12th International Conference on Photoexcited Processes and Applications

ICPEPA-12

September 18 – 22, 2023

Pan Pacific Suzhou, No. 259, Xinshi Road, Suzhou, China

https://www.researching.cn/conference/ICPEPA-12

Program

Conference Chairs: Ya Cheng Yunquan Liu Yangjian Cai

Shanghai Institute of Optics and Fine Mechanics, CAS, China Peking University, China Shandong Normal University, China

Welcome to ICPEPA-12

On behalf of the organizing committee, it is our great pleasure to welcome you to the 12th International Conference on Photoexcited Processes and Applications (ICPEPA-12), to be held from September 18-22, 2023 in Suzhou, China. ICPEPA has been initiated at the 1993 Conference in Sendai, Japan and has been strengthened at successive Conferences in Jerusalem, Israel, 1995, Strasbourg, France, 1999, Lecce, Italy, 2004, Charlottesville, USA, 2006, Sapporo, Japan, 2008, Copenhagen, Denmark, 2010, Rochester, USA, 2012, Matsue, Japan, 2014, Brasov, Romania, 2016, Vilnius, Lithuania, 2018, now ICPEPA comes to China for the first time, where business of lasers and laser applications is rapidly growing.

ICPEPA-12 continues the tradition inherited from past Conferences and involves the topics ranging from fundamental laser-material interactions, theory and modeling to applications with nanoparticles and nanophotonics as well as new trends in photo excitations. The conference intends to create an atmosphere for scientific presentations at the forefront of the field and an informal exchange of ideas in a relaxing environment.

The technical program for the four-day event includes 1 plenary talk, 15 invited talks, 57 oral presentations, and 72 poster presentations involving participants from ten countries. In addition to these technical sessions, we will organize social events including banquet and excursion for promoting friendship between the participants. We are convinced that ICPEPA-12 will stimulate fruitful discussion and useful exchanges.

The conference site, Suzhou, is a city with a long history of more than 2500 years on the lower reaches of the Yangtze River and on the shores of Taihu Lake in the province of Jiangsu, China. The city is praised as "a paradise on earth" for its elegant classical gardens, exquisite water towns, charming natural scenery and splendid history and culture.

Finally, we would like to express our sincere thanks to all the presenters, in particular the plenary and invited speakers, the conference participants, and our sponsors. We would also like to thank the members of each committee, and the secretariat. Thank you very much for your participation, and we sincerely hope you enjoy your time here in this fascinating city.

Suzhou, China, September 2023





Ya Cheng SIOM, CAS

Conference Chairs of ICPEPA-12



Yunquan Liu Peking University



PD

Yangjian Cai Shandong Normal University

Contents

Welcome to ICPEPA-12	I
Organizers	Ш
Co-Organizers	Ш
Special Acknowledgements	Ш
Chairs	V
Committees	V
Plenary Speaker	VI
Invited Speakers	VI
Official and Social Programs	VIII
Excursion and Banquet	IX
Paper Codes on ICPEPA-12 Program	х
Venue Layout	XI
Program	XIII
Author Index	23

Organizers

Chinese Optical Society, China

Chinese Laser Press, China

Co-Organizers

Suzhou University of Science and Technology, China

Fundamental Optics Committee of the Chinese Optical Society, China

Special Acknowledgements

We would like to express our sincere appreciation for the great supports and contributions from the following organizations.





Chairs

Conference Chairs	
Ya Cheng	Shanghai Institute of Optics and Fine Mechanics, CAS, China
Yunquan Liu	Peking University, China
Yangjian Cai	Shandong Normal University, China
Steering Panel	
Peter Balling	Aarhus University, Denmark
Chunlei Guo	University of Rochester, USA
Ion N Mihailescu	National Institute for Lasers. Plasma and Radiation Physics. Romania

Ion N. Mihailescu Aaron Peled Gediminas Raciukaitis Koji Sugioka Yasuyuki Tsuboi Leonid Zhigilei University of Rochester, USA National Institute for Lasers, Plasma and Radiation Physics, Romania Holon Institute of Technology, Israel Center for Physical Sciences and Technology, Lithuania RIKEN, Japan Osaka City University, Japan University of Virginia, USA

Committees

International Advisory Committee

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Nanjing University, China
East China Normal University, China
Soochow University, China
National University of Defense Technology, China

Prof. Koji Sugioka

RIKEN, Japan

" Ultrafast Laser 3D Micro and Nanoprocessing"

Invited Speakers

Yves Bellouard

Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland

"On the use of non-ablative femtosecond laser-matter interaction for tailoring materials properties"

Nadezhda Bulgakova

HiLASE, Institute of Physics CAS, Czech Republic

"Laser processing of bandgap materials in dual wavelength irradiation regimes: mechanisms and opportunities for efficient energy coupling"

Zhigang Chen

Nankai University, China

"Topological control of light in photonic lattices"

Yoshio Hayasaki

Utsunomiya University, Japan

"Holographic laser processing with high stability"

Tatiana Itina

CNRS and Saint-Etienne University, France

"Modeling of laser-induced modifications of nano-objects and nanocomposite materials"

Aleksandr Kuchmzihak

Far Eastern Federal University, Russia

"Structural color marking and security labeling by ablation-free femtosecond laser processing"

Yongfeng Lu

University of Nebraska-Lincoln, USA

"Forming micro-objects using two-dimensional printing and spontaneous Origami transformations"

Godai Miyaji

Tokyo University of Agriculture and Technology, Japan

"Direct nanopatterning by surface plasmons excited with intense femtosecond laser pulses"

Sven Reichenberger

University of Duisburg-Essen (UDE), Germany

"Photoexcited imprinting of defects and dopants in nanoparticles by pulsed laser diffusion enhancement in liquids"

Razvan Stoian

Université Jean Monet, France

"Micro and nanoscale dynamics of ultrafast laser refractive index engineering for 3D optical design"

Katharine Moore Tibbetts

Virginia Commonwealth University, USA

"Elucidation of chemical reactions induced by laser ablation in organic liquids"

Mitsuhiro Terakawa

Keio University, Japan

"Laser fabrication of functional microstructures on hydrogel"

Yiping Wang

Shenzhen University, China

"Large-scale fiber Bragg Grating array inscribed by femtosecond laser and sensing applications"

Yong Zhang

Nanjing University, China

"Femtosecond laser writing of 3D $\chi^{(2)}$ structures in lithium niobate crystal"

Leonid V. Zhigilei

University of Virginia, USA

"Generation of crystal defects in ultrashort pulse laser processing of surfaces and nanoparticles"

Official and Social Programs

Registration

Sept. 18

- 08:30-20:30
- Welcome Reception

Sept. 18

17:30-20:00

Opening Remarks & Plenary

Sept. 19

- 8:30–9:25, Long Pan Ballroom
- Poster Sessions
 - Sept. 19, odd paper numbers & Sept. 21, even paper numbers
 - 19:30–20:30, Event Hall
- Coffee Break
 - Sept. 19, Sept. 21, twice a day
 - Sept. 20, Sept. 22, morning
- Closing Remarks

Sept. 22

- 15:45–16:00, Long Pan Ballroom
- Excursion

Sept. 20

13:00-18:00, Tong Li

Banquet

Sept. 20

18:30–20:30, Suzhou Jiangnan Shou Xi

Excursion

Day and Time: Day-2, Sept. 20, 13:00~18:00

Place: Tongli

The bus will take attendees to the banquet in the evening. Details will be announced in the conference.



Tongli, is a town in Wujiang district, on the outskirts of Suzhou, Jiangsu province. It was built in the Song dynasty and till now, it has a history of more than 1000 years. It has been given the nickname "Venice of the East". The place retains many of the features of an ancient Wu region town. In 2010, it was evaluated as a national 5A tourist attraction by the National Tourism Administration.

Banquet

Day and Time: Day-2, Sept. 20, 18:30~20:30

Place: Suzhou Jiangnan Shou Xi (苏州江南首席(湖滨壹号))

Add: 3rd floor, Hubin Building, Hubin Avenue, Suzhou Industrial Park, Suzhou, China.



Paper Codes on ICPEPA-12 Program

Oral Presentations

The 1st & 2nd letters of the codes indicate the day of the week. Mo = Monday Tu = Tuesday We = Wednesday Th = Thursday Fr = Friday The 3rd & 4th letters indicate the presentation type. PL = Plenary I = Invited O = Oral The last number after hyphen signals the presentation order of the paper For example, Tu-O-4 [Tuesday] — [Oral Presentation] — [4th presentation] **Poster Presentations**

The 1st letter of the codes indicates the presentation type. P = Poster The last number after hyphen signals the poster order of the paper. For example, P-4 [Poster Presentation] — [4th poster]

Important Notes

The poster presenters are requested to be present in front of their posters during 19:30-20:30 on Tuesday for the odd paper numbers and Thursday for the even paper numbers.



Conference Hall



Program

Oral Session

Day 1: Tuesday, September 19

Opening

8:30 Opening Remarks-Prof. Ya Cheng & Prof. Bojian Tang

Plenary Session

Plenary 08:40 Tu-PL-1

Chair: Yunquan Liu (Peking University, China) ICPEPA-2023-000081

Ultrafast laser 3D micro and nanoprocessing, Koji Sugioka^{1*}, ¹RIKEN Center for Advanced Photonics, Wako, Saitama 351-0198, Japan

Ultrafast processes in laser-matter interaction

		Chair: Yiping Wang (Shenzhen University, China)
09:25 Tu-I-1 [Online]	Invited	ICPEPA-2023-000042
Elucidation of chemical r	eactions induce	ed by laser ablation in organic liquids, <u>Katharine Moore Tibbetts^{1*}</u> ,
¹ Department of Chemistry, Virginia Commonwealth University, Richmond, VA 23284 USA		

09:55 Tu-O-1 ICPEPA-2023-000145 Interaction of matter with intense femtosecond laser: from Gas to solid, Chengyin Wu^{1*}, ¹School of Physics, Peking University, Beijing 100871, China

10:10 Tu-O-2 ICPEPA-2023-000105 **Direct sampling of ultrashort laser pulses using third order process with perturbation**, Pei Huang^{1*}, Huabao Cao^{1,2}, Hao Yuan^{1,2}, Yuxi Fu^{1,2*}, ¹Center for Attosecond Science and Technology, State Key Laboratory of Transient Optics and Photonics, Xi'an Institute of Optics and Precision Mechanics, Chinese Academy of Sciences, Xi'an 710119, Shaanxi, China, ²University of Chinese Academy of Sciences, Beijing 100049, China

10:25 Tu-O-3

ICPEPA-2023-000108

Attosecond X-ray absorption spectroscopy of ionic dynamics induced by strong-field ionization, Qian Zhang¹, Jing Zhao^{1*}, Xiaowei Wang¹, Jinlei Liu¹, Zengxiu Zhao¹, ¹Department of Physics, National University of Defense Technology, Changsha, 410073, China

10:40 Group Photo & Coffee Break

Advanced photonic devices

Chair: Jiaxu Yan (Changchun Institute of Optics, Fine Mechanics and Physics, CAS, China)

11:00 Tu-I-2 Invited ICPEPA-2023-000117 Large-scale fiber bragg grating array inscribed by femtosecond laser and sensing applications, Yiping

Wang^{1,2,3*}, Cailing Fu^{1,2}, Zhenwei Peng^{1,2}, ¹Shenzhen Key Laboratory of Photonic Devices and Sensing Systems for Internet of Things, Guangdong and Hong Kong Joint Research Centre for Optical Fibre Sensors, State Key Laboratory of Radio Frequency Heterogeneous Integration, Shenzhen University, Shenzhen 518060, China,

²Shenzhen Key Laboratory of Ultrafast Laser Micro/Nano Manufacturing, Key Laboratory of Optoelectronic Devices and Systems of Ministry of Education/Guangdong Province, College of Physics and Optoelectronic Engineering, Shenzhen University, Shenzhen 518060, China, ³Guangdong Laboratory of Artificial Intelligence and Digital Economy (SZ), Shenzhen 518107, China

11:30 Tu-O-4 ICPEPA-2023-000021 Imaging characteristic of the free-form sparse aperture telescope system, Quanying Wu^{1*}, Junliu Fan^{1,2}, Baohua Chen¹, Jun Wang¹, ¹School of Physical Science and Technology, Suzhou University of Science and Technology, Suzhou, 215009, Jiangsu, China, ²School of Electronic and Optical Engineering, Nanjing University of Science and Technology, Nanjing 210094, Jiangsu, China

11:45 Tu-O-5

Development of optical frequency combs and dual-comb spectroscopy, <u>Wenxue Li^{1*}</u>, ¹East China Normal University, Shanghai, China

