

# PIERS 2024 Chengdu

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PhotonIcs & Electromagnetics Research Symposium  
also known as Progress In Electromagnetics Research Symposium

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Program

April 21–25, 2024  
Chengdu, CHINA

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## **THE ELECTROMAGNETICS ACADEMY**

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The Electromagnetics Academy is devoted to academic excellence and the advancement of research and relevant applications of the electromagnetic theory and to promoting educational objectives of the electromagnetics profession. PIERS provides an international forum for reporting progress and advances in the modern development of electromagnetic theory and its new and exciting applications.

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## **PhotonIcs & Electromagnetics Research Symposium**

**April 21–25, 2024**

**Chengdu, CHINA**

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Qiang Zhou, Tianfu Jiangxi Laboratory; University of Electronic Science and Technology of China

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| Shum                  |                 |                         |                        |
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| Shulin Sun            | Mingming Tan    | Shurun Tan              | Hao Tang               |
| Ming-Chun Tang        | Rumao Tao       | Chao Tian               | Mei Song Tong          |
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| Dandan Wen            | Feng Wen        | Ulrike Willer           | Bian Wu                |
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| Junjie Wu             | Qi Wu           | Shengnan Wu             | Yaping Wu              |
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| Rui Zhu               | Yifan Zhu       | Zhi-Han Zhu             | Yi Zou                 |
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## **SYMPOSIUM VENUE**

The 2024 PhotonIcs & Electromagnetics Research Symposium, will be held in Chengdu from 21 to 25 April 2024, at the Sichuan Jinjiang Hotel.

Address: No. 80, Section 2, Renmin South Road, Jinjiang District, Chengdu, Sichuan, China.

## **REGISTRATION**

The PIERS technical sessions will begin at 13:00 on Sunday, April 21, 2024. You may come to register during 13:00–18:30 on Saturday, April 20, 2024, at the registration desks at the Sichuan Jinjiang Hotel. Registration is also available from 8:00 to 18:00 on April 21–25, 2024.

The on-site registration fee is USD 730 or RMB 5110, and the reduced registration fee for a student is USD 490 or RMB 3430 (a valid student ID is required). If you have pre-registered and paid, your name badge and symposium program will be ready for you to pick up at the registration counter during the symposium. Please wear your name badge throughout the meeting. Access to the coffee break, interactive areas, and technical sessions will be prohibited if a name badge is not visible.

## **SPECIAL EVENTS**

### **Symposium Reception**

The Symposium Reception will be organized on Sunday, April 21 from 18:40 to 21:00 at the conference hotel. The tickets are free and handed out on a first-come-first-served basis. Please make reservation in advance for the reception by April 1, 2024.

### **Symposium Banquet**

On Wednesday evening, April 24, 2024, symposium banquet is planned for PIERS participants and their guests at the conference hotel. A limited number of banquet tickets will be available. For all participants, the price is USD 60/RMB 420 per person. Please make reservation and pay in advance for the banquet by April 1, 2024.



## PIERS ONLINE

Information on PIERS 2024 Chengdu and future PIERS is posted at [www.piers.org](http://www.piers.org).

### GUIDELINE FOR PRESENTERS

#### Onsite Oral Presentations

- **LOAD and TEST Presentation Files in Advance:**

All Oral Presenters must load and test presentation files in the PIERS OFFICE no later than 12 hours before the scheduled talk. Presenters are not allowed to detach the session computer and attach their own notebook/laptop to the LCD projector in session rooms.

- **Presentation Files Format:**

PDF, Power Point are recommended. Movies or animations in MPEG, Windows Media, and etc., should be tested in PIERS computer in PIERS OFFICE no later than half-day before the session.

- **USB Disk:**

Presentation files in USB disk are acceptable by onsite PIERS Computer.

- **Report to Session Chair:**

Onsite Presenters are required to report to their session chairs at least 10 minutes prior to the start of their session.

- **Talk Limit: 15 Minutes (Onsite Oral Talk):**

All oral presentations, including questions and answers, should be less than the given minutes.

- **DO NOT Change Presentation Sequence:**

Session Chairs, please be present in the session room at least 15 minutes before the start of the session and must strictly observe the starting time and time limit of each paper and refrain from changing paper presentation sequence.

- **NO Picture Request:**

When such a request is made by the presenter, the session chair and session helpers will do their best to ensure that no pictures will be taken at the presentation.

#### Onsite Poster Presentations

- One panel will be available for each poster. The panel size may be different for each PIERS.
- The poster panels for PIERS 2024 Chengdu will be 95 cm (Width) x 200 cm (Height).
- All presenters are required to mount their papers one hour before the session and remove them at the end of their sessions. All poster presenters are suggested to be present at least during 10:00–10:30 and 15:30–16:00.
- Presenters should post time slots of their presence on the panel and be present for interactive questions at the given time.

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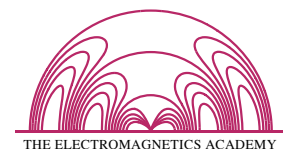
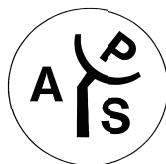
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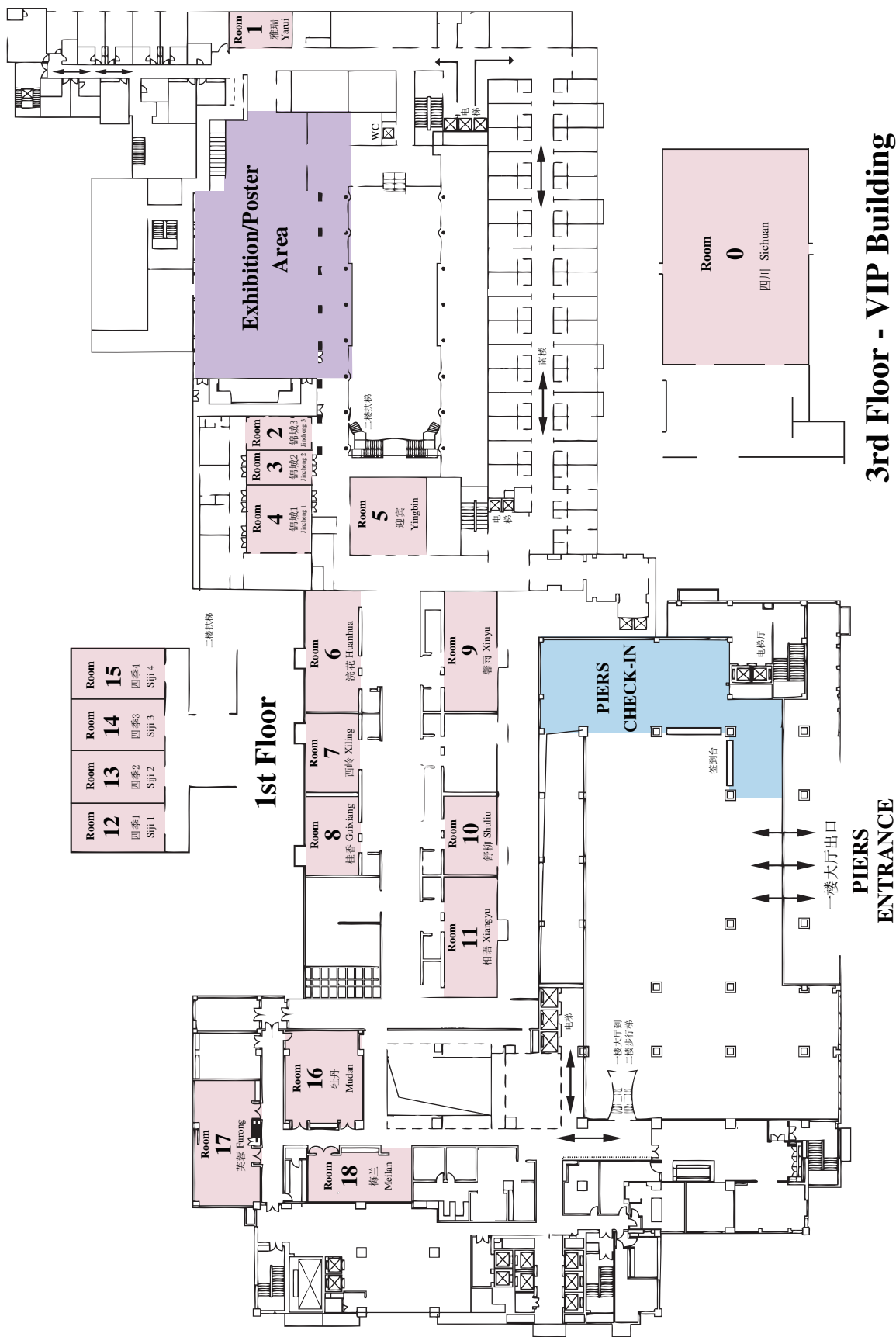


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MAP OF CONFERENCE SITE



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## HOT TOPICS IN PHOTONICS AND ELECTROMAGNETICS

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Sunday PM, April 21, 2024

Room 0 - Sichuan

Organized and Chaired by Sailing He



17:00 Opening Remark by Jun Hu, General Chair of PIERS 2024, President of UESTC  
Jun Hu (University of Electronic Science and Technology of China);



17:10 Competitive Materials Science for the Realization of  $\mu\text{m}$ -sized LEDs Enabling All-Nitride Displays for AR/VR  
Lars Samuelson (Southern University of Science and Applications, Shenzhen; Lund University);



17:20 Energy-efficient Surface Emitting Lasers, the Next Huge Photonics Market after LEDS  
Dieter H. Bimberg ("Bimberg Chinese-German Center for Green Photonics" CIOMP, Chinese Academy of Sciences);



17:30 Unconventional Topological Photonic and Phononic Materials  
Che Ting Chan (The Hong Kong University of Science and Technology);



17:40 Pushing Free-electron Ultrafast Spectromicroscopy toward the Zeptosecond Regime  
F. Javier García de Abajo (ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology);



17:50 Subdiffraction Confinement of Light in Dielectric Cavities  
Soren Stobbe (Technical University of Denmark);



18:00 Mie-tronics and Metaphotonics  
Yuri S. Kivshar (Australian National University);



18:10 3D Photonic Topological Insulators  
Baile Zhang (Nanyang Technological University);



18:20 Devices and Protocols for Quantum Advantage in Sensing  
Amr S. Helmy (University of Toronto);

## **GENERAL INFORMATION**

### **LANGUAGE**

The official language for the Symposium is English.

### **CURRENCY AND CREDIT CARDS**

Chinese currency is CNY with its monetary unit CNY (Yuan). The exchange rate is 1 USD for about 7.0 CNY. Credit cards and cash are acceptable for payments. International credit cards are acceptable in almost all shops, restaurants etc..

### **TAX AND TIP**

Tipping is by no means a traditional Chinese custom. Please help keep the good custom and do not tip a waiter/waitress or a taxi driver and other persons who provides regular service. Take back any change that is rightfully yours. All advertised prices include tax. Bargaining is quite common on buying merchandise especially from Street Markets.

### **TAXI**

Usually, a taxi is available along the roadsides, while you wave for it. However, on main streets it is only available at taxi stops or in front of a hotel.

### **BUSINESS OPENING HOURS**

- **Bank and Post Office**

Opening hours: usually 09:00 – 17:00, from Monday to Sunday.

- **Government Office**

Operating hours: generally 08:00 – 17:00, from Monday to Friday.

- **Store**

Opening hours: usually 10:00 – 21:00, but the large shopping center serves till 22:00, from Monday to Sunday.

### **ELECTRICITY**

In China, the standard outlets provide AC of 220 V/50 Hz.

# PIERS 2024 CHENGDU TECHNICAL PROGRAM

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## Session 0P0a

### Mie-tronics and Metaphotonics 1

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**Sunday PM, April 21, 2024**

**Room 0 - Sichuan**

Organized by Andrey A. Bogdanov, Yuri S. Kivshar

Chaired by Yuri S. Kivshar, Andrey A. Bogdanov

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13:00 Multipole Tuning of Optical Resonances in Dielectric Structures

Invited

*Andrey B. Evlyukhin (Leibniz University Hannover); Vladimir R. Tuz (Jilin University);*

13:20 Trapping Light in Air with Dielectric Mie Voids

Invited

*Kirill Koshelev (Australian National University); Mario Hentschel (University of Stuttgart); Florian Sterl (University of Stuttgart); Steffen Both (University of Stuttgart); Julian Karst (University of Stuttgart); Lida Shamsafar (University of Stuttgart); Thomas Weiss (University of Graz); Yuri S. Kivshar (Australian National University); Harald W. Giessen (University of Stuttgart);*

13:40 General Bound States in the Continuum in Momentum Space

*Dezhuan Han (Chongqing University);*

13:55 Infinite- $Q$  Accidental and Merging BICs with Broken Up-down Symmetry

*Huayu Bai (Aalto University); Andriy Shevchenko (Aalto University); Radoslaw Kolkowski (Aalto University);*

14:10 Quasicrystalline Structures for Electromagnetic Wave Manipulation

Invited

*Mikhail V. Rybin (National Research University for Information Technology, Mechanics and Optics);*

14:30 Metamaterial Regime in Quasicrystal Structure

*Ekaterina E. Maslova (ITMO University); K. V. Semushev (ITMO University); Mikhail V. Rybin (ITMO University);*

14:45 Polarization Properties of Photonic Crystal Slabs in Resonant Approximation

Invited

*I. M. Fradin (Skolkovo Institute of Science and Technology); Sergey A. Dyakov (Skolkovo Institute of Science and Technology); Nikolay A. Gippius (Skolkovo Institute of Science and Technology);*

15:05 **Coffee Break**

15:30 Bound States in the Continuum and Lattice Resonances in Dipole Lattices

*Ilya Igorevich Karavaev (ITMO University); A. A. Bogdanov (ITMO University);*

15:45 Generation of Harmonic Vortices and High-dimensional Entanglement Based on Metasurfaces

Invited

*Shu-Ming Wang (Nanjing University);*

16:05 Engineering the Radiative Lifetime of Excitons in Two-dimensional van der Waals Heterostructures

*Polina A. Pantyukhina (ITMO University); Andrey A. Bogdanov (Harbin Engineering University); Kirill L. Koshelev (Australian National University);*

16:20 Coupled Mode Theory for Dielectric Solids of Revolution

*E. N. Bulgakov (Institute of Computational Modeling SB RAS); Dmitry N. Maksimov (MF Reshetnev Siberian State University of Science and Technology); A. E. Ershov (Institute of Computational Modeling SB RAS);*

16:35 Evolutionary Optimization of Radiative Losses in Low-dimensional Systems of Dipole Emitters

Invited

*Ilya A. Volkov (ITMO University); S. A. Mitsai (ITMO University); S. K. Zhogolev (ITMO University); Danil F. Kornovan (ITMO University); Roman S. Savelev (ITMO University); Mihail I. Petrov (ITMO University);*

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## Session 0P0b

### Hot Topics in Photonics and Electromagnetics

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**Sunday PM, April 21, 2024**

**Room 0 - Sichuan**

Organized by Sailing He

Chaired by Sailing He

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17:00 Opening Remark by Jun Hu, General Chair of PIERS 2024, President of UESTC

*Jun Hu (University of Electronic Science and Technology of China);*

17:10 Competitive Materials Science for the Realization of  $\mu\text{m}$ -sized LEDs Enabling All-Nitride Displays for AR/VR

Hot Topic

*Lars Samuelson (Southern University of Science and Technology, Shenzhen, China and Lund University, Lund, Sweden);*

- 17:20 Energy-efficient Surface Emitting Lasers, the Next Huge  
Hot Photonics Market after LEDS  
Topic  
*Dieter H. Bimberg* (“Bimberg Chinese-German Center for Green Photonics” CIOMP, Chinese Academy of Sciences);
- 17:30 Unconventional Topological Photonic and Phononic Ma-  
Hot terials  
Topic  
*Che Ting Chan* (The Hong Kong University of Science and Technology);
- 17:40 Pushing Free-electron Ultrafast Spectromicroscopy to-  
Hot ward the Zeptosecond Regime  
Topic  
*F. Javier García de Abajo* (ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology);
- 17:50 Subdiffraction Confinement of Light in Dielectric Cavi-  
Hot ties  
Topic  
*Soren Stobbe* (Technical University of Denmark);
- 18:00 Mie-tronics and Metaphotonics  
Hot  
Topic  
*Yuri S. Kivshar* (Australian National University);
- 18:10 3D Photonic Topological Insulators  
Hot  
Topic  
*Baile Zhang* (Nanyang Technological University);
- 18:20 Devices and Protocols for Quantum Advantage in Sens-  
Hot ing  
Topic  
*Amr S. Helmy* (University of Toronto);

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**Session 0P1**  
**Quantum Biology and Quantum Devices 1**

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**Sunday PM, April 21, 2024**

**Room 1 - Yarui**

Organized by Qing Ai, Wenqiang Yang

Chaired by Qing Ai

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- 13:00 Quantum Phase Synchronization via Electronic-vibronic  
Invited Energy Dissipation Sustains Long-lived Coherence in  
Photosynthetic Antennas  
*Ruidan Zhu* (Institute of Physics, Chinese Academy of Sciences); *Wenjun Li* (Yantai Institute of Coast Zone Research, Chinese Academy of Sciences); *Zhanghe Zhen* (Institute of Physics, Chinese Academy of Sciences); *Jiading Zou* (Institute of Physics, Chinese Academy of Sciences); *Guohong Liao* (Institute of Physics, Chinese Academy of Sciences); *Jiayu Wang* (Institute of Physics, Chinese Academy of Sciences); *Zhuan Wang* (Institute of Physics, Chinese Academy of Sciences); *Hailong Chen* (Institute of Physics, Chinese Academy of Sciences); *Song Qin* (Yantai Institute of Coast Zone Research, Chinese Academy of Sciences); *Yuxiang Weng* (Institute of Physics, Chinese Academy of Sciences);
- 13:20 An Electrically Tunable Magnetic Sensor — Under-  
Invited standing the Physics Nature of Migratory Navigation  
*You-Quan Li* (Nankai University);
- 13:40 Non-adiabatic Singlet Fission Dynamics Studied by  
Keynote Two-dimensional Electronic Spectroscopy  
*Buyang Yu* (Nanjing University); *Chunfeng Zhang* (Nanjing University);
- 14:10 How Animals Sense the Geomagnetic Field to Navigate:  
Invited From Ecology to Quantum Biology  
*Can Xie* (Hefei Institutes of Physical Science, Chinese Academy of Sciences);
- 14:30 Probing Charge Separation in the Photosynthetic Re-  
Invited action Centers Using Ultrafast Multidimensional Spec-  
troscopy  
*Yin Song* (Beijing Institute of Technology);
- 14:50 Two-dimensional Dpectroscopic Detection of Enan-  
Invited tiomeric Excess  
*Hui Dong* (China Academy of Engineering Physics);
- 15:10 **Coffee Break**
- 15:30 Simulating Photosynthetic Energy Transport on a Pho-  
Invited tonic Network  
*Hao Tang* (Shanghai Jiao Tong University); *Xiao-Wen Shang* (Shanghai Jiao Tong University); *Zi-Yu Shi* (Shanghai Jiao Tong University); *Tian-Shen He* (Shanghai Jiao Tong University); *Zhen Feng* (Shanghai Jiao Tong University); *Tian-Yu Wang* (Shanghai Jiao Tong University); *Ruoxi Shi* (Shanghai Jiao Tong University); *Hui-Ming Wang* (Shanghai Jiao Tong University); *Xi Tan* (Shanghai Jiao Tong University); *Xiaoyun Xu* (Shanghai Jiao Tong University); *Yao Wang* (Shanghai Jiao Tong University); *Jun Gao* (Shanghai Jiao Tong University); *M. S. Kim* (Imperial College London); *Xian-Min Jin* (Shanghai Jiao Tong University);
- 15:50 Ultrafast Dynamics in the Active Site of Blue-light Pho-  
Invited toreceptor BLUF Domains Using Transient IR and Two-  
dimensional IR Spectroscopy  
*Bei Ding* (Shanghai Jiao Tong University);



- 16:10 Effects of Electronic-vibrational Resonance on the Energy Transfer of Photosynthesis Light-harvesting Complex  
*Xuan Leng (Ningbo University);*
- 16:25 Quantum Random Walk Model for Protein Folding Time  
*Lihua Lu (Zhejiang University);*
- 16:40 Coherent Energy Transfer in the LH1 of *Hlr. Halochloris* Containing 3 BChl *b* Rings  
*Long-Jiang Yu (Institute of Botany, Chinese Academy of Sciences); Fei Ma (Institute of Botany, Chinese Academy of Sciences);*
- 16:55 Quantum Computation of Dissipative Dynamics with Electron-phonon Coupling  
*Xing Gao (Sun Yat-sen University);*
- 17:10 Probing in vivo Magnetoresponses in Migratory Insects  
*Guijun Wan (Nanjing Agricultural University); Christine Merlin (Texas A&M University); Weidong Pan (Institute of Electrical Engineering, Chinese Academy of Sciences); Gao Hu (Nanjing Agricultural University); Fajun Chen (Nanjing Agricultural University);*

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### Session 0P2

#### Quantum Sensing Methods and Applications

Sunday PM, April 21, 2024

Room 2 - Jincheng 3

Organized by Yong-Chun Liu, Bei Liu

Chaired by Yong-Chun Liu, Bei Liu

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- 13:20 Radio Fields Sensing Based on Rydberg Atoms  
Invited  
*Linjie Zhang (Shanxi University);*
- 13:40 Measurement of the Electric Dipole Moment (EDM) of  $^{171}\text{Yb}$  Atoms in an Optical Dipole Trap (ODT)  
Invited  
*Tian Xia (University of Science and Technology of China);*
- 14:00 Quantum Metrology with Indefinite Causal Order  
Invited  
*Geng Chen (University of Science and Technology of China);*
- 14:40 Double Electron-electron Resonance for C-centers in Diamond: Optimization, Coherent Control and Concentration Measurements  
Invited  
*O. R. Rubinas (P. N. Lebedev Physical Institute RAS); Vladimir V. Soshenko (P. N. Lebedev Institute, RAS); Ivan S. Cojocaru (Russian Quantum Center); Stepan V. Bolshedvorskii (P. N. Lebedev Physical Institute RAS); P. G. Vilyuzhanina (Russian Quantum Center); E. A. Primak (Russian Quantum Center); S. M. Drofa (Russian Quantum Center); A. M. Kozodaev (National Research Nuclear University "MEPhI"); V. G. Vins (LLC Velman); Vadim N. Sorokin (P. N. Lebedev Physical Institute RAS); A. N. Smolyaninov (LLC Sensor Spin Technologies); Aleksey V. Akimov (Russian Quantum Center);*

### 15:00 Coffee Break

- 15:30 Coupled Hybrid Atom Ensembles for Light Dark Matter and X Search (Change)  
Invited  
*Kai Wei (Beihang University);*
- 15:50 Challenging Dark Energy Theories Using Magnetically Levitated Force Sensors  
Invited  
*Peiran Yin (Nanjing University);*
- 16:10 Submillimeter-resolution 2D Atom Magnetometer Arrays and Its Application  
Invited  
*Bei Liu (Shandong University); Jin Peng (Shandong University); An-Ning Xu (Shandong University);*
- 16:30 Magnetic Field Sensing Based on Non-Hermitian Thermal Atomic Ensembles  
Invited  
*Yong-Chun Liu (Tsinghua University);*

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### Session 0P3

#### New Antennas and Testing Techniques for 5G/B5G Communications and Sensing Applications

Sunday PM, April 21, 2024

Room 3 - Jincheng 2

Organized by Xiaoming Chen, Luyu Zhao

Chaired by Zhixia Du, Yao Zhang

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- 13:00 Reconstruction of the Under-sampled High-frequency Data in a Broadband Planar Near-field Test Based on the Asymptotic Field Similarity  
*Junhao Zheng (Xi'an Jiaotong University); Binhui Liu (The 5th Electronic Research Institute, Ministry of Industry and Information Technology); Zhengpeng Wang (Beihang University); Xiaoming Chen (Xi'an Jiaotong University);*
- 13:15 Near-field Focusing Emulation of Near-field-focused Arrays Using Far-field-focused Arrays  
*Huaqiang Gao (Xi'an Jiaotong University); Junhao Zheng (Xi'an Jiaotong University); Bingyi Qian (Xi'an Jiaotong University); Xiaoming Chen (Xi'an Jiaotong University);*
- 13:30 Design of a Dual-polarized High-gain Diagonal Horn Antenna  
*Chunliang Dai (Shenyang Aircraft Design and Research Institute); Yongli Ma (Shenyang Aircraft Design and Research Institute); Chi Liu (Shenyang Aircraft Design and Research Institute); Linqian Jin (Beihang University);*
- 13:45 Estimation of Far-field Errors due to Probe Jitter in Planar Near-field Measurement Based on Interval Analysis Method  
*Jiaqian Ding (Xi'an Jiaotong University); Junhao Zheng (Xi'an Jiaotong University); Tongyu Ding (Jimei University); Xiaoming Chen (Xi'an Jiaotong University);*

- 14:00 A Low-profile Broadband Reconfigurable Reflectarray with Reflective Feed  
*Changhao Li (Xidian University); Mengkai Xi (Xidian University); Luyu Zhao (Anhui University);*
- 14:15 A Large-scale Compact Base Station Antenna Array with Improved Radiation Performance  
*Jiayue Jiang (Xidian University); Luyu Zhao (Anhui University);*
- 14:30 A Type of In-band Full-duplex Antenna System with High Isolation for 5G NR Bands  
*Xiaosheng Zhang (Xidian University); Zhe Xu (Xidian University); Luyu Zhao (Anhui University);*
- 14:45 Faults Detection in Phased Array: Compressed vs MUSIC Methods  
*Mario Del Prete (Università degli Studi della Campania Luigi Vanvitelli); Maria Antonia Maisto (Università degli Studi della Campania "Luigi Vanvitelli"); Antonio Cuccaro (University of Calabria); Raffaele Solimene (Università degli Studi della Campania "Luigi Vanvitelli");*
- 15:00 **Coffee Break**
- 15:30 A Low-frequency, Frequency Response-stable Scattering Calibration Target Based on a Dihedral Structure  
*Lei Zhao (Shenyang Aircraft Corporation Beihang University); Junpeng Shi (Shenyang Aircraft Corporation Beihang University); Kang Zhu (Shenyang Aircraft Corporation Beihang University);*
- 15:45 A Broadband High-efficiency Amplifying Active Integrated Antenna  
*Haoqiang Chen (Guangdong University of Technology); Changjun Lai (Guangdong University of Technology); Zhixia Du (Guangdong University of Technology);*
- 16:00 A Compact Circularly Polarized Active Integrated Antenna Based on Harmonic Impedance Control  
*Zhixia Du (Guangdong University of Technology);*
- 16:15 A Polarization Convert Reflective Surface Based Wide-band Antenna Array Decoupling Structure  
*Yao Zhang (Xiamen University); Xiao Ling He (Xiamen University); Huanyang Chen (Xiamen University); Qing Huo Liu (Eastern Institute of Technology);*
- 16:30 A Low-cost Vehicular-mounted Multi-beam-switching Antenna System  
*Qing Liu Wang (Xiamen University); Yao Zhang (Xiamen University); Huanyang Chen (Xiamen University); Qing Huo Liu (Eastern Institute of Technology);*
- 16:45 A Polarization Reconfigurable Beam Scanning Antenna Based on Stacked Microstrip Antenna Array  
*Xin Gu (Shenyang Aircraft Corporation); Zhiquan Tian (Shenyang Aircraft Corporation); Chang Xu (Beijing Research Institute of Telemetry); Miaoshan Song (Beihang University);*

**Session 0P4****Recent Advances in Optical Metasurfaces 1****Sunday PM, April 21, 2024****Room 4 - Jincheng 1**

Organized by Fei Ding, Cheng Zhang

Chaired by Fei Ding, Cheng Zhang

- 13:00 A Full-color Holographic Movie Based on Silicon Nitride  
Invited Metasurface  
*Kentaro Iwami (Tokyo University of Agriculture and Technology); M. Yamaguchi (Tokyo University of Agriculture and Technology); S. Ikezawa (Waseda University);*
- 13:20 Metasurface-enhanced Nanospectroscopy and Molecular  
Invited Diagnostics towards Quantum Biomedical Engineering  
*Inki Kim (Sungkyunkwan University);*
- 13:40 Gauge Field Based on 2-D Artificial Materials  
Invited  
*Cuicui Lu (Beijing Institute of Technology);*
- 14:00 Algorithm-driven Design and Application of Optical  
Invited Metamaterials  
*Wei Ma (Zhejiang University);*
- 14:20 Optical Imaging Based on Metasurfaces  
Invited  
*Shu-Ming Wang (Nanjing University);*
- 14:40 Dielectric Metasurfaces for Controlling THz Waves  
Keynote  
*Lei Zhou (Fudan University);*
- 15:10 **Coffee Break**
- 15:50 LNOI-integrated Multifunctional Metasurfaces  
Invited  
*Tao Li (Nanjing University); Jitao Ji (Nanjing University); Zhizhang Wang (Nanjing University); Bin Fang (China Jiliang University);*
- 16:10 New High-order Topological States and Topological Op-  
Invited tical Switches  
*Shiwei Tang (Ningbo University);*
- 16:30 High-Q Optical Resonances in Periodic Photonic Struc-  
Invited tures  
*Zhanghua Han (Shandong Normal University);*
- 16:50 Efficient and Controllable Coupling of On-chip Photonic  
Invited Systems  
*Shulin Sun (Fudan University); Yizhen Chen (Fudan University); Zhuo Wang (Fudan University); Weikang Pan (Fudan University); Qiong He (Fudan University); Lei Zhou (Fudan University);*
- 17:10 Single-photon Sources of High-purity Polarized Vortex  
Beams Based on Anisotropic Metasurfaces  
*Xujing Liu (University of Southern Denmark); Yinhui Kan (University of Southern Denmark); Sergey I. Bozhevolnyi (University of Southern Denmark);*

- 17:25 Multifunctional Deformation in Kirigami Spoof Plasmonic Interconnects  
*Xincheng Yao (Zhejiang University); Liqiao Jing (Zhejiang University); Jie Tao (Zhejiang University); Hongsheng Chen (Zhejiang University); Zuoqia Wang (Zhejiang University);*

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**Session 0P5**

**Advances of Numerical Methods in Computational Electromagnetics**

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**Sunday PM, April 21, 2024**

**Room 5 - Yingbin**

Organized by Mei Song Tong, Lei Guo

Chaired by Mei Song Tong, Lei Guo

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- 13:00 A Computational Technique for Quantum Hydrodynamics  
*Christos Mystilidis (KU Leuven); Guy A. E. Vandenbosch (KU Leuven); Xuezhi Zheng (KU Leuven);*
- 13:15 Aggregate Basis Functions for Subdomains of an Antenna Array  
*Ting Zang (Shanghai Jiao Tong University); Gao-biao Xiao (Shanghai Jiao Tong University);*
- 13:30 Numerical Calculation of Anisotropic Mie Scattering Using Discrete Dipole Approximation Method  
*Luhao Ran (Beijing Institute of Technology); Shangran Xie (Beijing Institute of Technology);*
- 13:45 On a Symmetry-based Hybrid Finite Element-mode Matching Method for 2D Scattering Problems  
*Yifan Li (KU Leuven); Guy A. E. Vandenbosch (KU Leuven); Xuezhi Zheng (KU Leuven);*
- 14:00 Novel DGTD Method for Simulating EM Response of Bi-anisotropic Media  
*Qiang Ren (Beihang University);*
- 14:15 On a T-matrix Modeling Scheme for Nonclassical Optical Response from Multiple Nanospheres in Planarly Stratified Layers  
*Xuezhi Zheng (KU Leuven); Guy A. E. Vandenbosch (KU Leuven);*
- 14:30 A Time-domain Discontinuous Galerkin Method for Solving Maxwell Equations with Kerr Nonlinearity  
*Ruitao Sun (King Abdullah University of Science and Technology (KAUST)); Ming Dong (King Abdullah University of Science and Technology (KAUST)); Liang Chen (King Abdullah University of Science and Technology (KAUST)); Hakan Bagci (King Abdullah University of Science and Technology (KAUST));*
- 14:45 Rigorous Multi-modal Analysis of Partially Filled Waveguides for Accurate Permittivity and Permeability Retrievals  
*B. O. Zhu (Nanjing University); Xiao Yu Li (Tongji University); Mei Song Tong (Tongji University);*

**15:00 Coffee Break**

- 15:30 RF Power Harvesting for Batteryless Wireless Sensing  
*Lei Guo (Dalian University of Technology);*
- 15:45 A Novel Method for Near-field Coupled Path Visualization of Multi-conductor Microstrip Lines  
*Kenan Wang (Beihang University); Hui Xu (Beihang University); Yanhua Peng (Beihang University);*
- 16:00 Study of the Terahertz Absorptance in 2D-based Nanoribbon Heterostructures  
*Omnia Samy (United Arab University); Amine El Moutaouakil (United Arab University);*
- 16:15 A Sensorless Control Method for Built-in Permanent Magnet Synchronous Motor Based on High-frequency Pulse Sinusoidal Voltage Injection Method  
*Yingjie Gao (Shanghai University of Engineering Science); Shu Jia Yan (Shanghai University of Engineering Science); Xinbo Liu (704th Research Institute, China Shipbuilding Industry Corporation); Shanshan Liu (704th Research Institute, China Shipbuilding Industry Corporation); Mei Song Tong (Tongji University); Qiang Chen (Shanghai University of Engineering Science);*
- 16:30 A Target Detection Algorithm for UAV Aerial Photography Based on Improved Yolov5  
*Cheng Chi (Shanghai University of Engineering Science); Shu Jia Yan (Shanghai University of Engineering Science); Yingjie Gao (Shanghai University of Engineering Science); Mei Song Tong (Tongji University);*
- 16:45 Efficient Relation Extraction of Automobile Faults Based on Hidden Knowledge in Prompt Tuning Templates  
*Kai Zhang (Shanghai University of Engineering Science); Shu Jia Yan (Shanghai University of Engineering Science); Qiang Chen (Shanghai University of Engineering Science); Yingjie Gao (Shanghai University of Engineering Science); Mei Song Tong (Tongji University);*

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**Session 0P6**

**Plasmonics and Photonics for Sustainability 1**

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**Sunday PM, April 21, 2024**

**Room 6 - Huanhua**

Organized by Emiliano Cortes, Matias Herran

Chaired by Emiliano Cortes, Matias Herran

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- 13:00 Surface-enhanced Raman Scattering with Machine Learning for Predictive Molecular and Biosensing  
*Xing Yi Ling (Nanyang Technological University);*

13:30 Atomic Reconfigured Oxyhydroxides-alloy Photoanodes  
Invited for Water Splitting with Stability beyond 250 Hours and Record Efficiency

*Fei Xiang (KAUST); Ning Li (King Abdullah University of Science and Technology (KAUST)); Arturo Burquete-Lopez (King Abdullah University of Science and Technology (KAUST)); Zhao He (King Abdullah University of Science and Technology (KAUST)); Maxim Elizarov (King Abdullah University of Science and Technology (KAUST)); Andrea Fratalocchi (King Abdullah University of Science and Technology (KAUST));*

13:50 Plasmonics for Solar Fuels: From Nanoscale Insights to  
Invited Scalable Devices

*Alberto Naldoni (University of Turin);*

14:10 Some Examples of Plasmonic Regulated Electrochemical  
Invited Processes

*Chao Zhan (Xiamen University); Xia-Guang Zhang (Henan Normal University); Yan Wei (Fudan University); Jun Yi (Xiamen University); Wen-Bin Lin (Fudan University); Martin Moskovits (University of California); Zhong-Qun Tian (Xiamen University);*

14:30 Hot Electron-mediated Chemical Reactions with Plas-  
Invited monic Nanostructures

*Seunghoon Lee (Dong-A University);*

14:50 Electric Field Enhancement in (Photo)Catalysis  
Invited

*Evangelina Pensa (LMU);*

15:10 **Coffee Break**

15:30 Thin Film Plasmonic Supercrystals

Invited

*Florian Schulz (University of Hamburg); Felix Lehmkuhler (The Hamburg Centre for Ultrafast Imaging (CUI)); Niclas S. Müller (Freie Universität Berlin); Ondřej Pavelka (Charles University); Fabian Westermeyer (Deutsches Elektronen-Synchrotron DESY); Francesco Dallari (Deutsches Elektronen-Synchrotron DESY); Verena Markmann (Deutsches Elektronen-Synchrotron DESY); Yu Okamura (Freie Universität Berlin); Bruno G. M. Vieira (Federal University of Ceará); Sabrina Jürgensen (Freie Universität Berlin); Eduardo B. Barros (Federal University of Ceará); Gerhard Grübel (The Hamburg Centre for Ultrafast Imaging (CUI)); Holger Lange (University of Hamburg); Stephanie Reich (Freie Universität Berlin);*

15:50 Surface-enhanced Raman Spectroscopic Monitoring of  
Invited Nanoparticle Catalysis Using Core-satellite Superstructures

*Wei Xie (Nankai University);*

16:10 In-situ Probing Surface Reactions Using Plasmonic  
Invited Core-shell Nanostructures

*Jian-Feng Li (Xiamen University);*

16:30 Plasmon Mediated Molecular Detection, Reaction and  
Keynote Manipulation

*Chao Zhan (Xiamen University); Jun Yi (Xiamen University); Xia-Guang Zhang (Henan Normal University); De-Yin Wu (Xiamen University); Zhong-Qun Tian (Xiamen University);*

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### Session 0P7a

### Metasurface: Concepts and Applications

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Sunday PM, April 21, 2024

Room 7 - Xiling

Organized by Shulin Sun, Qiong He

Chaired by Shulin Sun

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13:00 Plasmonic Rainbow Chip for Super-resolution Displace-  
Invited ment Spectrometer and Surface Biosensor

*Lyu Zhou (The State University of New York at Buffalo); Nan Zhang (The State University of New York at Buffalo); Chang Chieh Hsu (The State University of New York at Buffalo); Matthew Singer (The State University of New York at Buffalo); Xie Zeng (The State University of New York at Buffalo); Yizheng Li (The State University of New York at Buffalo); Haomin Song (King Abdullah University of Science and Technology); Josep M. Jornet (University at Buffalo); Yun Wu (The State University of New York at Buffalo); Qiaoqiang Gan (King Abdullah University of Science and Technology (KAUST));*

13:20 Compensating Losses in Polariton Propagation with  
Invited Synthesized Complex Frequency Excitation

*Fuxin Guan (University of Hong Kong);*

13:40 Recent Advances in Quantum Information Metasurfaces  
Invited

*Long Chen (Southeast University); Jianwei You (Southeast University); Ze Gu (Southeast University); Qian Ma (Southeast University); Tie Jun Cui (Southeast University);*

14:00 Imaging with an Ultra-thin Reciprocal Lens

*Jiangguang Chen (Fudan University); Wenzhe Liu (The Hong Kong University of Science and Technology); Lei Shi (Fudan University); Jian Zi (Fudan University); Che Ting Chan (The Hong Kong University of Science and Technology);*

14:15 Broadband Non-compound Helicity-decoupled Metasur-  
face for Multimode Orbital Angular Momentum Multi-  
plexing

*Zuntian Chu (Air Force Engineering University); Xinqi Cai (Air Force Engineering University); Tiefu Li (Air Force Engineering University); Ruichao Zhu (Air Force Engineering University); Huiting Sun (Air Force Engineering University); Jiafu Wang (Air Force Engineering University);*

- 14:30 Talbot Metasurfaces: A Self-focusing Tool with Polarization Conversion Functionalities  
*Abijith K. Reju (National Institute of Technology Calicut); Natesan Yogesh (National Institute of Technology Calicut);*
- 14:45 Realization of Planar Focusing Configuration Based on Hyperbolic Metasurface  
*S. Gokul (National Institute of Technology Calicut); Sneha Mary Biju (National Institute of Technology Calicut); P. Sandra (National Institute of Technology Calicut); M. Pavithra (University of Madras (Guindy Campus)); K. Ravichandran (University of Madras (Guindy Campus)); Barkathulla Asrafali (Shenzhen University); Zhengbiao Ouyang (Shenzhen University); Natesan Yogesh (National Institute of Technology Calicut);*
- 15:00 Ku-band Antenna Array Based on a Fabry-Perot Cavity  
*Stanislav V. Polenga (Siberian Federal University); E. A. Strigova (Siberian Federal University); A. V. Stankovskiy (Siberian Federal University); R. O. Ryazantsev (Siberian Federal University); A. D. Poligina (Siberian Federal University);*
- 15:15 **Coffee Break**

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### Session 0P7b

#### Oral Presentations for Best Student Paper Awards — SC1: CEM, EMC, Scattering & EM Theory

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**Sunday PM, April 21, 2024**

#### Room 7 - Xiling

Chaired by Qing Huo Liu, Amir Boag, Jun Fan

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- 15:30 Efficient High-Order MHODLR Solver for Electrically Large Metallic Objects in Planarly Layered Media  
*Chuzhao Liu (University of Electronic Science and Technology of China); Heng Wang (University of Electronic Science and Technology of China (UESTC)); Yongpin Chen (University of Electronic Science and Technology of China); Sheng Sun (University of Electronic Science and Technology of China); Jun Hu (University of Electronic Science and Technology of China);*
- 15:45 An Efficient T-matrix Extraction Technique for Arbitrary-shaped Scatterers and Its Application in 3D Multiple Scattering Modeling  
*Haifeng Zheng (Zhejiang University); Xuyang Bai (Zhejiang University); Shurun Tan (Zhejiang University/University of Illinois at Urbana-Champaign Institute); Leung Tsang (University of Michigan);*
- 16:00 Real-time Computation of Brain  $\mathbf{E}$ -field for Enhanced Transcranial Magnetic Stimulation Neuronavigation and Optimization  
*Nahian Ibn Hasan (Purdue University); Moritz Dannhauer (National Institutes of Health); Dezhi Wang (Purdue University); Zhi-De Deng (National Institutes of Health); Luis J. Gomez (Purdue University);*

- 16:15 Adaptive Mutual Coupling Compensation-based Information Transmission  
*Ruifeng Li (Zhejiang University); Da Li (Zhejiang University); Ling Zhang (Zhejiang University); Jinyan Ma (Zhejiang University); Er Ping Li (Zhejiang University — UIUC Institute);*
- 16:30 Solving Poisson's Equation in Electromagnetics with Limited Data and Arbitrary Domain Deformation Using Physics-enhanced Neural Operator  
*Zheng Zong (Zhejiang University); Zhun Wei (Zhejiang University);*
- 16:45 Efficient Physical Optics Solution of EM Scattering from Multi-layer Anisotropic Media Coated Target  
*Mengbo Hua (Wuhan University); Si-Yuan He (Wuhan University); Wei Gong (Wuhan University); Ru-Meng Chen (Wuhan University);*

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### Session 0P8

#### High Power Millimeter-wave and Terahertz Radiation Sources

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**Sunday PM, April 21, 2024**

#### Room 8 - Guixiang

Organized by Guoxiang Shu, Guo Liu

Chaired by Guoxiang Shu, Guo Liu

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- 13:00 The Phase Re-matching Method to Synthesis Smooth-walled Horn for High-power Millimeter-wave Applications  
*Xiaoyi Liao (Nanjing University of Information Science and Technology); Zewei Wu (University of Electronic Science and Technology of China); Minxing Wang (University of Electronic Science and Technology of China); Guowen Ding (University of Electronic Science and Technology of China); Chen Zhao (Nanjing University of Information Science and Technology);*
- 13:15 Investigation of the Effect of Dielectric Dissipation for a High Power W-band Gyro-TWT  
*W. J. Wang (University of Electronic Science and Technology of China); Guo Liu (University of Electronic Science and Technology of China);*
- 13:30 Powerful Oversized Surface-wave Oscillators with 2D-periodical Slow-wave Structures of Cylindrical Geometry Operating in W and G Bands  
*Nikolai Yu. Peskov (Institute of Applied Physics, RAS); Vladislav Yu. Zaslavsky (Institute of Applied Physics, RAS); Edward B. Abubakirov (Institute of Applied Physics Russian Academy of Sciences); Andrey N. Denisenko (Institute of Applied Physics RAS); Naum S. Ginzburg (Institute of Applied Physics, RAS); Andrey M. Malkin (Institute of Applied Physics, RAS); Mikhail D. Proyavin (Institute of Applied Physics, RAS); Alexander S. Sergeev (Institute of Applied Physics, RAS);*

- 13:45 Projects of Sub-GW Power Sub-THz Band Planar Cherenkov Masers with Two-dimensional Distributed Feedback

*Nikolai Yu. Peskov (Institute of Applied Physics, RAS); Vladislav Yu. Zaslavsky (Institute of Applied Physics, RAS); Naum S. Ginzburg (Institute of Applied Physics, RAS); Andrey M. Malkin (Institute of Applied Physics, RAS); Alexander S. Sergeev (Institute of Applied Physics, RAS); Andrey V. Arzhanikov (Budker Institute of Nuclear Physics RAS); Petr V. Kalinin (Budker Institute of Nuclear Physics RAS); Evgeny S. Sandalov (Budker Institute of Nuclear Physics RAS); Stanislav L. Sinitsky (Budker Institute of Nuclear Physics Russian Academy of Sciences); Vasily D. Stepanov (Budker Institute of Nuclear Physics RAS);*

- 14:00 Simulation of Nanosecond Microwave Pulse Amplification Based on a Gyrotron Traveling Wave Tube

*Ruoyang Pan (University of Electronic Science and Technology of China); Zhiyuan Zhang (University of Electronic Science and Technology of China); Guo Liu (University of Electronic Science and Technology of China); Weijie Wang (University of Electronic Science and Technology of China); Yelei Yao (University of Electronic Science and Technology of China); Jiang Wei (University of Electronic Science and Technology of China); Zewei Wu (University of Electronic Science and Technology of China); Youlei Pu (University of Electronic Science and Technology of China); Jianxun Wang (University of Electronic Science and Technology of China); Yong Luo (University of Electronic Science and Technology of China);*

- 14:15 Design and Simulation of a V Band High-power TWT with Rectangular-ring Vertex Double-bar SWS

*Cong Tao (Jiangxi University of Science and Technology); Wanghe Wei (Jiangxi University of Science and Technology); Wenhao Ding (Jiangxi University of Science and Technology); Jingsong Len (Jiangxi University of Science and Technology); Kun Zhu (Jiangxi University of Science and Technology);*

- 14:30 Development and Fabrication of Slow-wave Structures for Miniaturized Double-beam W-band Traveling-wave Tubes

*Roman Antonovich Torgashov (V. A. Kotel'nikov Institute of Radio Engineering and Electronics RAS); Alena A. Rostuntsova (Institute of Radio Engineering and Electronics RAS); D. A. Nozhkin (Institute of Radio Engineering and Electronics RAS); Andrei Victorovich Starodubov (Saratov State University); E. E. Kolesnichenko (Institute of Radio Engineering and Electronics RAS); I. S. Ozhogin (Institute of Radio Engineering and Electronics RAS); Nikita Mikhailovich Ryskin (V. A. Kotel'nikov Institute of Radio Engineering and Electronics RAS);*

- 14:45 3-D Particle-in-cell Modeling of the Plasma-assisted Sub-THz Backward-wave Oscillator

*Nikita Mikhailovich Ryskin (V. A. Kotel'nikov Institute of Radio Engineering and Electronics RAS); Vladimir N. Titov (Saratov State University); Roman Antonovich Torgashov (V. A. Kotel'nikov Institute of Radio Engineering and Electronics RAS); Prerna Unadkat (Academy of Scientific and Innovative Research (AcSIR), and CSIR-Central Electronics Engineering Research Institute); Vishant Dwivedi (Central Electronics Engineering Research Institute); Anand Abhishek (CSIR-Central Electronics Engineering Research Institute); Niraj Kumar (CSIR-Central Electronics Engineering Research Institute (CSIR-CEERI));*

- 15:00 **Coffee Break**

- 15:30 Design of a Three-stage Depressed Collector for 220 GHz Travelling Wave Tubes

*Jiawei Tang (Shenzhen University); Guoxiang Shu (Shenzhen University); Xinlun Xie (Shenzhen University); Huaxing Pan (Shenzhen University); Shaochen Ma (Shenzhen University); Mingze Li (Shenzhen University); Siyuan Liu (Shenzhen University); Wenlong He (Shenzhen University);*

- 15:45 Design and Simulation of a 220 GHz Sheet Beam Electron Gun

*Huaxing Pan (Shenzhen University); Guoxiang Shu (Shenzhen University); Xinlun Xie (Shenzhen University); Fu Gao (Shenzhen University); Shaochen Ma (Shenzhen University); Jiawei Tang (Shenzhen University); Siyuan Liu (Shenzhen University); Mingze Li (Shenzhen University); Wenlong He (Shenzhen University);*

- 16:00 Sub-terahertz Planar Relativistic Surface-wave Oscillator with Two-dimensional Distributed Feedback Based on High-current Explosive Emission Electron Beam

*Vladislav Yur'evich Zaslavsky (Institute of Applied Physics, RAS); Ilya V. Zhelezov (Institute of Applied Physics, RAS); Alexander S. Sergeev (Institute of Applied Physics, RAS); Alexey V. Palitsin (Russian Acad Sci, Inst Appl Phys); Yu. V. Rodin (Institute of Applied Physics, RAS); M. B. Goykhman (Institute of Applied Physics, RAS); A. V. Gromov (Institute of Applied Physics, RAS);*

- 16:15 Generation of Sub-Nanosecond Microwave Pulse with High Compression Factor Using Reflection Structure  
*Zhiyuan Zhang (University of Electronic Science and Technology of China); Ruoyang Pan (University of Electronic Science and Technology of China); Weijie Wang (University of Electronic Science and Technology of China); Zhiqiang Wu (University of Electronic Science and Technology of China); Guo Liu (University of Electronic Science and Technology of China); Yelei Yao (University of Electronic Science and Technology of China); Wei Jiang (University of Electronic Science and Technology of China); Zewei Wu (University of Electronic Science and Technology of China); Jianxun Wang (University of Electronic Science and Technology of China); Yong Luo (Laboratory of Electromagnetic Space Cognition and Intelligent Control);*
- 16:30 High Temperature Thermal Deformation Stability Analysis of High Power TWT Ceramic Components  
*Pucheng Wang (University of Electronic Science and Technology of China); Wei Jiang (University of Electronic Science and Technology of China); Q. Q. Chen (University of Electronic Science and Technology of China); Yong Luo (University of Electronic Science and Technology of China); Jianxun Wang (University of Electronic Science and Technology of China);*

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### Session 0P9

#### Near-/Mid-/Far-Infrared Semiconductor Optoelectronic Devices: Fundamentals and Applications

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Sunday PM, April 21, 2024

Room 9 - Xinyu

Organized by Yongquan Zeng, Song Han

Chaired by Yongquan Zeng, Song Han

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- 13:00 Terahertz Semiconductor Bound States in The Continuum Lasers  
 Invited *Jieyuan Cui (Nanyang Technological University); Song Han (Zhejiang University); Bofeng Zhu (Nanyang Technological University); Yunda Chua (Nanyang Technological University); Chongwu Wang (Nanyang Technological University); Qian Wang (Institute of Materials Research and Engineering, A\*STAR); Yongquan Zeng (Wuhan University); Lianhe Li (University of Leeds); Alexander Giles Davies (University of Leeds); Edmund Harold Linfield (University of Leeds); Qi Jie Wang (Nanyang Technological University);*
- 13:40 Green, Large Data Rate Communication in Data Centers: Intelligent Physics and Engineering will Contribute to a Sustainable Society  
 Keynote *Dieter H. Bimberg (CIOMP of CAS, Changchun and TU Berlin);*
- 14:50 Optical Hot Carriers Effect-based Infrared Sensing  
 Invited *Qisheng Wang (Nanchang University);*

