2025 AOMATT

AOMATT2025

The 11th International Symposium on Advanced Optical Manufacturing and Testing Technologies

July 20–22, 2025 | Chengdu, China

Hosts

Optical Society of Sichuan
Institute of Optics and Electronics, Chinese Academy of Sciences
Committee of Optical Manufacturing Technology, Chinese Optical Society

Organizers

Tianfu Xinglong Lake Laboratory
The 29th Research Institute of China Electronics Technology Group Corporation (CETC)

AOMATT2025

July 20-22, 2025 Chengdu, China

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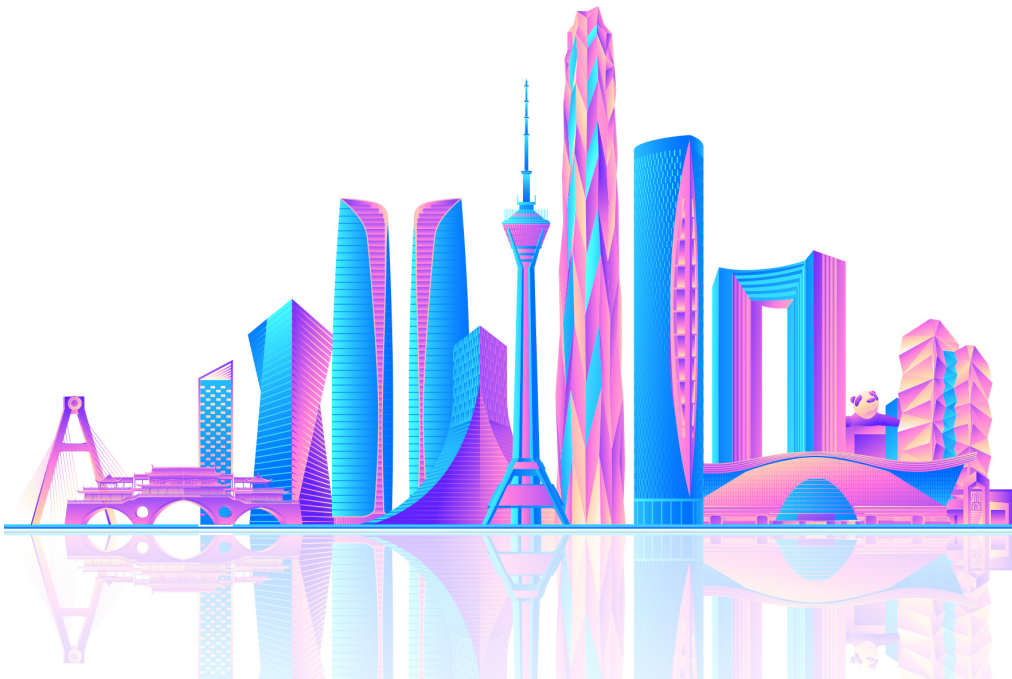


Preface

In the height of summer, as innovation meets tradition in the vibrant city of Chengdu, we are honored to convene the 11th International Symposium on Advanced Optical Manufacturing and Testing Technologies (AOMATT 2025). On behalf of the Organizing Committee, I extend my warmest welcome and sincere appreciation to all distinguished guests—leaders, scholars, industry experts, and colleagues from around the world—who have gathered here for this important event.

Over the past two decades, AOMATT has grown steadily, guided by the principles of openness, integration, innovation, and sharing. The conference has become a high-level international platform for multidisciplinary exchange and collaboration, continuously advancing the science and technology of optical manufacturing.

This year's conference, centered on the latest developments and future trends in advanced optical manufacturing and testing. Through academic presentations and in-depth discussions, we will focus on frontier topics, interdisciplinary research, and real-world applications—sharing insights, exploring synergies, and fostering a thriving innovation ecosystem.

As we gather to exchange knowledge and spark new ideas, I would like to express my heartfelt thanks to all those who have supported the growth of AOMATT over the years—our academic colleagues, institutional partners, sub-forum organizers, volunteers, and the entire organizing team. Your dedication and collaboration are deeply appreciated.

May this conference inspire new thinking, encourage meaningful dialogue, and open up new paths of discovery for all participants!

Xiangang Luo

General Chair, AOMATT 2025
Academician, Chinese Academy of Engineering

COMMITTEE

Hosts

四川省光学学会
OPTICAL SOCIETY OF SICHUAN

中国科学院光电技术研究所
THE INSTITUTE OF OPTICS AND ELECTRONICS THE CHINESE ACADEMY OF SCIENCES

中国光学学会光学制造专委会

Optical Society of Sichuan
Institute of Optics and Electronics, Chinese Academy of Sciences
Committee of Optical Manufacturing Technology, Chinese Optical Society

Organizers

天府兴隆湖实验室
TIANFU XINGLONG LAKE LABORATORY

CETC 中国电子科技集团公司第二十九研究所

Tianfu Xinglong Lake Laboratory
The 29th Research Institute of China Electronics Technology Group Corporation (CETC)

Co-organizers

Tan Kah Kee Innovation Laboratory
National Key Laboratory of Optical Field Manipulation Science and Technology
University of Electronic Science and Technology of China
Sichuan University
Southwest Jiaotong University
Southwest University of Science and Technology
Southwest Institute of Technical Physics
Institute of Applied Electronics, China Academy of Engineering Physics (CAEP)
Research Center of Laser Fusion, China Academy of Engineering Physics (CAEP)
Microwave Photonics Technology Key Laboratory of Sichuan Province

Technical Support

SPIE. The international society for optics and photonics

SPIE

Journals

Opto-Electronic Advances
Opto-Electronic Science
Opto-Electronic Technology
Intelligent Opto-Electronics
Opto-Electronics Plus
Opto-Electronic Engineering (Chinese)
[OE Journals Group: https://www.oejournal.org/]

Honorary Chairs

Bingkun Zhou, Tsinghua University, China
Guozhen Yang, Institute of Physics, Chinese Academy of Sciences, China

General Chair

Xiangang Luo, Institute of Optics and Electronics, Chinese Academy of Sciences, China

General Co-Chairs

Costas Fotakis, FORTH, Greece
Koji Sugioka, RIKEN Center for Advanced Photonics, Japan
Jinghua Teng, A*STAR, Singapore

Technical Program Committee Chairs

Minghui Hong, Xiamen University, China
Emmanuel Stratakis, IESL-FORTH, Greece

Technical Program Committee Co-Chairs

Xinbin Cheng, Tongji University, China
Mingbo Pu, Institute of Optics and Electronics, Chinese Academy of Sciences, China
Xiaodi Tan, Fujian Normal University, China
Yan Zhang, Capital Normal University, China
Mohsen Rahmani, Nottingham Trent University, United Kingdom

Secretary General

Hu Yang, Optical Society of Sichuan, China

Track Committees

Track 1: Electro-optical Telescope and Adaptive Optics

Leading Chair:
Changhui Rao, Institute of Optics and Electronics, Chinese Academy of Sciences, China

Co-Chairs:
Joseph Shields, LBT Observatory, United States
Jianli Wang, Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences, China
Suijian Xue, National Astronomical Observatories, Chinese Academy of Sciences, China

Secretary:
Lanqiang Zhang, Institute of Optics and Electronics, Chinese Academy of Sciences, China

Track 2: Large and Ultra-Precision Optics Manufacturing

Leading Chair:
Qiang Chen, Institute of Optics and Electronics, Chinese Academy of Sciences, China

Co-Chairs:
Richard Freeman, Zeeko Ltd, United Kingdom
Chaoyang Wei, Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, China
Xi Hou, Institute of Optics and Electronics, Chinese Academy of Sciences, China

Secretary:
Shuai Zhang, Institute of Optics and Electronics, Chinese Academy of Sciences, China

Track 3: Extreme Micro/Nano Manufacturing

Leading Chair:
Xinbin Cheng, Tongji University, China

Co-Chairs:
L. Jay Guo, University of Michigan, United States
Dong Wu, University of Science and Technology of China, China
Huigao Duan, Hunan University, China

Secretary:
Jingyuan Zhu, Tongji University, China

Track 4: Optical Field Manipulation: Principles and Applications

Leading Chair:
Mingbo Pu, Institute of Optics and Electronics, Chinese Academy of Sciences, China

Co-Chairs:
Mohsen Rahmani, Nottingham Trent University, United Kingdom
Guoxing Zheng, Wuhan University, China
Maowen Song, Nanjing University, China
Lianwei Chen, Institute of Optics and Electronics, Chinese Academy of Sciences, China
Qihua Zhu, Research Center of Laser Fusion, China Academy of Engineering Physics, China

Secretary:
Li Long, Institute of Optics and Electronics, Chinese Academy of Sciences, China

Track 5: Novel Optoelectronic Materials

Leading Chair:
Yan Zhang, Capital Normal University, China

Co-Chairs:
Wei Hu, Nanjing University, China
Xianzhong Chen, Heriot-Watt University, United Kingdom
Burdanova Maria, Moscow Institute of Physics and Technology, Russia

Secretary:
Bin Hu, Beijing Institute of Technology, China

Track 6: Optical Sensing and Optical Communication

Leading Chair:
Changyuan Yu, The Hong Kong Polytechnic University, Hong Kong, China

Co-Chairs:
Jian Chen, Nanjing University of Posts and Telecommunications, China
Zixiong Wang, Tianjin University, China
Yixin Wang, A*STAR, Singapore
Guowen Yang, DoGain Optoelectronic Inc., China
Xihua Zou, Southwest Jiaotong University, China

Secretary:
Xiaodi You, Soochow University, China

Track 7: Intelligent Optoelectronic Technology

Leading Chair:
Xiaodi Tan, Fujian Normal University, China

Co-Chairs:
Osamu Matoba, Kobe University, Japan
Xingjun Wang, Peking University, China
Guohai Situ, Shanghai Institute of Laser Technology Co.,Ltd/Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, China

Secretary:
Ying Jin, Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, China

Track 8: Optoelectronic Fusion Sensing Technology

Leading Chair:
Tao Zhou, The 29th Research Institute of China Electronics Technology Group Corporation (CETC), China

Co-Chairs:
Lianshan Yan, Southwest Jiaotong University, China
Zeyu Zhao, Institute of Optics and Electronics, Chinese Academy of Sciences, China

Secretary:
Wenlin Bai, The 29th Research Institute of China Electronics Technology Group Corporation (CETC), China

GENERAL INFORMATION

Conference Venue

Conference Venue: Chengdu Aerotropolis International Convention Center（成都空港国际会议中心）
Address: No. 1555, South Section of Chengshuang Avenue, Shuangliu District, Chengdu, Sichuan, China, 610200(中国四川成都双流区成双大道南段 1555 号 邮编：610200）

Registration

Location: 3F
12:00-22:00 Sunday, 20 July
07:30-18:30 Monday, 21 July
08:30-18:30 Tuesday, 22 July

Onsite Speaker Preparation

Oral presenters are required to be in the session room at least 30 minutes prior to their scheduled talk to upload and check their presentation. No shows of the oral presentation will be reported to conference management and these papers will not be published.

To ensure the efffcient and orderly conduct of the conference, the duration of various reports is as follows:
Plenary talk: 40 minutes per person, including a question-and-answer session.
Invited talk: 25 minutes per person, including a question-and-answer session.
Oral talk: 15 minutes per person, including a question-and-answer session.

Onsite Poster Preparation

Authors should put up their posters before the poster session starts. Authors are required to be standing by their posters **from 17:30 to 18:30 on the 21st of July**, to answer questions and further discuss their work with attendees. No-show posters will be reported to conference management and these papers will not be published.

Recommended Poster Size: 0.8m (Length) * 1.2m (Height)
Note: Each board has a Control ID on it, please note if it is your own Control ID when posting.

Location: 3F Poster Area
Poster Session: 17:30-18:30 Monday, 21 July

Lunch

Location: 3F Grand Ballroom
12:30-14:00 Monday, 21 July
12:30-14:00 Tuesday, 22 July

Dinner

Location: 3F Grand Ballroom
18:30-20:00 Monday, 21 July

Dinner and Award Ceremony

Conference Award will be presented at the dinner.
Location: 3F Convention Hall A&B&E&F
18:00-20:00 Sunday, 20 July

Exhibition

The Optoelectronic Products Exhibition is open to all attendees

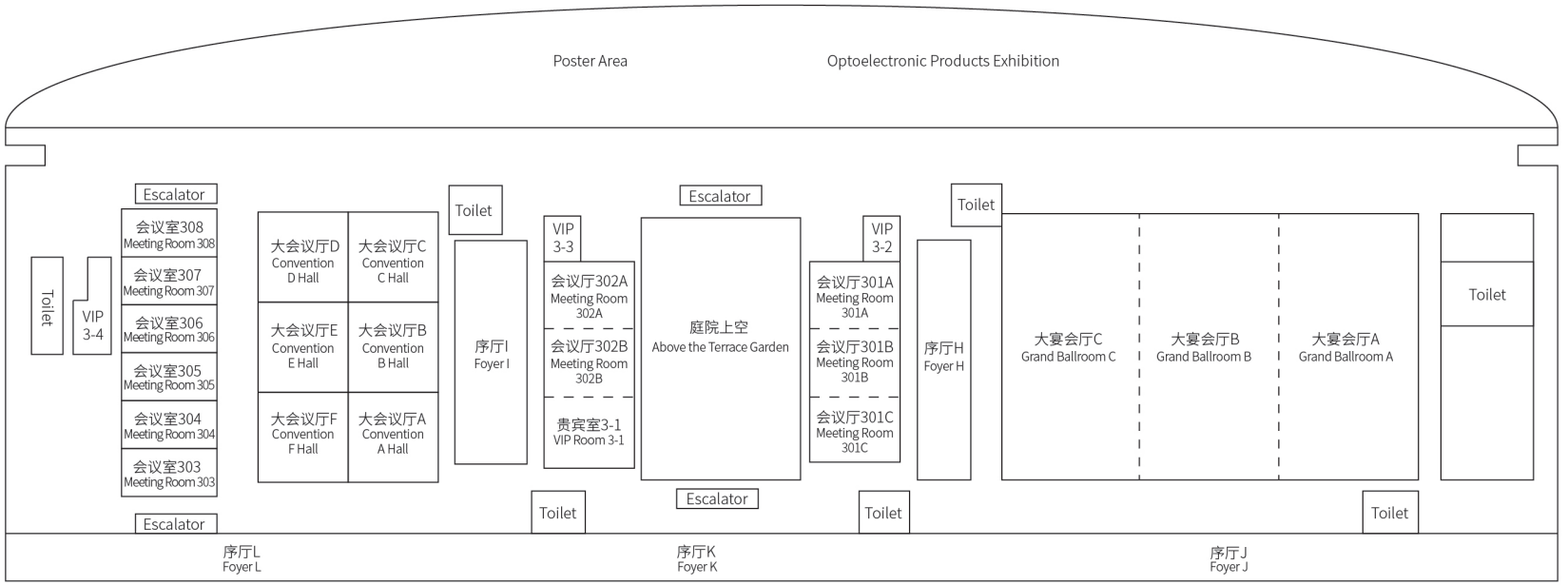
Location: 3F Exhibition Area
08:30-18:30 Monday, 21 July
08:30-18:30 Tuesday, 22 July

Conference Materials

AOMATT2025 Technical Digest material is composed of plenary, invited and accepted oral abstracts. The Technical Digest material is availble on AOMATT2025 platform (https://www.aomatt.org/) and can be downloaded in PDF form.