12:00 Tu-O-6

Electro-optic crystal performance optimization and optical devices design based on ferroelectric domain engineering, Hao Tian^{1*},¹Harbin Institute of Technology, China

12:15 Tu-O-7

Highly sensitive fiber optic air pressure sensor based on femtosecond laser processing, Changning Liu^{1*}, ¹College of Physics and Electronic Science, Hubei Normal University, Huangshi, Hubei 435002, China

12:30 Lunch

Fundamentals of laser interaction with materials 1

14:00 Tu-O-8 ICPEPA-2023-000103 The surface-enhanced Raman scattering performance and mechanism of Oxygen Vacancy-Based Tungsten **Oxide substrates**, Lingjun Gu¹, Shan Cong², <u>Chunlan Ma^{1*}</u>, ¹Jiangsu Key Laboratory of Micro and Nano Heat Fluid Flow Technology and Energy Application, School of Physical Science and Technology, Suzhou University of Science and Technology, Suzhou, 215009, China, ²Key Laboratory of Nano-Devices and Applications, Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences, Ruoshui Road 398, Suzhou, China

14:15 Tu-O-9 Stimulated phonon polaritons mediated light-matter interaction and terahertz nonlinear physics, Yao Lu^{1*}, Qiang Wu¹, Jingjun Xu¹, ¹Key Laboratory of Weak-Light Nonlinear Photonics, Ministry of Education, TEDA Applied Physics Institute and School of Physics, Nankai University, Tianjin, 300457, China

14:30 Tu-O-10 Student ICPEPA-2023-000029 Multiscale computational study of surface modification by nonlinear laser-induced surface acoustic waves, Yuan Xu¹, Maxim V. Shugaev¹, Leonid V. Zhigilei^{1*}, ¹University of Virginia, USA

14:45 Tu-O-11

Geometric phase controlled nonlinear photonic metasurfaces, <u>Guixin Li^{1*}</u>, ¹Department of Materials Science and Engineering, Southern University of Science and Technology, Shenzhen 518055, China

15:00 Tu-O-12

The application of simultaneous spatiotemporal focusing technique in femtosecond laser microfabrication, Yuanxin. Tan¹, J. Xu², Y. J. Cai^{1*}, Y. Cheng^{2*}, ¹Shandong Provincial Engineering and Technical Center of Light Manipulations & Shandong Provincial Key Laboratory of Optics and Photonic Device, School of Physics and *Electronics, Shandong Normal University, Jinan 250014, China, ²XXL—The Extreme Optoelectromechanics* Laboratory, School of Physics and Electronics Science, East China Normal University, Shanghai 200241, China

ICPEPA-2023-000097

Chair: Wenxue Li (East China Normal University, China)

ICPEPA-2023-000136

ICPEPA-2023-000142

ICPEPA-2023-000066

ICPEPA-2023-000124

ICPEPA-2023-000116

Laser processing of bandgap materials in dual wavelength irradiation regimes: mechanisms and opportunities for efficient energy coupling, Nadezhda Bulgakova^{1*}, V. P. Zhukov^{1,2}, M. Zukerstein¹, J. Hrabovský^{1,3}, A. V. Bulgakov¹, ¹HiLASE Centre, Institute of Physics of the Czech Academy of Sciences, Za Radnici 828, 25241 Dolní Břežany, Czech Republic,²Federal Research Center for Information and Computational Technologies, Lavrentyev ave. 6, 630090 Novosibirsk, Russia,³ Faculty of Mathematics and Physics, Charles University in Prague, Ke Karlovu 3, 121 16 Prague 2, Czech Republic

15:45 Coffee Break

15:15 Tu-I-3 [Online]

Fundamentals of laser interaction with materials 2

Invited

Chair: Ya Cheng (Shanghai Institute of Optics and Fine Mechanics, CAS, China)

16:00 Tu-I-4 [Online] Invited

Photoexcited imprinting of defects and dopants in nanoparticles by pulsed laser diffusion enhancement in liquids, Sven Reichenberger^{1*}, ¹Technical Chemistry I and Center for Nanointegration Duisburg-Essen (CENIDE), Research Center for Nano Energy Technology (NETZ), Duisburg, 47057, University of Duisburg-Essen, Germany

16:30 Tu-O-13

ICPEPA-2023-000002 Spectroscopic measurements and analysis of Chl-a concentration effects and photo-excited processes in ethanol solutions of comestible plants, <u>Aaron Peled^{1*}</u>, Simona Alexandra Popescu¹, ¹Photonics Laboratory, Faculty of Engineering, Holon Institute of Technology, 52 Golomb Str. Holon 5867910 Israel

16:45 Tu-O-14 Student ICPEPA-2023-000064 Nonlinear harmonic wave manipulation in nonlinear scattering medium via Scattering-Matrix method, <u>Fengchao Ni¹</u>, Haigang Liu¹, Yuanlin Zheng^{1,2*}, Xianfeng Chen^{1,2,3*}, ¹State Key Laboratory of Advanced Optical Communication Systems and Networks, School of Physics and Astronomy, Shanghai Jiao Tong University, Shanghai 200240, China, ²Shanghai Research Center for Quantum Sciences, Shanghai 201315, China, ³Collaborative Innovation Center of Light Manipulations and Applications, Shandong Normal University, Jinan 250358, China

17:00 Tu-O-15 Ultrafast carrier dynamics of two-dimensional transition metal dichalcogenides, <u>Zhaogang Nie^{1,2,3*}</u>, ¹School of Physical Science and Information Technology, Liaocheng University, Liaocheng 252059, China, ²School of Physics and Optoelectronic Engineering, Guangdong University of Technology, Guangzhou 510006, China, ³Key Laboratory of Optical Communication Science and Technology of Shandong Province, Liaocheng University, Liaocheng 252059, China

Student 17:15 Tu-O-16 ICPEPA-2023-000013 Modeling of optical properties of laser-induced plume, Chaobo Chen¹, Maximilian Spellauge^{2,3}, Heinz Paul Huber², Leonid V. Zhigilei^{1*}, ¹Materials Science and Engineering, University of Virginia, 395 McCormick Road, Charlottesville, Virginia 22904-4745, USA, ²Applied Sciences and Mechatronics, Munich University of Applied Sciences, Lothstr. 34, 80335 Munich, Germany, ³Technical Chemistry I and Center for Nanointegration Duisburg-Essen (CENIDE), University of Duisburg-Essen, 45141 Essen, Germany

ICPEPA-2023-000023 Ionic excitation and its stimulated emissions in ultrafast femtosecond laser fields, Hongqiang Xie^{1,2*}, Qian Zhang¹, Guihua Li², Hongbin Lei¹, Xiaowei Wang¹, Jing Zhao¹, Jinping Yao³, Ya Cheng⁴, Zengxiu Zhao¹, ¹East China University of Technology, Nanchang 330013, China, ²National University of Defense Technology, Changsha 410073, China, ³Shanghai Institute of Optics and Fine Mechanics, CAS, Shanghai 201800, China, ⁴East China Normal University, Shanghai 200062, China

ICPEPA-2023-000047

17:30 Tu-O-17

17:45 Tu-O-18 Coherent diffraction imaging with broadband illuminations, Boyang Li¹, Zehua Xiao¹, Hao Yuan¹, Hushan Wang^{1*}, Yuxi Fu^{1*}, ¹Xi'an Institute of Optics and Precision Mechanics of Chinese Academy of Sciences, Xi'an 710119, China

18:00 Dinner

Poster Session 1: 19:30 (odd paper numbers)

Ultrafast laser surface processing

Day 2: Wednesday, September 20

		Chair: Razvan Stoian (Université Jean Monnet, France)
08:30 We-I-1	Invited	ICPEPA-2023-000077
Direct nanopatterning b	y surface plasmons excite	d with intense femtosecond laser pulses, Godai Miyaji ^{1*} ,
¹ Faculty of Engineering, ⁻ 184-8588, Japan	Tokyo University of Agricu	lture and Technology, 2-24-16, Nakacho, Koganei, Tokyo
<u>09:00</u> We-O-1		ICPEPA-2023-000049
Surface structuring of fu	sed silica by an ultrashor	t pulse burst with THz repetition rates, Boyang Zhou ¹ ,
Amlan Das ¹ , <u>Xiaoming Yu</u> Orlando, Florida 32816,	1 ^{1*} , ¹ CREOL, The College of USA	Optics and Photonics, University of Central Florida,
09:15 We-O-2		ICPEPA-2023-000039
Direct graving of microstructures on a highly-transparent CYTOP substrate by 257-nm femtosecond laser , <u>Kazunari Ozasa^{1*}</u> , K. Obata ¹ , H. Kawano ^{2,3} , A. Miyawaki ^{2,3} , K. Sugioka ^{1*} , ¹ Advanced Laser Processing Research Team, RAP-RIKEN, 2-1 Hirosawa, Wako, Saitama 351-0198, Japan, ² Biotechnological Optics Research Team, RAP-RIKEN, 2-1 Hirosawa, Wako, Saitama 351-0198, Japan, ³ Laboratory for Cell Function Dynamics, CBS- RIKEN, 2-1 Hirosawa, Wako, Saitama 351-0198, Japan		
<u>09:30</u> We-O-3	Student	ICPEPA-2023-000032
Femtosecond laser print Yongxiang Hu ^{1*} , ¹ State Ko Engineering, Shanghai Jia	ing nanoparticle array on ey Laboratory of Mechanic ao Tong University, Shang Student	flexible substrate for detection application, <u>Yu Zhou¹</u> , cal System and Vibration, School of Mechanical hai 200240, China ICPEPA-2023-000044
Freeform chiral metasur	faces for advanced polari	zation optical elements. Qianmei Deng ¹ , Fengiun Li ¹ .
Xiangping Li ¹ , Zilan Deng	^{1*} , ¹ Guangdong Provincial	Key Laboratory of Optical Fiber Sensing and
Communications, Institut	te of Photonics Technology	ν, Jinan University, Guangzhou 510632, China
10:00 Coffee Break		

Laser writing of optical waveguides

Invited

Chair: Godai Miyaji (Tokyo University of Agriculture and Technology, Japan)

10:15 We-I-2

ICPEPA-2023-000031

Micro and nanoscale dynamics of ultrafast laser refractive index engineering for 3D optical design, Razvan Stoian^{1*}, ¹Laboratoire Hubert Curien, UMR 5516, CNRS, Université Jean Monnet, Saint Etienne, France

ICPEPA-2023-000083

ICPEPA-2023-000140 On-chip polarization beam splitter at visible wavelengths with ridge waveguide, Yujie Ma1*, Xinzhi Zheng1, ¹Shenzhen Key Laboratory of Ultraintense Laser and Advanced Material Technology, Center for Advanced Material Diagnostic Technology, College of Engineering Physics, Shenzhen Technology University, Shenzhen 518118, People's Republic of China 11:15 We-O-7 ICPEPA-2023-000104 **Ultrafast laser inscription of waveguides in Gorilla glass**, Jing Lv^{1*}, G. Cheng^{1*}, K. Wang², ¹School of Artificial Intelligence, Optics and Electronics (iOPEN), Northwestern Polytechnical University, Xi'an 710072, China, ²State Key Laboratory for Manufacturing Systems Engineering, Xi'an Jiaotong University, Xi'an 710054, China 11:30 We-O-8 **Femtosecond laser assisted fabrication of optofluidic waveguides in glass**, <u>Jian Xu^{1*}</u>, Jianping Yu^{1,2}, Jianfang Chen², Ya Cheng^{1,2*}, ¹The Extreme Optoelectromechanics Laboratory, East China Normal University, Shanghai 200241, China, ²Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, Shanghai, China

11:45 We-O-9 **TBD**, Lei Shi^{1*}, Fudan University, China

12:00 Lunch

13:00 Excursion

18:30 Banquet

Day 3: Thursday, September 21

Structured light and resonators

Invited

Chair: Dongshi Zhang (Shanghai Jiao Tong University, China) ICPEPA-2023-000024

Holographic laser processing with high stability, Yoshio Hayasaki^{1*}, Satoshi Hasegawa¹, Honghao Zhang¹, Nami Kuroo¹, Fumiya Ishita¹, Takefumi Kosugi¹, ¹Center for Optical Research and Education (CORE), Utsunomiya University, 7-1-2 Yoto, Utsunomiya, 321-8585, Japan

09:00 Th-O-1

08:30 Th-I-1 [Online]

Vortex and vector air lasing, <u>Yi Liu^{1*}</u>, Jingsong Gao², Meicheng Mei¹, Xiang Zhang¹, Yang Wang², Yiqi Fang², Qi Lu¹, Chengyin Wu², Yunguan Liu², Qihuang Gong², Hongbing Jiang², ¹Shanghai Key Lab of Modern Optical System, University of Shanghai for Science and Technology, Shanghai 200093, China, ²State Key Laboratory for Mesoscopic Physics, School of Physics, Peking University, Beijing 100871, China

