) [7849-103]

System tolerance analysis of dual-advantage spectrographic system Based on coded aperture, Liang Cheng, Xingzhi Gong, Feihong Yu, Zhejiang Univ. (China) [7849-104]

Three-channel off-axis three-mirror system design and analysis, Xiaoping Li, Zhonghua Fang, Xinglong Li, Shanghai Institute of Technical Physics (China) [7849-105]

Large area two-dimensional scanning model and image rotation analysis, Xiaoping Li, Xinglong Li, Zhonghua Fang, Shanghai Institute of Technical Physics (China) [7849-106]

Design of a four-mirror optical system with wide fields of view, Shitong Liang, Xi'an Institute of Optics and Precision Mechanics (China) and Graduate School of the Chinese Academy of Sciences (China); Jianfeng Yang, Bin Xue, Xi'an Institute of Optics and Precision Mechanics (China) [7849-107]

Research on measuring optical transfer function, Shaojun Lu, Xi'an Technological Univ. (China) [7849-108]

Study on testing resolution of optical system, Shaojun Lu, Xi'an Technological Univ. (China) [7849-109]

The optical design and simulation of multi-chip LED array package structure, Hong Wang, Li Chen, Feifei Ye, South China Univ. of Technology (China); Lijun Wang, South China Univ. of Technology (United States) [7849-110]

Design and fabrication of a two-beam prism-interferometer, Mohammad Abolhassani, Mojgan Esmaeili, Arak Univ. (Iran, Islamic Republic of) . . [7849-111]

Fabrication and measurement of single mode large-mode-area erbium-doped fiber with multi-layer-core structure, Jian Peng, Lisong Liu, Kai Zheng, Huai Wei, Chenfang Zhang, Shuisheng Jian, Beijing Jiaotong Univ. (China) [7849-112]

Design of long focal length space optical remote sensor's main support structure, Yingjun Guan, Changchun Univ. of Technology (China); Hongwei Xin, Changchun Institute of Optics, Fine Mechanics and Physics (China) . . [7849-113]

A 3D numerical study of pinhole diffraction in visible-light point diffraction interferometer, Jiajun Xu, Institute of Optics and Electronics (China) and Graduate School of the Chinese Academy of Sciences (China); Fuchao Xu, Tingwen Xing, Institute of Optics and Electronics (China) [7849-114]

Optical design of high resolution and large format CCD airborne remote sensing camera on un-manned aerial vehicle, Yixian Qian, Xiaowei Cheng, Zhejiang Normal Univ. (China) [7849-115]

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Optoelectronic Imaging and Multimedia Technology

Conference Chairs: **Toru Yoshizawa**, Saitama Medical Univ. (Japan); **Ping Wei**, Beijing Institute of Technology (China); **Jesse Zheng**, Photontech Instruments (Canada); **Tsutomu Shimura**, The Univ. of Tokyo (Japan)

OProgram Committee: **Tingzhu Bai**, Beijing Institute of Technology (China); **Yi Dong**, Shanghai Jiao Tong Univ. (China); **Ruwei Gu**, OPTON Co., Ltd. (Japan); **Tangjun Li**, Beijing Jiaotong Univ. (China); **Peilin Liu**, Shanghai Jiao Tong Univ. (China); **Yinglong Liu**, Central South Univ. (China); **Cunwei Lu**, Fukuoka Institute of Technology (Japan); **Pingtao Wang**, O&E Co., Ltd. (Japan); **Shengli Wu**, Xi'an Jiaotong Univ. (China); **Jingyun Zhang**, Areo-creative Corp. (USA); **Qing-Chuan Zhang**, Univ. of Science and Technology of China (China); **Ya Zhou (Secretary)**, Beijing Institute of Technology (China)

Monday 18 October

Opening Ceremony and Plenary Session. Mon. 08.30 to 12.00

- 8.30: Opening Ceremony
- 9.00: **Fibre Optic Systems for Gas Detection: Progress and Prospects**, Brian Culshaw, Univ. of Strathclyde (United Kingdom)
- 9.30: **Optical Tweezers Based Micro-rheology**, Arthur Chiou, National Yang Ming Univ. (Taiwan, China)
- Coffee/Tea Break 10:00 to 10:30 am
- 10.30: **Integration and Function Enhancements of Planar Lightwave Circuits (PLCs) for Optical Communication**, Ray T. Chen, The Univ. of Texas, Austin (United States)
- 11.00: **Modern Optical System Design: Holistic Optimization of Innovative Design Concepts**, Willi Ulrich, Carl Zeiss AG (Germany)
- 11.30: **Index Guiding Microstructured Fibers and its Applications**, Libo Yuan, Photonics Research Ctr., Harbin Engineering Univ. (China)

Lunch Break 12.00 to 13.30

SESSION 1

Room: 303B Mon. 13.30 to 15.40

Cameras and Devices for Imaging

Session Chair: **Toru Yoshizawa**, Saitama Medical Univ. (Japan)

- 13.30: **Research on combinational image stabilization technology based on MEMS IMU (Invited Paper)**, Yantao Zong, Xiaoyu Jiang, Xi Wang, Zhongxuan Liu, Academy of Armored Force Engineering (China) [7850-01]
- 14.00: **Portable electronic endoscopic imaging system**, Lihui Du, Liqiang Wang, Bin Ye, Huilong Duan, Zhejiang Univ. (China) [7850-02]
- 14.20: **New photoacoustic imaging modality for imaging internal organs based on single focus ultrasonic transducer**, Wenming Xie, Hui Li, Zhifang Li, Jianying Zhang, Zhiping Zeng, Fujian Normal Univ. (China) [7850-03]
- 14.40: **Quantification and elimination of the CCD dark current in weak spectrum measurement by modulation and correlation method**, Zhijian Cai, Xiaoru Wei, Jianzhi Ju, Jianhong Wu, Soochow Univ. (China) [7850-04]
- 15.00: **Design and fabrication of a fiber optic image inverter based on a new high numerical aperture glass system**, Jingsheng Pan, Changchun Univ. of Science and Technology (China) [7850-05]
- 15.20: **A configurable distributing high performance computing framework for satellite's TDI-CCD imaging simulation**, Bo Xue, Xiao-mei Chen, Bingjing Mao, Guo-qiang Ni, Beijing Institute of Technology (China) [7850-06]
- Coffee/Tea Break 15.40 to 16.00

SESSION 2

Room: 303B Mon. 16.00 to 17.20

Imaging and Processing Techniques

Session Chair: **Jesse Zhang**, Edgeflow, Inc. (China)

- 16.00: **A grayscale image color transfer method based on region texture analysis using GLCM**, Yuanmeng Zhao, Weiqi Jin, Lingxue Wang, Yuan Luo, Jiakun Li, Beijing Institute of Technology (China) [7850-07]
- 16.20: **An efficient parallel processing approach to fractal image compression**, Xiaohong Xie, Rongteng Wu, Minjiang Univ. (China) [7850-08]
- 16.40: **An image threshold estimation model**, Rongteng Wu, Xiaohong Xie, Minjiang Univ. (China); Zeyun Song, Fuzhou Univ. (China) [7850-09]
- 17.00: **A windowed phase correlation algorithm for subpixel motion estimation**, Yueting Chen, Jiagu Wu, Qi Li, Zhihai Xu, Huajun Feng, Zhejiang Univ. (China) [7850-10]

Tuesday 19 October

SESSION 3

Room: 303B Tues. 08.30 to 10.10

Imaging for Measurement and Inspection

Session Chair: **Ping Wei**, Beijing Institute of Technology (China)

- 08.30: **Experimental determination of the system parameter of oil thickness measurement**, Qieni Lu, Baozhen Ge, Wenda Yao, Yimo Zhang, Tianjin Univ. (China) [7850-11]
- 08.50: **Automatic seal imprint verification by quantifying edge difference**, Hao Zhang, Tianjin Univ. (China); Jin He, Tianjin Univ. of Technology and Education (China) [7850-12]
- 09.10: **Obtain the fingerprint on a transparent fragment by using optical filtering method**, Changming Jia, China Criminal Police College (China) [7850-13]
- 09.30: **A new intelligent method of people counting based on the principle of optical triangulation**, Yongchang Hou, Ping Wei, Beijing Institute of Technology (China) [7850-14]
- 09.50: **An aerial composite imaging method with multiple upright cameras based on axis-shift theory**, Junyong Fang, Xue Liu, Qingxi Tong, Institute of Remote Sensing Applications (China) [7850-15]
- Coffee/Tea Break 10.10 to 10.40

SESSION 4

Room: 303B Tues. 10.40 to 12.00

Algorithm and Data Processing in Imaging

Session Chair: **Hao Zhang**, Tianjin Univ. (China)

- 10.40: **Hyperspectral image data compression based on DSP**, Jiming Fan, Jiankang Zhou, Weimin Shen, Soochow Univ. (China) [7850-16]
- 11.00: **Design and FPGA implementation of graph cuts for fast image segmentation**, Guangqi Hou, Ping Wei, Beijing Institute of Technology (China) [7850-17]
- 11.20: **A new two-point correction algorithm for non-uniformity correction combined with the information of scene**, Ruibin Zou, Beijing Institute of Technology (China) [7850-18]
- 11.40: **Region labeling algorithm based on boundary tracking for binary image**, Chen Li, Zhaofeng Cen, Zhejiang Univ. (China) [7850-19]
- Lunch Break 12.00 to 13.40

SESSION 5

Room: 303B Tues. 13.40 to 15.10

Machine Vision and Ranging by Imaging

Session Chair: Jesse Zheng, Photontech Instruments (Canada)

- 13.40: **3D image registration and fusion of intensity and range data** (*Invited Paper*), Yongchang Hou, Ping Wei, Beijing Institute of Technology (China) [7850-20]
- 14.10: **An embedded three-dimensional profilometry based on a combination of gray-code and phase shifting method**, Dong Li, Jindong Tian, Shenzhen Univ. (China) [7850-22]
- 14.30: **The effect of the status of aircraft on detection accuracy of airborne scanning lidar**, Jie Liu, Tian Lan, Yinchao Zhang, Guoqiang Ni, Beijing Institute of Technology (China) [7850-24]
- 14.50: **Research on Stereo Vision odometry**, Xiaoling Zhang, Baofeng Zhang, Tianjin Univ. of Technology (China) [7850-25]
- Coffee/Tea Break 15.10 to 15.40

SESSION 6

Room: 303B Tues. 15.40 to 17.00

Imaging for Detection and Tracking

- 15.40: **Realtime multispectral imaging-based blood stain seeker**, Sarun Sumriddetchkajorn, National Electronics and Computer Technology Ctr. (Thailand); Suwatwong Janchaysang, Prathan Buranasiri, King Mongkut's Institute of Technology Ladkrabang (Thailand) [7850-26]
- 16.00: **An improved segmentation algorithm to detect moving object in video sequences**, Jinkui Li, Xinzhu Sang, Beijing Univ. of Posts and Telecommunications (China) [7850-27]
- 16.20: **A phase congruency based corner detector for images under different illuminations**, Shun Wang, Yixin Zhang, Xuping Zhang, Nanjing Univ. (China) [7850-28]
- 16.40: **An airport runway centerline location method for one-off imaging system**, Shule Ge, Tingfa Xu, Guoqiang Ni, Xiaoguang Shao, Beijing Institute of Technology (China) [7850-29]

Wednesday 20 October

POSTERS-Wednesday

Hallway Outside Rooms 302-305 Wed. 18.30 to 20.30

- A wireless video monitoring system base on 3G communication technology**, Zhen-Hua Xia, Yangtze Univ. (China) [7850-38]
- Real-time panoramic infrared imaging system based on FPGA**, Haojun Zhang, Shanghai Institute of Technical Physics (China) [7850-39]
- Earth elevation map production and high resolution sensing camera imaging analysis**, Xiubin Yang, Changchun Institute of Optics, Fine Mechanics and Physics (China); Jiang Li, Jilin Univ. (China); Guang Jin, Dai Lu, Kai Xu, Zhang Liu, Changchun Institute of Optics, Fine Mechanics and Physics (China) [7850-40]
- Design of ground-based physical simulation system for satellite-borne TDI-CCD dynamic imaging**, Zhiyuan Sun, Changchun Institute of Optics, Fine Mechanics and Physics (China) [7850-41]
- A big screen projection system based on reflective mirrors with Zernike polynomial surfaces**, Mingxing Liu, Harbin Normal Univ. (China) [7850-42]
- A novel method for real-time edge-enhancement and its application to pattern recognition**, Huayong Ge, Donghua Univ. (China) [7850-43]
- Adaptive optics image restoration based on wavelets and curvelets**, Bo Chen, Guilin Air Force Academy (China) [7850-44]
- PSF estimation for defocusing blur of remote sensing image based on quantum back-propagation neural network**, Kun Gao, Beijing Institute of Technology (China) [7850-45]
- A real-time monitoring system for night glare protection**, Jun Ma, Xuxiang Ni, Zhejiang Univ. (China) [7850-46]

- A novel small area fast block matching algorithm based on high-accuracy gyro in digital image stabilization**, Peng Wang, Yuejin Zhao, Yu Fei, Weiwen Zhu, Guanqing Lang, Liqun Dong, Beijing Institute of Technology (China) [7850-47]
- A fast star image extraction algorithm for autonomous star sensors**, Xifang Zhu, Feng Wu, Changzhou Institute of Technology (China) [7850-48]
- The electronic image stabilization system based on MEMS gyroscope**, Guanqing Lang, Beijing Institute of Technology (China) [7850-49]
- Measurement for opto-electronic conversion functions(OECFs) of digital still-picture camera**, Houping Wu, Ping Li, Yu Wang, National Institute of Metrology (China) [7850-50]
- A LED-array-based range imaging system used for enhancing 3D imaging**, Huanqin Wang, Institute of Intelligent Machines (China); Jun Xu, Deyong He, Tianpeng Zhao, Hai Ming, Univ. of Science and Technology of China (China); Deyi Kong, Institute of Intelligent Machines (China) [7850-51]
- Gimbal displacement degrades the optical axis pointing precision in an image seeker**, Xin Zhang, Qun Wei, Bo Liu, Hongguang Jia, Changchun Institute of Optics, Fine Mechanics and Physics (China) [7850-52]
- A new efficient method for color image compression based on visual attention mechanism**, Xiaoguang Shao, Kun Gao, Guoqiang Ni, Lili Lv, Beijing Institute of Technology (China) [7850-53]
- 3D position measurement using square marker for automatic mobile robot control**, Koji Ohmori, Kunio Sakamoto, Konan Univ. (Japan) [7850-54]
- Virtual vision system with actual flavor by olfactory display**, Fumihiro Kanazawa, Kunio Sakamoto, Konan Univ. (Japan) [7850-55]
- Laser range profile of the sphere**, Yanhui Li, Zhensen Wu, Xidian Univ. (China) [7850-56]
- System simulation of two-dimensional synthetic aperture imaging lidar**, Ning Yi, Zhensen Wu, Xidian Univ. (China) [7850-57]
- The application of principal component analysis in sequence image hiding**, Wen Juan Shuai, Shou Ping Nie, Shao Tong Feng, Nanjing Normal Univ. (China) [7850-58]
- A novel method for eliminating the ICA uncertainties in blind source separation**, Jiajie Zhang, Shao Tong Feng, Shou Ping Nie, Nanjing Normal Univ. (China) [7850-59]
- Brightness adaptive algorithm for image mosaic seamless fusion**, Hongsheng Yu, Beijing Institute of Technology (China) and Huangshi Institute of Technology (China) [7850-60]
- An image enhancement effect objective assessment method based on visual information fidelity**, Xiusheng Liu, Huangshi Institute of Technology (China) [7850-61]
- Signal processing and correction implementation for modulation transfer function test bench**, Yuheng Chen, Xinhua Chen, Chunchang Xiang, Weimin Shen, Soochow Univ. (China) [7850-62]
- An improved centroid detection method based on higher moment for Shack-Hartmann wavefront sensor**, Aili Xia, Caiwen Ma, Xi'an Institute of Optics and Precision Mechanics (China) [7850-63]
- Implementation of realistic image rendition algorithm based on DSP**, Lily Lv, Kun Gao, Guoqiang Ni, Liwei Zhou, Xiaoguang Shao, Beijing Institute of Technology (China) [7850-64]
- Research on signal processing techniques for a chirped amplitude modulation imaging laser radar**, Qianqian Wang, Yang Wang, Beijing Institute of Technology (China) [7850-65]
- Fusion of 3D imaging lidar and binocular stereo vision for improved 3D measurement**, Hongwei Jiao, National Univ. of Defense Technology (China) [7850-66]
- Experimental research for broadband spatial heterodyne spectroscopy**, Yutao Feng, Xi'an Institute of Optics and Precision Mechanics (China) . . . [7850-67]
- Fuzzy synthetic evaluation method for laser jamming to CCD imaging performance**, Yin Xu, Electronic Engineering Institute (China) [7850-68]
- Simulation of laser jamming and its influence on CCD imaging performance**, Yin Xu, Electronic Engineering Institute (China) [7850-69]
- Interactive image segmentation by constrained spectral graph partitioning**, Hao Zhang, Tianjin Univ. (China); Jin He, Tianjin Univ. of Technology and Education (China) [7850-70]

An algorithm for computing extrinsic camera parameters for far-range photogrammetry based on essential matrix, Huimin Cai, Kejie Li, Beijing Institute of Technology (China); Meilian Liu, Beijing Institute of Technology (China) and Beijing Technology and Business Univ. (China); Ping Song, Beijing Institute of Technology (China)[7850-71]

Research on automatic multispectral images synthesis of space camera, Xing-xing Wu, Jin-guo Liu, Huai-de Zhou, Changchun Institute of Optics, Fine Mechanics and Physics (China)[7850-73]