MAP

3F



Guidelines

Opening Ceremony of the AOMATT	Conventional Hall A&B&E&F
Plenary Speeches	Conventional Hall A&B&E&F
Science and Technology Innovation and Industry Development Integration Forum	Convention Hall C&D
Track 1: Electro-optical Telescope and Adaptive Optics	Meeting Room 308
Track 2: Large and Ultra-Precision Optics Manufacturing	Meeting Room 301A
Track 3: Extreme Micro/Nano Manufacturing	Meeting Room 301C
Track 4: Optical Field Manipulation: Principles and Applications	Meeting Room 302A
Track 5: Novel Optoelectronic Materials	VIP Room 3-1
Track 6: Optical Sensing and Optical Communication	Meeting Room 307
Track 7: Intelligent Optoelectronic Technology	Meeting Room 306
Track 8: Optoelectronic Fusion Sensing Technology	Meeting Room 305
Communication for Posters	Poster Area
Optoelectronic Products Exhibition	Exhibition Area

PROGRAM AT A GLANCE

The Program of the 11th International Symposium on
Advanced Optical Manufacturing and Testing Technologies (AOMATT 2025)

Location：3F, Block B, Chengdu Aerotropolis International Convention Center

Sunday, 20 July

Dinner（Award Ceremony）	18:00-20:00	Convention Hall A&B&E&F

Monday, 21 July

Opening Ceremony	08:30-08:50	Convention Hall A&B&E&F
Plenary Speeches	08:50-12:30	Convention Hall A&B&E&F
Track 1: Electro-optical Telescope and Adaptive Optics	14:00-17:30	308
Track 2: Large and Ultra-Precision Optics Manufacturing		301A
Track 3: Extreme Micro/Nano Manufacturing		301C
Track 4: Optical Field Manipulation: Principles and Applications		302A
Track 5: Novel Optoelectronic Materials		VIP3-1
Track 6: Optical Sensing and Optical Communication		307
Track 7: Intelligent Optoelectronic Technology		306
Track 8: Optoelectronic Fusion Sensing Technology		305
Focused Discussion Time for Posters	17:30-18:30	Poster Area

Tuesday, 22 July

Track 1: Electro-optical Telescope and Adaptive Optics	08:30-18:30	308
Track 2: Large and Ultra-Precision Optics Manufacturing		301A
Track 3: Extreme Micro/Nano Manufacturing		301C
Track 4: Optical Field Manipulation: Principles and Applications		302A
Track 5: Novel Optoelectronic Materials		VIP3-1
Track 6: Optical Sensing and Optical Communication		307
Track 7: Intelligent Optoelectronic Technology		306

Concurrent Activities of the AOMATT 2025

Science and Technology Innovation and Industry Development Integration Forum	14:00-17:10 **Monday, 21 July**	Convention Hall C&D
Optoelectronic Products Exhibition	08:30-18:30 **Monday, 21 July** 08:30-18:30 **Tuesday, 22 July**	Exhibition Area

On-site Registration:

Location: 3F, Block B, Chengdu Aerotropolis International Convention Center

12:00-22:00 **Sunday, 20 July**

07:30-18:30 **Monday, 21 July**

08:30-18:30 **Tuesday, 22 July**

FORUM

Science and Technology Innovation and Industry Development Integration Forum

July 21, 2025	
14:00-14:05	**Opening Address** **Minghui Hong** Fellow, Singapore Academy of Engineering
14:05-14:20	**Release of Sichuan Province's AI Innovation Scenarios List & Interpretation of Sichuan Provincial Science and Technology Plan 'Unveiling and Commanding' Project Management Measures (Trial)"** **Dingchuan Wang** Director of the Achievement Transformation Division, Sichuan Provincial Department of Science and Technology
14:20-14:50	**Challenges in Railway Construction and Maintenance in Western Mountainous Regions and the Empowerment by Optoelectronic Technologies** **Jingchuan Yao** Research Fellow, China Academy of Railway Sciences Corporation Limited
14:50-15:20	**Optical Interconnect Technology and Industry Development Trends** **Huitao Wang** Chief Planning Engineer for Optoelectronics, ZTE Corporation
15:20-15:40	**Break**
15:40-16:10	**Breakthroughs in Frontier Optoelectronic Technologies and Key Achievements** **Junwei Hu** Chief Engineer of the 3D Five-Axis Product Line, HGTECH Laser Engineering Co., Ltd.
16:10-16:40	**The Present and Future of Oxide OLED Technology** **Xiufeng Zhou** R&D Director, HKC Co., Ltd.
16:40-17:10	**Progress on Shanghai Micro Electronics' Lithography Systems** **Yimin Shi** Product Director, Shanghai Micro Electronics Equipment (Group) Co., Ltd.

CONFERENCE PROGRAMS

July 21, 2025	
08:30-08:50	**Opening Ceremony**
08:50-09:30	**Meta Devices from Optics to Quantum** **Din-Ping Tsai** City University of Hong Kong, China
09:30-10:10	**30 Years of Nanoimprint: Past Development and Current Momentum** **L. Jay Guo** University of Michigan, USA
10:10-10:30	**Break**
10:30-11:10	**Atomaterials for Sustainability** **Baohua Jia** Royal Melbourne Institute of Technology (RMIT) University, Australia
11:10-11:50	**Materials Solutions for Sustainability Challenges** **Xiaobo Yin** The University of Hong Kong, China
11:50-12:30	**Grayscale Laser Beam Lithography for Large Area Surface Engineering: Accelerating the Lab-to-Fab Transition** **Kahraman Keskinbora** RAITH Laser Systems B.V, the Netherlands

Track 1: Electro-optical Telescope and Adaptive Optics	
Location: Meeting Room 308	
July 21, 2025	
14:00-14:25	**Active Optical Supports for the Large-Aperture Rb-Sic Mirror (Invited)** **Jianli Wang** Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences, China
14:25-14:50	**The General Extended-Object Wavefront Sensor: Principles and Applications (Invited)** **Sijiong Zhang** 1.Nanjing Institute of Astronomical Optics & Technology, Chinese Academy of Sciences, China;2. Chinese Academy of Sciences Key Laboratory of Astronomical Optics & Technology, Nanjing Institute of Astronomical Optics & Technology, China;3. University of Chinese Academy of Sciences, China
14:50-15:15	**Precision Tracking Control for Ground-Based Large Optical Telescopes (Invited)** **Yongting Deng** Hangzhou Institute for Advanced Study, University of Chinese Academy of Sciences, China
15:15-15:30	**Coaxial Spherical Parallel Tracking Frame** **Xiufeng Liu** Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences, China
15:30-15:50	**Break**
15:50-16:15	**The Development of "Stage-V" Spectroscopic Telescope: MUST (Invited)** **Zheng Cai** Tsinghua University, China
16:15-16:40	**Optical System Design and Active Alignment Methods for Wide-Field Astronomical Telescopes (Invited)** **Zhengyang Li** Nanjing Institute of Astronomical Optics & Technology, Chinese Academy of Sciences, China
16:40-17:05	**Development of a Imaging Array Based on Kinetic Inductance Detectors for the Mid-to-Far-Infrared (Invited)** **Ran Duan** The National Astronomical Observatories of the Chinese Academy of Sciences, China
17:05-17:20	**Analysis of Multi-wavelength Co-phasing Detection Method for Segmented Mirrors Using Enumeration: Single-wavelength Detection Error, Wavelength Selection, Detection Range and Accuracy** **Pengfei Wang** Xi'an Institute of Optics and Precision Mechanics of Chinese Academy of Sciences, China

Track 1: Electro-optical Telescope and Adaptive Optics	
Location: Meeting Room 308	
July 22, 2025	
08:30-08:55	**Chinese Giant Solar Telescope and its High-Resolution Observation System (Invited)** **ZhenYu Jin** 1.Yunnan Observatories, Chinese Academy of Sciences, China; 2.Yunnan Key Laboratory of Solar Physics and Space Science, China; 3.Yunnan Engineering Center for Applied Astronomical Technology, China
08:55-09:20	**The progress of the Cool Planets Imaging Coronagraph (CPI-C) on China Space Station survey Telescope (CSST) (Invited)** **Jiangpei Dou** Nanjing Institute of Astronomical Optics & Technology, Chinese Academy of Sciences, China
09:20-09:45	**Wavefront Sensing with a Large Aperture Patched Telescope (Invited)** **Qichang An** Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences, China
09:45-10:00	**The Real-Time Controller for the Glao System of 2.5-Meter Wide-Field and High-Resolution Solar Telescope** **Nanfei Yan** 1.National Laboratory on Adaptive Optics, China; 2.Institute of Optics and Electronics, Chinese Academy of Sciences, China; 3.University of Chinese Academy of Sciences, China
10:00-10:15	**Electromagnetically Driven 4×4 Micromirror Arrays Based on FPCB** **Manpeng Chang** Chongqing University, China
10:15-10:35	**Break**
10:35-11:00	**Processing and Testing Technology for Main Mirrors of Large Telescopes (Invited)** **Yongqian Wu** Institute of Optics and Electronics, Chinese Academy of Sciences, China
11:00-11:25	**Initial Site Monitoring Plan for the 14.5 Meter Optical/Infrared Telescope (Invited)** **Lu Feng** National Astronomical Observatories, Chinese Academy of Sciences, China
11:25-11:50	**An Overview of the 4.2-meter Ground-Based Dedicated Astrometric Telescope Adaptive Optics System (Invited)** **Lingxiao Li** Institute of Optics and Electronics, Chinese Academy of Sciences, China
11:50-12:05	**First Laboratory Results on the Correction Capability of a Ground-Layer Adaptive Optics System** **Ziming Li** 1.National Laboratory on Adaptive Optics, China; 2.Institute of Optics and Electronics, Chinese Academy of Sciences, China; 3.University of Chinese Academy of Sciences, China

12:05-12:20	**Study of the Average Short Exposure Transfer Function in the Presense of Atmospheric Turbulence** **Gang Hu** Yunnan Observatories, Chinese Academy of Sciences, China
12:20-12:35	**Effects of Assembly Angular Errors in Chiral Phase Mask on Passive Ranging Accuracy** **Jiajun Lin** National University of Defense Technology, China
12:35-14:00	**Lunch**
14:00-14:25	**Advancing Adaptive Optics at the Large Binocular Telescope (Invited)** **Joseph Shields** Large Binocular Telescope Observatory, United States
14:25-14:50	**Progress in Sodium Guide Star Laser based on Raman Laser Technology (Invited)** **Yan Feng** Hangzhou Institute for Advanced Study, University of Chinese Academy of Sciences, China
14:50-15:15	**The Next Generation of Palomar Spectrograph(NGPS) for Hale Telescope (Invited)** **Hangxin Ji** The Nanjing Institute of Astronomical Optics & Technology of the Chinese Academy of Sciences
15:15-15:40	**Research on High-Resolution Astronomical Imaging of Faint Targets (Invited)** **Youming Guo** Institute of Optics and Electronics, Chinese Academy of Science, China
15:40-15:55	**Large-Aperture Electromagnetically-Driven Scanning Micromirror Based on Stainless Steel** **Manpeng Chang** Chongqing University, China
15:55-16:10	**Large-Guide-Region Wavefront Sensing for Solar GLAO: Modeling, Simulation, and Experimental Validation** **Yuhe Liu** 1.National Laboratory on Adaptive Optics, China; 2.Institute of Optics and Electronics, Chinese Academy of Sciences, China; 3.University of Chinese Academy of Sciences, China

Track 2: Large and Ultra-Precision Optics Manufacturing	
Location: 301A	
July 21, 2025	
14:00-14:25	**New Challenges in Optical Manufacturing for Laser Fusion (Invited)** **David Walker** Zeeko Ltd., United Kingdom
14:25-14:50	**High-efficiency & Ultra-Precision Manufacturing of Aspherical Optics (Invited)** **Yunfeng Peng** Xiamen University, China
14:50-15:15	**Plasma Figuring with Nanometric Accuracy (Invited)** **Hui Deng** Southern University of Science and Technology, China
15:15-15:40	**Ultrahigh Precision Manufacture and Metrology of X-Ray Optics at Tongji University (Invited)** **Jun Yu** Tongji University, China
15:40-16:00	**Break**
16:00-16:25	**Mechanism and Process of Ultra-precision Grinding for Complex Optics (Invited)** **Changsheng Li** Xi'an Jiaotong University, China
16:25-16:50	**Zernike by One Pascal Triangle: a High Performance, Low Memory Cost and Flexible Computation Scheme for Zernike Polynomials (Invited)** **Weijun Chen** Carl Zeiss Group, Germany
16:50-17:15	**Qualifire – a New Generation of Phase Shifting Interferometer (Invited)** **Jason Zhang** Zygo Corporation, United States
17:15-17:30	**High-Convergence-Ratio Ion Beam Figuring Method Based on Weight Dynamic Adjustment and Parameter Mapping** **Hongyu Zou** National University of Defense Technology, China