### 15:10 Coffee Break

- 15:30 High Performance Distributed Feedback Quantum Cascade Lasers Based on Monolithic Integration  
 Invited *Jun-Qi Liu (Key Laboratory of Semiconductor Materials Science, Institute of Semiconductors, Chinese Academy of Sciences); Xiyu Lu (Key Laboratory of Semiconductor Materials Science, Institute of Semiconductors, Chinese Academy of Sciences); Jing Tang (Key Laboratory of Semiconductor Materials Science, Institute of Semiconductors, Chinese Academy of Sciences);*
- 15:50 Mid-infrared Laser Chaos and Chaotic Lidar  
 Invited *Cheng Wang (ShanghaiTech University);*
- 16:10 Two-dimensional Nanophotonics in the Infrared/THz Regime  
 Invited *Xuechao Yu (Suzhou Institute of Nano-Tech and Nano-Bionics);*
- 16:30 Research on Infrared-terahertz Detectors Based on Emerging Nanomaterials  
*Cheng Guo (Zhejiang Lab);*
- 16:45 Terahertz All-silicon Reconfigurable Photonic On-chip Devices  
*Hang Ren (Jilin University); Su Xu (Jilin University);*
- 17:00 Bias-free Magneto-optical Isolator Based on Cobalt Ferrite Films for Photonic Integrated Circuits  
*Gianni Portela (Tokyo Institute of Technology); Yisheng Ni (Tokyo Institute of Technology); Kotaro Sato (Tokyo Institute of Technology); Yuya Shoji (Tokyo Institute of Technology); Hugo Enrique Hernandez-Figueroa (University of Campinas);*
- 17:15 Optically Pumped Stimulated Emission in HgCdTe-based Quantum Wells: Toward Continuous Wave Lasing in Very Long-wavelength Infrared Range  
*Vladimir V. Rumyantsev (Institute for Physics of Microstructures RAS); K. A. Mazhukina (Institute for Physics of Microstructures of RAS); V. V. Utochkin (Institute for Physics of Microstructures RAS); A. A. Dubinov (Institute for Physics of Microstructures RAS); V. Ya. Aleshkin (Institute for Physics of Microstructures of RAS); M. A. Fadeev (Institute for Physics of Microstructures of RAS); D. I. Kuritsin (Institute for Physics of Microstructures RAS); K. E. Kudryavtsev (Institute for Physics of Microstructures of RAS); A. A. Razova (Institute for Physics of Microstructures of RAS); N. N. Mikhailov (Institute of Semiconductor Physics, Siberian Branch of Russian Academy of Sciences); S. A. Dvoretzky (Institute of Semiconductor Physics, Siberian Branch of Russian Academy of Sciences); V. I. Gavrilenko (Institute for Physics of Microstructures of RAS); Sergey V. Morozov (Institute for Physics of Microstructures of RAS);*

- 17:30 The Study of the Main Junction of the VDMOS Termination  
*Xiaopei Chen (Southwest Jiaotong University); Lixiang Wang (Chengdu Technological University); Quanyuan Feng (Southwest Jiaotong University); Suping Huang (Southwest Jiaotong University);*

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**Session 0P10a**

**Advances in EM Scattering and Propagation from Complex Land/Marine Environment: Theories, Measurements and Applications**

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**Sunday PM, April 21, 2024**

**Room 10 - Shuliu**

Organized by Li-Xin Guo, Yiwen Wei

Chaired by Yiwen Wei

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- 13:00 Modelling the UAV-based Radio Relay System in Complex Propagation Conditions Using the Parabolic Equation Method  
*Mikhail S. Lytaev (St. Petersburg Federal Research Center of the Russian Academy of Sciences);*
- 13:15 Empirical Model for Fast Estimation of Decorrelation Induced by Ocean Waves in Interferometric Radar Altimeter  
*Yining Bai (China University of Petroleum); Yunhua Wang (Ocean University of China); Ge Chen (Ocean University of China); Yonggang Ji (China University of Petroleum); Hanwei Sun (Beijing Institute of Radio Measurement);*
- 13:30 Electromagnetic Scattering Calculation of Corner Reflector Moving with Waves  
*Ying'ao Liu (Xidian University); Wei Liu (Xidian University); Yanchun Zuo (Xidian University);*
- 13:45 Error Analysis of RCS Dynamic Measurement System  
*Jingyi Wang (Xidian University); Run Huang (Xidian University); Yanchun Zuo (Xidian University); Qi Zhao (Xidian University); Xing Su (Xidian University); Wei Liu (Xidian University);*
- 14:00 Double-ridged Horn Antenna for Electromagnetic Scattering Measurement Experiment  
*Dayong Wu (Xidian University); Wenyan Wang (Xidian University); Dilong Wu (Xidian University); Chonghao Sun (Xidian University); Yanchun Zuo (Xidian University); Li-Xin Guo (Xidian University);*
- 14:15 Electromagnetic Transmission for Dust Clouds in X-band and Ka-band  
*Qi Zhao (Xidian University); Run Huang (Xidian University); Danyang Li (Xidian University); Bing Lv (Xidian University); Yanchun Zuo (Xidian University); Li-Xin Guo (Xidian University);*
- 14:30 Research of Objection Recognition Based on Radar Cross Section Calculations  
*Chonghao Sun (Xidian University); Run Huang (Xidian University); Ziqi Nie (Xidian University); Jingyi Wang (Xidian University); Yanchun Zuo (Xidian University); Rui Wang (Xidian University);*

- 14:45 Based on Laser-induced Breakdown Spectroscopy and Encryption and Decryption of Printer Chinese Information  
*Xing Su (Xidian University); Chungang Jia (Xidian University); Yanchun Zuo (Xidian University); Dayong Wu (Xidian University); Li Shen (Tianjin University of Technology); Li-Xin Guo (Xidian University);*

**15:00 Coffee Break**

- 15:30 Research on the Propagation Characteristics of Electromagnetic Waves in Non-uniform Evaporation Duct at Sea Based on Three-dimensional Parabolic Equation  
*Tianhang Nie (Xidian University); Hanjie Ji (Xidian University); Yiwen Wei (Xidian University); Li-Xin Guo (Xidian University);*
- 15:45 Research on the Over-the-horizon Propagation Loss of Radar Waves in Non-uniform Marine Evaporation Duct Based on Standard Parabolic Equation  
*Hanjie Ji (Xidian University); Li-Xin Guo (Xidian University); Yiwen Wei (Xidian University); Jinpeng Zhang (China Research Institute of Radiowave Propagation); Tianhang Nie (Xidian University);*

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**Session 0P10b**

**Wave Propagation and Scattering: Advances, Trends, and New Applications**

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**Sunday PM, April 21, 2024**

**Room 10 - Shuliu**

Organized by Xingqi Zhang, Xinyue Zhang

Chaired by Hao Qin

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- 16:00 Parabolic Equation-based Channel Model for RIS-aided Train Communication Systems  
*Hao Qin (University College Dublin); Xingqi Zhang (University of Alberta);*
- 16:15 Efficient Two-way Parabolic Equation Method with Sparse Fourier Transform for Radio Wave Propagation over Irregular Terrain  
*Hao Qin (University College Dublin); Sicheng An (University of Alberta); Xingqi Zhang (University of Alberta);*
- 16:30 Mathematical Modeling of the Singularities of Caustic Structure of Electromagnetic Waves Formed by Traveling Ionospheric Disturbances  
*E. V. Mikhaleva (Russian New University); Andrew S. Kryukovsky (Russian New University); Dmitry S. Lukin (Russian New University); Dmitry V. Rastyagaev (Russian New University);*
- 16:45 Research on Vortex Light Atmospheric Detection Based on Dataset Optimization Algorithm  
*Wenjie Jiang (Xidian University); Mingjian Cheng (Xidian University); Li-Xin Guo (Xidian University); Bowen Tao (Xidian University);*



17:00 Scattering Characteristics of Vortex Electromagnetic Waves by Symmetrical Targets  
*Haodong Wang (Xidian University); Tan Qu (Xidian University); Jiandong Niu (Beijing Institute of Radio Measurement); Jiaji Wu (Xidian University);*

17:15 Efficient Uncertainty Quantification with Subspace Pursuit for FDTD Based Microwave Circuit Models  
*Sicheng An (University of Alberta); Hao Qin (University College Dublin); Xingqi Zhang (University of Alberta);*

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### Session 0P11

#### Stimulated Scattering and Its Applications

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Sunday PM, April 21, 2024

Room 11 - Xiangyu

Organized by Zhenxu Bai, Quan Sheng

Chaired by Zhenxu Bai, Quan Sheng

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13:00 Widely Tunable High-power Terahertz Generation  
 Invited Based on Stimulated Polariton Scattering

*Kai Zhong (Tianjin University); Fangjie Li (Tianjin University); Jing Chi (Tianjin University); Jining Li (Tianjin University); Yuye Wang (Tianjin University); Degang Xu (Tianjin University); Jian-Quan Yao (Tianjin University);*

13:15 Thermal Convection and Its Effect on Beam Distortion in High-repetition-rate Liquid SBS-PCM

*Yifu Chen (Harbin Institute of Technology); B. W. Tan (Hebei University of Technology); J. Duo (Hebei University of Technology); B. Chen (Hebei University of Technology); Zhenxu Bai (Hebei University of Technology); K. Wang (Hebei University of Technology); Yulei Wang (Hebei University of Technology); Zhiwei Lu (Hebei University of Technology);*

13:30 Thermal Suppression in High-power SBS Pulse Compression  
 Invited

*Hongli Wang (North University of China);*

13:45 Spatial Beam Shaping Based on SBS Beam Combination

*Yue Wang (Harbin Institute of Technology); Can Cui (Hebei University of Technology); Zhenxu Bai (Hebei University of Technology); Yulei Wang (Hebei University of Technology); Zhiwei Lv (Hebei University of Technology);*

14:00 High-power High-performance Brillouin Single-frequency Fiber Laser

*Can Li (South China University of Technology); Yue Tao (National University of Defense Technology); Jiang Man (National University of Defense Technology); Pu Zhou (National University of Defense Technology); Zongfu Jiang (National University of Defense Technology);*

14:15 Study on the Output Characteristics of External-cavity Tunable Diode Lasers

*Liwen Sheng (Ceyear Technologies Co., Ltd); Chonglin Ge (Ceyear Technologies Co., Ltd); Lingfeng Xiao (Ceyear Technologies Co., Ltd); Yiqi Zhang (Ceyear Technologies Co., Ltd); Jinpeng Lang (Ceyear Technologies Co., Ltd); Lin Huang (Ceyear Technologies Co., Ltd); Zhihui Zhang (Ceyear Technologies Co., Ltd); Zhiming Liu (Ceyear Technologies Co., Ltd);*

14:30 A Continuous-wave Nd:YVO<sub>4</sub>-KGW Intracavity Raman  
 Invited Laser with Over 34% Diode-to Stokes Optical Efficiency

*Quan Sheng (Tianjin University); Shijie Fu (Tianjin University); Wei Shi (Tianjin University); Jian-Quan Yao (Tianjin University);*

14:45 Direct Generation of 1176nm Vortex Beam from a  
 Invited Nd:YVO<sub>4</sub> Self-Raman Laser via Annular Pumping

*Li Fan (Yangzhou University); L. M. Wang (Yangzhou University); R. Sun (Yangzhou University); Z. C. Ren (Nanjing University); X. L. Wang (Nanjing University); H. T. Wang (Nanjing University);*

15:05 **Coffee Break**

15:30 Eye-safe Intra-cavity Diamond Cascaded Raman Laser  
 Invited with High Peak-power

*Yongsheng Hu (Zhengzhou University); X. B. Mi (Zhengzhou University); H. J. Ma (Zhengzhou University); J. R. He (Zhengzhou University); Chongxin Shan (Zhengzhou University);*

15:45 High-power Free-running Single Frequency Diamond Raman Laser

*Xuezhong Yang (Tianjin University); Quan Sheng (Tianjin University);*

16:00 High-power Dual-wavelength Intracavity Diamond Raman Laser  
 Invited

*Zhenxu Bai (Hebei University of Technology); Hui Chen (Hebei University of Technology); Xiaowei Li (Hebei University of Technology); Yufan Cui (Hebei University of Technology); Yulei Wang (Hebei University of Technology); Zhiwei Lv (Hebei University of Technology);*

17:00 High Repetition Rate Large Energy and Short Pulse Zigzag Slab Laser Amplifiers  
 Invited

*Yu Yu (Hebei University of Technology); Kai Li (Hebei University of Technology); Hengzhe Yu (Hebei University of Technology); Yulei Wang (Hebei University of Technology); Zhiwei Lu (Hebei University of Technology);*

17:15 Influence of Temperature-salinity Parameters on Frequency Shift of Brillouin LIDAR  
 Invited

*Jiulin Shi (Nanchang Hangkong University); Xiaohong Jia (Nanchang Hangkong University); Zijian Yu (Nanchang Hangkong University); Guoliang Yan (Nanchang Hangkong University); Xingxing Wu (Nanchang Hangkong University); Xingdao He (Nanchang Hangkong University);*

**Session 0P12****Gyrotrons and Fast Wave Devices 1****Sunday PM, April 21, 2024****Room 12 - Siji 1**

Organized by Mikhail Yu. Glyavin, Wenjie Fu

Chaired by Mikhail Yu. Glyavin, Wenjie Fu

**13:00 MW-power “Inverted-Gyrotron” Cyclotron-resonance Rectenna**

*Grigory G. Denisov (Institute of Applied Physics, Russian Academy of Sciences); Irina V. Zotova (Institute of Applied Physics, RAS); Ilya V. Zheleznov (Institute of Applied Physics, RAS); Roman Markovich Rozental (Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)); Alexander S. Sergeev (Institute of Applied Physics, Russian Academy of Sciences); Vladimir N. Manuilov (Institute of Applied Physics RAS); Mikhail Yu. Glyavin (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences);*

**13:15 High-power Millimeter Wave Radiation for Fundamental and Applied Plasma Studies at the A. V. Gaponov-Grekhov Institute of Applied Physics**

*Vadim A. Skalyga (Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Nikita V. Chekmarev (Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Mikhail Yu. Glyavin (Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); S. V. Golubev (Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); I. V. Izotov (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); D. A. Mansfeld (Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); A. V. Polyakov (Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); E. I. Preobrazhenskiy (Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); S. V. Razin (Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); A. V. Sidorov (Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Sergey V. Sintsov (Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); A. P. Veselov (Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); M. E. Viktorov (Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); A. V. Vodopyanov (Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); S. S. Vybin (Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences);*

**13:30 Gyrotron Electron Optic Systems: Types and Capabilities**

*Vladimir N. Manuilov (Institute of Applied Physics RAS);*

- 13:45 First Experiments on Frequency Locked Operation of the 170 GHz/1 MW Gyrotron  
*Andrey P. Fokin (Institute of Applied Physics of the RAS); Andrey N. Kuftin (Institute of Applied Physics of the RAS); Vladimir I. Belousov (Institute of Applied Physics RAS); A. V. Chirkov (Institute of Applied Physics of the Russian Academy of Sciences); Mikhail I. Shmelev (Institute of Applied Physics of the RAS); German Yu. Golubiatnikov (Institute of Applied Physics of the RAS); Boris Z. Movshevich (Institute of Applied Physics of the RAS); Evgeniy M. Tai (Institute of Applied Physics of the RAS); Mikhail Yu. Glyavin (Institute of Applied Physics RAS); Grigory G. Denisov (Institute of Applied Physics, Russian Academy of Sciences);*
- 14:00 Prospects of Creation of Pulsed 1 THz High-Harmonic Gyrotrons of the Kilowatt Power Level for Plasma Applications  
 Invited *Ilya V. Bandurkin (Institute of Applied Physics RAS); Yuriy Kalynov (Institute of Applied Physics, RAS); Ivan V. Osharin (Institute of Applied Physics, RAS); Andrei V. Savilov (Institute of Applied Physics, RAS); Ekaterina M. Novak (Institute of Applied Physics RAS);*
- 14:20 Design and Experiment on One-octave Bandwidth Gyro-BWO with a Microwave Circuit in the Form of Zigzag Quasi-optical Transmission Line  
*Sergey V. Samsonov (Institute of Applied Physics, Russian Academy of Sciences); Grigory G. Denisov (Institute of Applied Physics, Russian Academy of Sciences); Alexandr Bogdashov (Institute of Applied Physics, Russian Academy of Sciences); Igor G. Gachev (Institute of Applied Physics, Russian Academy of Sciences); Maxim V. Kamenskiy (Institute of Applied Physics, Russian Academy of Sciences); Andrei V. Savilov (Institute of Applied Physics, RAS); Ekaterina M. Novak (Institute of Applied Physics RAS);*
- 14:35 Double-beam Gyrotron with Simultaneous Excitation at the 1st and at the 2nd Cyclotron Harmonics  
*Ilya V. Zhelezov (Institute of Applied Physics, RAS); Vladislav Yur'evich Zaslavsky (Institute of Applied Physics, Russian Academy of Sciences); K. A. Leshcheva (Institute of Applied Physics, RAS); Mikhail D. Proyavin (Institute of Applied Physics, Russian Academy of Sciences); Alexander S. Sergeev (Institute of Applied Physics, Russian Academy of Sciences); Irina V. Zotova (Institute of Applied Physics, RAS); Mikhail Yu. Glyavin (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences);*
- 14:50 Generation of Dissipative Soliton Combs Based on Electron-wave Interaction  
*Naum S. Ginzburg (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); G. G. Denisov (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); S. E. Filchenkov (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); E. R. Kocharovskaya (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Sergey V. Samsonov (Institute of Applied Physics, Russian Academy of Sciences); Alexander S. Sergeev (Institute of Applied Physics, Russian Academy of Sciences); Michael N. Vilkov (A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); L. A. Yurovskiy (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Irina V. Zotova (Institute of Applied Physics, RAS);*
- 15:05 **Coffee Break**
- 15:30 Gyrotron Backward-wave Oscillator Based on Double Confocal Waveguide  
 Invited *Wenjie Fu (University of Electronic Science and Technology of China); Wenbo Tang (University of Electronic Science and Technology of China); Dun Lu (University of Electronic Science and Technology of China); Yang Yan (University of Electronic Science and Technology of China);*
- 15:50 Super-power W-band Free Electron Maser with Combined Two-mirror Resonator Consisting of 3D and 1D Bragg Reflectors  
*Ekaterina D. Egorova (Institute of Applied Physics, Russian Academy of Science); Nikolai Yu. Peskov (Institute of Applied Physics, RAS); Alexander S. Sergeev (Institute of Applied Physics, Russian Academy of Sciences); Naum S. Ginzburg (Institute of Applied Physics, Russian Academy of Sciences); Andrey V. Arzhannikov (Budker Institute of Nuclear Physics RAS); Stanislav L. Sinitsky (Budker Institute of Nuclear Physics Russian Academy of Sciences);*
- 16:05 A Novel Type of Quasi-optical Microwave Pulse Compressor Based on Interference Controlled by Laser Driven Semiconductor Phase Shifter  
*Alexey V. Palitsin (A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Grigory G. Denisov (Institute of Applied Physics, Russian Academy of Sciences); Dmitry I. Sobolev (A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Mikhail Yu. Glyavin (A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences);*

16:20 Development of Powerful Gyrotrons with Improved Parameters in IAP RAS/GYCOM  
Invited

*Grigory G. Denisov (Institute of Applied Physics, Russian Academy of Sciences); A. G. Litvak (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Mikhail Yu. Glyavin (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Anton S. Sedov (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); E. A. Soluyanov (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Evgeniy M. Tai (Institute of Applied Physics of the RAS);*

16:40 Compact High-power Sub-THz and THz FELs Based on Planar Micro-undulators and Relativistic Electron Beams

*Naum S. Ginzburg (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Ilya V. Bandurkin (Institute of Applied Physics RAS); A. E. Fedotov (Institute of Applied Physics RAS); Vladislav Yur'evich Zaslavsky (Institute of Applied Physics, Russian Academy of Sciences); Nikolai Yu. Peskov (Institute of Applied Physics, RAS); Michael N. Vilkov (A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Andrey Mihailovich Malkin (Institute of Applied Physics, Russian Academy of Sciences); Alexander S. Sergeev (Institute of Applied Physics, Russian Academy of Sciences); P. V. Loginov (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); N. I. Buharov (Institute of Applied Physics, RAS);*

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### Session 0P13

#### Signal Processing Techniques in 4D Automotive Radar Imaging and Information Processing

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Sunday PM, April 21, 2024

Room 13 - Siji 2

Organized by Zhe Zhang, Bingchen Zhang

Chaired by Zhe Zhang, Jie Zhao

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13:00 Direction-of-Arrival Estimation for Constant Modulus Signals via Convex Optimization  
Invited

*Xunmeng Wu (Xi'an Jiaotong University); Zai Yang (Xi'an Jiaotong University); Zongben Xu (Xi'an Jiaotong University);*

13:20 Multiple Layer Waveguide (MLW) and Integration Platform for THz Systems  
Invited

*Zhongxia Simon He (Beijing Institute of Technology/Chalmers University of Technology);*

13:40 Automotive Millimeter Wave Radar Systems, Imaging, and Applications  
Invited

*Yan Huang (Southeast University); Yuming Liu (Southeast University); Kun Deng (Southeast University); Jianwei Ma (Southeast University); Hui Zhang (Southeast University); Wei Hong (Southeast University);*

14:00 A Target-oriented Bayesian-driven Super-resolution Imaging Method for mmW Automotive Radar  
Invited

*Yanqin Xu (University of Electronic Science and Technology of China); Shun-Jun Wei (University of Electronic Science and Technology of China);*

14:20 Non-line-of Sight Target Detection and Multipath Ghost Suppression for Automotive Millimeter Wave Radar  
Invited

*Shisheng Guo (University of Electronic Science and Technology of China);*

15:00 **Coffee Break**

15:30 Research on Geometric Information and Self-attention Mechanism-based Multipath Suppression and Recognition Techniques for Autonomous Driving Radar  
Invited

*Fuyou Gong (Suzhou Key Laboratory of Microwave Imaging, Processing, and Application Technology); Hang Li (Suzhou Key Laboratory of Microwave Imaging, Processing, and Application Technology); Zhe Zhang (Suzhou Aerospace Information Research Institute);*

15:50 A Tightened Semidefinite Relaxation for MVDR Robust Adaptive Beamforming with Nonconvex Steering Constraints

*Yao Zhao (Guangdong University of Technology); Qingsong Liu (Guangdong University of Technology); Bingo Wing-Kuen Ling (Guangdong University of Technology); Zhe Zhang (Aerospace Information Research Institute, Chinese Academy of Sciences);*

16:05 Sparse SAR Imaging for 4D Automotive Radar

*Yan Zhang (Aerospace Information Research Institute, Chinese Academy of Sciences); Bingchen Zhang (Aerospace Information Research Institute, Chinese Academy of Sciences); Yirong Wu (Aerospace Information Research Institute, Chinese Academy of Sciences);*

16:20 An Efficiency Gridless Imaging Algorithm for 4D MMV Radar Based on the Alternate Descent Conditional Gradient

*Mingxiao Shao (Key Laboratory of Technology in Geo-spatial Information Processing and Application System, Chinese Academy of Sciences); Yizhe Fan (Key Laboratory of Technology in Geo-spatial Information Processing and Application System, Chinese Academy of Sciences); Zhe Zhang (Suzhou Aerospace Information Research Institute); Bingchen Zhang (Aerospace Information Research Institute, Chinese Academy of Sciences);*

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### Session 0P14

#### Synthetic Aperture Radar System, Method and Applications 1

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Sunday PM, April 21, 2024

Room 14 - Siji 3

Organized by Bingnan Wang

Chaired by Bingnan Wang, Fan Zhang

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- 13:00 Multi-view SAR Image Classification through Decision Fusion of Adaptive Dictionary Learning and CNN  
*Liyuqi Wang (Yunnan Key Laboratory of Statistical Modeling and Data Analysis); Mengjiao Tang (Yunnan University); Yao Rong (Yunnan University); Meixin Ni (Yunnan Key Laboratory of Statistical Modeling and Data Analysis); Fan Li (Civil Aviation Flight University of China);*
- 13:15 A Novel Two-paths-modified-LSTM-based ISAR Multi-band Fusion Method Using All-azimuths Simulation Training Data  
*Wen Jiang (Institute of Remote Sensing Satellite, Chinese Academy of Space Technology); Hui Kuang (Institute of Remote Sensing Satellite, Chinese Academy of Space Technology); Xianghao Kong (Institute of Remote Sensing Satellite, Chinese Academy of Space Technology); Yu Wang (Institute of Remote Sensing Satellite, Chinese Academy of Space Technology); Yi Li (Institute of Remote Sensing Satellite, Chinese Academy of Space Technology); Qingfei Zhang (Institute of Remote Sensing Satellite, Chinese Academy of Space Technology); Yongfei Mao (Institute of Remote Sensing Satellite, Chinese Academy of Space Technology);*
- 13:30 Algorithm for the Multi-target Joint Detection and Ambiguity Resolving Based on Dynamic Programming  
*Yitong Mao (Aerospace Information Research Institute, Chinese Academy of Sciences); Chong Song (Aerospace Information Research Institute, Chinese Academy of Sciences); Bingnan Wang (Aerospace Information Research Institute, Chinese Academy of Sciences); Chenhao Zhao (Aerospace Information Research Institute, Chinese Academy of Sciences);*
- 13:45 Harmonic Synthetic Aperture Radar Imaging with Motion Compensation  
Invited *Chenhao Zhao (Aerospace Information Research Institute, Chinese Academy of Sciences); Qinghai Dong (Aerospace Information Research Institute, Chinese Academy of Sciences); Chong Song (Aerospace Information Research Institute, Chinese Academy of Sciences); Zekun Jiao (Aerospace Information Research Institute, Chinese Academy of Sciences); Yitong Mao (Aerospace Information Research Institute, Chinese Academy of Sciences); Bingnan Wang (Aerospace Information Research Institute, Chinese Academy of Sciences); Maosheng Xiang (Institute of Electronics, Chinese Academy of Sciences);*
- 14:05 Application of Polarization in Tomographic 3D Reconstruction  
*Shuhang Dong (University of Chinese Academy of Sciences); Zekun Jiao (Aerospace Information Research Institute, Chinese Academy of Sciences); Liangjiang Zhou (Institute of Electronics, Chinese Academy of Sciences);*
- 14:20 Modeling of Flying Target Detection by Geostationary Satellite-airship Bistatic System  
Invited *Peng Liu (Fudan University); Yulin He (Fudan University); Bingnan Wang (Aerospace Information Research Institute, Chinese Academy of Sciences); Ya-Qiu Jin (Fudan University);*
- 15:00 **Coffee Break**
- 15:30 Inversion Interval Estimation for SAR Tomography  
*Qiancheng Yan (Aerospace Information Research Institute, Chinese Academy of Sciences); Zekun Jiao (Aerospace Information Research Institute, Chinese Academy of Sciences); Xiaolan Qiu (Aerospace Information Research Institute, Chinese Academy of Sciences); Chibiao Ding (Aerospace Information Research Institute, Chinese Academy of Sciences);*
- 15:45 A Novel Passive Jamming Method for SAR Based on Rotating Corner Reflector  
*Ying Wang (Aerospace Information Research Institute, Chinese Academy of Sciences); Guikun Liu (Aerospace Information Research Institute, Chinese Academy of Sciences); Yibin Chen (Aerospace Information Research Institute, Chinese Academy of Sciences); Jingwen Mou (Aerospace Information Research Institute, Chinese Academy of Sciences); Liang Li (Aerospace Information Research Institute, Chinese Academy of Sciences); Feng Ming (Aerospace Information Research Institute, Chinese Academy of Sciences);*
- 16:00 A Novel Scheme for Slow Moving Target Imaging Using Airborne Multichannel Circular Stripmap SAR  
*Chong Song (Aerospace Information Research Institute, Chinese Academy of Sciences); Bingnan Wang (Aerospace Information Research Institute, Chinese Academy of Sciences); Xiaofeng Yang (Aerospace Information Research Institute, Chinese Academy of Sciences); Maosheng Xiang (Institute of Electronics, Chinese Academy of Sciences);*
- 16:15 D<sup>2</sup>T-Net: Double Dynamic Transformer Network for SAR-guided Optical Image Cloud and Shadow Removal  
*Jiangong Xu (Wuhan University); Jun Pan (Wuhan University);*
- 16:30 A High-precision Integrated Navigation Method Based on Interferometric SAR Fringe Feature Matching  
*Lanyu Li (Aerospace Information Research Institute, Chinese Academy of Sciences); Yachao Wang (Aerospace Information Research Institute, Chinese Academy of Sciences); Bingnan Wang (Aerospace Information Research Institute, Chinese Academy of Sciences); Maosheng Xiang (Aerospace Information Research Institute, Chinese Academy of Sciences);*
- 16:45 Dynamic Imaging Simulation of Targets in Terahertz Band Based on BRDF  
*Xu Fan (Xi'an Technological University); Gong Lei (Xi'an Technological University); L. G. Wang (Xi'an Technological University); Y. Yu (Xi'an Technological University); W. J. Wang (Xi'an Technological University); Z. Q. Yang (Xi'an Technological University);*

**Session 0P15a****Progress in Electromagnetic Compatibility (EMC), Signal Integrity (SI), and Power Integrity (PI)****Sunday PM, April 21, 2024****Room 15 - Siji 4**

Organized by Yan Li, Ling Zhang

Chaired by Da Li, Ling Zhang

- 13:00 Universal Design Device for Electromagnetic Shielding Performance Measurement of Multi-core, Quasi-coaxial, or Non-coaxial Shielded Cables  
*Haichun Wang (Southeast University); Yinghui Zhou (PLA University of Science & Technology); Zheng Sun (PLA University of Science and Technology); Peng Hu (Southeast University);*
- 13:15 Space Close Multiple Source Signal Reconstruction Algorithm Based on Dual-layer Variable Weight Blind Source Separation  
*Jialei Liu (National University of Defense Technology); Jiazhi Ma (National University of Defense Technology); Longfei Shi (National University of Defense Technology); Junxian Chen (National University of Defense Technology); Zhikang Lin (National University of Defense Technology);*
- 13:30 Modeling and Signal Integrity Analysis of Two Layers Memristor Cross Arrays for Neuromorphic Chip  
*Yan Li (China Jiliang University); Dianjun Deng (China Jiliang University);*
- 13:45 Susceptibility of Relay Module to Conducted EMI  
*Jiayue Xing (Beihang University); Peng Huang (Beihang University); Bing Li (Beihang University);*
- 14:00 Multi-functional Frequency Selective Structure for Intelligent Communication Systems  
*Da Li (Zhejiang University); Yudi Fan (Zhejiang University); Ling Zhang (Zhejiang University); Yan Li (China Jiliang University); Er-Ping Li (Zhejiang University);*
- 14:15 EMC Near-field Scanning System with Fast Scanning Method  
*Yuan Zhao (Chengdu University of Information Technology); Renpan Lu (Chengdu University of Information Technology); Zhiqiang Song (Chengdu University of Information Technology); Xiangyong Mou (Chengdu University of Information Technology); Yaowen Hu (Chengdu University of Information Technology); Guo-Hong Du (University of Science and Technology of China);*
- 14:30 Design of Multilayer Wideband Microwave Absorbers Using Improved Gold Rush Optimizer  
*Yiming Zong (Yancheng Institute of Technology); Wei-Bin Kong (Yancheng Institute of Technology); Haonan Zhang (Yancheng Institute of Technology); Feng Zhou (Yancheng Institute of Technology); Lei Wang (Yancheng Institute of Technology); Botong Liu (Yancheng Institute of Technology);*

- 14:45 Design of Patterned Transcendental Metamaterial Cover Structures for Crosstalk Reduction in FBAR Parallel Feed Lines  
*Tongchuan Chu (Southwest University of Science and Technology); Xin Cao (Southwest University of Science and Technology); Longjian Zhou (Southwest University of Science and Technology); Qiangming Cai (Southwest University of Science and Technology); Yuyu Zhu (Southwest University of Science and Technology);*

**15:00 Coffee Break****Session 0P15b****Electromagnetic Modeling and Statistical Analysis of Dynamic Targets and Environments****Sunday PM, April 21, 2024****Room 15 - Siji 4**

Organized by Qi-Feng Liu, Tao Jiang

Chaired by Tao Jiang

- 15:30 An Efficient Coupling Prediction Method for Transmission Line under an External EMP with Uncertainties  
*Wan Hu Wang (Chongqing University); Qi-Feng Liu (Chongqing University); Xiao-Ting Huang (Chongqing University); Weijun Wu (China Ship Research and Design Center);*
- 15:45 Research on Data Quality Management and Control Methods of Electromagnetic Engineering Knowledge Graph  
*Jialin Shi (Naval Research Institute); Jiangnan Xing (Harbin Engineering University); Tao Jiang (Harbin Engineering University);*
- 16:00 Calibration of a Cascaded Geometry-based Stochastic Channel Model Using Ray-tracing Techniques for RIS-assisted V2V Communications at MmWave Frequencies  
*Asad Saleem (Zhejiang University); Shurun Tan (Zhejiang University/University of Illinois at Urbana-Champaign Institute);*
- 16:15 Three-dimensional Fitting Method for Scattering Characteristics of Objects  
*Chenyang Li (Harbin Engineering University); Tao Jiang (Harbin Engineering University);*
- 16:30 Research on Parameters Predictive Methods for Sea Clutter Model  
*Juncheng Yi (Harbin Engineering University); Jialin Shi (Naval Research Institute); Tao Jiang (Harbin Engineering University);*
- 16:45 Graph Database-driven Research on the Design of Electromagnetic Compatibility Data Models  
*Ye Chen (Marine Design & Research Institute); Jialin Shi (Naval Research Institute); Tao Jiang (Harbin Engineering University);*

**Session 0P16****Nanophotonics and Topological Photonics 1****Sunday PM, April 21, 2024****Room 16 - Mudan**

Organized by Lin Chen, Cuicui Lu, Zhiwei Guo

Chaired by Cuicui Lu, Zhiwei Guo

13:00 Observe Topological Characteristics in Synthetic Frequency Lattices  
Invited

*Luqi Yuan (Shanghai Jiao Tong University);*

13:20 Chirality-enabled Directional Coupling of Optical Near Field  
Invited

*Shubo Wang (City University of Hong Kong); Yuqiong Cheng (City University of Hong Kong); Chengzhi Zhang (City University of Hong Kong);*

13:40 Topological Valley Hall Edge Solitons  
Invited

*Yiqi Zhang (Xi'an Jiaotong University);*

14:00 Light Field Manipulation with Two-dimensional Light Waves  
Invited

*Lin Li (East China Normal University); H. Zhong (East China Normal University); Y. Cheng (East China Normal University);*

14:20 Multimode Synthetic Topological Photonic Crystal Laser  
Invited

*Yongquan Zeng (Wuhan University); Shouqi Zhang (Wuhan University); Cuicui Lu (Beijing Institute of Technology);*

14:40 Dual-band Topological Large-area Waveguide Transport in Photonic Heterostructures  
Invited

*Hai-Xiao Wang (Ningbo University); Peng-Yu Guo (Guangxi Normal University);*

15:00 **Coffee Break**

15:30 Overcoming Losses in Superlenses with Synthetic Waves of Complex Frequency  
Invited

*Fuzin Guan (University of Hong Kong); Xiangdong Guo (University of Hong Kong); Kebo Zeng (University of Hong Kong); Qing Dai (National Center for Nanoscience and Technology); John B. Pendry (Imperial College London); Xiang Zhang (University of Hong Kong); Shuang Zhang (University of Hong Kong);*

15:50 Going beyond the Loss for Plasmonics: Noble Metals or Alkali Metals?  
Invited

*Yang Wang (Beijing Institute of Technology);*

16:10 Microwave Characterization of the Toroidal Dipole Coupling

*Tong Wu (Jilin University); Anton S. Kupriianov (Jilin University); Andrey B. Evlyukhin (Leibniz University Hannover); Vladimir R. Tuz (Jilin University);*

16:25 Nanophotonics towards Optical Manipulation Technologies for Quantum Sensors  
Invited

*Chai Zhen (Beihang University);*

16:45 Hybrid Surface Waves in Twisted Anisotropic Heterometasurfaces

*Xinyan Zhang (Zhejiang University); Chenxu Bian (Zhejiang University); Zheng Gong (Zhejiang University); Tony Low (University of Minnesota); Hongsheng Chen (Zhejiang University); Xiao Lin (Zhejiang University);*

17:00 Topological Vacuum Induce Photon-exciton Strong Coupling

*Yali Jia (Peking University); Zihan Mo (Peking University); Qi Liu (Peking University); Zhaohua Tian (Peking University); Yu Tian (Peking University); Qihuang Gong (Peking University); Ying Gu (Peking University);*

**Session 0P17****Light Emission from Particle-matter Interactions****Sunday PM, April 21, 2024****Room 17 - Furong**

Organized by Xiao Lin, Zhaoyun Duan

Chaired by Xiao Lin, Zhaoyun Duan

13:00 Quantum Light Emission by Interaction of Free Electrons with Confined Optical Modes  
Keynote

*F. Javier García de Abajo (ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology);*

13:30 Interfacial Cherenkov Radiation from Ultralow-energy Electrons

*Zheng Gong (Zhejiang University); Jialin Chen (Zhejiang University); Ruoxi Chen (Zhejiang University); Xingjian Zhu (Zhejiang University); Chan Wang (Zhejiang University); Xinyan Zhang (Zhejiang University); Hao Hu (Nanjing University of Aeronautics and Astronautics); Yi Yang (University of Hong Kong); Baile Zhang (Nanyang Technological University); Hongsheng Chen (Zhejiang University); Ido Kaminer (Technion-Israel Institute of Technology); Xiao Lin (Zhejiang University);*

13:45 Cherenkov Radiation in Twisted  $\alpha$ -MoO<sub>3</sub> Slab  
Invited

*Hao Hu (Nanjing University of Aeronautics and Astronautics);*

14:05 Kerker-transition Radiation from Magnetic Materials

*Jialin Chen (Zhejiang University); Chan Wang (Zhejiang University); Xuhuinan Chen (Zhejiang University); Hongsheng Chen (Zhejiang University); Xiao Lin (Zhejiang University);*

14:20 Some Discussions on the Free-electron Radiation from an Interface  
Invited

*Baile Zhang (Nanyang Technological University);*

14:40 Terahertz Cherenkov Radiation in Hyperbolic Metamaterials  
Invited

*Fang Liu (Tsinghua University);*

15:00 **Coffee Break**

- 15:30 Free-Electron-Exciting Surface Plasmonic Radiation to Generate Vortex Beam, Frequency Comb, and Enhanced Radiation Intensity  
Invited *Chao-Hai Du (Peking University); Zi-Wen Zhang (Peking University); Pu-Kun Liu (Peking University);*
- 15:50 Free-electron Brewster-transition Radiation  
*Ruoxi Chen (Zhejiang University); Jialin Chen (Zhejiang University); Zheng Gong (Zhejiang University); Xinyan Zhang (Zhejiang University); Xingjian Zhu (Zhejiang University); Yi Yang (University of Hong Kong); Ido Kaminer (Technion-Israel Institute of Technology); Hongsheng Chen (Zhejiang University); Baile Zhang (Nanyang Technological University); Xiao Lin (Zhejiang University);*
- 16:05 Single-Particle-Single-Photon Coupling Using a Circuital Metamaterial Cavity  
Invited *Qinghui Yan (Technion — Israel Institute of Technology); Ron Ruimy (Technion — Israel Institute of Technology); Arthur Niedermayr (Technion — Israel Institute of Technology); Ido Kaminer (Technion — Israel Institute of Technology);*
- 16:25 Directional Transition Radiation from Slow Electrons via Anisotropic Metamaterials  
*Zun Wang (Zhejiang University); Zheng Gong (Zhejiang University); Hongsheng Chen (Zhejiang University); Xiao Lin (Zhejiang University);*
- 16:40 Crossover from Non-thermal to Thermal Photoluminescence from Metals Excited by Ultrashort Light Pulses  
*Yonatan Sivan (Ben-Gurion University of the Negev); Ieng-Wai Un (Ben-Gurion University of the Negev); Imon Kalyan (Ben-Gurion University of the Negev); Kaiqiang Lin (Universität Regensburg); John M. Lupton (Regensburg University); Sebastian Bange (Regensburg University);*
- 16:55 An Upper Limit to Quantum Free-electron-light Interaction  
Invited *Zetao Xie (The University of Hong Kong); Zeling Chen (The University of Hong Kong); Hao Li (Yale University); Qinghui Yan (Technion — Israel Institute of Technology); Hongsheng Chen (Zhejiang University); Xiao Lin (Zhejiang University); Ido Kaminer (Technion — Israel Institute of Technology); Owen D. Miller (Yale University); Yi Yang (University of Hong Kong);*

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**Session 0P18**

**New Topics on Metasurfaces: Structured Light Shaping and Artificial Intelligence**

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**Sunday PM, April 21, 2024**

**Room 18 - Meilan**

Organized by Haoran Ren, Xinyuan Fang

Chaired by Xinyuan Fang

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- 13:00 Finding Invariances in Structured Light  
Invited *Andrew Forbes (University of the Witwatersrand);*
- 13:20 Arbitrarily Polarized Exceptional Points  
Invited *Qinghua Song (Tsinghua University);*
- 13:40 Manipulating Nonclassical Light with On-chip Emitter-coupled Quantum Metasurfaces  
Invited *Fei Ding (University of Southern Denmark);*
- 14:00 Polaritonic Metasurfaces from Mid-infrared to Visible Frequencies  
Invited *Andrea Mancini (Italian Institute of Technology); Lin Nan (Ludwig-Maximilians-Universität München); Giacomo Venturi (Fondazione Istituto Italiano di Tecnologia); Nicola Melchioni (Fondazione Istituto Italiano di Tecnologia); Stefano Chiodini (Fondazione Istituto Italiano di Tecnologia); Haoran Ren (Monash University); Stefan A. Maier (Ludwig-Maximilians-Universität München); Antonio Ambrosio (Fondazione Istituto Italiano di Tecnologia);*
- 14:20 Electromechanically and Electrochemically Reconfigurable Metasurfaces  
Invited *Jiafang Li (Beijing Institute of Technology);*
- 14:40 Arbitrarily Structured Quantum Emission with a Multifunctional Metalens  
Invited *Chi Li (Monash University); Jaehyuck Jang (Pohang University of Science and Technology (POSTECH)); Trevon Badloe (Pohang University of Science and Technology (POSTECH)); Tieshan Yang (University of Technology Sydney); Joohoon Kim (POSTECH); Jaekyung Kim (POSTECH); Minh Nguyen (University of Technology Sydney); Stefan A. Maier (Monash University); Junsuk Rho (Pohang University of Science and Technology (POSTECH)); Haoran Ren (Monash University); Igor Aharonovich (University of Technology Sydney);*
- 15:00 **Coffee Break**
- 15:50 Manipulating High-quality Optical Nanoantennas with Structured Light  
Invited *Kirill Koshelev (Australian National University);*
- 16:10 Metasurface-enabled Wavefront Engineering for Advanced Imaging Technologies: 3D Sensing and Biomedical Imaging  
Invited *Inki Kim (Sungkyunkwan University);*
- 16:30 Inverse Design of Single-cell Metasurfaces for Multicolor and 3d Holography  
Invited *Sunae So (Korea University Sejong);*
- 16:50 Generation of Vortex Beams with Metaphotonic Structures  
Invited *Yuri S. Kivshar (Australian National University);*



17:10 Nanoscale 3D Printed Metaoptics for Precise Light-field  
Invited Manipulation

*Hao Wang (Singapore University of Technology and Design); Cheng-Feng Pan (Singapore University of Technology and Design); Hongtao Wang (Singapore University of Technology and Design); Xiaoyan Zhou (Singapore University of Technology and Design); Joel K. W. Yang (Singapore University of Technology and Design);*

17:30 Metasurfaces for Versatile Polarization Manipulations  
Invited and Related Applications

*Zi-Lan Deng (Jinan University);*

17:50 Artificial Neural Networks Enabled by Nanophotonics  
Invited

*Qiming Zhang (University of Shanghai for Science and Technology);*

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### Session 1A1a

#### Quantum Biology and Quantum Devices 2

**Monday AM, April 22, 2024**

**Room 1 - Yarui**

Organized by Qing Ai, Wenqiang Yang

Chaired by Qing Ai

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8:00 Tensor Network Methods for Quantum Dynamics in  
Invited Molecular Aggregates

*Jiajun Ren (Beijing Normal University);*

8:20 Ultrafast Energy Dissipation of Nonphotochemical  
Invited Quenching in Higher Plants and Green Algae

*Lijin Tian (Institute of Botany, Chinese Academy of Sciences);*

8:40 Quantum Simulation of the Dynamics of Open Quantum  
Systems

*Na-Na Zhang (Chongqing University of Posts and Telecommunications);*

8:55 Characterization Quantum Time Ordered Correlation  
and Quantum Sensing

*Ping Wang (Beijing Normal University);*

9:10 Photon Blockade in Non-Hermitian Optomechanical  
Systems with Nonreciprocal Couplings

*J. Y. Sun (Northeast Normal University); H. Z. Shen (Northeast Normal University);*

9:25 Necessity for Quantum Coherence of Nondegeneracy in  
Energy Flow

*Ma Teng (Southern University of Science and Technology); Ming-Jing Zhao (Beijing Information Science and Technology University); Shao-Ming Fei (Capital Normal University); Man-Hong Yung (Southern University of Science and Technology);*

9:40 Enhanced Mechanical Squeezing in an Optomechanical  
System via Backward Stimulated Brillouin Scattering

*Shan-Shan Chen (Chongqing University of Posts and Telecommunications);*

9:55 Quantum Simulation of Two-dimensional Spectroscopy  
*Qing Ai (Beijing Normal University);*

10:10 **Coffee Break**

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### Session 1A1b

#### Quantum Measurement and Metrology

**Monday AM, April 22, 2024**

**Room 1 - Yarui**

Organized by Dawei Lu, Nanyang Xu

Chaired by Dawei Lu, Ying Dong

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10:45 Quantum Sensing Based on Spin Defects in Silicon Car-  
bide

*Qiang Li (ZJU-Hangzhou Global Scientific and Technological Innovation Center);*

11:00 Direct Characterization of Quantum Systems Using  
Weak Values

*Liang Xu (Nanjing University); Ying Dong (Zhejiang Lab); Changliang Ren (Hunan Normal University); Lijian Zhang (Nanjing University);*

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### Session 1A2a

#### Quantum Walks and Their Practical Applications

**Monday AM, April 22, 2024**

**Room 2 - Jincheng 3**

Organized by Yun Shang, Jingbo Wang

Chaired by Yun Shang

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8:00 On Quantum Speedups for Nonconvex Optimization via  
Invited Quantum Tunneling Walks

*Yizhou Liu (Tsinghua University); Weijie J. Su (University of Pennsylvania); Tongyang Li (Peking University);*

8:20 Experimental Quantum Walk in Fractal Photonic Lat-  
Invited tices

*Xiaoyun Xu (Shanghai Jiao Tong University); Xiao-Wei Wang (Shanghai Jiao Tong University); Dan-Yang Chen (Shanghai Jiao Tong University); Cristiane Morais Smith (Utrecht University); Xian-Min Jin (Shanghai Jiao Tong University);*

8:40 Silicon Quantum Photonics for Quantum Walk Simu-  
Invited lation and Applications

*Xiaogang Qiang (National Innovation Institute of Defense Technology, AMS);*

9:00 Quantum and Classical Algorithms for Heat Equation  
Invited

*Changpeng Shao (Academy of Mathematics and Systems Science, Chinese Academy of Sciences); Ashley Montanaro (University of Bristol); Noah Linden (University of Bristol);*

9:20 Minimal Clifford Shadow Estimation by Mutually Unbiased Bases

Invited

*You Zhou (Fudan University); Qingyue Zhang (Fudan University); Qing Liu (Fudan University);*

9:40 Recovering the Original Simplicity: Succinct and Deterministic Quantum Algorithm for the Welded Tree Problem

*Guanzhong Li (Sun Yat-sen University); Lvzhou Li (Sun Yat-sen University); Jingquan Luo (Sun Yat-sen University);*

9:55 Quantum Sampling and Search Algorithms Based on Markov Chains

Invited

*Yun Shang (Academy of Mathematics and Systems Science, Chinese Academy of Sciences);*

10:15 **Coffee Break**

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**Session 1A2b**  
**Quantum Sensing**

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**Monday AM, April 22, 2024**

**Room 2 - Jincheng 3**

Organized by Lijian Zhang, Liang Xu

Chaired by Lijian Zhang, Liang Xu

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10:30 Heisenberg-limited Spin Squeezing Based on Interaction Control

Invited

*Yong-Chun Liu (Tsinghua University);*

10:50 Identification of Cell Samples Based on Polarization-entangled Photon Pairs

*Luosha Zhang (Institute of Microelectronics Chinese Academy of Sciences); Vira R. Besaga (Friedrich Schiller University Jena); Philipp Rühl (Friedrich Schiller University Jena); Frank Setzpfandt (Friedrich-Schiller-Universität Jena);*

11:05 Remote Preparation of Non-Gaussian State and Optical Cat State Based on Gaussian Entanglement

Invited

*Dongmei Han (Shanxi University); Na Wang (Shanxi University); Meihong Wang (Shanxi University); Xiaolong Su (Shanxi University);*

11:25 Quantum Squeezing Manipulation Based on Phase-sensitive Amplifier

*Yanbo Lou (East China Normal University); Shengshuai Liu (East China Normal University); Jietai Jing (East China Normal University);*

12:00 Optimizing DC Magnetic Field Sensitivity of Spin Defects in Hexagonal Boron Nitride by Mitigating Power Broadening

Invited

*Feifei Zhou (Nanyang Technological University); Zhengzhi Jiang (National University of Singapore); Haidong Liang (National University of Singapore); Shihao Ru (National University of Singapore); Andrew A. Bettiol (National University of Singapore); Wei-Bo Gao (Nanyang Technological University);*

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**Session 1A3a**

**Antenna and Antenna Array Design for Radiative Wireless Power Transfer (WPT) and Energy Harvesting**

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**Monday AM, April 22, 2024**

**Room 3 - Jincheng 2**

Organized by Daniele Inerra

Chaired by Daniele Inerra

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8:00 A Novel Wearable Slant Polarized Dual PIFA Antenna System

*Zhensheng Chen (KU Leuven); Xuezhi Zheng (KU Leuven); Chaoyun Song (Shenzhen University);*

8:15 Ultra-thin Energy Harvesting Metasurface with Polarization-insensitive and Wide-angle-of-incident Performance

*Guo-Hong Du (University of Science and Technology of China); Yunhao Li (Chengdu University of Information Technology); Yipeng Zhang (Chengdu University of Information Technology); Xiangyong Mou (Chengdu University of Information Technology); Ximing Li (Chengdu University of Information Technology);*