Depth measurement using monocular stereo vision system: aspect of spatial discretization, Xu Zheng, Chengjin Li, Xunjie Zhao, Jiabo Chen, Soochow Univ. (China)[7850-74]

Study on image registration and spectral construction based on eight-channel imaging spectrometer, Jijia Wang, Ningfang Liao, Yusheng Lian, Zilong Liu, Beijing Institute of Technology (China)[7850-75]

Spectral images browsing with JPEG2000, Long Ma, Shenyang Institute of Automation (China)[7850-76]

The research on image encryption method based on parasitic audio watermark, Peipei Gao, Yaoting Zhu, Nankai Univ. (China)[7850-77]

Vision measurement method for impact point in large planar region, Meilian Liu, Beijing Institute of Technology (China) and Beijing Technology and Business Univ. (China); Kejie Li, Huimin Cai, Ping Song, Beijing Institute of Technology (China)[7850-78]

3D modeling method for computer animate based on modified weak structured light, Hanwei Xiong, Guangdong Univ. of Technology (China)[7850-79]

A dynamic model of plants' blossom based on L-system, Ruoran Zhang, Wenhui Zhang, Ying Zhu, Guilin Univ. of Electronic Technology (China)[7850-80]

Effects of laser beam divergence angle on the airborne lidar positioning errors, Lifang Jiang, Tian Lan, Yinchao Zhang, Guoqiang Ni, Beijing Institute of Technology (China)[7850-81]

Parallel computing rendering in specify remote sensing image processing, Bingjing Mao, Bo Xue, Xiaomei Chen, Guoqiang Ni, Beijing Institute of Technology (China)[7850-82]

Analysis of adaptive optics imaging for extended object based on the frequency spectrum entropy, Zhitao Wu, Huizhen Yang, Huaihai Institute of Technology (China)[7850-83]

High dynamic range multispectral imaging using liquid crystal tunable filter, Boneng Tan, Ningfang Liao, Yu Lin, Lixun Tian, Beijing Institute of Technology (China)[7850-84]

Moment characters: Fourier descriptor applied in optoelectronic drop image recognition, Qing Song, Cunwei Zou, Beijing Univ. of Posts and Telecommunications (China)[7850-85]

The optimum configuration of the sub-aperture array based on compressed sensing, Haiyang Wang, Yuesong Jiang, Li Liu, Yuedong Zhang, BeiHang Univ. (China)[7850-86]

Photorealistic texture blending of 3D geometric model, Xingming Liu, Xiaoli Liu, Ameng Li, Xiang Peng, Shenzhen Univ. (China)[7850-87]

A universal noise filter based on neighborhood feature matching, Yinghui Liu, Kun Gao, Guoqiang Ni, Beijing Institute of Technology (China)[7850-88]

Indirect measurement of the penpoint used in an short throw interactive projection system, Qian Zhou, Kai Ni, Liang He, Yuping Lu, Liangjun Chen, Hongfeng Guo, Jianshe Ma, Chunli Zou, Tsinghua Univ. (China)[7850-89]

A location system based on two-dimensional position sensitive detector used in interactive projection systems, Kai Ni, Qian Zhou, Liangjun Chen, Peng Sun, Honglei Xu, Yuan Gao, Jianshe Ma, Tsinghua Univ. (China)[7850-90]

Fuzzy measurement based image testing for oil particles contamination level, Yong Zhang, Chongqing Technology and Business Univ. (China)[7850-91]

Laser pulse scattering from a moving one dimensional rough surface, Mingjun Wang, Xianyang Normal Univ. (China)[7850-92]

Digital camera auto white balance based on color temperature estimation clustering, Lei Zhang, Peng Liu, Yuling Liu, Feihong Yu, Zhejiang Univ. (China)[7850-93]

Blind multiframe deconvolution algorithm for atmospheric turbulence degraded image, Dong-Feng Shi, Anhui Institute of Optics and Fine Mechanics (China)[7850-94]

Image fusion using lifting wavelet transform with human visual features, Xiaobo Gu, Zhenming Peng, Univ. of Electronic Science and Technology of China (China)[7850-95]

Noise influence upon detection precision for optical joint transform correlator, Qi Li, Zhihai Xu, Huajun Feng, Peng Ge, Zhejiang Univ. (China)[7850-96]

Far-field focusing of laser beam based on digital image processing techniques, He-Yong Zhang, Changchun Institute of Optics, Fine Mechanics and Physics (China)[7850-97]

SOPC implementation for stereovision measurement system, Xiaoping Lou, Naiguang Lv, Wenyi Deng, Beijing Information Science and Technology Univ. (China)[7850-98]

Measuring micro displacement based on Moiré fringe, Shaojun Lu, Xi'an Technological Univ. (China)[7850-99]

Automated centreline extraction of neuronal dendrite from optical microscopy image stacks, Liang Xiao, Nanjing Univ. of Science and Technology (China)[7850-101]

An auto multi-threshold segmentation approach of PCB image based on iteration, Jian Feng, Mingli Dong, Beijing Information Science and Technology Univ. (China)[7850-102]

Improvement for exposure time measurement of microchannel plate gated framing camera, Houzhi Cai, Jinyuan Liu, Lihong Niu, Wenda Peng, Li Gu, Hanben Niu, Shenzhen Univ. (China)[7850-103]

SESSION 7

Room: 303B Wed. 08.30 to 10.10

Imaging Systems and Applications

Session Chair: Ping Wei, Beijing Institute of Technology (China)

08.30: **A two-dimensional location method based on digital micromirror device used in interactive projection systems**, Liangjun Chen, Kai Ni, Qian Zhou, Xuemin Cheng, Jianshe Ma, Yuan Gao, Peng Sun, Tsinghua Univ. (China)[7850-30]

08.50: **The research on the reconstruction of intensity image based on streak tube imaging lidar**, Chenning Ma, Beijing Institute of Technology (China)[7850-31]

09.10: **An algorithm of electronic image stabilization suitable for hardware implementation**, Pengsha Zuo, Ping Wei, Beijing Institute of Technology (China)[7850-32]

09.30: **Counter Sniper: a localization system based on dual thermal imager**, Yuqing He, Zheng Wu, Weiqi Jin, Benfang Du, Beijing Institute of Technology (China)[7850-33]

09.50: **Forensic inspection of document using visible and near-infrared spectral imaging**, Wei Huang, Guiqiang Wang, Xiaojing Xu, Tao Yu, Zhicheng Yang, Institute of Forensic Science (China)[7850-34]

Coffee/Tea Break 10.10 to 10.40

SESSION 8

Room: 303B Wed. 10.40 to 11.40

Spectrometric Techniques in Imaging

Session Chair: Toru Yoshizawa, Saitama Medical Univ. (Japan)

10.40: **The research about the calibration of the spectral radiance at the exit of integral sphere**, Fang Zhang, Xi'an Institute of Applied Optics (China)[7850-35]

11.00: **Low cost web-camera based optical spectrometers**, Sarun Sumriddetchkajorn, National Electronics and Computer Technology Ctr. (Thailand)[7850-36]

11.20: **Interference efficiency of thermal infrared imaging Fourier transform spectrometer**, Xiangguo Xiao, Xi'an Jiaotong Univ. (China) and Xi'an Institute of Applied Optics (China); Jiaobo Gao, Xi'an Institute of Applied Optics (China)[7850-37]

Information Optics and Optical Data Storage

Conference Chairs: **Feijun Song**, China Daheng Group, Inc. (China); **Shiquan Tao**, Beijing Univ. of Technology (China); **Francis T. S. Yu**, The Pennsylvania State Univ. (USA); **Suganda Jutamulia**, Univ. of Northern California (USA); **Kees A. Schouhamer Immink**, Royal Netherlands Academy of Sciences (Netherlands); **Keiji Shono**, Fujitsu Labs. Ltd. (Japan)

Program Committee: **David D. Chen**, Philips Research East Asia (China); **Chong Tow Chong**, National Univ. of Singapore (Singapore); **Fuxi Gan**, Shanghai Institute of Optics and Fine Mechanics (China); **Qingsheng He**, Tsinghua Univ. (China); **Ken-Yuh Hsu**, National Chiao Tung Univ. (Taiwan, China); **Ming Ju Huang**, Henan Univ. (China); **Kazuyoshi Itoh**, Osaka Univ. (Japan); **Ken-ichi Itoh**, Fujitsu Labs. Ltd. (Japan); **Soo-Gil Kim**, Hoseo Univ. (Korea, Republic of); **Byoung-ho Lee**, Seoul National Univ. (Korea, Republic of); **Takeshi Matsui**, Ricoh Co., Ltd. (Japan); **Takeo Ohta**, Ovonic Phase Change Institute (Japan); **Yoshihiro Okino**, Kansai Univ. (Japan); **Longfa Pan**, Tsinghua Univ. (China); **No-Cheol Park**, Yonsei Univ. (Korea, Republic of); **Ailun Rong**, Beijing Univ. of Aeronautics and Astronautics (China); **H. Sadik**, Call/Recall, Inc. (USA); **Sar Sardy**, Indonesia Univ. (Indonesia); **Luping P. Shi**, A*STAR - Data Storage Institute (Singapore); **Han-Ping David Shieh**, National Chiao Tung Univ. (Taiwan, China); **Kehar Singh**, Indian Institute of Technology Delhi (India); **Xiudong Sun**, Harbin Institute of Technology (China); **Yu-Nan Sun**, Beijing Institute of Technology (China); **Motoyasu Terao**, Hitachi, Ltd. (Japan); **Din Ping Tsai**, National Taiwan Univ. (Taiwan, China); **Kiichi Ueyanagi**, Fuji Xerox Co., Ltd. (Japan); **Jun Uozumi**, Hokkai-Gakuen Univ. (Japan); **Paul Weijenbergh**, Philips Research Labs. (Netherlands); **Joewono Widjaja**, Suranaree Univ. of Technology (Thailand); **Pochi Yeh**, Univ. of California, Santa Barbara (USA); **Shizhuo Yin**, The Pennsylvania State Univ. (USA)

Monday 18 October

SESSION 3

Opening Ceremony and Plenary Session. Mon. 08.30 to 12.00
8.30: Opening Ceremony
9.00: Fibre Optic Systems for Gas Detection: Progress and Prospects , Brian Culshaw, Univ. of Strathclyde (United Kingdom)
9.30: Optical Tweezers Based Micro-rheology , Arthur Chiou, National Yang Ming Univ. (Taiwan, China)
Coffee/Tea Break 10:00 to 10:30 am
10.30: Integration and Function Enhancements of Planar Lightwave Circuits (PLCs) for Optical Communication , Ray T. Chen, The Univ. of Texas, Austin (United States)
11.00: Modern Optical System Design: Holistic Optimization of Innovative Design Concepts , Willi Ulrich, Carl Zeiss AG (Germany)
11.30: Index Guiding Microstructured Fibers and its Applications , Libo Yuan, Photonics Research Ctr., Harbin Engineering Univ. (China)

Lunch Break 12.00 to 13.30

Room: 207 Mon. 13.30 to 15.35

Neural Processors and Correlators

Session Chair: **Feijun Song**, China Daheng Group, Inc. (China)

13.30: Development of the compact opto-electronic integrated neural (COIN) co-processor (<i>Invited Paper</i>), Cardinal Warde, William Herrington, Massachusetts Institute of Technology (United States) [7851-01]
13.55: Hyperspectral sensing and real-time pattern classification (<i>Invited Paper</i>), Tien-Hsin Chao, Jet Propulsion Lab. (United States) [7851-02]
14.20: Rotation-invariant scene matching with multi-sample parallel estimation in volume holographic correlator , Shunli Wang, Liangcai Cao, Xiquan Niu, Qingsheng He, Guofan Jin, Tsinghua Univ. (China) [7851-04]

SESSION 2

Room: 207 Mon. 14.35 to 15.15

Fiber Sensor

Session Chair: **Feijun Song**, China Daheng Group, Inc. (China)

14.35: Fiber sensors for molecular detection (<i>Invited Paper</i>), Claire Gu, Univ. of California, Santa Cruz (United States) [7851-05]
15.00: A novel down-hole fiber optic sensors with high temperature and pressure based on Fabry-Perot cavity and fiber Bragg gratings , Yong Wang, China Univ. of Petroleum (China) [7851-06]
Coffee/Tea Break 15.15 to 15.45

Room: 207 Mon. 15.45 to 17.20

Phase Retrieval and Optical Encryption

Session Chair: **Suganda Jutamulia**, Univ. of Northern California (USA)

15.45: Comparison of two-dimensional phase retrieval methods from single interference fringe pattern (<i>Invited Paper</i>), Huang Lei, Kemao Qian, Anand K. Asundi, Nanyang Technological Univ. (Singapore) [7851-07]
16.10: Holographic image encryption using random phase mask (<i>Invited Paper</i>), Joewono Widjaja, Suranaree Univ. of Technology (Thailand) [7851-08]
16.35: Color image encryption based on joint fractional Fourier transform correlator and phase retrieval algorithm , Ding Lu, Weimin Jin, Zhejiang Normal Univ. (China) [7851-09]
16.50: Optical image encryption with a polarization-selective diffractive optical element based on interference , Nan Zhu, Yongtian Wang, Juan Liu, Jinghui Xie, Beijing Institute of Technology (China) [7851-10]
17.05: Research on optical hash function , Wenqi He, Xiang Peng, Xiangfeng Meng, Qin Wan, Shenzhen Univ. (China) [7851-11]

Tuesday 19 October

SESSION 4

Room: 207 Tues. 08.20 to 10.10

Optical Storage

Session Chair: **Shiquan Tao**, Beijing Univ. of Technology (China)

08.20: Retardagraphy: a new polarization recording method and its applications (<i>Invited Paper</i>), Toyohiko Yatagai, Daisuke Barada, Utsunomiya Univ. (Japan) [7851-12]
08.45: Plasmonic technologies for data storage (<i>Invited Paper</i>), Byoung-ho Lee, Seyoon Kim, Il-Min Lee, Dongho Oh, Seoul National Univ. (Korea, Republic of) [7851-13]
09.10: The feasibility research on phase-shift multiplexing for holographic storage , Wei Song, Shiquan Tao, Beijing Univ. of Technology (China) [7851-14]
09.25: Fabrication and properties of random phase-shifter for holographic speckle-shift multiplexing , Qianli Zhai, Shiquan Tao, Beijing Univ. of Technology (China) [7851-15]
09.40: CLV control system for CBHD spindle motor , Yingchao Cui, Xuemin Cheng, Jianshe Ma, Xinnan Hou, Tsinghua Univ. (China) [7851-16]
09.55: Servo control system construction for CBHD radial and axial tracking , Yingchao Cui, Xuemin Cheng, Jianshe Ma, Dingru Chen, Tsinghua Univ. (China) [7851-17]
Coffee/Tea Break 10.10 to 10.40

SESSION 5

Room: 207 Tues. 10.40 to 12.25

Holography and THz Wave

Session Chair: Joewono Widjaja,
Suranaree Univ. of Technology (Thailand)

- 10.40: **SHOT: single-beam holographic tomography** (*Invited Paper*), Georges T. Nehmetallah, Partha P. Banerjee, Univ. of Dayton (United States) [7851-18]
- 11.05: **Real-time measurement of the full spatiotemporal field of a single Terahertz pulse by pulsed digital holography** (*Invited Paper*), Xiaolei Wang, Hongchen Zhai, Nankai Univ. (China) [7851-19]
- 11.30: **High efficiency THz wave generation and application** (*Invited Paper*), Mengku Cheng, Yaohui Gao, Mei Hao, Chao Wang, Shizhuo Yin, The Pennsylvania State Univ. (United States) [7851-20]
- 11.55: **The generation of nondiffracting beams array with arbitrary order by phase holograms**, Mingxi Hu, Ruisong Wang, Jindong Tian, Dong Li, Shenzhen Univ. (China) [7851-21]
- 12.10: **Polarization readout characteristics of electric-controlled holographic Bragg grating in photorefractive crystal**, Yuhong Wan, Shiquan Tao, Beijing Univ. of Technology (China) [7851-22]
- Lunch Break 12.25 to 14.00

SESSION 6

Room: 207 Tues. 14.00 to 14.40

Medical Applications

Session Chair: Shizhuo Yin, The Pennsylvania State Univ. (USA)

- 14.00: **Skin image reconstruction using Monte Carlo based color generation** (*Invited Paper*), Yoshihisa Aizu, Takaaki Maeda, Muroran Institute of Technology (Japan); Tomohiro Kuwahara, Tetsuji Hirao, Shiseido Co., Ltd. (Japan) [7851-23]
- 14.25: **Lasers in light skin interaction**, Benny Chan, Suganda Jutamulia, Univ. of Northern California (United States) [7851-24]

SESSION 7

Room: 207 Tues. 14.40 to 15.25

Fiber Bragg Grating

Session Chair: Shizhuo Yin, The Pennsylvania State Univ. (USA)

- 14.40: **Fabricating triangular fiber Bragg grating using nonlinear one step method**, Qian Zhou, Tigang Ning, Jing Li, Pei Li, Xudong Hu, Jingjing Zheng, Chunhui Qi, Beijing Jiaotong Univ. (China) [7851-25]
- 14.55: **Analysis of the transmission properties of mechanically induced long-period fiber grating**, Yajun Jiang, Jianlin Zhao, Dexing Yang, Daqing Tang, Northwestern Polytechnical Univ. (China) [7851-26]
- 15.10: **Tunable chromatic dispersion compensating in 40-Gbit/s system by an enhanced thermal chirped fiber Bragg grating**, Kangping Zhong, Nan Jia, Tangjun Li, Muguang Wang, Jianfeng Chi, Jian Sun, Jingtian Wang, Beijing Jiaotong Univ. (China) [7851-27]
- Coffee/Tea Break 15.25 to 16.00