Track 2: Large and Ultra-Precision Optics Manufacturing	
Location: 301A	
July 22, 2025	
08:30-08:55	**Defect Detection of Aspheric Surfaces (Invited)** **Dong Liu** Zhejiang University, China
08:55-09:20	**Interferometric Test Technology and Instruments of Multi-Scale Surface Profile (Invited)** **Zhishan Gao** Nanjing University of Science and Technology, China
09:20-09:45	**Fourier Convmingolution-Parallel Neural Networkframework with Library Matching for Multi-Toolprocessing Decision-Making in Optical Fabrication (Invited)** **Chaoyang Wei** Shanghai Institute of optics and fine mechanics, China
09:45-10:00	**Effects of Manufacturing Defects on the Laser-Induced Damage Performance of Wavelength Separation Films** **Shichen Shen** Laser Fusion Research Center, China Academy of Engineering Physics, China
10:00-10:15	**Mechanisms, Processing Strategies, and Emerging Applications of Water-jet Guided Laser Processing Technology of Single-Crystal Diamond** **Shuiwang Wang** Harbin Institute of Technology, China
10:15-10:35	**Break**
10:35-11:00	**Design of the Vertical Ultra Precision Grinding Machine for Large Aperture Optics (Invited)** **Bo Wang** Harbin Institute of Technology, China
11:00-11:25	**Research on Testing Complex Optical Surface by Micro-Oct (Invited)** **Yukun Wang** Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences, China
11:25-11:50	**Dual-Robot Collaborative Polishing Technology for Ultra-Lightweight Large-Aperture Reflectors (Invited)** **Yongsheng Yao** Xi 'an Institute of Optics and Precision Mechanics of Chinese Academy of Sciences, China
11:50-12:05	**Research on Automated Water-jet Guided Laser Processing Technology Based on Visual Inspection and Acoustic Emission Monitoring** **Ding Ye** Harbin Institute of Technology, China
12:05-12:20	**In-situ Nanometric Deflectometry via Synchronized Calibration** **Ruiyang Wang** School of Electronics and Information Engineering, Sichuan University, China

12:20-12:35	**Concept of a Viscoelastic Polishing Tool Based on Shear-stiffening Properties for Aspheric Surfaces Figuring** **Jiahao Yu** University of Electronic Science and Technology of China, China
12:35-14:00	**Lunch**
14:00-14:25	**Progress in Advanced Optical Manufacturing Technology of NIAOT (Invited)** **Zhonghua Wu** Nanjing Institute of Astronomical Optics & Technology, Chinese Academy of Sciences, China
14:25-14:50	**Research on Ultra-Precision Polishing Technology of Cordierite Optical Surface (Invited)** **Jiaoteng Ding** Xi'an Institute of Optics and Precision Mechanics of Chinese Academy of Sciences, China
14:50-15:15	**Computer Generated Holograms in Optical Surface Metrology and Alignment of Telescopes (Invited)** **Shanyong Chen** National University of Defense Technology, China
15:15-15:40	**High-precision Testing of large-aperture highly lightweight space mirrors (Invited)** **Mengjuan Li** Beijing Institute of Space Mechanics & Electricity, China
15:40-15:55	**Analysis of the Influence of Mass Defects in Hemispherical Resonators on Quality Factors** **Qingheng Liu** 1.National Key Laboratory of Equipment State Sensing and Smart Support , College of Intelligence Science and Technology, National University of Defense Technology, China;2. Hunan Key Laboratory of Ultra-Precision Machining Technology, China
15:55-16:20	**Break**
16:20-16:45	**Field Assisted Ultaprecision Manufacturing of Microstructure Array (Invited)** **Xingzhan Li** Advanced manufacturing LAB, Huawei Technologies, China
16:45-17:10	**Performance Tuning and Preparation Technologies of Low-Thermal-Expansion Polycrystalline Ceramics (Invited)** **Haibin Zhang** Institute of Optics and Electronics, Chinese Academy of Sciences, China
17:10-17:35	**Advances in X-ray Optics Technology of HEPS (Invited)** **Ming Li** Institute of High Energy Physics, Chinese Academy of Sciences, China
17:35-18:00	**Ultra-Precision Turning of Complex Surfaces: Technology and Applications (Invited)** **Shijie Li** Xi'an Technological University, China

18:00-18:25	**Ultra-precision Testing and Fabrication Techniques of Spherical/Aspheric Surface (Invited)** **Xiaochuan Hu** Institute of Optics and Electronics, Chinese Academy of Sciences, China
18:25-18:40	**Data-Driven Precision Extraction and Separation of Spatial Band Errors** **Yuan Liu** Changchun Institute of Optics, Fine Mechanics and Physics (CIOMP), Chinese Academy of Sciences, China
18:40-18:55	**Design and Implementation of a Six-Axis, Five-Linkage Grinding Machine Tool for Optical Element** **Lin Sun** Xi'an Jiaotong University, China

Track 3: Extreme Micro/Nano Manufacturing	
Location: 301C	
July 21, 2025	
14:00-14:25	**Nanoscale 3D Printing Of Structural Colors and Multi-Spectral Filters For Light Control (Invited)** **Joel Yang** Singapore University of Technology and Design, Singapore
14:25-14:50	**Grayscale Lithographic Nanofabrication and Applications (Invited)** **Wendi Li** The University of Hong Kong, China
14:50-15:15	**Large-Deformation Manufacturing of Silicon-Based Nano-Kirigami Structures and its Application in Information Encryption Display (Invited)** **Jiafang Li** Beijing Institute of Technology, China
15:15-15:40	**Fabrication of Large-Scale High-Precision Gratings and Their Application (Invited)** **Wenhao Li** Changchun Institute of Optics, Fine Mechanicsand Physics, Chinese Academy of Sciences, China
15:40-16:00	**Break**
16:00-16:25	**Structured Optical Nano Probes and the Applications (Invited)** **Shuming Yang** Xi'an Jiaotong University, China
16:25-16:50	**Metasurface-based Advanced Imaging and Display (Invited)** **Cheng Zhang** Huazhong University of Science and Technology, China
16:50-17:15	**Key Technologies for Ultra-precision Manufacturing and Metrological Value Transfer of Quantized Grating Reference Materials (Invited)** **Xiao Deng** Tongji University, China
17:15-17:30	**Proximity Effect Correction in Electron Beam Lithography Using a Composite Function Model of Electron Scattering Energy Distribution** **Qingyuan Mao** Tongji University, China

Track 3: Extreme Micro/Nano Manufacturing	
Location: 301C	
July 22, 2025	
08:30-08:55	**Research Development and Applications of Extreme Ultraviolet (EUV) Light Sources (Invited)** **Nan Lin** Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, China
08:55-09:20	**Atomic Migration and its Suppression in Metallic Nanostructuresby Helium Ion Radiation (Invited)** **Xin Cheng** Southern University of Science and Technology, China
09:20-09:45	**Foundation for Research and Technology Hellas (Invited)** **Emmanuel Stratakis** University of Crete, Greece
09:45-10:10	**Volume Production Methodology for Nil Manufacturing on 300mm Wafer with Surface Relief Gratings(Srg) (Invited)** **Ran Ji** Qingdao Germanlitho Co., Ltd., China
10:10-10:35	**Break**
10:35-11:00	**Material Response to Laser Energy Deposition: the Role of Defects (Invited)** **Wolfgang Kautek** University of Vienna, Department of Physical Chemistry, Austria
11:00-11:25	**Micro/Nano Processing of Materials and Functional Devices with Ultrafast Laser (Invited)** **Jianfeng Yan** Tsinghua University, China
11:25-11:50	**Applications of Domestic Ion Beam Equipment in Micro/Nano - Optics (Invited)** **Ming Ji** IBDTEC, China
11:50-12:05	**3D Integration of Multifunctional Fiber-Optic Sensors via Femtosecond Laser Direct Writing** **Xuhao Fan** Huazhong University of Science and Technology, China
12:05-12:20	**Super Resolution Microscopy Imaging assisted by Liquid Microlens and Light Field Reconstruction via Its Arrays** **Tongkai Gu** Xi'an University of Architecture and Technology, China
12:20-12:35	**Monitoring Energy-Dependent Ultrafast Laser Manufacturing Inside Gallium Arsenide by Fluorescence Imaging** **Weiyu Zhu** Beijing Institute of Technology, China
12:35-14:00	**Lunch**

14:00-14:25	**Femtosecond Laser Micro/Nanostructuring and Interfacial Optical Modulation (Invited)** **Dongshi Zhang** Shanghai Jiao Tong University, China
14:25-14:50	**New Developments in Novel Submerged Pulsating Air Jet Polishing Process (Invited)** **Yanjun Han** Southwest Jiaotong University, China
14:50-15:05	**In Situ Vibration-Assisted Magnetorheological Polishing Based on Frequency Band Error Suppression** **Pengxiang Wang** National University of Defense Technology, China
15:05-15:20	**Exploration of Photonic Crystals for Super-Resolution Lithography** **Gaofeng Liang** Chongqing University, China
15:20-15:35	**Enhanced Coupling Efficiency in Micro-ring Resonators through Two-Photon-Printed Tapered Waveguides** **Kaixiong Shao** Nanophotonics Research Center, Shenzhen University, China
15:35-15:50	**Optimizing and well-Controlled Grayscale Electron Beam Lithography for Planar Dual Blazed Grating Fabrication** **Liang Liu** Tongji University, China
15:50-16:20	**Break**
16:20-16:45	**Medical Micro/Nanorobots Based on Laser Precision Manufacturing (Invited)** **Zhuochen Ma** Shanghai Jiao Tong University, China
16:45-17:10	**The Fabrication of Conformal Ultra-thin Ag Film on Curved Substrates (Invited)** **Heyan Wang** Harbin Institute of Technology, China
17:10-17:20	**Study on Magnetically Controlled Laser-Induced Active Plasma-Assisted Ablation of Diamond** **Qiuling Wen** Huaqiao University, China

Track 4: Optical Field Manipulation: Principles and Applications	
Location: 302A	
July 21, 2025	
14:00-14:25	**Metasurfaces: From 1.0 to 2.0 (Invited)** **Lei Zhou** Fudan University, China
14:25-14:50	**High-Performance All-Dielectric Metasurfaces and Their Applications (Invited)** **Shumin Xiao** Harbin Institute of Technology, China
14:50-15:15	**Meta-Microscope: Approaching High Resolution and Wide Field-of-View (Invited)** **Tao Li** Nanjing University, China
15:15-15:40	**Optical Sensing Based on Optical Frequency Combs (Invited)** **Baicheng Yao** University of Electronic Science and Technology of China, China
15:40-16:00	**Break**
16:00-16:25	**Metasurface Polarization Optics (Invited)** **Zilan Deng** Jinan University, China
16:25-16:50	**End-to-End Inverse Design Strategy for Metasurface Holography and Hybrid Optical System (Invited)** **Lingling Huang** Beijing Institute of Technology, China
16:50-17:15	**1.79-GHz Acquisition Rate Absolute Distance Measurement with Lithium Niobate Electro-Optic Comb (Invited)** **Yang Li** Sun Yat-sen University, China
17:15-17:30	**Metasurface-Based Multichannel Image Display and Information encryption** **Juan Deng** Zhejiang University of Technology, China
17:30-17:45	**Research on Multifunctional Meta-devices via Polarization Multiplexing** **Jiaxin Li** Wuhan University of Technology, China

Track 4: Optical Field Manipulation: Principles and Applications	
Location: 302A	
July 22, 2025	
08:30-08:55	**The Road Towards all-Spectrum Femtosecond White Laser (Invited)** **Zhiyuan Li** South China University of Technology, China
08:55-09:20	**Versatile Plasmonic Colors with Pixelated Metasurface (Invited)** **Maowen Song** Nanjing University, China
09:20-09:45	**Light Field Manipulation with Nonlinear Optical Metasurfaces (Invited)** **Guixin Li** Southern University of Science and Technology, China
09:45-10:00	**Nanoscale Optical Memory Based on Dual-Beam Writing and Dual-Beam Reading** **Jing Wen** Zhangjiang Laboratory, China
10:00-10:15	**Chiral Molecular Separation Based on Opposite Circularly Polarized Light Interaction** **Wen Yang** Dalian University of Technology, China
10:15-10:35	**Break**
10:35-11:00	**Plasmonic Printing of High-Performance Metal Oxide Electronics Under Room Temperature (Invited)** **Dangyuan Lei** City University of Hong Kong, China
11:00-11:25	**Research on Multifunctional Planar Optical Imaging Based on Liquid Crystals (Invited)** **Guoxing Zheng** Wuhan University, China
11:25-11:40	**Super-Resolution Metalenses and Their Applications in Optical Microscopy** **Yi Zhou** Chongqing University, China
11:40-11:55	**Two-dimensional Acoustic Tunable Transmission Cloaking Based on Tunneling Effect** **Zeru Liu** Dalian University of Technology, China
11:55-12:10	**Ultra-Compact and Power-Efficient Acousto-Optic Modulator on Polymer-Loaded Lnoi Integrated Platform** **Zhi Jiang** Xidian University, China
12:10-12:25	**Design and Fabrication of Multi-Surface Continuous Phase-Shaping Devices** **Wei Liao** Laser Fusion Research Center, China
12:25-14:00	**Lunch**