8:30 Optimal Designs on Multi-target Wireless Power Transfer

*Xiao Cai (Nanjing University of Information Science and Technology); Geyi Wen (Nanjing University of Information Science and Technology);*

8:45 Tightly Coupled Dipole Antenna Array for Reconfigurable Frequency Wireless Power Transfer

*Daniele Inerra (University of Electronic Science and Technology of China); Guangjun Wen (University of Electronic Science and Technology of China);*

9:00 An Efficient Power Transfer Technique of SIMO Antennas Network

*Elyas Palantei (Universitas Hasanuddin (UNHAS)); Zufahmi Rizal (Universitas Hasanuddin (UNHAS)); Intan Sari Areni (Universitas Hasanuddin); Muthia Dwiwulandari (Universitas Hasanuddin (UNHAS)); Regita Pramestia N.M.N (Universitas Hasanuddin (UNHAS)); Josaphat Tetuko Sri Sumantyo (Chiba University);*

9:15 Optimizing Duty Cycle for Maximum Efficiency in Resonant Wireless Power Transfer: A Smith Chart Approach

*Heng-Ming Hsu (National Chung-Hsing University); Dian-Ying Wu (National Chung-Hsing University); Bo Yang (Kyoto University);*

10:00 **Coffee Break**

**Session 1A3b****Advanced Design for Wideband and High-Gain Millimeter/Terahertz Lens Antennas****Monday AM, April 22, 2024****Room 3 - Jincheng 2**

Organized by Qingyi Guo, Xin Dai

Chaired by Qingyi Guo

- 10:30 A Transmitarray Antenna Using Dual-layer Polarization  
Invited Rotation Elements  
*Lu Guo (Nanjing University of Science and Technology); Meizi Wu (Nanjing University of Science and Technology);*
- 10:50 A Ku-band Fixed-height Dielectric Reflectarray  
*Rigui Liu (Shenzhen University); Yu-Xiang Sun (Shenzhen University);*
- 11:05 A Wideband Millimeter-wave Filtering Lens Antenna with a Low Profile  
*Ruize Gao (Shenzhen University); Hao Ding (Shenzhen University); Xiangyu Huang (Shenzhen University); Wenjie Liao (Shenzhen University); Qingyi Guo (Shenzhen University);*
- 11:20 A Dual Circularly Polarized Transmitarray Based on Dual Channel Linear-to-circular Polarization Conversion Phase Shifting Unit Cell  
*Jun Hu (Hefei University of Technology); Chenglong Wang (Hefei University of Technology); Qingyi Guo (Shenzhen University); Peng Mei (Aalborg University);*

**Session 1A4****Reconfigurable Metasurfaces and Applications****Monday AM, April 22, 2024****Room 4 - Jincheng 1**

Organized by Jin Hui Shi, Huifeng Ma

Chaired by Jin Hui Shi

- 8:00 Plasmonic Quarter-wave Plates: From Passive to Active  
Invited  
*Fei Ding (University of Southern Denmark);*
- 8:20 Reconfigurable Nanophotonic Applications Based on  
Invited Chalcogenide Phase Change Materials  
*Qian Wang (Institute of Materials Research and Engineering, A\*STAR);*
- 8:40 Dynamic Plasmonics Based on Conducting Polymers  
Invited  
*Shangzhi Chen (Linköping University); Magnus P. Jonsson (Linköping University);*
- 9:00 Metamaterial Time Crystals  
Keynote  
*Nikolay I. Zheludev (University of Southampton);*

- 9:30 Tunable Evolution of Optical Singularities and Quasi-BIC Resonances in Optical Nanostructures  
Invited

*Chunying Guan (Harbin Engineering University); Keda Wang (Harbin Engineering University); Jianlong Liu (Harbin Engineering University); Jin Hui Shi (Harbin Engineering University);*

**10:00 Coffee Break**

- 10:30 Surface Wave Control Devices Based on Valley Topological Photonic Crystals  
Invited

*Chunmei Ouyang (Tianjin University); Jiajun Ma (Tianjin University);*

- 10:50 Coherent Wavefront Modulation with Dielectric Terahertz Metasurface  
Invited

*Ruisheng Yang (Northwestern Polytechnical University); Kangyao Sun (Northwestern Polytechnical University); Fuli Zhang (Northwestern Polytechnical University); Yuancheng Fan (Northwestern Polytechnical University);*

- 11:10 Controlling Thermal Emission with Metamaterials and  
Invited Metafilms

*Song Gu (National University of Defense Technology); Cong Quan (National University of Defense Technology); Qi Meng (National University of Defense Technology); Zhe Wang (National University of Defense Technology); Ping Liu (National University of Defense Technology); Wei Xu (National University of Defense Technology); Chu-Cai Guo (National University of Defense Technology); Zhihong Zhu (National University of Defense Technology); Jianfa Zhang (National University of Defense Technology);*

- 11:30 Generating Optical Vortex Beams via Bound States in the Continuum in Moiré Metasurfaces

*Zhengqi Zhuang (Harbin Engineering University); Huawei Tang (Harbin Engineering University); Juntian Peng (Harbin Engineering University); Zheng Zhu (Harbin Engineering University); Yuxiang Li (Harbin Engineering University); Chunying Guan (Harbin Engineering University); Jin Hui Shi (Harbin Engineering University);*

- 11:45 Multifunctional Reflection-Transmission Polarization Conversion Metasurface

*Heng Yang (Soochow University); Wenhai Zhang (Soochow University); Yuan He (Beijing University of Posts and Telecommunications); Mei Song Tong (Tongji University); Yunjing Zhang (Soochow University);*

**Session 1A5a****Microwave Photonics for Communication,  
Sensing and Measurements****Monday AM, April 22, 2024****Room 5 - Yingbin**

Organized by Fangzheng Zhang, Xiong Deng

Chaired by Steevy Joyce Cordette

- 8:00 Quadrature Parity-Time Symmetric Opto-Electronic Oscillator  
*Steevy Joyce Cordette (Technology Innovation Institute); Juan Coronel (Technology Innovation Institute); Chaouki Kasmı (Technology Innovation Institute);*
- 8:15 Silicon Prism as a Radiating Element of a Terahertz Photonic Integrated Phased Array Antenna  
*Sergey V. Seliverstov (Moscow State Pedagogical University); A. K. Kozhukhovsky (Moscow State Pedagogical University); Sergey S. Svyatodukh (National Research University Higher School of Economics); G. N. Goltsman (National Research University Higher School of Economics);*
- 8:30 Photonic Generation of Multi-carrier LFM Signals Based on an Optical Frequency Comb  
*Jiayuan Kong (Nanjing University of Aeronautics and Astronautics); Jinhu Li (Nanjing University of Aeronautics and Astronautics); Yuewen Zhou (Nanjing University of Aeronautics and Astronautics); Fangzheng Zhang (Nanjing University of Aeronautics and Astronautics);*
- 8:45 Microwave-Photonics-aided Doppler Channel Modeling  
*Zhang Miao (Southwest Jiaotong University); Xiong Deng (Southwest Jiaotong University); Wei Pan (Southwest Jiaotong University); Ziqiang Gao (Southwest Jiaotong University); Xihua Zou (Southwest Jiaotong University); Lianshan Yan (Southwest Jiaotong University);*
- 9:30 Broadband Radar De-chirping Receiver Based on a Microwave Photonic I/Q Mixer  
*Yuewen Zhou (Nanjing University of Aeronautics and Astronautics); Jiayuan Kong (Nanjing University of Aeronautics and Astronautics); Fangzheng Zhang (Nanjing University of Aeronautics and Astronautics);*
- 9:45 Co-simulation of Microwave Photonics and Wireless Communication  
*Ziqiang Gao (Southwest Jiaotong University); Jiuyuan Deng (Southwest Jiaotong University); Xiong Deng (Southwest Jiaotong University); Xihua Zou (Southwest Jiaotong University); H. Y. Meng (Southwest Jiaotong University); Hao Bai (Southwest Jiaotong University); Y. X. Long (Southwest Jiaotong University); Miao Zhang (Southwest Jiaotong University); Jia Ye (Southwest Jiaotong University); Lianshan Yan (Southwest Jiaotong University);*

10:00 **Coffee Break**

- 10:30 Photonics THz-band Frequency-division Constant-envelope Integrated Sensing and Communication with Accurate Target Position Estimation  
*Ningyuan Zhong (Southwest Jiaotong University); Xiong Deng (Southwest Jiaotong University); Xihua Zou (Southwest Jiaotong University); Fengwei Liu (Southwest Jiaotong University); Miao Zhang (Southwest Jiaotong University); Yuxin Liu (Southwest Jiaotong University); Wei Pan (Southwest Jiaotong University); Lianshan Yan (Southwest Jiaotong University);*

**Session 1A5b****Plasmon-enhanced Raman Spectroscopy and Its Chemistry 1****Monday AM, April 22, 2024****Room 5 - Yingbin**

Organized by Jun Yi, En-Ming You

Chaired by Jun Yi, En-Ming You

- 10:50 SERS as a Probe of Surface Chemistry Enabled by Surface-accessible Plasmonic Nanomaterials  
*Invited Yikai Xu (East China University of Science and Technology); Chunchun Li (University of Shanghai for Science and Technology); Steven E. J. Bell (Queen's University Belfast);*
- 11:10 In-situ Study of Nanocatalytic Reactions Using Surface-enhanced Raman Spectroscopy  
*Invited Hua Zhang (Xiamen University);*
- 11:30 Unveiling the Angstrom Scale Interfacial Electronic Structure through Metal/Electrolyte Interfaces by Plasmonic Molecular Rulers  
*Jun Yi (Xiamen University); Zhong-Qun Tian (Xiamen University);*

**Session 1A6****Non-Hermitian Physics: Theory and Applications 1****Monday AM, April 22, 2024****Room 6 - Huanhua**

Organized by Wei Wang, Guancong Ma, Kun Ding

Chaired by Guancong Ma, Kun Ding

- 8:00 Transport Versus Localization in Non-Hermitian Systems  
*Keynote Zhong Wang (Tsinghua University);*
- 8:30 Non-Bloch Band Theory for Spatiotemporal Photonic Crystals  
*Haozhi Ding (Fudan University); Kun Ding (Fudan University);*

9:05 Geometric Origin of Non-Bloch PT Symmetry Breaking  
*Yu-Min Hu (Tsinghua University); Hong-Yi Wang (Tsinghua University); Zhong Wang (Tsinghua University); Fei Song (Kavli Institute for Theoretical Sciences, Chinese Academy of Sciences);*

9:20 Theory of Real-time Dynamics on Non-Hermitian Lattices  
*Tianhua Yang (Princeton University); Chen Fang (Institute of Physics, Chinese Academy of Sciences);*

9:40 Eigenvalue Knots in Three-state Non-Hermitian System  
*Zhen Li (Hong Kong Baptist University);*

#### 10:00 Coffee Break

10:30 Skin and Exceptional Bound States in Non-Hermitian Lattices  
*Ching Hua Lee (Stanford University);*

10:50 Topological Momentum Gap in PT-symmetric Photonic Crystals  
*Ming-Wei Li (Sun Yat-Sen University); Jian-Wei Liu (Sun Yat-Sen University); Wenjie Chen (Sun Yat-Sen University); Jian-Wen Dong (Sun Yat-Sen University);*

11:10 Two-dimensional Asymptotic Generalized Brillouin Zone Conjecture  
*Zhesen Yang (Xiamen University);*

11:30 Swallowtail Catastrophe in Non-Hermitian Systems  
*Jing Hu (The Hong Kong University of Science and Technology); Ruo-Yang Zhang (The Hong Kong University of Science and Technology); Yixiao Wang (The Hong Kong University of Science and Technology); Xiaoping Ouyang (Xiangtan University); Yifei Zhu (Southern University of Science and Technology); Hongwei Jia (Hong Kong University of Science and Technology); Che Ting Chan (The Hong Kong University of Science and Technology);*

#### Session 1A7

##### Nonlinear Optical Effect in Complex Nanostructures 1

Monday AM, April 22, 2024

#### Room 7 - Xiling

Organized by Guixin Li, Olivier J. F. Martin, Changxu Liu

Chaired by Olivier J. F. Martin, Tun Cao

8:00 Hybrid Plasmonic Metasurfaces for Broadband SERS Detection  
*Peng Mao (Nanjing University); Changxu Liu (University of Exeter); Richard E. Palmer (Swansea University); Guanghou Wang (Nanjing University); Stefan A. Maier (Ludwig-Maximilians-University Munich); Shuang Zhang (University of Hong Kong); Min Han (Nanjing University);*

8:20 Spin-orbit Interaction of Light Enabled by Negative Coupling in High-quality-factor Optical Metasurfaces  
*Wenlong Gao (Eastern Institute for Advanced Study, Eastern Institute of Technology);*

9:00 Materials at the Nanoscale: Coherent Second Harmonic Generation to Incoherent SHG Scattering  
*Pierre-Francois Brevet (Universite Claude Bernard Lyon 1);*

9:20 Nonlinear Nanoplasmonics with Atomically Thin Materials  
*Joel D. Cox (University of Southern Denmark);*

9:40 Chiral Response of Plasmonic Metasurface  
*Jinwei Shi (Beijing Normal University);*

#### 10:00 Coffee Break

10:50 Modelling of Second-order Nonlinear Metasurfaces in the Time- and Frequency-domain  
*Karim Achouri (Swiss Federal Institute of Technology Lausanne (EPFL));*

11:30 A Plasmonic Nonlinear Diode  
*S. Boroviks (Swiss Federal Institute of Technology Lausanne (EPFL)); Andrei Kiselev (Swiss Federal Institute of Technology Lausanne (EPFL)); Karim Achouri (Swiss Federal Institute of Technology Lausanne (EPFL)); Olivier J. F. Martin (Swiss Federal Institute of Technology Lausanne (EPFL));*

#### Session 1A8

##### Thermal Photonics: Fundamental Physics and Application 1

Monday AM, April 22, 2024

#### Room 8 - Guixiang

Organized by Wei Li, Longnan Li

Chaired by Wei Li, Longnan Li

8:00 Biomimetic Regulation Mechanism of Spectral Radiative Characteristics of Radiative Cooling and Its Research Progress  
*Fuqiang Wang (Harbin Institute of Technology, Weihai);*

8:20 Directional Thermal Radiation and Its Applications  
*Sun-Kyung Kim (Kyung Hee University);*

8:40 Quantum of Far-field Radiation between Subwavelength Membranes  
*Jose Ordonez-Miranda (The University of Tokyo); R. Anufriev (The University of Tokyo); Masahiro Nomura (The University of Tokyo); Sebastian Volz (The University of Tokyo);*

8:55 Electricity-free Heating and Cooling Strategies for Water and Energy Sustainability  
*Qiaoqiang Gan (King Abdullah University of Science and Technology (KAUST));*

- 9:15 **Metagel with Optofluidic Design for Passive Cooling**  
Invited  
*Hong Li (School of Mechanical and Aerospace Engineering);*
- 9:35 **Radiative Thermal Management Materials and Devices with High Performance**  
Invited  
*Rujun Ma (Nankai University);*
- 10:00 **Coffee Break**
- 10:30 **Ground-facing Radiative Cooling for High-power LED Lights**  
*Saichao Dang (King Abdullah University of Science and Technology); Yanpei Tian (King Abdullah University of Science and Technology (KAUST)); Hasan H. Almahfoudh (King Abdullah University of Science and Technology); Haomin Song (King Abdullah University of Science and Technology); Osman M. Bakr (King Abdullah University of Science and Technology); Boon S. Ooi (King Abdullah University of Science and Technology); Qiaoqiang Gan (King Abdullah University of Science and Technology (KAUST));*
- 10:45 **Nonreciprocal Thermal Radiation Based on Magneto-optical Lattice Resonances and Coupled Brewster Modes**  
Invited  
*Kezhang Shi (Zhejiang University); Sailing He (Royal Institute of Technology & Zhejiang University);*
- 11:05 **Broadband Wide-angle Antireflective Coatings for Long-wave Infrared Camera**  
*Jae-Seon Yu (Kyung Hee University); Serang Jung (Kyung Hee University); Jae-Hyun Kim (Kyung Hee University); Geon-Tae Park (Kyung Hee University); Eungkyu Lee (Kyung Hee University); Sun-Kyung Kim (Kyung Hee University);*
- 11:20 **Efficient Hybrid Passive Cooling Based on Atmospheric-moisture-induced Polyacrylate Hydrogels**  
*Roisul Hasan Galib (University at Buffalo); Yanpei Tian (King Abdullah University of Science and Technology (KAUST)); Yue Lei (Chongqing University); Saichao Dang (King Abdullah University of Science and Technology); Xiaole Li (KAUST); Arief Yudhanto (KAUST); Gilles Lubineau (KAUST); Qiaoqiang Gan (King Abdullah University of Science and Technology (KAUST));*
- 8:30 **Enhanced Optical Interactions in Resonant Nonlinear Topological Photonic Nanostructures**  
Invited  
*Nicolae-Coriolan Panoiu (University College London); Jitong Wang (University College London);*
- 8:50 **Tunable Nonlinear Semiconductor Plasmonics**  
Invited  
*Cristian Ciraci (Istituto Italiano di Tecnologia (IIT)); F. De Luca (City University of New York); Huatian Hu (Istituto Italiano di Tecnologia (IIT)); M. Ortolani (Sapienza University of Rome);*
- 9:10 **Nonlocal, Nonlinear, and Quantum Effects in Coupled Plasmon-exciton Systems**  
Invited  
*Antton Babaze (Materials Physics Center CSIC-UPV/EHU); R. Esteban (Materials Physics Center CSIC-UPV/EHU); J. Aizpurua (University of the Basque Country UPV/EHU); A. G. Borisov (Institut des Sciences Moléculaires d'Orsay);*
- 9:30 **Mie Scattering of Disk-shaped Plasmonic Nanoparticle Metacrystals**  
Invited  
*Shao-Ding Liu (Taiyuan University of Technology);*
- 9:50 **Nonlinear Light-matter Interaction Probed with Fast Electrons**  
Invited  
*Valerio Di Giulio (ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology);*
- 10:10 **Coffee Break**
- 10:30 **Plasmon-exciton Coupling Probed by Ultrafast Two-dimensional Electronic Spectroscopy**  
Invited  
*Jin-Hui Zhong (Southern University of Science and Technology); Christoph Lienau (Carl von Ossietzky Universität Oldenburg);*
- 10:50 **Single Cycle Optical Nonlinearity of Transparent Conducting Oxides — Are Temporal Photonic Crystals Feasible?**  
Invited  
*Ieng-Wai Un (South China Normal University); Subhajit Sarkar (Jagiellonian University); Yonatan Sivan (Ben-Gurion University of the Negev);*
- 11:10 **Quantum Optical Properties in Micro/Nano Photonic Structures**  
Invited  
*Ying Gu (Peking University);*

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### Session 1A9

#### Nonclassical Plasmonics and Nonlinear Optics 1

Monday AM, April 22, 2024

Room 9 - Xinyu

Organized by Fan Yang, Dangyuan Lei

Chaired by Fan Yang

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- 8:00 **Recent Advances in Resonant Metaphotonics and Plasmonics**  
*Yuri S. Kivshar (Australian National University);*

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### Session 1A10a

#### Optical Interconnect Technologies for Datacom and Computercom

Monday AM, April 22, 2024

Room 10 - Shuliu

Organized by Binhao Wang, Stanley Cheung

Chaired by Binhao Wang

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8:00 Nonvolatile Reconfigurable Phase-change-materials Integrated Silicon Photonics  
Invited

*Kai Xu (Zhejiang University); Maoliang Wei (Zhejiang University); Bo Tang (Institute of Microelectronics of the Chinese Academy of Sciences); Junying Li (University of Chinese Academy of Sciences); Yiting Yun (Zhejiang University); Kunhao Lei (Zhejiang University); Yingchun Wu (Westlake University); Lan Li (Westlake University); Hongtao Lin (Zhejiang University);*

8:20 Co-design of Si-Photonic Segmented Mach-Zehnder Modulators and Distributed CMOS Drivers for Co-packaged Optics  
Invited

*Siyuan Ma (Institute of Semiconductors, Chinese Academy of Sciences); Yingjie Ma (Institution of Semiconductors, Chinese Academy of Sciences); Qianli Ma (Institution of Semiconductors, Chinese Academy of Sciences); Guike Li (Institute of Semiconductors, Chinese Academy of Sciences); Nanjian Wu (Institute of Semiconductors, Chinese Academy of Sciences); Xi Xiao (National Opto-electronics Innovation Center (NOEIC)); Nan Qi (Institute of Semiconductors, Chinese Academy of Sciences);*

8:40 TIA Design for Telecom, Datacom and PON  
Invited

*Dan Li (Xi'an Jiaotong University);*

9:00 A High-Power Lateral p-i-n Silicon-Germanium Photodiode

*Chao Cheng (Xi'an Institute of Optics and Precision Mechanics, Chinese Academy of Sciences); Jintao Xue (Xi'an Institute of Optics and Precision Mechanics, Chinese Academy of Sciences); Zhiyuan Yu (Xi'an Institute of Optics and Precision Mechanics, Chinese Academy of Sciences); Jinyi Wu (Xi'an Institute of Optics and Precision Mechanics, Chinese Academy of Sciences); Shenlei Bao (Xi'an Institute of Optics and Precision Mechanics, Chinese Academy of Sciences); Binhao Wang (Xi'an Institute of Optics and Precision Mechanics, Chinese Academy of Sciences);*

9:15 Highly Efficient and Broad-Bandwidth Grating Coupler Between Optical Fiber and Silicon-on-Insulator Waveguide

*Zhanhao Li (Tongji University); Wenxin Hao (Tongji University); Junhe Zhou (Tongji University);*

9:30 2.5D and 3D Advanced Packaging for Co-packaged Optics (CPO)  
Invited

*Haiyun Xue (Institute of Microelectronics of the Chinese Academy of Sciences);*

10:00 **Coffee Break**

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**Session 1A10b**  
**Biotechnology Related to Electromagnetics**

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**Monday AM, April 22, 2024**

**Room 10 - Shuliu**

Organized by Luis J. Gomez, Ho Cheung (Anderson) Shum

Chaired by Luis J. Gomez

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10:30 Nature-inspired Fluidics for Biomedical Applications  
*Yafeng Yu (The University of Hong Kong); Ho Cheung (Anderson) Shum (The University of Hong Kong);*

10:50 Bidomain Boundary Integral Equation for Analyzing a Neuron Cell's Response to Non-invasive Brain Stimulation

*Luis J. Gomez (Purdue University); David M. Czerwony (Purdue University);*

11:05 Magnetic Resonance Imaging without RF Shielding via Active Sensing and Deep Learning Elimination of Electromagnetic Interference

*Ed Xuekui Wu (The University of Hong Kong); Yujiao Zhao (The University of Hong Kong);*

11:20 Peripheral Magnetic Stimulation Coil Optimization: Applying to Vagus Nerve Stimulation

*Qingyang Yu (South China University of Technology); Fan Chen (National University of Singapore); Yongxin Guo (National University of Singapore);*

11:35 Group-Level Optimized  $E$ -field Dosimetry Estimation in Transcranial Magnetic Stimulation (TMS)

*Nahian Ibn Hasan (Purdue University); Luis J. Gomez (Purdue University);*

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**Session 1A11**  
**Biophotonics Part 1**

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**Monday AM, April 22, 2024**

**Room 11 - Xiangyu**

Organized by Fan Wang, Qiu Qiang Zhan

Chaired by Fan Wang

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8:20 Low Refractive Index Nanoparticles Trapping and Tracking  
Invited

*Xuchen Shan (Beihang University); Dajing Wang (Beihang University); Jinlong Shi (Beihang University); Jialin Chen (Beihang University); Ziqi Li (Beihang University); Jiachen Zheng (Beihang University); Fan Wang (Beihang University);*

9:20 NIR-II Fluorescent Probes for in vivo Multiplexed Biodection  
Keynote

*Fan Zhang (Fudan University);*

9:50 Dye-coupled Lanthanide Nanocrystals for Advanced Optical Biosensing and Photodynamic Therapy  
Invited

*Renren Deng (Zhejiang University);*

**10:10 Coffee Break**

10:30 Sensing the Invisible with Quantum Ghost Imaging

Keynote

*Andrew Forbes (University of the Witwatersrand);*

11:20 Learned NIR&VISCAM: Multi-spectral Fusion for Large Depth-of-field Computational Imaging

*Tingdong Kou (Sichuan University); Tianyue He (Sichuan University); Junfei Shen (Sichuan University);*

11:35 Optical Tweezing of Upconverting Nanocrystals for Single Particle Studies

Invited *Daniel Jaque García (Universidad Autónoma de Madrid);*

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**Session 1A12a**

**Novel Electromagnetic Selective Structures and Applications**

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**Monday AM, April 22, 2024**

**Room 12 - Siji 1**

Organized by Zhongxiang Shen, Bo Li

Chaired by Zengdi Bao

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8:00 A Frequency-energy Composite Selective Surface for High-power Microwave Protection

*Jinqi Dong (Southwest University of Science and Technology); Yanqing Cheng (Southwest University of Science and Technology); Shuyun Lin (Southwest University of Science and Technology); Yao Zhou (Southwest University of Science and Technology); Qi Chen (Southwest University of Science and Technology);*

8:15 Wide-angle Scanning Phased Array Antennas with Absorber Reciprocity

*Cheng Jin (Beijing Institute of Technology); Xuning Li (Beijing Institute of Technology); Hong-Wei Gao (Beijing Institute of Technology); Baihong Chi (Advanced Materials & Energy Research Center, China Academy of Aerospace Science and Innovation);*

8:30 Novel Conformal Wide-angle Polarization-insensitive Harvester with Wide Bandwidth for IoT Sensors

*Xuemin Zhang (Beijing Institute of Technology); Zengdi Bao (Beijing Institute of Technology); Yinbo Zhao (Beijing Institute of Technology); Yang Li (Beijing Institute of Technology);*

8:45 Dual Circularly Polarized Reflectarray with Independent Manipulation of Radiating Beams

*Yanxin Xu (Nanjing University of Posts and Telecommunications); Wanping Zhang (Nanjing University of Posts and Telecommunications); Yumei Chang (Nanjing University of Posts and Telecommunications); Bo Li (Nanjing University of Posts and Telecommunications);*

9:00 Design of Dual-passband Frequency Selective Surfaces Based on Metal Honeycomb Structures

*Na Li (Nanjing University of Posts and Telecommunications); Ye Han (Nanjing University of Posts and Telecommunications); Bo Li (Nanjing University of Posts and Telecommunications);*

9:15 Absorptive Polarization-selective Surfaces

*Zhenting Chen (Nanyang Technological University); Zhongxiang Shen (Yangtze Delta Region Academy of Beijing Institute of Technology);*

**10:00 Coffee Break**

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**Session 1A12b**

**Oral Presentations for Best Student Paper Awards — SC4: Antennas and Microwave Technologies**

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**Monday AM, April 22, 2024**

**Room 12 - Siji 1**

Chaired by Zhongxiang Shen, Kwai Man Luk, Sheng Sun

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10:30 D-band Heterogeneous Integrated Antenna

*Sen Lu (Southeast University); Yizhu Shen (Southeast University); Fang Hou (Southeast University); Zhen Lin (Southeast University); Sanming Hu (Southeast University);*

10:45 A 3-D Frequency Selective Structure with Rapid Roll-off Based on Vertical Metallic Pillars

*Pei Zhang (Zhejiang University); Da Li (Zhejiang University); Er-Ping Li (Zhejiang University);*

11:00 Multi-resonant Non-intrusive Microwave Sensor for Liquid Identification with High Accuracy

*Jing Lei Yong (Soochow University); Xingli He (Soochow University); Lingfeng Li (Soochow University); Peng Li (Soochow University); Yunjing Zhang (Soochow University);*

11:15 Application of Technological Gyrotrons for Plasma-chemical Decomposition of Carbon Dioxide

*Nikita V. Chekmarev (Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); D. A. Mansfeld (Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Sergey V. Sintsov (Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); E. I. Preobrazhenskiy (Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); A. V. Vodopyanov (Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Andrey Pavlovich Fokin (Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)); Andrey A. Ananichev (Institute of Applied Physics of the RAS);*



- 11:30 Flexible and Self-compensating Reflectarray Antenna Enabled by the Sensor-antenna Integration  
*Fan Li (University of Electronic Science and Technology of China); Taisong Pan (University of Electronic Science and Technology of China);*
- 11:45 A Low-cost Large Element Spacing Beam Scanning Antenna Array Based on Multilayer Dielectric Lens  
*Liuyuanzhi Han (University of Electronic Science and Technology of China); Xiao Ding (University of Electronic Science and Technology of China);*

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### Session 1A13

#### Computational Imaging: Novel System Design and Reconstruction Algorithms 1

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**Monday AM, April 22, 2024**

**Room 13 - Siji 2**

Organized by Kedar Khare, Krishna Agarwal

Chaired by Kedar Khare, Yuyue Zhang

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- 8:00 Non-line-of-sight Imaging Based on Structure Sparsity  
Invited Regularization  
*Rui Chen (Sun Yat-Sen University);*
- 8:20 Single-pixel Computational Imaging through Complex  
Invited Media  
*Wen Chen (The Hong Kong Polytechnic University);*
- 8:40 Computational Imaging with Randomness  
Invited  
*Ryoichi Horisaki (The University of Tokyo);*
- 9:00 Deep Learning Solutions to Two-dimensional Electro-  
Invited magnetic Inverse Scattering Problems Based on Point Cloud  
*Junqing Lou (Northwestern Polytechnical University); Jie Ma (Peking University); Ruijie Xiao (Northwestern Polytechnical University); Zicheng Liu (Northwestern Polytechnical University);*
- 9:20 Material Characterization via Microwave Spectroscopy: Singular Spectrum Analysis  
*Roberto Dima (Universita degli Studi della Campania "Luigi Vanvitelli"); Maria Antonia Maisto (Universita degli Studi della Campania "Luigi Vanvitelli"); Raffaele Solimene (Universita degli Studi della Campania "Luigi Vanvitelli");*
- 9:35 Deep Learning Based Image Reconstruction for Optical  
Invited Mammography  
*Zhen Yu (National University of Singapore); Gordon Ko (National University of Singapore); Yang Li (National University of Singapore); Jiulong Liu (National University of Singapore); Hui Ji (Academy of Mathematics and System Sciences, Chinese Academy of Sciences); Anqi Qiu (National University of Singapore); Nanguang Chen (National University of Singapore);*

10:00 **Coffee Break**

- 10:30 Deep Learning Phase Recovery: Data-driven or Physics-  
Invited driven?  
*Kaiqiang Wang (The University of Hong Kong); Edmund Y. Lam (The University of Hong Kong);*
- 10:50 A New Short-range MIMO Array Imaging Method  
Invited  
*Tiantian Yin (National University of Singapore); Xudong Chen (National University of Singapore);*
- 11:10 Phase Retrieval with Vortex Illumination  
*Muskan Kularia (Indian Institute of Technology Delhi); Manidipa Banerjee (Indian Institute of Technology Delhi); Kedar Khare (Indian Institute of Technology Delhi);*
- 11:45 Data Improvement of Inverse Scattering System Based  
Invited on Machine Learning Approach  
*Naike Du (Beijing Institute of Technology); Xinhui Zhang (Beijing Institute of Technology); Jing Wang (Beijing Institute of Technology); Zi He (Beijing Institute of Technology); Xiuzhu Ye (Beijing Institute of Technology);*

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### Session 1A14

#### Synthetic Aperture Radar System, Method and Applications 2

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**Monday AM, April 22, 2024**

**Room 14 - Siji 3**

Organized by Bingnan Wang

Chaired by Bingnan Wang, Haipeng Wang

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- 8:00 Massively Parallel SAR Raw Data Simulation Using  
Invited Multi-GPUs  
*Fan Zhang (Beijing University of Chemical Technology);*
- 8:20 A 3D Coherent Laser Imaging Radar Denoising Method  
Invited Based on the Combination of Intensity and Elevation  
*Guowang Jin (Information Engineering University); Qihao Huang (Information Engineering University); Xin Xiong (Information Engineering University);*
- 8:40 Ship Detection Based on Polarimetric SAR Gradient and  
Invited Complex Wishart Classifier  
*Junjun Yin (University of Science and Technology Beijing); Jian Yang (Tsinghua University);*
- 9:00 Enhanced Simulation Optimization of SAR BP Algorithm for Moving Targets  
*Lu Li (Yan'an University); Xincheng Ren (Yan'an University); Yuqing Wang (Yan'an University); Ye Zhao (Yan'an University); Peng-Ju Yang (Yan'an University);*
- 9:15 Five-component Scattering Power Decomposition for Hybrid Compact Polarimetric SAR Data  
*Linlin Zhang (Southwest Jiaotong University); Chuan Zhang (Southwest Jiaotong University); Gui Gao (National University of Defense Technology); Xi Zhang (First Institute of Oceanography, Ministry of Natural Resources); Jia Liu (DFH Satellite Company Ltd.);*

- 9:30 Dynamic Small Targets Detection Using Multi-temporal SAR Images  
*Yaosen Lv (Fudan University); Fengming Hu (Fudan University); Feng Xu (Fudan University);*
- 9:45 An In-orbit Calibration Method for Spaceborne SAR 2-D Antenna Pattern Measurement Based on Fly-around Calibration Satellite  
*Tian Qiu (Beihang University); Pengbo Wang (Beihang University); Tao He (Beihang University); Yanan Guo (Beihang University); Chuanxin Zhou (Beihang University);*
- 10:00 **Coffee Break**
- 10:30 Automatic Detection for the Boundary of Earthquake Triggered Landslides with Sentinel-1 SAR Imagery  
*Lifu Chen (Changsha University of Science and Technology); Zengqi Li (Changsha University of Science and Technology); Chuang Song (Chang'an University); Jin Xing (TD Insurance); Zhenhong Li (Chang'an University);*
- 10:45 An Improved Approach to Channel Mismatches Estimation for Bistatic Multichannel SAR  
*Chuanxin Zhou (Beihang University); Pengbo Wang (Beihang University); Tao He (Beihang University); Tian Qiu (Beihang University);*
- 11:00 Turkey-Syria Mw 7.8 Earthquake Deformation Monitoring Using Lutan-1 SAR Data  
*Xiang Zhang (Nat'l Adm Surveying Mapping & Geoinformat); Xinming Tang (Land Satellite Remote Sensing Application Center, Ministry of Natural Resources); Tao Li (Land Satellite Remote Sensing Application Center, Ministry of Natural Resources); Hui Zhao (National Geomatics Center of China); Xuefei Zhang (Land Satellite Remote Sensing Application Center, Ministry of Natural Resources); Jing Lu (Land Satellite Remote Sensing Application Center, Ministry of Natural Resources); Sen Lv (Land Satellite Remote Sensing Application Center, Ministry of Natural Resources);*
- 11:15 Structure-coupled Variational Bayesian Method for Building Layout Reconstruction  
*Zixiang Yin (Beijing Institute of Technology); Xiaolu Zeng (Beijing Institute of Technology); Jiancheng Liao (Beijing Institute of Technology); Junbo Gong (Beijing Institute of Technology Chongqing Innovation Center);*
- 11:30 Electromagnetic Simulation of Norway Spruce and Scots Pine for Root Volume Estimation via SAR Tomography  
*Gian Carlos Oré Huacles (University of Campinas); Henrik J. Persson (Swedish University of Agricultural Sciences); Alina Shevchenko (GFZ German Research Center for Geosciences); Mahdi Motagh (GFZ German Research Center for Geosciences); Linda Lück (GFZ German Research Center for Geosciences); Rubem Valbuena (Swedish University of Agricultural Sciences); Martin Herold (GFZ German Research Center for Geosciences); Hugo Enrique Hernandez-Figueroa (University of Campinas);*

- 11:45 A Novel Multi-subaperture Motion Compensation Algorithm Based on Extended Quadratic Error Model for UAV SAR Imaging  
*Weidi Xu (The 54th Research Institute of CETC); Pengjie You (The 54th Research Institute of CETC); Xiaoliang Yang (The 54th Research Institute of CETC); Lin Wang (The 54th Research Institute of CETC); Shuo Feng (The 54th Research Institute of CETC);*

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### Session 1A15a

### Deep Learning Techniques in Computational Electromagnetics

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Monday AM, April 22, 2024

Room 15 - Siji 4

Organized by Qun Ren, Nicolae-Coriolan Panoiu

Chaired by Qun Ren, Nicolae-Coriolan Panoiu

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- 8:00 Nanophotonic Inverse Design Enabled by Deep Learning  
Invited *Sunae So (Korea University);*
- 8:20 Model Agnostic Data Enhancement Algorithm in 2D Chiral Metamaterials: From Prediction to Inverse Design  
Invited *Jie You (National Innovation Institute of Defense Technology); Zeyu Zhao (National University of Defense Technology); Xin Zheng (National Innovation Institute of Defense Technology);*
- 8:40 Data-physics Driven Machine-learning Modeling of Microwave Devices  
Invited *Jianwei You (Southeast University); Jun Ming Hou (Southeast University); Xuan Zheng (Southeast University); Tian Jian Peng (Southeast University); Xiong Wei Wu (Southeast University); Long Chen (Southeast University); Jianan Zhang (Southeast University); Tie Jun Cui (Southeast University);*
- 9:00 Estimating Capacity of 1D MIMO Antenna System with Physics-driven Machine-learning Approach  
*Yutong Jiang (Zhejiang University); Wei E. I. Sha (Zhejiang University);*
- 9:15 In-series Deep Learning Techniques for Magnetic Resonance Imaging (MRI) Computation Electromagnetics  
*Yongjing Dang (Tianjin University); Yu Zheng (Tianjin University); Qun Ren (Tianjin University); Xia Xiao (Tianjin University); Yuqing He (Tianjin University); Yanwei Pang (Tianjin University);*
- 9:30 Genetically Designed Superbandwidth Superscatterers — One among a Trillion  
*Pavel B. Ginzburg (Tel Aviv University); Dmytro Vovchuk (Tel Aviv University); Anna Mikhailovskaya (Tel Aviv University); Konstantin Grotov (Tel Aviv University); Denis Kolchanov (Tel Aviv University); Dmitry Dobrykh (Tel Aviv University);*

- 9:45 Polarization Conversion Metasurfaces and Its Application  
*Fengxia Li (Xidian University); Jing-Ya Deng (Xidian University); Haiyan Chen (University of Electronic Science and Technology of China);*
- 10:00 Development of Neural Network Approach for Reconstructing the Atmospheric Humidity Profile from Ground-based Microwave Radiometer-spectrometer Data  
*Dobroslav Pavlovich Egorov (Kotel'nikov Institute of Radio Engineering and Electronics of RAS); Y. V. Verina (Bauman Moscow State Technical University); Oleg V. Kravchenko (Federal Research Center "Computer Science and Control" of RAS);*
- 10:15 **Coffee Break**

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### Session 1A15b

#### Emerging Computational Methodologies for Computer-aided Electromagnetic Design and Optimization

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**Monday AM, April 22, 2024**

**Room 15 - Siji 4**

Organized by Hong-Wei Gao, Zhen Peng

Chaired by Hong-Wei Gao

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- 10:30 A Fast Computing Technology of Three-dimensional Multilevel Fast Multipole Algorithm Based on Deep Learning  
*Zelin Xia (Communication University of China); Jinbo Liu (Communication University of China); Zengrui Li (Communication University of China); Jiming Song (Iowa State University);*
- 10:45 High-Fidelity Electromagnetic Analysis of Conformal Metamaterials on Freeform Surfaces  
*Hong-Wei Gao (Beijing Institute of Technology); Xi-Min Xin (Beijing Institute of Technology); Zhen Peng (University of Illinois at Urbana-Champaign);*
- 11:00 Fast Analysis of Electromagnetic Properties of Integrated Models Consist of Antenna Array and Radome  
*Weijian Ran (University of Electronic Science and Technology of China); Ming Jiang (University of Electronic Science and Technology of China); Jun Hu (University of Electronic Science and Technology of China);*
- 11:15 Optimizing High-frequency SBR Method on x86 CPU Using SIMD  
*Yunchuan Wang (Beijing Institute of Technology); Xiao-Min Pan (Beijing Institute of Technology);*
- 11:45 Beam Steering Algorithm for Deformed Conformal Array Antennas Based on the Physics-inspired Deep Learning  
*Zi-Yang Liang (Beijing Institute of Technology); Hong-Wei Gao (Beijing Institute of Technology); Cheng Jin (Beijing Institute of Technology);*

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### Session 1A16a

#### Topological Photonics: Fundamentals and Applications 1

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**Monday AM, April 22, 2024**

**Room 16 - Mudan**

Organized by Yihao Yang, Ranjan Singh

Chaired by Yihao Yang

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- 8:15 Terahertz Single Pixel Imaging and Sensing with Dielectric BIC Metasurfaces  
*Longqing Cong (Southern University of Science and Technology);*
- 8:30 Kekulé-distorted Topological Cavities for Beam-engineered Micro-nano Lasers  
*Song Han (Zhejiang University);*
- 8:50 Realization of Topological Phases in Gyromagnetic Photonic Crystal Platform  
*Pei-Heng Zhou (University of Electronic Science and Technology of China); Gui-Geng Liu (Nanyang Technological University); Shuwei Li (University of Electronic Science and Technology of China); Qindong Xie (University of Electronic Science and Technology of China); Long-Jiang Deng (University of Electronic Science and Technology of China); Baile Zhang (Nanyang Technological University);*

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### Session 1A16b

#### Wave Engineering in Complex Media

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**Monday AM, April 22, 2024**

**Room 16 - Mudan**

Organized by Nicholas Xuanlai Fang

Chaired by Nicholas Xuanlai Fang

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- 9:10 Research Advance in Metamaterial-inspired Klystrons at UESTC  
*Zhaoyun Duan (University of Electronic Science and Technology of China); Xuanming Zhang (University of Electronic Science and Technology of China); Shaozhe Wang (Guoli Vacuum (GLVAC) Industrial Technology Research Institute of High Power Devices Co. LTD); Jianjun Zou (Guoli Vacuum (GLVAC) Industrial Technology Research Institute of High Power Devices Co. LTD); Yongming Li (Guoli Vacuum (GLVAC) Industrial Technology Research Institute of High Power Devices Co. LTD); Chuanchao Wang (University of Electronic Science and Technology of China); Ning Li (University of Electronic Science and Technology of China); Deyong Li (University of Electronic Science and Technology of China);*
- 9:25 All-dielectric High Efficiency Bi-layer Diffraction Metagratings  
*Xinchen Wan (National University of Singapore); Guangya Zhou (National University of Singapore);*

- 9:40 Non-Hermitian Invisible Devices from Transformation Optics  
*Huanyang Chen (Xiamen University); Wen Xiao (Xiamen University);*
- 9:55 Localized and Propagative States in One-dimensional Non-Hermitian Disordered Rings  
*Xulong Wang (Hong Kong Baptist University); Wei Wang (Hong Kong Baptist University); Guancong Ma (Hong Kong Baptist University);*
- 10:05 **Coffee Break**
- 10:30 Regulated Symmetric Breaking Enables Full-space Artificial Phototaxis  
Invited *Guodong Hou (Shanghai Jiao Tong University); Nicholas Xuanlai Fang (The University of Hong Kong); Xiaoshi Qian (Shanghai Jiaotong University);*
- 10:50 Transparent Matte Surfaces: Concept and Applications  
*Hong Chen Chu (Nanjing University); Xiang Xiong (Nanjing University); Nicholas Xuanlai Fang (The University of Hong Kong); Ru-Wen Peng (Nanjing University); Mu Wang (Nanjing University); Yun Lai (Nanjing University);*
- 11:05 Towards Optical Tellegen Metamaterials without External Bias Fields  
*Viktar S. Asadchy (Aalto University); S. Safaei Jazi (Aalto University); Ihar A. Faniayeu (University of Gothenburg); D. C. Tzarouchis (University of Pennsylvania); M. M. Asgari (Aalto University); R. Cichelero (University of Gothenburg); A. Dmitriev (University of Gothenburg); Shanhui Fan (Stanford University);*
- 11:20 Design of a Highly Transmissive Cascaded Metasurface with Wavefront Controllability  
*Xiaojing Li (Tongji University); Tong Hao (Tongji University);*
- 11:35 Photonics at Sub-wave Length Scale  
Keynote *Xiang Zhang (University of Hong Kong);*
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- Session 1A17**  
**Acoustic/Phononic Metamaterials, Metasurfaces, and Metadevices 1**
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- Monday AM, April 22, 2024**  
**Room 17 - Furong**  
Organized by Chen Shen, Lujun Huang  
Chaired by Chen Shen, Lujun Huang
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- 8:00 Phase Gradient Metasurfaces: From Physics to Applications  
Invited *Yangyang Fu (Nanjing University of Aeronautics and Astronautics);*
- 8:20 Lightweight Metamaterial-based Vibration and Noise Reduction Components for Various Equipment  
Invited *Fuyin Ma (Xi'an Jiaotong University); Xingzhong Wang (Xi'an Jiaotong University); Chongrui Liu (Xi'an Jiaotong University); Jiu Hui Wu (Xi'an Jiaotong University);*
- 8:40 Sound Emission Enhancement from Bound State in the Continuum  
Invited *Sibo Huang (City University of Hong Kong); Yong Li (Tongji University); Jie Zhu (Tongji University); Din Ping Tsai (The Hong Kong Polytechnic University);*
- 9:00 Controlling the Light Diffraction through a Single Sub-wavelength Metallic Slit via Phase Gradient  
Invited *Songsong Li (Soochow University); Yadong Xu (Soochow University);*
- 9:20 Broadband Manipulation of Acoustic Vortex Beams Using 3-bit Coding Metasurfaces  
Invited *Sheng-Dong Zhao (Qingdao University);*
- 9:40 Deep-learning-aided Metasurface Design for Megapixel Acoustic Hologram  
Invited *Xuan-Bo Miao (Tianjin University); Hao-Wen Dong (Beijing Institute of Technology); Sheng-Dong Zhao (Qingdao University); Shi-Wang Fan (Shijiazhuang Tiedao University); Guoliang Huang (University of Missouri); Chen Shen (Rowan University); Yue-Sheng Wang (Tianjin University);*
- 10:00 **Coffee Break**
- 10:30 Numerical Investigation of Acoustic Cavitation Characteristics of an Air-vapor Bubble under Multi-frequency Ultrasound  
Invited *Zhenxiang Ji (Beijing Institute of Technology); Xiaoyun Huang (Beijing Institute of Technology); Jie Jin (Beijing Institute of Technology); Kechi Zhang (Beijing Institute of Technology); Xinze Liu (Beijing Institute of Technology); Dingjie Suo (Beijing Institute of Technology);*
- 10:50 New Horizons beyond Optical Metadevices  
Keynote *Nicholas Xuanlai Fang (The University of Hong Kong);*
- 11:20 Engineering Boundary Impedance for Quality Factor Control by Customizable Acoustic Metamaterials  
*Sichao Qu (The University of Hong Kong); Min Yang (Acoustic Metamaterials Group Ltd.); Nicholas X. Fang (The University of Hong Kong);*
- 11:35 Dual-band All-optical Logic Gate Based on Coherent Control Principles  
*Xinyu Shi (Guilin University of Electronic Technology); Ming Chen (Guilin University of Electronic Technology); Wanli Zhao (Guilin University of Electronic Technology); Wenhao Han (Guilin University of Electronic Technology);*

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**Session 1A18**  
**Optical Metasurface for Light Manipulation and Novel Response**

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**Monday AM, April 22, 2024**

**Room 18 - Meilan**

Organized by Ting Xu, Maowen Song

Chaired by Maowen Song

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- 8:00 **Invited** Monolithic Metalens for Single-shot Sorting of Total Angular Momentum State  
*Yinghui Guo (Institute of Optics and Electronics, Chinese Academy of Sciences);*
- 8:20 Asymmetric Electromagnetic Manipulation Based on Multi-layered Metasurface  
*Yijia Huang (Sichuan Normal University);*
- 8:35 **Invited** Dynamic MEMS-based Metasurfaces  
*Fei Ding (University of Southern Denmark);*
- 9:15 Polysilicon Terahertz Thermal Detector Based on CMOS Technology  
*Ke Wang (Nanjing University); Yiming Liao (Nanjing University); Wenbin Zhou (Nanjing University); Feng Yan (Nanjing University); Xiaoli Ji (Nanjing University);*
- 9:30 Linear and Nonlinear Optical Properties of Dielectric Wavy Grating Enhanced by Bound States in the Continuum  
*Ma Luo (Guangdong Polytechnic Normal University);*
- 9:45 Application of Metasurface Chip to Laser Frequency Stabilization in Atomic Rubidium  
*Chen Qing (Beihang University); Dengke Zhang (Beihang University);*
- 10:00 **Coffee Break**
- 10:30 **Invited** Multifunctional Displays Based on Optical Metasurfaces  
*Cheng Zhang (Huazhong University of Science and Technology);*
- 10:50 OAM Dependent Speckles for OAM Mode Sorting and Demultiplexing  
*Rui Ma (University of Electronic Science & Technology of China); Ke Hai Luo (Shenzhen University); Jing Song He (Shenzhen University); Jun Liu (Shenzhen University);*
- 11:05 **Invited** Optical-addressed Dynamic Meta-hologram  
*Hui Gao (Huazhong University of Science and Technology);*

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**Session 1A19**  
**Poster Session 1**

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**Monday AM, April 22, 2024**

**8:00 AM - 12:00 AM**

**Room Exhibition Area**

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- 1 Multiscale Multiphysics Simulation Model of Laser-induced Ultrasonic Energy Conversion  
*Yongnan Li (The University of Hong Kong); Nicholas X. Fang (The University of Hong Kong);*
- 2 The Experimental Investigation of Continuous Frequency Tuning in Sub-THz Gyrotrons with Short Cavities  
*Andrey P. Fokin (Institute of Applied Physics of the RAS); Alexey E. Fedotov (Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)); Andrey A. Ananichev (Institute of Applied Physics of the RAS); Andrey S. Zuev (Federal Research Center "Institute of Applied Physics RAS"); Vladimir N. Manuilov (Institute of Applied Physics RAS); Roman M. Rozen-tal (Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)); Irina V. Zotova (Institute of Applied Physics RAS); Mikhail Yu. Glyavin (Institute of Applied Physics RAS);*
- 3 The Electrical Property Impact Applied by Ablation on Functional Areas  
*Hu Fan (Air Equipment Department); Chao Wang (Aerospace Research Institute of Materials & Processing Technology); Yi Wang (Aerospace Research Institute of Materials & Processing Technology); Rong-Qing Sun (Aerospace Research Institute of Materials & Processing Technology); Han Qiao Shi (Aerospace Research Institute of Materials & Processing Technology); Peng Zhang (Aerospace Research Institute of Materials & Processing Technology); Jian-Chang Wang (Aerospace Research Institute of Materials & Processing Technology); Bao-Gang Sun (Aerospace Research Institute of Materials & Processing Technology);*
- 4 A Low-profile Wideband Dual-polarized Antenna with Coupled Feed Structure for 5G Base Station Application  
*Cong Chen (Southwest University of Science and Technology); Xin Cao (Southwest University of Science and Technology); Longjian Zhou (Southwest University of Science and Technology); Qiangming Cai (Southwest University of Science and Technology); Jia Wan (Southwest University of Science and Technology); Yuyu Zhu (Southwest University of Science and Technology);*
- 5 Mutual Coupling Error Correction Algorithm of MIMO Radar Based on Deep Learning  
*Hongbo Fei (Harbin Institute of Technology at Weihai); Linwei Wang (Harbin Institute of Technology at Weihai); Aijun Liu (Harbin Institute of Technology at Weihai); Chang Jun Yu (Harbin Institute of Technology at Weihai);*