09:15 Th-O-2

High-throughput volumetric microfabrication with structured light, He Cheng¹, Pooria Golvari², Chun Xia¹, Mingman Sun³, Meng Zhang³, Stephen M. Kuebler^{1,2}, Xiaoming Yu^{1*}, ¹CREOL, The College of Optics and Photonics, University of Central Florida, Orlando, Florida 32816, USA, ²Department of Chemistry, University of Central Florida, Orlando, FL 32816, USA, ³Department of Industrial and Manufacturing Systems Engineering, Kansas State University, Manhattan, KS 66506, USA

ICPEPA-2023-000110

Modification in Alpha-Quartz induced by ultrashort pulsed laser for low-loss optical waveguide formation,

Tomohiro Fukui¹, Reina Yoshizaki^{2*}, Yusuke Ito¹, Junya Hattori¹, Naohiko Sugita², ¹Department of Mechanical Engineering, Graduate School of Engineering, The University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo, 113-8656, Japan, ²Research into Artifacts, Center for Engineering, The University of Tokyo, 7-3-1 Hongo, Bunkyoku, Tokyo, 113-8656, Japan

11:00 We-O-6

10:45 We-O-5

Student

ICPEPA-2023-000041

ICPEPA-2023-000050

Oral Session

<u>09:30</u> Th-O-3 ICPEPA-2023-000098 **Optical twisted phase strips**, Jinzhan Zhong^{1*}, Qiwen Zhan¹, ¹School of Optical-Electrical and Computer Engineering, University of Shanghai for Science and Technology, Shanghai 200093, China

09:45 Th-O-4 Student

High quality lithium niobate Euler racetrack resonators, <u>Shuting Kang¹</u>, Xuanyi Yu¹, Feng Gao¹, Fang Bo^{1*}, Guoquan Zhang^{1*}, Jingjun Xu^{1*}, ¹MOE Key Laboratory of Weak-Light Nonlinear Photonics, TEDA Institute of Applied Physics and School of Physics, Nankai University, Tianjin 300457, China

10:00 Th-O-5

Photoacoustic tomography with a chalcogenide-based micro-ring sensor array, Jingshun Pan¹, Qiang Li¹, <u>Yuecheng Shen^{1*}</u>, Zhaohui Li^{1*}, ¹School of Electronics and Information Technology, Guangdong Provincial Key Laboratory of Optoelectronic Information Processing Chips and Systems, Sun Yat-sen University, Guangzhou 510275, China

10:15 Coffee Break

Functional optical materials

Chair: Yi Liu (University of Shanghai for Science and Technology, China) <u>10:30 Th-I-2 [Online]</u> Invited ICPEPA-2023-000040 Laser fabrication of functional microstructures on hydrogel, <u>Mitsuhiro Terakawa^{1*}</u>, ¹Department of Electronics and Electrical Engineering, Keio University 3-14-1 Hiysohi, Kohoku-ku, Yokohama, Kanagawa 223-8522, Japan 11:00 Th-O-6 ICPEPA-2023-000123

Optical modulation of metallic interfaces by femtosecond laser nanostructuring, <u>Dongshi Zhang^{1*}</u>, Ruijie Liu¹, Chunxi Li¹, Zhuguo Li¹, ¹Shanghai Key Laboratory of Materials Laser Processing and Modification, School of Materials Science and Engineering, Shanghai Jiao Tong University, Shanghai, China

11:15 Th-O-7ICPEPA-2023-000089Chiral artificial nanostructures and their applications in optical field manipulation, Zhancheng Li^{1*}, JiaqiCheng¹, Shuqi Chen¹, ¹The Key Laboratory of Weak Light Nonlinear Photonics, Ministry of Education, School of
Physics and TEDA Institute of Applied Physics, Nankai University, Tianjin 300071, China

11:30 Th-O-8

Bright upconversion emitter at very low laser irradiance, <u>Xuewen Chen^{1*}</u>, Jianwei Tang¹, ¹School of Physics, Huazhong University of Science and Technology, Wuhan, 430074, China

11:45Th-O-9StudentICPEPA-2023-000101Tunable narrowband carbon quantum dots laser based on self-assembled microstructure, Meng Zhang¹,Hailang Dai^{1*}, Xianfeng Chen^{1*}, ¹State Key Laboratory of Advanced Optical Communication Systems andNetworks, School of Physics and Astronomy, Shanghai Jiao Tong University, Shanghai 200240, China

12:00 Lunch

Lii of

Day 3: September 21, Thursday

ICPEPA-2023-000092

ICPEPA-2023-000113

Complex and topological photonics

Student

Chair: Yucheng Jiang (Suzhou University of Science and Technology, China)

14:00 Th-I-3 [Online] Invited

Modeling of laser-induced modifications of nano-objects and nanocomposite materials, Tatiana Itina^{1*}, A. Rudenko², ¹Hubert Curien Laboratory, UMR CNRS 5516, UJM, Saint-Etienne, France, ² College of Optical Sciences/University of Arizona, USA

14:30 Th-O-10

Low-threshold multi-wavelength plasmonic nanolasing in an 'H'-shape cavity, Fajun Xiao^{1*}, Jianlin Zhao¹, ¹Key Laboratory of light-field manipulation and information acquisition, Ministry of Industry and Information Technology, and Shaanxi Key Laboratory of Optical Information Technology, School of Physical Science and Technology, Northwestern Polytechnical University, Xi'an 710129, China

14:45 Th-O-11

15:00 Th-O-12

Coupling of two-dimensional excitons with plasmonic nanocavity, Longlong Yang¹, Can Wang^{1*}, Xiulai Xu^{2*}, ¹Institute of Physics, Chinese Academy of Sciences, Beijing 100190, China, ²School of Physics, Peking University, Beijing 100871, China

Topologically protected strong-interaction of photonics with free electron, Jing Li^{1,2}, Yunquan Liu^{1,2,3,4*}, ¹State Key Laboratory for Mesoscopic Physics and Collaborative Innovation Center of Quantum Matter, School of Physics, Peking University, Beijing 100871, China, ²Beijing Academy of Quantum Information Sciences, Beijing 100193, China, ³Collaborative Innovation Center of Extreme Optics, Shanxi University, Taiyuan, Shanxi 030006, China, ⁴Peking University Yangtze Delta Institute of Optoelectronics, Nantong, Jiangsu 226010, China

ICPEPA-2023-000096 15:15 Th-O-13 Student **Observation gauge filed in type-III Weyl metamaterials**, <u>Yanji Zheng</u>¹, Cuicui Lu^{1*}, ¹Key Laboratory of Advanced Optoelectronic Quantum Architecture and Measurements of Ministry of Education, Beijing Key Laboratory of Nanophotonics and Ultrafine Optoelectronic Systems, School of Physics, Beijing Institute of Technology, Beijing 100081, China

15:30 Th-O-14 ICPEPA-2023-000006 Three-dimensional observation of topological magnetic monopoles in a ferromagnetic meta-lattice, Xingyuan Lu^{1*}, Chengliang Zhao¹, Yangjian Cai², ¹School of Physical Science and Technology, Soochow University, Suzhou 215006, China, ²Shandong Provincial Engineering and Technical Center of Light Manipulations & Shandong Provincial Key Laboratory of Optics and Photonic Device, School of Physics and Electronics, Shandong Normal University, Jinan 250358, China.

15:45 Coffee Break

Surface nanostructuring

Invited 16:00 Th-I-4 [Online]

Generation of crystal defects in ultrashort pulse laser processing of surfaces and nanoparticles, Hao Huang^{1,2}, Chaobo Chen¹, Miao He^{1,3}, Leonid Zhigilei^{1*}, ¹Materials Science and Engineering, University of Virginia, 395 McCormick Road, Charlottesville, Virginia 22904-4745, USA, ²School of Mechanical Science and Engineering, Huazhong University of Science and Technology, Wuhan 430074, China, ³Department of Mechanical Engineering, University of Michigan, Ann Arbor, MI, 48109, USA

ICPEPA-2023-000051

ICPEPA-2023-000069

ICPEPA-2023-000120

7

Chair: Koji Sugioka (RIKEN, Japan) ICPEPA-2023-000033

16:30 Th-I-5 [Online] Invited

Structural color marking and security labeling by ablation-free femtosecond laser processing, V. Lapidas¹, A. Zhizhchenko¹, Aleksandr Kuchmzihak^{1,2*},¹Institute of Automation and Control Processes, Far Eastern Branch, Russian Academy of Science, 5 Radio Str., Vladivostok 690041, Russia, ²Pacific Quantum Center, Far Eastern Federal University, Vladivostok, Russia

17:00 Th-O-15

Nanostructure morphology control in PLD / VLS, Aurelian Marcu^{1*}, Razvan Mihalcea¹, Ionut Nicolae¹, Cristian Viespe¹, Mihai Serbanescu¹, Marius Dumitru¹, ¹National Institute for Laser Plasma and Radiation Physics, Magurele, Ilfov 077125, Romania

17:15 Th-O-16 Pure boron nanoparticles produced by ns laser ablation in water, Marcella Dell'Aglio^{1*}, Alessandro De Giocomo², Daniela Manno^{3,4}, Chiara Provenzano⁵, Marcella Marra³, Gianluca Quarta^{3,4,6}, Antonia Mallardi⁷, Lucio Calcagnile^{3,4,6}, Antonio Serra^{3,4}, <u>Anna Paola Caricato^{3,4*}</u>, ¹CNR-IFN (National Research Council - Institute for photonics and nanotechnologies), c/o Physics Department, Via Amendola 122/D, 70126, Bari, Italy, ²Department of Chemistry, University of Bari, Via Orabona 4, 70125, Bari, Italy, ³Department of Mathematics and Physics "E. De Giorqi," University of Salento, via per Arnesano, km 1, 73100, Lecce, Italy, ⁴National Institute of Nuclear Physics (INFN-Le) at the Department of Mathematics and Physics "E. De Giorgi," University of Salento, via per Arnesano, km 1, 73100, Lecce, Italy, ⁵Department of Engineering for Innovation, University of Salento, via per Monteroni, km 1, 73100, Lecce, Italy, ⁶CEDAD - Center of Applied Physics, DAtation and Diagnostics, S.S.7 via Appia, Km 7+300, Brindisi, Italy, ⁷CNR-IPCF, Institute for Chemical-Physical Processes, c/o Chemistry Department, Via Orabona 4, 70125, Bari, Italy

17:30 Th-O-17 Student

High-efficiency localized electrochemical deposition based on ultrafast laser surface modification, Jinlong <u>Xu¹</u>, Guodong Zhang^{1*}, Jinkai Xu^{2*}, Guanghua Cheng^{1*}, ¹School of Artificial Intelligence, OPtics and ElectroNics (iOPEN), Northwestern Polytechnical University, Xi'an 710072, China, ²Ministry of Education Key Laboratory for Cross- Scale Micro and Nano Manufacturing, Changchun University of Science and Technology, Changchun 130022, China

17:45 Th-O-18

Significantly increased Raman enhancement enabled on anisotropic ReS₂ films, Shuyi Wu^{1*}, Wen Pan¹, Chunlan Ma¹, ¹Jiangsu Key Laboratory of Micro and Nano Heat Fluid Flow Technology and Energy Application, School of Physical Science and Technology, Suzhou University of Science and Technology, Suzhou, 215009, China

18:00 Dinner

Poster Session 2: 19:30 (even paper numbers)

Day 4: Friday, September 22

Laser nanofabrication and nanosynthesis

Invited

08:30 Fr-I-1 [Online] Forming micro-objects using two-dimensional printing and spontaneous Origami transformations, Yongfeng Lu^{1*}, Aofei Mao¹, Peixun Fan¹, Loic Constantin¹, Nan Li¹, Xi Huang¹, Bai Cui², Jean-Francois Silvain³, Xinwei Wang⁴, ¹Department of Electrical and Computer Engineering, University of Nebraska, Lincoln, NE 68588, USA, ²Department of Mechanical and Materials Engineering, University of Nebraska, Lincoln, NE 68588, USA, ³CNRS, University of Bordeaux, Bordeaux I.N.P., ICMCB, UMR 5026, F-33608 Pessac, France, ⁴Department of Mechanical Engineering, Iowa State University, Ames, IA 50011, USA

Chair: Bing Gu (Southeast University, China)