14:00-14:25	**Multimode Fiber Assistant Random Laser and Application (Invited)** **Weili Zhang** University of Electronic Science and Technology of China, China
14:25-14:50	**Strong Light-Matter Interactions Based on Bound States in the Continuum and Their Applications (Invited)** **Wei Wang** Sichuan University, China
14:50-15:15	**Electrically Tunable Optical Metasurfaces Using MEMS Mirrors (Invited)** **Fei Ding** Eastern Institute of Technology, Ningbo, China/University of Southern Denmark, Denmark
15:15-15:40	**High Performance Optoelectronic Devices Based on Compound Semiconductor Heterostructures (Invited)** **Jiang Wu** Jiang Wu, University of Electronic Science and Technology of China, China
15:40-15:55	**Tilt Angle -Modulated Metasurfaces for Multi-Dimensional Optical Field Control** **Zhilin Teng** HuaZhong University of Science and Technology, China
15:55-16:20	**Break**
16:20-16:45	**Spectral Regulation and Applications of Rare Earth Optical Materials (Invited)** **Gongxun Bai** China Jiliang University, China
16:45-17:00	**Large-Scale Fabrication Technology of Metasurface Condensers** **Liangui Deng** Wuhan University of Technology, China
17:00-17:15	**A Comatic Holographic Metasurface for Laser Beam Angle Gauge with Ultra-wide Detection Range** **Shibin Jiang** University of Electronic Science and Technology of China, China
17:15-17:30	**High Efficiency Bic Membrane Metasurface for Terahertz Beam Deflecion** **Longqing Cong** Southern University of Science and Technology, China
17:30-17:45	**Polarization Homogenizer Based on Freeform Microlens Array** **Yue Liu** Future Optics Research Institute Co., LTD, China
17:45-18:00	**Beam Deflection Technology for Frequency-Shift Super-Resolution Imaging** **Jiaxin Meng** Xi'an Technological University, China

Track 5: Novel Optoelectronic Materials	
Location: VIP3-1	
July 21, 2025	
Time	**Content**
14:00-14:25	**Metasuface-based Vectorial Field Modulation (Invited)** **Dandan Wen** Northwestern Polytechnical University, China
14:25-14:50	**3D Nano-Printing of Low-Index Photonic Structures for Optical Security (Invited)** **Hongtao Wang** Singapore University of Technology and Design, Singapore
14:50-15:15	**Light-Driven Bionic Snapping Liquid Crystal Elastomer Soft Actuator (Invited)** **Lujian Chen** Xiamen University, China
15:15-15:40	**Liquid Crystal Metasurface-Enabled Hyperspectral Single-Pixel Imaging (Invited)** **Haining Yang** Southeast University, China
15:40-16:00	**Break**
16:00-16:25	**Research Progress of Liquid Crystal-Based Laser Phased Array Technology (Invited)** **Xiangjie Zhao** Institute of Fluid Physics, China Academy of Engineering Physics, China
16:25-16:50	**Chiral Plasmonic Nanoparticles and Their Enhancement of Chiroptical Responses (Invited)** **Jianfang Wang** The Chinese University of Hong Kong, China
16:50-17:15	**Light-Electric Field Tunable Liquid Crystal Elastomer: Polarization Manipulation and Active Metasurface (Invited)** **Dan Luo** Southern University of Science and Technology, China
17:15-17:30	**Terahertz Optical Pattern Recognition with Rotation and Scaling Enhanced by a 3D-Printed Diffractive Deep Neural Network** **Chenjie Xiong** Beijing Institute of Technology, China

Track 5: Novel Optoelectronic Materials	
Location: VIP3-1	
July 22, 2025	
08:30-08:55	**Strain and Local Field Engineering in Transition Metal Dichalcogenide Monolayers with Plasmonic Platforms (Invited)** **Dong Wook Kim** Ewha Womans University, Korea
08:55-09:20	**Structured Light Generations and Modulations by Spherulite Crystals (Invited)** **Jingbo Sun** Tsinghua University, China
09:20-09:45	**Observation of Terahertz Cavity Magnon Polaritons in a Canted Antiferromagnet $RFeO_3$ Crystals (Invited)** **Guohong Ma** Shanghai University, China
09:45-10:00	**3D-Printed Terahertz Beam Meta-Deflector Based on the Tunable Doublet** **Xudong Wu** Beijing institute of technology, China
10:00-10:15	**Long-Wave Infrared Detection Devices Based on Arrayed Graphene Nanostructures** **Xiaoping Huang** University of Electronic Science and Technology of China
10:15-10:35	**Break**
10:35-11:00	**Semiconductor Nanowire Array Devices and Applications (Invited)** **Lan Fu** Australian National University, Australia
11:00-11:25	**Hierarchical Liquid Crystal Microstructures for Multi-Degree Optical Field Manipulation (Invited)** **Wei Hu** Nanjing University, China
11:25-11:50	**Liquid Crystalline Ordered Structures Towards Multi-degree-of-freedom Optical Field Modulation (Invited)** **Zhigang Zheng** East China University of Science and Technology, China
11:50-12:05	**Ion Beam Modification of Dielectric Materials for Optoelectronic Applications** **Sun Xiaoli** Shandong university, China
12:05-12:20	**Rolled-up Monolayer MoS_2 for Improved Hydrogen Evolution Reaction** **Ai Wang** Sichuan Normal University, China
12:35-14:00	**Lunch**

14:00-14:25	**High-Quality Large-Scale ZnTe Single Crystals for Broadband Terahertz Detection, Material Characterization, and Nondestructive Imagination (Invited)** **Yadong Xu** Key Laboratory of Radiation Detection Materials and Devices (MIIT), School of Materials Science and Engineering, Northwestern Polytechnical University, China
14:25-14:50	**Ultrafast Photocurrent in Photoferroelectric α-In_2Se_3 Observed by Terahertz Emission Spectroscopy (Invited)** **Xinlong Xu** Northwest University, China
14:50-15:15	**Investigation of Optical and Terahertz Properties of Nanomaterials for Advanced Optoelectronic Device Design (Invited)** **Burdanova Maria** Moscow Institute of Physics and Technology, Russia
15:15-15:40	**Optimizing Thermochromic Vo_2-Based Multilayer Structures by Sputtering Techniques and Simulation (Invited)** **Martin Becker** Justus Liebig University, Germany
15:40-16:05	**Parallel Processing Method for Multi-Spectral Images Based on Multi-degree-of-freedom Light Field Control (Invited)** **Hongxiang Guo** Beijing University of Posts and Telecommunications, China
16:05-16:20	**Break**
16:20-16:45	**Van Der Waals Materials for Tunable Optics and Plasmonics (Invited)** **Jinghua Teng** Agency for Science, Technology and Research, Singapore
16:45-17:10	**Vanadium Dioxide-Doped Perovskite Heterojunction for Terahertz Optical Modulation (Invited)** **Bo Zhang** Capital Normal University, China
17:10-17:35	**Laser-Induced Graphene for Terahertz Metasurface Applications (Invited)** **Bin Hu** Beijing Institute of Technology, China
17:35-18:00	**Chiral Metasurfaces for Multidimensional Manipulations of Terahertz Wave (Invited)** **Jie Li** Chengdu University of Information Technology, China
18:00-18:15	**Self-Powered Solar-Blind UV Photodetectors Based on Graphene/β-Ga_2O_3 Heterojunctions Processed by Wet Transfer** **Tongzhou Li** Hangzhou Institute of Technology, Xidian University, China

Track 6: Optical Sensing and Optical Communication	
Location: Meeting Room 307	
July 21, 2025	
14:00-14:25	**Quartz-Enhanced Laser Spectroscopy Gas Sensing (Invited)** **Yufei Ma** Harbin Institute of Technology, China
14:25-14:50	**Advances and Applications of Distributed Vibration Sensing Technology (Invited)** **Tao Zhu** Chongqing University, China
14:50-15:15	**Acoustic Detection Technology and Applications Based on Enhanced Sensing Optical Cable (Invited)** **Qizhen Sun** Huazhong University of Science and Technology, China
15:15-15:40	**All-Fiber Multifunction-Integrated Devices (Invited)** **Fei Xu** Nanjing University, China
15:40-16:00	**Break**
16:00-16:25	**Chirality-/Plasmon-Mediated Antenna-Reactor Nanostructures for Sustainable Energy and Cancer Therapy (Invited)** **Dong Ha Kim** Ewha Womans University, Korea
16:25-16:50	**Athermal Forward Stimulated Brillouin Scattering (Invited)** **Yongkang Dong** Harbin Institute of Technology, China
16:50-17:05	**Modulation-simplified and Narrow-linewidth FMCW Laser Using Misaligned Grating External Cavity** **Fei Duan** Tianfu Xinglong Lake Laboratory, China
17:05-17:20	**Design and Optimization of Pressure Sensors Based on Long-Period Gratings** **Ying Chen** Southwest Jiaotong University, China
17:20-17:35	**A High-Precision Rapid Processing Approach for Insulating Surface Point Clouds of High-Voltage Cable System Installation Based on Surface Dual-Modal Geometric Mapping with Generatrix Distance-Preserving Unfolding** **Jian Luo** Shanghai Hinner Zenergy Technology Co., Ltd., China

Track 6: Optical Sensing and Optical Communication	
Location: Meeting Room 307	
July 22, 2025	
08:30-08:55	**Generation and Applications of All-Fiber Second-Order Nonlinear Effects (Invited)** **Biqiang Jiang** Northwestern Polytechnical University, China
08:55-09:20	**Portable Optical Fiber Sensors Integrated with Smartphone for Healthcare Monitoring (Invited)** **Rui Min** Beijing Normal University, China
09:20-09:45	**Silicon-Based Optoelectronics: Key Technology for Miniaturization of Optical Communication and Sensing Systems (Invited)** **Xiwen He** Hangzhou Aijie Optoelectronic Technology Co.Ltd., China
09:45-10:00	**A Hybird Metalens for 150°-Fov Thermal Scanning Imaging with 2k Resolution** **Kun Zheng** University of Electronic Science and Technology of China, China
10:00-10:15	**Analysis of Reflectance Effects in Fiber-Optic FP Interferometric Displacement Measurement** **Qi Liu** College of Intelligence Science and Technology, China
10:15-10:35	**Break**
10:35-11:00	**Research of Optical Fiber Spr Sensing Technology for Early Tumors Screening (Invited)** **Kun Liu** Tianjin University, China
11:00-11:25	**High-Sensitivity Mid-to-Far Infrared Photodetectors and Their Applications (Invited)** **Qing Li** Hangzhou Institute for Advanced Study, University of Chinese Academy of Sciences, China
11:25-11:50	**Time-Frequency Multiplexing Fiber-Based Integrated Sensing and Communication (F-ISAC) (Invited)** **Haijun He** Southwest Jiaotong University, China
11:50-12:15	**Microcavity Laser Immunosensors (Invited)** **Yuan Gong** University of Electronic Science and Technology of China, China
12:15-12:30	**Light Field Image Devices Based on High-Precision icro-and Nano-Fabrication Technology** **Su Shen** Simax Shanghai Company Limited

Track 7: Intelligent Optoelectronic Technology	
Location: 306	
July 21, 2025	
14:00-14:25	**Computational Optical Fluorescence Imaging Through Scattering Media using Transport of Intensity Equation (Invited)** **Osamu Matoba** Kobe University, Japan
14:25-14:50	**Deep Learning for Computational Imaging: from Data-Driven to Physics-Enhanced Approaches (Invited)** **Fei Wang** Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, China
14:50-15:15	**Squeezed Light Generation And its Applications in Quantum Information (Invited)** **Yaohui Zheng** Shanxi University, China
15:15-15:40	**Ai-Enabled 3d Imaging and Metrology: a Follow-up Approach From Sino-German Joint Program (Invited)** **Xiang Peng** Shenzhen University, China
15:40-16:00	**Break**
16:00-16:25	**Fabrication of Light Field Manipulation Devices by Polarization Holography (Invited)** **Xiaodi Tan** Fujian Normal University, China
16:25-16:50	**Dynamic Frequency Response Characterization of High-Speed Optoelectronics Chips and Devices (Invited)** **Shangjian Zhang** University of Electronic Science and Technology of China, China
16:50-17:15	**Ptychographic Imaging and Optical Encryption (Invited)** **Yishi Shi** University of Chinese Academy of Sciences, China
17:15-17:30	**Hyperspectral Imaging-Based Detection Technology for Immersion Filling States in Micro/nano Structures** **Zirong Wang** Institute of Optics and Electronics, Chinese Academy of Science

Track 7: Intelligent Optoelectronic Technology	
Location: 306	
July 22, 2025	
08:30-08:55	**Optical-Addressed Dynamic Meta-Holography (Invited)** **Hui Gao** Huazhong University of Science and Technology, China
08:55-09:20	**Photonic Reservoir Computing for Prediction of Spatiotemporal Dynamics Spatiotemporal Dynamics (Invited)** **Liyue Zhang** Southwest Jiaotong University, China
09:20-09:45	**Artificial Neural Networks Enabled by Nanophotonics (Invited)** **Qiming Zhang** University of Shanghai for Science and Technology, China
09:45-10:00	**Fabrication of Holographic Optical Elements with Polarization Holography** **Yi Yang** Fujian Normal University, China
10:00-10:15	**Improved Homogeneity of Photopolymer Materials** **Jingjun Huang** Fujlan Normal University, China
10:15-10:35	**Break**
10:35-11:00	**High-Speed Multi-Focal Laser Scanning Mesoscopy (Invited)** **Yi He** SIBET, China
11:00-11:25	**3D Ultra-Broadband Optically Dispersive Micro-Nanostructures Embedded in Transparent Dielectrics for Spectroscopic Applications (Invited)** **Bo Zhang** Zhejiang University, China
11:25-11:50	**Metasurface-Based Multidimensional Optical Imaging (Invited)** **Ting Xu** Nanjing University, China
11:50-12:05	**Orbital Angular Momentum Detector Based on Polarization Holography Technology** **Jun Xie** Fujian Normal University, China
12:05-12:20	**Spectrum Aggregation Method for Resonant MEMS Micromirror Based FMCW LiDAR** **Fu Zhu** Nanjing University of Science and Technology, China
12:20-12:35	**Adaptive Homomorphic Filtering for Intensity Uniformization in Holographic Data Storage** **Hongjie Liu** Fujian Normal University, China
12:35-14:00	**Lunch**