- 6 Dynamically Tunable Refractive Index Sensor of MIM-graphene Hybrid Cavity Structure Based on Fano Resonance  
*Ting Zhang (Sichuan University); Xiaoqing Yang (Sichuan University); Gao Feng (Sichuan University); Huajiang Peng (Sichuan University);*
- 7 A Three-dimensional Electromagnetic Scattering Simulation Tool  
*H. Liu (University of Electronic Science and Technology of China); Li Xu (University of Electronic Science and Technology of China); B. Q. Liu (University of Electronic Science and Tech of China);*
- 8 Design of a High CMTI Level Shifting Circuit for GaN Gate Driver ICs  
*Zujing Zhang (Southwest Jiaotong University); Quanyuan Feng (Southwest Jiaotong University); Jiaxiong Deng (Southwest Jiaotong University);*
- 9 An Antenna Gain Test Method Based on Extrapolation Method  
*Zihao Fu (Beijing Institute of Radio Metrology & Measurement); Yongjun Wang (Beijing Institute of Electronic System Engineering); Wei Quan (Beijing Shiny Tech. Co., Ltd.); Yanfang Li (Jiangxi Science & Technology Normal University); Jianchong Jia (Beijing Institute of Electronic System Engineering);*
- 10 Nanoparticle Deep-subwavelength Dynamics Empowered by Optical Meron-antimeron Topology  
*Chengfeng Lu (Tongji University); Yuzhi Shi (Tongji University (TJU)); Xinbin Cheng (Tongji University);*
- 11 Precipitation Retrieval of FY-3D MWHTS and MWRI Data Based on Light Gradient Boosting Model  
*Yanfang Lv (Beijing Information Science and Technology University); Lanjie Zhang (Beijing Information Science and Technology University); Yifan Zhang (Beijing Information Science and Technology University); Biao Zhang (Beijing Information Science and Technology University);*
- 12 High Isolation Base Station Antenna Array Based on Fully Connected Neural Network Optimization  
*Xiaochi Lu (University of Electronic Science and Technology of China); Haotian Li (University of Electronic Science and Technology of China); Dexin Zhao (National Innovation of Defense Technology, Academy of Military Sciences PLA China);*
- 13 Study on the Detection Performance of Polarization Light Based on Metasurfaces with Different Configurations  
*Chao Ye (China Jiliang University); Han Gao (China Jiliang University);*
- 14 Design of P Band Filter Antenna with High Out-of-Band Suppression  
*Jiangling Dou (Kunming University of Science and Technology); Yinsu Yuan (Kunming University of Science and Technology); Jian Song (Kunming University of Science and Technology); Qingwang Wang (Kunming University of Science and Technology); Tao Shen (Kunming University of Science and Technology);*
- 15 A Novel Compact Omnidirectional Tubby Patch Antenna with Capacitive Loading for Stable Radiation in Aero Vehicle Wireless Communications  
*Jingyan Mo (Nokia Shanghai Bell Inc.);*
- 16 Enhancing Wi-Fi Based Ranging Accuracy through a Two-stage Algorithmic Approach  
*Jingyan Mo (NOKIA Shanghai Bell Inc.);*
- 17 Analysis of Non-periodic and Non-planar Conformal Phased Array Antennas for Millimeter Wave Applications  
*Shih-Chung Tuan (Asia Eastern University of Science and Technology);*
- 18 An Evaluation of Representative Samples Replay and Knowledge Distillation Regularization for SAR ATR Continual Learning  
*Hao Sun (National University of Defense Technology); Yanjie Xu (National University of Defense Technology); Kai Fu (National University of Defense Technology); Lin Lei (National University of Defense Technology); Kefeng Ji (National University of Defense Technology); Gangyao Kuang (National University of Defense Technology);*
- 19 Modeling of Electrodynamical Components of a Complex for Microwave Pyrolysis  
*Alexander Vikharev (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); T. O. Krapivnitckaia (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); A. B. Alyeva (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); S. A. Ananicheva (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Mikhail Yu. Glyavin (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Nikolai Yu. Peskov (Institute of Applied Physics, RAS);*
- 20 Sectioned Gyro-BWO and Gyro-TWT with Zigzag Quasi-optical Systems: 2D Theory and Results  
*Ekaterina Mikhailovna Novak (Institute of Applied Physics RAS); Sergey V. Samsonov (Institute of Applied Physics, Russian Academy of Sciences); Andrei V. Savilov (Institute of Applied Physics, RAS);*
- 21 Investigation of the Effect of Cavity Roughness on the Output Characteristics of Terahertz Gyrotrons  
*Darya Aleksandrovna Kotova (IAP RAS); Anton S. Sedov (IAP RAS); Andrey S. Zuev (Federal Research Center "Institute of Applied Physics RAS");*

- 22 Simulations and Measurements of Selective Properties of Rectangular Grooves in Open Cavities  
*Andrey A. Ananichev (Institute of Applied Physics of the RAS); Ilya V. Bandurkin (Institute of Applied Physics RAS); Alexey E. Fedotov (Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)); Andrey Pavlovich Fokin (Federal Research Center A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)); Dmitry I. Sobolev (Institute of Applied Physics, Russian Academy of Sciences); Mikhail D. Proyavin (Institute of Applied Physics, Russian Academy of Sciences);*
- 23 Polarimetric SAR Image Super-resolution Based on Coded Polarimetric Contexture Matrix and a Dual-branch Network  
*Lin-Yu Dai (National University of Defense Technology); Ming-Dian Li (National University of Defense Technology); Si-Wei Chen (National University of Defense Technology);*
- 24 Arduino-based Implementation and Design of Modern Temperature Measurements Sensor Environments  
*Daniils Aleksandrov-Moisejs (Riga Technical University); Elans Grabs (Riga Technical University); Tianhua Chen (Riga Technical University); Romualds Beļinskis (Riga Technical University); Nikolajs Bogdanovs (Riga Technical University); Toms Kārklīšs (Riga Technical University); Jānis Klūga (Riga Technical University); Mihails Stetjuha (Riga Technical University); Aleksandrs Ipatovs (Riga Technical University);*
- 25 Design of a Compact UWB BPF with an Embedded Folded-stub Loaded Square Loop Resonator  
*Lingling Yang (Wuhan Vocational College of Software and Engineering); Yongzhi Cheng (Wuhan University of Science and Technology); Haihong Liu (Wuhan University of Science and Technology);*
- 26 The Phenomenon of Rabi Spectrum Broadening Caused by the Colored Noise  
*Ni An (National Key Laboratory of Scattering and Radiation); J. M. Gou (National Key Laboratory of Scattering and Radiation); Xunwang Dang (National Key Laboratory of Scattering and Radiation);*
- 27 A Ring-shaped Miniaturized Reflectarray Unit Based on Mandelbrot Fractal Geometry  
*Hou Yi Ding (Tongji University); Yuan Chu Xu (Tongji University); Yi Ruo Wang (Tongji University); Mei Song Tong (Tongji University);*
- 28 A Novel Multi-parameter Intelligent Compensation Method for Accurate Detection of Dissolved Oxygen Concentration  
*Xu Cong Zhang (Tongji University); Guo Chun Wan (Tongji University); Mei Song Tong (Tongji University);*
- 29 A Low-power Collaborative Control Method for Vehicle-grade Ambient Lighting System  
*Wen Bo Fu (Shanghai Institute of Technology); Lan Chen (Shanghai Institute of Technology); Jiahui Wang (Shanghai Institute of Technology); Mei Song Tong (Tongji University);*
- 30 Research of Beam Forming Method for Radar-based Non-invasive Pulse Wave Monitoring  
*Siqi Huang (Chongqing University); Xi Qiu (Chongqing University); Jincheng Sun (Chongqing University);*
- 31 Characteristics of Coaxial Grid Discharge Plasma and Its Effect on Microwave Transmission  
*Hailu Wang (Institute of Defense Engineering); Xingbao Lyu (Harbin Institute of Technology); Z. Y. Li (Harbin Institute of Technology); Chengxun Yuan (Harbin Institute of Technology);*
- 32 Design of LED Lighting System with Automatic Dimming, Mixing and Situational Control  
*Yu-En Wu (National Kaohsiung University of Science and Technology); Xu-Hui Jiang (National Kaohsiung University of Science and Technology);*
- 33 Design of UWB Bow-tie Antenna for High Power Electromagnetic Environment Monitoring  
*Junli Lu (Southwest Jiaotong University); Xiang-Qiang Li (Southwest Jiaotong University); Jian-qiong Zhang (Southwest Jiaotong University); Qingfeng Wang (Southwest Jiaotong University);*
- 34 An Exploration of Charge-neutral Atmospheric Propagation Path Error Correction Method for Interferometric Radar Altimeter  
*Fanwei Su (Ocean University of China); Yunhua Wang (Ocean University of China); Yining Bai (China University of Petroleum); Daozhong Sun (Xidian University); Yanmin Zhang (Ocean University of China);*
- 35 An Improved Numerical Algorithm for the Coupling Simulation of Shielded Cable  
*Zhihong Ye (Chongqing University of Posts and Telecommunications); Zihan Meng (Chongqing University of Posts and Telecommunications); Teng Hu (Chongqing University of Posts and Telecommunications);*
- 36 Microwave Coincidence Imaging in Frequency Domain Based on Phase Modulation  
*Hang Lin (National University of Defense Technology); Hongyan Liu (National University of Defense Technology); Kang Liu (National University of Defense Technology); Ke Xu (National University of Defense Technology); Yongqiang Cheng (National University of Defense Technology); Caipin Li (Xi'an Institute of Space Radio Technology);*
- 37 Terahertz Broadband Cross-polarized Metasurface Based on Square Split-ring Resonators  
*Huayan Sun (Yunnan University); Zhe Chen (Yunnan University); Yongping Xu (Yunnan University);*
- 38 Heisenberg-limited Spin Squeezing: Transforming Non-squeezing Interaction into Squeezing Interaction  
*Long-Gang Huang (Tsinghua University); Feng Chen (Tsinghua University); Xinwei Li (Tsinghua University); Yaohua Li (Tsinghua University); Rong Lü (Tsinghua University); Yong-Chun Liu (Tsinghua University);*

- 39 A Wide Beamwidth Slot Type SIW 28G Antenna  
*Xia Zhou (Nokia Shanghai Bell Co., Ltd.); Xiuqi Lai (Shanghai Yangpu High School of PRC);*
- 40 A Low Sidelobe Level Along Direction of Propagation 4-order OAM Beam Generated by Hexagonal Reflective Metasurface  
*Desheng Yang (Harbin Institute of Technology); Cong Liu (Harbin Institute of Technology); Yueyi Yuan (Harbin Institute of Technology); Qun Wu (Harbin Institute of Technology); Kuang Zhang (Harbin Institute of Technology);*
- 41 EMC Evaluation of High-power Electronic System Based on Improved AHP-TOPSIS  
*Qiangming Cai (Southwest University of Science and Technology); Quan Deng (Southwest University of Science and Technology); Xin Cao (Southwest University of Science and Technology); Longjian Zhou (Southwest University of Science and Technology); Haoran Li (Southwest University of Science and Technology); Zhen-Yong Du (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yixiang Li (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yuyu Zhu (Southwest University of Science and Technology); Jun Fan (Southwest University of Science and Technology);*
- 42 A Wavefront Modulation Method with Converged Energy for Radar Forward-looking Imaging  
*Feng Kuang (National University of Defense Technology); Kang Liu (National University of Defense Technology); Hongyan Liu (National University of Defense Technology); Jianqiu Wang (National University of Defense Technology); Yang Yang (National University of Defense Technology);*
- 43 FEMSiP Thermal Prediction Network Model with In-stage BPF Gain Measurement Giving Identifiable Spatial Resolution  
*Xilei Liu (South China University of Technology); X. Wang (Guangzhou RunXin Information Technology Co. Ltd.); K. Yang (Guangzhou RunXin Information Technology Co. Ltd.); Changjian Zhou (South China University of Technology);*
- 44 Upconversion Luminescent Nanomaterials for Precise Detection and Analysis  
*Jialin Liu (South China Normal University); Qianyi Guo (South China Normal University); Jiewei Chen (The Hong Kong Polytechnic University); Lihua Li (South China Normal University);*
- 45 Metasurface Hologram and the Superposition of Ring Vortex Beams for Polarization Measurement  
*Liang Xu (Kunming University of Science and Technology); Jin Han (Kunming University of Science and Technology); Yongjin Li (Kunming University of Science and Technology); Zhiguo Song (Kunming University of Science and Technology); Jianbei Qiu (Kunming University of Science and Technology);*
- 46 Typhoon Wind Speed Retrieval from HY-2C Microwave Radiometer Based on LightGBM  
*Xuchen Dai (Beijing Information Science and Technology University); Biao Zhang (Beijing Information Science and Technology University); Yifan Zhang (Beijing Information Science and Technology University); Lan-jie Zhang (Beijing Information Science and Technology University);*
- 47 Spin-orbit Conversion of Vector Light Field Just after Spherical Lens  
*Victor V. Kotlyar (Image Processing Systems Institute — Branch of the Federal Scientific Research Centre “Crystallography and Photonics” of RAS); A. A. Kovalev (Image Processing Systems Institute of the Russian Academy of Sciences); Sergey S. Stafeev (Image Processing Systems Institute — Branch of the Federal Scientific Research Centre “Crystallography and Photonics” of RAS); A. G. Nalimov (Samara National Research University); Elena Sergeevna Kozlova (Image Processing Systems Institute of the Russian Academy of Sciences);*
- 48 Design and Modeling of Monopulse Antenna System  
*K. S. Kharlamp’ev (National Research University “Moscow Power Engineering Institute”); I. A. Gromov (JSC “Kompozit”); Mikhail Sergeyevich Mikhailov (National Research University “Moscow Power Engineering Institute”);*
- 49 Quantum Enhanced Optical Phase Metrology Beyond the Standard Quantum Limit  
*Yilun Xue (Xi’an Institute of Applied Optics); Bing Yu (Xi’an Institute of Applied Optics); Wangbin Xue (Xi’an Institute of Applied Optics); Juan Chen (Xi’an Institute of Applied Optics); Yan Li (Xi’an Institute of Applied Optics); Mengwei Cao (Xi’an Institute of Applied Optics); Junwei Chu (Xi’an Institute of Applied Optics); Jihong Fan (Xi’an Institute of Applied Optics);*
- 50 A Compact Circularly Polarized Ring Patch Antenna for RFID Reader Application  
*Junlong Li (Shanwei Institute of Technology); Guogang Huang (Shanwei Institute of Technology); Caili Yu (Shanwei Institute of Technology); Mingzhi Zheng (Shanwei Institute of Technology); Hui Liu (Guangdong Polytechnical Normal University);*
- 52 Advances on Computational Spectrometer  
*Qian Xue (Huazhong University of Science and Technology); Yang Yang (Huazhong University of Science and Technology); Wenkai Ma (Huazhong University of Science and Technology); Hanqiu Zhang (Huazhong University of Science and Technology); Jiang Tang (Huazhong University of Science and Technology); Jianbing Zhang (Huazhong University of Science and Technology);*
- 53 The Theory of Cathode Plasma Expansion in a Spatially Non-uniform Geometric Configuration of a Vacuum Diode  
*Vasily Yu. Kozhevnikov (Harbin Institute of Technology); Vladislav S. Igumnov (Harbin Institute of Technology); Chengrun Yuan (Harbin Institute of Technology);*



- 54 Coplanar Antenna Decoupling Using Soft Surface with Staggered Rectangular Holes  
*Jianpu Qiao (National Key Laboratory of Electromagnetic Effect and Security on Marine Equipment); Hang Ji (National Key Laboratory of Electromagnetic Effect and Security on Marine Equipment); Weijun Wu (National Key Laboratory of Electromagnetic Effect and Security on Marine Equipment); Xianliang Zeng (National Key Laboratory of Electromagnetic Effect and Security on Marine Equipment);*
- 55 Millimeter-wave Low-profile Spoof Surface Plasmon Polaritons Endfire Antenna Using Traveling-wave Feeding Mechanism  
*Yiming Zhang (Zhejiang University); Yuanqing Yao (Zhejiang University); Jun Hu (Zhejiang University); Sailing He (Royal Institute of Technology & Zhejiang University);*
- 56 Application Technology of Correlation Imaging Based on a Novel Type of Structured Light Speckle  
*Mochou Yang (Sichuan University); Peng Wang (Sichuan University); Yi Wu (Sichuan University); Guoying Feng (Sichuan University); Hai-Zhi Song (Southwest Institute of Technical Physics & UESTC);*
- 57 Electromagnetic-acoustic Beam Compressor by Double-physical-fields Null Medium  
*Ran Sun (Taiyuan University of Technology); Fei Sun (Taiyuan University of Technology); Yichao Liu (Taiyuan University of Technology); Zeyu Zhang (Taiyuan University of Technology); Chao Yang (Taiyuan University of Technology);*
- 58 Development of a Closed-loop Antenna Tracking System for Synchronous Satellites  
*Cheng-Hua Wu (National Formosa University); You-Min Zhu (National Formosa University); Ting-Yi Chen (National Formosa University); Chau-Chung Song (National Formosa University);*
- 59 A Conformal Antenna with GPS/WLAN-band Operations for UAVs Communication  
*Astik Mahapatra (National Formosa University); Wen-Chung Liu (National Formosa University); Yu-Kai Chen (National Formosa University);*
- 60 Code Design of Metasurface Based on BPSO for Holographic Imaging System  
*Shu-Dian Wang (Nanjing University of Posts and Telecommunications); Fang-Fang Wang (Nanjing University of Posts and Telecommunications);*
- 61 Low Voltage Sheet Beam W-band Klystron Design  
*Bingchuan Xie (Aerospace Information Research Institute, Chinese Academy of Sciences); Rui Zhang (Aerospace Information Research Institute, Chinese Academy of Sciences); Yong Wang (Aerospace Information Research Institute, Chinese Academy of Sciences);*
- 62 Equivalent Circuit Analysis of the Multi-Sheet-Beam Folded Waveguide Slow-wave Structure  
*Yanan Ma (Aerospace Information Research Institute, Chinese Academy of Sciences); Fengying Lu (Aerospace Information Research Institute, Chinese Academy of Sciences); Rui Zhang (Aerospace Information Research Institute, Chinese Academy of Sciences); Yong Wang (Aerospace Information Research Institute, Chinese Academy of Sciences);*
- 63 Development of Building Indoor Air Quality Monitoring Based on IoT Sensor Network  
*Ruslans Sudniks (Riga Technical University); Arturs Ziemelis (Riga Technical University); Sandis Spolitis (Riga Technical University); Agris Nikitenko (Riga Technical University); Andis Supe (Riga Technical University);*
- 64 Development and Assessment of a Lensed Fiber for Applications in Integrated Photonics  
*Arvids Sedulis (Riga Technical University); Deniss Zurikovs (Riga Technical University); Kristaps Rubulis (Riga Technical University); Ints Murrans (Riga Technical University); Dmitrijs Prigunovs (Riga Technical University); Toms Salgals (Riga Technical University); Dilan Enrique Ortiz Blanco (Riga Technical University); Mareks Parfjonovs (Riga Technical University); Lilita Gegere (Riga Technical University); Armands Ostrovskis (Riga Technical University); Oskars Ozoliņš (Riga Technical University, Latvian Academy of Sciences); Vjaceslavs Bobrovs (Riga Technical University); Sandis Spolitis (Riga Technical University);*
- 65 Size Prediction of a Single Trapped Upconversion Nanoparticle in Aqueous Solutions  
*Dajing Wang (Beihang University); Jiachen Zheng (Beihang University); Jinlong Shi (Beihang University); Xuchen Shan (Beihang University); Fan Wang (Beihang University);*
- 66 An Integrated Full-polarized Light-emitting Device for Information Encryption  
*Jiawei Lv (Seoul National University); Ki Tae Nam (Seoul National University);*
- 67 The Test Parameter Optimization and Response Analysis of the Line Antenna in the HEMP Bounded-wave Simulator  
*Chuanbao Du (Northwest Institute of Nuclear Technology); Zhuo Wang (Xidian University); Wei Wang (Northwest Institute of Nuclear Technology); Zhi-tong Cui (Northwest Institute of Nuclear Technology); You-Huo Huang (Xidian University); Linshen Xie (Northwest Institute of Nuclear Technology); Xin Nie (Northwest Institute of Nuclear Technology);*
- 68 System-level Electromagnetic Effect Analysis of Control System by Pulsed Current Injection (PCI) Test  
*Congguang Mao (Northwest Institute of Nuclear Technology); Feng Qin (Northwest Institute of Nuclear Technology); Chuanbao Du (Northwest Institute of Nuclear Technology);*

**Session 1P1a****Quantum Information Processing and Devices****Monday PM, April 22, 2024****Room 1 - Yarui**

Organized by Hai-Zhi Song, Guangwei Deng

Chaired by Hai-Zhi Song, Daquan Yang

13:00 Electromechanical Interfaces Based on Low Dimensional  
Invited Nanostructures

*Zhuo-Zhi Zhang (University of Science and Technology of China);*

13:20 Quantum Information Processing with Magnomechanical  
Invited Systems

*Jie Li (Zhejiang University);*

13:40 Multiquanta Bundle Emission

Invited

*Qian Bin (Huazhong University of Science and Technology);*

14:00 Coherent Electron Transport in a Non-single-connected  
Invited Normal Metal-Insulator-Superconductor Heterostructure

*Konstantin Yu. Arutyunov (National Research University "Higher School of Economics"); A. S. Gurskiy (HSE University); E. A. Sedov (HSE University); E. P. Pozdnyakova (HSE University); D. L. Shapovalov (Kapitza Institute RAS); A. M. Chekushin (Institute of Radio-engineering and Electronics RAS); M. A. Markina (Institute of Radio-engineering and Electronics RAS); M. A. Tarasov (Institute of Radio-engineering and Electronics RAS);*

14:20 Electric and Magnetic Response of the Superconducting  
Invited Condensate in Superconducting-magnetic Hybrids

*Nataliya G. Pugach (HSE University); D. V. Seleznyov (HSE University); Ya. V. Turkin (HSE University);*

14:40 Mid-infrared Single-photon Upconversion Spectroscopy  
Invited Based on Temporal-spectral Quantum Correlation

*Yujie Cai (East China Normal University); Yu Chen (East China Normal University); Xiaoning Xin (East China Normal University); Kun Huang (East China Normal University); E Wu (East China Normal University);*

15:00 Fractal Superconducting Nanowire Single-photon Detectors  
Invited

*Xiaolong Hu (Tianjin University);*

**15:30 Coffee Break**

16:00 Ultrastrong Light-matter Interaction in Circuit-QED  
Invited Systems

*ShuaiPeng Wang (Beijing Academy of Quantum Information Sciences); Tiefu Li (Tsinghua University); J. Q. You (Zhejiang University);*

16:20 Picotesla Magnetometry of Microwave Fields with Diamond Sensors  
Invited

*Zhecheng Wang (University of Science and Technology of China); Fei Kong (University of Science and Technology of China); Pengju Zhao (University of Science and Technology of China); Zhehua Huang (University of Science and Technology of China); Pei Yu (University of Science and Technology of China); Ya Wang (University of Science and Technology of China); Fazhan Shi (University of Science and Technology of China); Jiangfeng Du (University of Science and Technology of China);*

**Session 1P1b****Foundation and Implementation of Optical Quantum Information****Monday PM, April 22, 2024****Room 1 - Yarui**

Organized by Jietai Jing, Shengshuai Liu

Chaired by Jietai Jing, Shengshuai Liu

16:40 Quantum Steering and Its Applications in Quantum  
Invited Information

*Yu Xiang (Peking University);*

16:55 Experimental Verification of the Fluctuation Theorem  
Invited for a Quantum Channel

*Hui Liu (Nanjing University); Jie Xie (Nanjing University); Hyukjoon Kwon (Korea Institute for Advanced Study); Yixin Zhao (Nanjing University); M. S. Kim (Imperial College London); Lijian Zhang (Nanjing University);*

17:10 Integrated Multimode Photonic Quantum Memory at  
Invited Telecom Band

*Qiang Zhou (Tianfu Jiangxi Laboratory & University of Electronic Science and Technology of China);*

17:25 20-s Coherence Time with a Single Cesium Atom in an  
Invited Optical Dipole Trap

*Gang Li (Shanxi University);*

17:55 Steady State Spin Squeezing of an Atomic Ensemble  
Invited

*Junlei Duan (Fudan University); Zhiwei Hu (Fudan University); Xingda Lu (Fudan University); Liantuan Xiao (Shanxi University); Suotang Jia (Shanxi University); Klaus Mølmer (University of Copenhagen); Yanhong Xiao (Fudan University);*

18:10 Experimental Demonstration of Inequivalent Mutually  
Invited Unbiased Bases

*Wen-Zhe Yan (University of Science and Technology of China); Yunting Li (Fudan University); Zhibo Hou (University of Science and Technology of China, CAS); Huangjun Zhu (University of Cologne); Guo-Yong Xiang (University of Science and Technology of China, CAS); Chuan-Feng Li (University of Science and Technology of China, CAS); Guang-Can Guo (University of Science and Technology of China);*

- 18:25 Controllable Transitions among Phase-matching Conditions in a Single Nonlinear Crystal  
*Zi-Qi Zeng (Wuhan Institute of Technology); Shi-Xin You (Wuhan Institute of Technology); Zi-Xiang Yang (Wuhan Institute of Technology); Chen-Zhi Yuan (Wuhan Institute of Technology); Cheng-long You (Louisiana State University); Rui-Bo Jin (Wuhan Institute of Technology);*

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**Session 1P2**

**Terahertz Meta-Devices 1 & 2**

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**Monday PM, April 22, 2024**

**Room 2 - Jincheng 3**

Organized by Su Xu, Xueqian Zhang, Quan Xu

Chaired by Su Xu, Xueqian Zhang

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- 13:15 Spin-momentum Locking and Applications in Programmable Metamaterial  
 Invited *Jin Hui Shi (Harbin Engineering University); Zhaoqi Jiang (Harbin Engineering University); Zheng Zhu (Harbin Engineering University); Yuxiang Li (Harbin Engineering University); Chunying Guan (Harbin Engineering University);*
- 13:30 Spatial Modulation of Terahertz Beams for Imaging and Scanning  
 Invited *Jierong Cheng (Nankai University); Shengjiang Chang (Nankai University);*
- 13:50 Terahertz All-dielectric High-Q Metasurfaces Driven by Dynamic Bound States in the Continuum  
 Invited *Song Han (Zhejiang University);*
- 14:05 Study on the Dependence of Terahertz Photoelectric Tunable-step Detector Performance on Antenna Geometry  
*Ran Chen (University of Cambridge); Harvey E. Beere (University of Cambridge); David A. Ritchie (University of Cambridge); Wladislaw Michailow (University of Cambridge);*
- 14:15 Design of High Speed and High Power Uni-travelling-carrier Photodiode with Novel Doping Structure  
*Xuan Li (Zhejiang Lab); Xianbin Yu (Zhejiang University);*
- 14:30 Detecting Spoof Surface-plasmon-polariton Circuitry in Subwavelength Resolution with a Metalens  
*Zhaohua Xu (Jilin University); Nan-Shu Wu (Jilin University); Zhi-Jun Qin (Jilin University); Su Xu (Jilin University);*
- 14:45 Terahertz Plasmonic Vortex Interferometers Inspired Topological Phase Transition in Optical Meronium  
*Yuanhao Lang (Tianjin University); Quan Xu (Tianjin University); Changxu Liu (University of Exeter); Jiaguang Han (Tianjin University);*

- 15:00 Encircling Degenerate Exceptional Points in Non-Hermitian Photonic Waveguides  
*Zhong Lei Shan (Jilin University); Xu-Lin Zhang (Jilin University);*
- 15:15 Terahertz Functional Devices Based on Multilayer Flexible Metasurface  
*Zhibo Yao (Tianjin University); Xinyao Yuan (Tianjin University); Yuanhao Lang (Tianjin University); Xueqian Zhang (Tianjin University); Quan Xu (Tianjin University); Jiaguang Han (Tianjin University);*
- 15:30 **Coffee Break**
- 16:00 Flexible Terahertz Metasurface Absorbers Empowered by Bound States in the Continuum  
 Invited *Longqing Cong (Southern University of Science and Technology);*
- 16:15 E-type Resonator Metasurface Based on BIC for Controllable Multi-band Filtering  
 Invited *Yuxin Lang (Tianjin University); Qun Ren (Tianjin University); Xia Xiao (Tianjin University); Yuqing He (Tianjin University); Yanwei Pang (Tianjin University);*
- 16:30 Freely Tailoring THz Lights in Both Far-field and Near-field with Metasurfaces  
 Invited *Shulin Sun (Fudan University); Zhuo Wang (Fudan University); Yao Yao (Fudan University); Shiqing Li (Fudan University); Qiong He (Fudan University); Lei Zhou (Fudan University);*
- 16:45 Analogue of Collectively Induced Transparency in Metamaterials  
 Invited *Wei Huang (Guilin University of Electronic Technology); Shiting Cao (Guilin University of Electronic Technology); Xiaowei Qu (Guilin University of Electronic Technology); Shan Yin (Guilin University of Electronic Technology); Wentao Zhang (Guilin University of Electronic Technology);*
- 17:00 Real-space Experimental Characteristics of the Ultralong-lifetime Trap of the Radiative Terahertz Light via Giant Transverse Shift  
*Minggui Wei (Nanyang Technological University); Yang Long (Nanyang Technological University); Feng Wu (Guangdong Polytechnic Normal University); Guigeng Liu (Nanyang Technological University); Baile Zhang (Nanyang Technological University);*
- 17:15 On-chip Non-volatile Reconfigurable THz Varifocal Metallens  
*Shoujun Zhang (Tianjin University); Xieyu Chen (Tianjin University); Kuan Liu (Dalian University of Technology); Yuanhao Lang (Tianjin University); Quan Xu (Tianjin University); Ranjan Singh (Nanyang Technological University); Tun Cao (Dalian University of Technology); Zhen Tian (Tianjin University);*

- 17:30 High-efficiency and Broadband Terahertz Vortex Beam Plates  
*Li Niu (Tianjin University); Xieyu Chen (Tianjin University); Yuanhao Lang (Tianjin University); Quan Xu (Tianjin University); Xueqian Zhang (Tianjin University); Jiajun Ma (Tianjin University); Chunmei Ouyang (Tianjin University); Zhen Tian (Tianjin University); Jianguang Han (Tianjin University);*
- 17:45 Tailoring Spatiotemporal Dynamics of Plasmonic Vortices Based on Terahertz Metasurface  
*Xinyao Yuan (Tianjin University); Yuanhao Lang (Tianjin University); Xiaohan Jiang (Tianjin University); Xueqian Zhang (Tianjin University); Quan Xu (Tianjin University); Jianguang Han (Tianjin University);*
- 18:00 Flexible Power Splitting and Inter-chip Near-field Communications Based on Silicon Topological Photonics  
*Wen-Ya Wang (Jilin University); Hong Chen (Jilin University); Hang Ren (Jilin University); Su Xu (Jilin University);*

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### Session 1P3

#### New Physics and Applications of Zero-index and Other Extraordinary Metamaterials

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Monday PM, April 22, 2024

Room 3 - Jincheng 2

Organized by Yun Lai, Jie Luo

Chaired by Yun Lai, Jie Luo

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- 13:00 Quantum and Thermal Emission from Time-modulated Epsilon-near-zero Media  
Invited *Iñigo Liberal (Universidad Pública de Navarra, Campus Arrosadía);*
- 13:20 Optical Properties of Dielectric Cavities Embedded in the ENZ Materials  
Invited *Ying Gu (Peking University);*
- 13:40 Low-loss Zero-index Metawaveguides and Devices  
Invited *Yang Li (Tsinghua University);*
- 14:20 Extreme Nonlinear Optics in Epsilon-near-zero Materials  
Invited *Yuanmu Yang (Tsinghua University);*
- 14:40 Photonic Device Design Integrating the Photonic Crystal and Material Loss  
Invited *Sheng Zhang (Soochow University); Zhi Hong Hang (Soochow University);*
- 15:00 Optimizing Sound Communication with Tunable Metasurfaces  
Invited *Guancong Ma (Hong Kong Baptist University);*
- 15:20 Parallel Universes and Zero-index Wormholes for Photons  
Invited *Tongtong Song (Nanjing University); Hong Chen Chu (Nanjing University); Jie Luo (Soochow University); Ru-Wen Peng (Nanjing University); Mu Wang (Nanjing University); Yun Lai (Nanjing University);*

### 15:40 Coffee Break

- 16:00 Realization of Type-II Double Zero-index Photonic Crystals  
Invited *Zebin Zhu (Nanjing University of Science and Technology); Liyong Jiang (Nanjing University of Science and Technology);*
- 16:20 Simultaneously Controlling Double-physical Fields by Null Medium  
Invited *Fei Sun (Taiyuan University of Technology); Yichao Liu (Taiyuan University of Technology); Hanchuan Chen (Taiyuan University of Technology);*
- 16:40 Optical Parity-time Induced Perfect Resonance Transmission in Zero Index Metamaterials  
Invited *Cong Wang (Soochow University); Yadong Xu (Soochow University);*
- 17:00 Three-dimensional Double-zero-index Medium  
Invited *Changqing Xu (Nanjing Normal University); Hong Chen Chu (Nanjing University); Zeguo Chen (Nanjing University); Guancong Ma (Hong Kong Baptist University); Ying Wu (King Abdullah University of Science and Technology (KAUST)); Yun Lai (Nanjing University);*
- 17:20 Observation of Large Scattering in Refractive-index-near-zero Environments  
*Xingshuo Cui (Zhejiang University); Chan Wang (Zhejiang University); Tong Cai (Air Force Engineering University); Hongsheng Chen (Zhejiang University); Xiao Lin (Zhejiang University);*
- 17:35 Controlling the Directional Excitation of Surface Plasmon Polaritons Using Tunable Non-Hermitian Metasurfaces  
*Guohao Zhang (Nanjing University of Aeronautics and Astronautics); Changdong Chen (Nanjing University of Aeronautics and Astronautics); Yangyang Fu (Nanjing University of Aeronautics and Astronautics);*
- 17:50 Quenching of Second-harmonic Generation by Epsilon-near-zero Media  
*Chenglin Wang (Suzhou City University); Ran Shi (Suzhou City University); Lei Gao (Soochow University); Alexander Sergeevich Shalin (Moscow Institute of Physics and Technology); Jie Luo (Soochow University);*
- 18:05 Controlling Coherent Perfect Absorption via Long-range Connectivity of Defects in Three-dimensional Zero-index materials  
*Dongyang Yan (Soochow University); Ran Mei (Soochow University); Mingyan Li (Soochow University); Zhikai Ma (Peking University); Zhi Hong Hang (Soochow University); Jie Luo (Soochow University);*

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**Session 1P4a**  
**Special Session on Quantum Frontiers**

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**Monday PM, April 22, 2024**

**Room 4 - Jincheng 1**

Organized by Jinxian Guo, Guzhi Bao

Chaired by Jinxian Guo, Guzhi Bao

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13:00 Quantum Simulation with Superradiance Lattices

Invited

*Han Cai (Zhejiang University);*

13:15 Atom-light Quantum Interface with Cold Atoms

Invited

*Xingchang Wang (Southern University of Science and Technology); Jianmin Wang (Southern University of Science and Technology); Georgios A. Siviloglou (Southern University of Science and Technology); Jiefei Chen (Southern University of Science and Technology);*

13:30 Quantum-enhanced Effects in Atomic Magnetometer

Invited

*Jia Kong (Hangzhou Dianzi University);*

13:45 Multi-physical Field Detection Based on NV Center in Diamond

Invited

*Bing Chen (Hefei University of Technology);*

14:00 Optimal Resource Allocation in Lossy Quantum Interferometer

*Wenfeng Huang (East China Normal University); Liqing Chen (East China Normal University);*

14:15 Entangled Light Enabled Quantum Magnetic Gradiometer

*Shuhe Wu (Shanghai Jiao Tong University); Guzhi Bao (Shanghai Jiao Tong University); Liqing Chen (East China Normal University); Weiping Zhang (Shanghai Jiao Tong University);*

14:30 Protection of Atomic Coherence in the Geomagnetic Environment

*Peiyu Yang (Shanghai Jiao Tong University); Guzhi Bao (Shanghai Jiao Tong University); Liqing Chen (East China Normal University); Weiping Zhang (Shanghai Jiao Tong University);*

14:45 Proposal for Practical Rydberg Quantum Gates Using a Native Two-photon Excitation

*Rui Li (Shanghai Jiao Tong University); Jing Qian (East China Normal University); Weiping Zhang (Shanghai Jiao Tong University);*

15:00 Stochastic Resonance of Spinor Condensates in Optical Cavity

*Zhengchun Li (Shanghai Jiao Tong University);*

15:15 Polarization Modulation Based on Light-atom Interaction

*Ruiqi Wang (Shanghai Jiao Tong University); Peiyu Yang (Shanghai Jiao Tong University); Ding Huang (Shanghai Jiao Tong University); Guzhi Bao (Shanghai Jiao Tong University); Weiping Zhang (Shanghai Jiao Tong University);*

15:30 Quantum-enhanced Electrometer Based on Microwave-dressed Rydberg Atoms

*Dong Zhang (Shanghai Jiao Tong University); Shuhe Wu (Shanghai Jiao Tong University); Guzhi Bao (Shanghai Jiao Tong University); Weiping Zhang (Shanghai Jiao Tong University);*

15:45 **Coffee Break**

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**Session 1P4b**  
**Quantum Chip**

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**Monday PM, April 22, 2024**

**Room 4 - Jincheng 1**

Organized by Xian-Min Jin

Chaired by Xian-Min Jin

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16:00 CHIPX: Chip Hub for Integrated Photonics Xplore

Invited

*Xian-Min Jin (Shanghai Jiao Tong University);*

16:20 Non-line-of-sight Imaging at Infrared Wavelengths Using a Superconducting Nanowire Single-photon Detector

Invited

*Xiaolong Hu (Tianjin University);*

16:40 Half-wavelength Pitch Wavelength Array with Low-crosstalk

Invited

*Ting Li (ShanghaiTech University); Peiji Zhou (ShanghaiTech University); Hong Zhang (ShanghaiTech University); Lipeng Xia (ShanghaiTech University); Yi Zou (ShanghaiTech University);*

17:00 Microwave Quantum Photonics Based on Superconducting Circuits

Invited

*Hongyi Zhang (Tsinghua University);*

17:20 Quantum Computing Software and Algorithms for Now

Invited

*Man-Hong Yung (Huawei Technologies Co., Ltd);*

17:40 Research on Planar Lightwave Circuit (PLC) Integrated Chip for Quantum Key Distribution (QKD)

Invited

*Junming An (Institute of Semiconductors, Chinese Academy of Sciences); Chunxue Zhang (Institute of Semiconductors, Chinese Academy of Sciences); Hanming Yang (Institute of Semiconductors, Chinese Academy of Sciences); Dan Wu (Institute of Semiconductors, Chinese Academy of Sciences); Jiashun Zhang (Institute of Semiconductors, Chinese Academy of Sciences); Liangliang Wang (Institute of Semiconductors, Chinese Academy of Sciences); Yue Wang (Institute of Semiconductors, Chinese Academy of Sciences);*

18:00 Highly-nonlinear Plexcitons in 2D Semiconductor-based Nanocavities

Invited

*Tian Jiang (National University of Defense Technology);*

18:20 Quantum Light Sources Based on III-V Quantum Dots

Invited

*Feng Liu (Zhejiang University);*

**Session 1P5a****Plasmon-enhanced Raman Spectroscopy and Its Chemistry 2****Monday PM, April 22, 2024****Room 5 - Yingbin**

Organized by Jun Yi, En-Ming You

Chaired by Jun Yi, En-Ming You

13:00 New Approaches on Plasmon-enhanced Raman Spectroscopy Vertically Probing Electrochemical Interface and Interphase with High Spatial Resolution

Invited Yu Gu (Xiamen University); Jun Yi (Xiamen University); En-Ming You (Jimei University); Yi-Fan Huang (Shanghai Tech University); Yue-Jiao Zhang (Xiamen University); Jian-Feng Li (Xiamen University); Bing-Wei Mao (Xiamen University); Zhong-Qun Tian (Xiamen University);

13:20 Probing Vibronic Coupling in a Single Molecule

Invited Yang Zhang (University of Science and Technology of China);

13:40 Molecular-level Insights on Reactive Arrangement in On-surface Photocatalytic Coupling Reactions Using Tip-enhanced Raman Spectroscopy

Invited Zhenfeng Cai (Sichuan University);

14:00 Local Heating and Raman Thermometry of a Single Molecule during the Chemical Reaction

Invited Yao Zhang (University of Science and Technology of China);

14:20 Pushing the Thinness Limit of Silver Films via an Ion-beam Thinning-back Process

Invited Dongxu Ma (Hunan University); Yiqin Chen (Hunan University);

14:40 Picocavity Adatoms Resolve Single Molecule Electrophotocatalysis

Invited Shu Hu (University of Cambridge); Jeremy J. Baumberg (University of Cambridge);

15:00 Unveiling C-C Coupling on Cu Surface during CO<sub>2</sub> Electro-reduction by *in-situ* PERS

Invited Chao Zhan (Xiamen University); Federico Dattila (The Barcelona Institute of Science and Technology (BIST)); Fabian Scholten (Fritz-Haber Institute of the Max-Planck Society); Clara Rettenmaier (Fritz-Haber Institute of the Max-Planck Society); Arno Bergmann (Fritz-Haber Institute of the Max-Planck Society); Núria López (Xiamen University); Beatriz Roldan Cuenya (Xiamen University);

15:40 **Coffee Break**

**Session 1P5b****Miniaturization of Optical Spectrometers****Monday PM, April 22, 2024****Room 5 - Yingbin**

Organized by Zongyin Yang, Shaowei Wang

Chaired by Shaowei Wang, Ruonan Ji

16:00 High-performance Integrated Miniature Spectrometer Enabled by Dielectric Cavity-based Structures

Ruonan Ji (Shanghai Institute of Technical Physics, Chinese Academy of Sciences); Qingquan Liu (Shanghai Institute of Technical Physics, Chinese Academy of Sciences); Shaowei Wang (Shanghai Institute of Technical Physics, Chinese Academy of Sciences);

16:15 On-chip Spectrometer with Cascaded Micro-ring Resonator and Mach-Zehnder Interferometers

Tongxin Yang (Beijing University of Posts and Telecommunications); Shiqi Zhang (Beijing University of Posts and Telecommunications); Lei Zhang (Beijing University of Posts and Telecommunications);

16:30 Miniaturized Computational Spectrometer Based on On-chip Resonators

Invited Xuhan Guo (Shanghai Jiao Tong University);

16:50 Mantis Shrimp-inspired Perovskite Spectral Polarimetric Camera

Yujin Liu (Jinan University); Zhong Ji (Jinan University); Zongyin Yang (Zhejiang University); Wenjie Mai (Jinan University);

17:05 High-performance Quantum Dot Spectrometers with an Excellent Denoising Algorithm

Jianbing Zhang (Huazhong University of Science and Technology);

17:20 Deep Learning-based Miniaturized All-dielectric Ultra-compact Film Spectrometer and Spectral Imaging Application

Junren Wen (Hangzhou Institute for Advanced Study); Chenying Yang (University of Chinese Academy of Sciences); Wei-Dong Shen (Zhejiang University);

17:35 Rapid in-situ Deviation Calibration of Computational Micro-spectrometer with Few-shot Meta-learning

Meichen Yang (University of Chinese Academy of Sciences); Xiuteng Chen (University of Chinese Academy of Sciences); He Zhu (University of Chinese Academy of Sciences); Hongxing Qi (University of Chinese Academy of Sciences);

17:50 Broadband Miniaturized Spectrometer Based on "Rainbow" Perovskites

Nan Zhang (Beijing Institute of Technology); X. Zheng (Beijing Institute of Technology);

18:05 On-chip Spectrometer with a Spectral-tunable Filter Array

Menghan Tian (Beihang University); Baolei Liu (Beihang University); Xiaolan Zhong (Beihang University); Fan Wang (Beihang University);

**Session 1P6****Advances in Nanophotonics and Metasurfaces 1****Monday PM, April 22, 2024****Room 6 - Huanhua**

Organized by Lingling Huang, Cheng Zhang

Chaired by Cheng Zhang, Lingling Huang

- 13:00 Diatomic- and Bilayer-metasurfaces for Multifunctional Polarization Manipulations  
*Song Gao (University of Jinan); Wenjing Yue (University of Jinan); Yang Li (Shandong University);*
- 13:15 Genetic Algorithm Assisted Meta-atom Design for High-performance Metasurfaces  
*Zhenjie Yu (Huazhong University of Science and Technology); Morin Li (Huazhong University of Science and Technology); Zhenyu Xing (Huazhong University of Science and Technology); Zeyang Liu (Huazhong University of Science and Technology); Cheng Zhang (Huazhong University of Science and Technology);*
- 13:35 Near-field Coupling of Janus Dipoles Beyond Polarization Locking  
*Chan Wang (Zhejiang University); Yuhan Zhong (Zhejiang University); Xuhuinan Chen (Zhejiang University); Huaping Wang (Zhejiang University); Tony Low (University of Minnesota); Hongsheng Chen (Zhejiang University); Baile Zhang (Nanyang Technological University); Xiao Lin (Zhejiang University);*
- 13:50 Single-shot Full-parameter Optical Imaging with Meta-surface  
Invited *YanJun Bao (Jinan University);*
- 14:10 Visible Transparent Wideband Microwave Meta-absorber with Designable Digital Infrared Camouflage  
*Yina Cui (Air Force Engineering University);*
- 14:25 Creating Grafted Vortex Beams with Optical Metasurfaces  
*Hammad Ahmed (Heriot-Watt University); Xi-anzhong Chen (Heriot-Watt University);*
- 14:40 Plasmonic-based "Rainbow" Chip for Dual-functional Intelligent Spectrometer  
Invited *Dylan Tua (The State University of New York at Buffalo); Ruiying Liu (The State University of New York at Buffalo); Wenhong Yang (King Abdullah University of Science and Technology); Lyu Zhou (The State University of New York at Buffalo); Haomin Song (King Abdullah University of Science and Technology); Leslie Ying (The State University of New York at Buffalo); Qiao-qiang Gan (King Abdullah University of Science and Technology (KAUST));*
- 15:00 Higher Dimensional Related Topology in Metamaterials  
Invited *Shaojie Ma (Fudan University);*
- 15:20 Toroidal Dipole Induced Near-field Directionality  
*Junho Jung (City University of Hong Kong); Yuqiong Cheng (City University of Hong Kong); Shubo Wang (City University of Hong Kong);*
- 15:35 **Coffee Break**
- 16:00 Manipulating Spectral Line Shape by Photonic Spin-orbit Interaction  
*Yuqiong Cheng (City University of Hong Kong); Wanyue Xiao (City University of Hong Kong); Shubo Wang (City University of Hong Kong);*
- 16:15 Multidimensional Light Field Modulation and Imaging  
Invited on Metasurfaces  
*Wei Li (Changchun Institute of Optics, Fine Mechanics and Physics, CAS);*
- 16:35 Structuring Quantum Light with on-chip Emitter-coupled Metasurfaces  
*Yinhui Kan (University of Southern Denmark); Xujing Liu (University of Southern Denmark); Sergey I. Bozhevolnyi (University of Southern Denmark);*
- 16:50 Atomically Thin Metasurfaces Enabled by Two-dimensional Semiconductors  
Invited *Xingwang Zhang (Suzhou Institute of Nano-tech and Nano-bionics, Chinese Academy of Sciences); Yue-feng Wang (Suzhou Institute of Nano-tech and Nano-bionics, Chinese Academy of Sciences); Jiaxin Zhou (Suzhou Institute of Nano-Tech and Nano-Bionics (SINANO), Chinese Academy of Sciences (CAS)); Di Huang (Suzhou Institute of Nano-Tech and Nano-Bionics (SINANO), Chinese Academy of Sciences (CAS));*
- 17:10 Metasurface-based Vectorial Field Generation and Control  
Invited *Dandan Wen (Northwestern Polytechnical University);*
- 17:30 Thermal Resonant Response of a Double Subwavelength Gratings in the PT-symmetry Mode  
*Egor V. Shalymov (ITMO University); Alexander A. Zinchik (ITMO University); Ekaterina A. Efremova (ITMO University); Igor R. Krylov (St.-Petersburg State University); Vladislav I. Shoen (ITMO University); Uliana V. Prokhorova (St.-Petersburg State University); Vladimir Yu. Venediktov (Saint Petersburg State Electrotechnical University "LETI");*
- 17:45 Detection of Multidimensional Light Field on Metasurfaces  
Invited *Chunqi Jin (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences);*
- 18:05 Metasurface Based Multiple Optical Manipulations Enabling High-integrated and High-camouflaged Information Encryption  
Invited *Qi Dai (National University of Defense Technology); Congling Liang (Wuhan University); Zile Li (Wuhan University); Guoxing Zheng (Wuhan University);*

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**Session 1P7a**  
**Nonlinear Optical Effect in Complex Nanostructures 2**

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**Monday PM, April 22, 2024**

**Room 7 - Xiling**

Organized by Guixin Li, Olivier J. F. Martin, Changxu Liu

Chaired by Olivier J. F. Martin, Guixin Li

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- 13:00 Polarization Control with Resonant Nonlinear Metasurfaces  
*Kirill Koshelev (Australian National University); Yuri S. Kivshar (Australian National University);*
- 13:15 Quantum Photon Pairs from Nonlinear Metasurfaces for Quantum Imaging Applications  
Invited *Jinyong Ma (The Australian National University); Jinliang Ren (The Australian National University); Jihua Zhang (Songshan Lake Materials Laboratory); Jiajun Meng (University of Melbourne); Caitlin McManus-Barrett (The Australian National University); Kenneth B. Crozier (The University of Melbourne); Andrey A. Sukhorukov (Australian National University);*
- 13:35 Transformation Optics Approach to Nonlinear Plasmonic Metasurfaces  
*Yunfei Zhang (Sichuan University); Chen Wei (Sichuan University); Fuhua Gao (Sichuan University); Fan Yang (Sichuan University);*

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**Session 1P7b**  
**Integrated Microwave Photonics**

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**Monday PM, April 22, 2024**

**Room 7 - Xiling**

Organized by Xiyou Han, Jiejun Zhang

Chaired by Jiejun Zhang, Xiyou Han

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- 13:50 Integrated Microwave Photonics and Artificial Intelligence  
Keynote *Jianping Yao (University of Ottawa);*
- 14:35 High-frequency Characterization of Wafer-level Optoelectronic Integrated Transceiver Chips Based on Photonic Sampling and Mapping  
*Shangjian Zhang (University of Electronic Science and Technology of China (UESTC)); Xinghai Zhou (University of Electronic Science and Technology of China (UESTC)); Yong Liu (University of Electronic Science and Technology of China (UESTC));*
- 14:50 Microwave Photonic Filters and Applications  
*Yaocheng Shi (Zhejiang University);*
- 15:35 **Coffee Break**
- 16:15 Microwave Photonic Radar Based on Thin Film Lithium Niobate  
*Sha Zhu (Beijing University of Technology);*