SESSION 8

Room: 207 Tues. 16.00 to 17.15

EM Wave, Beam, and Signal

Session Chair: Suganda Jutamulia, Univ. of Northern California (USA)

- 16.00: **Faced folded rods as nano-antenna for optical devices**, Taerin Chung, Seoul National Univ. (Korea, Republic of); Jinyoung Choi, Sejong Univ. (Korea, Republic of); Il-Min Lee, Seoul National Univ. (Korea, Republic of); Kyoung-Youm Kim, Sejong Univ. (Korea, Republic of); Byoung-ho Lee, Seoul National Univ. (Korea, Republic of) [7851-28]
- 16.15: **Analysis on divergence half-angle of Gaussian approximation for the far-field of planar waveguide**, Lianhuang Li, Fuyuan Guo, Fujian Normal Univ. (China) [7851-29]
- 16.30: **Numerical simulation of slow light in the semiconductor optical amplifier**, Miaomiao Hu, Zhaoying Wang, Lei Zhang, Tianjin Univ. (China) [7851-30]
- 16.45: **Study on the non-paraxial beam parameters of single-mode fiber**, Lianhuang Li, Fuyuan Guo, Fujian Normal Univ. (China) [7851-31]
- 17.00: **A novel Simultaneous demultiplexing and clock recovery unit for high speed OTDM system**, Kangping Zhong, Nan Jia, Tangjun Li, Muguang Wang, Jianfeng Chi, Jian Sun, Jingtian Wang, Beijing Jiaotong Univ. (China) [7851-32]

POSTERS-Tuesday

Hallway Outside Rooms 302-305 Tues. 18.30 to 20.30

- Crosstalk cancellation of differential readout technology for Super-RENS disc system**, Wenhua Hu, Xiujian Li, Jiankun Yang, Yongmin Nie, National Univ. of Defense Technology (China) [7851-33]
- Theoretical investigation of the fixing phase in two-center holographic recording**, Xiong Li, Beijing Technology and Business Univ. (China); Zhuqing Jiang, Beijing Univ. of Technology (China); Denghui Xu, Hailang Ju, Baohe Li, Beijing Technology and Business Univ. (China) [7851-34]
- Theoretical studies for volume computerized tomography based on optical interferometry**, Nan Sun, Nanjing Univ. of Science and Technology (China) [7851-35]
- Characters of reflecting holographic volume grating in photosensitive-refractive glass**, Lin Lin, Yuhong Wan, Nan Yang, Guoqing Liu, Shiquan Tao, Beijing Univ. of Technology (China) [7851-36]
- The error analysis of the discrete layer peeping algorithm for fiber Bragg grating synthesis**, Xuelian Yu, Harbin Institute of Technology (China) and Harbin Univ. of Science and Technology (China); Chao Liu, Yong Yao, Harbin Institute of Technology (China) [7851-37]
- Optical implementation for adaptive beamforming of array antenna**, Ming Liu, Nanjing Univ. of Science and Technology (China) [7851-38]
- Analysis of holographic grating formation in photopolymer with a dynamic diffusion model**, Tao Zhang, Qiqihar Univ. (China); Shiquan Tao, Beijing Univ. of Technology (China); Qinan Li, Qiqihar Univ. (China) [7851-39]
- Holographic storage characteristics of red-sensitive photopolymer sensitized by Azure II**, Jianbin Xu, Jianqun Cheng, Sulian Wang, Yan Wang, Mingju Huang, Henan Univ. (China) [7851-40]
- Analysis of wavelength margin and defocus margin for collinear holographic storage system**, Jianhua Li, Liangcai Cao, Xiaodi Tan, Qingsheng He, Guofan Jin, Tsinghua Univ. (China) [7851-41]
- The intrinsic function theory of imaging system and its application in micro-projection display design**, Lijuan Wang, Yan Huang, Gaoming Li, Yishen Qiu, Fujian Normal Univ. (China) [7851-42]
- Optical Hilbert transform using fiber Bragg gratings**, Jing Ge, Chinhua Wang, Xiaojun Zhu, Soochow Univ. (China) [7851-43]
- Bandpass filters based on cascaded long-period fiber gratings and its application in laser mode locking in normal dispersive regime**, Xiaojun Zhu, Dongfeng Liu, Chinhua Wang, Jing Ge, Soochow Univ. (China) [7851-44]
- Simulation of tunable buffer and gain capability in 2D quasiperiodic photonic crystal slabs**, Xiao Chen, Yiquan Wang, Minzu Univ. of China (China) [7851-45]
- Correlation between the optical pickup electrical evaluator and spot aberration measurement system**, Xuemin Cheng, Jianshe Ma, Yingchao Cui, Zhiqing Zhang, Hanzhong Liao, Tsinghua Univ. (China) [7851-46]
- Signal quality improvement of holographic data storage by adaptive two-dimensional filter**, Yosuke Takahata, Yo Kondo, Shuhei Yoshida, Manabu Yamamoto, Tokyo Univ. of Science (Japan) [7851-47]
- Evaluation method of an influence of wavefront aberration on signal quality in holographic memory**, Kensuke Akieda, Akihito Nakajima, Tomohiro Ohori, Kiyoto Katakura, Manabu Yamamoto, Tokyo Univ. of Science (Japan) [7851-48]
- Measuring diameter distribution of fibers based on image analysis**, Maoluan Ding, Wei Song, Shiquan Tao, Beijing Univ. of Technology (China) [7851-49]

LED and Display Technologies

Conference Chairs: **Gang Yu**, Cbrite Inc. (USA); **Yanbing Hou**, Beijing Jiaotong Univ. (China)

Program Committee: **Donal D. C. Bradley**, Imperial College London (United Kingdom); **Youmei Dong**, BOE Technology Group Co., Ltd. (China); **Bin Hu**, The Univ. of Tennessee (USA); **Wei Huang**, Nanjing Univ. of Posts and Telecommunications (China); **Fengyi Jiang**, Nanchang Univ. (China); **Hoi Sing Kwok**, Hong Kong Univ. of Science and Technology (Hong Kong, China); **Liangsheng Liao**, Soochow Univ. (China); **Shi-Yong Liu**, Jilin Univ. (China); **Yunqi Liu**, Institute of Chemistry (China); **Junbiao Peng**, South China Univ. of Technology (China); **Jun Ruan**, China Solid State Lighting Alliance (China); **Yong Qiu**, Tsinghua Univ. (China); **Xiaowei Sun**, Nanyang Technological Univ. (Singapore); **Baoping Wang**, Southeast Univ. (China); **Lixiang Wang**, Changchun Institute of Applied Chemistry (China); **Xingwei Wu**, iFire Technology Ltd. (Canada); **Zhiguo Xiao**, Luming Science and Technology Group (China); **Ningsheng Xu**, Sun Yat-Sen Univ. (China); **Guoyi Zhang**, Peking Univ. (China)

Monday 18 October

Opening Ceremony and Plenary Session. Mon. 08.30 to 12.00

- 8.30: Opening Ceremony
- 9.00: **Fibre Optic Systems for Gas Detection: Progress and Prospects**, Brian Culshaw, Univ. of Strathclyde (United Kingdom)
- 9.30: **Optical Tweezers Based Micro-rheology**, Arthur Chiou, National Yang Ming Univ. (Taiwan, China)
- Coffee/Tea Break 10:00 to 10:30 am
- 10.30: **Integration and Function Enhancements of Planar Lightwave Circuits (PLCs) for Optical Communication**, Ray T. Chen, The Univ. of Texas, Austin (United States)
- 11.00: **Modern Optical System Design: Holistic Optimization of Innovative Design Concepts**, Willi Ulrich, Carl Zeiss AG (Germany)
- 11.30: **Index Guiding Microstructured Fibers and its Applications**, Libo Yuan, Photonics Research Ctr., Harbin Engineering Univ. (China)

Lunch Break 12.00 to 13.30

SESSION 1

Room: 305 Mon. 13.30 to 17.00

Display Session

Session Chairs: **Gang Yu**, Cbrite Inc. (USA); **Yanbing Hou**, Beijing Jiaotong Univ. (China)

- 13.30: **Various tunable PCs/quasi-PCs structures fabricated by reconfigurable interference system** (Invited Paper), HaiTao Dai, Xiaowei Sun, Dan Luo, Nanyang Technological Univ. (Singapore) [7852-01]
- 14.00: **Design and fabrication of ultra-slim light guide for LCD backlights** (Invited Paper), Zongbao Fang, Xiaohong Zhou, Linsen Chen, Soochow Univ. (China) [7852-02]
- 14.30: **Design of multilayer light guide films for mobile keypad**, Xiaohong Zhou, Linsen Chen, Soochow Univ. (China) [7852-03]
- 14.50: **Evaluating the uniformity of color space and the performance of color difference formula**, Lian Yusheng, Beijing Institute of Technology (China) [7852-04]
- Coffee/Tea Break 15.10 to 15.40
- 15.40: **A novel coupling structure for large size LCD backlight system**, Yongmin Shi, Tsinghua Univ. (China) and Qiaofeng Tan (China) [7852-05]
- 16.00: **The technology of multiuser large display area and auto free-viewing stereoscopic display**, Tianqi Zhao, He-Ling Zhang, Jing Han, Capital Normal Univ. (China) [7852-06]
- 16.20: **LED**, Lihua Zhang, Beijing Normal Univ. (China) [7852-08]
- 16.40: **The influence on spectrum parameters for high power LEDs with current**, Fengjuan Ren, Henan Polytechnic Univ. (China) [7852-09]

Tuesday 19 October

SESSION 2

Room: 305 Tues. 08.30 to 12.20

LED Session

Session Chair: **Hong Wang**, South China Univ. of Technology (China)

- 08.30: **LED white lights with high CRI and high luminous efficacy** (Invited Paper), Guoxing He, Lihong Zheng, Donghua Univ. (China) [7852-10]
- 09.00: **A kind of side-emitting LED backlight light guide panel net dot design method** (Invited Paper), Hong Wang, Lingling Ji, Chuanfang Liu, Wei Zhang, South China Univ. of Technology (China) [7852-11]
- 09.30: **LED light source and secondary optical design for the efficient energy delivering on optogenetic experiment**, Chung-Jen Ou, Hsiuping Institute of Technology (Taiwan, China) [7852-12]
- 09.50: **Design of precision approach path indicator with LEDs as its light sources**, Haiping Shen, Xiaoli Zhou, Wanlu Zhang, Fudan Univ. (China); Jiangan Pan, Everfine Photo-E-Info Co., Ltd. (China); Muqing Liu, Fudan Univ. (China) [7852-13]
- Coffee/Tea Break 10.10 to 10.40
- 10.40: **Tuning the emission wavelength of InGaN-based light-emitting diodes using strain-accommodative structures**, Xiaoli Wang, Haiqiang Jia, Hui Li, Chen Ming Dong, Tao He, LongGui Dai, Hong Chen, Institute of Physics (China) [7852-14]
- 11.00: **High illuminance light-emitting diode headlight for medical applications**, Ui-Hyung Lee, Young-Gu Ju, Kyungpook National Univ. (Korea, Republic of) [7852-15]
- 11.20: **Study of key technologies of visible light communications based on white LED**, De En, Ningbo Zhang, Jieyu Feng, Ningning Wang, Xiaobin Wang, Henan Polytechnic Univ. (China) [7852-16]
- 11.40: **Three-chip LED illumination system for laparoscopy and minimal access surgery applications**, Bin Ye, Liqiang Wang, Huilong Duan, Zhejiang Univ. (China) [7852-17]
- 12.00: **The cinema LED lighting system design based on SCM**, De En, Xiaobin Wang, Jieyu Feng, Ningning Wang, Ningbo Zhang, Henan Polytechnic Univ. (China) [7852-18]
- Lunch Break 12.20 to 13.50

SESSION 3

Room: 305 Tues. 13.50 to 17.20

OLED Session

Session Chairs: **Zhaoxin Wu**, Xi'an Jiaotong Univ. (China); **Xianyu Deng**, Harbin Institute of Technology (China)

- 13.50: **Full color polymer light-emitting diode arrays with photo-patterning process** (Invited Paper), Xianyu Deng, Harbin Institute of Technology (China) [7852-19]
- 14.20: **N-type doping in organic electronic devices** (Invited Paper), Lixin Xiao, Jiaxiu Luo, Zhijian Chen, Bo Qu, Qihuang Gong, Peking Univ. (China) [7852-20]
- 14.50: **Growth of SnO₂ thin films by MOCVD and the electroluminescence from the SnO₂/n⁺-Si heterojunction**, Junliang Zhao, Tianjin Univ. (China) [7852-21]
- 15.10: **An electron transporting blue emitter for OLED**, Boyuan Qi, Jiaxiu Luo, Lixin Xiao, Peking Univ. (China); Suyue Li, Wenfang Sun, North Dakota State Univ. (United States); Zhijian Chen, Qihuang Gong, Peking Univ. (China) [7852-22]
- Coffee/Tea Break 15.30 to 16.00

- 16.00: **Polymer flat panel displays made by all-printing process**, Wei Xu, Hua Zheng, Yina Zheng, Wang Lei, Jian Wang, Junbiao Peng, Yong Cao, South China Univ. of Technology (China)[7852-23]
- 16.20: **The escaped and trapped emission in organic light-emitting devices**, Zhaoxin Wu, Shixiong Liang, Bo Jiao, Xun Hou, Xi'an Jiaotong Univ. (China)[7852-24]
- 16.40: **Solution processable highly efficient OLEDs based on triphenylamine-benzimidazole derivatives**, Ziyi Ge, Ningbo Institute of Technology (China)[7852-25]
- 17.00: **AES**, Yanbing Hou, Bo Zhang, Bing Hu, Feng Teng, Xiaojun Liu, Zhidong Lou, Beijing Jiaotong Univ. (China)[7852-26]

POSTERS-Tuesday

Hallway Outside Rooms 302-305 Tues. 18.30 to 20.30

- First principles calculations of electronic and optical properties of $Zn_{1-x}(TM)_xO$ (TM=Mg,Cd)**, Peng Chen, Huiqing Sun, South China Normal Univ. (China)[7852-27]
- Study on high-power LED heat dissipation based on printed circuit board (PCB)**, Yi-Wei Wang, Tianjin Polytechnic Univ. (China)[7852-28]
- Fault diagnosis in LED illuminating circuits based on cloud model**, Qi Liu, Hebei Univ. of Technology (China) and Tianjin Institute of Urban Construction (China); Hong-Dong Zhao, Jie Zhao, Hebei Univ. of Technology (China). [7852-29]
- Monocular 3D display unit using soft actuator for parallax image shift**, Yuuki Kodama, Kunio Sakamoto, Konan Univ. (Japan)[7852-30]
- Invisible code display for robots' eye communication using polarization control by LCD panel**, Takeru Furukawa, Kunio Sakamoto, Konan Univ. (Japan).[7852-31]
- A design of LED adaptive dimming lighting system based on incremental PID controller**, Xiangyan He, Zexin Xiao, Shaojia He, Guilin Univ. of Electronic Technology (China)[7852-32]
- Investigation of optimization of layer thickness in bilayer organic light emitting diodes with ohmic contacts**, Xiao Han, Zhi Qun He, Beijing Jiaotong Univ. (China)[7852-33]
- FDTD investigation of light extraction effect of LED by randomly distributed square posts**, Juan Song, Shanghai Institute of Optics and Fine Mechanics (China)[7852-34]
- Electronic structure and spectroscopic property of a novel iridium (III) complex with an ancillary ligand 2-(4-trifluoromethyl -2-hydroxyphenyl) benzothiazole**, Liping Lei, Taiyuan Univ. of Technology (China)[7852-35]
- Vibronic coupling parameters and luminescent properties of Eu^{2+} doped complex alkaline earth thioaluminates**, Dong-pu Zhang, Wei Xue, Zhi-nong Yu, Ting Zhang, Yu-rong Jiang, Jian Leng, Xiang-jun Kong, Beijing Institute of Technology (China)[7852-36]
- The effect of different color temperature lighting sources on road lighting: from mesopic light levels angle**, Xuan Li, Jin Shang Zhong, China Jiliang Univ. (China)[7852-37]
- white light LED based on YAG:Ce³⁺ phosphor and quantum dots**, Li Ke, Chengyu Shen, China Jiliang Univ. (China)[7852-38]
- The investigation of the light outcoupling in the blue top-emitting OLED**, Lingling Deng, Shufen Chen, Wei Huang, Nanjing Univ. of Posts and Telecommunications (China); Bin Liu, Nanjing Univ. of Posts and Telecommunications (China) and Nanjing University of Posts and Telecommunications (China)[7852-39]

Theoretical study the conductivity of Y doped in ZnO, Lanli Chen, Zhihua Xiong, Jiangxi Science and Technology Normal Univ. (China)[7852-40]

A large size RGB LED BLU LCD display and its imaging management, Wei Huang, Yu Liu, Liangzhong Jin, Minjie Li, Feng Li, Suzhou Institute of Nano-tech and Nano-bionics (China); Hai Ming, Univ. of Science and Technology of China (China)[7852-41]

Synthesis and luminescent properties assessment of Eu-doping barium thioaluminates material, Dong-pu Zhang, Zhi-nong Yu, Wei Xue, Ting Zhang, Yu-rong Jiang, Jian Leng, Xiang-jun Kong, Beijing Institute of Technology (China)[7852-42]

High brightness green light-emitting diode based on silole-containing polyfluorenes, Zhitian Liu, Nanjing Univ. of Science and Technology (China); Shuangquan Wu, Shuangqiang Hu, Zhao Hu, Jun Yang, Wuhan Institute of Technology (China)[7852-43]