14:00-14:25	**High-Precision Infrared Polarization Detection Based on Optoelectronic Metadevices (Invited)** **Jing Zhou** Shanghai Institute of Technical Physics of the Chinese Academy of Sciences, China
14:25-14:40	**Digital Super-Oscillation Uniting Residual Dense Network for Super-Resolution Imaging** **Na Yao** University of Electronic Science and Technology of China, China
14:40-14:55	**PIV-based Transient Flow Field Characterization through Suspended Particulate Tracking in Water** **Congzheng Wang** Institute of Optics and Electronics, Chinese Academy of Sciences, China
14:55-15:10	**High-Precision Measurement Method of Laser Divergence Angle Based on Interference and Micro-Focusing** **Daokuan Guo** North China Institute Of Aerospace Engineering, China
15:10-15:25	**Data-driven Design of Multi-band Transparent Microwave-absorbing Metamaterial with cVAE** **Zhizhen Li** Northwestern Polytechnical University, China

Track 8: Optoelectronic Fusion Sensing Technology	
Location: 305	
July 21, 2025	
Presider: Lianshan Yan, Southwest Jiaotong University, China	
14:00-14:10	Welcome Speech
14:10-14:40	**Architectural Design of "AI+Optics"** **Xiaopeng Shao** Xi'an Institute of Optics and Precision Mechanics of Chinese Academy of Sciences, China
14:40-15:10	**Computing 3D Information and Applications** **Yiguang Liu** Sichuan University, China
15:10-15:40	**Automatic lens design based on differentiable ray tracing** **Yueting Chen** Zhejiang University, China
15:40-16:00	Break
Presider: Tao Zhou, The 29th Research Institute of China Electronics Technology Group Corporation (CETC), China	
16:00-16:30	**High-Power Optical Field Modulation Based on Micro/Nanostructures and Its Applications** **Xiong Li** Institute of Optics and Electronics, Chinese Academy of Sciences, China
16:30-17:00	**Microwave Photonics-Empowered Integrated Communication and Sensing Convergence Technology** **Zhiyu Chen** The 29th Research Institute of China Electronics Technology Group Corporation (CETC), China
17:00-17:30	**Electronic-Photonic Integrated Linear Phase Sensing Technology for Closed-Loop Control: Requirements, Challenges, and Examples** **Min Tan** Huazhong University of Science and Technology, China

CONFERENCE ABSTRACTS

Plenary Talk

Place: 3F Conventional Hall

July 21, 2025 · 08:50–12:30

08:50–09:30

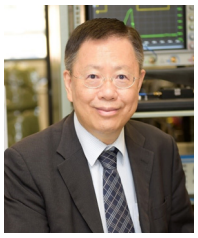
Meta Devices from Optics to Quantum

Din-Ping Tsai
City University of Hong Kong, China

Abstract: Meta-devices enable mass-production of nano-arrays via semiconductor microelectronics, controlling the phase, polarization, and amplitude electromagnetic waves. This talk highlights optical meta-devices' design, fabrication, and applications in imaging, sensing, 6G, quantum light, and more, unlocking innovations in robotics, AR/VR, healthcare, and quantum technologies.

Specially engineered meta-structure components enable the mass production of artificial nano-array structures using advanced semiconductor microelectronics fabrication techniques. These components possess the capability to manipulate the phase, polarization, and amplitude of electromagnetic waves with exceptional precision. Meta-devices offer solutions to a wide range of pressing technological demands, including novel functionalities, compact size, lightweight design, enhanced efficiency, superior performance, broadband operation, reduced energy consumption, and seamless compatibility with semiconductor mass production technologies. Such attributes position meta-devices as transformative tools for addressing the challenges of next-generation applications.

This work presents a comprehensive overview of the design, fabrication, and emerging applications of optical meta-devices, including achromatic meta-lenses, advanced imaging systems, intelligent sensing plat-forms, vacuum ultraviolet light generation through nonlinear processes, and cutting-edge solutions for medical and biological imaging. Additionally, we highlight their pivotal roles in enabling technologies such as 6G communications, tunable meta-structures, and high-dimensional quantum light sources. These advancements demonstrate the transformative potential of meta-devices in driving the next generation of innovations across diverse fields, including micro-robotic vision, autonomous driving, particle sensing, virtual and augmented reality, personal security systems, biomedical devices, advanced healthcare solutions, and quantum information technologies. By opening new frontiers, optical meta-devices are prepared to redefine technological possibilities and catalyze progress across multiple disciplines.



Biography: Professor Din-Ping Tsai is currently Chair Professor of the Department of Electrical Engineering, City University of Hong Kong. He is an elected Fellow of AAAS, APS, COS, EMA, IEEE, JSAP, NAI, OSA, SPIE, PST, and AAIA, respectively. He is also an elected Member of the Hong Kong Academy of Engineering (HKAE), International Academy of Engineering (IAE), and Academician of the Asia-Pacific Academy of Materials (APAM), respectively. He is the author and co-author of 410 SCI papers, 70 book chapters and conference papers, and 39 technical reports and articles. He was granted 69 patents for 45 innovations. He was invited as an invited speaker for international conferences or symposiums more than 355 times (31 Plenary Talks, 66 Keynote Talks). He received more than 40 prestigious recognitions and awards, including "Mozi Award" from the International Society of Optical Engineering (SPIE) in 2018; "Global Highly Cited Researchers," by Web of Science Group (Clarivate Analytics) in 2020 and 2019, respectively; China's Top 10 Optical Breakthroughs in 2020 and 2018, respectively; 2024 Frontiers of Science Award; etc. He currently serves as a member of the editorial board of 12 prestigious Journals, and Editor of Light: Advanced Manufacturing, and "Photonics Insights," respectively.

09:30-10:10

30 Years of Nanoimprint: Past Development and Current Momentum

L. Jay Guo
University of Michigan, USA

Abstract: 2025 marks the 30th anniversary of nanoimprint lithography (NIL). Since its inception in 1995, and through global efforts over the past three decades, Nanoimprint has emerged as the primary alternative to EUV lithography for deep-nanoscale silicon electronics. The manufacturing quality of NIL was recognized by several semiconductor companies and has been actively evaluated for advanced semiconductor devices. Nanoimprinting's potential extends beyond silicon chip fabrication and wafer-scale application—it has demonstrated intriguing capabilities including high resolution, large-scale patterning, 3D capabilities, and low cost of ownership. NIL has also faced challenges such as defect density and quality concerns. Various technologies were developed over time. This talk aims to provide a balanced overview of the pros and cons of NIL, presenting the solutions and advancements that have shaped its progress. We will also describe some of our efforts and results at the University of Michigan that spans over a decade. The application of NIL in industrial manufacturing represents a significant milestone, which include advancements in semiconductor IC circuits, cutting-edge optical devices, and other innovative applications. It is anticipated that even more applications will emerge in the near future.

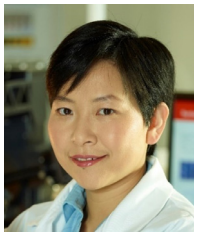
Biography: L. Jay Guo is a Professor of Electrical and Computer Engineering at the University of Michigan, where he joined in 1999 after his PhD and postdoc training, and Director of the Macromolecular Science and Engineering at UM. Professor Guo's lab is involved in interdisciplinary research, with activities ranging from polymer-based photonic devices and sensor applications, flexible transparent conductors, nanophotonics, structural colors and AI assisted design, hybrid photovoltaics and photodetectors, to nanomanufacturing technologies, and are contributed by students from Electrical Engineering and Optics, Macromolecular Science & Engineering, Applied Physics, Physics, and Mechanical Engineering. Prof. Guo has 295 journal publications; with citation more than 34,400 times, and an H-index of 92 (by google scholar). Some notable awards he received from recent years include 2023 Wise-Najafi Prize for Engineering Excellence in the Miniature World from University of Michigan, 2017 William Mong Distinguished Lecturer in Hong Kong University, and 2015 Monroe-Brown Research Excellence Award by the College of Engineering of University of Michigan. He is a fellow of IEEE and a fellow of Optica. His professional service includes Associate Editor of Optica (2018~2021); and currently member of the Editorial Advisory Board of Advanced Optical Materials, and Opto-electric Science, co-Editor-in-Chief of Micro and Nano Manufacturing. His entrepreneur activities include co-founding two start-up companies to commercialize technologies from his lab.

10:30-11:10

Atomaterials for Sustainability

Baohua Jia
Royal Melbourne Institute of Technology (RMIT) University, Australia

Abstract: "Atomaterials" represents materials with at least one dimension on the atomic scale. Their properties depend on the precise configuration of their atoms. It is a new but rapidly developing field. A typical atomaterials is graphene, which is made of carbon atoms. Unlike diamond, in which the carbon atoms form a rigid three-dimensional structure, graphene is made of single layer of carbon atoms, bonded together in a two-dimensional honeycomb lattice. They show exceptional properties due to their atomaterials nature. Using atomaterials, our lab has been working on a range of innovations, at various stages of development, for example: A diurnal cooling film without consuming electricity. This film can cool the environment by up to 15°C without using any electricity. By integrating such a film into a building, the electricity used for air conditioning can be dramatically reduced. This will not only save electricity bills but also reduce greenhouse emissions; Heat-absorbing film, achieving over 97% of energy conversion rate with an ultrathin film arrangement. These materials play critical role in improving energy efficiency and providing innovative sustainable solutions for our society.



Biography: Distinguished Professor Baohua Jia is the inaugural Director of Centre for Atomaterials and Nanomanufacturing (CAN), a Key Chief Investigator (CI) of The Australian Research Council (ARC) Research Hub for Intelligent Energy Efficiency in Future Protected Cropping, a Key CI in ARC Industrial Transformation Training Centre in Surface Engineering for Advanced Materials (SEAM) and Node Director of ARC Centre of Excellence in Optical Microcombs for Breakthrough Science (COMBS). She is an elected Fellow of Australian Academy of Technological Sciences and Engineering (FTSE), and an elected Fellow of OPTICA and Institute of Materials, Minerals and Mining. Her research focuses on the fundamental light and nanomaterial interaction, in particular, laser manipulation of two-dimensional materials for effective harnessing and storage of clean energy from sunlight; purifying water and air for clean environment; imaging and spectroscopy and nanofabrication using ultrafast laser towards fast-speed all-optical communications and intelligent manufacturing.

11:10-11:50

Materials Solutions for Sustainability Challenges

Xiaobo Yin
The University of Hong Kong, China

Abstract: Micro/nanostructured materials offer significantly new opportunities for high-efficiency devices and systems for energy harvesting, conversion and storage. There is, however, a tremendous gap between the proof-of-principle demonstrations at the small scale and the intrinsically large-scale real-world energy systems and sustainable applications. In this talk, I will give an overview of our research and, more specifically, present our recent development on how structured photonic materials address the challenge of the tremendous power hungry for space cooling, promote photosynthesis and crop yield in greenhouses, and beyond.

Biography: Dr. Xiaobo Yin received his PhD from Stanford University in 2008 and is currently a Professor of Mechanical Engineering and a Professor of Physics at the University of Hong Kong. He is a fellow of OSA and SPIE. Prior to joining the University of Hong Kong, he was the Bruce S. Anderson Faculty Fellow of the College of Engineering and Applied Sciences at the University of Colorado Boulder. His research focuses on nanostructured optical materials, radiative heat transfer, high-temperature materials, and scalable manufacturing.His works have been featured in numerous media outlets including Nature, Science, Physics Today, Scientific American, the Economists, and Forbes. He was a recipient of the 2017 Moore Inventor Fellowships, the 2017 Kavli Foundation Early Career Lectureship of Materials Science, and the 2022 Xplorer Prize. His work on passive radiative cooling was named one of the top 10 breakthroughs of the year 2017 by the Institute of Physics (IOP) Physics World and the top 10 most reviewed news by The Economists.

11:50-12:30

Grayscale Laser Beam Lithography for Large Area Surface Engineering: Accelerating the Lab-to-Fab Transition

Kahraman Keskinbora
RAITH Laser Systems B.V, the Netherlands

Abstract: The rapid industrialization of micro- and nano-optics for consumer electronics demands manufacturing platforms that can reliably deliver complex features—free-form optical elements, stitch-free large-area gratings, deep microlens arrays, and holographic textures—at commercially viable speeds and costs.

Grayscale laser-beam lithography (GS-LBL) has evolved over the past four decades into a cornerstone technology for wafer-scale fabrication. When integrated with multibeam direct-write exposure, GS-LBL now emerges as an advanced manufacturing method for patterning surface-relief profiles on panel-scale glass substrates while eliminating the need for step-and-repeat recombination approaches, which are prone to stitching artifacts. Our latest generation systems pair deep-sub-micron level (<600 nm) critical dimension resolution with real-time 8-bit dynamic range grayscale capabilities and aerial throughputs above 500 mm²/min, positioning it both as a competitive stand-alone solution for low- to medium-volume production and as a master origination tool for downstream processing, such as nano-imprint replication.

We will highlight recent achievements—including large area diffraction gratings, ultra-deep microlens arrays, holographic surfaces and diffusers—and present integrated workflows that link LBL to Raith's complementary direct-write and metrology platforms.

This closed-loop ecosystem accelerates design-to-prototype iteration, drives process control and metrology capabilities for yield improvement and shortens the lab-to-fab transfer cycle, thereby enabling cost-effective deployment of micro-/nano-textured optics across the next-generation consumer products.

Biography: Dr. Kahraman Keskinbora is a Netherlands based materials scientist and nanofabrication expert who is the Product Manager for Laser Beam lithography systems at Raith Group. After completing his B.Sc. and M.Sc. degrees in Materials Science and Nanotechnology, at the Andolu University in Türkiye, he earned his Ph.D. degree at the Max Planck Institute for Intelligent Systems and the University of Stuttgart, where he pioneered binary and grayscale ion beam lithography for high efficiency X-ray optics. Later, he led the Micro/Nano-Optics Research Group at MPI-IS, where his group developed the first ever 3 D nanoprinted polymer kinoform lenses for soft X-rays. A former visiting scholar at Harvard University and a DFG-funded Research Scientist at MIT, he has co-authored 40 plus papers, holds multiple patents on micro and nano optics. Dr. Keskinbora frequently presents at optics and nanotechnology conferences, leads professional workshops, and mentors early career researchers, reflecting his commitment to translating nanoscale research into practical photonics and lithography solutions.