- 16:30 Microcomb-based Transversal Microwave Photonic Applications  
*Xingyuan Xu (Beijing University of Posts and Telecommunications);*
- 16:45 Silicon Integrated Microwave Photonic Beamformer  
*Liangjun Lu (Shanghai Jiao Tong University); Yuanbin Liu (Shanghai Jiao Tong University); Ziheng Ni (Shanghai Jiao Tong University); Yixuan Wang (Shanghai Jiao Tong University); Jianping Chen (Shanghai Jiao Tong University); Linjie Zhou (Shanghai Jiao Tong University);*
- 17:00 Research Progress on Integrated Microwave Photonics Devices and System on Silicon  
*Hui Yu (Zhejiang Lab);*
- 17:30 Integrated Photonic Processing Core for Dual-band Microwave Radar Imaging  
*Weichao Ma (National Key Lab of Microwave Imaging Technology, Aerospace Information Research Institute, Chinese Academy of Sciences); Ruixuan Wang (National Key Lab of Microwave Imaging Technology, Aerospace Information Research Institute, Chinese Academy of Sciences); Jianwei Liu (National Key Lab of Microwave Imaging Technology, Aerospace Information Research Institute, Chinese Academy of Sciences); Wangzhe Li (Institute of Electronics Chinese Academy of Sciences);*
- 17:45 Bias-independent Frequency Response Measurement of Electro-optic Modulation Chips Utilizing Fixed Low-frequency Photodetection and Three-port Microwave De-embedding  
*Junfeng Zhu (University of Electronic Science and Technology of China); Xinhai Zou (University of Electronic Science and Technology of China (UESTC)); Ying Xu (University of Electronic Science and Technology of China); Chao Jing (University of Electronic Science and Technology of China); Yali Zhang (University of Electronic Science and Technology of China (UESTC)); Zhiyao Zhang (University of Electronic Science and Technology of China); Shangjian Zhang (University of Electronic Science and Technology of China (UESTC)); Yong Liu (University of Electronic Science and Technology of China (UESTC));*
- 18:00 Hybrid Integrated External Cavity Diode Laser with Flexible Feedback at 1- $\mu$ m Band  
*Chen Chen (Dalian University of Technology); Fang Wei (ZhangJiang Laboratory); Xiyou Han (Dalian University of Technology); Qingshuai Su (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences); Haoyang Pi (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences); Yangguang Sun (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences); Huimin Wu (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences); Anton Stroganov (LIGEN-TEC SA); Qing Ye (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences); Haiwen Cai (ZhangJiang Laboratory);*



- 18:15 Silicon Photonic Integrated Broadband Continuously Tunable Optical Delay Line  
*Meng Chao (Dalian University of Technology); Xinxin Su (Dalian University of Technology); Xindi Yang (Dalian University of Technology); Han Liang (Dalian University of Technology); Zhenlin Wu (Dalian University of Technology); Xiuyou Han (Dalian University of Technology); Mingshan Zhao (Dalian University of Technology);*

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### Session 1P8

#### Thermal Photonics: Fundamental Physics and Application 2

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Monday PM, April 22, 2024

Room 8 - Guixiang

Organized by Wei Li, Longnan Li

Chaired by Wei Li, Longnan Li

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- 13:00 Re-balancing the Power of Light & Heat through Hierarchical Designs  
*Jia Zhu (Nanjing University);*
- 13:30 Colored Sub-atmospheric Passive Coolers  
*Eun-Joo Lee (Kyung Hee University); Sun-Kyung Kim (Kyung Hee University);*
- 13:45 Energy Harvesting for Thermal Radiation in a Wide Wavelength Range Using Optical Rectenna with a Hollow Resonator  
*Zhen Liu (Tohoku University); Makoto Shimizu (Tohoku University); Daisuke Matsuura (Tohoku University); Hiroo Yugami (Tohoku University);*
- 14:00 Broadband Precisely Directed Thermal Emission  
*Yue Ma (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences); Tianji Liu (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences); Wei Li (Changchun Institute of Optics, Fine Mechanics and Physics, CAS);*
- 14:15 Research and Application of Near Field Heat Transfer Based on Multilayer Systems  
*Peng Tian (Soochow University); Baoyin Sun (Nanjing University of Aeronautics and Astronautics); Yadong Xu (Soochow University);*

- 14:30 Ultra-broadband Directional Thermal Emission  
*Qiuyu Wang (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences); Tianji Liu (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences); Longnan Li (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences); Chen Huang (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences); Jiawei Wang (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences); Meng Xiao (Wuhan University); Yang Li (Tsinghua University); Wei Li (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences);*

- 14:45 Dynamic Control of Solar and Infrared Radiation for Thermal Management Applications  
*Donogliang Zhao (Southeast University);*

- 15:05 Infrared Properties of Ultrathin 2D  $\text{Ti}_3\text{C}_2\text{T}_x$  MXene Films  
*Meng Li (The Hong Kong University of Science and Technology); Yang Li (Zhejiang University); Baoling Huang (The Hongkong University of Science and Technology);*

#### 15:30 Coffee Break

- 16:00 Nanophotonic Engineering of Thermal Radiation for High-temperature Applications  
*Kehang Cui (Shanghai Jiao Tong University); Zhequn Huang (Shanghai Jiao Tong University); Heng Zhang (Shanghai Jiao Tong University); Qixiang Wang (Shanghai Jiao Tong University); Huaru Qiao (Shanghai Jiao Tong University);*

- 16:20 Nanophotonic Structures for Perfect Absorbers and Radiative Cooling  
*Dasol Lee (Yonsei University);*

- 16:40 Application-specific Passive Radiative Cooling Technologies  
*Young Min Song (Gwangju Institute of Science and Technology);*

- 17:00 Transparent Directional Infrared Emitter Based on Broadband Berreman-mode for Energy-saving Windows  
*Do Hyeon Kim (Gwangju Institute of Science and Technology); Minyeol Bae (Gwangju Institute of Science and Technology); Young Min Song (Gwangju Institute of Science and Technology);*

- 17:15 Improving the Heat Transfer of Radiative Heat Sink-integrated Electrocaloric Cooling  
*Dong Hyun Seo (Gwangju Institute of Science and Technology); Hyung Rae Kim (Gwangju Institute of Science and Technology); Gil Ju Lee (Gwangju Institute of Science and Technology); Young Min Song (Gwangju Institute of Science and Technology);*

- 17:30 Generation and Evolution of Topological Phase Singularity Pairs at Large Incident Angles in Planar Structures

*Jiawei Wang (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences); Mengqi Liu (Shanghai Jiao Tong University); Cheng-Wei Qiu (National University of Singapore); Wei Li (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences);*

- 17:45 Deep Learning Design of Wave-selective Thermal Photonics

*Run Hu (Huazhong University of Science and Technology);*

- 18:20 Design and Fabrication of Low-emissivity Surface for Energy and Storage Applications

*Yue Zhang (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences); Longnan Li (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences); Wei Li (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences);*

- 18:35 Thermal Emitter for Daytime Radiative Cooling

*Fei Xie (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences); Wei Li (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences);*

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### Session 1P9a

### Nonclassical Plasmonics and Nonlinear Optics 2

Monday PM, April 22, 2024

Room 9 - Xinyu

Organized by Fan Yang, Dangyuan Lei

Chaired by Fan Yang

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- 13:00 Giant Free-electron Kerr Nonlinearities in Nonclassical Plasmonic Heavily Doped Semiconductor Hybrid Systems

*Huatian Hu (Istituto Italiano di Tecnologia (IIT)); Cristian Ciraci (Istituto Italiano di Tecnologia (IIT));*

- 13:20 Metasurfaces for Tomography and Distribution of Quantum States

*Ru-Wen Peng (Nanjing University); Mu Wang (Nanjing University);*

- 13:40 The Near Wake Characteristics of Different Hypersonic Vehicles at Various Angles of Attack

*J. C. Tong (Xidian University); Hai-Ying Li (Xidian University); Bing Xu (China Research Institute of Radiowave Propagation);*

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### Session 1P9b

### Advances in

### Nanophotonics/Plasmonics/Metasurfaces and Their Applications

Monday PM, April 22, 2024

Room 9 - Xinyu

Organized by Jicheng Wang, Yefeng Yu

Chaired by Yefeng Yu

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- 14:00 Utilizing a Unconservative Coupling Scheme to Guide Light in a Passive Micro-ring Resonator

*Keya Zhou (Harbin Institute of Technology); Jun Wang (Harbin Institute of Technology); Qi Liu (Harbin Institute of Technology); Xiaowei Li (Harbin Institute of Technology); Wei Wang (Harbin Institute of Technology); Qiaohua Wu (Harbin Institute of Technology);*

- 14:15 Spin-orbit Interaction Enabled Non-resonance Optical Chirality

*Yidong Hou (Sichuan University); Dangyuan Lei (City University of Hongkong);*

- 14:30 Tailoring Light Propagation of High Quality Factor Resonances in Dielectric Metasurfaces

*Tian Sang (Jiangnan University); Zekun Ge (Jiangnan University); Xianghu Zhang (Jiangnan University); Yueke Wang (Jiangnan University);*

- 14:45 Non-uniform Pseudomagnetic Fields in Photonic Crystals

*Bin Yang (China University of Mining and Technology); Yuting Yang (China University of Mining and Technology);*

- 15:00 3D Printing of Nanocellulose and Silica Based Composites for Photonic Properties and Mechanical Reinforcement

*Amrutha Augustine (Trinity College Dublin); Jing Qian (Trinity College Dublin); A. Louise Bradley (Trinity College Dublin); David L. Officer (University of Wollongong); Sanjeev Gambhir (University of Wollongong); Gordon G. Wallace (University of Wollongong); Colm Delaney (Trinity College Dublin); Larisa Florea (Trinity College Dublin);*

- 15:15 Tuning Plasmonic Coupling of Touching to Near-touching Nanodimers via Nanometric Gaps

*Yina Wu (The Barcelona Institute of Science and Technology); Andrea Konečná (Brno University of Technology); Shin Hum Cho (Keimyung University); Delia J. Milliron (The University of Texas at Austin); Jordan A. Hachtel (Oak Ridge National Laboratory); F. Javier García de Abajo (ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology);*

- 16:00 Generating Novel Perfect Vortex Beams Based on All-dielectric Geometric Metasurfaces

*Bolun Zhang (Jiangnan University); Jicheng Wang (Jiangnan University);*

- 16:15 Ka-band Lens Antenna Based on Metasurface  
*Shibin Jiang (University of Electronic Science and Technology of China); Shaowei He (University of Electronic Science and Technology of China); Lijun Jiang (Zhejiang Dali Technology Co. Ltd); Kun Zheng (University of Electronic Science and Technology of China); Weiming Zhu (University of Electronic Science and Technology of China);*
- 16:30 Plasmon Enhanced Optical Manipulation of Janus Nanoparticles in Metallic Nanoaperture  
*Alemayehu Nana Koya (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences); Longnan Li (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences); Wei Li (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences);*
- 16:45 Reducing the Form Factor of Weak Measurement for Observation of Spin-orbit Interaction  
*Minkyung Kim (Gwangju Institute of Science and Technology (GIST));*
- 17:00 Laser Synthesis of Linear Carbon Structures for Nanophotonics  
*Anton V. Osipov (Vladimir State University); Vlad D. Samyshkin (Vladimir State University); A. S. Abramov (Stoletov Vladimir State University); D. S. Bodunov (Stoletov Vladimir State University); Alexey V. Povolotskiy (Saint-Petersburg State University); Evgeny S. Sedov (Westlake University); Alexey O. Kucherik (Stoletov Vladimir State University);*
- 17:15 Scattering and Absorption of Electromagnetic Waves by Hemispherical Silver Nanoparticles on Silicon Nanopillar Arrays  
*Wen Sun (Northwest A&F University); Xiangyao Luo (Northwest A&F University); Hongchang An (Northwest A&F University);*
- 17:45 Mode Purity Analysis for the Vortex Beam Emitter  
*Fan-Hong Li (Institution of Remote Sensing Satellite, Chinese Academy of Space Technology); Kai-Xin Wang (Institution of Remote Sensing Satellite, Chinese Academy of Space Technology); He-Yi Li (Institution of Remote Sensing Satellite, Chinese Academy of Space Technology); Tao He (Institution of Remote Sensing Satellite, Chinese Academy of Space Technology); Jin Huang (Institution of Remote Sensing Satellite, Chinese Academy of Space Technology); Zi-Wen Zhang (Peking University); Juan-Feng Zhu (Singapore University of Technology and Design);*

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**Session 1P10a**  
**Simulation of Radar Echo and Scattering Center**  
**Extraction Technology**

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**Monday PM, April 22, 2024**

**Room 10 - Shuliu**

Organized by Anqi Wang, Shuirong Chai

Chaired by Anqi Wang

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- 13:00 Study on Composite Scattering from Frozen Soil Surface and Complex Moving Targets on It  
*Wei Chen (Yan'an University); Xincheng Ren (Yan'an University); Yuqing Wang (Yan'an University); Ye Zhao (Yan'an University); Peng-Ju Yang (Yan'an University);*
- 13:15 Study on Radar Scattering Characteristics of Breaking Wave  
*Pengbo Du (Ocean University of China); Yunhua Wang (Ocean University of China); Yanmin Zhang (Ocean University of China); Jianbo Cui (Ocean University of China); Yushi Zhang (Ocean University of China); Xin Li (Ocean University of China);*
- 13:30 Simulation of X-band Radar Sea Clutter Based on Different Wave Spectrum Models  
*Meichen Liu (Xidian University); Feng Luo (Xidian University); Enchao Peng (Xidian University); Daozhong Sun (Xidian University);*
- 13:45 Research on the Differences between Ocean Wave Parameters Retrieved Based on ITTC Spectra and PM Spectra  
*Meichen Liu (Xidian University); Daozhong Sun (Xidian University); Feng Luo (Xidian University); Enchao Peng (Xidian University);*
- 14:00 Fast RCS Simulation of Target on the Sea Surface Based on the SBR and Advanced Two-scale Method  
*Siyuan Wang (Nanjing University of Science and Technology); Zi He (Nanjing University of Science and Technology); Da-Zhi Ding (Nanjing University of Science and Technology); Lin Liu (Beijing Institute of Remote Sensing Equipment); Ying Zhou (Beijing Institute of Remote Sensing Equipment);*
- 14:15 Study on the Multidimensional Characteristics of Microwave Scattering from Nearshore Sea Waves  
*Jianbo Cui (Ocean University of China); Yunhua Wang (Ocean University of China); Yanmin Zhang (Ocean University of China); Pengbo Du (Ocean University of China);*
- 14:30 An Accurate Technique for Extended Target Radar Echo Simulation Based on the Scattering Center Model  
*Shui-Rong Chai (Xidian University); Fangyin Zhu (Xidian University); Zhenxiang He (Xidian University); Yufeng Zou (Xidian University); Li-Xin Guo (Xidian University);*
- 14:45 Simulation of Extended Target Radar Echo in Frequency-domain Based on SBR Method  
*Shui-Rong Chai (Xidian University); Pu-Kun Dai (Xidian University); Li-Xin Guo (Xidian University);*

- 15:00 Scattering Center Parametric Modeling of Two-dimensional Rough Surface  
*Xiaohong Liang (Anhui University); Anqi Wang (Anhui University); Lixia Yang (Anhui University); Zhi-Xiang Huang (Anhui University);*
- 15:15 Application of TAdam in Method of Moments for Rough Surface Scattering  
*Meng Yuan (Anhui University); Anqi Wang (Anhui University); Lixia Yang (Anhui University); Zhi-Xiang Huang (Anhui University);*
- 15:30 **Coffee Break**

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### Session 1P10b

#### Electromagnetic Modeling, and Inversion and Applications

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Monday PM, April 22, 2024

Room 10 - Shuliu

Organized by Jianhua Li, Ganquan Xie

Chaired by Ganquan Xie, Gang Zhang

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- 16:00 Based on Absolute Airspace Reference System Analysis of Doppler Effect of Light (Electromagnetic Wave)  
*Shandong Zhao (Hunan Supercomputing Science Society); Yijia Zhao (China Machinery International Engineering Design & Research Institute Co., Ltd);*
- 16:15 Effects of Base Frequency, Duty Cycle, and Waveform Repetition on TEM Responses: Insights from Models of a Deep-buried Conductor  
*Yao Wang (China University of Geosciences); Jianhui Li (China University of Geosciences);*
- 16:30 Cloud Spatial Characteristics Evaluation Based on the Results of Downwelling K-band Radiation Spectra Measurements  
*Dobroslav Pavlovich Egorov (Kotel'nikov Institute of Radio Engineering and Electronics of RAS); Boris Georgievich Kutuza (Kotel'nikov Institute of Radio Engineering and Electronics of RAS);*
- 16:45 On the Problem of Reciprocity of Radar Images of Forests at **HV** and **VH** Polarizations  
*A. A. Kalinkevich (Kotelnikov Institute of Radioengineering and Electronics of RAS); Dobroslav Pavlovich Egorov (Kotel'nikov Institute of Radio Engineering and Electronics of RAS); A. A. Chernienko (Kotelnikov Institute of Radioengineering and Electronics of RAS);*
- 17:00 Research on the Application of Comprehensive Physical Exploration in the Detection of Heavy Metal Contaminated Sites — Take the Case of Jijie Town in Yunnan Province as an Example  
*Sen Dai (Southwest University of Science and Technology); Zhe Wang (Southwest University of Science and Technology); Qiuping Zeng (Southwest University of Science and Technology); Gang Zhang (Southwest University of Science and Technology);*

- 17:15 Geomagnetic Data Processing  
*Sheng He (Southwest University of Science and Technology); Gang Zhang (Southwest University of Science and Technology);*
- 17:30 Segmentation of the Longmenshan Fracture Zone Based on Deep Electrical Structural Characteristics  
*Yongjie Tang (Southwest University of Science and Technology); Gang Zhang (Southwest University of Science and Technology);*
- 17:45 Discussion on a Non-traditional Antigravity Theory and the Realization Path Is Envisaged  
*Shandong Zhao (Hunan Supercomputing Science Society); Yijia Zhao (China Machinery International Engineering Design & Research Institute Co., Ltd);*
- 18:00 Anti Atomic Bomb Nuclear Weapon  
*Ganquan Xie (GL Geophysical Laboratory, Lawrence Berkeley Laboratory); Jianhua Li (GL Geophysical Laboratory);*
- 18:15 Immigrate to Mars  
*Ganquan Xie (GL Geophysical Laboratory, Lawrence Berkeley Laboratory); Jianhua Li (GL Geophysical Laboratory);*
- 18:30 Super Science  
*Ganquan Xie (GL Geophysical Laboratory, Lawrence Berkeley Laboratory); Jianhua Li (GL Geophysical Laboratory);*

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### Session 1P11a

#### Biophotonics Part 2

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Monday PM, April 22, 2024

Room 11 - Xiangyu

Organized by Chao Tian, Shuhua Yue

Chaired by Chao Tian, Shuhua Yue

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- 13:00 Progresses in Multimodal Photoacoustic Imaging  
Invited  
*Changhui Li (Peking University);*
- 13:20 Image-guided Near Infrared Spectral Tomography for Breast Cancer Diagnosis  
Invited  
*Jinchao Feng (Beijing University of Technology); Shumin Lin (Beijing University of Technology); Chengpu Wei (Beijing University of Technology); Zhe Li (Beijing University of Technology); Kebin Jia (Beijing University of Technology);*
- 13:40 Spheroids and Organoids as 3D in Vitro Cellular Models for Biomedical Research  
Invited  
*Hongxu Lu (Shanghai Institute of Ceramics, Chinese Academy of Sciences);*
- 14:00 Comparison of Newly Developed 3D Reconstruction Techniques for Imaging through Turbid Medium from a Single Blurred 2D Image — For Noninvasive Transillumination Imaging of Animal Bodies Using NIR Light  
*Koichi Shimizu (Xidian University);*

14:15 High-speed meso-SCAPE Microscope with Multi-millimeter FOV and Cellular Resolution  
Invited *Zixian Cao (University of Science and Technology of China); Jiapeng Zhu (University of Science and Technology of China); Yankan Huang (University of Science and Technology of China); Bingxin Shen (University of Science and Technology of China); Wenxuan Liang (University of Science and Technology of China — USTC);*

14:35 Stimulated Raman Scattering Microscopy Enabled *in situ* Subcellular Lipid Metabolomics Promotes Cancer Phenotyping  
Invited *Shuhua Yue (Beihang University);*

14:55 Quantitative Assessment of the Contribution of Light Absorption and Scattering to the PPG Signal by Monte Carlo Simulation  
*Denis Grigorievich Lapitan (Moscow Regional Research and Clinical Institute ("MONIKI")); Andrey Petrovich Tarasov (Moscow Regional Research and Clinical Institute ("MONIKI")); Dmitry Alekseevich Rogatkin (Moscow Regional Research and Clinical Institute ("MONIKI"));*

15:30 **Coffee Break**

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**Session 1P11b  
Biophotonics Part 3**

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**Monday PM, April 22, 2024**

**Room 11 - Xiangyu**

Organized by Peng Fei, Jun Fan

Chaired by Jun Fan

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16:00 Ultra-wide Bandwidth High Resolution All-optical Intravascular Ultrasound Using Miniaturized Photoacoustic Transducer  
Invited *Pu Wang (Beihang University);*

16:20 Physics-driven Deep Learning Photoacoustic Tomography  
*Chao Tian (University of Science and Technology of China);*

16:35 On the Imaging Depth Limit of Photoacoustic Tomography in the Visible and First Near-infrared Windows  
*Songde Liu (University of Science and Technology of China);*

16:50 Excitation Fluorescence Spectral Microscopy for Highly Multiplexed and Quantitative Cellular Imaging  
Invited *Kun Chen (University of Electronic Science and Technology of China); Jinhong Yan (University of Electronic Science and Technology of China); Yi He (University of Electronic Science and Technology of China);*

17:10 Fluorescence Lifetime Imaging Microscopy for Early Diagnosis and Severity Prediction of Preeclampsia with Nile Blue Probe  
*Yinru Zhu (Shenzhen University); Wei Yan (Shenzhen University);*

17:25 Laser-induced Bubble Dynamics in Finite Liquid Partially Confined by Elastic Thin Walls and Free Surface  
*Lei Fu (Xi'an Jiaotong University); Xiao-Xuan Liang (University of Lubeck); Zhenxi Zhang (Xi'an Jiaotong University); Alfred Vogel (University of Lubeck); Cuiping Yao (Xi'an Jiaotong University);*

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**Session 1P12a  
Gyrotrons and Fast Wave Devices 2**

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**Monday PM, April 22, 2024**

**Room 12 - Siji 1**

Organized by Mikhail Yu. Glyavin, Wenjie Fu

Chaired by Mikhail Yu. Glyavin, Wenjie Fu

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13:00 Problems and Solutions for Increasing of the Operating Frequency of Gyrotrons  
*Vladimir E. Zapevalov (Institute of Applied Physics RAS);*

13:15 Design of a Multi-barrel Terahertz Gyrotron for DNP/NMR Spectroscopy  
*Vladimir E. Zapevalov (Institute of Applied Physics RAS); Andrey S. Zuev (Federal Research Center "Institute of Applied Physics RAS"); Oleg P. Plankin (Institute of Applied Physics of the RAS); Evgeny S. Semenov (Institute of Applied Physics of the Russian Academy of Sciences);*

13:30 Compact and Efficient Output Converter for Gyrotron Mode with High Longitudinal Wave Number  
*Grigory G. Denisov (Institute of Applied Physics, Russian Academy of Sciences); Dmitry I. Sobolev (Institute of Applied Physics, Russian Academy of Sciences); Mikhail D. Proyavin (Institute of Applied Physics, Russian Academy of Sciences); A. P. Gashturi (Institute of Applied Physics, Russian Academy of Sciences); M. V. Morozkin (Institute of Applied Physics, Russian Academy of Sciences); V. E. Kotomina (Institute of Applied Physics, Russian Academy of Sciences); M. V. Kamensky (Institute of Applied Physics, Russian Academy of Sciences); A. A. Orlovsky (Institute of Applied Physics, Russian Academy of Sciences);*

13:45 Modeling of Selective Photonic-structure Cavities for Sub-terahertz High-cyclotron-harmonic Gyrotrons  
*Ekaterina Mikhailovna Novak (Institute of Applied Physics RAS); Andrei V. Savilov (Institute of Applied Physics, RAS);*

- 14:00 Possibilities of Creating a Relativistic Terahertz Gyrotron with a Multi-megawatt Power Level  
Yuri Yurievich Danilov (*Institute of Applied Physics of the Russian Academy of Sciences*); Alexander Nikolaevich Leontyev (*Institute of Applied Physics of the Russian Academy of Sciences*); Andrey Mihailovich Malkin (*Institute of Applied Physics, Russian Academy of Sciences*); Evgeny Sergeevich Semenov (*Institute of Applied Physics of the Russian Academy of Sciences*); Oleg Petrovich Plankin (*Institute of Applied Physics of the RAS*); Roman Markovich Rozental (*Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)*);
- 14:15 Synthesized Quasi-optical Converter for 175–250 GHz Gyrotron with Two Output Windows  
Anton P. Gashturi (*Institute of Applied Physics, Russian Academy of Sciences*); Grigory G. Denisov (*Institute of Applied Physics, Russian Academy of Sciences*); Andrey Pavlovich Fokin (*Federal Research Center A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)*); Mikhail Yu. Glyavin (*A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences*); Dmitry I. Sobolev (*Institute of Applied Physics, Russian Academy of Sciences*); Andrey S. Zuev (*Federal Research Center “Institute of Applied Physics RAS”*);
- 14:30 Setup and Preliminary Experiment of the 400 MHz DNP/NMR System Based on a 263 GHz Frequency-tunable Gyrotron  
Diwei Liu (*University of Electronic Science and Technology of China*); Y. X. Chai (*University of Electronic Science and Technology of China*); C. Y. Zhang (*University of Electronic Science and Technology of China*); A. Q. Wang (*University of Electronic Science and Technology of China*); C. H. Zhu (*University of Electronic Science and Technology of China*); W. Wang (*University of Electronic Science and Technology of China*); T. Song (*University of Electronic Science and Technology of China*); K. C. Zhang (*University of Electronic Science and Technology of China*); Z. H. Wu (*University of Electronic Science and Technology of China*); M. Hu (*University of Electronic Science and Technology of China*); Y. Y. Wei (*University of Electronic Science and Technology of China*); Y. B. Gong (*University of Electronic Science and Technology of China*);
- 14:45 Design of Series Active Linear Filter for High-voltage Pulse Power Supply of Gyrotron Cathode  
Chunhui Yang (*Huazhong University of Science and Technology*); Xiaotao Han (*Huazhong University of Science and Technology*); Tao Jiang (*Huazhong University of Science and Technology*); Junxian Fan (*Huazhong University of Science and Technology*); Shaozhe Zhang (*Huazhong University of Science and Technology*);
- 15:00 Design of Quasi-optical Mode Converter for 800-GHz TE<sub>8,5</sub> Mode Gyrotron  
Liangqian Xie (*Wuhan National High Magnetic Field Center*); Houxiu Xiao (*Huazhong University of Science and Technology*); Xianfei Chen (*Huazhong University of Science and Technology*); Yu Huang (*Huazhong University of Science and Technology*);
- 15:15 Project of Powerful Long-pulse THz-band FEL with Invited Talbot-type Cavity: Design and Optimization  
Dominika D. Krygina (*Institute of Applied Physics, Russian Academy of Sciences*); Yulia S. Oparina (*Institute of Applied Physics, RAS*); Andrei V. Savilov (*Institute of Applied Physics, RAS*); Nikolai Yu. Peskov (*Institute of Applied Physics, RAS*);
- 15:35 **Coffee Break**
- 16:00 Theoretical Investigation on the Second-harmonic Gyrotron for 600 MHz DNP/NMR System  
Y. X. Chai (*University of Electronic Science and Technology of China*); Diwei Liu (*University of Electronic Science and Technology of China*); C. Y. Zhang (*University of Electronic Science and Technology of China*); A. Q. Wang (*University of Electronic Science and Technology of China*); C. H. Zhu (*University of Electronic Science and Technology of China*); W. Wang (*University of Electronic Science and Technology of China*); T. Song (*University of Electronic Science and Technology of China*); K. C. Zhang (*University of Electronic Science and Technology of China*); Z. H. Wu (*University of Electronic Science and Technology of China*); M. Hu (*University of Electronic Science and Technology of China*); Y. Y. Wei (*University of Electronic Science and Technology of China*); Y. B. Gong (*University of Electronic Science and Technology of China*);

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### Session 1P12b

### Microwave and Millimeter Wave Devices and Systems

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Monday PM, April 22, 2024

Room 12 - Siji 1

Organized by Tianliang Zhang, Liguo Zhou

Chaired by Liguo Zhou

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- 16:15 A Doherty Amplifier with a Tunable Transformer for Load Modulation  
Shah Yash Hemant (*Korea Aerospace University*); Ahmad Bilal (*Korea Aerospace University*); Abdul Hadee (*Korea Aerospace University*); Sohom Bhattacharjee (*Korea Aerospace University*); Cho Choon Sik (*Korea Aerospace University*);
- 16:30 Design of a Low-cost Gaussian White Noise Source for ADC Dither Experiments  
Guo-Hong Du (*University of Science and Technology of China*); Shihai Liao (*Chengdu University of Information Technology*); Xiangwei Jin (*Chengdu University of Information Technology*);

- 16:45 A Dual-mode Microstrip Antenna for Sensing Applications

*Xing-Yun Zhang (National Key Laboratory of Scattering and Radiation); Fang Liu (National Key Laboratory of Scattering and Radiation); Jingxuan Yang (National Key Laboratory of Scattering and Radiation); Qunting Ren (National Key Laboratory of Scattering and Radiation); Yang Bai (National Key Laboratory of Scattering and Radiation);*

- 17:00 A High-precision Multi-target Vital Signs Detection Method Based on FMCW Radar

*Miaomiao Zhao (Anhui University); Zhongxiang Zhang (Hefei Normal University); Wenzia Bao (Anhui University);*

- 17:15 A W-band Hybrid Vector-modulated and Reflective-type Phase Shifter in 130-nm SiGe BiCMOS

*Xianhu Luo (Institute of Electronic Engineering, China Academy of Engineering Physics); Xu Cheng (Institute of Electronic Engineering, China Academy of Engineering Physics); Yun-Bo Rao (Institute of Electronic Engineering, China Academy of Engineering Physics); Jiang-An Han (Institute of Electronic Engineering, China Academy of Engineering Physics); Bin-Bin Cheng (Institute of Electronic Engineering, China Academy of Engineering Physics); Xianjin Deng (Institute of Electronic Engineering, China Academy of Engineering Physics);*

- 17:30 A W-band High-gain Low-noise Amplifier in 0.13  $\mu\text{m}$  SiGe BiCMOS for Millimeter-wave Radar Application

*Xianhu Luo (Institute of Electronic Engineering, China Academy of Engineering Physics); Xu Cheng (Institute of Electronic Engineering, China Academy of Engineering Physics); Yun-Bo Rao (Institute of Electronic Engineering, China Academy of Engineering Physics); Jiang-An Han (Institute of Electronic Engineering, China Academy of Engineering Physics); Bin-Bin Cheng (Institute of Electronic Engineering, China Academy of Engineering Physics); Xianjin Deng (Institute of Electronic Engineering, China Academy of Engineering Physics);*

- 17:45 Dual-band Bandpass Filter for 5G Communication

Invited

*Jiang Jiang (Northwestern Polytechnical University); Yu Han (Northwestern Polytechnical University); Chengdong Huang (Northwestern Polytechnical University); Daiyao Zhang (Northwestern Polytechnical University); Weikang Zhou (Northwestern Polytechnical University); Ligu Zhou (Northwestern Polytechnical University);*

### Session 1P13a

#### Computational Imaging: Novel System Design and Reconstruction Algorithms 2

Monday PM, April 22, 2024

Room 13 - Siji 2

Organized by Kedar Khare, Krishna Agarwal

Chaired by Kedar Khare, Yuyue Zhang

- 13:00 Speckle Correlation Analysis in Multi-scattering Regime  
Invited

*Qihang Zhang (Tsinghua University); Liangcai Cao (Tsinghua University);*

- 13:20 3-D Microwave Imaging with Optimized Sparse Array  
*Zhengyue Dong (Hangzhou Dianzi University); Kuiwen Xu (Hangzhou Dianzi University);*

- 13:35 Enhancement of Generalization Ability for Deep  
Invited Learning-based Electromagnetic Inverse Scattering Models

*Rencheng Song (Hefei University of Technology); Qian Huang (Hefei University of Technology);*

- 13:55 Adaptation of Inverse Scattering Algorithms for 3D Refractive Index Reconstruction with Coherent Label-free Microscope Data

*Yingying Qin (UiT The Arctic University of Norway); Ankit Butola (UiT The Arctic University of Norway); Krishna Agarwal (UiT The Arctic University of Norway);*

- 14:10 Recent Advancements in Microwave Imaging for Monitoring Thermal Ablation

*Mengchu Wang (Tsinghua University); Rosa Scapaticci (National Research Council of Italy Institute for Electromagnetic Sensing of the Environment (CNR-IREA)); Marta Cavagnaro (University of Rome "La Sapienza"); Maokun Li (Tsinghua University); Fan Yang (Tsinghua University); Shenheng Xu (Tsinghua University); Lorenzo Crocco (Institute for Electromagnetic Sensing of the Environment (IREA-CNR));*

- 14:25 Number of Degrees of Freedom, Resolution and Kolmogorov Entropy in Electromagnetic Linear Inverse Scattering Problems

*Maria Antonia Maisto (Universita degli Studi della Campania "Luigi Vanvitelli"); Raffaele Solimene (Universita degli Studi della Campania "Luigi Vanvitelli");*

- 14:45 Study on Generation of Free-viewpoint Images by Using Drone

*Takashi Kuroiwa (Nihon University); Yifan Wu (Nihon University); Syota Yazawa (Nihon University); Kiyozumi Niizuma (Nihon University);*

**Session 1P13b****Electromagnetic Quantitative Imaging via Machine Learning****Monday PM, April 22, 2024****Room 13 - Siji 2**

Organized by Xudong Chen, Tiantian Yin

Chaired by Xudong Chen, Tiantian Yin

- 15:00 Machine Learning-based Imaging through Scattering  
Invited Media  
*Wen Chen (The Hong Kong Polytechnic University);*
- 15:20 Effects of Physics-guided Loss Functions On Deep Learning Performance in Inverse Scattering  
Invited  
*Zicheng Liu (Northwestern Polytechnical University); Dilip K. Prasad (UiT — The Arctic University of Norway); Krishna Agarwal (UiT — The Arctic University of Norway);*
- 15:40 **Coffee Break**
- 16:00 A Kalman Filtering Framework of Dynamic Microwave Tomographic Imaging  
*Yahui Ding (University of Electronic Science and Technology of China); Yifan Chen (University of Electronic Science and Technology of China);*
- 16:15 Microwave Vision and the Intelligent Perception of Radar Imagery  
Invited  
*Feng Xu (Fudan University); Ya-Qiu Jin (Fudan University);*
- 16:35 A Comparative Study on Deep Learning Accelerated Computational Electromagnetic Solvers  
Invited  
*Xiao-Min Pan (Beijing Institute of Technology); Xinyue Lou (Beijing Institute of Technology); Jiyuan Wang (Beijing Institute of Technology); Junbo Zhang (Beijing Institute of Technology);*
- 16:55 Physics-informed Neural Network-based Inverse Scattering Method and Its Application in Antenna  
Invited  
*Yi-Di Hu (University of Electronic Science and Technology of China); Hui Zhou (University of Electronic Science and Technology of China); Xiao-Hua Wang (University of Electronic Science and Technology of China);*
- 17:15 A Learning Method based on Far-field Approximation for Radar Imaging  
Invited  
*Xudong Chen (National University of Singapore); Tiantian Yin (National University of Singapore);*
- 17:35 Analysis of Defocusing Effect due to Array Deformation for Millimeter Wave Near-field Multistatic Imaging  
*Xianzhong Tian (National University of Singapore); Yongxin Guo (National University of Singapore);*

**Session 1P14****Remote Sensing of Atmosphere, Ocean and Land Using GNSS and Other Sensors****Monday PM, April 22, 2024****Room 14 - Siji 3**

Organized by Shuanggen Jin, Yan Jia

Chaired by Shuanggen Jin, Yan Jia

- 13:00 High-frequency Water Level Estimation in the Yangtze River from GNSS-Interferometric Reflectometry  
*Zilong Chen (Nanjing University of Information Science and Technology); Shuanggen Jin (Henan Polytechnic University);*
- 13:15 Reconstruction of Spatially Seamless Soil Moisture Data from SMAP Product Using Deep Learning  
*Haoyu Fan (Nanjing University of Posts and Telecommunications); Zeshuo Li (Nanjing University of Posts and Telecommunications); Yan Jin (Nanjing University of Posts and Telecommunications); Yan Jia (Nanjing University of Posts and Telecommunications); S. G. Jin (Nanjing University of Information Science and Technology);*
- 13:30 Soil Moisture Assessment and Drought Monitoring in Arid Environments from GNSS-Reflectometry: A Comparative Analysis between Africa and China  
*Charafa El Rhadiouini (Nanjing University of Information Science and Technology); Shuanggen Jin (Henan Polytechnic University);*
- 13:45 Exploitation of HydroGNSS Coherent Channel: Cases Based on CyGNSS Raw IF Data  
*Jilun Peng (Institute for Space Sciences (ICE-CSIC)); Estel Cardellach (Institute of Space Studies (ICE, CSIC)); Weiqiang Li (Institute of Space Sciences (ICE, CSIC)); Serni Ribo (Institute of Space Sciences (ICE, CSIC)); Antonio Rius (Institute of Space Studies (ICE, CSIC));*
- 14:00 Urban Land Use Efficiency and Spatial Dynamics: A Case Study of Nanjing's Sustainable Development  
*Zeshuo Li (Nanjing University of Posts and Telecommunications); Yi Zhang (Nanjing University of Posts and Telecommunications); Haoyu Fan (Nanjing University of Posts and Telecommunications); Yan Jia (Nanjing University of Posts and Telecommunications); Yan Jin (Nanjing University of Posts and Telecommunications);*
- 14:15 A Multiple Eigenvalues-based Approach for Spaceborne GNSS-R Sea Surface Wind Speed Inversion  
*K. C. Zhang (Xidian University); Ding Nie (Xidian University); J. N. Yan (Xidian University); Min Zhang (Xidian University);*
- 14:30 Reconstructing NDVI for Lakes: Early Insights Leveraging CYGNSS and ERA-5 Data  
*Yinqing Zhen (Nanjing University of Information Science and Technology); Qingyun Yan (Nanjing University of Information Science and Technology);*



14:45 Inversion of Bohai Sea Ice Thickness Based on HY-1D Data  
*Wenlong Bi (Qingdao University); Ran Yan (Qingdao University); Ning Wang (North China Sea Marine Forecasting Center of State Oceanic Administration); Yifan Li (Qingdao University); Xinyu Li (Qingdao University); Jin Wang (Qingdao University); Meijie Liu (Qingdao University);*

15:30 **Coffee Break**

16:00 Estimation of the AMSR2 Data Potential to Retrieve the Arctic Sea Ice Thickness  
*Elizaveta V. Zabolotskikh (Russian State Hydrometeorological University (RSHU)); S. M. Azarov (Russian State Hydrometeorological University (RSHU)); A. Stokoz (Russian State Hydrometeorological University (RSHU)); K. I. Yarusov (Russian State Hydrometeorological University (RSHU));*

16:15 A Simulation Method of HFSWR Tsunami Echo Based on COMCOT  
*Yixuan Liu (Harbin Institute of Technology at Weihai); Zhe Lyu (Harbin Institute of Technology at Weihai); Linwei Wang (Harbin Institute of Technology at Weihai); Chang Jun Yu (Harbin Institute of Technology at Weihai);*

16:30 Tropical Belt Variations and Drivers from Multiple GNSS Radio Occultation Measurements  
*Shuanggen Jin (Henan Polytechnic University); Mohamed Darrag (Nanjing University of Information Science and Technology); Aalaa Samy (National Research Institute of Astronomy and Geophysics-NRIAG);*

16:45 Prediction of Ionospheric F2 Layer Height with Bi-parametric Deep Learning Network Based on HFSWR Data  
*Xuekun Chen (Harbin Institute of Technology at Weihai); Hongjuan Yang (Harbin Institute of Technology at Weihai); Chang Jun Yu (Harbin Institute of Technology at Weihai);*

17:00 Study of the Multi-parameter Influence of Wind Waves and Swell Waves Based on GNSS Bistatic Scattering Model  
*J. N. Yan (Xidian University); Ding Nie (Xidian University); K. C. Zhang (Xidian University); Min Zhang (Xidian University);*

17:15 Total Cloud Liquid Water Content Retrieval over the Arctic Sea Ice from the AMSR2 Data  
*Elizaveta V. Zabolotskikh (Russian State Hydrometeorological University (RSHU)); E. V. Lvova (Russian State Hydrometeorological University (RSHU)); K. I. Yarusov (Russian State Hydrometeorological University (RSHU)); S. M. Azarov (Russian State Hydrometeorological University (RSHU));*

17:30 Arctic Sea Ice Classification with the AMSR2 Data  
*Elizaveta V. Zabolotskikh (Russian State Hydrometeorological University (RSHU)); Margarita Andreevna Zhivotovskaya (Russian State Hydrometeorological University (RSHU)); S. M. Azarov (Russian State Hydrometeorological University (RSHU)); K. I. Yarusov (Russian State Hydrometeorological University (RSHU));*

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**Session 1P15a**

**Numerical Methods in Analysis and Design of Metasurfaces**

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**Monday PM, April 22, 2024**

**Room 15 - Siji 4**

Organized by Jun Wei Wu

Chaired by Jun Wei Wu, Hanru Shao

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13:00 Analyzing Large Periodic Arrays Using Fast Model Order Reduction Method  
*Hanru Shao (Ningbo University);*

13:15 An FDTD Algorithm for Frequency Selective Surfaces Analysis with Excitation of High-power Electromagnetic Wave  
*Dexin Ma (Beijing Jiaotong University); Xiaotian Pan (The Beijing Institute of Radio Measurement); Xiao Jia (Beijing Jiaotong University); Mingjiang Wang (Beijing Jiaotong University);*

13:30 Frequency Band Shifting of Absorber Based on Fragmented Multi-objective Optimization Algorithm  
*Liujia E (Lanzhou University); Yuxuan Zeng (Lanzhou University); Shujie Liu (Lanzhou University); Zhonglei Mei (Lanzhou University); Tiaoming Niu (Lanzhou University);*

13:45 An Efficient Approach for Conformal Metasurface Cloak Design of High-order Bezier Surface  
*Lingyu Chen (Nanjing University of Science and Technology); Zihao Ning (Nanjing University of Science and Technology); Mengmeng Li (Nanjing University of Science and Technology); Da-Zhi Ding (Nanjing University of Science and Technology);*

14:00 A Fast Simulation Method for Dynamically Tunable Metasurfaces  
*Shihao Deng (University of Electronic Science and Technology of China); Ming Jiang (University of Electronic Science and Technology of China); Jun Wei Wu (Southeast University); Weijian Ran (University of Electronic Science and Technology of China); Xiaolin Mi (Fudan University); Lin Lei (University of Electronic Science and Technology of China); Jun Hu (University of Electronic Science and Technology of China);*

14:15 High-efficiency Optimization and Phase Smoothness Consideration of Large-scale Metasurface Array Antenna  
*Jun Wei Wu (Southeast University);*

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**Session 1P15b**
**Advanced Electromagnetic Methods and  
Channel Propagation Modeling in Indoor,  
Urban, and Terrestrial Environments**


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**Monday PM, April 22, 2024**
**Room 15 - Siji 4**

Organized by Zhong-Yu Liu, Ke Guan

 Chaired by Zhong-Yu Liu, Ke Guan

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- 14:30 Measurement and Analysis of 5G Millimeter-wave Propagation Channels in Dense-vegetation Scenarios  
*Shuo Hu (Xidian University); Zhong-Yu Liu (Xidian University); Li-Xin Guo (Xidian University); Zhengfeng Zhang (Xi'an Aeronautical Institute);*
- 14:45 Measurement and Analysis of 5G V2V Channel in Urban Scenarios  
*Haochuan Zang (Xidian University); Li-Xin Guo (Xidian University); Zhong-Yu Liu (Xidian University); Shuo Hu (Xidian University); Zhi-Gang Zhong (China Information Technology Designing & Consulting Institute CO. LTD); Zuo-Yong Nan (China Information Technology Designing & Consulting Institute CO. LTD);*
- 15:00 A Fast Computation SBR Algorithm for General Scenario Electromagnetic Propagation  
*Jiang Guo (Xidian University); Li-Xin Guo (Xidian University); Zhong-Yu Liu (Xidian University); Zhi-Gang Zhong (China Information Technology Designing & Consulting Institute CO. LTD); Zuo-Yong Nan (China Information Technology Designing & Consulting Institute CO. LTD);*
- 15:15 A Reverse Ray Tracing Algorithm for Site-specific Modeling of O2I Radio Wave Propagation  
*Zhong-Yu Liu (Xidian University); Qi Yao (Xidian University); Li-Xin Guo (Xidian University); Zhi-Gang Zhong (China Information Technology Designing & Consulting Institute CO. LTD); Zuo-Yong Nan (China Information Technology Designing & Consulting Institute CO. LTD);*
- 15:30 **Coffee Break**
- 16:00 Design and Analysis of Outdoor Multipath Measurement System  
*Jiang Gao (Xidian University); Zhong-Yu Liu (Xidian University); Li-Xin Guo (Xidian University); Shuo Hu (Xidian University); Zhi-Gang Zhong (China Information Technology Designing & Consulting Institute CO. LTD); Zuo-Yong Nan (China Information Technology Designing & Consulting Institute CO. LTD);*
- 16:15 The Influence of the Limit Number on the Ray Tracing Models  
*Zhicong Li (Xidian University); Zhong-Yu Liu (Xidian University); Li-Xin Guo (Xidian University); Qi Yao (Xidian University); Zhi-Gang Zhong (China Information Technology Designing & Consulting Institute CO. LTD); Zuo-Yong Nan (China Information Technology Designing & Consulting Institute CO. LTD);*
- 16:30 Localization of Microcell Models by Integrating Measured and Simulated Data  
*Mengjie Sun (Xidian University); Li-Xin Guo (Xidian University); Zhong-Yu Liu (Xidian University); Zhi-Gang Zhong (China Information Technology Designing & Consulting Institute CO. LTD); Zuo-Yong Nan (China Information Technology Designing & Consulting Institute CO. LTD);*
- 16:45 Influence of Antenna Disturbing System on Deterministic Propagation Simulation in Typical Scenarios  
*Xiaoye Wang (Xidian University); Li-Xin Guo (Xidian University); Zhong-Yu Liu (Xidian University); Zhi-Gang Zhong (China Information Technology Designing & Consulting Institute CO. LTD); Zuo-Yong Nan (China Information Technology Designing & Consulting Institute CO. LTD);*
- 17:00 An Improved Ray Tracing Algorithm for High-efficiency Prediction of Ultra-large-scale Complex Electromagnetic Environments  
*Yi Gou (Beijing University of Posts and Telecommunications); Dan Shi (Beijing University of Posts & Telecommunications); Cong Guo (Beijing University of Posts and Telecommunications); Dan Xiao (Beijing Xiaomi Mobile Software Co., Ltd.); Xingguo Jiang (Beijing Xiaomi Mobile Software Co., Ltd.);*
- 17:15 Buoy Loss Model for Satellite-to-sea Communication Cooperating 6D Motion  
*Chongyu Lv (Nanjing University of Aeronautics and Astronautics); Sheng Fang (Nanjing University of Aeronautics and Astronautics); Boyu Hua (Nanjing University of Aeronautics and Astronautics); Taotao Zhang (China Luoyang Electronic Equipment Test Center); Manxi Wang (Complex Electromagnetic Environment Effects on Electronics and Information System (CE-MEE)); Longjun Wang (Nanjing University of Aeronautics and Astronautics); Qiuming Zhu (Nanjing University of Aeronautics and Astronautics);*
- 17:30 Shadow Fading Model for UAV-to-Ground Channel under Built-up Scenarios  
*Yurao Ge (Nanjing University of Aeronautics and Astronautics); Haoran Ni (Nanjing University of Aeronautics and Astronautics); Xiaomin Chen (Nanjing University of Aeronautics and Astronautics); Cesar Briso-Rodriguez (Universidad Politecnica de Madrid); Hanpeng Li (Nanjing University of Aeronautics and Astronautics); Farman Ali (Nanjing University of Aeronautics and Astronautics); Qiuming Zhu (Nanjing University of Aeronautics and Astronautics);*

17:45 Hyper Ray Tracer — Key Enabler for Smart Wireless Environments  
*Ke Guan (Beijing Jiaotong University);*

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### Session 1P16

#### Nanophotonics and Topological Photonics 2

**Monday PM, April 22, 2024**

**Room 16 - Mudan**

Organized by Lin Chen, Cuicui Lu, Zhiwei Guo

Chaired by Cuicui Lu, Zhiwei Guo

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13:00 Loss Induced Non-Hermitian Topological Effect

Invited

*Yong-Chun Liu (Tsinghua University);*

13:20 Evanescent-wave-induced Interesting Phenomena in Zero-index Metamaterials

Invited

*Jie Luo (Soochow University);*

13:40 Topological Flat Bands in 2D Optical Plasmonic Valley Photonic Crystals

*Jie Chang (Southeast University); Zhixia Xu (Dalian Maritime University); Hongxin Zhao (Southeast University); Shunli Li (Southeast University); Xiaoxing Yin (Southeast University);*

13:55 Controllable Photonic Weyl Nodal Line Semimetals Based on Hyper-crystals

Invited

*Shengyu Hu (Tongji University); Zhiwei Guo (Tongji University); Hong Chen (Tongji University);*

14:15 Transverse Scattering and Transverse Spin Splitting Based on Magnetoelectric Coupling

Invited

*Wenjia Li (Harbin Engineering University); Kaihao Zheng (Harbin Engineering University); Jin Hui Shi (Harbin Engineering University); Jianlong Liu (Harbin Engineering University);*

14:35 Chip-scale Mid-infrared Sensing Systems Based on Integrated Silicon Photonics

Invited

*Yiming Ma (Shanghai University);*

14:55 Dirac Fermion Metamaterials, Metasurfaces and Metagratings in Graphene

Invited

*Junjie Du (East China Normal University); Ruihuang Zhao (East China Normal University);*

15:15 Robust Photonic Zero Modes in Non-Hermitian Systems without a Global Symmetry

Invited

*Li Ge (City University of New York);*

15:35 **Coffee Break**

16:00 Nanoscale Optical Memory Based on Dual-beam Writing and Dual-beam Reading

Invited

*Jing Wen (University of Shanghai for Science and Technology);*

16:15 Realization of Chiral Zero Modes in Two-dimensional Systems

Invited

*Hongwei Jia (Hong Kong University of Science and Technology); Mudi Wang (The Hong Kong University of Science and Technology); Che Ting Chan (Hong Kong University of Science and Technology);*