Investigation of hole injection characteristics in NPB/AIQ heterojunction devices, Denghui Xu, Xiong Li, Beijing Technology and Business Univ. (China); Zhaoyue Lv, Ye Zou, Zhenbo Deng, Beijing Jiaotong Univ. (China) [7852-44]

Power saving back light module with optics and light pipe, Yi-Chin Fang, Jyh-Cheng Yu, Cheng-Hsien Huang, Bo-Ren Hsueh, Shen-Fu Wang, National Kaohsiung First Univ. of Science and Technology (Taiwan)[7852-45]

Thermal analysis of packaging materials for high-power white light LED, Li Ke, China Jiliang Univ. (China)[7852-46]

The ferroelectric liquid analysis Of LCoS, Lifang Hao, Bin Lin, Zhejiang Univ. (China)[7852-47]

Effect of BCP layer on electroluminescent performances in blue top-emitting organic light-emitting devices, Jun Xie, Shufen Chen, Quli Fan, Yang Yang, Wei Huang, Nanjing Univ. of Posts and Telecommunications (China). [7852-48]

Free-form lens design for LED indoor illumination, Kuang-Lung Huang, MingDao Univ. (Taiwan); Jin-Jia Chen, Te-Yuan Wang, Li-Lin Huang, National Changhua Univ. of Education (Taiwan)[7852-49]

Research at the interface between Cs_2CO_3 and electron transport materials in OLEDs, Jiarong Lian, Yawei Liu, Fangfang Niu, Pengju Zeng, Hanben Niu, Shenzhen Univ. (China)[7852-50]

Study on improvement of OLEDs properties with anti-reflection coatings, Chun-ling Liu, Dongmei Wang, lei zhao, Wenlong Jiang, Zheng-Kun Qin, Chun-Wu Wang, Jilin Normal Univ. (China). [7852-51]

Study on improvement of OLEDs properties with the AlN insulating layer, Chun-ling Liu, Jin Wang, Chun-Wu Wang, Lei Zhao, Wenlong Jiang, Jilin Normal Univ. (China)[7852-52]

Effect of chip junction temperature on the performance parameters and life time of high-power LED, Jijun Li, Lihua Zhang, Inner Mongolia Univ. (Mongolia); Anxiang Wang, Xi'an Polytechnic Univ. (China); Yuqin Guan, Inner Mongolia Univ. (Mongolia); Chunwang Zhao, Inner Mongolia Polytechnic Univ. (Mongolia)[7852-53]

Synthesis of Eu^{3+} doped silicate phosphor by sol-combustion method, Xu Li, Guan Li, Litao Jin, Guoqi Jia, Zhiping Yang, Guangsheng Fu, Hebei Univ. (China)[7852-54]

Study on the luminescent properties of Tb^{3+} doped pyrosilicate phosphor, Guan Li, Xu Li, Litao Jin, Guoqi Jia, Zhiping Yang, Guangsheng Fu, Hebei Univ. (China)[7852-55]

Advanced Sensor Systems and Applications IV

Conference Chairs: **Brian Culshaw**, Univ. of Strathclyde (United Kingdom); **Yanbiao Liao**, Tsinghua Univ. (China); **Anbo Wang**, Virginia Polytechnic Institute and State Univ. (USA); **Xiaoyi Bao**, Univ. of Ottawa (Canada); **Xudong Fan**, Univ. of Michigan (USA); **Lin Zhang**, Aston Univ. (United Kingdom)

Program Committee: **Weihong Bi**, Yanshan Univ. (China); **Rongshen Chen**, The Univ. of Birmingham (United Kingdom); **Weimin Chen**, Chongqing Univ. (China); **Zhe Chen**, Jinan Univ. (China); **Kin-Seng Chiang**, City Univ. of Hong Kong (Hong Kong, China); **Fajie Duan**, Tianjin Univ. (China); **Claire Gu**, Univ. of California, Santa Cruz (USA); **Shibin Jiang**, NP Photonics, Inc. (USA); **Wei Jin**, The Hong Kong Polytechnic Univ. (Hong Kong, China); **ByoungHo Lee**, Seoul National Univ. (Korea, Republic of); **Tiegen Liu**, Tianjin Univ. (China); **José Miguel López-Higuera**, Univ. de Cantabria (Spain); **Alexis Mendez**, MCH Engineering LLC (USA); **Anna Grazia Mignani**, Istituto di Fisica Applicata Nello Carrara (Italy); **Gang-Ding Peng**, The Univ. of New South Wales (Australia); **Yun-Jiang Rao**, Univ. of Electronic Science and Technology of China (China); **David D. Sampson**, The Univ. of Western Australia (Australia); **José Luís Santos**, Univ. do Porto (Portugal); **Tingyun Wang**, Shanghai Univ. (China); **Reinhardt Willsch**, IPHT Jena (Germany); **Hai Xiao**, Univ. of Missouri (USA); **Libo Yuan**, Harbin Engineering Univ. (China)

Monday 18 October

Opening Ceremony and Plenary Session. Mon. 08.30 to 12.00

- 8.30: Opening Ceremony
- 9.00: **Fibre Optic Systems for Gas Detection: Progress and Prospects**, Brian Culshaw, Univ. of Strathclyde (United Kingdom)
- 9.30: **Optical Tweezers Based Micro-rheology**, Arthur Chiou, National Yang Ming Univ. (Taiwan, China)
- Coffee/Tea Break 10:00 to 10:30 am
- 10.30: **Integration and Function Enhancements of Planar Lightwave Circuits (PLCs) for Optical Communication**, Ray T. Chen, The Univ. of Texas, Austin (United States)
- 11.00: **Modern Optical System Design: Holistic Optimization of Innovative Design Concepts**, Willi Ulrich, Carl Zeiss AG (Germany)
- 11.30: **Index Guiding Microstructured Fibers and its Applications**, Libo Yuan, Photonics Research Ctr., Harbin Engineering Univ. (China)

Lunch Break 12.00 to 13.30

SESSION 1

Room: 209 A+B Mon. 13.30 to 15.00

Session Chairs: **ByoungHo Lee**, Seoul National Univ. (Korea, Republic of); **Yuanhong Yang**, BeiHang Univ. (China)

- 13.30: **Overview of plasmonic sensors and their design methods** (*Invited Paper*), ByoungHo Lee, Sookyoung Roh, Taerin Chung, Seoul National Univ. (Korea, Republic of) [7853-01]
- 14.00: **Mid-infrared surface plasmon excitation on highly doped silicon and conducting ceramic materials**, Jianjun Lai, Huazhong Univ. of Science and Technology (China) [7853-02]
- 14.20: **CCD fiber Bragg grating sensor demodulation system based on FPGA**, Qian Zhou, Tigang Ning, Beijing Jiaotong Univ. (China) [7853-03]
- 14.40: **Dynamical analysis of evanescent field loss based fiber laser sensing**, Lei Jing, Jianquan Yao, Tianjin Univ. (China) [7853-04]
- 15.00: **Comparison of three temperature control systems applications for a special homemade shortwave infrared spatial remote sensor**, Zhipeng Xu, Jun Wei, Jianwei Li, Qianting Zhou, Shanghai Institute of Technical Physics (China) [7853-05]

Coffee/Tea Break 15.00 to 15.30

SESSION 2

Room: 209 A+B Mon. 15.30 to 17.40

Session Chairs: **ByoungHo Lee**, Seoul National Univ. (Korea, Republic of); **Yuanhong Yang**, BeiHang Univ. (China)

- 15.30: **High performance FBG interrogation technology with scan fiber laser** (*Invited Paper*), Yuanhong Yang, Youchun Ma, Minwei Yang, BeiHang Univ. (China) [7853-06]
- 16.00: **Porous silicon based resonant grating filters for biochemical sensing applications**, Xiao-Yi Lv, Xinjiang Univ. (China) and Xi'an Jiaotong Univ. (China); Jia-qing Mo, Xinjiang Univ. (China) and Xi'an Jiaotong Univ. (China); Zhen-hong Jia, Xinjiang Univ. (China) [7853-07]
- 16.20: **Some methods for signal-to-noise ratio improvement on the measurement of temperature using a BOTDR sensor**, Jiacheng Hu, Shanghai Institute of Optics and Fine Mechanics (China) [7853-08]
- 16.40: **Demodulation features to different types of signals for fiber optic sensors**, Yabin Zhang, Yong Wang, Chao Zhang, Harbin Engineering Univ. (China) [7853-09]
- 17.00: **Parameter selection and design considerations with MPOF evanescent wave sensor in the THz wavelength range**, Hai Xia, Jianquan Yao, Tianjin Univ. (China) [7853-10]
- 17.20: **A near infrared Stokes polarimeter for fiber applications**, Baoliang Wang, Andy Leadbetter, Hinds Instruments, Inc. (United States) [7853-11]

Tuesday 19 October

SESSION 3

Room: 209 A+B Tues. 08.20 to 10.30

Session Chairs: **Wei Jin**, The Hong Kong Polytechnic Univ. (Hong Kong, China); **José Miguel López-Higuera**, Univ. de Cantabria (Spain)

- 08.20: **Fiber optics in structural health monitoring** (*Invited Paper*), José Miguel López-Higuera, Univ. de Cantabria (Spain) [7853-12]
- 08.50: **An estimation method for feedback level factor C of a self-mixing interferometry system**, Yuanlong Fan, Yanguang Yu, Jiangtao Xi, Joe F. Chicharo, Univ. of Wollongong (Australia); Huiying Ye, Zhengzhou Univ. (China) [7853-13]
- 09.10: **Single wavelength interrogated refractive index sensors based on leaky mode couplings**, Lin-Lin Xue, Hai-Bo Liang, Li Yang, Univ. of Science and Technology of China (China) [7853-144]
- [7853-14]
- 09.30: **Design of multi-spot sensor array detector for toxic gas based on spectral analysis**, Hai-Yang Liao, Peng Tian, Chongqing Univ. (China) . [7853-15]
- 09.50: **Optical humidity sensors based on the coupling loss between a doubly cladding fiber and a single mode fiber**, Xiaokang Zhang, Lan Lu, Kong Zhen, Lihua Chen, Zhiren Ye, South China Univ. of Technology (China) [7853-16]
- 10.10: **Demodulation technique based on diffraction optical element for fiber Bragg grating sensing system**, Zhongwei Feng, Li Zhang, Changcheng Institute of Metrology and Measurement (China) [7853-17]

Coffee/Tea Break 10.30 to 11.00

SESSION 4

Room: 209 A+B Tues. 11.00 to 12.30

Session Chairs: **Wei Jin**, The Hong Kong Polytechnic Univ. (Hong Kong, China); **José Miguel López-Higuera**, Univ. de Cantabria (Spain)

11.00: **Sensitivity of microstructure optical fiber to strain and pressure** (*Invited Paper*), Wei Jin, The Hong Kong Polytechnic Univ. (Hong Kong, China) [7853-18]

11.30: **Study on self-loading F-P fiber sensor micro-machined with 157-nm excimer laser**, Kai Gu, Minghong Yang, Wuhan Univ. of Technology (China) [7853-19]

11.50: **Low cost cell phone based digital light meter**, Sarun Sumriddetchajorn, Armote Somboonkaew, National Electronics and Computer Technology Ctr. (Thailand) [7853-20]

12.10: **Chitosan-diaphragm based optical-fiber hydrophone for in vivo ultrasound measurements**, Li Han Chen, Chi-Chiu Chan, Nanyang Technological Univ. (Singapore) [7853-21]

Lunch Break 12.30 to 13.40

SESSION 5

Room: 209 A+B Tues. 13.40 to 15.30

Session Chairs: **Libo Yuan**, Harbin Engineering Univ. (China); **Jianmin Gong**, Virginia Polytechnic Institute and State Univ. (USA)

13.40: **Recent progress of linkage methodology between single mode fiber and index guided microstructured fiber** (*Invited Paper*), Libo Yuan, Harbin Engineering Univ. (China) [7853-22]

14.10: **Modal wavefront sensor employing stratified computer-generated holographic elements**, Changhai Liu, National Univ. of Defense Technology (China) [7853-23]

14.30: **Innovation on advanced adaptive optoelectronic sensor system**, Hua Liu, Luoyang Institute of Electro-Optical Equipment (China) [7853-24]

14.50: **A multichannel SPR biosensor with a fixed detection system**, Boonsong Sutapun, Armote Somboonkaew, Ratthasart Amarit, Supanit Porntheeraphat, National Electronics and Computer Technology Ctr. (Thailand); Nongluck Huangkamhang, Toemsak Srihirin, Mahidol Univ. (Thailand) . [7853-25]

15.10: **Heterodyne demodulation scheme for fiber optic hydrophone array systems**, Nan Zhang, National Univ. of Defense Technology (China) . . [7853-26]

Coffee/Tea Break 15.30 to 16.00

SESSION 6

Room: 209 A+B Tues. 16.00 to 17.30

Session Chairs: **Libo Yuan**, Harbin Engineering Univ. (China); **Jianmin Gong**, Virginia Polytechnic Institute and State Univ. (USA)

16.00: **Low-cost interrogator for fiber optic interferometers and fiber Bragg grating sensors** (*Invited Paper*), Jianmin Gong, Virginia Polytechnic Institute and State Univ. (United States); Zhengying Li, Wuhan Univ. of Technology (China); Anbo Wang, Virginia Polytechnic Institute and State Univ. (United States) [7853-27]

16.30: **A better quencher in molecular beacons: small gold nanoparticles**, Jianpeng Xue, Yueqing Gu, China Pharmaceutical Univ. (China) [7853-28]

16.50: **Measurement of tropospheric SO₂ by airborne MAXDOAS in Pearl River delta region**, Jin Xu, Pinhua Xie, Anhui Institute of Optics and Fine Mechanics (China) [7853-29]

17.10: **Fabry-Pérot interference enhanced surface plasmon resonance sensor**, Ming-Je Sung, Chun-Chia Chiu, Din-Wei Huang, National Taiwan Univ. (Taiwan) [7853-30]

POSTERS-Tuesday

Hallway Outside Rooms 302-305 Tues. 18.30 to 20.30

Comparison of three temperature control systems applications for a special homemade shortwave infrared spatial remote sensor, Zhipeng Xu, Jun Wei, Jianwei Li, Qianting Zhou, Shanghai Institute of Technical Physics (China) [7853-05]

The application of HgCdTe detector for measuring methane, Chen Chen, Hai Yu, Liang Lei, Lei Li, Yiding Wang, Jilin Univ. (China) [7853-42]

The analysis and system design for MCG measurement based on optically pumped cesium magnetometer, Yang E. Zhang, Harbin Engineering Univ. (China) [7853-43]

Theoretical and experimental study on chromatic confocal position sensor, Chunhui Niu, Univ. of Science and Technology Beijing (China); WenYi Deng, Xianhui Mao, Beijing Information Science and Technology Univ. (China) [7853-44]

Use of water-soluble PbS quantum dots as fluorescent probe in sensing copper(II), Ting Li, Nanxi Wang, Lijia Chen, Dawei Deng, Yueqing Gu, China Pharmaceutical Univ. (China) [7853-45]

Study on intensity-modulated surface plasmon resonance array sensor based on polarization control, Boshu Sun, Xiaoping Wang, Zihao Huang, Zhejiang Univ. (China) [7853-46]

Enhancement of evanescent waves in four-layer waveguides by means of an anisotropic metamaterials layer with negative permittivity and permeability, Wenqiang Qiu, Rong Chen, Min Cheng, Fujian Normal Univ. (China) . . . [7853-47]

Theoretical and experimental research on sensing characteristics of Panda fiber loop mirror, Ling Zhou, Li Wang, Shuyang Hu, Keyu Tong, Ning Liu, Beijing Univ. of Technology (China) [7853-48]

Design of a temperature control system using incremental PID algorithm for a special homemade shortwave infrared spatial remote sensor based on FPGA, Zhipeng Xu, Qianting Zhou, Jianwei Li, Jun Wei, Shanghai Institute of Technical Physics (China) [7853-49]

The ultra-weak feedback effect of DBR/DFB fiber laser and its sensing applications, Quan Chai, Xingliang Li, Jianzhong Zhang, Qianqian Hao, Qi Li, Harbin Engineering Univ. (China); Ping Lu, Communications Research Ctr. Canada (Canada); Weimin Sun, libo Yuan, Harbin Engineering Univ. (China); Gangding Peng, The Univ. of New South Wales (Australia) [7853-50]

Single-multi-single mode FBG and its multi-parameters sensing application, Shijun Peng, Anna Zhang, Jianzhong Zhang, Weimin Sun, Libo Yuan, Harbin Engineering Univ. (China) [7853-51]

Properties of defect mode in 1D ternary photonic crystal, Xia Li, Kang Xie, Hai-Ming Jiang, Univ. of Electronic Science and Technology of China (China) [7853-52]

Studies on technics and experiments of fused-tapered fiber grating coupler, Jiang Nuan, Hua Yong Yang, Xueliang Zhang, Yongming Hu, National Univ. of Defense Technology (China) [7853-53]

A C₂H₅OH gas sensor based on long-period fiber grating coated with TiO₂ nano-film, Anna Zhang, Shijun Peng, Jianzhong Zhang, Yujin Chen, Weimin Sun, Libo Yuan, Harbin Engineering Univ. (China) [7853-54]

Perimeter security alarm system based on fiber Bragg grating, Cui Zhang, Lixin Wang, Wuhan Univ. of Technology (China) [7853-55]

Research of HgCdTe detector in methane sensing, Jian Li, Chen Chen, Lei Li, Hai Yu, Yiding Wang, Jilin Univ. (China) [7853-56]

Design of the driving system for visible near-infrared spatial programmable push-broom remote CCD sensing, Zhipeng Xu, Jun Wei, Qianting Zhou, Jianwei Li, Shanghai Institute of Technical Physics (China) [7853-57]