Abstracts of invited talks and oral talks can be downloaded from AOMATT2025 platform (https://www.aomatt.org/).

POSTER LIST

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AOMATT2025-0430-1	**ICMOS Focal-Plane-Stitching-Based Image Shift Compensation Approach** Xiaoxiao Sun[1], Xing Fu[1*], Peng Wang[1], Yue Zhao[1], Jiajun Li[1] 1.Xi'an Institute of Optics and Precision Mechanics of Chinese Academy of Sciences, China
AOMATT2025-0512-7	**Overview of Scientific Objectives in Planetary Ultraviolet Spectroscopic** Shirui Zhang[1, 2], Quanfeng Guo[1, 2*], Yaohui Cheng[1, 2] 1.Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences, China; 2.University of Chinese Academy of Sciences, China
AOMATT2025-0515-1	**Characteristic Investigation of Golay12 Sparse Aperture Configuration** Ruoqi Wang[1*], Wenrui Wang[2*], Bai Xueqian[3], Shu Qingxin[1], Hu Jun[1], Ye Lingyun[1], Song Kaichen[2] 1.College of Biomedical Engineering and Instrument Science, Zhejiang University, China; 2.Department of Aeronautics and Astronautics, Zhejiang University, China; 3.Ocean College, Zhejiang University, China
AOMATT2025-0526-1	**Study on HUBS Satellite Mission Architecture and the Key Technologies of Mechanical and Thermal Engineering** Wei Zhang[1, 2], Jun Yu[1], Zhanshan Wang[1*] 1.Tongji University, China; 2.Shanghai Institute of Satellite Engineering, China
AOMATT2025-0619-15	**Review of Focusing Mechanisms for Space Telescope** Yaohui Cheng[1, 2], Quanfeng Guo[1, 2*], Shirui Zhang[1, 2] 1.Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences, China; 2.University of Chinese Academy of Sciences, China
AOMATT2025-0620-7	**High Real-Time Surface Shape Control Based on FPGA Hardware Acceleration** Wenjing Li[1], WangQiang[1*] 1.Institute of Optics and Electronics, Chinese Academy of Sciences, China

AOMATT2025-0627-5	**Spot image-based aberration correction caused by misalignment for off-axis reflective telescopes** Wei Tang[1] 1.The Institute of Optics and Electronics, Chinese Academy of Sciences, China
AOMATT2025-0627-6	**Off-axis afocal system misalignment detection based on wavelet transform and improved ShuffleNetV2** Weihua Tang[1], Qiang Wang[1*] 1.Institute of Optics and Electronics, Chinese Academy of Sciences, China
AOMATT2025-0629-15	**A method for adjusting the deviation between the two axes of a laser communication turntable** Yang Li[1] 1.Tianfu Xinglong Lake Laboratory, China
AOMATT2025-0630-12	**The simulation analysis and system manufacture of lightweighted steepbeamexpander** Heng Zhu[1*], Di long Wu[2], Zhigang Li[2], heng Zhou[2], Ping Ma[2] 1.Laser Fusion Research Centre, China; 2.Laser Fusion Research Center, China
AOMATT2025-0630-16	**Design of a Remote Control System for Scientific Cameras Based on ASCOM Alpaca and WEB Technology** Qiwang Luo[1], Yu Liu[1*], Tengfei Song[2], Qiang Liu[1], Feiyang Sha[1] 1.Southwest Jiaotong University, China; 2.Yunnan Observatories, Chinese Academy of Sciences, China
Track 2: Large and Ultra-Precision Optics Manufacturing	
AOMATT2025-0513-1	**Pulsed ion beam figuring technology for optical components** Jingpeng Zhang[1,2], Guangqi Zhou[1,2*], Tian Ye[1,2], Shuo Qiao[1,2], Baoqi Gong[1,2], Feng Shi[1,2] 1.College of Intelligence Science and Technology, National University of Defense Technology, China; 2.National Key Laboratory of Equipment State Sensing and Smart Support, College of Intelligence Science and Technology, National University of Defense Technology, China
AOMATT2025-0515-2	**Tool Path Point Algorithm and Optimization for Freeform Surface CNC Machining** YuMin Lan[1], PeiJi Guo[2*], Xi Chen[2] 1.Soochow University, China; 2.The Institute of Modern Optical Technology, Soochow University, China
AOMATT2025-0520-2	**First-principles study of silicon-oxygen ratio on fused silica performance under ultraviolet laser irradiation** Yichi Han[1*] 1.Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, China
AOMATT2025-0528-1	**Design of a Large-Angle Magnetic Field Generator for Virtual-Axis Magnetorheological Finishing of High-Steepness Optics** Yiang Zhang[1], Xiaoqiang Peng[1], Fulei Chen[1], Hao Hu[1*] 1.National University of Defense Technology, China

AOMATT2025-0529-5	**Optical Surface Measurement Based on Reverse Hartmann Test using Coaxial Illumination** Yawen Luo[1] 1.Beijing Institute of Technology, China
AOMATT2025-0610-4	**A Fused Quartz Abrasive-Free Ultra-Smooth Processing Method Based on Catalytic Reaction** Zhang Zhongxiang[1], Peng Wenxiang[1], Peng Xiaoqiang[1], Lai Tao[1] 1.College of Intelligent Science, National University of Defense Technology, China
AOMATT2025-0618-12	**Research on Dataset Optimization Technology of Process Decision-making for Supervised Learning Network in Ultra-Precision Optical Machining** Haoni He[1*] 1.Department of Optics and Optical Engineering, University of Science and Technology of China Hefei, China
AOMATT2025-0618-4	**Surface Error Map Interpolation Based on Generative Adversarial Networks for Ultra-Precision Optical Fabrication** Songlin Wan[1], Hongyu Wang[1, 2] 1.Shanghai Institute of Optics and Fine Mechanics，Chinese Academy of Sciences, China; 2.Hangzhou Institute for Advanced Study，University of Chinese Academy of Sciences, China
AOMATT2025-0618-8	**Effects of flame plasma process parameters on surface roughness of fused silica** Wang Hong[1], Fan Bin[1], Xin Qiang[1] 1.Institute of Optics and Electronics, Chinese Academy of Sciences, China
AOMATT2025-0619-10	**High diffraction efficiency processing technology for large-sized nano-scale liquid crystal components** Fu Guoquan[1], Zhang Fei[1], He Qiong[1], Zhang Qi[1], Li Xiong[1], Pu Mingbo[1*], Luo Xiangang[1*] 1.Institute of Optics and Electronics, Chinese Academy of Sciences, China
AOMATT2025-0619-19	**Study of Flexible Grinding Technology Based on Industrial Robot** Pengwei Zhao[1] 1.Shanghai Institute of Technical Physics Chinese Academy of Science, China
AOMATT2025-0624-7	**Research on Light Scattering Detection Technology of Surface Scratches on Optical Components** Sun Hao[1], Zhong Hanxiu[1], Bai Long[1], Xu Jianfeng[1] 1.Huazhong University of Science and Technology, China
AOMATT2025-0626-7	**Method for Active Lap Deformation Calculation and Robot End-Effector Pose Derivation in large Off-Axis Aspherical Mirror Manufacturing** Yujuan Zhang[1], Bin Fan[1*] 1.Institute of Optics and Electronics, Chinese Academy of Sciences, China
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AOMATT2025-0628-10	**Normal-height ambiguity elimination with reflection law in fringe-reflection stereo deflectometry** Yong-Liang Xiao[1*] 1.Xiangtan University, China
AOMATT2025-0628-2	**High Angular Tolerance Fiber-Optic Interferometric Probe: Optical System Design and Analysis** Chenlong Ou[1] 1.Institute of Optics and Electronics, Chinese Academy of Sciense, China
AOMATT2025-0629-1	**Influence of Fabrication Errors on Imaging Performance for the 2.5-m Telescope Primary Mirror** Yunfen Dong[1], Yiding Ping[2] 1.Chinese Academy of Sciences Nanjing Astronomical Instruments Co., Ltd., China; 2.Purple Mountain Observatory, Chinese Academy of Sciences, China
AOMATT2025-0629-5	**Study on impedance matching network characteristics and plasma state identification of RF ion sources** Meng Liu[1, 2, 3], Xiaoqiang Peng[1, 2, 3*], Chaoliang Guan[1, 2, 3*] 1.College of Intelligent Science and Technology, National University of Defense Technology, China; 2.National Key Laboratory of Equipment State Sensing and Smart Support, China; 3.Hu'nan Key Laboratory of Ultra-precision Machining Technology, China
AOMATT2025-0630-10	**Real-time Monitoring and Mechanism Study of Optical Ultra-precision Sub-aperture Polishing Process Based on Torque Sensing** Zhiqiang Yang[1, 2], Songlin Wan[2, 3*] 1.School of Optical-Electrical and Computer Engineering, University of Shanghai for Science and Technology, China; 2.Precision Optical Manufacturing and Testing Center, Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, China; 3.High Power Laser Element Technology and Engineering Department, Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, China
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AOMATT2025-0630-26	**Sub-aperture Stitching Interferometry with a Dual-frequency Laser Interferometer** Haomiao Li[1] 1.Institute of Optics and Electronics, Chinese Academy of Sciences, China
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AOMATT2025-0512-8	**Heat-assisted Pulsed Laser Processing Induced Nano-cracks for Low Kerf-loss and High-surface Quality SiC Wafer Slicing** Xiangfu Liu[1], Minghui Hong[1*] 1.Xiamen University, China
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AOMATT2025-0526-6	**Superhydrophobic multifocal microlens array with depth-of-field detection for humid environment** CAO HAO[1*], GUI CHENQUN[1] 1.wuhan university, China
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AOMATT2025-0609-1	**High-Selectivity Inductively Coupled Plasma Etching of HfO_2 by using Metal Hard Mask** Hanhao Wei[1], Yu Gu[1], Kaipeng Liu[1], Weisheng Yue[1], Yunfei Luo[1*], Zeyu Zhao[1], Changtao Wang[1] 1.Institute of Optics and Electronics, Chinese Academy of Sciences, China
AOMATT2025-0613-2	**Three-Dimensional Topography Measurement of Curved Diffractive Microstructures Based on Laser Scanning Confocal Microscopy Stitching** Yufang Zhou[1, 2], Junfeng Liu[1, 2], Huang Li[1, 2], Junren Chen[1, 2], Jianpeng Wang[1, 2*], Tao Lai[1, 2, 3*] 1.National Key Laboratory of Equipment State Sensing and Smart Support, National University of Defense Technology, China; 2.Hu'nan Key Laboratory of Ultra-precision Machining Technology, China; 3.Hu'nan Institute of Advanced Technology, China

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AOMATT2025-0618-16	**Effect of Flat-Top Laser Spot Size on Impulse Coupling with Space Debris** Xiang Zhang 1.China Academy of Sciences Institute of Optoelectronics, China
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AOMATT2025-0619-14	**Selenium-Doped Monolayer MoS_2 film for sensitive and stable SERS detection** Rui Shu[1], Jianqi Zhu[1*] 1. Sichuan Normal University, China

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AOMATT2025-0629-3	**Picosecond Laser Fabricationof Au-based Ultrasensitive SERS Substrates** Tianran Yao[1,2], Lingfei Ji[1,2*], Zhenyuan Lin[2,3], Weigao Sun[1,4] 1.School of Physics and Optoelectronic Engineering, Beijing University of Technology, China, China; 2.Beijing Engineering Research Center of Laser Applied Technology, China; 3.School of Physics and Optoelectronic Engineering, Beijing University of Technology, China; 4.Beijing Engineering Research Center of Laser Applied Technology, China
AOMATT2025-0629-6	**Spanning entire-visible perfect absorber based on W-Si_3N_4 hybrid structure** Xuan Zou[1], Hong LI[1], Jie Zheng[1] 1.Sichuan Normal University, China
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AOMATT2025-0512-2	**Refractive Index Modulation Assisted Microsphere Compound Lens Nano-imaging** Shuyang Huang[1], Xinchen Zhong[1], Minghui Hong[1*] 1.Xiamen University, China
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AOMATT2025-0527-1	**Synergistic Radiative-Evaporative Cooling Coatings for Advanced Thermal Management** Dongxiang Wang[1,2], Xiangang Luo[3*], Renyan Zhang[3], Yingeng Wang[2], Yingjie Wu[3], Xiong Li[3] 1.College of Mechanical and Electrical Engineering, Chengdu University of Technology, China; 2.Sichuan Engineering Research Center of Digital Materials, Tianfu Xinglong Lake Laboratory, China; 3.State Key Laboratory of Optical Field Manipulation Science and Technology, Institute of Optics and Electronics, Chinese Academy of Sciences, China

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AOMATT2025-0604-3	**Broadband Perfect Littrow Diffraction Metasurface under Large-Angle Incidence** Siliang Zhou[1] 1.Tongji University, China
AOMATT2025-0605-1	**16-Mode OAM Shift Keying FSO Communication Using Multi-Plane Light Convertor** Xu Xing[1, 2, 3], Mingfeng Xu[1, 2, 3], Mingbo Pu[1, 2, 3], Tianqu Chen[4], Yong Yu[1, 2, 3], Zheng Wu[5], Sichao Chen[5], Yinghui Guo[1, 2, 3], Fei Zhang[1, 2, 3], Xiangang Luo[1, 2, 3*] 1.State Key Laboratory of Optical Field Manipulation Science and Technology, Chinese Academy of Sciences, China; 2.Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 3.College of Materials Science and Opto-Electronic Technology, University of Chinese Academy of Sciences, China; 4.Department of Communication Science and Engineering, Fudan University, China; 5.Tianfu Xinglong Lake Laboratory, China
AOMATT2025-0606-2	**Fast beam steering based on reconfigurable metasurface and its applications** Zhirui Zeng[1], Shibin Jiang[1], Weiming Zhu[1] 1.University of Electronic Science and Technology of China, China
AOMATT2025-0611-1	**Poincaré Sphere Mapping of Lateral Optical Forces on Chiral Particles** Zesen Lin[1, 2] 1.State Key Laboratory of Optical Field Manipulation Science and Technology, Chinese Academy of Sciences, China; 2.College of Materials Science and Opto-Electronic Technology, University of Chinese Academy of Sciences, China
AOMATT2025-0612-2	**Generation of tunable vector beams in non-Hermitian coupled-cavity laser** Qiang Chen[1, 2, 3], Xi Tang[1, 2], Feifei Zhang[1], Shuangcheng Chen[4, 5], Mingfeng Xu[1, 2, 3], Xianglei Yan[1, 2], Yuhan Zheng[1, 2, 3], Shilin Yu[1, 2], Qingji Zeng[1, 2], Fei Zhang[1, 2, 3], Yinghui Guo[1, 2, 3], Mingbo Pu[1, 2, 3], Xiangang Luo[1, 2, 3*] 1.National Key Laboratory of Optical Field Manipulation Science and Technology, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 2.Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 3.College of Materials Science and Opto-Electronic Technology, University of Chinese Academy of Sciences, China; 4.Tianfu Xinglong Lake Laboratory, China; 5.Sichuan Provincial Engineering Research Center of Digital Materials, China