16:35 Unconventional Bound States in the Continuum in Double Net Metamaterials

Invited

*Matthias Saba (University of Fribourg); Wenhui Wang (Ningbo University);*

16:55 Asymmetric Vectorial Metasurface with Pairs of Exceptional Points

*Zijin Yang (Tsinghua University); Qinghua Song (Tsinghua University);*

17:10 Observation of Topological Edge States Protected by Latent Symmetry

Invited

*Wenlong Gao (Eastern Institute for Advanced Study, Eastern Institute of Technology);*

17:30 Optical Field Modulation and Light Information Transmission Based on Dielectric Metasurfaces

Invited

*Wenwei Liu (Nankai University);*

17:50 Observation of Unidirectional Bulk Modes and Robust Edge Modes in Triangular Photonic Crystals

*Zi-Xuan Gao (Sun Yat-Sen University); Jing-Zun Liao (Sun Yat-Sen University); Fu-Long Shi (Sun Yat-Sen University); Ke Shen (Sun Yat-Sen University); Fei Ma (Sun Yat-Sen University); Min Chen (Shantou University); Xiao-Dong Chen (Sun Yat-Sen University); Jian-Wen Dong (Sun Yat-Sen University);*

18:05 THz and Multi THz Lasers Based on Heterostructure with HgCdTe/CdHgTe with Quasirelativistic Dispersion Laws

*Sergey V. Morozov (Institute for Physics of Microstructures of RAS); K. A. Mazhukina (Institute for Physics of Microstructures of RAS); A. A. Yantser (Institute for Physics of Microstructures of RAS); A. A. Razova (Institute for Physics of Microstructures of RAS); V. V. Utochkin (Institute for Physics of Microstructures of RAS); M. A. Fadeev (Institute for Physics of Microstructures of RAS); V. V. Rumyantsev (Institute for Physics of Microstructures of RAS); A. A. Dubinov (Institute for Physics of Microstructures of RAS); D. V. Shengurov (Institute for Physics of Microstructures of RAS); N. N. Mikhailov (A. V. Rzhanov Institute of Semiconductor Physics SO RAS);*

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### Session 1P17a

#### Acoustic/Phononic Metamaterials, Metasurfaces, and Metadevices 2

**Monday PM, April 22, 2024**

**Room 17 - Furong**

Organized by Chen Shen, Lujun Huang

Chaired by Chen Shen, Lujun Huang

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- 13:00 Spatiotemporal Vortex Generation via Exploiting Topological Darkness in Photonic Crystal Slabs  
Wenzhe Liu (*The Hong Kong University of Science and Technology*); Jiajun Wang (*Fudan University*); Yang Tang (*Fudan University*); Xinhao Wang (*Fudan University*); Xingqi Zhao (*Fudan University*); Lei Shi (*Fudan University*); Jian Zi (*Fudan University*); Che Ting Chan (*The Hong Kong University of Science and Technology*);
- 13:15 Generation of Spatiotemporal Vortex Pulses by Resonant Diffractive Grating  
Zhiyuan Che (*Fudan University*);
- 13:30 Ultra-broadband Transcranial Ultrasound by Acoustic Phase-only Hologram with a Tungsten Metalens  
Erqian Dong (*The University of Hong Kong*); Tianye Zhang (*University of Michigan, Ann Arbor*); Jinhu Zhang (*Xiamen University*); Xiaochun Su (*Xiamen University*); Sichao Qu (*The University of Hong Kong*); Xin Ye (*Xiamen University*); Zhanyuan Gao (*Xiamen University*); Chengtian Gao (*The First Affiliated Hospital of Xiamen University*); Jiangang Hui (*Xiamen University*); Zhanxiang Wang (*The First Affiliated Hospital of Xiamen University*); Nicholas X. Fang (*The University of Hong Kong*); Yu Zhang (*Xiamen University*);

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### Session 1P17b

#### Recent Advances and Applications in Photonic/Acoustic Metasurfaces

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**Monday PM, April 22, 2024**

**Room 17 - Furong**

Organized by Yangyang Fu, Yifan Zhu

Chaired by Yangyang Fu, Yifan Zhu

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- 13:45 Acoustic Metasurfaces: Design for Reconfigurable Control and Advanced Functionality  
Invited Chen Shen (*Rowan University*);
- 14:05 Bound States in the Continuum: From Photonics to Acoustics  
Invited Lujun Huang (*East China Normal University*);
- 14:25 Brewster Metasurfaces for Ultra-broadband Reflectionless Manipulation of Electromagnetic Waves  
Invited Jie Luo (*Soochow University*); Yun Lai (*Nanjing University*);
- 14:45 Energy Harvesting with Circuit-based Hyper-scatterer in Zero-index Metasurfaces  
Yuqian Wang (*Tongji University*); Zhiwei Guo (*Tongji University*); Hong Chen (*Tongji University*);
- 15:00 Spatiotemporal Acoustic Vortex Beams  
Hao Ge (*Nanjing University*); Shuai Liu (*Nanjing University*); Xiaoping Liu (*ShanghaiTech University*); Minghui Lu (*Nanjing University*); Yan-Feng Chen (*Nanjing University*);

- 15:15 Maximum Helical Dichroism Enabled by an Exceptional Point in Non-Hermitian Gradient Metasurfaces  
Xiao Li (*Nanjing University of Aeronautics and Astronautics*); Youwen Liu (*Nanjing University of Aeronautics and Astronautics*); Yangyang Fu (*Nanjing University of Aeronautics and Astronautics*);

### 15:30 Coffee Break

- 16:00 Reconfigurable Acoustic Meta-device Empowered by Geometric-phase Meta-atoms  
Bingyi Liu (*Hefei University of Technology*);
- 16:35 Broadband Ventilated Sound Insulation by Ultrasparse Invited Acoustic Meta-surfaces  
Yifan Zhu (*Southeast University*); Siyuan Gao (*Southeast University*); Zihao Su (*Southeast University*); Haohan Zeng (*Southeast University*); Hui Zhang (*Southeast University*);
- 16:55 Dynamically Tunable Multidimensional Image and Beam Splitter Based on Chiral Metasurfaces  
Yangyang Zhou (*China Electronic Produce Reliability and Environmental Testing Research Institute*);
- 17:10 Controlling Single Subwavelength-slit Diffraction of Sound Wave via Phase Gradient Concept  
Baoyin Sun (*Nanjing University of Aeronautics and Astronautics*); Jiaqi Quan (*Soochow University*); Yutian Xie (*University of Science and Technology of China*); Yadong Xu (*Soochow University*);
- 17:25 Acoustic Metamaterials Based on Reciprocity and Parity Transformation  
Jinjie Shi (*Nanjing University*); Hongchen Chu (*Nanjing University*); Chenkai Liu (*Nanjing University*); Johan Christensen (*IMDEA Materials Institute*); Xiaozhou Liu (*Nanjing University*); Yun Lai (*Nanjing University*);
- 17:55 Manipulating Extremely Asymmetric Wave Propagation via a Symmetry-broken Diffraction Route in Momentum Space  
Jiaqi Quan (*Soochow University*); Yadong Xu (*Soochow University*);
- 18:10 Reflective Encrypted Acoustic Holographic Metasurface  
Haohan Zeng (*Southeast University*); Zhenyu He (*Southeast University*); Yusen Wu (*Southeast University*); Siyuan Gao (*Southeast University*); Yifan Zhu (*Southeast University*); Hui Zhang (*Southeast University*);

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### Session 1P18

#### Nascent Light-matter Interactions

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**Monday PM, April 22, 2024**

**Room 18 - Meilan**

Organized by Mikhail Y. Shalaginov, Lian Shen

Chaired by Mikhail Y. Shalaginov, Lian Shen

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- 13:00 Intelligent Meta-device for Imaging and Depth Perception  
Invited  
*X. Liu (City University of Hong Kong); M. K. Chen (City University of Hong Kong); Din Ping Tsai (The Hong Kong Polytechnic University);*
- 13:20 Nanoplasmonic Strong Coupling for Ambient Temperature Quantum Nanophotonics  
Keynote  
*Ortwin Hess (Trinity College Dublin);*
- 13:50 Rapid Recognition of Solid and Liquid Microparticles through Lateral Mie Scattering  
*Pushihan Wang (Beijing Institute of Technology); Haoyang Cheng (Beijing Institute of Technology); Shangran Xie (Beijing Institute of Technology);*
- 14:05 Photonic Crystal Cavities for GeV&SnV Diamond  
Invited  
*Aleksey V. Akimov (Russian Quantum Center);*
- 14:25 Raman Soliton Self-frequency Shift in Chalcogenide Glass Waveguide  
Invited  
*Qingyang Du (Zhejiang Lab); Fengbo Han (Zhejiang Lab); Zhao Li (Xiamen University); Zhengqian Luo (Xiamen University);*
- 14:45 Ultrafast Light-matter Interactions with Hot-carrier Plasmonics  
Invited  
*Wenshan Cai (Georgia Institute of Technology);*
- 15:05 Individual Manipulation of the Ion Qubits Using Global Addressing with Counter-propagating Optical Frequency Combs  
*E. Anikin (Russian Quantum Center); L. A. Akopyan (Russian Quantum Center); M. Popov (Russian Quantum Center); Y. Suleimen (Russian Quantum Center); O. Lakhmanskaya (Russian Quantum Center); Kirill Lakhmanskii (Russian Quantum Center);*
- 15:30 **Coffee Break**
- 16:00 Enhanced Nanophotonic Dispersion Engineering via Artificial Intelligence  
Invited  
*Sensong An (University of North Texas); Hung-I Lin (Massachusetts Institute of Technology); Fan Yang (Massachusetts Institute of Technology); Mikhail Y. Shalaginov (Massachusetts Institute of Technology); Akira Ueno (Massachusetts Institute of Technology); Clara Rivero-Baleine (Lockheed Martin Corporation); Tian Gu (Massachusetts Institute of Technology); Juejun Hu (Massachusetts Institute of Technology);*
- 16:20 Material-enabled Surface Polariton Control at the Sub-wavelength Limit  
Invited  
*Yingjie Wu (Zhejiang University);*
- 16:40 Expanding the Frontiers of Flexible Integrated Photonics: Design, Fabrication and Sensing Applications  
Invited  
*Lan Li (Westlake University); Yingchun Wu (Westlake University); Renjie Tang (Westlake University); Jialing Jian (Westlake University); Kangjian Bao (Westlake University); Zongxi Li (Westlake University); Chunlei Sun (Westlake University); Hongtao Lin (Zhejiang University);*
- 17:00 Switchable Multimode Strong Coupling via Single-molecule Redox in Plasmonic Nanocavities  
*Yanji Yang (Trinity College Dublin); Rohit Chikkaraddy (University of Cambridge); Qianqi Lin (University of Cambridge); Daniel D. A. Clarke (Trinity College Dublin); Daniel Wigger (Trinity College Dublin); Jeremy J. Baumberg (University of Cambridge); Ortwin Hess (Imperial College London);*
- 17:15 Electrically Switchable Plasmonic Polymer Metasurfaces for Video-rate Beam Switching and Multi-focal Metaobjects with CMOS Voltages  
Invited  
*Harald W. Giessen (University of Stuttgart); Julian Karst (University of Stuttgart); Mario Hentschel (University of Stuttgart); Yohan Lee (University of Stuttgart);*
- 17:35 Wide-angle Meta-optics and Its Applications in 3-D Sensing  
Invited  
*Mikhail Y. Shalaginov (Massachusetts Institute of Technology);*
- 17:55 Ultrafast Negative Diffusion in Gold Films  
*A. Block (Catalan Institute of Nanoscience and Nanotechnology (ICN2)); Renwen Yu (Stanford University); Ieng-Wai Un (Ben-Gurion University of the Negev); S. Varghese (Catalan Institute of Nanoscience and Nanotechnology (ICN2)); M. Liebel (The Barcelona Institute of Science and Technology); N. F. van Hulst (The Barcelona Institute of Science and Technology); Shan-hui Fan (Stanford University); K. J. Tielrooij (Catalan Institute of Nanoscience and Nanotechnology (ICN2)); Yonatan Sivan (Ben-Gurion University of the Negev);*
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- Session 1P19**  
**Poster Session 2**
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- Monday PM, April 22, 2024**  
**14:00 PM - 18:00 PM**  
**Room Exhibition Area**
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- 1 Simulation of a Sub-THz Quasi-optical Gyrotron within a Multi-mode Self-consistent Model with Fixed Axial Field Structure  
*Andrey P. Fokin (Institute of Applied Physics of the RAS); Andrey A. Ananichev (Institute of Applied Physics of the RAS); Andrey S. Zuev (Federal Research Center "Institute of Applied Physics RAS"); Mikhail Yu. Glyavin (Institute of Applied Physics RAS);*
- 2 Method to Monitoring Indoor Maximum Electromagnetic Power Density Based on Gaussian Process Regression  
*Xiao Yu (Northwestern Polytechnical University); Shilong Wang (Northwestern Polytechnical University); Zhan Wang (Zhejiang Energy Digital Technology Co., Ltd.); Zicheng Liu (Northwestern Polytechnical University);*

- 3 A Compact Broadband Filtering Circularly Polarized Antenna with Band-pass Structure in Sequential-phase Feed Network  
*Jia Wan (Southwest University of Science and Technology); Xin Cao (Southwest University of Science and Technology); Longjian Zhou (Southwest University of Science and Technology); Qiangming Cai (Southwest University of Science and Technology); Cong Chen (Southwest University of Science and Technology); Yuyu Zhu (Southwest University of Science and Technology);*
- 4 A DOA Estimation Method of Distributed Multi-shipborne High-frequency Surface Wave Radar under Ship Swing State  
*Wenzhuo Hao (Harbin Institute of Technology at Weihai); Xiuhong Wang (Harbin Institute of Technology at Weihai); Guixian Zhang (Harbin Institute of Technology at Weihai);*
- 5 Dual-Polarized Reflectarray-based Metasurface Aperture for Computational Polarimetric Imaging at Microwave Frequencies  
*Aobo Li (Queen's University Belfast); Mengran Zhao (Queen's University Belfast); Muhammad Ali Babar Abbasi (Queen's University Belfast); Okan Yurduseven (Queen's University Belfast);*
- 6 Impact of Polarization Direction on SBS Threshold in PM Fiber Amplifiers  
*Yu Wen (Laser Fusion Research Center of CAEP); Qihui Chu (Laser Fusion Research Center of CAEP); Haoyu Zhang (Laser Fusion Research Center of CAEP); Jianjun Wang (Laser Fusion Research Center of CAEP);*
- 7 From Brain to Devices: Carbon Nano Tube Integrated Circuits Nano Chip for Electronic Devices and Computers  
*Diyar Bajalan (TU Wien);*
- 8 A Design of High-power Microwave Antenna Array Based on the TEM-TE<sub>10</sub> Mode Transition Method  
*Zichong Chen (Hunan Vanguard Group Co.Ltd); Xiaojun Mao (Hunan Vanguard Group Co.Ltd); Yun Jiang (Hunan Vanguard Group Co.Ltd); Rui Yin (Hunan Vanguard Group Co.Ltd); Shangyi Jiang (Hunan Vanguard Group Co.Ltd); Peng Bai (Hunan Vanguard Group Co.Ltd); Yang Liu (Hunan Vanguard Group Co.Ltd);*
- 9 Flatland Cherenkov Radiation on the Capacitive/Inductive Equivalent Impedance Surface  
*Shuo Bao (Southeast University); Shunli Li (Southeast University); Xue Zhou (Dalian Maritime University); Zhixia Xu (Dalian Maritime University);*
- 10 Bridging and Unified Understanding of Huynen Decomposition and H/A/alpha Decomposition for PolSAR Data Based on SU Group Theory  
*Liting Liang (National Space Science Center, Chinese Academy of Sciences); Yunhua Zhang (National Space Science Center, Chinese Academy of Sciences); Dong Li (National Space Science Center, Chinese Academy of Sciences);*
- 11 A High Isolation Dual-polarized Antenna with Low Profile Using Partially Reflective Surface  
*Xin Xiong (Southwest University of Science and Technology); Zuxue Xia (Southwest University of Science and Technology); Wenhai Xia (Zhejiang Lierda Internet of Things Technology Co. Ltd.); Xin Cao (Southwest University of Science and Technology); Jiayuan Hu (Southwest University of Science and Technology); Rui Cheng (Southwest University of Science and Technology);*
- 12 Annular Flows in Ring Polariton Condensates  
*Evgeny S. Sedov (Westlake University); V. A. Lukoshkin (St. Petersburg State University); V. K. Kalevich (St. Petersburg State University); P. G. Savvidis (Westlake University); Alexey V. Kavokin (Westlake University);*
- 13 Analysis of Permeability Characteristic of Planar Antenna with Spiral Resonator (SR) Shape  
*Yamato Tan (University of Pakuan); Evyta Wismiana (University of Pakuan); Mochamad Yunus (University of Pakuan); Agus Dwi Prasetyo (Institut Teknologi Bandung); Junas Haidi (Institut Teknologi Bandung); Achmad Munir (Bandung Institute of Technology);*
- 14 Detection and Demodulation Design for Radar and Communication Integrated LFM-MSK Signal on FPGA  
*Jietao Li (Sun Yat-sen University of Shenzhen Campus); Rui Guo (Sun Yat-sen University of Shenzhen Campus); Enming Lin (Sun Yat-sen University of Shenzhen Campus); Xingguo Li (Sun Yat-sen University of Shenzhen Campus);*
- 15 Optical Analysis of Skin Diffuse Reflectance Using the PSO Algorithm  
*José Mario Cantú Rodríguez (Universidad Autónoma de Nuevo León); Norma Patricia Puente-Ramírez (Universidad Autónoma de Nuevo León); Luis Martín Torres-Trevino (Universidad Autónoma de Nuevo León); Mario Angel Rico-Mendez (Universidad Autónoma de Nuevo León);*
- 16 Data Mining Methods and Intelligent Analysis Application for Foundation Treatment in Power Grid Engineering  
*Weiya Guan (Economic and Technological Research Institute State Grid Jiangsu Electric Power Co., Ltd); Hong Chen (Economic and Technological Research Institute State Grid Jiangsu Electric Power Co., Ltd); Jianfeng Zhang (Economic and Technological Research Institute State Grid Jiangsu Electric Power Co., Ltd);*
- 17 Preliminary Design of a Two-plate Corner Reflector Antenna for Drone with High Power Electric Field Source  
*Shih-Chung Tuan (Asia Eastern University of Science and Technology); Shen Shou Max Chung (National Penghu University of Technology);*

- 18 Optothermal Needle-free Injection of Vaterite Nanocapsules  
*Denis Kislov (Moscow Institute of Physics and Technology); D. Ofer (Tel Aviv University); Andrey Machnev (Tel Aviv University); Hani Barhom (Tel Aviv University); Vjaceslavs Bobrovs (Riga Technical University); A. Shalin (Moscow Institute of Physics and Technology); Pavel B. Ginzburg (ITMO University);*
- 19 Accurate and Efficient Depth Completion Based on Attention  
*Ruoyun Ding (Tongji University); Yuxing Zhao (Tongji University); Lan Lin (Tongji University);*
- 20 Laboratory Setup for Thermal Processing of Organic Materials with the Microwave Radiation  
*Alexander Vikharev (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); T. O. Krapivnitckaia (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); S. A. Ananicheva (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Andrey N. Denisenko (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); A. B. Alyeva (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Mikhail Yu. Glyavin (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Nikolai Yu. Peskov (Institute of Applied Physics, RAS);*
- 21 Spatio-temporal Theory of a Frequency-tunable Gyrotron Based on a Three-mirror Cavity  
*Ekaterina Mikhailovna Novak (Insitute of Applied Physics RAS); Andrei V. Savilov (Institute of Applied Physics, RAS);*
- 22 A Low Noise Hybrid Microwave Photonic Module for Passive Phased array  
*Nan Zhao (Nanjing Marine Radar Institute); Yuan Huang (National Key Laboratory of Electromagnetic Effect and Security on Marine Equipment and Nanjing Marine Radar Institute); Yifan Zhou (Nanjing Marine Radar Institute); Mingming Sun (Nanjing Marine Radar Institute); Xinmin Zhang (Nanjing Marine Radar Institute);*
- 23 Bound States in the Continuum: Stability Against Structural Disorder  
*K. V. Semushev (ITMO University); N. A. Vlasov (ITMO University); Alexander I. Solomonov (ITMO University); A. A. Bogdanov (ITMO University); Mikhail V. Rybin (ITMO University); Zarina F. Sadrieva (ITMO University); Ekaterina E. Maslova (ITMO University);*
- 24 Tunable 6-mirror Gyrotron for Direct Positronium Measurements  
*Vladislav Yur'evich Zaslavsky (Institute of Applied Physics, Russian Academy of Sciences); Mikhail Yu. Glyavin (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Irina V. Zotova (Institute of Applied Physics, RAS);*
- 25 A Noninterrupted Phase Synchronization Scheme of Multistatic SAR Based on Short-term Shift-orthogonal Signal  
*Tao Zhou (Nanjing University of Aeronautics and Astronautics); Guodong Jin (Nanjing University of Aeronautics and Astronautics); Dai-Yin Zhu (Nanjing University of Aeronautics and Astronautics);*
- 26 Development of Laser Communication Algorithm for Moving Objects  
*Deomits Andrejevs (Riga Technical University); Elans Grabs (Riga Technical University); Dmitrijs Čulkovs (Riga Technical University); Viktors Jeralovičs (Riga Technical University); Loreta Juškaite (Riga Technical University); Tianhua Chen (Riga Technical University); Dmitrijs Rjazanovs (Riga Technical University); Aleksandrs Ipatovs (Riga Technical University);*
- 27 A Novel Wearable Multi-sensor System for BioSignal Collection and Analysis  
*Zhi Chong Wan (Tongji University); Guo Chun Wan (Tongji University); Mei Song Tong (Tongji University);*
- 28 An Insulator Image Segmentation Method Based on Simple Non-iterative Clustering with Edge Information  
*Junyou Chen (Shanghai Investigation, Design & Research Institute Co., Ltd, China Three Gorges Corporation); Shu Jia Yan (Shanghai University of Engineering Science); Yingjie Gao (Shanghai University of Engineering Science); Mei Song Tong (Tongji University);*
- 29 Analysis of Signal Response and Detection Performance of Azimuth Transient Electromagnetic Logging While Drilling  
*Xiaozhuang Wang (China University of Petroleum (Beijing)); Jie Gao (China University of Petroleum (Beijing)); Wei Su (China University of Petroleum (Beijing)); Shizhen Ke (China University of Petroleum (Beijing)); Jun Zhu (China National Logging Corporation);*
- 30 A Novel Narrow-band Bandpass Frequency Selective Surface  
*Zhen Wang (Tongji University); Xiao Yu Li (Tongji University); Yi Ruo Wang (Tongji University); Mei Song Tong (Tongji University);*
- 31 A Dynamic Frame Slot ALOHA Algorithm Based on Deep Learning for Collision Prevention of RFID Systems  
*Han Zhang (Tongji University); Guo Chun Wan (Tongji University); Mei Song Tong (Tongji University);*
- 32 A Low-power Design of Common-mode Feedback Circuit for Fully-differential Operational Amplifiers  
*Shi Qian Wang (Tongji University); Yunyun Hu (Tongji University); Mei Song Tong (Tongji University);*

- 33 Using T-shaped Metal Structure for Far-end Crosstalk Mitigation in PCIe5 High-speed Connectors  
*Haoxin Luo (Southwest University of Science and Technology); Haoran Li (Southwest University of Science and Technology); Yuyu Zhu (Southwest University of Science and Technology); Lanqing Yang (Southwest University of Science and Technology); Xin Cao (Southwest University of Science and Technology); Qiangming Cai (Southwest University of Science and Technology); Longjian Zhou (Southwest University of Science and Technology); Jun Fan (Southwest University of Science and Technology);*
- 34 Nonlocal Effects in Asymmetric Plasmonic Waveguides  
*Henglei Du (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences); Wenkang Wang (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences); Chaojin Zhang (Jiangsu Normal University); Chengpu Liu (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences);*
- 35 A Novel E-electric Field Sensor Used for Large Dynamic Range of the Transient Electric Field Measurement  
*Li Zou (Southwest Jiaotong University); Xiang-Qiang Li (Southwest Jiaotong University); Jianqiong Zhang (Southwest Jiaotong University); Qingfeng Wang (Southwest Jiaotong University);*
- 36 Research and Design of High-power and High Aperture Efficiency Open Waveguide Array Antenna  
*Yihong Wei (Southwest Jiaotong University); Xiang-Qiang Li (Southwest Jiaotong University); Yiyu Su (Southwest Jiaotong University); Jianqiong Zhang (Southwest Jiaotong University); Qingfeng Wang (Southwest Jiaotong University);*
- 37 Microwave Scattering Properties from Oil Film Contaminated Sea Surface with Kirchhoff Approximation  
*Hualei Fan (Xi'an University of Posts and Telecommunications); Chao Yang (Xi'an University of Posts and Telecommunications); Yusheng Jin (Xi'an University of Posts and Telecommunications); Weiqi Du (Xi'an University of Posts and Telecommunications);*
- 39 Skylight Polarization Orientation Method for Occlusion Scene  
*Yucong Zhou (China Jiliang University); Han Gao (China Jiliang University);*
- 40 A Broadband 60G LTCC Bow-tie Antenna  
*Xia Zhou (Nokia Shanghai Bell Co., Ltd.); Xiuqi Lai (Shanghai Yangpu High School of PRC);*
- 41 Design a Patch Dipole Antenna Array for the Application of Short Baseline Interferometer  
*Jincheng Tang (Southwest University of Science and Technology); Peng Gao (Southwest University of Science and Technology); Qiangming Cai (Southwest University of Science and Technology); Qi Liu (Southwest University of Science and Technology); Chao Zhang (Southwest University of Science and Technology); Xin Cao (Southwest University of Science and Technology); Jun Fan (Southwest University of Science and Technology); Peng Gao (Southwest University of Science and Technology);*
- 42 Towards the Microwave Implementation for Luminal Metamaterials  
*Wei Cao (University of Electronic Science and Technology of China); Y. Liao (University of Electronic Science and Technology of China); Longji Duan (University of Electronic Science and Technology of China); Jiang Xiong (University of Electronic Science and Technology of China);*
- 43 Using Load Transient Waveform to Analyze Fault Propagation Mechanism in DC-DC Switching Power Supply  
*Junliang Wan (Southwest University of Science and Technology); Pengfei Yu (Laboratory of Science and Technology on Reliability Physics and Application of Electronic Component); Qiangming Cai (Southwest University of Science and Technology); Xin Cao (Southwest University of Science and Technology); Longjian Zhou (Southwest University of Science and Technology); Haoran Li (Southwest University of Science and Technology); Yuyu Zhu (Southwest University of Science and Technology); Jun Fan (Southwest University of Science and Technology);*
- 44 Experimental Study on the Sensing of Odor Molecular Compounds by Metal-organic Framework Materials  
*Yuzhi Qin (South China Normal University); Qianyi Guo (South China Normal University); Lihua Li (South China Normal University); Jiwei Chen (The Hong Kong Polytechnic University);*
- 45 An Embedded Triband Shared-Aperture Antenna with Omnidirectional Radiation Pattern  
*Yuan Zhang (University of Electronic Science and Technology of China); Dongjun Wang (AVIC Chengdu Aircraft Industrial (Group) CO., LTD.); Longjian Zhou (Southwest University of Science and Technology); Qiangming Cai (Southwest University of Science and Technology); Yan-Wen Zhao (National Institute of Defense Technology Innovation, Academy of Military Sciences PLA China); Jun Hu (University of Electronic Science and Technology of China);*



- 46 The Influence of a Strong Electromagnetic Wave and Phonon Confinement on the Acousto-magneto-electric Effect in Low-dimensional Doped Semiconductor Superlattices  
*Nguyen Quyet Thang (Vietnam National University); Nguyen Quang Bau (Hanoi National University); Nguyen Dinh Nam (Vietnam National University); Nguyen Van Nghia (Thuy Loi University); Nguyen Thu Huong (Vietnam National University);*
- 47 Interesting Optical Force Effects in Hyperbolic Metamaterial System  
*Junxiang Lu (Institute of Theoretical Physics, Shanxi University); Lei Zhang (Shanxi University); Jun Chen (Shanxi University);*
- 48 Investigation of the Features of Radio Wave Propagation over the Sea Surface  
*Andrey Alexeevich Pimenov (National Research University "Moscow Power Engineering Institute"); A. S. Filimonov (National Research University "Moscow Power Engineering Institute"); Anton Alekseevich Novikov (National Research University "Moscow Power Engineering Institute"); Kirill Sergeyevich Sychev (National Research University "Moscow Power Engineering Institute"); Alexandr Alexandrovich Gladchenko (National Research University "Moscow Power Engineering Institute"); Mikhail Sergeyevich Mikhailov (National Research University "Moscow Power Engineering Institute");*
- 49 Comparison of Multi-resonant Patch Antenna Topologies  
*E. D. Malev (National Research University "Moscow Power Engineering Institute"); Mikhail Sergeyevich Mikhailov (National Research University "Moscow Power Engineering Institute"); Alexey Mikhailovich Mikhailov (National Research University "Moscow Power Engineering Institute"); A. A. Komarov (National Research University "Moscow Power Engineering Institute");*
- 50 A Design of Decoupling Scheme for Antenna Array Operating in X Band  
*Jing Ruan (Harbin Engineering University); Tao Jiang (Harbin Engineering University);*
- 51 Simplified Transfer Matrix Method for Capturing Propagation through Isotropy  
*Jiuyang Fan (Anhui University); Yuxian Zhang (Anhui University); Xiaoli Feng (Anhui University); Naixing Feng (Anhui University); Yilin Kang (Anhui University); Lixia Yang (Anhui University); Zhi-Xiang Huang (Anhui University);*
- 52 A Divergence-free Finite Element Method for Approximating the Two-dimensional Maxwell Eigenvalues from Upper  
*Jiayu Han (Guizhou Normal University); Xiaolin Fan (Guizhou Normal University); Yu Zhang (Guizhou University of Finance and Economics);*
- 53 Analysis of Fields of a New Horizontally Polarized EMP Simulator  
*Xiang-Qin Zhu (Northwest Institute of Nuclear Technology); Wei Wu (National Key Laboratory of Intense Pulsed Radiation Simulation and Effect); Zaigao Chen (Northwest Institute of Nuclear Technology); Hongfu Xia (National Key Laboratory of Intense Pulsed Radiation Simulation and Effect);*
- 54 Coupled Valley Spin and Pseudo-magnetic Field in Photonic Crystals  
*Shiyu Liu (China University of Mining and Technology); Mingxuan Li (China University of Mining and Technology); Bin Yang (China University of Mining and Technology); Yuting Yang (China University of Mining and Technology);*
- 55 Experimental Study on Terahertz Radiation Flux Generation Due to Nonlinear Processes in Beam-plasma Interaction System  
*Andrey V. Arzhannikov (Budker Institute of Nuclear Physics RAS); Stanislav L. Sinitsky (Budker Institute of Nuclear Physics Russian Academy of Sciences); D. A. Samtsov (Budker Institute of Nuclear Physics RAS); Petr V. Kalinin (Budker Institute of Nuclear Physics RAS); S. S. Popov (Budker Institute of Nuclear Physics SB RAS); M. G. Atlukhanov (Budker Institute of Nuclear Physics SB RAS); Evgeny S. Sandalov (Budker Institute of Nuclear Physics of Siberian Branch Russian Academy of Sciences (BINP SB RAS)); Vasily D. Stepanov (Budker Institute of Nuclear Physics RAS); K. N. Kuklin (Budker Institute of Nuclear Physics SB RAS); M. A. Makarov (Budker Institute of Nuclear Physics RAS);*
- 56 Influence of Accelerating Voltage Fluctuations on the Width of the Frequency Locking Area of a 2 Megawatt-level Gyrotron  
*Andrey Pavlovich Fokin (Federal Research Center A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)); Alexander Nikolaevich Leontyev (Institute of Applied Physics of the Russian Academy of Sciences); Roman Markovich Rozental (Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS));*
- 57 Application of Beamforming Method with Maximum SNR in Phased Array Receiver  
*Kai Wang (Xinjiang Astronomical Observatory, CAS);*
- 58 Millimeter-wave Ultra-narrowband Band-pass Filter Based on SIW and Archimedean Spiral Slots  
*Yiming Zhang (Zhejiang University); Weiting Sun (Southern University of Science and Technology);*
- 59 Application of PINNs in PNJ Research  
*Qinyu Deng (Xidian University); Huan Tang (Xidian University); Renxian Li (Xidian University); Wei Li (Xidian University); Mingyu Zhang (Xidian University); Zhuoyuan Shi (Xidian University); Yuan Zhang (Xidian University);*

- 60 Disaster Monitoring Analysis Using Multi-source Remote Sensing Data  
Zihua Tong (Nanjing Guochu Science and Technology Research Institute Co., Ltd.); Chenghui Zheng (Jiangsu Hydraulic Research Institute); Yuwei Liu (Jiangsu Hydraulic Research Institute); Yan Li (Flood and Drought Disaster Prevention and Dispatch Command Center of Jiangsu Province); Junjie Wang (Nanjing University of Posts and Telecommunications); Zhen Wu (Nanjing University of Posts and Telecommunications); Yan Jia (Nanjing University of Posts and Telecommunications);
- 61 Research on X-band Microstrip Broadband Antenna Based on Metasurface  
Haixuan Li (Aerospace Information Research Institute, Chinese Academy of Sciences); Rui Zhang (Aerospace Information Research Institute, Chinese Academy of Sciences); Zhicheng Wang (Aerospace Information Research Institute, Chinese Academy of Sciences);
- 62 Using Complementary Split-ring Resonators for Super-compact Filters on the Substrate Integrated Waveguide  
Hui Zhang (High-Tech Institute of Xi'an); Yanling Li (High-Tech Institute of Xi'an); Jianwei Zhan (High-Tech Institute of Xi'an); Qian Miao (High-Tech Institute of Xi'an); Fei Cao (High-Tech Institute of Xi'an);
- 64 The Research of InGaAs/InP Negative Feedback Avalanche Diode  
Oingmin Chen (Southwest Institute of Technical Physics); Heping Xie (Southwest Institute of Technical Physics); Wenzhi Qin (Southwest Institute of Technical Physics); Fei Yuan (Southwest Institute of Technical Physics); Hongjun Tian (Southwest Institute of Technical Physics); Yuan Liu (Southwest Institute of Technical Physics); Qian Dai (Southwest Institute of Technical Physics); Hai-Zhi Song (Southwest Institute of Technical Physics & UESTC);
- 66 High Rep-rate, Burst Mode Fiber Front-end for Electron Storage Ring Laser Driven Synchronization  
Chenyang Gao (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences); Gengji Zhou (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences); Yuxin Leng (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences);
- 67 Probing Contaminant Loss in a Billion- $Q$  Fused Silica Microcavity  
Bing Duan (Beijing University of Posts and Telecommunications); Tingyang Pan (Beijing University of Posts and Telecommunications); Chang Li (Beijing University of Posts and Telecommunications); Daquan Yang (Beijing University of Posts and Telecommunications);

- 68 Strong Electromagnetic Pulse Interference Loading Method on Electrical Equipment under Operation State  
Feng Qin (Northwest Institute of Nuclear Technology); Zhitong Cui (Northwest Institute of Nuclear Technology); Wei Chen (Northwest Institute of Nuclear Technology); Xin Nie (Northwest Institute of Nuclear Technology); Wei Wu (Northwest Institute of Nuclear Technology); Yixiong Wang (Northwest Institute of Nuclear Technology);

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### Session 2A1a

### Quantum Information Physics, Materials and Devices 1

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Tuesday AM, April 23, 2024

Room 1 - Yarui

Organized by Yaping Wu, Deyi Fu

Chaired by Yaping Wu, Deyi Fu

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- 8:10 Hybridizing Nano-photonics and Spin-bearing Molecular Network for High-temperature Quantum Computing with Promising Scale-up Potential  
Invited Wei Wu (University College London);
- 8:30 Epitaxial Thin Films and Devices of Novel 2D Magnetic Materials  
Yongkang Xu (Nanjing University); Pengfei Yan (Nanjing University); Jing Wang (Nanjing University); Taikun Wang (Nanjing University); Yu Liu (Nanjing University); Liang He (Nanjing University);
- 8:45 Theoretical and Experimental Research on Novel 2D Ferroelectric Materials  
Xin Luo (Sun Yat-sen University);
- 9:00 Large-area Fabrication, Properties and Device Applications of Topological Semimetal Thin Films  
Xuefeng Wang (Nanjing University);
- 9:15 Tunable Topological Properties of Sm-doped (Bi, Sb)<sub>2</sub>Te<sub>2</sub>S Crystal  
Junjie Wu (University of Science and Technology of China); Bin Xiang (University of Science and Technology of China);
- 9:30 Spin-orbit Physics in Functional Oxides and Its Application in Spintronics  
Weinan Lin (Xiamen University);
- 9:45 Enhanced Trion Valley Polarization in Janus MoSeS by Constructing a Type-II Hexagonal (2H)/Rhombohedral (3R) Stacking van der Waals Heterostructure  
Mengyu Liu (Xiamen University); Wei Wu (Xiamen University); Zilong Chen (Xiamen University); Xu Li (Xiamen University); Yaping Wu (Xiamen University); Zhiming Wu (Xiamen University); Junyong Kang (Xiamen University);

10:00 Coffee Break

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**Session 2A1b**  
**High-dimensional Quantum Information**

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**Tuesday AM, April 23, 2024**

**Room 1 - Yarui**

Organized by Biheng Liu, Xiao-Min Hu

Chaired by Xiao-Min Hu, Biheng Liu

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10:30 High-dimensional Entanglement with New Entangle-  
Invited ment Measures

*Ming-Xing Luo (Southwest Jiaotong University);*

10:50 Two-photon Interference and High-dimensional Photon-  
Invited photon Gate

*Zhi Cheng Ren (Nanjing University); Xi-Lin Wang (Nanjing University);*

11:10 Improving Qubit Communication with High-  
Invited dimensional Entanglement

*Yu Guo (University of Science and Technology of China);*

11:30 Certifying Unknown Genuine Multipartite Entangle-  
Invited ment by Neural Networks

*Zhenyu Chen (Tsinghua University); Xiaodie Lin (Tsinghua University); Zhaohui Wei (Tsinghua University);*

11:50 Integrated Multidimensional Quantum Photonics

Invited

*Jianwei Wang (Peking University);*

12:10 Resolved Raman Sideband Cooling of a Single Optically  
Trapped Cesium Atom

*Zhuangzhuang Tian (Shanxi University); Haobo Chang (Shanxi University); Xin Lv (Shanxi University); Gang Li (Shanxi University); Tiancai Zhang (Shanxi University);*

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**Session 2A2**  
**Metasurface Inspired Antennas and Microwave Components**

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**Tuesday AM, April 23, 2024**

**Room 2 - Jincheng 3**

Organized by Yizhu Shen, Chunhua Xue

Chaired by Yizhu Shen, Chunhua Xue

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8:00 A D-band Multi-feed Metasurface-inspired Antenna for  
Invited Chip Integration

*Teng Li (Southeast University); Shuyuan Chu (Southeast University); Akanksha Bhutani (Karlsruhe Institute of Technology); Thomas Zwick (Karlsruhe Institute of Technology);*

8:20 Study on the Angular Stability of Huygens' Metasurface  
Invited

*Xue-Song Yang (University of Electronic Science and Technology of China); Zi-Hao Fu (University of Electronic Science and Technology of China);*

8:40 Compact Antennas Based on Spoof Surface Plasmon Po-  
Invited laritons

*Dou Tian (Chang'an University); Ruiyao Zhao (Chang'an University);*

9:00 Machine-learning Aided Design (MLAD) of Metasur-  
faces and Antennas

*Xi Chong You (ShanghaiTech University); Fenghan Lin (ShanghaiTech University);*

9:15 Millimeter-wave Folded Reflectarray and Its Integration  
with Active Chip

*Yizhu Shen (Southeast University); Jiawei Yang (Southeast University); Shizhe Xu (Southeast University); Sanming Hu (Southeast University);*

9:30 A Broadband and Wide-angle Frequency Selective Sur-  
face with Polarization Conversion Capability

*Tong Zhang (Southeast University); Juliang Lv (Southeast University); Teng Li (Southeast University);*

9:45 A Double-layer Huygens' Metalens Antenna with Linear-  
to-circular Polarization Function

*Haibo Wang (Guangxi University of Science and Technology); Chunhua Xue (Guangxi University of Science and Technology);*

10:00 **Coffee Break**

10:30 A Microstrip Energy Selective Antenna Based on PIN  
Diodes

*Shuyun Lin (Southwest University of Science and Technology); Yanqing Cheng (Southwest University of Science and Technology); Jinqi Dong (Southwest University of Science and Technology); Yao Zhou (Southwest University of Science and Technology); Qi Chen (Southwest University of Science and Technology);*

10:45 Metasurface-based Resonator with Rotational Magnatic  
Field for Wireless Power Transfer

*Xinyu Huang (Harbin Engineering University); Longyang Wang (Wuhan University of Technology); Xinrui Liu (Qingdao Innovation and Development Center of Harbin Engineering University); Mingzhao Song (Qingdao Innovation and Development Center of Harbin Engineering University);*

11:00 A Double-layer Reflective Bifacial Metasurface and Its  
Bi-functional Reflectarray Antenna Application

*Qiang Gao (Guangxi University of Science and Technology); Chunhua Xue (Guangxi University of Science and Technology);*

11:15 Waveguide Feeding in 3-D Heterogeneous Integration of  
Holographic Antenna

*Wencheng Wan (Southeast University); Yizhu Shen (Southeast University); Song Xue (Southeast University); Sanming Hu (Southeast University);*

11:30 An Ultra-low-profile Folded Transmitarray Antenna  
Based on Chain Huygens' Metasurface

*Yanfeng He (Guangxi University of Science and Technology); Chunhua Xue (Guangxi University of Science and Technology);*

- 11:45 A Novel Frequency Tuning and Calibration Scheme in an E-band PLL  
Yuxuan Wang (Southeast University); Guoqing Dong (Southeast University); Yizhu Shen (Southeast University); Sanming Hu (Southeast University);
- 12:00 Bandwidth Enhancement of Huygens' Metalems Antenna Based on AI Collaboration  
Haiyang Wang (Guangxi University of Science and Technology); Chunhua Xue (Guangxi University of Science and Technology);

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### Session 2A3a

#### Advanced Antenna Design Technologies for Pattern Diversity and Reconfigurability

Tuesday AM, April 23, 2024

Room 3 - Jincheng 2

Organized by Sen Yan, Yuandan Dong

Chaired by Sen Yan

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- 8:00 A Compact High-gain Rotman Lens Multibeam Antenna with Low Crossover Level and Sidelobe  
Yuanxi Cao (Xi'an Jiaotong University); Sen Yan (Xi'an Jiaotong University); Jiahao Zhang (Naval University of Engineering);
- 8:15 Beamwidth and Bandwidth Enhancement of a Dual-circularly Polarized Microstrip Patch Antenna  
Rui Du (Xidian University); Neng-Wu Liu (Xidian University);
- 8:30 A Compact and Broadband Meta-surface Antenna with Multi-mode Resonances  
Kai Zhang (Xi'an University of Technology);
- 8:45 A Butler Matrix Based Multi-beam Antenna Array Fed by GSG Probe in W-band  
Dongxu Wang (Xi'an Jiaotong University); Yuanxi Cao (Xi'an Jiaotong University); Cheng Guo (Xi'an Jiaotong University); Kai-Da Xu (Xi'an Jiaotong University); Sen Yan (Xi'an Jiaotong University);
- 9:00 Slot-fed Pattern-diversity Dielectric Resonator Antenna with HEM<sub>113</sub> Mode and TM<sub>011</sub> Mode  
Shuhao Hu (Sun Yat-sen University); Nan Yang (Sun Yat-sen University); Kai Lu (Sun Yat-sen University); Peng Fei Hu (Sun Yat-Sen University);
- 9:15 A Wideband Circularly Polarized Slot Antenna for UWB Application  
Junlong Li (Shanwei Institute of Technology); Caili Yu (Shanwei Institute of Technology); Guogang Huang (Shanwei Institute of Technology); Zixuan Liu (South China Normal University); Hui Liu (Guangdong Polytechnical Normal University);
- 10:00 **Coffee Break**

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### Session 2A3b

#### Compact Antennas and Their Arrays for Modern Wireless Communications

Tuesday AM, April 23, 2024

Room 3 - Jincheng 2

Organized by Ming-Chun Tang, Ke Chen

Chaired by Ke Chen

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- 10:30 Design of a Dual-polarized High Isolation Multilayer Patch Antenna and Array  
Guo-Hong Du (University of Science and Technology of China); Yipeng Zhang (Chengdu University of Information Technology); Mingli Chen (Chengdu University of Information Technology); Xiangyong Mou (Chengdu University of Information Technology); Zhao Yang (Chengdu University of Information Technology); Xiaofeng Sun (Chengdu University of Information Technology);
- 10:45 Design of a Polygon AMC Reflector for Dual-band Dual-polarized 5G Antenna  
Weiliang Zeng (Guangdong Polytechnical Normal University); Jiahao Huang (Guangdong Polytechnical Normal University); Xiahua Dong (Guangdong Polytechnical Normal University); Yanwen Zhang (Guangdong Polytechnical Normal University); Junyu Zhou (Guangdong Polytechnical Normal University); Qingchong Liu (Zhejiang University); Hui Liu (Guangdong Polytechnical Normal University);
- 11:00 A Small Metal Insensitive UHF RFID Tag for Temperature Measurement Based on LTCC Technology  
Zixuan Liu (South China Normal University); Junyu Zhou (Guangdong Polytechnical Normal University); Jiapeng Wu (Guangdong Polytechnical Normal University); Yunfeng Diao (Guangdong Polytechnical Normal University); Binghang Dai (Guangdong Polytechnical Normal University); Weipeng Tan (Guangdong Polytechnical Normal University); Jun Li (Guangdong Polytechnical Normal University); Junlong Li (Shanwei Institute of Technology); Hui Liu (Guangdong Polytechnical Normal University);
- 11:15 Enhancing the Isolation Performance of Dual Port Linearly Polarized Reconfigurable Antenna by Using Backload Parasitic Structure  
Fan Ye (Nanjing University of Information Science & Technology); Guowen Ding (Nanjing University of Information Science & Technology); Xinyao Luo (Nanjing University of Information Science & Technology); Xiaoyi Liao (Nanjing University of Information Science and Technology); Shen-Yun Wang (Nanjing University of Aeronautics & Astronautics);
- 11:30 Wireless Signal Enhancement with Dual Reconfigurable Intelligent Surface  
Kui Tang (Nanjing University); Ke Chen (Nanjing University); Yijun Feng (Nanjing University);

- 11:45 Electrically Small, Near-field Resonant Parasitic Monopole Antenna with Large Gain-bandwidth Product and Expanded Rejection Band  
*Ruolei Chai (Chongqing University); Da Yi (Chongqing University); Huapeng Zhao (University of Electronic Science and Technology of China); Ming-Chun Tang (Chongqing University);*

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### Session 2A4

#### Wave Phenomena in Space/Time Varying Metamaterials/Metasurfaces 1

Tuesday AM, April 23, 2024

Room 4 - Jincheng 1

Organized by Fu Liu, Huanan Li, Xuchen Wang

Chaired by Fu Liu, Huanan Li

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- 8:00 Optical Interferences in the Time Domain  
 Invited *Luqi Yuan (Shanghai Jiao Tong University);*
- 8:20 Robust Temporal Adiabatic Passage with Perfect Frequency Conversion between Detuned Acoustic Cavities  
*Zhaoxian Chen (Nanjing University); Yu-Gui Peng (Huazhong University of Science and Technology); Zeguo Chen (Nanjing University); Yuan Liu (Nanjing University); Peng Chen (Nanjing University); Xuefeng Zhu (Nanjing University); Yan-Qing Lu (Nanjing University);*
- 8:55 Asymmetric Vortex Generation Based on Time-switched Magnetoplasma  
*Sihao Zhang (Nankai University); Huan He (Nankai University); Zhaoxian Chen (Nanjing University); Jiwei Qi (Nankai University); Huanan Li (Nankai University); Jingjun Xu (Nankai University);*
- 9:10 Resonant Photonic Time Crystals  
 Invited *Xuchen Wang (Karlsruhe Institute of Technology); P. Garg (Karlsruhe Institute of Technology); M. S. Mirmoosa (University of Eastern Finland); A. G. Lamprianidis (Karlsruhe Institute of Technology); Carsten Rockstuhl (Karlsruhe Institute of Technology); Viktor S. Asadchy (Aalto University);*
- 9:30 Quantum Time Reflection and Refraction for Matter Waves  
 Invited *Zhaoju Yang (Zhejiang University);*
- 10:05 **Coffee Break**
- 10:30 Magnet-free Non-reciprocity in Time-modulated Circuits  
 Invited *Xiaohu Wu (Southern University of Science and Technology); Alejandro Álvarez Melcón (Technical University of Cartagena); Juan Sebastián Gómez-Díaz (University of California Davis); Xiaoguang Liu (Southern University of Science and Technology);*

- 10:50 A Matrix Riccati Equation for Fast Modeling of Wave Propagation and Absorption in Complex Inhomogeneous Media with Spatial Dispersion and Anisotropy  
*Egor D. Gospodchikov (A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)); Alexander G. Shalashov (A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS));*

- 11:05 Reconfigurable Super-directive Absorbers Based on Finite-sized Strip Arrays  
*Yongming Li (Xi'an Jiaotong University); Xikui Ma (Xi'an Jiaotong University); Jiawei Wang (Xi'an Jiaotong University); Xuchen Wang (Karlsruhe Institute of Technology); Sergei A. Tretyakov (Aalto University);*

- 11:20 Gyromagnetic Double-zero-index Metamaterials Enable Ultrarobust Generation of Optical Spatiotemporal Vortices  
 Invited *Ruo-Yang Zhang (The Hong Kong University of Science and Technology); Xiaohan Cui (The Hong Kong University of Science and Technology); Che Ting Chan (The Hong Kong University of Science and Technology);*

- 11:40 Quantum Vacuum Amplification Effects in Time-varying Media  
 Invited *Iñigo Liberal (Universidad Pública de Navarra, Campus Arrosadía);*

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### Session 2A5

#### The Merge of Artificial Intelligence and Nanophotonics for Optical Computing, Sensing and Imaging

Tuesday AM, April 23, 2024

Room 5 - Yingbin

Organized by Li Gao, Zongfu Yu

Chaired by Li Gao

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- 8:20 Algorithm-driven Design and Optimization of On-chip Metamaterials  
 Invited *Wei Ma (Zhejiang University);*
- 8:40 Active Neuro-metasurfaces for Computing, Detection, and Imaging  
 Invited *Chao Qian (Zhejiang University);*
- 9:00 Optical Computation through Electrically Tunable Multifunctional Metalenses  
 Invited *Trevon Badloe (Pohang University of Science and Technology (POSTECH)); Yeseul Kim (Pohang University of Science and Technology (POSTECH)); Joohoon Kim (Pohang University of Science and Technology (POSTECH)); Junhwa Seong (Pohang University of Science and Technology (POSTECH)); Inki Kim (Sungkyunkwan University); Junsuk Rho (Pohang University of Science and Technology (POSTECH));*