ICPEPA-2023-000118

ICPEPA-2023-000019

ICPEPA-2023-000139

ICPEPA-2023-000111

09:00 Fr-O-1

Additive nanomanufacturing by femtosecond laser direct writing, Wei Xiong^{1,2*}, ¹Wuhan National Laboratory for Optoelectronics, School of Optical and Electronic Information, Huazhong University of Science and Technology, Wuhan 430074, China, ²Optics Valley Laboratory, Hubei 430074, China

09:15 Fr-O-2

Photoelectric property modulation by stacking-engineering in two-dimensional materials, Jiaxu Yan^{1*}, ¹Changchun Institute of Optics, Fine Mechanics and Physics (CIOMP), Chinese Academy of Sciences, China

09:30 Fr-O-3

Advancing nanoparticle synthesis: unveiling laser fragmentation in liquid at atomistic scale, Hao Huang^{1,2}, Leonid Zhigilei^{1*}, ¹Materials Science and Engineering, University of Virginia, 395 McCormick Road, Charlottesville, Virginia 22904-4745, USA, ²School of Mechanical Science and Engineering, Huazhong University of Science and Technology, Wuhan 430074, China

09:45 Fr-O-4

Resonant laser printing of large-area turing pattern metasurfaces, Shuangxiu Yuan¹, Xiaolong Zhu¹⁺, ¹State Key Laboratory of Precision Spectroscopy, School of Physics and Electronic Science, East China Normal University, Shanghai 200241, China

10:00 Fr-O-5 Student

A simple method for preparing high concentration monodisperse colloidal gold, Shuxian Wei^{1,2}, Yixing Ye², Changhao Liang^{1,2}, ¹University of Science and Technology of China, Hefei 230026, China, ²Key Laboratory of Materials Physics and Anhui Key Laboratory of Nanomaterials and Nanotechnology, Institute of Solid State Physics, Chinese Academy of Sciences, Hefei 230031, China

10:15 Coffee Break

Two-dimensional materials

Chair: Yong Zhang (Nanjing University, China)

10:30 Fr-I-2 ICPEPA-2023-000067 Invited **Topological control of light in photonic lattices**, Zhigang Chen^{1*}, ¹The MOE Key Laboratory of Weak-Light Nonlinear Photonics, TEDA Applied Physics Institute and School of Physics, Nankai University, Tianjin, China

11:00 Fr-O-6

Unexpected photoelectric and photomagnetic transport properties of tungsten diselenide/twodimensional electron gas heterojunction, Yucheng Jiang^{1*}, ¹Jiangsu Key Laboratory of Micro and Nano Heat Fluid Flow Technology and Energy Application, School of Physical Science and Technology, Suzhou University of Science and Technology, Suzhou 215009, China

11:15 Fr-O-7

Polarized Raman scattering of Biaxial van der Waals α-MoO₃, <u>Youning Gong^{1*}</u>, Yanyu Zhao¹, Yupeng Zhang¹, Guoping Wang^{1*}, ¹State Key Laboratory of Radio Frequency Heterogeneous Integration, College of Electronics and Information Engineering, Shenzhen University, Shenzhen 518060, China

11:30 Fr-O-8

Nonlinear photonics devices based on spatial self-phase modulation of black and violet phosphorus nanosheets, Bing Gu^{1*}, Yang Gao¹, Cheng Ling¹, Guanghao Rui¹, ¹Advanced Photonics Center, Southeast University, Nanjing 210096, China

11:45 Fr-O-9

Near-unity singlet fission on a quantum dot initiated by resonant energy transfer, <u>Jie Zhang^{1*}</u>, ¹Department of Physics, College of Sciences, Shanghai University, Shanghai 200444, China

12:00 Lunch

ICPEPA-2023-000135

ICPEPA-2023-000052

ICPEPA-2023-000119

ICPEPA-2023-000055

ICPEPA-2023-000122

ICPEPA-2023-000109

ICPEPA-2023-000121

Ultrafast laser internal processing of transparent materials

Chair: Wei Xiong (Huazhong University of Science and Technology, China)

14:00 Fr-I-3 [Online] Invited On the use of non-ablative femtosecond laser-matter interaction for tailoring materials properties, Yves Bellouard^{1*}, ¹Galatea Laboratory, IEM/STI, Ecole Polytechnique Fédérale de Lausanne (EPFL), Rue de la Maladière 71b, 2000 Neuchâtel, Switzerland

Invited 14:30 Fr-I-4 ICPEPA-2023-000093 Femtosecond laser writing of 3D $\chi^{(2)}$ structures in lithium niobate crystal, Yong Zhang^{1*}, ¹National Laboratory of Solid State Microstructures and College of Engineering and Applied Sciences, Nanjing University, Nanjing 210093, China

15:00 Fr-O-10 Rapid manufacturing of glass-based digital nucleic acid amplification chips by ultrafast Bessel pulses, Jiawei Zhang¹, Kotaro Obata¹, Kazunari Ozasa¹, Takanori Uzawa², Yoshihiro Ito², Koji Sugioka^{1*}, ¹RIKEN Center for Advanced Photonics, 2-1 Hirosawa, Wako, Saitama, 351-0198, Japan, ²RIKEN Center for Emergent Matter Science, 2-1 Hirosawa, Wako, Saitama, 351-0198, Japan

15:15 Fr-O-11 Student ICPEPA-2023-000087 SU-8 scaffolds fabricated by two photon polymerization for cancer cell invasion testing, Alexandra Bran^{1*} Florin Jipa¹, Stefana Orobeti^{1,2}, Emanuel Axente¹, Livia Elena Sima², Felix Sima^{1,3*}, Koji Sugioka³, ¹CETAL, National Institute for Laser, Plasma and Radiation Physics, Atomistilor 409, Magurele, Ilfov, RO-077125, Romania, ²Institute of Biochemistry of Romanian Academy, 296 Splaiul Independentei, sector 6, Bucharest, 060031, Romania, ³RIKEN Center for Advanced Photonics, 2-1 Hirosawa, Wako, Saitama 351-0198, Japan

15:30 Fr-O-12 Student ICPEPA-2023-000107 Measurement of intense stress wave generated by femtosecond laser double pulses in fused silica, Huijie Sun^{1*}, Junya Hattori¹, Tomohiro Fukui¹, Naohiko Sugita¹, Yusuke Ito¹, ¹Department of Mechanical Engineering, School of Engineering, The University of Tokyo, Bunkyo, Tokyo 113-8656, Japan

Closing

15:45 Closing Remarks-Chairs and Invited speakers

10

Poster Session

Sept. 19, 7:30-8:30 p.m. Poster Session I: odd number, P1 > P3 > ... > P71.Sept. 21, 7:30-8:30 p.m. Poster Session II: even number, $P2 \ge P4 \le P2$.

Fundamental phenomena in laser-matter interactions

Student P-1 Exciton-nanocavity interactions enhanced by bloch surface waves, Bowen Fu¹, Xiulai Xu^{1*}, ¹Peking

University, Beijing, China

P-2 ICPEPA-2023-000046 Critical powers for self-focusing and filamentation of femtosecond Gaussian and vortex pulses in fused silica determined via spectral broadening analysis, Dongwei Li¹, Lanzhi Zhang¹, Tingting Xi², Yangjian Cai¹, Zuogiang Hao^{1*}, ¹Shandong Provincial Engineering and Technical Center of Light Manipulations, School of Physics and Electronics, Shandong Normal University, Jinan 250358, China, ²School of Physical Sciences, University of Chinese Academy of Sciences, Beijing 100049, China

P-3 Student ICPEPA-2023-000125 Electronic-resonance-enhanced coherent raman spectroscopy with a single femtosecond laser beam, Ning Zhang^{1,2}, Hongqiang Xie^{1,3*}, He Zhang¹, Xu Lu^{1,2}, Yewei Chen^{1,4}, Yuzhu Wu^{1,5}, Ya Cheng¹, Jinping Yao^{1*}, ¹State Key Laboratory of High Field Laser Physics, Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, 201800 Shanghai, China, ²University of Chinese Academy of Sciences, 100049 Beijing, China, ³School of Science, East China University of Technology, 330013 Nanchang, China, ⁴School of Optical-Electrical and Computer Engineering, University of Shanghai for Science and Technology, 200093 Shanghai, China, ⁵School of Microelectronics, Shanghai University, 200444 Shanghai, China

P-4 ICPEPA-2023-000106 Proposal for high-energy cutoff extension of optical harmonics of solid materials using the example of a one-dimensional ZnO crystal, Yue Lang¹, Z. Y. Peng¹, Zengxiu Zhao^{1*}, Jinlei Liu^{1*}, S. Ghimire², ¹Department of Physics, National University of Defense Technology, China. ²Stanford PULSE Institute, SLAC national Accelerator Laboratory, Menlo Park, California 94025, USA

P-5 Student Unveiling the coupling effect of strain behavior and electro-optic property in nanodisordered KTN crystal, Xing Wen¹, Yu Wang¹, Xiangda Meng¹, Xiaolin Huang¹, Bohan Xing¹, Xinyu Jin¹, Zuoren Xiong¹, Chengpeng Hu¹, Peng Tan^{1*}, Hao Tian^{1, 2, 3}, ¹School of Physics, Harbin Institute of Technology, Harbin 150001, China, ²Key Laboratory of Micro-Nano Optoelectronic Information System, Ministry of Industry and Information Technology, Harbin 150001, China, ³Collaborative Innovation Center of Extreme Optics, Shanxi University, Taiyuan, China

P-6 Student ICPEPA-2023-000038 **Destructive interference in N2**⁺ **lasing,** Guihua Li^{1*}, Hongqiang Xie^{2,3}, Shuting Wu¹, Yihong Huang¹, ¹School of Science, East China Jiaotong University, 330013, China, ²School of Science, East China university of Technology, Nanchang 330013, China, ³Department of Physics, National University of Defense Technology, China

Poster

ICPEPA-2023-000137

P-7

P-8

Topological evolution of vector optical field in free space and nonlinear matter, Jiahao Zhao¹, Qiang Wang¹, Chenghou Tu^{1*}, Yongnan Li¹, Huitian Wang^{2,3}, ¹School of Physics and Key Laboratory of Weak Light Nonlinear Photonics, Nankai University, Tianjin 300071, China, ²National Laboratory of Solid State Microstructures, Nanjing University, Nanjing 210093, China,³Collaborative Innovation Center of Advanced Microstructures, Nanjing University, Nanjing 210093, China

Measuring the topological charge of a vortex beam under extremely low coherence, <u>J. Zeng^{1,2*}</u>, Y. Cai^{1,2}, ¹Shandong Provincial Engineering and Technical Center of Light Manipulation & Shandong Provincial Key Laboratory of Optics and Photonic Devices, School of Physics and Electronics, Shandong Normal University, Jinan 250358, China, ²Collaborative Innovation Center of Light Manipulation and Applications, Shandong Normal University, Jinan 250358, China

P-9 Student ICPEPA-2023-000003 Monolithically integrated active passive waveguide array fabricated on thin film lithium niobate using a single continuous photolithography process, Yuan Zhou^{1,2}, Y. Zhu³, Z. Fang^{3*}, S. Yu^{1,2}, T. Huang³, J. Zhou^{3,4}, R. Wu³, J. Liu³, Y. Ma^{1,2}, Z. Wang³, J. Yu^{1,2}, Z. Liu³, H. Zhang³, Z. Wang³, M. Wang³, Y. Cheng^{1,3,4,5,6,7*}, ¹Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, China, ²Center of Materials Science and Optoelectronics Engineering, University of Chinese Academy of Sciences, China, ³The Extreme Optoelectromechanics Laboratory (XXL), School of Physics and Electronic Science, East China Normal University, China, ⁴State Key Laboratory of Precision Spectroscopy, East China Normal University, Shanghai 200062, China, ⁵Collaborative Innovation Center of Extreme Optics, Shanxi University, Taiyuan 030006, China, ⁶Collaborative Innovation Center of Light Manipulations and Applications, Shandong Normal University, Jinan 250358, People's Republic of China, ⁷Hefei National Laboratory, Hefei 230088, China

P-10 Measurement of optical coherence structures of random optical fields using generalized Arago spot

Student

experiment, Chunhao Liang^{1*}, ¹Shandong Normal University, China

Efficient optical harmonic generation from nonlinear moiré superlattices, Tingyin Ning^{1,2,3*}, Qingyang Yue^{1,2,3}, Yanyan Huo^{1,2,3}, Yingying Ren^{1,2,3}, Yangjian Cai^{1,2,3}, ¹Shandong Provincial Engineering and Technical Center of Light Manipulations& Shandong Provincial Key Laboratory of Optics and Photonic Device, School of Physics and Electronics, Shandong Normal University, Jinan 250358, China, ²Collaborative Innovation Center of Light Manipulation and Applications, Shandong Normal University, Jinan 250358, China, ³ Joint Research Center of Light Manipulation Science and Photonic Integrated Chip of East China Normal University and Shandong Normal University, East China Normal University, Shanghai 200241, China