A sensing system based on temperature-tunable micro-resonator, Jiyou Wang, Beijing Univ. of Technology (China); Bingzhang Wang, Cangzhou Normal Univ. (China) [7853-58]

Research on fiber Bragg grating heart sound sensing and wavelength demodulation method, Cheng Zhang, Tianjin Polytechnic Univ. (China) [7853-59]

Optical components surface micro-strain measurement using fiber Bragg grating sensors, Zhiguo Wang, Nanjing Univ. of Science and Technology (China) [7853-60]

The research of PSD locate method in micro-laser welding fields, Qiue Zhang, Changchun Univ. of Science and Technology (China) [7853-61]

The modeling of the whole human body and the simulations of the waveguide intra-body communication by using the finite-element method, Yingfang Chu, Yong Song, Kai Zhang, Bangzhi Kang, Qun Hao, Beijing Institute of Technology (China) [7853-62]

Conference 7853

- Research on Cd-iEDTA-BSA immunosensor based on surface plasmon resonance**, Ying Li, Jingang Zhong, Yong-Lin Zhang, Yong Tang, Jinan Univ. (China)[7853-63]
- Theoretical simulation of bending sensitivity of fibre Bragg gratings in special fiber**, Huimei He, Beijing Univ. of Technology (China); Li Wang, Beijing Institute of Technology (China)[7853-64]
- Multimode-interference-based fiber Bragg grating acceleration measurement**, Lan Li, China Jiliang Univ. (China)[7853-65]
- Photonic crystal fiber sensors based on surface enhancement Raman scattering**, Zhigang Di, Tianjin Univ. (China) and Hebei Polytechnic Univ. (China); Jianquan Yao, Tianjin Univ. (China)[7853-66]
- A compact micromachined interferometric accelerometer based on diffraction grating**, Shuangshuang Zhao, Qiaofen Zhou, Chang-Lun Hou, Jian Bai, Guoguang Yang, Zhejiang Univ. (China)[7853-67]
- Modeling and simulation of RIM-FOS with single mode illumination fiber and spherical reflector**, Dan Hua, Xiao Yuan, Soochow Univ. (China)[7853-68]
- Design and realization of optical scattering signal receiving system**, Zhi Feng, Honghui Jia, National Univ. of Defense Technology (China)[7853-69]
- Fiber optic temperature sensor based on the spectrum analysis detection using a PSD**, Yong Zhao, Shu Liu, Xuan Zuo, Yanze Cao, Northeastern Univ. (China)[7853-70]
- Enhancing the sensitivity of interferometer by the way of slow light**, Yong Zhao, He Huang, Qi Wang, Zixin Qi, Northeastern Univ. (China)[7853-71]
- Bidirectional filter with a fiber Bragg grating achieving single mode oscillation for gyro application**, Fan-Jun Rao, Shu-fen Chen, Lei Fu, Beijing Institute of Technology (China)[7853-72]
- Reduction of drifts in an optical passive ring resonator gyro based on a hollow core photonic-bandgap fiber loop**, Wei Jin, The Hong Kong Polytechnic Univ. (China); Xinlu Zhang, Yufeng Peng, Harbin Engineering Univ. (China)[7853-73]
- Virtual Moiré fringe for nanometer detection system based on CMOS microscopic imaging**, Jin Xu, Wentong Ye, Zhejiang Univ. of Technology (China); Xuxiang Ni, Xiangqun Cao, Zhejiang Univ. (China)[7853-74]
- SAW properties of rotating LiNbO₃ and LGS substrates**, Shuxiang Lu, Shufen Chen, Beijing Institute of Technology (China)[7853-75]
- Study on optically powered Hall current transducer**, Yutian Wang, Yue Zhang, Jin Zhao, Yanshan Univ. (China)[7853-76]
- Study on digital correlation demodulation technology of micro quartz tuning fork gyroscope**, Zhixiong Zhang, Lihui Feng, Yu-nan Sun, Beijing Institute of Technology (China)[7853-77]
- Distance measurement device based on infrared light intensity modulation and fuzzy control theory**, Chen Shen, Mingming Wu, Xiaoying Chen, Jin Xu, Zhejiang Univ. of Technology (China)[7853-78]
- A new design for simultaneous temperature and strain measurement with spontaneous Raman and Brillouin scattering**, Fuchang Chen, Shanghai Institute of Optics and Fine Mechanics (China)[7853-79]
- Temperature sensor based on in low-birefringence photonic crystal fiber Sagnac interferometer**, Huaping Gong, China Jiliang Univ. (China); Chi-Chiu Chan, Li Han Chen, Nanyang Technological Univ. (Singapore); Yongxing Jin, Xinyong Dong, China Jiliang Univ. (China)[7853-80]
- Noise analysis of laser Doppler system which adopting the phase generated carrier demodulation method**, Lei Zhu, Anhui Univ. (China)[7853-81]
- Algorithm study of phase diverse wave-front sensing**, Fei Li, Changhui Rao, Institute of Optics and Electronics (China)[7853-82]
- Deflection measurement using long-period grating sensor fabricated on side-hole single-mode fiber by CO₂ laser**, Juan Chen Kang, China Jiliang Univ. (China)[7853-83]
- Application of demodulation technology for fiber Bragg grating in power system**, Yong-qian Li, Haitao He, Guozhen Yao, North China Electric Power Univ. (China)[7853-84]
- Analysis of relationship between far-field images and piston phase errors of synthetic-aperture telescopes for the polychromatic target wave**, Zheng Liu, Shengqian Wang, Changhui Rao, Institute of Optics and Electronics (China)[7853-85]
- Brillouin optical time-domain reflectometry based on Hadamard sequence probe pulse**, Yuangang Lu, Liang Hao, Cunlei Li, Xuping Zhang, Nanjing Univ. (China)[7853-86]
- Optical sensor based on fractal cantor multilayer structures made of porous silicon**, Jia-qing Mo, Xinjiang Univ. (China) and Xi'an Jiaotong Univ. (China); Xiao-Yi Lv, Zhen-hong Jia, Xinjiang Univ. (China)[7853-87]
- Based on the study of fiber grating level tiltmeter**, De En, Ningning Wang, Ningbo Zhang, Jieyu Feng, Xiaobin Wang, Henan Polytechnic Univ. (China)[7853-88]
- Optical fiber temperature measurement technique based on fluorescence mechanism**, Xiaoxu Bo, Yanshan Univ. (China)[7853-89]
- Application research of DTS system on dam**, Jianfeng Wang, Chuanlong Hu, Haifeng Xu, Juan Chen Kang, Zaixuan Zhang, Yongxing Jin, Huaping Gong, China Jiliang Univ. (China)[7853-90]
- Laser stealth technique of optical system**, Xian-an Dou, Electronic Engineering Institute (China)[7853-91]
- Investigation of the fluorescent efficiency improvement of a novel designed fiber probe for zinc detection**, Zhong Pan, Min Li, Wuhan Univ. of Technology (China)[7853-92]
- Research on the laser interferometer vibration measurement system based on orthogonal signal**, Bo Zhang, Shenglai Zhen, Wenliang Hao, Chengmei Zhang, Fei Ai, Benli Yu, Anhui Univ. (China)[7853-93]
- Highly birefringent index-guided photonic crystal fiber with two air holes core**, Chunying Guan, Harbin Institute of Technology (China)[7853-94]
- Design of a novel vibration sensor based on Mach-Zehnder interferometer**, Shuyue Zhao, Benli Yu, Li Pan, Di Jin, Xuqiang Wu, Anhui Univ. (China)[7853-95]
- The performance study of stimulated Brillouin scattering distributed fiber optic sensing based on modified steady-state analysis**, Xu Qian, Kuiru Wang, Beijing Univ. of Posts and Telecommunications (China)[7853-96]
- Optical fiber sensors for the concentration of acetic acid based on fiber side polishing technique**, Jieyuan Tang, Zhe Chen, Ruoyan Fan, Jianhui Yu, Jun Zhang, Jinan Univ. (China)[7853-97]
- Interferometric vibration detection on laser backscattering of speckles pattern**, Yuanyuan Zhang, Shenglai Zhen, Anhui Univ. (China)[7853-98]
- Temperature-independent bending sensor based on a superimposed fiber Bragg grating**, Yang Liu, Xinyong Dong, Juan Chen Kang, Chunliu Zhao, China Jiliang Univ. (China)[7853-99]
- Polymer-coated hybrid fiber grating for relative humidity sensing**, Tao Li, Xinyong Dong, Chunliu Zhao, Yang Liu, China Jiliang Univ. (China)[7853-100]
- A temperature-insensitive load sensor with a single fiber Bragg grating**, Limin Hu, Xinyong Dong, Chunliu Zhao, Shangzhong Jin, China Jiliang Univ. (China)[7853-101]
- Spectra extraction for wavelength-modulation spectroscopy of intra-cavity absorption gas sensor**, Wennian Han, Yan Wang, Kun Liu, Dagong Jia, Tiegeng Liu, Tianjin Univ. (China)[7853-102]
- Temperature spatial distribution of pulsed laser-induced plasma in air**, Chaojun Xin, The Academy of Equipment Command & Technology (China)[7853-103]
- Discrimination of strain and temperature using a long-period fiber grating inscribed in high-birefringence photonic crystal fiber combined with a fiber loop mirror**, Can Li, Feng Xu, Xiaolong Shi, Miaomiao Shi, Dashi Tao, Dongxu Ren, Benli Yu, Anhui Univ. (China)[7853-104]
- Strongly evanescent field coupling between nanofibers for sensing transverse optical force**, Jianhui Yu, Zhe Chen, Sr., Jun Zhang, Yongchun Zhong, Xiao Yi, Sr., Jieyuan Tang, Furong Huang, Sr., Jinan Univ. (China)[7853-105]
- Analysis and simulation of fiber Bragg grating sensing networks using CDMA**, Dongsheng Li, Jiang Qi, Shandong Univ. (China)[7853-106]
- Thermal independent solution concentration sensing with tilted fiber Bragg grating**, Debo Hu, Jiang Qi, Shandong Univ. (China)[7853-107]
- The optimization design of parameters for a wavy vibrating diaphragm of fiber optic microphone**, Pan Li, Benli Yu, Shuyue Zhao, Ling Li, Xuqiang Wu, Anhui Univ. (China)[7853-108]
- Temperature and stress response characteristic study on Ag-coated fiber Bragg grating**, Xiaolong Shi, Feng Xu, Can Li, Dongxu Ren, Miaomiao Shi, Dashi Tao, Jijun Dai, Anhui Univ. (China)[7853-109]
- A new phase generated carrier demodulation method based on fixed phase delay**, Qingping Shi, Liwei Wang, Min Zhang, Qian Tian, Yanbiao Liao, Tsinghua Univ. (China)[7853-110]
- A novel multi-path combination matching Michelson interferometer for straindeformation sensing**, Haili Jiang, Libo Yuan, Harbin Engineering Univ. (China)[7853-111]

Study of reflection-type fiber optic biosensor based on multimode interference, Danying Zheng, Enbang Li, Liu Qun, Chunxiao Tang, Changle Wang, Tianjin Univ. (China)[7853-112]

Studies of third-order optical nonlinearities of poly[2,1,3-benzoselenadiazole-(2,5-didodecyloxy-1,4phenylene)ethynylene] embedded in porous silicon, Mei Xiang, Zhen-hong Jia, Xinjiang Univ. (China)[7853-113]

Dynamic pressure sensor by using of π -shifted single-mode fiber Sagnac interferometer, Jiulin Gan, Shanghai Institute of Optics and Fine Mechanics (China)[7853-114]

Research of fiber Bragg grating strain sensors by optical sensor technique, Cuirong Zhou, Ming Wang, NanJing Normal Univ. (China)[7853-115]

Studies on the cross-sensitivity for ammonia in flue gas measurement based on portable DOAS system, Jie Wang, Pinhua Xie, Anhui Institute of Optics and Fine Mechanics (China)[7853-116]

Analysis of a low-finesse extrinsic Fabry-Perot interferometric optical fiber sensor, Zhen Yang, Min Zhang, Yanbiao Liao, Qian Tian, Tsinghua Univ. (China); Qisheng Li, Yi Zhang, Zhi Zhuang, Chinese Academy of Engineering Physics (China)[7853-117]

Design and experimental study on an LS-FTF self-adaptive infrared gas concentration detection system, Wei-Lin Ye, Chuan-Tao Zheng, Xin Yu, Zhan-Wei Song, Yiding Wang, Jilin Univ. (China)[7853-118]

Tapered optical fiber fabricated by high-frequency pulsed carbon dioxide laser, Ming Li, Fufei Pang, Hairun Guo, Yunqi Liu, Na Chen, Zhenyi Chen, Tingyuan Wang, Shanghai Univ. (China)[7853-119]

Investigation of strain sensors based on fiber Bragg grating used for steelwork, Tao Wang, Dawei He, Ziqian Wang, Yu Quan, Yongsheng Wang, Beijing Jiaotong Univ. (China)[7853-120]

Analysis on measured signal retrieval approaches in pyramid wavefront sensor, Jianxin Wang, Wen-Han Jiang, Institute of Optics and Electronics (China)[7853-121]

Experiment validation of Correlating Shack-Hartmann wave-front sensor for a point source object, Linhui Chen, Changhui Rao, Institute of Optics and Electronics (China)[7853-122]

A effective method for suppression the polarization-noises in a fiber optic Michelson interferometer, Lifang Xue, Institute of Semiconductors (China)[7853-123]

Experimental research of the fibers micro-vibration sensor, Di Jin, Guang-Qi Wang, Bing Gao, Benli Yu, Anhui Univ. (China)[7853-124]

Research on the characteristics of hydrogel coated long period gratings, Xiujuan Yu, Min Zhang, Yanbiao Liao, Tsinghua Univ. (China)[7853-125]

Fiber optic micro-displacement sensor using a tilted fiber Bragg grating and a PSD as the signal detection device, Yong Zhao, Qi Wang, Haifeng Wang, Northeastern Univ. (China)[7853-126]

Magnetic fluid filled hollow-core photonic crystal fiber F-P sensor, Tao Hu, Harbin Institute of Technology (China); Yong Zhao, Qi Wang, Northeastern Univ. (China); Zhiwei Lv, Harbin Institute of Technology (China)[7853-127]

Experimental research on the effect of Young's modulus on optical fiber microbend strain sensor, Ruichen Tao, Min Li, Wuhan Univ. of Technology (China)[7853-128]

Analysis of preparation of Chinese traditional medicine based on the fiber fingerprint drop trace, Zhilin Zhang, Jialu Wang, Weimin Sun, Yan Qi, Harbin Engineering Univ. (China)[7853-129]

Effect of hydroxyl group upon optical fiber sensors used in permanent downhole, Tao Hu, Harbin Institute of Technology (China); Yong Zhao, Northeastern Univ. (China); Zhiwei Lv, Harbin Institute of Technology (China)[7853-130]

Investigation of highly sensitive atomic magnetometer, Ailin Yang, Zhejiang Univ. (China)[7853-131]

A microstructured optical fiber based surface plasmon resonance sensor, Pibin Bing, Tianjin Univ. (China)[7853-132]

Study of PVDF thin film optical fiber humidity sensor, Xiao Bing Li, Minghong Yang, Jixiang Dai, Hongliang Liu, Dan Yin, Wuhan Univ. of Technology (China)[7853-134]

A strain sensor based on cladding mode resonance of optical double-cladding Fiber, Jian Zhang, Fufei Pang, Hairun Guo, Zhenyi Chen, Tingyuan Wang, Shanghai Univ. (China)[7853-135]

A fiber laser accelerometer based on the double flexural strips structure, Shengchun Liu, Liying Zhang, Heilongjiang Univ. (China); Xuefeng Zhu, Nanjing Univ. (China); Jintao Zhang, Heilongjiang Univ. (China); Xiangfei Chen, Nanjing Univ. (China)[7853-136]

Precision improving solutions based on ARMA model and modified self-adapted Kalman filter for MEMS Gyro, Xiaoyu Jiang, Yantao Zong, Academy of Armored Force Engineering (China)[7853-137]

A method to measure the fast and slow component of scintillation in plastic scintillating fiber, Feng Shi, Institute of High Energy Physics (China) . . .[7853-138]

The design and application of algae automatic online monitoring system based on fluorescent sensing technology, Gaofang Yin, Anhui Institute of Optics and Fine Mechanics (China)[7853-139]

High stability and radiation-resistance broadband fiber-optic source, Xinxin Suo, Yuanhong Yang, Minwei Yang, BeiHang Univ. (China)[7853-140]

Wavelet transform de-noising technology for distributed optical fiber sensor, YuanYuan Wang, Yuanhong Yang, Minwei Yang, BeiHang Univ. (China)[7853-141]

The co-measurement of pressure and surrounding refractive index based on LPGs, Jingjing Zhu, Yu-rong Jiang, Wei Xue, Beijing Institute of Technology (China)[7853-142]

Mesopic vision characteristics at decreased contrast in fog, Maris Ozolinsh, Univ. of Latvia (Latvia); Michèle Colomb, LRPC de Clermont-Ferrand (France); Didzis Lauva, Univ. of Latvia (Latvia); Jean-Luc Bicard, LRPC de Clermont-Ferrand (France); Sergejs Fomins, Univ. of Latvia (Latvia); Philippe Morange, LRPC de Clermont-Ferrand (France)[7853-143]

Corresponding characteristics of the alignment parameters in large segmented-mirror telescope system, Hui Hui, Beijing Institute of Technology (China); Jiayuan Deng, Shanghai Jiao Tong Univ. (China); Yu Fei, Yuejin Zhao, Beijing Institute of Technology (China)[7853-145]