9:20 Deep Inverse Approaches for Artificial Electromagnetic Materials

*Willie John Padilla (Duke University); Y. Deng (Duke University); S. Ren (Duke University); J. M. Malof (Duke University);*

10:00 **Coffee Break**

10:30 Multifunctional Nanoplasmonics Facilitated by Deep Neural Networks

*Wenshan Cai (Georgia Institute of Technology);*

10:50 Neural Network Enhanced Compact Meta-polarimetry

*Chen Chen (Nanjing University); Xingjian Xiao (Nanjing University); Tao Li (Nanjing University);*

11:30 Nanophotonic Devices Based on Intelligent Optimization Algorithms

*Cuicui Lu (Beijing Institute of Technology);*

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### Session 2A6

#### High Power Fiber Laser Technology and Applications

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Tuesday AM, April 23, 2024

Room 6 - Huanhua

Organized by Rumao Tao

Chaired by Xiaolin Wang, Rumao Tao

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8:00 Novel 10kW High Power Bidirectional Output High-power Fiber Laser in Continuous Wave and Quasi Continuous Wave

*Xiaolin Wang (National University of Defense Technology);*

8:20 High-power Ytterbium-Raman Fiber Laser

*Qirong Xiao (Tsinghua University); Tiancheng Qi (Tsinghua University); Dan Li (Tsinghua University); Ping Yan (Tsinghua University); Mali Gong (Tsinghua University);*

9:20 Wide Temperature Operation of High Power Fiber Laser

*Hanwei Zhang (National University of Defense Technology); Jinming Wu (National University of Defense Technology); Xiaolin Wang (National University of Defense Technology); Kai Han (National University of Defense Technology); Jinbao Chen (National University of Defense Technology);*

10:00 **Coffee Break**

10:30 Single-frequency Linearly-polarized Nanosecond Fiber Laser

*Rongtao Su (National University of Defense Technology (NUDT)); Siyu Chen (National University of Defense Technology); Wanru Zhang (National University of Defense Technology);*

10:50 Characterization of Narrowband Generation Regime of a Random Fiber Raman Laser

*Oleg A. Gorbunov (Novosibirsk State University); Ilya D. Vatnik (Novosibirsk State University); Sergey V. Smirnov (Novosibirsk State University); Dmitry V. Churkin (Novosibirsk State University);*

11:05 Multicore Fiber Lasers with fs-inscribed Grating Arrays: Recent Developments and Perspectives

*A. G. Kuznetsov (Institute of Automation and Electrometry SB RAS); Alexandr V. Dostovalov (Institute of Automation and Electrometry SB RAS); Alexey Yu. Kokhanovskiy (ITMO University); Sergey A. Babin (Institute of Automation and Electrometry SB RAS);*

11:20 Deep Learning Enabled High Accuracy Coherent Beam Combination with Ultra Low Residual Phase

*Hongbing Zhou (Tsinghua University); Rumao Tao (Laser Fusion Research Center, China Academy of Engineering Physics); Xi Feng (Laser Fusion Research Center, China Academy of Engineering Physics);*

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### Session 2A7

#### Integrated Nonlinear Photonics: From Materials to Devices and Applications

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Tuesday AM, April 23, 2024

Room 7 - Xiling

Organized by Dingshan Gao, Yuping Chen

Chaired by Yuping Chen, Dingshan Gao

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8:00 Chiral Metasurfaces in Anisotropic Thin Film Lithium Niobate and Its Nonlinear Effect

*Xianpeng Lv (Jinan University); Huihui Lu (Jinan University);*

8:15 Nonlinear Optics in III-nitride Microresonators

*Changzheng Sun (Tsinghua University); Zhaoqin He (Tsinghua University); Bing Xiong (Tsinghua University); Zhibiao Hao (Tsinghua University); Lai Wang (Tsinghua University); Jian Wang (Tsinghua University); Yanjun Han (Tsinghua University); Hongtao Li (Tsinghua University); Lin Gan (Tsinghua University); Yi Luo (Tsinghua University);*

8:35 Nonlinear Optical Signal Processing Based on Parity Time Symmetry

*Jing Xu (Huazhong University of Science and Technology); Hanghang Li (Huazhong University of Science and Technology); Zhuang Fan (Huazhong University of Science and Technology); Nuo Chen (Huazhong University of Science and Technology); Xiaolong Fan (Huazhong University of Science and Technology); Wenchan Dong (Huazhong University of Science and Technology); Jianji Dong (Huazhong University of Science and Technology); Xinliang Zhang (Huazhong University of Science and Technology);*

- 8:55 High-efficiency Second Harmonic Generation in Periodically Poled Thin Film Lithium Niobate Waveguide  
*Yuzhao Dong (Huazhong University of Science and Technology); Jian Cheng (Huazhong University of Science and Technology); Dingshan Gao (Huazhong University of Science and Technology);*
- 9:25 Soliton Microcomb Formation in a Normal Dispersion Lithium Niobate Microdisk by Mode Trimming  
*Chuntao Li (East China Normal University); Renhong Gao (East China Normal University); Botao Fu (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences); Jintian Lin (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences); Ya Cheng (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences);*
- 10:00 **Coffee Break**
- 10:30 Cascaded Third Harmonic Generation in Periodically Poled Thin-film Lithium Niobate Waveguides  
Invited *Xiao Wu (Nankai University); Li Zhang (Nankai University); Zhenzhong Hao (Nankai University); Fang Bo (Nankai University); Guoquan Zhang (Nankai University); Jingjun Xu (Nankai University);*
- 10:50 Soliton Microcombs with Long-term Stability in Lithium Niobate on Insulator  
Invited *Zexing Zhao (Nanjing University); Chenyu Wang (Nanjing University); Kunpeng Jia (Nanjing University); Xiaohui Tian (Nanjing University); Zhen-Da Xie (Nanjing University); Shi-Ning Zhu (Nanjing University);*
- 11:30 Chip-scale Spontaneous Quasi-phase Matched Nonlinear Devices on Thin-film Lithium Niobate  
*Tingge Yuan (Shanghai Jiao Tong University); Jiangwei Wu (Shanghai Jiao Tong University); Yuping Chen (Shanghai Jiao Tong University); Xianfeng Chen (Shanghai Jiao Tong University);*

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### Session 2A8a

#### Thermal Radiation: Principles, Progress, and Potentials 1

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Tuesday AM, April 23, 2024

Room 8 - Guixiang

Organized by Bai Song, Kezhang Shi

Chaired by Bai Song, Kezhang Shi

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- 8:00 Multidimensional Regulation of Thermal Radiation and Its Applications on Radiative Cooling  
Invited *Fei Xie (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences); Qiuyu Wang (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences); Jiawei Wang (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences); Yue Zhang (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences); Yi Liu (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences); Hao Pan (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences); Naiqin Yi (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences); Longnan Li (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences); Wei Li (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences);*
- 8:20 Designing Thermal Metamaterials for Multi-band Non-reciprocal Thermal Radiation  
Invited *Run Hu (Huazhong University of Science and Technology);*
- 8:40 Achieving Broadband Directional Thermal Radiation  
Invited *Cunhai Wang (University of Science and Technology Beijing);*
- 9:00 Evolution of High-temperature Spectrally Selective Solar Absorber Coatings  
Invited *Yang Li (Zhejiang University);*
- 9:20 Efficient Energy Harvesting from the Hot Sun and Cold Universe  
Invited *Bin Zhao (University of Science and Technology of China); Chongwen Zou (University of Science and Technology of China); Gang Pei (University of Science and Technology of China);*
- 9:40 Investigation of Spectral Modulation to Improve Photovoltaic Performance  
Invited *Yue Yang (Harbin Institute of Technology);*
- 10:00 **Coffee Break**

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### Session 2A8b

#### Thermal Photonics: Fundamental Physics and Application 3

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Tuesday AM, April 23, 2024

Room 8 - Guixiang

Organized by Wei Li, Longnan Li

Chaired by Wei Li, Longnan Li

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- 10:30 Fluorescence-mediated Smart Radiative Cooling for Green Buildings and Skin Electronics  
*X. Ma (City University of Hongkong); Dangyuan Lei (City University of Hongkong);*

10:45 Metamaterials Solutions for Sustainabilities

Keynote

*Xiaobo Yin (The University of Hong Kong);*

11:15 Zero-power Smart Thermal Management by Temperature-adaptive Radiative Coatings

*Kaichen Dong (Tsinghua Shenzhen International Graduate School, Tsinghua University); Jiachen Li (University of California, Berkeley); Kechao Tang (Peking University); Tiancheng Zhang (University of California);*

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### Session 2A9a

#### Hybrid Optoelectronics

**Tuesday AM, April 23, 2024**

**Room 9 - Xinyu**

Organized by Meicheng Li, Yuyi Feng

Chaired by Yuyi Feng

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8:20 High-efficiency All Fluorescence White OLEDs with High Color Rendering Index

Invited *Yuan Liu (Beijing Information Science & Technology University);*

8:40 Understanding the Li<sup>+</sup> Ions Migration Behaviors within the Perovskite Solar Cells during Preparation and under Operation

Invited *Changzeng Ding (Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences); Chang-Qi Ma (Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences);*

9:00 Surface Properties and Photovoltaic Applications of Perovskite Quantum Dots

Invited *Donglin Jia (North China Electric Power University); Meicheng Li (North China Electric Power University);*

9:20 Exciton Dynamics in Lattice Epitaxial CsPbBr<sub>3</sub>/CdS Heterostructure

Invited *Hengwei Qiu (North China Electric Power University); Meicheng Li (North China Electric Power University);*

9:40 Artificial Photonic Hetero-synapses Based on ZnO/IGZO Heterojunction for Neuromorphic Computing

Invited *Wenxiao Wang (University of Jinan); Yang Li (Shandong University); Jiewei Chen (The Hong Kong Polytechnic University);*

10:00 **Coffee Break**

10:30 Enhancing Optical Activity via Chiral Perovskite Metamaterials

Invited *Yuyi Feng (North China Electric Power University); Xin Bi (North China Electric Power University); Yifan Zeng (North China Electric Power University); Jianyu Li (North China Electric Power University); Xinyu Gu (North China Electric Power University); Tongtong Jiang (North China Electric Power University); Meicheng Li (North China Electric Power University);*

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### Session 2A9b

#### Advanced Light Source Using Integrated Photonics Technologies

**Tuesday AM, April 23, 2024**

**Room 9 - Xinyu**

Organized by Lin Chang, Xiyuan Lu

Chaired by Yuyi Feng

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11:15 A Highly Sensitive Fiber-optic Microphone Radar Driven by Soliton Microcomb and FPGA

*Shangce Wang (University of Electronic Science and Technology of China); Zeping Wang (University of Electronic Science and Technology of China); Jing Tan (University of Electronic Science and Technology of China); Xinyue He (University of Electronic Science and Technology of China); Bing Chang (University of Electronic Science and Technology of China); Teng Tan (University of Electronic Science and Technology of China); Baicheng Yao (University of Electronic Science and Technology of China);*

11:30 Spatio-temporal Structure of Vortex Soliton

*Yanwu Liu (Peking University); Chenghao Lao (Peking University); Min Wang (Institute of Physics, Chinese Academy of Sciences); Yinke Cheng (Peking University); Yuanlei Wang (Peking University); Shiyao Fu (Beijing Institute of Technology); Chunqing Gao (Beijing Institute of Technology); Jianwei Wang (Peking University); Bei-Bei Li (Institute of Physics, Chinese Academy of Sciences); Qihuang Gong (Peking University); Yun-Feng Xiao (Peking University); Wenjing Liu (Peking University); Qi-Fan Yang (Peking University);*

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### Session 2A10a

#### Oral Presentations for Best Student Paper Awards — SC3: Optics and Photonics

**Tuesday AM, April 23, 2024**

**Room 10 - Shuliu**

Chaired by Xian-Min Jin, Pier Paolo Pompa, Sailing He

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8:00 Epsilon-near-zero Enhancement of Linear and Nonlinear Thermo-optic Effects

*Jiaye Wu (Swiss Federal Institute of Technology Lausanne (EPFL)); Marco Clementi (École Polytechnique Fédérale de Lausanne (EPFL)); Chenxingyu Huang (Peking University); Feng Ye (Peking University Shenzhen Graduate School); Hongyan Fu (Tsinghua University); Lei Lu (Peking University); Shengdong Zhang (Peking University); Qian Li (Peking University Shenzhen Graduate School); Camille-Sophie Bres (Ecole Polytechnique Federale Lausanne);*



- 8:15 Cooling of Thermal Motion of Levitated Optically Coupled Nanoparticles  
*Tereza Zemánková (Institute of Scientific Instruments of the Czech Academy of Sciences); Vojtěch Liška (Institute of Scientific Instruments of the Czech Academy of Sciences); Alexandr Jonáš (Institute of Scientific Instruments of the Czech Academy of Sciences); Vojtěch Svak (Institute of Scientific Instruments of the Czech Academy of Sciences); P. Jakl (Institute of Scientific Instruments of the Czech Academy of Sciences); Stephen H. Simpson (Institute of Scientific Instruments of the Czech Academy of Sciences); Pavel Zemánek (Institute of Scientific Instruments of the Czech Academy of Sciences); Oto Brzobohaty (Institute of Scientific Instruments of the Czech Academy of Sciences);*
- 8:30 Topological Integrated Antenna for 6G Terahertz Wireless Communication  
*Ridong Jia (Nanyang Technological University); Sonu Kumar (Nanyang Technological University); Thomas Cai Wei Tan (Nanyang Technological University); Abhishek Kumar (Nanyang Technological University); Yi Ji Tan (Nanyang Technological University); Manoj Gupta (Nanyang Technological University); Pascal Szriftgiser (Universite Lille 1); Alphones Arokiaswami (Nanyang Technological University); Guillaume Ducournau (Institute of Electronics, Microelectronics and Nanotechnology (IEMN), CNRS/University of Lille); Ranjan Singh (Nanyang Technological University);*
- 8:45 Three-dimensional Spatial Multiplexed Holography for Accurate Reception Range and Position Control in Visible Light Communication  
*Chaoxu Chen (Fudan University); Yuan Wei (Fudan University); Haoyu Zhang (Fudan University); Ziwei Li (Fudan University); Chao Shen (Fudan University); Junwen Zhang (Fudan University); Nan Chi (Fudan University); Jianyang Shi (Fudan University);*
- 9:00 Inverse-design of an Ultra-compact and Broadband Mode Size Converter  
*Yunjie Wang (University of Sydney); Yeming Chen (University of Sydney); Kai Pan (University of Sydney); Shijie Song (University of Sydney); Liwei Li (University of Sydney); Xiaoke Yi (University of Sydney);*
- 9:15 Subwavelength Grating Microring Resonator Sensor Based on Microwave Photonic Interrogation Technique  
*Yiming Yan (University of Sydney); Xiaoyi Tian (University of Sydney); Jianfu Wang (University of Sydney); ChuJun Wu (University of Sydney); Liwei Li (University of Sydney); Debin Meng (University of Sydney); Xiaoke Yi (University of Sydney);*

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**Session 2A10b**  
**Oral Presentations for Best Student Paper Awards — SC2: Metamaterials, Plasmonics and Complex Media**

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**Tuesday AM, April 23, 2024**

**Room 10 - Shuliu**

Chaired by Guixin Li, Yihao Yang, Yadong Xu

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- 10:00 **Coffee Break**
- 10:30 Superluminal Pulse Propagation in Temporal Photonic Moiré Superlattice  
*Linyang Zou (Nanyang Technological University); Hao Hu (Nanyang Technological University); Hao-tian Wu (Nanyang Technological University); Yang Long (Nanyang Technological University); Qi Jie Wang (Nanyang Technological University); Yidong Chong (Nanyang Technological University); Baile Zhang (Nanyang Technological University); Yu Luo (Nanyang Technological University);*
- 10:45 Pushing the Limits of Metasurface Cloak Using Global Inverse Design  
*Nanxuan Wu (Zhejiang University); Chao Qian (Zhejiang University); Hongsheng Chen (Zhejiang University);*
- 11:00 Self-adaptive Reconfigurable Multifunctional Metasurface  
*Chengjing Gao (Zhejiang University); Tingjun Lai (Zhejiang University); Zhengjie Huang (Zhejiang University); Dexin Ye (Zhejiang University);*
- 11:15 Flexible Multilayer Film with Selective Infrared Emission for Passive Daytime Radiative Cooling  
*Maoren Wang (University of Electronic Science and Technology of China); Sulin Ma (University of Electronic Science and Technology of China); Qindong Xie (University of Electronic Science and Technology of China); Pei-Heng Zhou (University of Electronic Science and Technology of China);*
- 11:30 On-chip Emitter-coupled Meta-optics for Versatile Quantum Light Sources  
*Sören Im Sande (University of Southern Denmark); Yinhui Kan (University of Southern Denmark); Danylo Komisar (University of Southern Denmark); Cuo Wu (University of Southern Denmark); Shailesh Kumar (University of Southern Denmark); Sergey I. Bozhevolnyi (University of Southern Denmark); Fei Ding (University of Southern Denmark);*
- 11:45 Dual-band Polarization- and Incident-angle Independent Air-like Metamaterials  
*Yaqing Huang (Zhejiang University); Zhengjie Huang (Zhejiang University); Dexin Ye (Zhejiang University);*

**Session 2A11a****Fiber Sensing Technology and Fiber-based Devices****Tuesday AM, April 23, 2024****Room 11 - Xiangyu**

Organized by Xuewen Shu, Shengnan Wu

Chaired by Shengnan Wu, Xuewen Shu

- 8:20 Light Coupling to Fibers from Second-order Fiber Bragg Gratings  
*Nai-Hsiang Sun (I-Shou University); Yu-Tao Chou (I-Shou University); Ya-Zhou Li (I-Shou University); Shuo-Erh Liang (I-Shou University); Jung-Sheng Chiang (I-Shou University);*
- 8:35 Analysis and Experimental of Anti-resonant Hollow-core Fiber Sensor  
*Jung-Sheng Chiang (I-Shou University); Kai-Wei Liu (I-Shou University); Zi-You Zhou (I-Shou University); Chih-Hao Wang (I-Shou University); Nai-Hsiang Sun (I-Shou University);*
- 8:50 Highly Dense FBG Temperature Sensor at Multi-core Fiber Calibrated with Artificial Neural Network  
*Alexey Kokhanovskiy (ITMO University); Alexandr V. Dostovalov (Institute of Automation and Electrometry SB RAS); Denis Sakhno (ITMO University); Evgeniy Golikov (Institute of Automation and Electrometry of the SB RAS); Zhibzema Munkueva (Institute of Automation and Electrometry of the SB RAS); Sergey A. Babin (Institute of Automation and Electrometry SB RAS);*
- 9:05 Fiber Optic Shape Sensing Robustness Against Cores Failure  
*Francesco Falcatelli (University of Bologna); Leonardo Rossi (IMM, National Research Council); Filippo Bastianini (SOCOTEC Photonics); Gabriele Bolognini (IMM, National Research Council); Raffaella Di Sante (University of Bologna);*
- 9:20 Highly Efficient Design Scheme for Specialty Optical Fibers  
*S. Rao (Ben-Gurion University of the Negev); Yonatan Sivan (Ben-Gurion University of the Negev);*
- 9:35 An Eccentric Core PCF Embedded with Gold Nanowires Based SPR Sensor for Humidity-temperature Dual-parameter Sensing  
*Jiayuan Liu (Lanzhou University of Technology); Yongtao Xia (Lanzhou University of Technology); Shanglin Hou (Lanzhou University of Technology); Gang Wu (Lanzhou University of Technology); Zuyong Yan (Lanzhou University of Technology);*
- 10:05 **Coffee Break**

**Session 2A11b****Discharge Plasma in Contact with a Liquid 1****Tuesday AM, April 23, 2024****Room 11 - Xiangyu**

Organized by Qiang Chen, Wenjun Ning

Chaired by Qiang Chen, Wenjun Ning

- 10:30 Characterization of a Novel Atmospheric Pressure Plasma Jet for Biomedical Applications  
*Saikang Shen (Sichuan University); Cristina Canal (Universitat Politècnica de Catalunya (UPC)); Wenjun Ning (Sichuan University);*
- 10:45 Plasma-enabled Synthesis of Metal Catalysts in Solution  
*Yu Tian (Dalian University); Xiaonan Du (Dalian University); Hong Li (Dalian University); Yue Hua (Dalian University); Lanbo Di (Dalian University);*
- 11:15 Rapid Synthesis of Noble Metal Colloids by Plasma-liquid Interactions  
*Qing Yang (Dalian University); Yuanwen Pang (Dalian University); Lanbo Di (Dalian University); Hong Li (Dalian University);*
- 11:30 Erosion of Metal Electrodes in Liquid-phase Discharge Plasma with Phenol Solution Medium  
*Xiao Han (Nanjing Tech University); Hairia Wu (Nanjing Tech University); Wei Ye (Nanjing Tech University); Ruoyu Liu (Nanjing Municipal Design and Research Institute Co., Ltd);*

**Session 2A12****AI/Machine Learning Based Modeling and Design Optimization Techniques in Microwaves****Tuesday AM, April 23, 2024****Room 12 - Siji 1**

Organized by Feng Feng, Weicong Na

Chaired by Feng Feng, Ningning Yan

- 8:00 Principal Feature Extraction Based Low-complexity Convolutional Neural Network for Concurrent Multi-band Digital Predistortion of RF Power Amplifiers  
*Boyan Li (Beijing University of Posts and Telecommunications); Xin Hu (Beijing University of Posts and Telecommunications); Quanhao Yao (Beijing University of Posts and Telecommunications); Zongyu Chang (Beijing University of Posts and Telecommunications); Yu Rong Yao (Beijing University of Posts and Telecommunications); Weidong Wang (Beijing University of Posts and Telecommunications);*
- 8:15 UWB Antenna Modeling Based on Ensemble Learning Methods  
*Yubo Tian (Guangzhou Maritime University); Zhiwei Zhu (Jiangsu University of Science and Technology); Fei Meng (Guangzhou Maritime University);*

- 8:30 Augmented Neural Networks Behavioral Model of Wide-band RF Power Amplifiers for 5G New Radio  
*Quanhao Yao (Beijing University of Posts and Telecommunications); Xin Hu (Beijing University of Posts and Telecommunications); Boyan Li (Beijing University of Posts and Telecommunications); Zongyu Chang (Beijing University of Posts and Telecommunications); Bo Peng (Beijing Institute of Radio Metrology and Measurement); Weidong Wang (Beijing University of Posts and Telecommunications);*
- 8:45 Modified Newton Optimization Algorithm for Fast-convergent Parameter Update in Microwave Filter Tuning  
*Xinyu Zhou (Shenzhen TenFong Technology Co., Ltd); Hongwei Zhou (Shenzhen TenFong Technology Co., Ltd); Qingfeng Zhang (Southern University of Science and Technology);*
- 9:00 A Multi-scale Deep Neural Network Technique for Surrogate Modeling of Microwave Components  
*Zheng Li (Shanghai Jiao Tong University); Xiaochun Li (Shanghai Jiaotong University); Ze-Ming Wu (Shanghai Jiaotong University);*
- 9:15 Efficient Model Structure Selection Method for Automated Neural-based Model Generation of Microwave Components  
*Weicong Na (Beijing University of Technology); Shanchao Ke (Beijing University of Technology); Ke Liu (Beijing University of Technology); Taiqi Bai (Beijing University of Technology); Wanrong Zhang (Beijing University of Technology); Ningning Yan (Tianjin University);*
- 9:30 A Low-cost Method for Identifying Pre-distortion Coefficients of RF Power Amplifiers Based on AE-GILC  
*Zongyu Chang (Beijing University of Posts and Telecommunications); Xin Hu (Beijing University of Posts and Telecommunications); Boyan Li (Beijing University of Posts and Telecommunications); Quanhao Yao (Beijing University of Posts and Telecommunications); Yurong Yao (Beijing University of Posts and Telecommunications); Weidong Wang (Beijing University of Posts and Telecommunications);*
- 10:00 **Coffee Break**
- 10:30 Autoencoder Parameter Extraction Technique for Parametric Modeling of Third-order Waveguide Filter  
*Jinyi Liu (Tianjin University); Feng Feng (Tianjin University); Weicong Na (Beijing University of Technology); Wei Liu (Tianjin University); Kaixue Ma (Tianjin University); Qi-Jun Zhang (Carleton University); Ningning Yan (Tianjin University);*
- 10:45 A Genetic Algorithm and Model Order Reduction Method Based EM Topology Optimization for a Four-pole Waveguide Filter  
*Jiali Zhang (Tianjin University); Feng Feng (Tianjin University); Jing Jin (Central China Normal University); Wei Liu (Tianjin University); Kaixue Ma (Tianjin University); Qi-Jun Zhang (Carleton University);*
- 11:00 Two-stage Cognition-driven Multiphysics Optimization for Microwave Filters Design  
*Jiaping Fu (Central China Normal University); Jing Jin (Central China Normal University); Ke Cao (Central China Normal University); Tengyu Li (Central China Normal University); Xintong Shi (Central China Normal University); Hai Lin (Central China Normal University);*
- 11:15 Brief Research of Traditional and AI-based Models for IMD2 Cancellation  
*A. A. Degtyarev (Moscow Institute of Physics and Technology); Nikita Bakholdin (Moscow Institute of Physics and Technology); A. Y. Maslovskiy (Moscow Institute of Physics and Technology); S. A. Bakhurin (Moscow Institute of Physics and Technology);*
- 11:30 Multiphysics Inverse Design of Frequency Selective Surface by Multi-fidelity Neural Networks  
*Yang Lu (Zhejiang University); Zhun Wei (Zhejiang University);*
- 11:45 Research on High Aperture Efficiency and Broadband Metalens Antenna Based on Machine Learning-based Optimization Method  
*Ruoyang Yang (University of Electronic Science and Technology of China); Jianing Zhao (University of Electronic Science and Technology of China); Hao Li (University of Electronic Science and Technology of China); Tian-Ming Li (University of Electronic Science and Technology of China); Cheng Fu (University of Electronic Science and Technology of China); Biao Hu (University of Electronic Science and Technology of China (UESTC)); Hai-Yang Wang (University of Electronic Science and Technology of China); Yi-Hong Zhou (University of Electronic Science and Technology of China);*

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### Session 2A13a

### Electromagnetic Medical Sensing and Imaging for Healthcare: Recent Progress, Clinical Applications and Future Prospects

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Tuesday AM, April 23, 2024

Room 13 - Siji 2

Organized by Zheng Gong, Yifan Chen

Chaired by Zheng Gong

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- 8:00 A Generalized Quantitative Microwave Medical Sensing and Imaging System for the Detection of Alzheimer's Disease  
*Caiyi Liao (University of Electronic Science and Technology of China); Zheng Gong (University of Electronic Science and Technology of China); Yifan Chen (University of Electronic Science and Technology of China);*

- 8:15 Research on the Super Resolution of Electromagnetic Inverse Scattering  
*Yahui Ding (University of Electronic Science and Technology of China); Yongpin Chen (University of Electronic Science and Technology of China); Jun Hu (University of Electronic Science and Technology of China);*
- 8:30 Effect of Emission Waveform on Ultrasonic Signal of THz Photoacoustic Imaging System  
*Bingyang Liang (University of Electronic Science and Technology of China (UESTC)); Lianghao Guo (University of Electronic Science and Technology of China); Yubin Gong (University of Electronic Science and Technology of China); Huarong Gong (University of Electronic Science and Technology of China (UESTC)); Shaomeng Wang (University of Electronic Science and Technology of China); Yuanguo Zhou (Xi'an University of Science and Technology);*
- 8:45 A-prior-knowledge-informed Microwave Medical Imaging for Breast Cancer Diagnosis  
*Lide Hu (University of Electronic Science and Technology of China); Yahui Ding (University of Electronic Science and Technology of China); Zheng Gong (University of Electronic Science and Technology of China); Yifan Chen (University of Electronic Science and Technology of China);*
- 9:00 Uncertainty Quantification in Magnetotelluric Data Inversion Based on Deep Generative Models  
*Hongyu Zhou (Tsinghua University); Rui Guo (Tsinghua University); Maokun Li (Tsinghua University); Fan Yang (Tsinghua University); Shenheng Xu (Tsinghua University); Aria Abubakar (Schlumberger Houston Formation Evaluation);*
- 9:15 Microwave Continuous Blood Glucose Monitoring Using Microgels-based Sensor  
*Zheng Gong (University of Electronic Science and Technology of China); Boyu Ren (University of Electronic Science and Technology of China); Yifan Chen (University of Electronic Science and Technology of China);*
- 9:30 An Ultra-wideband Tapered Slot Antenna for Medical Microwave Imaging Applications  
*Ali Raza (University of Electronic Science and Technology of China); Yifan Chen (University of Electronic Science and Technology of China); Zheng Gong (University of Electronic Science and Technology of China); Yahui Ding (University of Electronic Science and Technology of China); Rajesh Kumar (University of Electronic Science and Technology of China);*
- 9:45 Next-Gen Medical Collaboration Integrating Blockchain for Image Sharing  
*Rajesh Kumar (University of Electronic Science and Technology of China); Yifan Chen (University of Electronic Science and Technology of China); Zheng Gong (University of Electronic Science and Technology of China); Zaid Al-Huda (Southwest Jiaotong University); Ali Raza (University of Electronic Science and Technology of China);*

- 10:00 Recent Progress on Focused Microwave Hyperthermia Guided by Microwave-induced Thermoacoustic Tomography  
*Xiong Wang (ShanghaiTech University);*

10:15 **Coffee Break**

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### Session 2A13b

#### Oral Presentations for Best Student Paper Awards — SC5: Remote Sensing, Inverse Problems, Imaging, Radar and Sensing

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**Tuesday AM, April 23, 2024**

**Room 13 - Siji 2**

Chaired by Saibun Tjuatja, Kun-Shan Chen, Feng Xu

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- 10:30 High-resolution Magnetotelluric Data Inversion Constrained with Seismic Texture  
*Hongyu Zhou (Tsinghua University); Rui Guo (Tsinghua University); Zuzhi Hu (Bureau of Geophysical Prospecting (BGP) Inc., China National Petroleum Cooperation (CNPC)); Maokun Li (Tsinghua University); Fan Yang (Tsinghua University); Shenheng Xu (Tsinghua University); Yanling Shi (Bureau of Geophysical Prospecting (BGP) Inc., China National Petroleum Cooperation (CNPC));*
- 10:45 Uncertainty Nonlinearly Guided Learning Framework for Full-wave Inverse Scattering  
*Siyuan He (Zhejiang University); Zhun Wei (Zhejiang University);*
- 11:00 A Motion Compensation Method for Synthetic Aperture Ladar Based on Triangular Linear Frequency Modulation Continuous Wave Interferometry  
*Ruihua Shi (Aerospace Information Research Institute, Chinese Academy of Sciences); Gen Sun (Shanghai Aerospace Electronic Technology Institute); Chong Song (Aerospace Information Research Institute, Chinese Academy of Sciences); Bingnan Wang (Aerospace Information Research Institute, Chinese Academy of Sciences); Maosheng Xiang (Institute of Electronics, Chinese Academy of Sciences);*
- 11:15 Neural Structures with Fourier and Dyadic Propagator Operators for Full-wave Inverse Scattering  
*Yusong Wang (Zhejiang University); Zhun Wei (Zhejiang University);*
- 11:30 Magnetic Field Monitoring on HVdc Transmission Lines Using a UHF-RFID Tag  
*Shijie Fu (University of Manitoba); Greg E. Bridges (University of Manitoba); Behzad Kordi (University of Manitoba);*

- 11:45 A Novel Accuracy Enhancement Approach for Single-photon 3D Imaging  
*Yuyang Zhao (Institute of Microelectronics of the Chinese Academy of Sciences); Tianpeng Xie (Institute of Microelectronics of the Chinese Academy of Sciences); Pengfei Zhou (Institute of Microelectronics of the Chinese Academy of Sciences); Chenghao Jiang (Institute of Microelectronics of the Chinese Academy of Sciences); Jingguo Zhu (Institute of Microelectronics, Chinese Academy of Sciences);*

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### Session 2A14

#### Advanced Optimization and Intelligent Processing Methodologies for Radar Systems

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Tuesday AM, April 23, 2024

Room 14 - Siji 3

Organized by Lan Lan, Guolong Cui

Chaired by Lan Lan, Guolong Cui

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- 8:00 Joint Transmit-Receive Optimization for Target Location with Subarray-FDA-MIMO Radar  
*Fa Wei (Xidian University); Sheng-Qi Zhu (Xidian University); Lan Lan (Xidian University); Ximin Li (Xidian University); Guisheng Liao (Xidian University);*
- 8:15 Bi-layer Non-interpolation Fast Back-projection Algorithm for Along-track Focusing of Ice-sounding Data  
*Chen Lv (Tongji University); Tong Hao (Tongji University);*
- 8:30 Research on Human Posture Recognition Technology Based on Millimeter-wave Radar  
*Yuan Zhao (Chengdu University of Information Technology); Zhiqiang Song (Chengdu University of Information Technology); Renpan Lu (Chengdu University of Information Technology); Xiangyong Mou (Chengdu University of Information Technology); Shihai Liao (Chengdu University of Information Technology);*
- 8:45 Adaptive Radar Detection for Range-spread Targets in Compound-Gaussian Environments with Missing Data  
*Chenchen Hao (Yunnan University); Yao Rong (Yunnan University); Mengjiao Tang (Yunnan University); Xin Wang (Yunnan University); Fan Li (Civil Aviation Flight University of China);*
- 9:00 Subspace Detection of Range-distributed Targets in Compound Gaussian Clutter with Random Textures and Persymmetric Scatter Matrix  
*Xin Wang (Yunnan University); Mengjiao Tang (Yunnan University); Yao Rong (Yunnan University); Chenchen Hao (Yunnan University); Sanfeng Hu (Yunnan University);*

- 9:15 Robust Adaptive Bayesian Beamforming Based on Unitary Approximate Message Passing and Covariance Matrix Reconstruction  
*Xiaoning Liu (Xidian University); Guisheng Liao (Xidian University); Jian Gao (The 29th Research Institute of China Electronics Technology Group Corporation); Sen Cao (The 29th Research Institute of China Electronics Technology Group Corporation); Xuying Zhang (The 29th Research Institute of China Electronics Technology Group Corporation); Dawei Gao (Xidian University);*

- 9:30 Waveform Design for MIMO Multifunction Radio Frequency Systems  
*Bo Tang (National University of Defense Technology);*

- 10:30 Joint Optimization of Transmit Parameters and Receive Filter in an FDA-MIMO Radar  
*Lan Lan (Xidian University); Massimo Rosamilia (Università degli Studi di Napoli "Federico II", DIETI); Augusto Aubry (Università degli Studi di Napoli "Federico II", DIETI); Antonio De Maio (University of Naples "Federico II"); Guisheng Liao (Xidian University);*

- 10:45 MIMO Radar Waveform Design for More Precise Amplitude Estimation  
*Ping Huang (National University of Defense Technology); Wenjun Wu (National University of Defense Technology); Bo Tang (National University of Defense Technology);*

- 11:00 The Estimation Method of Multi-target Parameters for OTFS Radar Sensing  
*Quan Ran Chang (Henan University); Jixuan Wang (Henan University); Tuanwei Tian (Henan University); Hao Deng (Henan University); Xiaolin Du (Yantai University);*

- 11:15 Multi-dimensional Signal Synthesis and Processing for Cognitive Radar Mainlobe Jamming Suppression  
*Guolong Cui (University of Electronic Science and Technology of China);*

- 11:30 CWD-DSCNet: A Radar Waveform Recognition Approach Based on Deep Subspace Clustering  
*Yan An (National Key Laboratory of Radar Signal Processing Xidian University Xian, China); Sheng-Qi Zhu (Xidian University); Lan Lan (Xidian University); Ximin Li (Xidian University); Guisheng Liao (Xidian University);*

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### Session 2A15

#### Advanced Techniques in Electromagnetic Numerical Analysis and Applications

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Tuesday AM, April 23, 2024

Room 15 - Siji 4

Organized by Pengfei Gu, Jihong Gu

Chaired by Pengfei Gu

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- 8:00 Analysis of Electromagnetic Pulse in Civil Air Defense Engineering Based on TDSBR Algorithm  
Yu Tao (Nanjing University of Aeronautics and Astronautics); Yinghui Zhou (PLA University of Science & Technology); Zheng Sun (Army Engineering University); Tiancheng Zhang (Nanjing University of Science and Technology); Huaguang Bao (Nanjing University of Science and Technology); Da-Zhi Ding (Nanjing University of Science and Technology);
- 8:15 Backscattering Analysis of Particle Clouds in Collision Scenario Based on VRT  
Chun Xin Li (Nanjing University of Science and Technology, Nanjing, China); Zi He (Nanjing University of Science and Technology); Da-Zhi Ding (Nanjing University of Science and Technology); Fan Ding (The China Ship Development and Design Center); Xinrui Jiang (Beijing Institute of Remote Sensing Equipment); Yupeng Wang (Beijing Institute of Remote Sensing Equipment);
- 8:30 Research on the Evaluation of Stealth Target  
Yao Wang (Nanjing University of Science and Technology); Zi He (Nanjing University of Science and Technology); Da-Zhi Ding (Nanjing University of Science and Technology); Fan Ding (The China Ship Development and Design Center);
- 8:45 SAR Simulation of Lunar Surface Based on Rocks Abundance from NAC  
Bang Zhi He (Nanjing University of Science and Technology); Wenjing Zheng (Nanjing University of Science and Technology); Zi He (Nanjing University of Science and Technology); Da-Zhi Ding (Nanjing University of Science and Technology);
- 9:00 An Effective Optimization Algorithm for Synthesizing Wideband Thinned Array Antenna  
Shuyi Chen (Nanjing University of Science and Technology); Hao Wen (Nanjing University of Science and Technology); Pengfei Gu (Nanjing University of Science and Technology); Zi He (Nanjing University of Science and Technology); Da-Zhi Ding (Nanjing University of Science and Technology);
- 9:15 Research on Forward Extraction of Scattering Parameters of Lossy Dielectric Multi-targets  
Xi Cheng (Nanjing University of Science and Technology); Chuan Zhang (Nanjing University of Science and Technology); Mengmeng Li (Nanjing University of Science and Technology); Da-Zhi Ding (Nanjing University of Science and Technology);
- 9:30 A Kernel-independent Fast Direct Solution of Surface Integral Equations for Conducting Objects  
Yuhan Zuo (Nanjing University of Science and Technology); Mengmeng Li (Nanjing University of Science and Technology);
- 9:45 A Parameter Extraction Method for Cone-shaped Space Targets Based on Scattering Center Model  
Shaoran Wang (Nanjing University of Science and Technology); Mengmeng Li (Nanjing University of Science and Technology);
- 10:00 **Coffee Break**
- 10:30 Investigation on Low-frequency Breakdown of Electric Field Integral Equation Using 16-byte Floating-point Number  
Xiang Chen (Nanjing University of Science and Technology); Mingxuan Zhang (Nanjing University of Science and Technology); Zhenhong Fan (Nanjing University of Science and Technology); Da-Zhi Ding (Nanjing University of Science and Technology);
- 10:45 Comparisons of Different Interior Penalty Terms on Discontinuous Galerkin-based Mixed Potential Integral Equation  
Zhou Zhou (Nanjing University of Science and Technology); Mingxuan Zhang (Nanjing University of Science and Technology); Zhenhong Fan (Nanjing University of Science and Technology); Da-Zhi Ding (Nanjing University of Science and Technology);
- 11:00 The FDFD Method with the  $\mathbf{S}$ -parameter Extraction for the Optical Waveguide  
Chengnian Huang (Zhejiang University); Wei E. I. Sha (Zhejiang University);
- 11:15 A Fast Ray-tracing-based Method for Non-uniform Structured Mesh Generation  
Zhitao Rao (Anhui University); Ming Fang (Anhui University);
- 11:45 A Wideband  $\mathbf{E}_x$ - $\mathbf{E}_y$ - $\mathbf{E}_z$  Hybrid Electric Probe for Near-field Measurement  
Mingrui Chen (Shanghai Jiao Tong University); Daxiang Cui (Shanghai Jiao Tong University);
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- Session 2A16**  
**Topological Condensed Matter and Artificial System 1**
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- Tuesday AM, April 23, 2024**  
**Room 16 - Mudan**  
Organized by Xiang Yuan, Cheng Zhang  
Chaired by Xiang Yuan, Cheng Zhang
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- 8:00 Coexisting Linear Band Crossings in Both Spinless and Spinful Settings in 2D Materials  
Invited Feng Tang (Nanjing University);
- 8:20 Towards Non-Abelian Statistics of Majorana Zero Modes in Topological Planar Josephson Junctions  
Invited Tong Zhou (Eastern Institute of Technology);
- 8:40 Symmetry-conserving Maximally Projected Wannier Functions and Its Applications in Topological Materials Quantum Responses  
Invited Yan Sun (Institute of Metal Research, Chinese Academy of Sciences); Klaus Koepf (IFW Dresden); O. Jansson (IFW Dresden); Jeroen van den Brink (IFW Dresden);

- 9:00 Nonlinear Hall Effect  
Invited  
*Hai-Zhou Lu (Southern University of Science and Technology);*
- 9:20 Non-Hermitian Topology beyond One Dimension: An Amoeba Formulation  
Invited  
*Zhong Wang (Tsinghua University);*
- 9:40 Theory for the 2D non-Hermitian Skin Effect  
Invited  
*Zhesen Yang (Xiamen University);*
- 10:00 **Coffee Break**
- 10:30 Evidence for Single-band Mott Insulator State in  $\text{Nb}_3\text{Cl}_8$  and Excitonic Insulator State in  $\text{Ta}_2\text{Pd}_3\text{Te}_5$   
Invited  
*Tian Qian (Institute of Physics, Chinese Academy of Sciences);*
- 10:50 Keldysh Space Control of Charge Dynamics in a Strongly Driven Mott Insulator  
Invited  
*Xinwei Li (National University of Singapore);*
- 11:10 Discrete Scale Invariance and Log-B Periodic Quantum Oscillations in Ultra-quantum Dirac Materials  
Invited  
*Haiwen Liu (Beijing Normal University);*
- 11:30 Spin Excitations in Kagome Systems  
Invited  
*Yang Xu (East China Normal University);*

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### Session 2A17

#### Phononic Crystals, Acoustic/Elastic Metamaterials and Metasurfaces 1

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**Tuesday AM, April 23, 2024**

**Room 17 - Furong**

Organized by Fuyin Ma, Rui Zhu, Xue Jiang

Chaired by Fuyin Ma, Xue Jiang

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- 8:00 Acoustic Metamaterials for Underwater and Biomedical Applications  
Invited  
*Chadi Ellouzi (Rowan University); Chen Shen (Rowan University);*
- 8:20 Acoustic Metagratings: Design Principle and Applications  
Invited  
*Jun Mei (South China University of Technology);*
- 8:40 Orbitals Induced Duality Symmetry and Topological Transitions  
Invited  
*Feng Gao (Huazhong University of Science and Technology); Yu-Gui Peng (Huazhong University of Science and Technology); Xue-Feng Zhu (Huazhong University of Science and Technology);*
- 9:00 Elastic Meta-fence for Broadband Vibration Isolation and Absorption  
Invited  
*Yongquan Liu (Xi'an Jiaotong University); Yunhao Zhang (Xi'an Jiaotong University); Yiting Cheng (Xi'an Jiaotong University);*

- 9:20 Digitally Resonant Elastic Metamaterials for Vibration Control  
Invited  
*Kaijun Yi (Beijing Institute of Technology);*
- 9:40 Suppression of Panel Flutter Based on Acoustic Black Hole  
Invited  
*Zhuogeng Zhang (Nanjing University of Aeronautics and Astronautics); Hongli Ji (Nanjing University of Aeronautics and Astronautics); Jinhao Qiu (Nanjing University of Aeronautics and Astronautics);*
- 10:00 **Coffee Break**
- 10:30 Converged Wireless Infrastructure with Acoustic Holographic Array  
Invited  
*Chuanxin Zhang (Fudan University); Xue Jiang (Fudan University);*
- 10:50 Spatial Coding Metastructures for Computational Sensing of Sound and Vibration  
Invited  
*Tianxi Jiang (University of Science and Technology of China);*
- 11:10 Acoustic/Elastic Metamaterials for Vibration and Noise Attenuation in Railway Vehicles  
Invited  
*Yingli Li (Central South University);*
- 11:30 Multifunctional Metamaterials with Superior Low-frequency Sound Absorption, Broadband Energy Harvesting and High Load-bearing Capacity  
Invited  
*Penglin Gao (Shanghai Jiao Tong University);*
- 11:50 Reconfigurable Dielectric Elastomer Actuated Petals for Tunable Acoustic Absorber  
Invited  
*M. Shrestha (Nanyang Technological University); G. K. Lau (National Yang Ming Chiao Tung University); Y. W. Chin (National University of Singapore); Edwin Hang Tong Teo (Nanyang Technological University); Boo Cheong Khoo (National University of Singapore); Z. Lu (Sun Yat-Sen University);*

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### Session 2A18

#### Optical and Acoustic Manipulation: Fundamental and Application 1

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**Tuesday AM, April 23, 2024**

**Room 18 - Meilan**

Organized by Jack Ng, Feiyan Cai

Chaired by Xiao Li, Jun Chen

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- 8:00 Nonreciprocal Optical Binding Force between Identical Particles  
*Xiaoyong Duan (Jiaxing University); Graham D. Bruce (University of St Andrews); F. Li (Jiaxing University); Kishan Dholakia (University of St Andrews);*
- 8:15 Controlling Optical Forces for Versatile Nanomanipulation  
Invited  
*Fan Nan (Jinan University);*

8:35 Morphology-independent General-purpose Optical Surface Tractor Beam  
Invited  
*Neng Wang (Shenzhen University); Jack Ng (Southern University of Science and Technology); Guo Ping Wang (Shenzhen University);*

8:55 Stochastic Dynamics of Optically Bound Structures  
*Alexandr Jonáš (Institute of Scientific Instruments of the Czech Academy of Sciences); Vojtěch Svak (Institute of Scientific Instruments of the Czech Academy of Sciences); Jana Flajšmanová (Institute of Scientific Instruments of the Czech Academy of Sciences); Lukáš Chvátal (Institute of Scientific Instruments of the Czech Academy of Sciences); Martin Šiler (Institute of Scientific Instruments of the Czech Academy of Sciences); Stephen H. Simpson (Institute of Scientific Instruments of the Czech Academy of Sciences); Pavel Zemánek (Institute of Scientific Instruments of the Czech Academy of Sciences); Oto Brzobohaty (Institute of Scientific Instruments of the Czech Academy of Sciences);*

9:10 Computation of Internal Optical Forces Using the Helmholtz Tensor  
*Li-Yong Cui (Changsha University of Science & Technology);*

9:25 Optical and Acoustic Microfluidic Biosensors for Point-of-Care Diagnostics  
Invited  
*Chen Yang (Wuhan University); Yihan Ma (Wuhan University); Tao Jiang (Wuhan University (WHU)); Yi Yang (Wuhan University (WHU));*

9:45 Selective Trapping and Assembly at Cell-sized Level with Single-beam Acoustical Tweezers  
Invited  
*Zhixiong Gong (Shanghai Jiao Tong University);*

#### 10:05 Coffee Break

10:30 A Broadband Meta-grating Based on Dispersion Engineerable Metasurface  
Invited  
*Guanxing Zang (University of Electronic Science and Technology of China); Shaowei He (University of Electronic Science and Technology of China); Lijun Jiang (Zhejiang Dali Technology Co. Ltd); Kun Zheng (University of Electronic Science and Technology of China); Weiming Zhu (University of Electronic Science and Technology of China);*

10:50 Pseudo-dipole Modes and Metegrating Retroreflection  
Invited  
*Ruihuang Zhao (East China Normal University); Junjie Du (East China Normal University);*

11:10 High-order Structured Light in Paraxial Optical System for Diverse Optical Manipulations  
Invited  
*Peng Shi (Shenzhen University);*

11:30 Casimir Force at the Deep Nanoscale in Three Dimensions: A Conformal Map Method and the Role of Surface Electrons  
Invited  
*Hewan Zhang (Fudan University); Kun Ding (Fudan University);*

11:50 Flexible Electromagnetic Manipulation by Topological Photonic States  
*Tiantao Qu (Shanxi University); Neng Wang (Shenzhen University); Mudi Wang (The Hong Kong University of Science and Technology); Lei Zhang (Shanxi University); Jun Chen (Shanxi University);*

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### Session 2A19

### Poster Session 3

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Tuesday AM, April 23, 2024

8:00 AM - 12:00 AM

Room Exhibition Area

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1 A Reconfigurable Antenna Driven by Ion Wind Generator  
*Xuesong Guo (Zhejiang University); Chengjing Gao (Zhejiang University); Hongbin Ma (Zhejiang University); Yang Pan (Zhejiang University); Zhuoyu Zhang (Zhejiang University); Jiangtao Huangfu (Zhejiang University);*

2 A New Method of Electromagnetic Diagonalization of Anisotropic Permittivity  
*Jin Li (Shaanxi Xueqian Normal University); Ying-Le Li (Shaanxi Xueqian Normal University);*

3 A 2D Lidar-Inertial-Visual Fusion SLAM for Robust and Real-time Indoor Localization  
*Chao Li (Tongji University); Wenjie Na (Tongji University); Chenpeng Yao (Tongji University); Chengju Liu (Tongji University); Qijun Chen (Tongji University);*

4 Prediction of Ocean Velocity during Typhoon Using a GA-BP Neural Network Model  
*Jinze Gao (Harbin Institute of Technology at Weihai); Xuekun Chen (Harbin Institute of Technology at Weihai); Aijun Liu (Harbin Institute of Technology at Weihai); Chang Jun Yu (Harbin Institute of Technology at Weihai);*

5 Assessment and Optimization of Disordered Distribution Reflecting Metasurfaces for Computational Imaging  
*Aobo Li (Queen's University Belfast); Mengran Zhao (Queen's University Belfast); Muhammad Ali Babar Abasi (Queen's University Belfast); Okan Yurduseven (Queen's University Belfast);*

6 Sub-micron T-gate AlGaNGaN HEMTs Using Diluted ZEP520A  
*Hsin-Jung Lee (National Taiwan University); Cheng-Che Lee (National Taiwan University); Shao-Yu Lo (National Taiwan University); Chieh-Hsiung Kuan (National Taiwan University);*

7 Evaluation of Indoor Human Electromagnetic Radiation Dose  
*Shilong Wang (Northwestern Polytechnical University); Zicheng Liu (Northwestern Polytechnical University);*