Student ICPEPA-2023-000114 Ultra-narrowband filter based on the metal-cladding resonant waveguide, Hong Yang¹, Hailang Dai¹, Xianfeng Chen^{1*}, ¹Shanghai Jiao Tong University, China

P-13 ICPEPA-2023-000095 Dynamic manipulation of graphene plasmonic skyrmions, Ni Zhang^{1,2*}, Xinrui Lei^{1,2}, Jiachen Liu^{1,2}, Qiwen Zhan^{1,2}, ¹School of Optical-Electrical and Computer Engineering, University of Shanghai for Science and Technology, Shanghai 200093, China, ²Zhangjiang Laboratory, Chinese Academy of Science (CAS), 100 Haike Road, Shanghai 201204, China

Manipulating the self-trapped excitons in Lead iodide-based Van der Waals Structures, Delong Li^{1*}, Na Han¹, Yupeng Zhang¹, Guoping Wang^{1*}, ¹State Key Laboratory of Radio Frequency Heterogeneous Integration, College of Electronics and Information Engineering, Shenzhen University, Shenzhen 518060, China

P-12

P-11

P-14

ICPEPA-2023-000015

ICPEPA-2023-000063

ICPEPA-2023-000058

ICPEPA-2023-000010

P-15	Student	ICPEPA-2023-000070
Broadband near	-perfect absorber based on monol	ayer Ge-assisted metasurfaces, <u>Haosen Zhang¹</u> , Kedi
Wu ^{1*} , ¹ College oj	f Electronics and Information Engin	eering of Shenzhen University, China
P-16		ICPEPA-2023-000071
Near-perfect abs	sorber through quasi-bound states	s in the continuum, <u>Kedi Wu^{1*}</u> , Haosen Zhang ¹ , ¹ state Key
Laboratory of Ra	idio Frequency Heterogeneous Integ	gration, College of Electronics and Information
Engineering, She	nzhen University, Shenzhen 518060), China
<u>P-17</u>		ICPEPA-2023-000018
Resolving and w	eighing the quantum orbits in stro	ng-field tunneling ionization, <u>Jia Tan^{1*}</u> , S. Xu ² , Y. Zhou ² ,
¹ School of Physic	al Science and Technology, Suzhou:	University of Science and Technology, Suzhou, 215009,
China, ² School of	f Physics, Huazhong University of Sc	ience and Technology, Wuhan 430074, China
P-18	Student	ICPEPA-2023-000088
Study of photoe	lectric storage and conversion in p	n heterojunction, <u>Bocheng Li¹</u> , Guozhen Liu ^{1*} , ¹ Jiangsu
Key Laboratory o	of Micro and Nano Heat Fluid Flow	Technology and Energy Application, School of Physical
Science and Tech	nology, Suzhou University of Scient	ce and Technology, Suzhou 215009, China
P-19	Student	ICPEPA-2023-000099
Weak measuren	nent enhanced quantum coherenc	e of a driven Unruh-DeWitt model in the linear
acceleration mo	tion, <u>Jialing Xie¹</u> , Xiang Hao ^{1*} , ¹ Jiang	gsu Key Laboratory of Micro and Nano Heat Fluid Flow
Technology and	Energy Application, School of Physic	cal Science and Technology, Suzhou University of Science
and Technology,	Suzhou 215009, China	
P-20	Student	ICPEPA-2023-000133
Vector beam and	d atoms interaction in external ma	gnetic fields, Yujie Sun ¹ , Yixin Ren ¹ , <u>Ke Tian¹</u> , Zhaoying
Wang ^{1*} , ¹ Zhejian	ig Province Key Laboratory of Quan	tum Technology and Device, School of Physics, Zhejiang
University, Hang	zhou 310027, China	
P-21	Student	ICPEPA-2023-000138
Single charge control of localized excitons in heterostructures with ferroelectric thin films and two-		
dimensional trai	nsition metal dichalcogenides, Dar	<u>ijie Dai¹,</u> Can Wang ¹ , Xiulai Xu ^{2*} , ¹ Beijing National
Laboratory for C	ondensed Matter Physics, Institute	of Physics, Chinese Academy of Sciences, Beijing 100190,
China, ² State Key	/ Laboratory for Mesoscopic Physics	s and Frontiers Science Center for Nanooptoelectronics,
School of Physics	s, Peking University, 1008/1 Beijing	, China
P-22	Student	ICPEPA-2023-000141
Research on the	direction of light transmission, <u>Zh</u>	ongsheng Man ^{1*} , Mingchao Zhu ¹ , Shuo Yang ¹ , Zhiwei Mi ¹ ,
Bochen Liu ¹ , Yep	eng Sun ¹ , Wenxuan Wang ¹ , ¹ Shand	long University of Technology, China

Theoretical analysis, simulation and modelling of photo-excited processes

P-23 Student ICPEPA-2023-000026 Atomistic modeling of pulsed laser ablation in liquid: phases of plume and channels of nanoparticle formation, <u>Chaobo Chen¹</u>, Leonid V. Zhigilei^{1*}, ¹Materials Science and Engineering, University of Virginia, 395 McCormick Road, Charlottesville, Virginia 22904-4745, USA

P-24 Student ICPEPA-2023-000086 Energy transfer mechanism in Tb³⁺ and Dy³⁺ co-doped AIN films, Xuan Luo¹, Xiaodan Wang^{1*}, Xionghui Zeng^{2*}, Hongmin Mao¹, Ke Xu², ¹Jiangsu Key Laboratory of Micro and Nano Heat Fluid Flow Technology and Energy Application, School of Mathematics and Physics, Suzhou University of Science and Technology,

Poster Session

Suzhou, Jiangsu 215009, PR China, ²Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences, Suzhou, Jiangsu, 215123, China

Dynamics and diagnostics of photo-excited processes

P-25 ICPEPA-2023-000062 The edge and corner states in graphene-like moiré lattice, Chengzhen Lu¹, Zenrun Wen¹, Yuanmei Gao^{1*}, ¹Shandong Provincial Engineering and Technical Center of Light Manipulation & Shandong Provincial Key Laboratory of Optics and Photonic Devices, School of Physics and Electronics, Shandong Normal University, Jinan 250358, China

P-26 **Coherent acoustic vibrations of metallic nanoresonators and their applications,** Kuai Yu^{1*}, G. P. Wang¹, ¹State Key Laboratory of Radio Frequency Heterogeneous Integration, College of Electronics and Information Engineering, Shenzhen University, Shenzhen 518060 China

P-27 Student ICPEPA-2023-000035 Broadband optical nonlinearity and all-optical switching features of low-defect GaN, Fangyuan Shi¹, Xingzhi Wu¹, Yunfei Lv¹, Zhanpeng Chen¹, Quanying Wu¹, Yu Fang^{1*}, ¹Jiangsu Key Laboratory of Micro and Nano Heat Fluid Flow Technology and Energy Application, School of Physical Science and Technology, Suzhou University of Science and Technology, Suzhou 215009, China

Laser- matter interactions in liquid environment

P-28 ICPEPA-2023-000074 Student Surface-plasmon-mediated alloying for monodisperse Au–Ag alloy nanoparticles in liquid, Ningning He^{1,2}, Shuxian Wei^{1,2}, Taiping Hu^{1,2}, Yixing Ye¹, Yunyu Cai¹, Jun Liu¹, Pengfei Li¹, Changhao Liang^{1,2}, ¹Key Laboratory of Materials Physics and Anhui Key Laboratory of Nanomaterials and Nanotechnology, Institute of Solid State Physics, Hefei Institutes of Physical Science, Chinese Academy of Sciences, Hefei 230031, China, ²Department of Materials Science and Engineering, University of Science and Technology of China, Hefei 230026, China

Resonant and non-resonant processes in photo/laser-induced materials

P-29	Student	ICPEPA-2023-000131
Tunable terahertz slo	w light with hybrid co	upling of a magnetic toroidal and electric dipole metasurface,
<u>Guanchao Wang¹, ¹Ha</u>	rbin Institute of Techno	ology.

P-30	Student	ICPEPA-2023-000036
An electroma	gnetic modulator based on electrically co	ntrollable meta-molecule analogue to spontaneous
emission cand	cellation, <u>Lei Gao¹</u> , Lei Yang ¹ , Rui Jiang ¹ , Yo	ngqiang Chen ^{1*} , ¹ Jiangsu Key Laboratory of Micro
and Nano Hed	at Fluid Flow Technology and Energy Appli	ation, School of Physical Science and Technology,
Suzhou Univer	rsity of Science and Technology, Suzhou 21	5009, China

Photo/laser- induced nanoscale processing

P-31	Student	ICPEPA-2023-000017
Electro-optical	ly tunable low phase-noise microwave	synthesizer in an active lithium niobate microdisk,
Renhong Gao ¹ ,	, Botao Fu ^{1,2} , Ni Yao ³ , Jianglin Guan ⁴ , Hai	su Zhang ⁴ , Jintian Lin ^{1*} , Chuntao Li ⁴ , Min Wang ⁴ ,
Lingling Qiao ¹ ,	Ya Cheng ^{1,4*} , ¹ Shanghai Institute of Opti	cs and Fine Mechanics (SIOM), Chinese Academy of
Sciences (CAS),	China , ² School of Physical Science and T	Technology ShanghaiTech University, China, ³ Research
Center for Hum	anoid Sensing, Zhejiang Lab, China, ⁴ Th	e Extreme Optoelectromechanics Laboratory (XXL),
East China Nor	mal University, China	

P-32 Student ICPEPA-2023-000009 Monolithically integrated high-power narrow-bandwidth microdisk laser, Jianglin Guan^{1,2}, Chuntao Li^{1,2}, Renhong Gao³, Haisu Zhang^{1,2}, Jintian Lin^{3*}, Minghui Li³, Min Wang^{1,2}, Lingling Qiao³, Li Deng^{1,2}, Ya Cheng^{1,2,3*}, ¹State Key Laboratory of Precision Spectroscopy, East China Normal University, Shanghai, China, ²The Extreme Optoelectromechanics Laboratory, School of Physics and Materials Science, East China Normal University, Shanghai, China, ³State Key Laboratory of High Field Laser Physics and CAS Center for Excellence in Ultra-Intense Laser Science, Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, Shanghai, China

P-33 ICPEPA-2023-000012 Student An electro-optically tunable optical delay line with a continuous tuning range of ~220 fs in thin-film lithium niobate, Lvbin Song^{1,2}, Jinming Chen², Rongbo Wu², Yong Zheng^{1,2}, Zhaoxiang Liu², Guanhua Wang^{1,2}, Chao Sun^{1,2}, Min Wang², Ya Cheng^{1,2*}, ¹State Key Laboratory of Precision Spectroscopy, East China Normal University, Shanghai 200062, China,²The Extreme Optoelectromechanics Laboratory (XXL), School of Physics and Electronic Science, East China Normal University, Shanghai 200241, China

P-34 ICPEPA-2023-000144 Electro-optic tuning of a single-frequency ultranarrow linewidth microdisk laser, Li Deng¹, Jintian Lin^{2*}, Ya Cheng^{1,2*}, Renhong Gao², Jianglin Guan¹, Chuntao Li¹, Minghui Li¹, Guanghui Zhao², Qian Qiao², ¹East China Normal University, School of Physics and Electronic Science, XXL—The Extreme Optoelectromechanics Laboratory, Shanghai 2000241, China, ²Chinese Academy of Sciences (CAS), Shanghai Institute of Optics and Fine Mechanics (SIOM), State Key Laboratory of High Field Laser Physics and CAS Center for Excellence in Ultra-Intense Laser Science, Shanghai, China

Surface nanostructuring and nanoripple formation

P-35 ICPEPA-2023-000091 Student Femtosecond laser-induced surface subwavelength 2D nanostructures on lithium niobate, Xinda Jiang¹, Qiang Wu^{1*}, Yaoyao Liu¹, Jingjun Xu¹, ¹Key Laboratory of Weak-Light Nonlinear Photonics, Ministry of Education, TEDA Institute of Applied Physics and School of Physics, Nankai University, Tianjin 300457, China P-36 ICPEPA-2023-000132

Femtosecond laser induced periodic surface structures in Ag film on tungsten substrate, Chen Li^{1,2,3*}, Junliang Zhao^{2,3}, ¹School of Mechanical and Electrical Engineering, Shaanxi University of Science and Technology, Xi'an 710021, China, ²School of Mechanical Engineering, Xi'an Jiaotong University, Xi'an 710049, China, ³State Key Laboratory of Mechanical Manufacturing System Engineering, Xi'an Jiaotong University, Xi'an 710054, China