AOMATT2025-0612-4	**A fast computation method for the performance of meta-atoms based on deep learning** Tengyu Cheng[1, 2, 3], Zizhe Feng[1, 4, 5], Yingli Ha[1, 4, 5], Mingbo Pu[1, 4, 5], Lijun Wang[1, 4, 5], Yijia Huang[2, 3*], Xiangang Luo[1, 4, 5*] 1.State Key Laboratory of Optical Field Manipulation Science and Technology, Chinese Academy of Sciences, China; 2.Key Laboratory of Micro-Nano Optoelectronic Materials and Devices at Sichuan Normal University of Sichuan Province, China; 3.College of Physics and Electronic Engineering, Sichuan Normal University, China; 4.Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 5.College of Materials Science and Opto-Electronic Technology, University of Chinese Academy of Sciences, China
AOMATT2025-0612-6	**Physics-Driven Free-Form Perfect Reflective Metadevices** Han Yin[1, 2, 3], Yingli Ha[1, 4, 5], Mingbo Pu[1, 4, 5], Lijun Wang[1, 4, 5], Jianping Shi[2, 3*], Xiangang Luo[1, 4, 5*] 1.State Key Laboratory of Optical Field Manipulation Science and Technology, Chinese Academy of Sciences, China; 2.Anhui Province Key Laboratory for Control and Applications of Optoelectronic Information Materials, Wuhu, China, China; 3.School of Physics and Electronic Information, Anhui Normal University, Wuhu, China; 4.Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 5.College of Materials Science and Opto-Electronic Technology, University of Chinese Academy of Sciences, China
AOMATT2025-0613-1	**Deep Learning-Enabled Rapid Inverse Design of High-Performance** Zizhe Feng[1, 2, 3], Tengyu Cheng[1, 4, 5], Yingli Ha[1, 2, 3], Mingbo Pu[1, 2, 3], Xiangang Luo[1, 2, 3*] 1.State Key Laboratory of Optical Field Manipulation Science and Technology, Chinese Academy of Sciences, China; 2.Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 3.College of Materials Science and Opto-Electronic Technology, University of Chinese Academy of Sciences, China; 4.Key Laboratory of Micro-Nano Optoelectronic Materials and Devices at Sichuan Normal University of Sichuan Province, China; 5.College of Physics and Electronic Engineering, Sichuan Normal University, China
AOMATT2025-0613-4	**Subwavelength interference with deep ultraviolet superlens** Xun Deng[1] 1.Institute of Optics and Electronics, Chinese Academy of Sciences, China
AOMATT2025-0614-1	**Complex-amplitude metasurface-based monolithic integrated diffractive optical neural network** Wang Lijun[1, 2, 3], Ha Yingli[1, 2, 3], Guo Yinghui[1, 2, 3], Pu Mingbo[1, 2, 3], Luo Xiangang[1, 2, 3*] 1.State Key Laboratory of Optical Field Manipulation Science and Technology, Chinese Academy of Sciences, China; 2.Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 3.College of Materials Science and Opto-Electronic Technology, University of Chinese Academy of Sciences, China

AOMATT2025-0616-1	**Non-Hermitian Coupled Double Microcavities Modes Interaction under Inhomogeneous Spatial Pump** Runze Liu[1, 2, 3, 4] 1.State Key Laboratory of Optical Field Manipulation Science and Technology, Chinese Academy of Sciences, China; 2.College of Materials Science and Opto-Electronic Technology, University of Chinese Academy of Sciences, China; 3.Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 4.Tianfu Xinglong Lake Laboratory, China
AOMATT2025-0616-3	**Ultra transparent self-healing photothermal film for anti-icing/de-icing** Yi Liu[1, 2, 3] 1.State Key Laboratory of Optical Field Manipulation Science and Technology, Chinese Academy of Sciences, China; 2.Research Centre on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 3.College of Materials Science and Opto-Electronic Technology, University of Chinese Academy of Sciences, China
AOMATT2025-0616-5	**Polarization-Spectral Dual-Mode Reconfigurable Detection based on Cascading Pancharatnam-Berry Phase Optical Element** Siyuan Qiao[1, 2, 3], Yinghui Guo[1, 2, 3, 4], Qi Zhang[1, 2, 3], Xiaoyin Li[1, 2, 3], Mingbo Pu[1, 2, 3], Xiangang Luo[1, 2, 3*] 1.State Key Laboratory of Optical Filed Manipulation Science and Technology, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 2.Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 3.College of Materials Sciences and Opto-Electronic Technology, University of Chinese Academy of Sciences, China; 4.Sichuan Provincial Engineering Research Center of Digital Materials, China
AOMATT2025-0617-20	**The Optimization of Extreme ultraviolet metalens for enhancing focusing performance** Yinuo Zhao[1, 2, 3] 1.National Key Laboratory of Optical Field Manipulation Science and Technology, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 2.State Key Laboratory of Optical Technologies on Nano-Fabrication and Micro-Engineering, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 3.College of Materials Science and Opto-Electronic Technology, University of Chinese Academy of Sciences, China
AOMATT2025-0617-22	**Catenary Metasurface-Based Perfect Reflector Design via Topology Optimization** Ting Hou[1, 2], Yingli Ha[2, 3, 4], Lijun Wang[2, 3, 4], Han Yin[2, 3, 4], Wenjuan Du[1*] 1.School of Physics and Optoelectronics, Xiangtan University, Xiangtan 411105, China; 2.State Key Laboratory of Optical Field Manipulation Science and Technology，Chinese Academy of Sciences, China; 3.Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 4.College of Materials Science and Opto-Electronic Technology, University of Chinese Academy of Sciences, China

AOMATT2025-0617-3	**Sub-Nanometer Resolution Quantum Metrology via Metasurface Mode Decomposition** Wenyi Ye[1, 2, 3], Hao Peng[1, 2], lianwei Chen[2, 4], Mingbo Pu[4, 5, 6*], Xiangang Luo[1, 3, 5*] 1.State Key Laboratory of Optical Field Manipulation Science and Technology, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 2.Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 3.College of Materials Science and Opto-Electronic Technology, University of Chinese Academy of Sciences, China; 4.State Key Laboratory of Optical Field Manipulation Science and Technology, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 5.Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 6.College of Materials Science and Opto-Electronic Technology, University of Chinese Academy of Sciences, China
AOMATT2025-0617-9	**Nanofocusing resolution enhancement of superlens combing with optically induced local thermal effect** Zhenghao Wang[1, 2, 3] 1.National Key Laboratory of Optical Field Manipulation Science and Technology, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 2.State Key Laboratory of Optical Technologies on Nano-Fabrication and Micro-Engineering, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 3.College of Materials Science and Opto-Electronic Technology, University of Chinese Academy of Sciences, China
AOMATT2025-0618-1	**Research on Damage Characteristics of Wavelength Separation Films Under Composite Laser Irradiation** Zhen Wang[1], Mei Chen[1], rongzhu Zhang[1] 1.Sichuan University, China
AOMATT2025-0618-13	**Range-Gated and Polarization-Assisted Techniques for Enhanced Underwater Imaging in Scattering Environments** Qingtian Wang[1, 2] 1.State Key Laboratory of Optical Field Manipulation Science and Technology, Chinese Academy of Sciences, China; 2.College of Materials Science and Opto-Electronic Technology, University of Chinese Academy of Sciences, China
AOMATT2025-0618-15	**Performance Analysis of a Floating Multi-Focus Metalens in LWPT: Influence of Aperture and Thickness** Zheting Meng[1, 2, 3] 1.State Key Laboratory of Optical Field Manipulation Science and Technology, Chinese Academy of Sciences, China; 2.College of Materials Science and Opto-Electronic Technology, University of Chinese Academy of Sciences, China; 3.Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China

AOMATT2025-0618-2	**Ionic Liquid-Gated Carbon Nanotube Films for Tunable Terahertz Modulation** Arina Radivon[1*], Gleb Katyba[2, 3], Nikita Raginov[4], Aram Mkrtchyan[4], Aleksey Chernykh[5], Ignat Rakov[4], Maksim Paukov[6], Mikhail Mironov[6], Gennady Komandin[2], Kirill Zaytsev[2], Yuriy Gladush[4], Nikolay Petrov[5, 7], Albert Nasibulin[4], Aleksey Arsenin[6], Dmitry Krasnikov[4], Maria Burdanova[3, 6, 8] 1.Moscow Institute of Physics and Technologies, Russia; 2.Prokhorov General Physics Institute of the Russian Academy of Sciences, Russia; 3.Institute of Solid State Physics of the Russian Academy of Sciences, Russia; 4.Skolkovo Institute of Science and Technology, Russia; 5.ITMO University, Russia; 6.Moscow Institute of Physics and Technology, Russia; 7.Qingdao Innovation and Development Center, China; 8.Prokhorov General Physics Institute of the Russian Academy of Sciences, Russia
AOMATT2025-0619-11	**Deep Learning Enabled Inverse Design of High-NA Polarization-Multiplexed Metasurfaces for Extended Depth of Focus** Zihan Lin[1, 2, 3], Yingli Ha[1, 2, 3], Lijun Wang[1, 2, 3], Zizhe Feng[1, 2, 3], Yinghui Guo[1, 2, 3], Mingbo Pu[1, 2, 3], Xiangang Luo[1, 2, 3*] 1.State Key Laboratory of Optical Field Manipulation Science and Technology, Chinese Academy of Sciences, China; 2.Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 3.College of Materials Science and Opto-Electronic Technology, University of Chinese Academy of Sciences, China
AOMATT2025-0619-16	**Error Analysis of a Synthetic-Wave Interferometric System for Multi-Dimensional Polarization Measurement** Liuxiang Wei[1], Yan Chen[1], Lianwei Chen[1], Fei Zhang[1], Mingbo Pu[1], Xiangang Luo[1] 1.State Key Laboratory of Optical Field Manipulation Science and Technology, Institute of Optics and Electronics, Chinese Academy of Sciences, China
AOMATT2025-0619-17	**Dual-Channel Parallel CDMA for 78MHz LiDAR Acquisition** Shujian Gong[1, 2, 3], Peng Tian[1, 2, 4], Yinghui Guo[1, 2, 3, 5], Xiaoyin Li[1, 2], Qi Zhang[1, 2], Mingbo Pu[1, 2, 3, 5*], Jianping Shi[4*], Xiangang Luo[1, 2, 3] 1.State Key Laboratory of Optical Field Manipulation Science and Technology, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 2.Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 3.College of Materials Sciences and Opto-Electronic Technology, University of Chinese Academy of Sciences, China; 4.School of Physics and Electronic Information, Anhui Normal University, China; 5.Sichuan Provincial Engineering Research Center of Digital Materials, China
AOMATT2025-0619-20	**Optical Holographic Encryption Enabled via Dual-Layer Stacks of Three Cascaded Liquid Crystal Elements** Zhishuai Zheng[1, 2, 3], Xin Xu[2, 3, 4], Yinghui Guo[2, 3, 4, 5], Qi Zhang[2, 3], Mingbo Pu[2, 3, 4, 5*], Xiangang Luo[2, 3, 4], Qing Zhao[1*] 1.School of Resources and Environment, University of Electronic Science and Technology of China, China; 2.State Key Laboratory of Optical Field Manipulation Science and Technology, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 3.Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 4.College of Materials Sciences and Opto-Electronic Technology, University of Chinese Academy of Sciences, China; 5.Sichuan Provincial Engineering Research Center of Digital Materials, China

AOMATT2025-0619-4	**Spin-Decoupled Phase Modulation for Second Harmonic Generation via Single-Meta-Atom Metasurfaces** Mengna Jiang[1,2,3], Yan Chen[1,4], Fei Zhang[1,2,3,4], Mingbo Pu[1,2,3,4], Xiaoliang Ma[1,2,3], Yinghui Guo[1,2,3,4], Xiangang Luo[1,2,3*] 1.State Key Laboratory of Optical Field Manipulation Science and Technology, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 2.State Key Laboratory of Optical Technologies on Nano-Fabrication and Micro-Engineering, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 3.College of Materials Sciences and Opto-Electronic Technology, University of Chinese Academy of Sciences, China; 4.Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China
AOMATT2025-0619-5	**Synthesis of Dynamic Vector Light Fields Based on Metasurfaces** Chen Liu[1,2,3] 1.State Key Laboratory of Optical Field Manipulation Science and Technology, Chinese Academy of Sciences, China; 2.College of Materials Science and Opto-Electronic Technology, University of Chinese Academy of Sciences, China; 3.Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China
AOMATT2025-0619-6	**Physics-driven Deep Learning-Based Broadband Thin-Film System Global Optimization Design** Jingdong Wang[1,2,3], Yingli Ha[1,2,3], Lijun Wang[1,2,3], Mingbo Pu[1,2,3], Xiangang Luo[1,2,3*] 1.State Key Laboratory of Optical Field Manipulation Science and Technology, Chinese Academy of Sciences, China; 2.Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 3.College of Materials Science and Opto-Electronic Technology, University of Chinese Academy of Sciences, China
AOMATT2025-0620-10	**Fabrication of Complex Photonic Crystals via Single-Step Holographic interferometry and Influence of Polarization Modulation** Wenyao Liang[1] 1.South China University of Technology, China
AOMATT2025-0620-11	**Integrated and Simultaneous Metasurfaces for Visible Full-Stokes Spectropolarimeters** Gensen Yang[1,2], Ruiqi Chen[1,2], Haoquan Wang[1,2], Kaihong Xu[1,2], Shun Wan[1,2], Jianjun Yang[1,2], Haiyang Wang[1,2], Pinggang Jia[1,3*], Yaxin Zhang[4*] 1.School of Semiconductor and Physics, North University of China, China; 2.State Key Laboratory of Widegap Semiconductor Optoelectronic Materials and Technologies, North University of China, China; 3.State Key Laboratory of Widegap Semiconductor Optoelectronic Materials and Technologies, China; 4.Xi'an Institute of Electromechanical Information Technology, China
AOMATT2025-0620-13	**Signal-to-noise Ratio Dominates Turbulence Resistance in Laser Reflective Tomography** Zewei Wang[1], Yinghui Guo[1], Xiaoyin Li[1], Xiangang Luo[1], Mingbo Pu[1*] 1.Institute of Optics and Electronics, China