Wednesday 20 October

SESSION 7

Room: 209 A+B Wed. 08.00 to 10.10

Session Chairs: Min Li, Wuhan Univ. of Technology (China); Irina V. Severin, Polytechnical Univ. of Bucharest (Romania)

08.00: **A novel fiber optic film temperature sensor taking advantage of thermal optical effect as well as temperature-dependent absorption of semiconductor** (*Invited Paper*), Min Li, Wuhan Univ. of Technology (China); Yulin Li, Wuhan Photon Science and Technology Inc. (China)[7853-31]

08.30: **Multiplexed FMCW interferometric polarization-maintaining fiber strain sensor**, Gang Zheng, Beijing Institute of Technology (China)[7853-32]

08.50: **The new-conceptual fiber optic gyroscope**, Gang Zheng, Beijing Institute of Technology (China)[7853-33]

09.10: **Traffic monitoring and weight detection using fiber optic microbend sensor**, Nabila Naorin, North South Univ. (Bangladesh)[7853-34]

09.30: **Batching interface detection system based on LED array**, Yu Qian, Jun Zhang, Jiang Li, Zhe Chen, Jinan Univ. (China)[7853-35]

09.50: **Signal analytical processing based on wavelet transform for tunable diode laser absorption spectroscopy**, Fengzhong Dong, Anhui Institute of Optics and Fine Mechanics (China)[7853-36]

Coffee/Tea Break 10.10 to 10.40

SESSION 8

Room: 209 A+B Wed. 10.40 to 12.10

Session Chairs: Min Li, Wuhan Univ. of Technology (China); Irina V. Severin, Polytechnical Univ. of Bucharest (Romania)

10.40: **Strength of silica optical fibre subjected to chemical environment** (*Invited Paper*), Irina V. Severin, Polytechnical Univ. of Bucharest (Romania) and Univ. de Rennes 1 (France); Rochdi El Abdi, Marcel Poulain, Univ. de Rennes 1 (France)[7853-37]

11.10: **Online monitoring of industrial flue gases using tunable diode laser with a core-control module**, Zhi-rong Zhang, Anhui Institute of Optics and Fine Mechanics (China)[7853-38]

11.30: **Online monitoring of anti-slide piles by using fiber Bragg grating soil pressure sensor**, Ming Cao, Yunnan Electric Power Test & Research Institute (China); Chuan Li, Kunming Univ. of Science and Technology (China); Da-da Wang, Yunnan Electric Power Test & Research Institute (China); Yimo Zhang, Tiegeng Liu, Junfeng Jiang, Tianjin Univ. (China); Jian-fa Li, Yunnan Electric Power Test & Research Institute (China); Yan Chen, Xiao-ping Xu, Kunming Univ. of Science and Technology (China)[7853-39]

11.50: **Monitoring of tunnel second lining by using fiber Bragg grating strain sensor**, Chuan Li, Kunming Univ. of Science and Technology (China); Ming Cao, Da-da Wang, Yunnan Electric Power Test & Research Institute (China); Hao Liu, Zhi-lin Zhang, Yunnan Aerospace Engineering Geophysics and Measurement Co., Ltd. (China); Yimo Zhang, Tiegeng Liu, Tianjin Univ. (China); Jiang-Chun Xu, Kunming Univ. of Science and Technology (China)[7853-40]

Infrared, Millimeter Wave, and Terahertz Technologies

Conference Chairs: **Cunlin Zhang**, Capital Normal Univ. (China); **Xi-Cheng Zhang**, Rensselaer Polytechnic Institute (USA); **Peter H. Siegel**, Jet Propulsion Lab. (USA); **Li He**, Shanghai Institute of Technical Physics (China); **Sheng-Cai Shi**, Purple Mountain Observatory (China)

Program Committee: **Peter A. R. Ade**, Cardiff Univ. (United Kingdom); **Yi Cai**, Kunming Institute of Physics (China); **Hou-Tong Chen**, Los Alamos National Lab. (USA); **Yuping Cui**, Jinhang Institute of Technical Physics (China); **Haewook Han**, Pohang Univ. of Science and Technology (Korea, Republic of); **WeiQi Jin**, Beijing Institute of Technology (China); **Ci-Ling Pan**, National Tsing Hua Univ. (Taiwan, China); **Alexander P. Shkurinov**, Lomonosov Moscow State Univ. (Russian Federation); **Masahiko Tani**, Univ. of Fukui (Japan); **Chao Zhang**, Univ. of Wollongong (Australia); **Yan Zhang**, Capital Normal Univ. (China)

Monday 18 October

Opening Ceremony and Plenary Session. Mon. 08.30 to 12.00

- 8.30: Opening Ceremony
- 9.00: **Fibre Optic Systems for Gas Detection: Progress and Prospects**, Brian Culshaw, Univ. of Strathclyde (United Kingdom)
- 9.30: **Optical Tweezers Based Micro-rheology**, Arthur Chiou, National Yang Ming Univ. (Taiwan, China)
- Coffee/Tea Break 10:00 to 10:30 am
- 10.30: **Integration and Function Enhancements of Planar Lightwave Circuits (PLCs) for Optical Communication**, Ray T. Chen, The Univ. of Texas, Austin (United States)
- 11.00: **Modern Optical System Design: Holistic Optimization of Innovative Design Concepts**, Willi Ulrich, Carl Zeiss AG (Germany)
- 11.30: **Index Guiding Microstructured Fibers and its Applications**, Libo Yuan, Photonics Research Ctr., Harbin Engineering Univ. (China)

Lunch Break 12.00 to 13.30

SESSION 1

Room: 210 A+B Mon. 13.30 to 15.15

Session Chair: **Cunlin Zhang**, Capital Normal Univ. (China)

- 13.30: **Micro- and microscopic nonlinearities competing in the THz emission from a femtosecond laser focus** (*Invited Paper*), Alexander P. Shkurinov, Lomonosov Moscow State Univ. (Russian Federation) [7854-01]
- 14.00: **Physics-based processing for terahertz reflection spectroscopy and imaging** (*Invited Paper*), Lisa M. Zurk, Sam Henry, Scott Schecklman, Don Duncan, Portland State Univ. (United States) [7854-02]
- 14.30: **The research of THz wave propagation in the atmosphere**, Hai Xia, Jian Quan, Tianjin Univ. (China) [7854-03]
- 14.45: **THz-infra-UV transmission spectra of BGO:Ca/Pb crystals**, Na Li, Bihui Hou, Beijing Univ. of Technology (China) [7854-04]
- 15.00: **Science, technology, and application of THz wave air-plasma photonics** (*Invited Paper*), Xi-Cheng Zhang, Rensselaer Polytechnic Institute (United States) [7854-134]
- Coffee/Tea Break 15.30 to 16.00

SESSION 2

Room: 210 A+B Mon. 15.45 to 18.00

Session Chair: **Cunlin Zhang**, Capital Normal Univ. (China)

- 16.00: **New scheme to generate low-frequency terahertz waves using an optical external intensity modulator and cascaded optical interleavers**, Zhiwei Zheng, Ying Li, Lin Chen, Jianjun Yu, Shuangchun Wen, Hunan Univ. (China) [7854-05]
- 16.15: **Fast large area nondestructive testing using all-electronic 3D terahertz/millimeter wave imaging** (*Invited Paper*), Torsten Loeffler, Andreas Keil, Holger Quast, SynView GmbH (Germany) [7854-06]
- 16.45: **2D THz and GHz signature for identification of explosive on reflected THz signal** (*Invited Paper*), Vyacheslav A. Trofimov, Svetlana A. Varentsova, Lomonosov Moscow State Univ. (Russian Federation); Jian Chen, Portland State Univ. (United States) [7854-07]

- 17.15: **Terahertz spectroscopy properties of the selected engine oils**, Shouming Zhu, Kun Zhao, Tian Lu, Songqing Zhao, Qingli Zhou, China Univ. of Petroleum (China); Yulei Shi, Capital Normal Univ. (China); Hui Zhao, Rima Bao, Qing Miao, Cunlin Zhang, China Univ. of Petroleum (China) [7854-08]
- 17.30: **Direct detection behavior of a superconducting hot electron bolometer measured by Fourier transform spectrometer**, Wei Miao, Kangmin Zhou, Wen Zhang, Zhenhui Lin, Qi-jun Yao, Purple Mountain Observatory (China); Yan Delorme, Roland Lefevre, Observatoire de Paris (France); Sheng-Cai Shi, Purple Mountain Observatory (China) [7854-09]
- 17.45: **Terahertz spectrum of acesulfame-K**, Haiyan Wang, Guozhong Zhao, Liming Liu, Bo Wei, Capital Normal Univ. (China) [7854-10]

Tuesday 19 October

SESSION 3

Room: 210 A+B Tues. 08.30 to 10.15

Session Chair: **Xi-Cheng Zhang**, Rensselaer Polytechnic Institute (USA)

- 08.30: **Terahertz research activities at Seoul National University** (*Invited Paper*), Gun-Sik Park, Seoul National Univ. (Korea, Republic of) [7854-11]
- 09.00: **Terahertz photon production from cold atoms inside an optical cavity** (*Invited Paper*), Cunlin Zhang, Capital Normal Univ. (China) [7854-12]
- 09.30: **An efficient optically pumped terahertz laser without metal mesh mirrors**, Liang Miao, Duluo Zuo, Yanzhao Lu, Zuhai Cheng, Huazhong Univ. of Science and Technology (China) [7854-13]
- 09.45: **A new portable device of testing material's hemisphere emissivity**, Jianghui Wu, Xi'an Institute of Applied Optics (China) [7854-14]
- 10.00: **Review and analysis of terahertz frequency electromagnetic shielding**, Yanwu Zhu, Xidian Univ. (China) [7854-15]
- Coffee/Tea Break 10.15 to 10.45

SESSION 4

Room: 210 A+B Tues. 10.45 to 12.15

Session Chair: **Xi-Cheng Zhang**, Rensselaer Polytechnic Institute (USA)

- 10.45: **An analytical investigation of excitonic absorption in terahertz-field-driven quantum wells** (*Invited Paper*), Tong-Yi Zhang, Xi'an Institute of Optics and Precision Mechanics (China) [7854-16]
- 11.15: **Superconducting integrated THz receivers: development and applications** (*Invited Paper*), Valery P. Koshelets, Andrey B. Ermakov, Lyudmila V. Filippenko, Nickolay V. Kinev, Oleg S. Kiselev, Mikhail Y. Torgashin, Institute of Radio Engineering and Electronics (Russian Federation); Arno A. J. de Lange, Gert de Lange, SRON Nationaal Instituut voor Ruimteonderzoek (Netherlands); Sergey I. Pripolzin, Vladimir L. Vaks, Institute for Physics of Microstructures (Russian Federation) [7854-17]
- 11.45: **Influence of the parameters of the SRR to the resonant frequencies in terahertz band**, Li Lei, Dongmei Zhao, Qinli Zhou, Yulei Shi, Cunlin Zhang, Capital Normal Univ. (China) [7854-18]
- 12.00: **High transmittance and wide pass-band filter based on a three-layer structure of metal-dielectric-metal hole arrays**, Lei Rao, Dongxiao Yang, ZLe Zhang, Tao Li, Xiang Liu, Zhejiang Univ. (China) [7854-19]
- Lunch Break 12.15 to 13.45

SESSION 5

Room: 210 A+B Tues. 13.45 to 15.15

Session Chair: Li He, Shanghai Institute of Technical Physics (China)

- 13.45: **New IR detectors with small pixel pitch and high operating temperature** (*Invited Paper*), Philippe Tribolet, Michel Vuillermet, SOFRADIR (France) [7854-20]
- 14.15: **High frequency coaxial pulse tube cryocoolers for cooling infrared focal plane arrays** (*Invited Paper*), Haizheng Dang, Shanghai Institute of Technical Physics (China) [7854-21]
- 14.45: **The image denoising method for MEMS based uncooled infrared imaging system**, Huishi Zhu, Yuejin Zhao, Beijing Institute of Technology (China) [7854-22]
- 15.00: **Adaptive vibration control system of mechanical cryocooler**, Baoyu Yang, Yinong Wu, Shanghai Institute of Technical Physics (China) [7854-24]
- Coffee/Tea Break 15.15 to 15.45

SESSION 6

Room: 210 A+B Tues. 15.45 to 17.00

Session Chair: Li He, Shanghai Institute of Technical Physics (China)

- 15.45: **Ultra-high spectral resolution infrared spectrometer for trace gases detection** (*Invited Paper*), Zuoxiao Dai, Shanghai Institute of Technical Physics (China) [7854-25]
- 16.15: **Sub short noise 3D laser radar based on second-order coherence**, Xiuda Zhang, Huimin Yan, Qin Zhou, Zhejiang Univ. (China) [7854-27]
- 16.30: **Elimination of reflection induced artifacts in flash thermography**, Lichun Feng, Peng Zou, Ning Tao, Capital Normal Univ. (China) [7854-28]
- 16.45: **Statistical analysis on the scatter properties of Gauss random rough surfaces**, Jiang Shu, Zhenhua Li, Nanjing Univ. of Science and Technology (China) [7854-29]

POSTERS-Tuesday

Hallway Outside Rooms 302-305 Tues. 18.30 to 20.30

- Analysis of bit error ratio introduced by ellipse gauss beam drift and power calculate in space optical communication**, Weida Zhan, Hongzuo Li, Zhijian Wang, Huilin Jiang, Changchun Univ. of Science and Technology (China) [7854-26]
- Optical properties of CuS nanoparticles at terahertz frequencies**, Yu-Ping Yang, Minzu Univ. of China (China) [7854-41]
- The THz time domain spectra of SrB₄O₇ crystal**, Yali Wang, Changchun Univ. of Science and Technology (China); Bihui Hou, Beijing Univ. of Technology (China); Haiyan Wang, Guozhong Zhao, Capital Normal Univ. (China); Yishi Shi, Graduate Univ. of the Chinese Academy of Sciences (China) [7854-42]
- The optical and electrical properties of W-doping VOx thin film**, Heqin Li, Xiaoxiong He, Hefei Univ. of Technology (China) [7854-43]
- Propagation of THz wave in random coal aggregates**, Haiying Li, Zhensen Wu, Xidian Univ. (China) [7854-44]
- Optical properties study on liquid crystals in the terahertz range**, Huijuan Sun, Beijing Union Univ. (China) and Beijing Institute of Technology (China); Qingli Zhou, Cunlin Zhang, Capital Normal Univ. (China) [7854-45]
- Characterization of terahertz emission from a laser-induced air plasma with a dc biased field**, Kaijun Mu, Beijing Institute of Technology (China); Cunlin Zhang, Capital Normal Univ. (China) [7854-46]
- Polarization-controlled THz spectroscopic imaging for nondestructive inspection**, LiangLiang Zhang, Capital Normal Univ. (China); Hua Zhong, Peking Univ. (China); Chao Deng, Fei Yu, Cunlin Zhang, Capital Normal Univ. (China); Yuejin Zhao, Beijing Institute of Technology (China) [7854-47]
- Radiation calibration and error analysis for an IR opto-electric system**, Jian-Ping Zhang, Xin Zhang, Ci-Yin Yang, Changchun Institute of Optics, Fine Mechanics and Physics (China) [7854-48]
- The experiment research on optical mirror's thermal deformation**, Suian Dai, Shengli Chang, Kun Zhang, Zili Jiang, National Univ. of Defense Technology (China) [7854-49]
- Reflect mode terahertz time domain spectroscopy for seal liquid detecting**, Zhenwei Zhang, Capital Normal Univ. (China) [7854-50]
- Investigation of honeycomb structure using pulse infrared thermography method**, HuiJuan Li, China Aero-Polytechnology Establishment (China) [7854-51]

A detection technology of THz based on surface plasmon resonance, Bo Su, Capital Normal Univ. (China) and Institute of Microelectronics, Chinese Academy of Sciences (China) [7854-52]

Application of continuous-wave THz imaging in banknote discrimination, June Yang, Shenzhen Institute of Advanced Technology (China) [7854-53]

Synthesis arrangement and parity correction of 480x6 linear array infrared detector, Qun Wang, Pu Hong, Bo Wang, Chensheng Wang, Huazhong Institute of Electro-Optics (China) [7854-54]

Research of the solar photovoltaic cells output characteristics influenced by infrared wave in the solar spectrum, Bo Su, Capital Normal Univ. (China) [7854-55]

Design of infrared images high speed transmission technology based on fiber, Xing Yang, Debin Pan, Pu Hong, Chensheng Wang, Huazhong Institute of Electro-Optics (China) [7854-56]

Twin-channel optical readout technique for microcantilever IR image system, Xuhong Chu, Yuejin Zhao, Liqun Dong, Beijing Institute of Technology (China) [7854-57]

Research on the improved nonuniformity correction algorithm of the cooled infrared FPA, Dongjun Zhan, Chensheng Wang, Zhijie Zhang, Pu Hong, Huazhong Institute of Electro-Optics (China) [7854-58]

A novel frequency-tunable metallic grating structure for trapping broadband THz surface plasmons, Jun Li, Changxi Yang, Tsinghua Univ. (China) [7854-59]

Experiment tests of atmospheric turbulence effects on the infrared thermal imagers performance, Chensheng Wang, Zhijie Zhang, Pu Hong, Qun Wang, Huazhong Institute of Electro-Optics (China) [7854-60]

Design of a zoom optical system with a front stop, Jian-Ping Zhang, Xin Zhang, Xiu-Heng Feng, Changchun Institute of Optics, Fine Mechanics and Physics (China) [7854-61]

Terahertz wave opto-mechanical scanner for security, Chao Deng, Beijing Institute of Technology (China) [7854-62]