P-37

ICPEPA-2023-000014

Frustrated layered self-assembly induced superlattice from two-dimensional nanosheets, Huanjun Lu^{1*}, Y. Tu², G. Ungar³, ¹School of Physical Science and Technology, Suzhou University of Science and Technology,

Suzhou, 215009, China, ²College of Chemistry, Chemical Engineering and Materials Science, Soochow University, Suzhou 215123, China, ³Department of Materials Science and Engineering, University of Sheffield, Sheffield S1 3JD, United Kingdom

P-38 ICPEPA-2023-000053 Improvement of time stability of sers substrate with a simple external oxygen barrier method, <u>Congxi</u> <u>Song¹</u>, Xiaoping Li², Zhihui Jiang¹, Shen Zhang¹, Hongmin Mao¹, Xin Zhao³, Huanjun Lu¹, Zhaoliang Cao¹, ¹Jiangsu Key Laboratory of Micro and Nano Heat Fluid Flow Technology and Energy Application, School of Physical Science and Technology, Suzhou University of Science and Technology, Suzhou, 215009, China, ²Basic Department, Jiyuan Vocational and Technical College, Jiyuan 454682, China, ³School of Chemistry and Life Sciences, Suzhou University of Science and Technology, Suzhou 215009, China

P-39 Student ICPEPA-2023-000102 Single-tungsten-atom oxide anchored on titanate nanotube for single-site raman enhancement, Jinyu Zhou¹, Chunlan Ma¹, Shan Cong², ¹Jiangsu Key Laboratory of Micro and Nano Heat Fluid Flow Technology and Energy Application, School of Mathematics and Physics, Suzhou University of Science and Technology, ²Key Laboratory of Nano-Devices and Applications, Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences, Ruoshui Road 398, Suzhou215123, China

Plasmon- enhanced photo/laser processing

P-40 Student ICPEPA-2023-000034 Development of TiO₂ nano-porous films with Ag nanoislands for plasmon assisted photocatalytic devices, <u>Hiroki Matsunaga^{1*}</u>, Kaoru Suzuki², Satoshi Kurumi², ¹School of Science and Technology, Nihon University, Japan, ²College of Science and Technology, Nihon University, Japan

P-41ICPEPA-2023-000080Giant photoluminescence enhancement in a double resonant plasmonic nanocavity: synchronous
operation of the excitation, radiation and collection processes, Chenyang Li¹, Fajun Xiao^{1*}, Jianlin Zhao^{1*},
¹Key Laboratory of light-field manipulation and information acquisition, Ministry of Industry and Information
Technology, and Shaanxi Key Laboratory of Optical Information Technology, School of Physical Science and
Technology, Northwestern Polytechnical University, Xi'an 710129, China

Pulsed laser deposition (PLD) of thin films, multilayers and nanostructured materials

ICPEPA-2023-000082

Cooling colors below the ambient temperature based on multilayers, <u>Wanlin Wang¹</u>, Hongyun Xing¹, Xiaochi Shu¹, Guoping Wang^{1*}, Zhang Wang^{2*}, ¹College of Electronics and Information Engineering, Shenzhen University, Shenzhen, 518060, China, ²State Key Laboratory of Metal Matrix Composites, Shanghai Jiao Tong University, Shanghai, 200030, China

P-43

P-42

ICPEPA-2023-000025

Molybdenum nitride films as carrier-selective contacts for crystalline silicon solar cells, <u>Yajuan Li^{1,2,3}</u>, Yuxiong Li², Chunping Jiang², Peter Müller-Buschbaum⁴, Baoquan Sun^{3*}, ¹School of Physical Science and Technology, Suzhou University of Science and Technology, Suzhou 215009, ²Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences (CAS), Suzhou 215123, ³Institute of Functional Nano & Soft Materials (FUNSOM), Soochow University, Suzhou 215123, ⁴TUM School of Natural Sciences, Department of Physics, Technical University of Munich, 85748, Germany

Laser cutting, drilling, surface patterning and micromachining

P-44 Student Three-dimensional second-harmonic computer-generated hologram inside monolithic lithium niobate crystal by femtosecond laser micromachining, Zhiwei Wei¹, Honghuan Tu¹, Feiyang Shen¹, Yuping Chen^{1*}, Xianfeng Chen^{1,2,3}, ¹ State Key Laboratory of Advanced Optical Communication Systems and Networks, School of Physics and Astronomy, Shanghai Jiao Tong University, Shanghai 200240, China, ²Shanghai Research Center for Quantum Sciences, Shanghai 201315, China, ³Collaborative Innovation Center of Light Manipulations and Applications, Shandong Normal University, Jinan 250358, China

P-45 ICPEPA-2023-000043 Two-dimensional suprawavelength periodic structuring of ZnO for absorption enhancement with UV femtosecond laser, <u>Qisong Li^{1*}</u>, Haosong Shi¹, Zhihui Xu¹, Shanming Xi¹, Yi Liu¹, ¹Shanghai Key Lab of Modern Optical System, University of Shanghai for Science and Technology, Shanghai 200093, China

Volume and 3D internal processing with ultrashort pulse lasers

P-46	Student	ICPEPA-2023-000076
Correlation	between stress state and nanomorphology of fe	mtosecond laser-induced modification in
fused silica	<u>, Yunpeng Song</u> ¹ , Jian Xu ^{1*} , Ya Cheng ^{1,2*} , ¹ State Ke	y Laboratory of Precision Spectroscopy, School
of Physics a	and Electronic Science, East China Normal Universi	ty, Shanghai 200241, China, ² State Key
Laboratory	of High Field Laser Physics, Shanghai Institute of C	Optics and Fine Mechanics, Chinese Academy of
Sciences, Sl	hanghai 201800, China	

ICPEPA-2023-000085 P-47 Student Hybrid laser microfabrication of fused silica microchannels for microdroplet generation, Aodong Zhang¹, Jian Xu^{1*}, Xin Li¹, Yuxuan Shao¹, Ya Cheng^{1*}, ¹Extreme Optoelectromechanics Laboratory (XXL), School of Physics and Electronic Science, East China Normal University, Shanghai, China

P-48

ICPEPA-2023-000056

Dual-modulation of micro-photoluminescence in rare-earth-doped crystals by femtosecond laser irradiation for 5D optical data storage, <u>Yingying Ren^{1*}</u>, Li Yu¹, Kaishun Guo¹, Yuanxin Tan¹, Hongliang Liu², Yangjian Cai^{1*}, ¹Shandong Provincial Engineering and Technical Center of Light Manipulations and Shandong Provincial Key Laboratory of Optics and Photonic Device, School of Physics and Electronics, Shandong Normal University, Jinan 250358, China, ²Institute of Modern Optics, Nankai University, Key Laboratory of Optical Information Science and Technology, Ministry of Education, Tianjin 300071, China

Advanced lasers and laser systems for photo - excited processes

P-49 Student	ICPEPA-2023-000004
On-chip single-mode thin film lithium niobate Fabry	Pérot resonator laser based on Sagnac loop reflectors,
Shupeng Yu ^{1,2} , Zhiwei Fang ^{3*} , Ya Cheng ^{1,3*} , ¹ State Key	Laboratory of High Field Laser Physics and CAS Center
for Excellence in Ultra-intense Laser Science, Shangha	i Institute of Optics and Fine Mechanics (SIOM), Chinese

Academy of Sciences (CAS), Shanghai 201800, China, ²Center of Materials Science and Optoelectronics Engineering, University of Chinese Academy of Sciences, Beijing 100049, China, ³The Extreme Optoelectromechanics Laboratory (XXL), School of Physics and Electronic Science, East China Normal University, Shanghai 200241, China

P-50 Student ICPEPA-2023-000005 Wavelength-tunable narrow-linewidth laser diode based on self-injection locking with a high-Q lithium niobate microring resonator, <u>T. Huang</u>¹, Y. Ma^{2,3}, Z. Fang^{1,4*}, J. Zhou^{1,5}, Y. Zhou^{2,3}, Z. Wang¹, J. Liu¹, Z. Wang¹, H. Zhang¹, M. Wang¹, J. Xu^{1,4*}, Y. Cheng^{1,2,4,5,6,7*}, ¹The Extreme Optoelectromechanics Laboratory (XXL), School of Physics and Electronic Science, East China Normal University, Shanghai 200241, China, ²State Key Laboratory of High Field Laser Physics and CAS Center for Excellence in Ultra-Intense Laser Science, Shanghai Institute of Optics and Fine Mechanics (SIOM), Chinese Academy of Sciences (CAS), Shanghai 201800, China, ³Center of Materials Science and Optoelectronics Engineering, University of Chinese Academy of Sciences, Beijing 100049, China, ⁴Hefei National Laboratory, Hefei 230088, China, ⁵State Key Laboratory of Precision Spectroscopy, East China Normal University, Shanghai 200062, China, ⁶Collaborative Innovation Center of Extreme Optics, Shanxi University, Taiyuan 030006, China, ⁷Collaborative Innovation Center of Light Manipulations and Applications, Shandong Normal University, Jinan 250358, China

P-51 Student Mode-switchable ultrafast vortex laser, Xuehong Cao^{1,2}, Luyang Tong^{1,2}, Zhikang Niu^{1,2}, Yixuan Zhu^{1,2}, Yangjian Cai^{1,2*}, Lina Zhao^{1,2*}, ¹College of Physics and Electronics, Center of Light Manipulations and Applications, Shandong Provincial Key Laboratory of Optics and Photonic Device, Shandong Normal University, Jinan 250358, China, ²Collaborative Innovation Center of Light Manipulation and Applications, Shandong Normal University, Jinan 250358, China.

P-52 Student Generation of non-uniformly correlated sources with controllable beam profile by devising its statistics in the spatial frequency domain, Jing Liang¹, Gaofeng Wu^{1,*}, Fei Wang², Yangjian Cai³, ¹School of Physics, Northwest University, Xi'an 710069, China, ²School of Physical Science and Technology, Soochow University, Suzhou 215006, China, ³Shandong Provincial Engineering and Technical Center of Light Manipulation and Shandong Provincial Key Laboratory of Optics and Photonic Devices, School of Physics and Electronics, Shandong Normal University, Jinan 250014, China

Manipulated/shaped beam processing

P-53 Student Multifunctional transmission polarization conversion metasurface based on dislocation-induced anisotropy at the terahertz frequency, <u>Wenpeng Guo¹</u>, Peng Tan^{1*}, Jing Wang¹, Li Li¹, Shuai Li¹, Guanchao Wang¹, Zhongxiang Zhou¹, Hao, Tian^{1,2,3*}, ¹School of Physics, Harbin Institute of Technology, Harbin 150001, China, ²Key Laboratory of Micro-Nano Optoelectronic Information System, Ministry of Industry and Information Technology, Harbin 150001, China, ³Collaborative Innovation Center of Extreme Optics, Shanxi University, Taiyuan, Shanxi 030006, China

P-54

P-55

Cycloid optical vortex array, Xin Ma¹, Hao Zhang¹, Xinzhong Li^{1*}, ¹Henan University of Science and Technology, Luoyang, 471023, China

ICPEPA-2023-000048

ICPEPA-2023-000129

On-demand subwavelength-scale light sculpting, Xiliang Zhang¹, Yanwen Hu¹, <u>Shenhe Fu^{1*}</u>, ¹Department of Optoelectronic Engineering, Jinan University, Guanghzou, 510632, China

ICPEPA-2023-000075

ICPEPA-2023-000127

ICPEPA-2023-000078

ICPEPA-2023-000057

Control of orbital angular momentum with partially coherent vortex beams, <u>Yongtao Zhang</u>^{1*}, Yangjian Cai², Greg Gbur³, ¹College of Physics and Information Engineering, Minnan Normal University, Zhangzhou 363000, China, ²Shandong Provincial Engineering and Technical Center of Light Manipulations & Shandong Provincial Key Laboratory of Optics and Photonic Devices, School of Physics and Electronics, Shandong Normal University, Jinan 250358, China, ³Department of Physics and Optical Science, University of North Carolina at Charlotte, Charlotte, North Carolina 28277, USA

Single-shot temporal compressive polarization microscopy for quantifying Jones matrix of high-speed dynamic object, Qingyang Yue^{1,2,3*}, ¹Shandong Provincial Engineering and Technical Center of Light Manipulations & Shandong Provincial Key Laboratory of Optics and Photonic Device, School of Physics and *Electronics, Shandong Normal University, Jinan 250014, China, ²Collaborative Innovation Center of Light* Manipulation and Applications, Shandong Normal University, Jinan 250358, China, ³Joint Research Center of Light Manipulation Science and Photonic Integrated Chip of East China Normal University and Shandong Normal University, East China Normal University, Shanghai 200241, China

P-58

Radially polarized twisted partially coherent vortex beams, X. Peng^{1*}, Y. Cai¹, ¹Shandong Provincial Engineering and Technical Center of Light Manipulations & Shandong Provincial Key Laboratory of Optics and Photonic Device, School of Physics and Electronics, Shandong Normal University, Jinan 250014, China

P-59 ICPEPA-2023-000045 Longitudinal optical trapping and manipulating Rayleigh particles by spatial nonuniform coherence engineering, Jiayi Yu^{1*}, Yangjian Cai¹, ¹Shandong Provincial Engineering and Technical Center of Light Manipulation & Shandong Provincial Key Laboratory of Optics and Photonic Devices, School of Physics and Electronics, Collaborative Innovation Center of Light Manipulation and Applications, Shandong Normal University, Jinan 250358, China

P-60 ICPEPA-2023-000054 Creation of cylindrical vector beams through highly anisotropic scattering media with a single scalar transmission matrix calibration, Qian Zhao^{1*}, Shijie Tu¹, Qiannan Lei¹, Chengshan Guo¹, Qiwen Zhan², Yangjian Cai¹, ¹Shandong Provincial Engineering and Technical Center of Light Manipulations & Shandong Provincial Key Laboratory of Optics and Photonic Device, School of Physics and Electronics, Shandong Normal University, Jinan 250358, China, ²School of Optical-Electrical and Computer Engineering, University of Shanghai for Science and Technology, Shanghai 200093, China.