AOMATT2025-0620-3	**Synthetic waves sensor enables anti-scatter imaging in atmospheric turbulence** Yuting Xiao[1,2,3], Yu Luo[1,2,3], Lianwei Chen[1,2], Mingbo Pu[1,2,3*], Xiangang Luo[1,2,3*] 1.State Key Laboratory of Optical Field Manipulation Science and Technology, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 2.Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 3.College of Materials Science and Opto-Electronic Technology, University of Chinese Academy of Sciences, China
AOMATT2025-0623-4	**Hierarchical Spatio-Temporal Denoising for Photon-Efficient 3D LiDAR Imaging under Low SBR** Yuanjian Huang[1,2,3], Hengshuo Guo[4], Yinghui Guo[2,3,5,6], Xiaoyin Li[1,2,7], Mingbo Pu[1,2,7,8*], Qi Zhang[1,2,7], Junwen Zhang[3], Xiangang Luo[5,7*] 1.State Key Laboratory of Optical Field Manipulation Science and Technology, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 2.Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 3.Future Information Innovative College (FIIC), Fudan University, China; 4.Tianfu Xinglong Lake Laboratory, China; 5.State Key Laboratory of Optical Field Manipulation Science and Technology, Institute of Optics and Electronics, China; 6.Sichuan Provincial Engineering Research Center of Digital Materials, China; 7.College of Materials Sciences and Opto-Electronic Technology, University of Chinese Academy of Sciences, China; 8.Future Information Innovative College (FIIC), Fudan University, China 4Tianfu Xinglong Lake Laboratory, China
AOMATT2025-0625-1	**Anti-Scattering Performance Analysis of Elliptical-Vortex Ince-Gauss Vector Beams** Hanxiang Yan[1,2,3], Yinghui Guo[1,2,3], Xin Luo[1,2], Haiqing Wang[1,2,3], Qiangqiang Liu[1,2,3], Jiaqi Wang[1,2,3], Mingbo Pu[1,2,3*] 1.State Key Laboratory of Optical Field Manipulation Science and Technology, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 2.Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 3.College of Materials Sciences and Opto-Electronic Technology, University of Chinese Academy of Sciences, China
AOMATT2025-0626-3	**Study of super-resolution imaging and memory enabled by core-shell metal nanoparticles** Le Gao[1], Qiming Zhang[2] 1.Zhangjiang Laboratory, China; 2.University of Shanghai for Science and Technology, China
AOMATT2025-0627-1	**Metasurfaces for Efficient Narrowband Polarisation Conversion Enabled by Generalized PB Phase** Jia Qiu[1], Yijia Huang[1*] 1.Sichuan Normal University, China
AOMATT2025-0627-14	**Spatial Division Multiplexed Single Phase Mask for OAM Detection** Shujian Gong[1,2,3], Peng Tian[1,2,4], Yinghui Guo[1,2,3], Mingbo Pu[1,2,3*], Jianping Shi[4*], Xiangang Luo[1,2,3] 1.State Key Laboratory of Optical Field Manipulation Science and Technology, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 2.Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 3.College of Materials Sciences and Opto-Electronic Technology, University of Chinese Academy of Sciences, China; 4.School of Physics and Electronic Information, Anhui Normal University, China

AOMATT2025-0627-2	**Four-channel full-space metasurface design and multifunctional electromagnetic modulation based on asymmetric resonant coupling** Yue Cheng[1], Yijia Huang[1*] 1.Sichuan Normal University, China
AOMATT2025-0627-3	**Identification of Vector Vortex Pin-like Beams through Atmosphere Turbulence** Haiqing Wang[1, 2, 3], Runzhe Zhang[1, 2, 3], Yinghui Guo[2, 3, 4], Jiaqi Wang[2, 3, 4], Hanxiang Yan[2, 3, 4], Qiangqiang Liu[2, 3, 4], Pingbo Pu[1, 2, 3, 5] 1.State Key Laboratory of Optical Field Manipulation Science and Technology, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 2.Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 3.College of Materials Science and Opto-Electronic Technology, University of Chinese Academy of Sciences, China; 4.tate Key Laboratory of Optical Field Manipulation Science and Technology, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 5.Sichuan Provincial Engineering Research Center of Digital Materials, China
AOMATT2025-0628-9	**UKF-Assisted Optimization for Single-Pixel Imaging and target tracking** Kanghao Gai[1, 2, 3], Yinghui Guo[1, 2, 3*], Qi Zhang[1, 2, 3], Xiaoyin Li[1, 2, 3], Mingbo Pu[1, 2, 3], Xiangang Luo[1, 2, 3] 1.State Key Laboratory of Optical Field Manipulation Science and Technology, Chinese Academy of Sciences, China; 2.Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 3.College of Materials Science and Opto-Electronic Technology, University of Chinese Academy of Sciences, China
AOMATT2025-0629-10	**Optimizing the Speed-Quality Trade-off in Sparse NLOS Imaging: A LASSO-Regularized Proximal Gradient Framework** Peng Yang[1, 2], Zewei Wang[1, 2], Yinghui Guo[1, 2, 3], Mingbo Pu[1, 2, 3*] 1.State Key Laboratory of Optical Field Manipulation Science and Technology, Chinese Academy of Sciences, China; 2.College of Materials Science and Opto-Electronic Technology, University of Chinese Academy of Sciences, China; 3.Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China
AOMATT2025-0629-16	**Ultraviolet perfect absorption leveraging BICs in Al/SiO_2 hybrid system** Hu Jie[1], Zheng Jie[1*] 1.Sichuan Normal University, China
AOMATT2025-0629-19	**Orbital Angular Momentum Enhanced Double-layer Metasurface Multi-level Encrypted Holography** Qiangqiang Liu[1, 2, 3], Runzhe Zhang[2, 3, 4], Yinghui Guo[2, 3, 4], Xiaoyin Li[2, 4], Hanxiang Yan[2, 3, 4], Haiqing Wang[2, 3, 4], Jiaqi Wang[2, 3, 4], Mingbo Pu[2, 3, 4*] 1.State Key Laboratory of Optical Field Manipulation Science and Technology, Institute of Optics and Electronics, United States; 2.Research Center on Vector Optical Fields, Institute of Optics and Electronics, United States; 3.College of Materials Sciences and Opto-Electronic Technology, United States; 4.State Key Laboratory of Optical Field Manipulation Science and Technology, China

AOMATT2025-0629-4	**Multi-mode beam scanning method using cascaded rotating liquid crystal polarization gratings for three-dimensional imaging lidar** Xiang Du[1, 2, 3], Yinghui Guo[1, 2, 3*], Qi Zhang[1, 2, 3], Xiaoyin Li[1, 2, 3], Mingbo Pu[1], Xiangang Luo[1, 2, 3] 1.State Key Laboratory of Optical Field Manipulation Science and Technology, Chinese Academy of Sciences, China; 2.Research Center on Vector Optical Fields, Institute of Optics and Electronics, Chinese Academy of Sciences, China; 3.College of Materials Science and Opto-Electronic Technology, University of Chinese Academy of Sciences, China
AOMATT2025-0630-17	**Parallel Multi-focus Femtosecond Laser Direct Writing Enabled by Non-iterative Phase Regional Segmentation and SVG Guidance** Yaoming Cheng[1], Feiyan Men[1], Chen Zhang[1*], Wei Zhao[1], Jintao Bai[1] 1.NorthWest University, China
AOMATT2025-0630-21	**Coarse-fine scanning method based on Risley prisms** Xun Luo[1] 1.Institute of Optics and Electronics, Chinese Academy of Sciences, China
AOMATT2025-0630-23	**Achromatic CMOS-Integrated Four-Bit Orbital Angular Momentum Mode Detector at Three Wavelengths** Xiaonan Hu[1] 1.University of Shanghai for Science and Technology, China
AOMATT2025-0630-6	**A Dual-image Encryption Meta-device with Integration of the Multifunctional Metasurface and the Single-pixel Fourier Imaging Method** Renxuan Tu[1], Tianyou Zhang[1], Qi Dai[1*] 1.College of Advanced Interdisciplinary Studies, National University of Defense Technology, China
Track 5: Novel Optoelectronic Materials	
AOMATT2025-0516-1	**Efficient Inverted Perovskite Solar Cells Using Phosphonic Acid Additive Modification** Hailin Yang[1], Junwen Liu[1], Yue Chen[1], Jie Li[1], Dingyu Yang[1*], Xiao Wang[1*] 1.College of Optoelectronic Engineering, Chengdu University of Information Technology, Chengdu, China
AOMATT2025-0520-1	**Study on Correction Masks Compensation Optimizationin Large-Aperture Infrared Evaporation Coatings** Yaoping Zhang[1*], Zhipeng Lv[1], Guoyun Long[1] 1.Institute of Optics and Electronics, Chinese Academy of Sciences, China
AOMATT2025-0606-4	**Terahertz intensity modulator based on PEDOT:PSS:DMSO and ionic liquid electrodynamic interaction** Yangqi Liu[1], Zhang Yan[1*] 1.Capital Normal University, China

AOMATT2025-0609-2	**Bessel Beams with Tunable Topological Charge and Polarization Generated by Moiré Meta-device** Tong Nan[1, 2], Yan Zhang[1, 2*] 1.Beijing Key Laboratory of Metamaterials and Devices, Key Laboratory of Terahertz Optoelectronics, Ministry of Education, Department of Physics, Capital Normal University, China; 2.School of Physics, Harbin Institute of Technology, China
AOMATT2025-0610-2	**A highly deformableand high-performance optical Paper-Based Perovskite terahertz modulator** Xiaochen Fan[1], Lu Xiao[1] 1.Capital Normal University, China
AOMATT2025-0610-3	**Vanadium dioxide-doped perovskite heterojunction for terahertz optical modulation** Lu Xiao[1], Xiaochen Fan[1] 1.Capital Normal University, China
AOMATT2025-0612-8	**Quasi-flatband bound states in the continuum incoupled photonic crystal defects** Yaru Hao[1], Mingyu Luo[2], Zhaojian Zhang[3*] 1.School of Sports Science, Changsha Normal University, China; 2.Photonics Research Institute, Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, China; 3.Department of Physics, National University of Defense Technology, China
AOMATT2025-0616-7	**Reconfigurable dual-band absorber based on metasurface and phase-change material** Mingyu Luo[1*] 1.The Hong Kong Polytechnic University, China
AOMATT2025-0617-15	**Unveiling Bi-doping induced structural and optical evolution in β-Ga_2O_3: a combined experimental and first-principles study** Wen Wang[1], Mao Wang[2*] 1.Key Laboratory of Micro-Nano Optoelectronic Materials and Devices at Sichuan Normal University, China; 2.Sichuan Normal University, China
AOMATT2025-0617-16	**Hyperdoped Ge for plasmonics: tunable plasmonic frequency by doping concentration andplasmonic structural design** Minjuan Yuan[1], Mao Wang[1*] 1.Sichuan Normal University, China
AOMATT2025-0617-17	**Heteroepitaxial Growth of High-Quality Single-Crystalline β-Ga_2O_3 on Si(111) Enabled by AlN Buffer layer for Solar-Blind Photodetectors** Tingting Wang[1], Mao Wang[1*] 1.Sichuan Normal University, China
AOMATT2025-0617-18	**Enhanced near-infrared absorption in Au-hyperdoped Si: interplay between mid-gap states and plasmon resonance** Songyuan Peng[1], Mao Wang[1*] 1.Sichuan Normal University, China

AOMATT2025-0617-2	**Charge carrier transport properties of graphene-based porous carbon nanostructure** Shuang Sun[1], Peng Han[1], Yan Zhang[1*] 1.Capital Normal University, China
AOMATT2025-0617-21	**Broadband Dual-Polarization Reconfigurable Intelligent Surface for Beam-Scanning Communication Systems** Yanxun Wang[1*], Jiahao Huang[1], Ruifeng Xie[1], Zhe Zhang[1], Dan Wang[1] 1.Tianfu Xinglong Lake Laboratory, China
AOMATT2025-0618-14	**Fabrication and Electrochromic Performance of PB Nanoparticle-Based Flexible Electrochromic Devices** Yingeng Wang[1] 1.Tianfu Xinglong Lake Laboratory, China
AOMATT2025-0619-22	**Simultaneous and Rapid Detection of Multiple Components in E-Cigarette Liquids Using Tunable Polystyrene@Silver Composite SERS Substrate** Qi Wang[1*] 1.University of Electronic Science and Technology of China, China
AOMATT2025-0619-7	**Dual-band plasmonic enhancement in Au-grated Te-hyperdoped Si for high-efficiency room-temperature infrared photodetection** Wang Anyang[1], Wang Mao[1*] 1.Sichuan Normal University, China
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