The birefringence property of magnesium fluoride crystal in THz frequency region, Fei Yu, LiangLiang Zhang, Capital Normal Univ. (China); Hua Zhong, Peking Univ. (China); Chao Deng, Beijing Institute of Technology (China); Cunlin Zhang, Capital Normal Univ. (China) [7854-63]

Fast realize infrared images simulation by inverting the scene of the visible light images, Funing Bai, Tingzhu Bai, Beijing Institute of Technology (China) [7854-64]

Identification of ores and gems using THz polarization, Zhi Yu, Zhang Yan, Xinke Wang, Ye Cui, Capital Normal Univ. (China) [7854-65]

Terahertz time-domain spectroscopy of Cd_{1-x}Zn_xTe single crystal, Reng Wang, Shanghai Institute of Technical Physics (China) [7854-66]

Fast calculation of object infrared spectral scattering based on CUDA, Liangchao Li, Wubin Niu, Zhensen Wu, Xidian Univ. (China) [7854-67]

Calibrating a near-infrared hyperspectral imaging system, Wenbo Wang, Jitendra Paliwal, Univ. of Manitoba (Canada) [7854-68]

The properties of vanadium oxide thin films before and after annealing in N₂/H₂ atmosphere for different hours, Liulian Chen, Shanghai Institute of Technical Physics (China) and Graduate School of the Chinese Academy of Sciences (China); Ma Bin, Yongming Shi, Houming Zhai, Shanghai Institute of Technical Physics (China) [7854-69]

The cryogenic readout system with GaAs JFETs for multi-pixel cameras, Yasunori Hibi, Hiroshi Matsuo, National Astronomical Observatory of Japan (Japan); Hirohisa Nagata, Hirokazu Ikeda, Japan Aerospace Exploration Agency (Japan); Mikio Fujiwara, National Institute of Information and Communications Technology (Japan) [7854-70]

Analysis of holographic diffractive optical element used for fabricating THz spectrum photonic crystals, Ying Liu, Institute of Armored Force Engineering (China) [7854-71]

Infrared thermal wave testing for building envelope, Xiaoxia Li, Shibin Zhao, Naiming Wu, Dapeng Chen, Beihang Univ. (China) [7854-72]

Magnetic effects on superconducting tunnel junctions at different temperatures, Chengjiang Zhang, Purple Mountain Observatory (China) [7854-73]

Satellite thermal infrared remote sensing applications in the earthquake, Lihua Zhang, Beijing Normal Univ. (China) [7854-74]

Thermal infrared remote sensing to monitor soil moisture, Lihua Zhang, Beijing Normal Univ. (China) [7854-75]

- Infrared scanning imaging system based on IR fiber bundle**, Wang Gang, Shanghai Institute of Technical Physics (China) [7854-76]
- A novel design of a high performance passive millimeter-wave imager for security**, Weiwen Zhu, Yuejin Zhao, Liqun Dong, Beijing Institute of Technology (China) [7854-77]
- Wavelet denoising of pulsed laser radar signals**, Xiping Cai, Lina Wang, Shuang Yang, Jianbo Liu, Heilongjiang Univ. (China) [7854-78]
- Computational reconstruction of thermal infrared integral image based on modeling sensor physical effects**, Xiaorui Wang, Xidian Univ. (China) [7854-79]
- Infrared image enhancement based on the edge detection and mathematical morphology**, Linlin Zhang, Yuejin Zhao, Liqun Dong, Xuhong Chu, Beijing Institute of Technology (China) [7854-80]
- A novel scheme for simultaneous transmission of 10-Gb/s baseband and 20-GHz microwave signals in radio-over-fiber system**, Min Lv, Beijing Institute of Technology (China) and College of Science, Minzu University of China, Beijing (China); Shikui Shen, Aiyang Yang, Jianmin Cui, Yu-Nan Sun, Beijing Institute of Technology (China) [7854-81]
- Fiber-based micro-cantilever infrared read-out system**, Cheng Gong, Mei Hui, Liqun Dong, Yuejin Zhao, Yuting Guo, Beijing Institute of Technology (China) [7854-82]
- Measurement of the anti-alias filter response curve slope in Fourier transform spectrometers**, Dayu Li, Northeastern Univ. (China); Zuoxiao Dai, Huangdong Wei, Xiaoqiang Jin, Xiaojie Sun, Ren Chen, Shanghai Institute of Technical Physics (China) [7854-83]
- Study on peak-seeking algorithm for wavelength in Fourier transform infrared spectrometer**, Guojin Feng, National Institute of Metrology (China) [7854-84]
- High quality continuous-wave THz imaging with 2.53THz OPTL and a pyroelectric detector**, Pibin Bing, Tianjin Univ. (China) [7854-85]
- The light weight study of the W-style radiant cooler**, Liying Fu, Shanghai Institute of Technical Physics (China) [7854-86]
- Contamination effects on radiant cooler**, Hongyan Xu, Deping Dong, Shanghai Institute of Technical Physics (China) [7854-87]
- THz spectroscopy and polarization of jade**, Xuejiao Guo, Wei Xiong, Jingling Shen, Capital Normal Univ. (China) [7854-88]
- Carrier relaxations in trap states of GaInNAs and HgCdTe thin films**, Fajun Ma, Shanghai Institute of Technical Physics (China) [7854-89]
- The study of atmospheric pollution using terahertz wave**, He Cai, Dong Wang, Jingling Shen, Capital Normal Univ. (China) [7854-90]
- Absorption peaks study of β -Zn₃BPO₇ crystal in THz band**, Hailang Ju, Beijing Technology and Business Univ. (China); Bihui Hou, Beijing Univ. of Technology (China); Xiong Li, Baohe Li, Beijing Technology and Business Univ. (China) [7854-91]
- Terahertz imaging technique and application in large scale integrated circuit failure inspection**, Zhigang Di, Tianjin Univ. (China) and Coll of Info, Hebei polytechnic University (China) [7854-92]
- a design of thz modulator use the photo-carrier surface plasma effect**, Pengfei Yang, Jianquan Yao, ZhiGang Di, Xin Ding, Tianjin Univ. (China) [7854-93]
- Cherenkov quasi-phase-matched THz-wave radiation based on defrence frequency generation**, Degang Xu, Tianjin Univ. (China) [7854-94]
- Excitonic optical absorption in quantum wells under intense terahertz waves polarized along the grown direction**, Ying Li, Shangluo Univ. (China) . [7854-95]
- Experimental study on the electro-optic effect of crystal in the terahertz range**, Wenjun He, Dongxiao Yang, Ming Dong, Zhejiang Univ. (China) . [7854-96]
- Thermodynamic character of fiber array visible to infrared image transducer**, Yanhong Li, Zhuo Li, Ping Li, Beijing Institute of Technology (China) . . . [7854-97]
- Sideband separating mixer for 600-720 GHz**, Andrey Khudchenko, SRON Netherlands Institute for Space Research (Netherlands); Ronald Hesper, Andrey Baryshev, Gerrit Gerlofsma, SRON Netherlands Institute for Space Research (Netherlands) and Kapteyn Astronomical Institute is the department of Astronomy at the University of Groningen (Netherlands); Patricio Mena, Univ. de Chile (Chile); Teun Klapwijk, Tony Zijlstra, Technische Univ. Delft (Netherlands) [7854-98]
- Abnormal enhancement of terahertz signal by using a hole**, Dongmei Zhao, Yulei Shi, Qingli Zhou, Lei Li, Cunlin Zhang, Capital Normal Univ. (China) [7854-99]
- Air-core terahertz fiber with high birefringence**, Jing Li, Haibin Chen, Zhi Hong, China Jiliang Univ. (China) [7854-100]
- Easy robot programming for beginners and kids using augmented reality environments**, Masahiro Nishiguchi, Kunio Sakamoto, Konan Univ. (Japan) [7854-101]
- Iterative restoration algorithms for improving the range accuracy in imaging laser radar**, Chao Yang, Huimin Yan, Xiuda Zhang, Wangpin Shangguan, Heng Su, Zhejiang Univ. (China) [7854-102]
- The reflectance spectra and electrical properties of nanocrystalline metal thulium**, Fengyan Liu, Beijing Univ. of Technology (China) [7854-103]
- A novel method of infrared radiation measurement based on a reference blackbody**, Ci-Yin Yang, Jian-ping Zhang, Li-Hua Cao, Yan Li, Changchun Institute of Optics, Fine Mechanics and Physics (China) [7854-104]
- A digital processing method for detecting micro-cantilever deflection of micro-cantilever focal plane arrays**, Cheng Gong, Mei Hui, Liqun Dong, Yuejin Zhao, Beijing Institute of Technology (China) [7854-105]
- Large focal depth of THz imaging system based on quasi-Bessel beams**, Jianjun Liu, Lifeng Wang, Jing Li, Wei Wang, Zhi Hong, China Jiliang Univ. (China) [7854-106]
- Carrier dynamics of doped silicon measured by femtosecond pump-terahertz probe spectroscopy**, Qing-li Zhou, Yulei Shi, Capital Normal Univ. (China); Tong Li, Tianjin Univ. of Technology and Education (China); Bin Jin, Dongmei Zhao, Cunlin Zhang, Capital Normal Univ. (China) [7854-107]
- Analysis of scattering and polarization characteristics of chiral sphere with large size parameter**, Huan Li, Zhensen Wu, Zhengjun Li, Qingchao Shang, Xidian Univ. (China) [7854-108]
- A total variation denoising algorithm for hyperspectral data**, Ting Li, Xiao-mei Chen, Bo Xue, Qian-qian Li, Guo-qiang Ni, Beijing Institute of Technology (China) [7854-109]
- THz/sub-THz narrow-gap semiconductor detector**, Fiodor F. Sizov, Valentin Dobrovolsky, Vyacheslav Zabudsky, Natalija Momot, Zinovija Tsybrii, V. Lashkaryov Institute of Semiconductor Physics (Ukraine); Yurii Kamenev, Usikov Institute of Radiophysics and Electronics (Ukraine); Sergiy Prishlin, V. Lashkaryov Institute of Semiconductor Physics (Ukraine) [7854-110]
- 16-km horizontal-path experimental demonstration of fine tracking system for satellite-to-ground optical communication**, Yang Cao, Chongqing Univ. of Technology (China) [7854-111]
- Large dynamic range interferogram acquisition scheme for ultrahigh spectrum resolution Fourier transform infrared spectrometer**, Xiaojie Sun, Dayu Li, Shanghai Institute of Technical Physics (China) [7854-112]
- Application of millimeter-wave photonics technology in passive millimeter-wave imaging**, Yuedong Zhang, Yuesong Jiang, Yuntao He, Haiyang Wang, BeiHang Univ. (China) [7854-113]
- Analysis of terahertz radiation characteristics of tank**, Ronghua Liu, Yuesong Jiang, BeiHang Univ. (China) [7854-114]
- Temperature measurement of contact resistance based on infrared detection**, De En, Jieyu Feng, Ningbo Zhang, Ningning Wang, Xiaobin Wang, Henan Polytechnic Univ. (China) [7854-115]
- The observation of terahertz spectra of all-trans beta-carotene molecule**, Jian Zuo, Liangliang Zhang, Fei Yu, Zhenwei Zhang, Cunlin Zhang, Capital Normal Univ. (China) [7854-116]
- Continuous wave terahertz phase imaging**, Wen-Feng Sun, Capital Normal Univ. (China); Xinke Wang, Harbin Institute of Technology (China); Ye Cui, Yan Zhang, Capital Normal Univ. (China) [7854-117]
- Transient surface photoconductivity of GaAs emitter studied by terahertz pump-emission spectroscopy**, Yulei Shi, Capital Normal Univ. (China) [7854-118]
- Slow light in the dielectric-loaded metallic waveguide for terahertz wave**, Jinlong He, Xiangjun Li, Zhi Hong, Wang Wei, China Jiliang Univ. (China) [7854-119]
- Terahertz difference frequency generation in GaSe from a doubly-resonant walk-off compensated KTP OPO**, Kai Zhong, Tianjin Univ. (China) . . [7854-120]
- Theoretical study on the generation of THz sub-comb via surface-emitted optical rectification of ultra-short pulse in periodically poled lithium niobate**, Pengxiang Liu, Degang Xu, Jianquan Yao, Tianjin Univ. (China) [7854-121]
- A low-loss and birefringent terahertz waveguide based on polymer elliptical tube**, Jingli Wang, Tianjing Univ. (China) and Nanjing University of Posts and Telecommunications (China); Jianquan Yao, Tianjing Univ. (China) . . . [7854-122]
- The guidance mechanism and numerical simulation of THz polymer hollow-core photonic crystal fiber**, Ran Wang, Jianquan Yao, Tianjin Univ. (China) [7854-123]

Wednesday 20 October

SESSION 7

Room: 210 A+B Wed. 08.30 to 10.30

Session Chair: Sheng-Cai Shi, Purple Mountain Observatory (China)

08.30: **Large submillimeter and millimeter detector arrays for astronomy: development of NbSi superconducting bolometers** (*Invited Paper*), Francois P. Pajot, Youssef Atik, Institut d'Astrophysique Spatiale (France) and Univ. Paris-Sud 11 (France); Benoit Bélier, L. Bergé, Ctr. National de la Recherche Scientifique (France) and Univ. Paris-Sud 11 (France); G. Bordier, Eric Bréelle, Univ. Paris 7-Denis Diderot (France); Louis Dumoulin, Corinne Evesque, Institut d'Astrophysique Spatiale (France) and Univ. Paris-Sud 11 (France); Frédérique Gadot, Institut d'Électronique Fondamentale (France) and Univ. Paris-Sud 11 (France); Bernadette Leriche, Institut d'Astrophysique Spatiale (France) and Univ. Paris-Sud 11 (France); S. Marnieros, Ctr. National de la Recherche Scientifique (France) and Univ. Paris-Sud 11 (France); J. Martino, Michel R. Piat, Damien Prêre, Univ. Paris 7-Denis Diderot (France); Sheng-Cai Shi, Purple Mountain Observatory (China); Fabrice Voisin, Univ. Paris 7-Denis Diderot (France); J. Zhong, Institut d'Astrophysique Spatiale (France) and Univ. Paris-Sud 11 (France) and Purple Mountain Observatory (France).....[7854-30]

09.00: **Antenna coupled microwave kinetic inductance arrays for ground based astronomy** (*Invited Paper*), Andrey M. Baryshev, SRON Netherlands Institute for Space Research (Netherlands) and Kapteyn Astronomical Institute (Netherlands); Jochem J. A. Baselmans, Stephen Yates, SRON Nationaal Instituut voor Ruimteonderzoek (Netherlands); Lorenza Ferrari, SRON Netherlands Institute for Space Research (Netherlands); Akira Endo, Teun Klapwijk, Technische Univ. Delft (Netherlands); Alessandro Monfardini, Alain Benoit, Institut NÉEL (France); Bernd Klein, Max-Planck-Institut für Radioastronomie (Germany) and Univ. of Applied Sciences Bonn-Rhein-Sieg (Germany); Rolf Guesten, Max-Planck-Institut für Radioastronomie (Germany)[7854-31]

09.30: **New design enhancements for microbolometer PIR security sensors** (*Invited Paper*), Kevin C. Liddiard, Electro-optic Sensor Design (Australia).....[7854-32]

10.00: **Calibration of the mid-infrared imaging camera**, Ning Li, Graduate Univ. of the Chinese Academy of Sciences (China) and Graduate School of the Chinese Academy of Science (China)[7854-33]

10.15: **Polarization modulation terahertz filter based on metallic fractal structures**, Guozhong Zhao, Bo Wei, Liming Liu, Capital Normal Univ. (China)[7854-34]

Coffee/Tea Break10.30 to 11.00

SESSION 8

Room: 210 A+B Wed. 11.00 to 13.00

Session Chair: Sheng-Cai Shi, Purple Mountain Observatory (China)

11.00: **TAD2: the first truly non-intrusive lie detection system deployed in real crime cases** (*Invited Paper*), Sarun Sumriddetchkajorn, Armote Somboonkaew, National Electronics and Computer Technology Ctr. (Thailand)[7854-35]

11.30: **A design study on terahertz interferometry in Antarctica** (*Invited Paper*), Hiroshi Matsuo, National Astronomical Observatory of Japan (Japan); Sheng-Cai Shi, Qi-jun Yao, Purple Mountain Observatory (China); Yuan Luo, Tohoku Univ. (Japan); Taro Matsuo, Jet Propulsion Lab. (United States); Izumi S. Ohta, Kinki Univ. (Japan)[7854-36]

12.00: **Dielectric response of (Ca_{0.5+x}Sr_{0.5-x})[(Al_{0.5}Nb_{0.5})_{0.5}Ti_{0.5}]O₃ complex perovskite at terahertz region**, Mingzhe Hu, Hubei Univ. (China); Kaijun Mu, Cunlin Zhang, Capital Normal Univ. (China); Haoshuang Gu, Hubei Univ. (China)[7854-37]

12.15: **Far-infrared in vivo signature of human skin by terahertz time-domain spectroscopy using waveform rebuilding technology**, Xiangjun Li, China Jiliang Univ. (China) and Zhejiang University (China); Jinlong He, China Jiliang Univ. (China)[7854-38]

12.30: **Study on detection and identification model of passive terahertz imaging system for extended target**, Hongguang Li, Xi'an Institute of Applied Optics (China) and Optical Metrology Lab. (China); Hongru Yang, Baoning Wu, Liang Yuan, Xi'an Institute of Applied Optics (China)[7854-39]

12.45: **Image fusion based on millimeter-wave for concealed weapon detection**, Weiwen Zhu, Yuejin Zhao, Liquan Dong, Beijing Institute of Technology (China)[7854-40]