P-61

P-62

ICPEPA-2023-000061

ICPEPA-2023-000073

Multimode Vortex Lasing from Dye-TiO2 Lattices, Xianyu Ao^{1*}, Yangjian Cai¹, ¹Shandong Provincial Engineering and Technical Center of Light Manipulations & Shandong Provincial Key Laboratory of Optics and Photonic Device, School of Physics and Electronics, Shandong Normal University, Jinan 250014, China

0–360 degrees angular measurements using spatial displacement, Yangsheng Yuan^{1,2,3*}, Didi Xu^{1,2,3}, Yangjian Cai^{1,2,3}, ¹Shandong Provincial Engineering and Technical Center of Light Manipulations & Shandong Provincial Key Laboratory of Optics and Photonic Device, School of Physics and Electronics, Shandong Normal University, Jinan 250014, China, ²Collaborative Innovation Center of Light Manipulation and Applications, Shandong Normal University, Jinan 250358, China, ³ Joint Research Center of Light Manipulation Science and Photonic Integrated Chip of East China Normal University and Shandong Normal University, East China Normal University, Shanghai 200241, China

P-63 Student ICPEPA-2023-000115 Self-aligned STED-DLW with depletion beam polarization focus shaping, Guoliang Chen¹, Jian Chen¹, Qiwen Zhan¹, ¹University of Shanghai for Science and Technology, Shanghai, 200093, China

P-56

P-57

Poster

P-64

Sparse aperture optical system with a rectangular field of view, <u>Junliu Fan¹</u>, Quanying Wu^{1*}, Baohua Chen¹, Jun Wang², ¹School of Physical Science and Technology, Suzhou University of Science and Technology, Suzhou, 215009, Jiangsu, China, ² School of Electronic and Optical Engineering, Nanjing University of Science and Technology, Nanjing 210094, Jiangsu, China

ICPEPA-2023-000020

ICPEPA-2023-000022

P-65

Design of an optical system for generating ring-shaped laser beam, <u>Baohua Chen¹</u>, Quanying Wu^{1*}, Junliu Fan¹, Yunhai Tang¹, ¹School of Physical Science and Technology, Suzhou University of Science and Technology, Suzhou, Jiangsu 215009, China

P-66 ICPEPA-2023-000068 Experimental synthesis and measurement of partially coherent beam with controllable twist phase, Haiyun Wang¹, Lin Liu^{2*}, Fei Wang^{2*}, Yangjian Cai^{3*}, ¹School of Physical Science and Technology, Suzhou University of Science and Technology, Suzhou 215009, China, ²School of Physical Science and Technology & Collaborative Innovation Center of Suzhou Nano Science and Technology, Soochow University, Suzhou 215006, China, ³Shandong Provincial Engineering and Technical Center of Light Manipulations & Shandong Provincial Key Laboratory of Optics and Photonic Devices, School of Physics and Electronics, Shandong Normal University, Jinan 250014, China

Polarisation effects in laser processing

P-67 ICPEPA-2023-000060 Student Fabrication of arbitrary-shaped fused silica microchannels using polarization-insensitive femtosecond laser assisted etching, Jianping Yu¹, Jian Xu¹, Ya Cheng^{1,2*}, ¹The Extreme Optoelectromechanics Laboratory, School of Physics and Electronic Science, East China Normal University, Shanghai, China, ²State Key Laboratory of High Field Laser Physics and CAS Center for Excellence in Ultra-intense Laser Science, Shanghai Institute of Optics and Fine Mechanics (SIOM), Chinese Academy of Science (CAS), Shanghai 201800, China

Laser and photon-based diagnostic techniques and spectroscopy

P-68 Student ICPEPA-2023-000065 Near-infrared speckle wavemeter based on nonlinear frequency conversion, Yiwei Sun¹, Fengchao Ni¹, Yiwen Huang¹, Haigang Liu^{1*}, Xianfeng Chen^{1,2,3*}, ¹State Key Laboratory of Advanced Optical Communication Systems and Networks, School of Physics and Astronomy, Shanghai Jiao Tong University, China, ²Shanghai Research Center for Quantum Sciences, China, ³Collaborative Innovation Center of Light Manipulations and Applications, Shandong Normal University, China

<u>P-69</u>	Student	ICPEPA-2023-000100
Research on YOLOv1-based	anti- stray light fast star in	nage extraction algorithm for star sensors, C. Wang ¹ ,
Q. Wu ¹ , F. Wu ^{2*} , ¹ School of P	hysical Science and Techno	logy, Suzhou University of Science and Technology,
Suzhou 215006, China, ² Scho	ol of Electrical and Informa	tion Engineering, Changzhou Institute of Technology,
Changzhou 213002, China		

P-69

Laser in medical and biological applications

P-70 Student	ICPEPA-2023-000090
Research on light field reconstruction of light sheet fluorescence microscop	y, <u>Hongxin Li^{1,2}</u> , Ying Jin ^{2*} ,
Quanying Wu ^{1*} , Guohai Situ ² , ¹ School of Physical Science and Technology, Suz	hou University of Science and
Technology, China, ² Shanghai Institute of Optics and Fine Mechanics, Chinese	Academy of Science, China

P-71 **Student** ICPEPA-2023-000084 **Regional optimal design of progressive additional lenses,** <u>Yuechen Shen¹</u>, Quanying Wu^{1*}, Yunhai Tang¹, ¹Jiangsu Key Laboratory of Micro and Nano Heat Fluid Flow Technology and Energy Application, School of Physical Science and Technology, Suzhou University of Science and Technology, Suzhou 215009, Jiangsu, China

Surface modification including crystallization, annealing, amorphization, phase transformation, sintering and doping

P-72 Student

Novel phase exploration and magnetocaloric effect of rare earth compounds R₅**GaSb₃ (R=rare-earth atoms),** <u>Yang Hu¹</u>, Jinlei Yao^{1*}, ¹Jiangsu Key Laboratory of Micro and Nano Heat Fluid Flow Technology and Energy Application, School of Physical Science and Technology, Suzhou University of Science and Technology, Suzhou 215009, China

Author Index

Α	Tu-O-14
	Th-O-9
Avente Freenuel Fr. O. 11 Chen, Yuping	P-44
Chen, Jinming	P-33
B Chen, Jianfang	We-O-8
Bellouard, Yves Fr-I-3 Chen, Jian	P-63
Bo, Fang Th-O-4 Chen, Guoliang	P-63
Bran, Alexandra Fr-O-11 Chen, Shuqi	Th-O-7
Bulgakov, A. V. Tu-I-3 Chen, Chaobo	Tu-O-16
Bulgakova, Nadezhda Tu-I-3	P-23
С	Th-I-4
Cai Vangijan Th-O-14 Chen, Baohua	P-64
	Tu-O-4
D_2	P-65
P-62 Cheng, G.	We-O-7
P-52 Cheng, Guanghua	Th-O-17
P-56 Cheng, He	Th-O-2
P-66 Cheng, Jiaqi	Th-O-7
P-48 Cheng, Y.	P-9
P-59	P-50
P-11	Tu-O-12
P-60	Tu-O-17
P-51	P-47
P-61	P-49
Cai Yunyu P-28	P-46
Cai, Y. P-8	P-67
P-58	P-33
Calcagnile Lucio Th-O-16	P-3
Cao, Huabao Tu-O-2	We-O-8
Cao, Xuehong P-51	P-34
Cao, Zhaoliang P-38	P-31
Caricato Anna Paola Th-O-16	P-32
Chen, Xuewen Th-O-8 Cong, Shan	Tu-O-8
Chen. Zhigang Fr-I-2	P-39
Chen, Zhanpeng P-27 Constantin, Loic	Fr-I-1
Chen, Yonggiang P-30 Cui, Bai	Fr-I-1
Chen, Yewei P-3 D	
Chen. Xianfeng P-44 Dai Danije	P-21
P-12 Dai Hailang	P-12
P-68	Th-O-9

Dell'Aglio, Marcella	Th-O-16	Guo, Chengshan	P-60
Deng, Li	P-34	Guo, Kaishun	P-48
	P-32	Guo, Wenpeng	P-53
Deng, Qianmei	We-O-4	н	
Deng, Zilan	We-O-4	Han Na	D_1/
Dumitru, Marius	Th-O-15	Hao Yiang	D_10
F			P-15
Fan Junliu	P-64	Hasegawa Satoshi	Th-I-1
Tan, Janna	τυ-Ω-4	Hattori lunva	We-0-5
	P-65	natton, sunya	Fr-0-12
Fan Peixun	Fr-I-1	Havasaki Yoshio	Th-I-1
Fang Vigi	Th-O-1	He Miao	Th-I-4
Fang Yu	P-27	He Ningning	P-28
Fang 7	P_9	Hrahovský I	Tu-I-3
1 0116, 2.	P-50	Hu. Chengpeng	P-5
Fang, Zhiwei	P-49	Hu Taining	P-28
Fu. Yuxi	Tu-0-2	Hu. Yang	P-72
	Tu-O-18	Hu. Yanwen	P-55
Fu. Shenhe	P-55	Hu. Yongxiang	We-O-3
Fu. Botao	P-31	Huang. Yiwen	P-68
Fu. Bowen	P-1	Huang, Yihong	P-6
Fu. Cailing	Tu-I-2	Huang, Xiaolin	P-5
Fukui, Tomohiro	We-O-5	Huang, Xi	Fr-I-1
	Fr-O-12	Huang, T.	P-9
G			P-50
Cao Fong		Huang, Pei	Tu-O-2
Gao, Felig	Th-0-4	Huang, Hao	Th-I-4
	III-U-1 D 20		Fr-O-3
Gdu, Lei	P-30	Huber, Heinz Paul	Tu-O-16
Gao, Kerinong	P-54	Huo, Yanyan	P-11
	F-21	1	
Gao Vang	F-32 Fr-0-8	Ishita Eumiya	Th_l_1
Gao, Yuanmei	P-25	Itina Tatiana	Th-I-3
Guo, ruanner Ghur Greg	P-56	Ito Yoshihiro	Fr-0-10
Ghimire S	P-4	Ito Yusuke	We-0-5
Giocomo, Alessandro De	Th-O-16		Fr-0-12
Golvari. Pooria	Th-O-2		
Gong, Qihuang	Th-O-1	J	
Gong, Youning	Fr-O-7	liang Zhihui	0 2 Q
Gu, Bing	Fr-O-8	Jiang, Zilinui	F-30 Er-0-6
Gu, Lingjun	Tu-O-8	liang Yinda	D_35
Guan, Jianglin	P-34	liang Rui	D-3U
· C	P-31	liang Honghing	r-50 Th-∩₋1
	P-32	liang Chunning	р_ДЗ
		Jung, Chunping	1 73