Study on generation of high-power terahertz wave from surface-emitted THz-wave parametric oscillator with MgO:LiNbO₃ crystal, Zhongyang Li, Jianquan Yao, Degang Xu, Jun Li, Kai Zhong, Pibin Bing, Tianjin Univ. (China)[7854-124]

Research on thermal characteristic of electronic devices using thermal microscopy, Jihui Wang, Lu Gao, Beijing Institute of Technology (China)[7854-125]

The separation for simultaneous transmission of baseband and microwave signals in a radio-over-fiber system, Shikui Shen, Beijing Institute of Technology (China); Min Lv, Minzu Univ. of China (China); Aiying Yang, Jianmin Cui, Yu-nan Sun, Beijing Institute of Technology (China)[7854-126]

Terahertz semiconductor metamaterials for tunability, Jianguang Han, Tianjin Univ. (China)[7854-127]

Performance of free-space optical communication systems using circle polarization shift keying with spatial diversity receivers, Chao Liu, Xuelian Yu, Yong Yao, Harbin Institute of Technology (China)[7854-128]

Analysis of quantitative differences in large-aperture size for free-space optical communication systems with circle polarization shift keying and on-off keying in atmospheric turbulence channels, Chao Liu, Xuelian Yu, Yong Yao, Harbin Institute of Technology (China)[7854-129]

Investigation of the mixing mechanisms for a terahertz superconducting hot electron bolometer mixer, Jiang Ling, Fei Yun Liu, Nanjing Forestry Univ. (China); Tatsuya Shiino, Satoshi Yamamoto, The Univ. of Tokyo (Japan)[7854-130]

Frequency selective surface based on metamaterials, Jin Hui Shi, Harbin Engineering Univ. (China)[7854-131]

A Radio-over-fiber system with 64-QAM photonically generated OFDM signals, Jing He, Jie Li, Dong Yang, Hunan Univ. (China)[7854-132]

Quantitative analysis of Ni, Zr and Ba in soil by combing neuro-genetic approach and laser induced breakdown spectroscopy, Qinmei Shen, Zhejiang Normal Univ. (China)[7854-133]

Methods of THz pulse holography, Andrei A. Gorodetsky, Saint-Petersburg State Univ. of Information Technologies, Mechanics and Optics (Russian Federation); Victor G. Bespalov, St. Petersburg State Univ. of Information Technologies, Mechanics and Optics (Russian Federation)[7854-135]

Noncontact ultrasonic infrared thermography inspection technique, Ning Tao, Capital Normal Univ. (China); Zhi Zeng, Chongqing Normal Univ. (China); Lichun Feng, Capital Normal Univ. (China); Dapeng Chen, BeiHang Univ. (China); Yue Li, Capital Normal Univ. (China)[7854-136]

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Optical Metrology and Inspection for Industrial Applications

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Monday 18 October

Opening Ceremony and Plenary Session. Mon. 08.30 to 12.00

- 8.30: Opening Ceremony
- 9.00: **Fibre Optic Systems for Gas Detection: Progress and Prospects**, Brian Culshaw, Univ. of Strathclyde (United Kingdom)
- 9.30: **Optical Tweezers Based Micro-rheology**, Arthur Chiou, National Yang Ming Univ. (Taiwan, China)
- Coffee/Tea Break 10:00 to 10:30 am
- 10.30: **Integration and Function Enhancements of Planar Lightwave Circuits (PLCs) for Optical Communication**, Ray T. Chen, The Univ. of Texas, Austin (United States)
- 11.00: **Modern Optical System Design: Holistic Optimization of Innovative Design Concepts**, Willi Ulrich, Carl Zeiss AG (Germany)
- 11.30: **Index Guiding Microstructured Fibers and its Applications**, Libo Yuan, Photonics Research Ctr., Harbin Engineering Univ. (China)

Lunch Break 12.00 to 13.30

SESSION 1

Room: 212 A+B Mon. 13.30 to 17.10

Optical Metrology for Nondestructive Testing

Session Chair: **Toru Yoshizawa**, Saitama Medical Univ. (Japan)

- 13.30: **PEM-based polarimeters for industrial applications** (*Invited Paper*), Baoliang Wang, Hinds Instruments, Inc. (United States) [7855-01]
- 14.00: **Computer simulation of photoelasticity**, Dong Yan, Shaopeng Ma, Beijing Institute of Technology (China) [7855-02]
- 14.20: **Spectroscopic topological Stokes polarimeter**, Toshitaka Wakayama, Saitama Medical Univ. (Japan); Yukitoshi Otani, Utsunomiya Univ. (Japan); Toru Yoshizawa, Saitama Medical Univ. (Japan) [7855-03]
- 14.40: **Line type polarimeter for spectroscopic Mueller matrix**, Yukitoshi Otani, Utsunomiya Univ. (Japan); Satoshi Takano, Tokyo Univ. of Agriculture and Technology (Japan) [7855-04]
- 15.00: **Double-aperture speckle shear interferometry without the influence of in-plane displacement and its derivative**, Guoqing Gu, Kaifu Wang, Nanjing Univ. of Aeronautics and Astronautics (China) [7855-05]
- Coffee/Tea Break 15.20 to 15.50
- 15.50: **Measurement of the elastic modulus of solid material with objective speckle field**, Ping Ran, Zebin Fan, Kunming Univ. of Science and Technology (China) [7855-06]
- 16.10: **Determination of the optimal marker positions for optical extensometer considering lens distortion**, Zilong Zhao, Xian Wang, Shaopeng Ma, Beijing Institute of Technology (China) [7855-07]
- 16.30: **Error analysis of strain measurement induced by operating temperature of uncooled CCD**, Jiazhi Pang, Qinwei Ma, Shaopeng Ma, Beijing Institute of Technology (China) [7855-08]
- 16.50: **Optical system design for crack inspections using magneto-optical imaging**, Qingying Hu, Quest Integrated, Inc. (United States) [7855-09]

Tuesday 19 October

SESSION 2

Room: 212 A+B Tues. 08.30 to 12.10

Optical Metrology Devices

Session Chair: **Kevin Harding**, GE Global Research (USA)

- 08.30: **Development of an inner profile measurement instrument using a ring beam device** (*Invited Paper*), Toru Yoshizawa, Toshitaka Wakayama, Saitama Medical Univ. (Japan) [7855-10]
- 09.00: **Automatic, fast, and high-density optical inspection for shell-shaped engineering objects**, Xiaoli Liu, Xiang Peng, Ameng Li, Yongkai Yin, Chenggong Zhang, Dong He, Shenzhen Univ. (China) [7855-11]
- 09.20: **A palm-top camera for 3D profilometry incorporating a MEMS scanner**, Toru Yoshizawa, Toshitaka Wakayama, Saitama Medical Univ. (Japan) [7855-12]
- 09.40: **Phase shift based measurements using a pocket LCD projector**, Yana Williams, Kevin Harding, GE Global Research (United States) [7855-13]
- 10.00: **A hand-held triangulation sensor for small features measurement**, Gil Abramovich, Kevin Harding, GE Global Research (United States) [7855-14]
- Coffee/Tea Break 10.20 to 10.50
- 10.50: **A simple optical system for measuring small rotation angle of mechanism**, Weijun Li, Institute of Electrical Engineering (China); Qinwei Ma, Beijing Institute of Technology (China); Dongwei Li, Siyang Liu, Yuan Chen, Institute of Electrical Engineering (China) [7855-15]
- 11.10: **Two-dimensional dynamic photoelectric autocollimator based on single linear CCD**, Zhenglan Bian, Min Gao, Shanghai Institute of Optics and Fine Mechanics (China) [7855-16]
- 11.30: **Absolute phase calculation from one composite RGB fringe pattern image by windowed Fourier transform algorithm**, Zonghua Zhang, Zhao Jing, Hui Feng, Haiyan Ma, Sixiang Zhang, Hebei Univ. of Technology (China) [7855-17]
- 11.50: **High-resolution dynamic three-dimensional profilometry based on a combination of stereovision and color-encoded digital fringe projection**, Dong Li, Jindong Tian, Shenzhen Univ. (China) [7855-18]
- Lunch Break 12.10 to 13.30

SESSION 3

Room: 212 A+B Tues. 13.30 to 17.00

Optical Metrology Methods

Session Chairs: **Peisen S. Huang**, Stony Brook Univ. (USA); **Guiju Song**, GE Global Research (China)

- 13.30: **Profilometry using optical comb light source and sinusoidal phase modulation technique in Fizeau-type interferometer**, Samuel Choi, Hidetaka Miyatsuka, Osami Sasaki, Takamasa Suzuki, Niigata Univ. (Japan) [7855-19]
- 13.50: **A displacement reconstruction algorithm used for optical feedback self mixing interferometry system under different feedback levels**, Yuanlong Fan, Yanguang Yu, Jiangtao Xi, Univ. of Wollongong (Australia); Huiying Ye, Zhengzhou Univ. (China) [7855-20]
- 14.10: **FPGA-based signal processing in an optical feedback self-mixing interferometry system**, Zongzhen Li, Yanguang Yu, Jiangtao Xi, Joe F. Chicharo, Univ. of Wollongong (Australia); Huiying Ye, Zhengzhou Univ. (China) . . [7855-21]

- 14.30: **Time-resolved vibrational surface profile measurement of ultrasonic motor using stroboscopic oblique incidence interferometer**, Yasuhiro Mizutani, Tetsuo Iwata, Univ. of Tokushima (Japan); Yukitoshi Otani, Utsunomiya Univ. (Japan)[7855-22]
- 14.50: **Quantitatively three-dimensional imaging for microstructures with phase measuring technique**, Ameng Li, Xiang Peng, Shenzhen Univ. (China)[7855-23]
- Coffee/Tea Break 15.10 to 15.40
- 15.40: **Theoretical analysis of the frequency splitting caused by intracavity quartz crystal**, Zhaohui Hu, BeiHang Univ. (China); Shulian Zhang, Tsinghua Univ. (China)[7855-24]
- 16.00: **Optical FMCW interference: a new technology for optical metrology**, Gang Zhang, Beijing Institute of Technology (China)[7855-25]
- 16.20: **Profile measurement with a spectral interferometer and the multi-wavelength back-propagation method**, Kohei Otsuki, Samuel Choi, Osami Sasaki, Takamasa Suzuki, Niigata Univ. (Japan)[7855-26]
- 16.40: **Sinusoidal wavelength-scanning common-path interferometer with a beam-scanning system for measurement of film thickness variations**, Osami Sasaki, Takafumi Morimatsu, Samuel Choi, Takamasa Suzuki, Niigata Univ. (Japan)[7855-27]

Wednesday 20 October

SESSION 4

Room: 212 A+B Wed. 08.30 to 12.20

Analysis and Calibration Methods for Optical Metrology

Session Chair: Qingying Hu, QUEST Integrated, Inc. (USA)

- 08.30: **Error analysis for 3D shape measurement with projector defocusing**, Song Zhang, Iowa State Univ. (United States)[7855-28]
- 08.50: **Calibration of a phase-based 3D imaging system based on uneven fringe projection technique**, Zonghua Zhang, Haiyan Ma, Hui Feng, Zhao Jing, Sixiang Zhang, Hebei Univ. of Technology (China)[7855-29]
- 09.10: **Calibration strategy of 3D vision inspection system for large-scale and shell-shape engineering objects**, Yongkai Yin, Tianjin Univ. (China) and Shenzhen Univ. (China); Xiaoli Liu, Ameng Li, Shenzhen Univ. (China); Xiang Peng, Shenzhen Univ. (China) and Tianjin Univ. (China)[7855-30]
- 09.30: **Phase error correction based on Inverse Function Shift Estimation in Phase Shifting Profilometry using a digital video projector**, Yang Liu, Jiangtao Xi, Yanguang Yu, Joe F. Chicharo, Univ. of Wollongong (Australia)[7855-31]
- 09.50: **Fast quality-guided phase unwrapping algorithm for three-dimensional fringe pattern profilometry**, Ke Chen, Jiangtao Xi, Yanguang Yu, Joe F. Chicharo, Univ. of Wollongong (Australia)[7855-32]
- Coffee/Tea Break 10.10 to 10.40
- 10.40: **Calibration and image enhancement algorithm of portable structured light 3D gauge system for improving accuracy**, Li Tao, GE Global Research (China); Kevin Harding, GE Global Research (United States); Ming Jia, Guiju Song, GE Global Research (China)[7855-33]
- 11.00: **Measuring method for the object pose based on monocular vision technology**, Changku Sun, Zimiao Zhang, Tianjin Univ. (China)[7855-34]
- 11.20: **Effect of color illumination on color contrast in color vision application**, Zhenmin Zhu, Xinghua Qu, Haiyu Liang, Guoxin Jia, Tianjin Univ. (China)[7855-35]
- 11.40: **An anti-noise subpixel algorithm based on phase-shifting of Fourier transform and its application in CCD photoelectric autocollimator**, Min Gao, Zhenglan Bian, Zuoren Dong, Zujie Fang, Ronghui Qu, Shanghai Institute of Optics and Fine Mechanics (China)[7855-36]
- 12.00: **Effect of structural parameters on the performance of fiber distance sensor with single mode illumination and inclined-fiber receiving**, Zhong Zhi, Peng Huan, Mingguang Shan, Harbin Engineering Univ. (China)[7855-37]
- Lunch Break 12.20 to 13.50

SESSION 5

Room: 212 A+B Wed. 13.50 to 16.50

Optical Metrology Applications

Session Chair: Jiangtao Xi, Univ. of Wollongong (Australia)

- 13.50: **3D profilometry: next requests from the industrial viewpoint (Invited Paper)**, Kevin Harding, GE Global Research (United States)[7855-38]
- 14.20: **Optical coherence tomography used for jade industry**, Shoude Chang, Youxin Mao, National Research Council Canada (Canada); Guangming Chang, Shandong Yingcai Univ. (China); Costel Flueraru, National Research Council Canada (Canada)[7855-39]
- 14.40: **A fast three-dimensional reconstruction method applied for the fabric defect detection**, LiMei Song, Chunbo Zhang, Tianjin Polytechnic Univ. (China)[7855-40]
- 15.00: **A novel method to measure wheelset parameters based on laser displacement sensor on line**, Zhifeng Zhang, Zhengzhou Univ. of Light Industry (China)[7855-41]
- Coffee/Tea Break 15.20 to 15.50
- 15.50: **Steam wetness measurement using CCD imaging methods in low-pressure turbine**, Wu Wei, Shiqiao Qin, National Univ. of Defense Technology (China)[7855-42]
- 16.10: **Detection of the bottle defect of glass container based on fast image processing algorithm**, Yunhan Luo, Jinan Univ. (China)[7855-43]
- 16.30: **Green inspection station**, Chen-Ko Sung, Andreas Jacobasch, Fraunhofer-Institut für Optronik, Systemtechnik und Bildauswertung (Germany)[7855-45]

POSTERS-Wednesday

Hallway Outside Rooms 302-305 Wed. 18.30 to 20.30

- A quaternion pose determination solution based on monocular vision model**, Jun Chen, Luoyang Institute of Electro-Optical Equipment (China)[7855-46]
- The influence of BRDF calibration to CT industry NDT**, Zilong Liu, Ningfang Liao, Beijing Institute of Technology (China)[7855-47]
- The study of interferometer spectrometer based on DSP and linear CCD**, Hua Kang, Beijing Univ. of Technology (China)[7855-48]
- Study on a novel illuminance calibration method for signal to noise ratio measurement of image intensifier**, Jifang Shi, Hongguang Li, Dongxu Cui, Feng Cao, Yunan Sun, Qi Xie, Xi'an Institute of Applied Optics (China)[7855-49]
- 3D profile measurement by using projection speckle pattern correlation method**, Eryi Hu, China Univ. of Mining and Technology (China)[7855-50]
- Design of 3D vision probe based on auto-focus**, Qian Liu, Chinese Academy of Engineering Physics (China)[7855-51]
- Principle of a novel displacement sensor based on infrared He-Ne laser**, Zhengqi Zhao, Shulian Zhang, Yan Li, Tsinghua Univ. (China)[7855-52]
- Study on the pose estimation method from four corresponding points with a single camera**, Peng Wang, Yongjun Zhou, Qiuzi Zhang, Luoyang Institute of Electro-Optical Equipment (China)[7855-53]
- Ultraviolet bidirectional reflectance distribution function measurement and analysis of typical roughness surface**, Bai Lu, Hanlu Zhang, Zhensen Wu, Haiying Li, Xidian Univ. (China); Shimei Wang, Anhui Institute of Optics and Fine Mechanics (China)[7855-54]
- Detection of positional precision of NC motorized stage based on the photoelectric autocollimator**, Bixi Yan, Naiguang Lv, Beijing Information Science and Technology Univ. (China); Qimeng Tan, Beijing Univ. of Posts and Telecommunications (China)[7855-55]
- Distance measurements for non-planar surface based on modified confocal technique**, Jianbo Luo, Yiyong Liang, Zhejiang Univ. (China); Wuji Ding, Hangzhou Special Equipment Inspection Institute (China); Longjiang Chen, Zhejiang Univ. (China)[7855-56]
- Fluorescence rejection by shifted excitation Raman difference spectroscopy**, Wenlong Zou, Zhijian Cai, Jianhong Wu, Soochow Univ. (China)[7855-57]
- Detection of glass container mold number based on wavelet analysis**

Conference 7855

- advanced image recognition technology**, Yunhan Luo, Jinan Univ. (China) [7855-58]
- An improved algorithm for eliminating phase-stepping error**, Gang Wang, Beijing Institute of Technology (China) [7855-59]
- Birefringence measurement system for LCD glass substrates**, Baoliang Wang, Andy Breninger, Chad Mansfield, Andrew Leadbetter, Abebe Gezahegn, Doug Mark, Dan Bentley, Hinds Instruments, Inc. (United States) [7855-60]
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