Jin, Xinyu	P-5	Li, Chunxi	Th-O-6
Jin, Ying	P-70	Li, Guihua	Tu-O-17
Jipa, Florin	Fr-O-11		P-6
К		Li, Guixin	Tu-O-11
Kang Chuting		Li, Hongxin	P-70
Kang, Shuting	111-U-4	Li, Jing	Th-O-12
Kawano, H.	We-U-2	Li, Li	P-53
Kosugi, Taketumi	1 n-1-1	Li, Dongwei	P-2
Kuchmzinak, Aleksandr	I N-I-5	Liang, Jing	P-52
Kuebler, Stephen M.	Th-O-2	Liang, Changhao	Fr-O-5
Kuroo, Nami	Ih-I-1		P-28
Kurumi, Satoshi	P-40	Liang, Chunhao	P-10
L		Lin, Jintian	P-34
Lang, Yue	P-4		P-31
Lapidas, V.	Th-I-5		P-32
Lei, Xinrui	P-13	Ling, Cheng	Fr-O-8
Lei, Qiannan	P-60	Liu, Bochen	P-22
Lei, Hongbin	Tu-O-17	Liu, Zhaoxiang	P-33
Li, Zhuguo	Th-O-6	Liu, Z.	P-9
Li, Zhaohui	Th-O-5	Liu, Yunquan	Th-O-12
Li, Zhancheng	Th-O-7		Th-O-1
Li, Yuxiong	P-43	Liu, Yaoyao	P-35
Li, Yongnan	P-7	Liu, Ruijie	Th-O-6
Li, Yajuan	P-43	Liu, Lin	P-66
Li, Xinzhong	P-54	Liu, Jun	P-28
Li, Xin	P-47	Liu, Yi	P-45
Li, Xiaoping	P-38		Th-O-1
Li, Xiangping	We-O-4	Liu, Jiachen	P-13
Li, Wenxue	Tu-O-5	Liu, J.	P-9
Li, Shuai	P-53		P-50
Li, Qisong	P-45	Liu, Hongliang	P-48
Li, Qiang	Th-O-5	Liu, Haigang	P-68
Li, Pengfei	P-28		Tu-O-14
Li, Fengjun	We-O-4	Liu, Guozhen	P-18
Li, Minghui	P-34	Liu, Changning	Tu-O-7
	P-32		
Li, Bocheng	P-18	Liu, Jinlei	P-4
Li, Boyang	Tu-O-18		Tu-O-3
Li, Chen	P-36	Lu, Yongfeng	Fr-I-1
Li, Chenyang	P-41	Lu, Yao	Tu-O-9
Li, Chuntao	P-34	Lu, Xu	P-3
	P-31	Lu, Xingyuan	Th-O-14
	P-32	Lu, Cuicui	Th-O-13
Li, Nan	Fr-I-1	Lu, Huanjun	P-37
Li, Delong	P-14		P-38

Lu, Chengzhen	P-25	Р	
Lu, Qi	Th-O-1	Pan lingshun	Th-O-5
Luo, Xuan	P-24	Pan Wen	Th-O-18
Lv, Yunfei	P-27	Peled Aaron	Tu-0-13
Lv, Jing	We-O-7	Peng. X.	P-58
Μ		Peng, Z. Y.	P-4
Ma, Chunlan	Th-O-18	Peng, Zhenwei	Tu-I-2
,	Tu-O-8	Popescu, Simona Alexandra	Tu-O-13
	P-39	Provenzano, Chiara	Th-O-16
Ma, Xin	P-54	0	
Ma, Y.	P-9	Q	
,	P-50	Qiao, Lingling	P-31
Ma, Yujie	We-O-6	0. 0.	P-32
Mallardi, Antonia	Th-O-16	Qiao, Qian	P-34
Man, Zhongsheng	P-22	Quarta, Gianluca	Th-O-16
Manno, Daniela	Th-O-16	R	
Mao, Aofei	Fr-I-1	Reichenberger, Sven	Tu-I-4
Mao, Hongmin	P-38	Ren, Yingying	P-48
-	P-24		P-11
Marcu, Aurelian	Th-O-15	Ren, Yixin	P-20
Marra, Marcella	Th-O-16	Rudenko, A.	Th-I-3
Matsunaga, Hiroki	P-40	Rui, Guanghao	Fr-O-8
Mei, Meicheng	Th-O-1	S	
Meng, Xiangda	P-5	Serbanescu Mihai	Th-0-15
Mi, Zhiwei	P-22	Serra Antonio	Th-O-16
Mihalcea, Razvan	Th-O-15	Shao, Yuxuan	P-47
Miyaji, Godai	We-I-1	Shen, Feivang	P-44
Miyawaki, A.	We-O-2	Shen, Yuechen	P-71
Müller-Buschbaum, Peter	P-43	Shen. Yuecheng	Th-O-5
Ν		Shi, Fangyuan	P-27
Ni, Fengchao	P-68	Shi, Haosong	P-45
,	Tu-O-14	Shi, Lei	We-O-9
Nicolae, lonut	Th-O-15	Shu, Xiaochi	P-42
Nie, Zhaogang	Tu-O-15	Shugaev, Maxim V.	Tu-O-10
Ning, Tingyin	P-11	Silvain, Jean-Francois	Fr-I-1
Niu, Zhikang	P-51	Sima, Felix	Fr-O-11
		Sima, Livia Elena	Fr-O-11
0		Situ, Guohai	P-70
Obata Kotaro	Fr-O-10	Song, Congxi	P-38
Obata. K.	We-O-2	Song, Lvbin	P-33
Orobeti. Stefana	Fr-O-11	Song, Yunpeng	P-46
Ozasa, Kazunari	We-O-2	Spellauge, Maximilian	Tu-O-16
	Fr-O-10	Stoian, Razvan	We-I-2

Sugioka, Koji	Fr-O-11	Wang, Z.	P-9
	Tu-PL-1	-	P-50
	Fr-O-10	Wang, Z.	P-9
	We-O-2		P-50
Sugita, Naohiko	We-O-5	Wang, Yu	P-5
-	Fr-O-12	Wang, Yiping	Tu-I-2
Sun, Baoquan	P-43	Wang, Yang	Th-O-1
Sun, Chao	P-33	Wang, Xinwei	Fr-I-1
Sun, Huijie	Fr-O-12	Wang, Xiaowei	Tu-O-17
Sun, Mingman	Th-O-2		Tu-O-3
Sun, Yepeng	P-22	Wang, Xiaodan	P-24
Sun, Yiwei	P-68	Wang, Wenxuan	P-22
Sun, Yujie	P-20	Wang, Wanlin	P-42
Suzuki, Kaoru	P-40	Wang, Zhaoying	P-20
т		Wang, Qiang	P-7
	T 0 12	Wang, Min	P-33
Tan, Yuanxin	TU-O-12		P-31
Ten l'a	P-48		P-32
Tan, Jia	P-17	Wang, Jing	P-53
Tan, Peng	P-5	Wang, K.	We-O-7
Tana lianuai	P-53	Wang, M.	P-9
Tang, Jianwei	In-O-8		P-50
Tang, Yunnai	P-71	Wang, Can	P-21
Taualuarua Maitaulaina	P-65	-	Th-O-11
Terakawa, Mitsuniro	I N-I-2	Wang, Fei	P-66
Tian, Hao	P-5	-	P-52
	P-53	Wang, G. P.	P-26
Tion Ke	TU-O-6	Wang, Guanchao	P-53
Tibbotto Kathorino Mooro	P-20		P-29
Topa Luvona		Wang, C.	P-69
Tong, Luyang	P-51	Wang, Guoping	Fr-O-7
Tu, Chenghou	P-7		P-42
Tu, Hongnuan	P-44		P-14
Tu, Shijie	P-60	Wang, Haiyun	P-66
τα, τ.	P-37	Wang, Huitian	P-7
		Wang, Hushan	Tu-O-18
U		Wang, Jun	P-64
Ungar, G.	P-37		Tu-O-4
Uzawa, Takanori	Fr-O-10	Wang, Guanhua	P-33
V		Wei, Shuxian	Fr-O-5
Viespe, Cristian	Th-O-15		P-28
\A/		Wei, Zhiwei	P-44
VV	B 40	Wen, Xing	P-5
Wang, Zhang	P-42	Wen, Zenrun	P-25
		Wu, R.	P-9

Wu, Yuzhu	P-3	Xu, Jingjun	P-35
Wu, Xingzhi	P-27		Th-O-4
Wu, Shuyi	Th-O-18		Tu-O-9
Wu, Shuting	P-6	Xu, Jinkai	Th-O-17
Wu, Quanying	P-71	Xu, Jinlong	Th-O-17
	Tu-O-4	Xu, Ke	P-24
	P-27	Xu, S.	P-17
	P-70	Xu, Xiulai	P-1
	P-64		P-21
	P-65		Th-O-11
Wu, Rongbo	P-33	Xu, Yuan	Tu-O-10
Wu, Q.	P-69	Xu, Zhihui	P-45
Wu, Qiang	P-35		
	Tu-O-9	Y	
Wu, Kedi	P-15	Yan, Jiaxu	Fr-O-2
	P-16	Yang, Shuo	P-22
Wu, Gaofeng	P-52	Yang, Longlong	Th-O-11
Wu, F.	P-69	Yang, Hong	P-12
Wu, Chengyin	Tu-O-1	Yang, Lei	P-30
	Th-O-1	Yao, Jinlei	P-72
Х		Yao, Jinping	Tu-O-17
Xi, Shanming	P-45		P-3
Xi. Tingting	P-2	Yao, Ni	P-31
Xia. Chun	Th-O-2	Ye, Yixing	Fr-O-5
Xiao. Faiun	Th-O-10		P-28
	P-41	Yoshizaki, Reina	We-O-5
Xiao, Zehua	Tu-O-18	Yu, Shupeng	P-49
Xie, Honggiang	P-3	Yu, S.	P-9
	Tu-O-17	Yu, J.	P-9
	P-6	Yu, Jianping	P-67
Xie, Jialing	P-19		We-O-8
Xing, Hongyun	P-42	Yu, Jiayi	P-59
Xing, Bohan	P-5	Yu, Kuai	P-26
Xiong, Wei	Fr-O-1	Yu, Li	P-48
Xiong, Zuoren	P-5	Yu, Xiaoming	We-O-1
Xu, Didi	P-62		Th-O-2
Xu, J.	P-50	Yu, Xuanyi	Th-O-4
	Tu-O-12	Yuan, Yangsheng	P-62
Xu, Jian	P-67	Yuan, Shuangxiu	Fr-O-4
	P-47	Yuan, Hao	Tu-O-2
	P-46		Tu-O-18
	We-O-8	Yue, Qingyang	P-57
			P-11

	Z	Zhao, Lina	P-51
Zang	–	Zhao, Junliang	P-36
Zeng, J. Zong, Vionghui	P-8	Zhao, Zengxiu	Tu-O-17
Zeng, Xionghui Zhan, Qiwan	P-24		P-4
zhan, Qiwen	D 12		Tu-O-3
	P-13	Zhao, Jianlin	Th-O-10
	P-60		P-41
7	P-63	Zhao, Jiahao	P-7
Zhang, Qian	Tu-0-17	Zhao, Guanghui	P-34
	Tu-O-3	Zhao, Chengliang	Th-O-14
Zhang, Ni	P-13	Zhao, Jing	Tu-O-17
Zhang, Ning	P-3		Tu-O-3
Zhang, Shen	P-38	Zheng, Xinzhi	We-O-6
Zhang, Meng	Th-O-9	Zheng, Yanji	Th-O-13
	Th-O-2	Zheng, Yong	P-33
Zhang, Xiliang	P-55	Zheng, Yuanlin	Tu-O-14
Zhang, Yong	Fr-I-4	Zhigilei, Leonid	Th-I-4
Zhang, Yongtao	P-56	5 /	Fr-O-3
Zhang, Yupeng	Fr-0-7		Tu-O-16
	P-14		P-23
Zhang, Xiang	Th-O-1		Tu-O-10
Zhang, Lanzhi	P-2	Zhizhchenko, A.	Th-I-5
Zhang, Aodong	P-47	Zhong, Jinzhan	Th-O-3
Zhang, Jiawei	Fr-O-10	Zhou, Boyang	We-0-1
Zhang, Honghao	Th-I-1	Zhou L	P_9
Zhang, He	P-3	2.100,91	P-50
Zhang, Haosen	P-15	Zhou linyu	P-39
	P-16		P-50
Zhang, Hao	P-54	2100, 1.	P-17
Zhang, Haisu	P-31	Zhou Yu	W/e-O-3
	P-32		D-Q
Zhang, H.	P-9		F-5 D_52
	P-50		F-53
Zhang, Guoquan	Th-O-4		F-22
Zhang, Guodong	Th-O-17		FI-O-4
Zhang, Dongshi	Th-O-6	Zhu, Yiyuan	P-9
Zhang, Jie	Fr-O-9		P-51
Zhao, Yanyu	Fr-O-7	ZHUKOV, V. P.	1U-1-3 T
Zhao, Xin	P-38	Zukerstein, M.	1 U-1-3
Zhao, Qian	P-60		