- 8 SIW Transition Structure of Double-layer Substrates and Its Application in 3dB Coupler  
*Xiong Zou (Air Force Early Warning Academy); Ya Fan (Air Force Early Warning Academy); Di Zhang (Air Force Early Warning Academy); Qiang Chen (Air Force Early Warning Academy); Huan Qian (Air Force Early Warning Academy);*
- 9 Black Body Radiation Problem with an Infinite Speed of Light Perspective and Some Consequences  
*Namik Yener (Istanbul Commerce University);*
- 10 Design of Piezoelectric Ceramic Power Amplifier Based on Milti-phase-shifted Half-bridge Topology  
*Delin Tan (Southwest University of Science and Technology); Haoran Li (Southwest University of Science and Technology); Li Wu (Southwest University of Science and Technology); Yuyu Zhu (Southwest University of Science and Technology); Xuebing Leng (Southwest University of Science and Technology); Rongyan Liu (Southwest University of Science and Technology); Congjin Wang (Southwest University of Science and Technology);*
- 11 A Novel Tri-band Balanced Bandpass Filter Based on SIW with Double-sided Complementary Split Ring Resonators (DS-CSRRs)  
*Rui Cheng (Southwest University of Science and Technology); Zuxue Xia (Southwest University of Science and Technology); Wenhai Xia (Zhejiang Lierda Internet of Things Technology Co. Ltd.); Xin Cao (Southwest University of Science and Technology); Xin Xiong (Southwest University of Science and Technology); Jiayuan Hu (Southwest University of Science and Technology);*
- 12 All-pass Filter Assisted Microring Resonator with Ultra-high Rejection Ratio  
*Ming Chen (Huazhong University of Science and Technology); Yifan Liu (Huazhong University of Science and Technology); Kaixiang Cao (Huazhong University of Science and Technology); Yuan Yu (Huazhong University of Science and Technology); Fangzheng Zhang (Nanjing University of Aeronautics and Astronautics); Yu Yu (Huazhong University of Science and Technology); Xinliang Zhang (Huazhong University of Science and Technology);*
- 13 A Novel Method to Identify the SAR Operating Mode Based on Sidelobe Reconnaissance and Machine Learning  
*Runfa Ma (Nanjing University of Aeronautics and Astronautics); Guodong Jin (Nanjing University of Aeronautics and Astronautics); Yu Wang (Nanjing University of Aeronautics and Astronautics); Dai-Yin Zhu (Nanjing University of Aeronautics and Astronautics);*
- 14 A Resonating Cavity Antenna with an Integrated Structure Utilizing Artificial Material  
*Yoshihiro Toda (Ryukoku University); Yangjun Zhang (Ryukoku University);*
- 15 Design and Implementation of X-band Multi-channel Broadband Transceiver System Based on RFSoc  
*Enming Lin (Sun Yat-sen University of Shenzhen Campus); Rui Guo (Sun Yat-sen University of Shenzhen Campus); Haohui Yi (Sun Yat-sen University of Shenzhen Campus); Jietao Li (Sun Yat-sen University of Shenzhen Campus);*
- 16 Simulations of GaAs Photoconductive Switch by Using Improved Carrier Velocity Formula under Ultra-high Electric Field  
*Hai-Juan Cui (University of Electronic Science and Technology of China); Yaotian Luo (Sichuan Province Engineering Research Center for Broadband Microwave Circuit High Density Integration); Jianping Xiao (Sichuan Province Engineering Research Center for Broadband Microwave Circuit High Density Integration); Jiu-Xun Sun (University of Electronic Science and Technology of China);*
- 17 Magnetic System for Gyrotron: Present Status and Near-est Future  
*Mikhail Yu. Glyavin (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Mikhail D. Proyavin (Institute of Applied Physics, RAS);*
- 18 Orientation Selection Analysis of a Special Electromagnetic Shield in HEMP Residual Electric Field Test  
*Zhizhen Zhu (Northwest Institute of Nuclear Technology); Jing Yang (Northwest Institute of Nuclear Technology); Xin Nie (Northwest Institute of Nuclear Technology); Yewu Shi (Northwest Institute of Nuclear Technology); Yifu Zhou (Northwest Institute of Nuclear Science);*
- 19 A Lightweight U-Net for Medical Image Segmentation  
*Yuxing Zhao (Tongji University); Lan Lin (Tongji University);*
- 20 Measurement of Dielectric Characteristics of Bulk Cellulose-containing Materials at a Frequency of 2.45 GHz  
*Alexander Vikharev (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); A. V. Gromov (Institute of Applied Physics, RAS); T. O. Krapivnitckaia (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); A. B. Alyeva (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); S. A. Ananicheva (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); A. A. Orlovskiy (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Mikhail Yu. Glyavin (A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Nikolai Yu. Peskov (Institute of Applied Physics, RAS); I. V. Izotov (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences);*

- 21 Optimization of Radiation Output in Surface-wave Oscillators Based on 2D-periodical Slow-wave Structures of Planar Geometry  
*Ekaterina D. Egorova (Institute of Applied Physics, Russian Academy of Science); Naum S. Ginzburg (Institute of Applied Physics, Russian Academy of Sciences); Andrey M. Malkin (Institute of Applied Physics, Russian Academy of Sciences); Nikolai Yu. Peskov (Institute of Applied Physics, RAS); Alexander S. Sergeev (Institute of Applied Physics, Russian Academy of Sciences);*
- 22 Optically Active Silicate Glass Microspheres with Silver Molecular Clusters for Label-free Whispering Gallery Mode Sensors  
*Egor Mikharev (St. Petersburg Electrotechnical University "LETI"); Andrey Lunev (St. Petersburg Electrotechnical University "LETI"); Alexander I. Sidorov (ITMO University); Dmitrii Redka (St. Petersburg Electrotechnical University "LETI");*
- 23 Prediction of Marine Atmospheric Duct and its Loss Based on LSTM  
*Yi Yan (Xidian University); Jiangting Li (Xidian University); Shu-Ji Sun (China Research Institute of Radiowave Propagation); Zhou Xiang Yu (Xidian University); Zhangyi Li (Xidian University);*
- 24 A Radio Frequency Measuring Method of Deformation  
*Ran Yan (Zhejiang University); Yang Pan (Zhejiang University); Hongbin Ma (Zhejiang University); Si-jie Chen (Zhejiang University); Jiangtao Huangfu (Zhejiang University);*
- 25 A High-precision Automated Calibration Method for LED Color Parameters  
*Zhi Chong Wan (Tongji University); Guo Chun Wan (Tongji University); Mei Song Tong (Tongji University);*
- 26 Performance Analysis of NRZ and Duobinary Modulated WDM-PON Transmission Systems Utilizing FEC Codes  
*Ricards Kudojars (Riga Technical University); Dmitrijs Prigunovs (Riga Technical University); Ruslans Sudniks (Riga Technical University); Aleksandr Krotov (Riga Technical University); Dmitrii Redka (Riga Technical University); Toms Salgals (Riga Technical University); Vjaceslavs Bobrovs (Riga Technical University); Svitlana Matsenko (Riga Technical University);*
- 27 Dual-band Dual-mode Chiral Metasurface for Terahertz Near-field Imaging  
*Aning Ma (Lanzhou University); Di Geng (Lanzhou University); Guojian Li (Northwest Minzu University);*
- 28 A Miniaturized Ultra-wideband Antenna Based on Mandelbrot Fractal Geometry  
*Lu Yi Liu (Tongji University); Hou Yi Ding (Tongji University); Amir Boag (Tel Aviv University); Mei Song Tong (Tongji University);*
- 29 A Fast Computation Method for Solving Scattering from Multilayer Dielectric Structures with Anisotropic Materials  
*Zeng Yang (National Key Laboratory of Scattering and Radiation); Han-Chi Xu (National Key Laboratory of Scattering and Radiation); Yuan Zhang (National Key Laboratory of Scattering and Radiation); Zhi-Yong Huang (National Key Laboratory of Scattering and Radiation); Zhijie Xie (Science and Technology on Electromagnetic Scattering Laboratory);*
- 30 A Novel Design of Dualband Microstrip Patch Antenna for 5G Mobile Communication  
*Shuo Tao Li (Shanghai Institute of Technology); Jia Hui Wang (Shanghai Institute of Technology); Lan Chen (Shanghai Institute of Technology); Mei Song Tong (Tongji University);*
- 31 Using Coaxial Ground Full-touch Structure to Reduce Far-end Crosstalk in PCIe5 High-speed Connectors  
*Yuhui Liu (Southwest University of Science and Technology); Lanqing Yang (Southwest University of Science and Technology); Qiangming Cai (Southwest University of Science and Technology); Xin Cao (Southwest University of Science and Technology); Longjian Zhou (Southwest University of Science and Technology); Hao-ran Li (Southwest University of Science and Technology); Haoxin Luo (Southwest University of Science and Technology); Yuyu Zhu (Southwest University of Science and Technology); Jun Fan (Southwest University of Science and Technology);*
- 32 Optimization of the Reverse Recovery Characteristics of 500 V VDMOS  
*Lixiang Wang (Chengdu Technological University); Xiaopei Chen (Southwest Jiaotong University); Quanyuan Feng (Southwest Jiaotong University);*
- 33 Analysis of Various Approaches to Modeling a Glow Discharge in Helium at Atmospheric Pressure  
*Ismail Rafatov (Middle East Technical University); Gubad Islamov (Middle East Technical University); Ender Eyleneoglu (Middle East Technical University);*
- 34 Analysis of Structural and Mode Item Based on Active Antennas  
*Fang Liu (National Key Laboratory of Scattering and Radiation); Xing-Yun Zhang (National Key Laboratory of Scattering and Radiation); Yang Bai (National Key Laboratory of Scattering and Radiation);*
- 35 Liquid Crystals Enabled Vectorial Holography  
*Zeyu Wang (Nanjing University); Ling-Ling Ma (Nanjing University); Yan-Qing Lu (Nanjing University);*
- 36 Simulation and Analysis of Sea Surface Electromagnetic Bias for Interferometric Imaging Radar Altimeter  
*Bowen Xue (CAS Key Laboratory of Microwave Remote Sensing, National Space Science Center, Chinese Academy of Sciences); Yunhua Zhang (National Space Science Center, Chinese Academy of Sciences); Xiao Dong (National Space Science Center, Chinese Academy of Sciences);*

- 37 Target Identification Method on Ship Formation Imaging for HFSWR  
Jiaqi Wang (Harbin Institute of Technology at Weihai); Aijun Liu (Harbin Institute of Technology at Weihai); Chang Jun Yu (Harbin Institute of Technology at Weihai);
- 38 Research on Magnetic Field Similarity in the Production of Eddy Current Magnetic Field Scaling Model  
Kena Wu (Naval University of Engineering); Zhi-Hao Ye (Naval University of Engineering); Zhaohui Wu (China Ship Development and Design Center); Yuelin Liu (Naval University of Engineering); Shengdao Liu (Naval University of Engineering); Jun Ouyang (Hua Zhong University of Science and Technology);
- 39 A 57.3 to 66.2 GHz Millimeter-wave Wireless Link with CMOS Power Amplifier and Wideband Phase-locked Loop  
Yuan Liang (Nanyang Technological University); Yuzin Zhang (Guangzhou University); Ke Yang (Guangzhou University); Zhikai Li (Guangzhou University); Guangyu Zhong (Guangzhou University); Liangming Lian (Guangzhou University);
- 40 Electric-field-coupled Inductive-capacitive Resonators for Terahertz Electromagnetically Induced Transparency Metamaterials  
Haotian Ling (Qilu Aerospace Information Research Institute (AIR), Chinese Academy of Sciences (CAS)); Zhaolin Li (Shandong University); Ruiqi Zhao (Qilu Aerospace Information Research Institute, Chinese Academy of Sciences); Pengfei Ma (Qilu Aerospace Information Research Institute, Chinese Academy of Sciences); Yongping Zhou (Qilu Aerospace Information Research Institute, Chinese Academy of Sciences); Yu Feng (Qilu Aerospace Information Research Institute, Chinese Academy of Sciences); Yevhen Yashchyshyn (Warsaw University of Technology); Xudong Zou (Qilu Aerospace Information Research Institute, Chinese Academy of Sciences); Yifei Zhang (Shandong University);
- 41 Research on Electromagnetic Interference during IGBT Module Opening and Closing Process  
Yang Dong Xu (Southwest University of Science and Technology); Shi Lie He (China Electronic Product Reliability and Environmental Test Institute Key Laboratory); Qiangming Cai (Southwest University of Science and Technology); Junliang Wan (Southwest University of Science and Technology); Xin Cao (Southwest University of Science and Technology); Longjian Zhou (Southwest University of Science and Technology); Haoran Li (Southwest University of Science and Technology); Zhen-Yong Du (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yixiang Li (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yuyu Zhu (Southwest University of Science and Technology); Bo Pu (DeTooLIC Technology Co., Ltd.); Jun Fan (Southwest University of Science and Technology);
- 42 Threshold Evaluation of Smooth Surface Dielectric Composite Large-area Explosive Emission Cathode  
Tingru Chen (University of Electronic Science and Technology of China); Tian-Ming Li (University of Electronic Science and Technology of China); Liu Yang (University of Electronic Science and Technology of China); Hao Li (University of Electronic Science and Technology of China); Hai-Yang Wang (University of Electronic Science and Technology of China); Yi-Hong Zhou (University of Electronic Science and Technology of China); Keqiang Wang (Yangtze Delta Region Institute (Huzhou), University of Electronic Science and Technology of China (UESTC)); Biao Hu (University of Electronic Science and Technology of China (UESTC));
- 43 Enhanced Dual-band Antenna for Intelligent Vehicular Communications  
Sayed Ahmad (University of Hertfordshire, College Lane); Eugene A. Ogbodo (University of Hertfordshire, College Lane); Azunka N. Ukala (University of Hertfordshire, College Lane);
- 44 Power Partition with Pure Skin Effect  
Wenwen Liu (The University of Hong Kong); Shuang Zhang (The University of Hong Kong);
- 45 Measurement of Radiophysical Properties and Electromagnetic Parameters of Material Samples in the Millimeter Microwave Range  
A. A. Politiko (JSC "Kompozit"); V. A. Dyakonov (JSC "Kompozit"); V. S. Anshin (JSC "Kompozit"); I. A. Gromov (JSC "Kompozit"); S. E. Prosyppkin (LLC "Equipment and Electronics"); Mikhail Sergeyevich Mikhailov (National Research University "Moscow Power Engineering Institute");
- 46 Comparison of Circular Polarized Patch Antenna Topologies  
E. D. Malev (National Research University "Moscow Power Engineering Institute"); Mikhail Sergeyevich Mikhailov (National Research University "Moscow Power Engineering Institute"); Alexey Mikhailovich Mikhailov (National Research University "Moscow Power Engineering Institute"); A. A. Komarov (National Research University "Moscow Power Engineering Institute");
- 47 FFD Supported FNN for Inverse Design of Patch Antenna  
Chengkai He (Harbin Engineering University); Tao Jiang (Harbin Engineering University);

- 48 Modeling Processes of Radio Wave Propagation in Urban Areas  
*Anton Alekseevich Novikov (National Research University "Moscow Power Engineering Institute"); Kirill Sergeyevich Sychev (National Research University "Moscow Power Engineering Institute"); Andrey Alexeevich Pimenov (National Research University "Moscow Power Engineering Institute"); A. S. Filimonov (National Research University "Moscow Power Engineering Institute"); Mikhail Sergeyevich Mikhailov (National Research University "Moscow Power Engineering Institute");*
- 49 Analysis of Responses and Influencing Factors of Whole-space Transient Electromagnetic Logging  
*Xiaozhuang Wang (China University of Petroleum (Beijing)); Jie Gao (China University of Petroleum (Beijing)); Shizhen Ke (China University of Petroleum (Beijing)); Yanxin Zhou (China University of Petroleum (Beijing)); Huanxing Li (China University of Petroleum (Beijing));*
- 50 Prediction of Over-the-horizon Radio Waves Propagation Loss in Marine Evaporation Ducts Based on the LSTM-transformer Structure  
*Hanjie Ji (Xidian University); Li-Xin Guo (Xidian University); Yiwen Wei (Xidian University); Tianhang Nie (Xidian University);*
- 51 Full-space Hologram at W-band by Independent Phase Encoding of Metasurface  
*Z. J. Wang (Hefei University of Technology); B. Y. Wen (Hefei University of Technology); Zhiping Yin (Hefei University of Technology);*
- 52 Faraday Rotation Spectroscopy NOx Sensor Based on NdFeB Ring Magnet Array  
*Yuan Cao (Anhui Institute of Optics and Fine Mechanics, Chinese Academy of Sciences); Kun Liu (Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences); Xiaoming Gao (Anhui Institutes of Physical Science, Chinese Academy of Sciences);*
- 53 Narrowband HMSIW-SSPP Hybrid Bandpass Filter Operating at Millimeter-wave Band  
*Yiming Zhang (Zhejiang University); Yuanqing Yao (Zhejiang University); Jun Hu (Zhejiang University); Sailing He (Royal Institute of Technology & Zhejiang University);*
- 54 Simulation Design of Hairpin Microstrip Bandpass Filter at L-band  
*Qingyao Wang (National Key Laboratory of Electromagnetic Effect and Security on Marine Equipment China Ship Development and Design Centre); Bo Luo (Changjiang Polytechnic); Xinyang Shi (Wuhan Maritime Communication Research Institute); Chong-Hua Fang (National Key Laboratory of Electromagnetic Effect and Security on Marine Equipment China Ship Development and Design Centre);*
- 55 A Deep Learning Scheme Based on Variational Back Propagation Method for Solving Electromagnetic Inverse Scattering Problems  
*Changlin Du (University of Electronic Science and Technology of China); Jin Pan (University of Electronic Science and Technology of China); Jun Hu (University of Electronic Science and Technology of China); Deqiang Yang (University of Electronic Science and Technology of China); Yongpin Chen (University of Electronic Science and Technology of China);*
- 56 Resolution of Ground-based Microwave Radar Systems for Monitoring Space Debris  
*Fedor Nikolaevich Kovalev (Institute of Applied Physics of the RAS); A. N. Kovalev (Nizhni Novgorod State Technical University n.a. R.E. Alekseev); Ilya V. Lesnov (Institute of Applied Physics of the RAS); M. V. Efimova (Institute of Applied Physics of the RAS); Vyacheslav F. Vdovin (Institute of Applied Physics of the RAS);*
- 58 Magnetic Field Stabilization System Based on Self-oscillating Magnetometer  
*Shurui Yang (Hangzhou Dianzi University); Jiqing Fu (National Institute of Metrology); Jia Kong (Hangzhou Dianzi University);*
- 59 A Compact Relativistic Magnetron with Extract Ring  
*Yuying Wang (University of Electronic Science and Technology of China); Tianming Li (University of Electronic Science and Technology of China); Renjie Cheng (University of Electronic Science and Technology of China); Jiaoyin Wang (University of Electronic Science and Technology of China); Haiyang Wang (University of Electronic Science and Technology of China); Hao Li (University of Electronic Science and Technology of China); Yihong Zhou (University of Electronic Science and Technology of China); Biao Hu (University of Electronic Science and Technology of China);*
- 60 Design of the MIMO Antenna for Mobile Communication Terminal  
*Yuxin Li (Lanzhou Jiaotong University); Wenying Zhou (Lanzhou Jiaotong University); Jinjing Xu (Lanzhou Jiaotong University);*
- 61 D-band Directly Coupled Bandpass Filter Based on Micro-coaxial Structure  
*Xinyao Liu (Chongqing University); Daotong Li (Chongqing University); Lanlan Yang (Chongqing University); Dongyi Sui (Chongqing University); Naoki Shinohara (Kyoto University);*

- 62 A 170–260 GHz Broadband Sub-harmonic Mixer Using Monolithic Integration Technology  
*Dongfeng Ji (Nanjing Electronic Devices Institute); Kunpeng Dai (Nanjing Electronic Devices Institute); Yunhan Qin (China National Accreditation Service for Conformity Assessment); Weibo Wang (Science and Technology on Monolithic Integrated Circuits and Modules Laboratory); Xuming Yu (Science and Technology on Monolithic Integrated Circuits and Modules Laboratory); Hongqi Tao (Science and Technology on Monolithic Integrated Circuits and Modules Laboratory);*
- 64 Design of a 3.75 GHz Improved Bandpass Filter Based on GaAs IPD Technology  
*Weikang Zhou (Northwestern Polytechnical University); Liguozhou (Northwestern Polytechnical University); Xianhu Luo (Northwestern Polytechnical University); Yu Han (Northwestern Polytechnical University); Chengdong Huang (Northwestern Polytechnical University); Jiang Jiang (Northwestern Polytechnical University);*
- 65 A 60 GHz Series-fed Microstrip Patch Antenna Array for Millimeter Wave Automotive Radar Application  
*Yu Han (Northwestern Polytechnical University); Daiyao Zhang (Northwestern Polytechnical University); Chengdong Huang (Northwestern Polytechnical University); Jiang Jiang (Northwestern Polytechnical University); Liguozhou (Northwestern Polytechnical University);*
- 66 VTVBrain: A Two-stage Brain Encoding Model for Decoding Key Neural Responses in Multimodal Contexts  
*Ya Qi Wang (Tongji University); Renzhou Gui (Tongji University); Wen Bo Zhu (Tongji University); Yu Miao Yin (Tongji University); Mei Song Tong (Tongji University);*
- 67 A Dual-function Quasi-static Magnetic Device with Cloaking and Concentrating Functions Simultaneously  
*Hanchuan Chen (Taiyuan University of Technology); Yichao Liu (Taiyuan University of Technology); Fei Sun (Taiyuan University of Technology);*
- 68 Study on Solid State Relay Effect under Electromagnetic Pulse  
*Xutong Wang (Northwest Institute of Nuclear Technology); Wenbing Wang (Northwest Institute of Nuclear Technology);*
- 13:00 Narrow-gap 2D Semiconductors for Infrared and Terahertz Optoelectronics  
*Invited Kai Zhang (Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences);*
- 13:20 MOCVD Growth of Two-dimensional Semiconductors at Wafer Scale  
*Invited Yufeng Hao (Nanjing University);*
- 13:40 Non-reciprocal Electric Control of Magnetism in van der Waals Heterostructure Multiferroics  
*Bo Peng (University of Electronic Science and Technology of China);*
- 13:55 Magnetic Manipulation of Excitonic Emission in 2D Antiferromagnet NiPS<sub>3</sub>  
*Xingzhi Wang (Xiamen University); Qishuo Tan (Boston University); Tie Li (Xiamen University); Xi Ling (Boston University);*
- 14:10 Artificial Kagome Lattices of Shockley Surface States Patterned by Halogen Hydrogen-bonded Organic Frameworks  
*Ruoting Yin (University of Science and Technology of China); Xiang Zhu (University of Science and Technology of China); Chuanxu Ma (University of Science and Technology of China); Tianyi Hu (University of Science and Technology of China); Lingyun Wan (University of Science and Technology of China); Yingying Wu (University of Science and Technology of China); Yifan Liang (University of Science and Technology of China); Zhengya Wang (University of Science and Technology of China); Zhen-Lin Qiu (Xiamen University); Yuan-Zhi Tan (Xiamen University); Shijing Tan (University of Science and Technology of China); Qiang Fu (University of Science and Technology of China); Wei Hu (University of Science and Technology of China); Bin Li (University of Science and Technology of China); Z. F. Wang (University of Science and Technology of China); Jinlong Yang (University of Science and Technology of China); Bing Wang (University of Science and Technology of China);*
- 14:25 Light Emission from Monolayer Semiconductor Microcavities  
*Jingzhi Shang (Northwestern Polytechnical University);*
- 14:40 Room-temperature Spin Injection in van der Waals Layered GeSe  
*Xu Li (Xiamen University); Shiming Wu (Xiamen University); Yaping Wu (Xiamen University); Zhiming Wu (Xiamen University); Junyong Kang (Xiamen University);*

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### Session 2P1a

### Quantum Information Physics, Materials and Devices 2

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Tuesday PM, April 23, 2024

Room 1 - Yarui

Organized by Yaping Wu, Deyi Fu

Chaired by Yaping Wu, Deyi Fu

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14:55 Catalytic Growth of Ultralong Graphene Nanoribbons on Insulating Substrates

*Bosai Lyu (Shanghai Jiao Tong University); Jiajun Chen (Shanghai Jiao Tong University); Shuo Lou (Shanghai Jiao Tong University); Can Li (Shanghai Jiao Tong University); Lu Qiu (Institute for Basic Science); Wengen Ouyang (Wuhan University); Jingxu Xie (Shanghai Jiao Tong University); Izaac Mitchell (Institute for Basic Science); Tongyao Wu (Shanghai Jiao Tong University); Aolin Deng (Shanghai Jiao Tong University); Cheng Hu (Shanghai Jiao Tong University); Xianliang Zhou (Shanghai Jiao Tong University); Peiyue Shen (Shanghai Jiao Tong University); Saqun Ma (Shanghai Jiao Tong University); Zhenghan Wu (Shanghai Jiao Tong University); Kenji Watanabe (National Institute for Materials Science); Takashi Taniguchi (National Institute for Materials Science); Xiaoqun Wang (Shanghai Jiao Tong University); Qi Liang (Shanghai Jiao Tong University); Jin-Feng Jia (Shanghai Jiao Tong University); Michael Urbakh (Tel Aviv University); Oded Hod (Tel Aviv University); Feng Ding (Institute for Basic Science); Shiyong Wang (Shanghai Jiao Tong University); Zhiwen Shi (Shanghai Jiao Tong University);*

15:10 Helicity Dependent Photocurrent and Surface Polarity Detection on Two-dimensional Bi<sub>2</sub>O<sub>2</sub>Se Nanosheets

*Jinling Yu (Fuzhou University); Wenyi Wu (Fuzhou University); Yonghai Chen (Institute of Semiconductors, Chinese Academy of Sciences); Shuying Cheng (Fuzhou University); Ke He (Tsinghua University);*

15:30 Coffee Break

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**Session 2P1b**  
**Atomic Quantum Optics**

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**Tuesday PM, April 23, 2024**

**Room 1 - Yarui**

Organized by Shanchao Zhang, Yukai Wu

Chaired by Yukai Wu, Shanchao Zhang

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16:00 Experimental Realization of a Multi-purpose Photonic Quantum Memory

*Invited Sheng Zhang (Tsinghua University); Jixuan Shi (Tsinghua University); Yukai Wu (Tsinghua University); Luming Duan (Tsinghua University); Yunfei Pu (Tsinghua University);*

16:20 High-efficiency Quantum Memory Based on Cold Atoms and Exploration of Its Functions

*Invited Yunfei Wang (South China Normal University);*

16:40 Multipath Light Storage with Orbital Angular Momentum in Cold Atoms

*Invited Hong Gao (Xi'an Jiaotong University); Mingtao Cao (National Time Service Center, Chinese Academy of Sciences); Ying Yang (Xi'an Jiaotong University); Chengyuan Wang (Xi'an Jiaotong University);*

17:00 Observation of Spatiotemporal Single-photon Airy Wavepackets

*Invited Jianmin Wang (Southern University of Science and Technology); Ying Zuo (Southern University of Science and Technology); Xingchang Wang (Southern University of Science and Technology); Georgios A. Siviloglou (Southern University of Science and Technology); J. F. Chen (Southern University of Science and Technology);*

17:20 Effects of Higher-order Casimir-Polder Interactions on Rydberg Atom Spectroscopy

*Invited B. Dutta (Universite Sorbonne Paris Nord); J. C. De Aquino Carvalho (Université Sorbonne Paris Nord); G. Garcia-Arellano (Université Sorbonne Paris Nord); P. Pedri (Université Sorbonne Paris Nord); A. Laliotis (Université Sorbonne Paris Nord); C. Boldt (University of Rostock); J. Kaushal (University of Rostock); Stefan Scheel (University of Rostock);*

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**Session 2P2**

**Deep Learning-enabled Metasurface Design and Autonomous Meta-devices**

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**Tuesday PM, April 23, 2024**

**Room 2 - Jincheng 3**

Organized by Chao Qian, Junsuk Rho

Chaired by Chao Qian

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13:00 Autonomous Aeroamphibious Invisibility Cloak with Stochastic-evolution Learning

*Invited Chao Qian (Zhejiang University); Yuetian Jia (Zhejiang University); Zhedong Wang (Zhejiang University); Jieting Chen (Zhejiang University); Pujing Lin (Zhejiang University); Xiaoyue Zhu (Zhejiang University); Er Ping Li (Zhejiang University — UIUC Institute); Hongsheng Chen (Zhejiang University);*

13:20 Inverse-designed Nanophotonic Structures for Smart Sensing

*Invited Sunae So (Korea University);*

13:40 Structural Colour Metasurfaces Enhanced with Machine Learning for Real-time Refractive Index Sensing

*Invited Trevon Badloe (Pohang University of Science and Technology (POSTECH)); Younghwan Yang (Pohang University of Science and Technology (POSTECH)); Seokho Lee (Pohang University of Science and Technology (POSTECH)); Junsuk Rho (Pohang University of Science and Technology (POSTECH));*

14:00 Machine Learning Facilitates Rapid Design of Metamaterials  
*Ruichao Zhu (Air Force Engineering University); Jiafu Wang (Air Force Engineering University); Yuxiang Jia (Air Force Engineering University); Yuxi Li (Air Force Engineering University); Shaojie Wang (Air Force Engineering University); Zuntian Chu (Air Force Engineering University); Yina Cui (Air Force Engineering University); Huiting Sun (Air Force Engineering University); Shaobo Qu (Air Force Engineering University);*

14:15 Resonance for Analog Recurrent Neural Network  
 Invited *Yurui Qu (University of Wisconsin); Ming Zhou (University of Wisconsin); Erfan Khoram (University of Wisconsin); Nanfang Yu (Columbia University); Zongfu Yu (University of Wisconsin-Madison);*

14:35 Deep Learning Enabled Intelligent Spatiotemporal Metasurfaces for Wireless Communications  
*Xiaoyue Zhu (Zhejiang University); Chao Qian (Zhejiang University); Hongsheng Chen (Zhejiang University);*

14:50 At the Crossroad between Deep Learning and Nanotechnology for Photonics  
 Invited *M. Chung (Swiss Federal Institute of Technology Lausanne (EPFL)); Christian Santschi (Swiss Federal Institute of Technology Lausanne); Olivier J. F. Martin (Swiss Federal Institute of Technology Lausanne (EPFL));*

### 15:30 Coffee Break

16:00 Scattering Engineering with Deep Learning  
 Invited *Yongxin Jing (Nanjing University); Wei Wang (Hong Kong University of Science and Technology (Guangzhou)); Yun Lai (Nanjing University);*

16:20 Invisible Devices with Natural Materials Designed by Evolutionary Optimization  
*Bei Wu (Zhejiang University); Shuwen Xue (Xiamen University); Zhibin Zhang (Xiamen University); Huanyang Chen (Xiamen University);*

16:35 Topology-optimized Plasmonic Nanoantenna for Efficient Single-photon Extraction  
*Min Chen (Zhejiang University); Lian Shen (Zhejiang University); Yifei Hua (Zhejiang University); Zijian Qin (Zhejiang University); Hongsheng Chen (Zhejiang University); Huaping Wang (Zhejiang University);*

16:50 Radar Deception with Intelligent Time-modulated Metasurface  
*Wei Zhou (Zhejiang University); Huan Lu (Zhejiang University); Bin Zheng (Zhejiang University);*

17:05 Multispectral Orbital Angular Momentum Holography Based on Metasurface  
*Wei jia Meng (University of Shanghai for Science and Technology); Xinyuan Fang (University of Shanghai for Science and Technology);*

17:20 Intelligent Design and Sensing Application of Metasurface Devices  
 Invited *Li Gao (Nanjing University of Posts and Telecommunications);*

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### Session 2P3

### Antenna Designs, Measurements, and Trends for 5G/B5G and Satellite Communications

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**Tuesday PM, April 23, 2024**

**Room 3 - Jincheng 2**

Organized by Huan-Chu Huang

Chaired by Huan-Chu Huang

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13:00 The Myth of QZ Specification in Antenna Test Ranges  
 Invited *Dau-Chyrh Chang (Bojay Electronics Co., Ltd); Oscar Yan (Bojay Electronics Co., Ltd); Zhaohu Chen (Bojay Electronics Co., Ltd); Zhangjin Qin (Bojay Electronics Co., Ltd); Xu Yin (Bojay Electronics Co., Ltd);*

13:20 Toroidal CATR for Applications in 5G and LEO Satellites  
 Invited *Dau-Chyrh Chang (Bojay Electronics Co., Ltd); Oscar Yan (Bojay Electronics Co., Ltd); Zhaohu Chen (Bojay Electronics Co., Ltd); Zhangjin Qin (Bojay Electronics Co., Ltd); Xu Yin (Bojay Electronics Co., Ltd);*

13:40 A Large-scale 1-bit Active Reflectarray  
 Invited *Jinfeng Wei (University of Electronic Science and Technology of China); Yongling Ban (University of Electronic Science and Technology of China);*

14:00 Passive Reconfigurable Intelligent Surface (RIS) for Enhanced Wireless Communications  
 Invited *Cheng-Nan Hu (Asia Eastern University of Science and Technology); Qincheng Li (AEUST); Po-Yu Ho (AEUST); Fu-Shun Hsu (AEUST); K.-C. Chou (AEUST); W.-J. Cheng (Auden Techno. Corp); Chao-Hsing Chang (AEUST); P.-S. Wan (AEUST);*

14:20 The Evolution in Phased Array Design and Measurement  
 Invited *Hongbing Sun (Nanjing Research Institute of Electronics Technology); Qiang Zhang (Nanjing Research Institute of Electronics Technology); Shuliang Li (Nanjing Research Institute of Electronics Technology); Hao Zhou (Nanjing Research Institute of Electronics Technology); Xiao Hu (Science and Technology on Antenna and Microwave Laboratory);*

14:40 Impact Evaluation of External Charging Cables on mm-Wave OTA Performance  
 Invited *Wei He (China Academy of Information and Communications Technology); Lei Chen (China Academy of Information and Communications Technology); Siyang Sun (China Academy of Information and Communications Technology);*

15:00 Co-designed Millimeter-wave and Microwave Antennas for 5G and B5G Handsets  
*Huan-Chu Huang (Visionox Technology, Inc.); Jie Wu (Visionox Technology, Inc.); Shuang Cui (Visionox Technology, Inc.);*

15:30 **Coffee Break**

16:00 A Frequency Sensor of Reconfigurable Intelligent Meta-surface for 5G Communication

Invited *Yixin Cui (China University of Geosciences); Linyan Guo (China University of Geosciences, Beijing);*

16:20 The High Gain Ka-band LTCC Antenna Design for Electronically Steered Array

*Su-Wei Chang (TMY Technology Inc.); Chun-Cheng Chan (TMY Technology Inc.); Brian Laughlin (Celanese Corporation); Jiun-Wei Wu (TMY Technology Inc.); Chih-Hsien Wu (TMY Technology Inc.);*

16:35 Status and Enhancement of 5G-A Millimeter Wave Wireless Devices RF Testing

*Yuan Yuan Liu (China Academy of Information and Communications Technology); Xiangqian Sun (China Academy of Information and Communications Technology); Rui Zhang (China Academy of Information and Communications Technology); Siyang Sun (China Academy of Information and Communications Technology); Yu Zhou (China Academy of Information and Communications Technology);*

16:50 The Multi-beam Technology in LEO Satellite Communications

*Hongbing Sun (Nanjing Research Institute of Electronics Technology); Qiang Zhang (Nanjing Research Institute of Electronics Technology); Lei Sun (Nanjing Research Institute of Electronics Technology); Daqun Yu (Nanjing Research Institute of Electronics Technology); Jianxin Li (Nanjing Research Institute of Electronics Technology); Hua Wang (Nanjing Research Institute of Electronics Technology);*

17:05 A Novel Dual-band and Broadband Antenna

*Yihan Zhu (Anhui University); Zhongxiang Zhang (Hefei Normal University); Xingang Ren (Anhui University);*

17:20 A Dual-band Dual-polarized Antenna for 5G Base Station

*Weiliang Zeng (Guangdong Polytechnical Normal University); Junyu Zhou (Guangdong Polytechnical Normal University); Zixuan Liu (South China Normal University); Junlong Li (Shanwei Institute of Technology); Minfeng Yao (Guangdong University of Foreign Studies); Qingchong Liu (Zhejiang University); Hui Liu (Guangdong Polytechnical Normal University);*

17:35 Millimeter-wave Antenna-on-display (AoD) Design on the Encapsulation Layer of an OLED Display for 5G and B5G Smartphones

*Huan-Chu Huang (Visionox Technology Inc.); Jie Wu (Visionox Technology, Inc.); Shuang Cui (Visionox Technology, Inc.); Yiming Jia (Visionox Technology Inc.);*

## Session 2P4a

### Wave Phenomena in Space/Time Varying Metamaterials/Metasurfaces 2

Tuesday PM, April 23, 2024

Room 4 - Jincheng 1

Organized by Fu Liu, Huanan Li, Xuchen Wang

Chaired by Fu Liu, Xuchen Wang

13:00 Photonic Discrete Time Crystals and Quasicrystals

Invited

*Bumki Min (Korea Advanced Institute of Science and Technology (KAIST));*

13:20 On-demand Dynamic Polarization Transformer with Space-time-varying Metasurface

Invited

*Qi Hu (Nanjing University); Ke Chen (Nanjing University); Junming Zhao (Nanjing University); Yijun Feng (Nanjing University);*

13:40 Pseudo-random Noise Sequence-based Time-modulated Metasurfaces for Wireless Applications

Invited

*Xiaoyi Wang (Tongji University);*

14:00 Temporal Effective Medium for Frequency-dispersive Acoustic Metamaterials

*Xinghong Zhu (Hong Kong University of Science and Technology); Hong-Wei Wu (Anhui University of Science and Technology); Ziling Liu (Anhui University of Science and Technology); Jensen Li (Hong Kong University of Science and Technology);*

14:15 Double Phase Transition in a 1D Waveguide Array with Time-modulated Non-Hermitian Floquet Defect

*Zhenzhi Liu (Xi'an Jiaotong University); Ke Li (Xi'an Jiaotong University); Fu Liu (Xi'an Jiaotong University);*

14:30 Unidirectional Amplification with Acoustic Non-Hermitian Space-time Varying Metamaterial

*Xinhua Wen (The Hong Kong University of Science and Technology); Xinghong Zhu (Hong Kong University of Science and Technology); Alvin Fan (Hong Kong University of Science and Technology); Wing Yim Tam (Hong Kong University of Science and Technology); Jie Zhu (Hong Kong Polytechnic University); Hong Wei Wu (Hong Kong University of Science and Technology); Fabrice Lemoult (ESPCI ParisTech); Mathias Fink (Université Denis Diderot Paris 7); Jensen Li (Hong Kong University of Science and Technology);*



- 14:45 Analysis and Design of Vector Holographic Metasurfaces  
*Alexandros Pitilakis (Aristotle University of Thessaloniki); Odysseas Tsilipakos (National Hellenic Research Foundation); Anna C. Tasolamprou (National and Kapodistrian University of Athens); Angeliki Tsioliariidou (Foundation for Research and Technology Hellas, Institute of Computer Science); Nikolaos V. Kantartzis (Aristotle University of Thessaloniki); Sotiris Ioannidis (Foundation for Research and Technology Hellas, Institute of Computer Science); Christos Liaskos (Foundation for Research and Technology Hellas, Institute of Computer Science); Maria Kafesaki (Research and Technology Hellas (FORTH));*

15:30 **Coffee Break**

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### Session 2P4b

#### Time-modulated Metamaterials and Time-variant Systems

**Tuesday PM, April 23, 2024**

**Room 4 - Jincheng 1**

Organized by Jiang Xiong, Hao Hu

Chaired by Jiang Xiong, Hao Hu

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- 16:00 Spontaneous Emission in Photonic Temporal Crystals  
Invited  
*Bumki Min (Korea Advanced Institute of Science and Technology (KAIST));*
- 16:20 Inverse Design of Topological Photonic Time Crystal via Deep Learning  
Invited  
*Yang Long (Nanyang Technological University); Baile Zhang (Nanyang Technological University);*
- 16:40 Disorder-immune Time Edge States  
*Yukun Yang (Nanjing University of Aeronautics and Astronautics); Hao Hu (Nanjing University of Aeronautics and Astronautics); Zhuo Li (Nanjing University of Aeronautics and Astronautics);*
- 16:55 Temporal Smith-Purcell Radiation from a Photonic Time Crystal  
*Juan-Feng Zhu (Singapore University of Technology and Design); Zi-Wen Zhang (Peking University); Yu-Lu Lei (Peking University); Chao-Hai Du (Peking University); Lin Wu (Singapore University of Technology and Design (SUTD));*
- 17:10 Antireflection in the Spatiotemporal Systems  
*Youxiu Yu (Soochow University);*
- 17:25 Realization of 1D Photonic Time Crystals Based on Dynamic Microwave Circuits  
*Xudong Zhang (University of Electronic Science and Technology of China); Longji Duan (University of Electronic Science and Technology of China); Haonan Hou (University of Electronic Science and Technology of China); Jiang Xiong (University of Electronic Science and Technology of China);*

- 17:40 A New Space-time-coding Metasurface for Joint Multiharmonic Synthesis  
*Zhangjie Luo (Southeast University); Zhiming Zhang (Southeast University); Tie Jun Cui (Southeast University);*

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### Session 2P5a

#### Optics for AR, VR, and MR

**Tuesday PM, April 23, 2024**

**Room 5 - Yingbin**

Organized by Youmin Wang

Chaired by Youmin Wang

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- 13:00 3D Holography Based on D2NN with Random Phase Image Target  
*Haoqian Pu (Tongji University); Ruotong Wang (Tongji University); Kai Chen (Tongji University); Junhe Zhou (Tongji University);*
- 13:15 Polarization Based Optical Microscopy for Better Resolution  
*Nagendra Prasad Yadav (Hubei Polytechnic University); Guozhen Hu (Huanggang Normal University); Xiaofeng Cai (Hubei Polytechnic University); Zheng-peng Yao (Hubei Polytechnic University); Peng Yang (Hubei Polytechnic University);*
- 13:30 Study and Research of Milky Shine on the Surface of Zisha Pot by Microscopy Imaging  
*Nagendra Prasad Yadav (Hubei Polytechnic University); Guozhen Hu (Hubei Polytechnic University); Zheng-peng Yao (Hubei Polytechnic University);*
- 14:00 Event Based Camera and Applications in Eye Tracking  
*Carmen Wang (Meta Reality Labs); Chris Aholt (Meta Reality Labs); Timo Stoffregen (Meta Reality Labs);*
- 14:15 Introduction of the Digitally-controlled Electrochromic Materials (DC-EC) and the Usecases in the AR Field  
*York Chen (Suzhou Bear Sunny Technologies Inc.);*
- 14:30 MEMS for Eye Tracking  
*Francesco LaRocca (Meta, Facebook); Joonyoung Yu (Meta, Facebook); Ehsan Vadiiee (Meta, Facebook); Youmin Wang (Meta, Facebook);*
- 15:30 **Coffee Break**

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### Session 2P5b

#### Emerging Biomedical Applications of Optical Imaging and Spectroscopy

**Tuesday PM, April 23, 2024**

**Room 5 - Yingbin**

Organized by Xusan Yang, Shuo Chen

Chaired by Xusan Yang, Shuo Chen

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- 16:00 Point-of-care Multiplexed Colorimetric Test on a Lensless CMOS Image Sensor for Chronic Kidney Disease Biomarkers  
Xinyue Hu (McGill University); Laura Camila Penuela Cardenas (McGill University); Young Chae Han (McGill University); Nassib Hassouna (McGill University); Ngoc Lan Anh Huynh (McGill University); Weiyi Wan (McGill University); Túlio De Lima Pedrosa (McGill University); Sebastian Wachsmann-Hogiu (McGill University);
- 16:15 Multi-branch Attention Raman Network and Surface-enhanced Raman Spectroscopy for Neurological Disorders Classification  
Changchun Xiong (Ningbo University); Qingshan Zhong (Ningbo University); Yudong Yao (Ningbo University); Wei Qian (Ningbo University); Xi Mei (Ningbo University); Shanshan Zhu (Ningbo University);
- 16:30 Multifocal Fluorescence Video-rate Imaging of Centimetre-wide Arbitrarily Shaped Brain Surfaces at Micrometric Resolution  
Xiaofei Han (Tsinghua University); Hao Xie (Tsinghua University);
- 16:45 Identifying Osteoporosis in Humans with Hip Fractures Using Raman Spectroscopy  
Keren Chen (Northeastern University); Chunguang Yao (Northeastern University); Mengya Sun (Northeastern University); Qiang Li (The Fifth People's Hospital of Foshan); Zhaoxin Luo (The Fifth People's Hospital of Foshan); Yifeng Lan (The Fifth People's Hospital of Foshan); Yangxin Chen (The Fifth People's Hospital of Foshan); Shuo Chen (Northeastern University);
- 17:15 Fast and Non-invasive Fundus Angiography Based on Programmable Hyperspectral Imaging  
Yuetian Ren (Northeastern University); Shuo Chen (Northeastern University);
- 18:00 On the Nitinol Hypotube Surface Performance by 1030 nm Femtosecond Laser Cutting under Different Protective Gas Atmospheres  
Zhiwei Yang (Yangtze River Delta Physics Research Center); Yunfeng Song (Yangtze River Delta Physics Research Center); Tiangang Xu (Yangtze River Delta Physics Research Center); Ziyuan Li (Yangtze River Delta Physics Research Center); Lan Chen (Jiangsu University); Chengrong Cao (Medical and Applied Physics Platform, Institute of Physics, CAS); Xusan Yang (Institute of Physics, Chinese Academy of Science);
- 13:00 Topological Plasmonics: Ultrafast Vector Movies of Plasmonic Skyrmions on the Nanoscale  
Keynote Harald W. Giessen (University of Stuttgart); Tim Davis (University of Stuttgart); Frank Meyer zu Heringdorf (University of Duisburg-Essen); Bettina Frank (University of Stuttgart); David Janoschka (University of Duisburg-Essen); Pascal Dreher (University of Duisburg-Essen);
- 13:30 The Hidden Spin-momentum Locking and Topological Defects in Unpolarized Light Fields  
Invited Peng Shi (Shenzhen University); Xiao-Cong Yuan (Shenzhen University);
- 13:50 Multidimensional Optical Singularities in Photonic Microstructures: A Symmetry Point of View  
Jie Yang (Airforce Engineering University); Xuezhi Zheng (KU Leuven); Jiafu Wang (Air Force Engineering University); Tie Jun Cui (Southeast University);
- 14:05 Near-field Characterization and Manipulation of Topological Spin Structures of Light  
Fanfei Meng (Great Bay University); Luping Du (Shenzhen University); Xiao-Cong Yuan (Shenzhen University);
- 14:20 Plasmonic Skyrmions with Bound States in the Continuum  
Invited Zhen Liao (Nanjing University of Posts and Telecommunications); Guoqing Luo (Hangzhou Dianzi University); Leilei Liu (Nanjing University of Posts and Telecommunications);
- 14:40 Photonic Spin-orbit Coupling in Planar and Concave Optical Microcavities  
Invited Feng Li (Xi'an Jiaotong University);
- 15:00 Periodic Dynamics of Optical Skyrmion Lattices Driven by Symmetry  
Invited Zhenwei Xie (Shenzhen University);
- 15:20 Plasmonic Twistronics: Discovery of Plasmonic Skyrmion Bags  
Julian Schwab (University of Stuttgart); Alexander Neuhaus (University of Duisburg-Essen); Pascal Dreher (University of Duisburg-Essen); Shai Tseses (Technion-Israel Institute of Technology); Anant Mantha (University of Stuttgart); Florian Mangold (University of Stuttgart); Bettina Frank (University of Stuttgart); Guy Bartal (Technion-Israel Institute of Technology); Frank-J. Meyer Zu Heringdorf (University of Duisburg-Essen); Timothy J. Davis (The University of Melbourne); Harald W. Giessen (University of Stuttgart);

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**Session 2P6a**  
**Optical Skyrmions 1**

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**Tuesday PM, April 23, 2024**

**Room 6 - Huanhua**

Organized by Yijie Shen, Peng Shi

Chaired by Yijie Shen, Peng Shi

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15:35 **Coffee Break**

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**Session 2P6b**  
**Optical Skyrmions 2**

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**Tuesday PM, April 23, 2024**

**Room 6 - Huanhua**

Organized by Luping Du, Xiao-Cong Yuan

Chaired by Yijie Shen, Peng Shi

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16:00 Pico-Metric Displacement Sensing by Photonic Spin  
Invited Skyrmions

*Aiping Yang (Dongguan University of Technology); Luping Du (Shenzhen University); Xiao-Cong Yuan (Shenzhen University);*

16:20 Sub-atomic Metrology with Topologically Structured  
Invited Light

*Nikolay I. Zheludev (University of Southampton & Nanyang Technological University);*

16:40 Quantum Skyrmions: Linking Entanglement to Topol-  
Invited ogy

*Pedro Ornelas (University of the Witwatersrand); Isaac Nape (University of the Witwatersrand); Robert De Mello Koch (University of the Witwatersrand); Andrew Forbes (University of the Witwatersrand);*

17:00 Observation of Skyrmionic Textures in Toroidal Electro-  
Invited magnetic Pulses

*Ren Wang (University of Electronic Science and Technology of China); Bing-Zhong Wang (University of Electronic Science and Technology of China); Nikolay I. Zheludev (University of Southampton & Nanyang Technological University); Yijie Shen (Nanyang Technological University);*

17:20 Tailoring Highly Confined Electric-field Based Optical  
Invited Skyrmions

*Jian Chen (University of Shanghai for Science and Technology); X. Shen (University of Shanghai for Science and Technology); Y. Zeng (University of Shanghai for Science and Technology); Qiwen Zhan (University of Shanghai for Science and Technology);*

17:40 Conversion of Optical Skyrmion Driven by Synthetic  
Invited Magnetic Fields

*Junhui Jia (Jinan University); Jianbin Ren (Jinan University); Shiwen Zhou (Jinan University); Shenhe Fu (Jinan University);*

18:20 Direct Generation of Skyrmions from Laser Cavity and  
Their Applications in Material Processing

*A. Srinivasa Rao (Chiba University); Rihito Tamura (Chiba University); Praveen Kumar (IIT (BHU)); William R. Kerridge-Johns (Chiba University); Takashige Omatsu (Chiba University);*

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**Session 2P7a**

**New Trends in Nonlinear Optics and Emerging Platforms for The Generation of Complex Light**

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**Tuesday PM, April 23, 2024**

**Room 7 - Xiling**

Organized by Goëry Genty, Massimo Giudici

Chaired by Goëry Genty, Massimo Giudici

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13:00 Machine Learning Control of Ultrafast Pulse Propaga-  
Invited tion Dynamics

*Goëry Genty (Tampere University); Mathilde Hary (Tampere University); Lauri Salmela (Tampere University); Mehdi Mabad (Université Bourgogne Franche-Comté CNRS UMR 6174); Andrei Ermolaev (Université Bourgogne Franche-Comté CNRS UMR 6174); John M. Dudley (Université Bourgogne Franche-Comté CNRS UMR 6174);*

13:20 Polarization Domain Walls in Strong Birefringent Fiber  
Resonators

*Ning Wang (China University of Geosciences); Tianye Huang (China University of Geosciences); Jianxing Pan (China University of Geosciences); Chaoyu Xu (China University of Geosciences); Gang Xu (Huazhong University of Science and Technology); Zhichao Wu (China University of Geosciences); Xiang Li (China University of Geosciences); Jie Tu (Optics Valley Technology Co., Ltd.); Huang Yu (Fiberhome Fujikura Optic Technology Co., Ltd.); Zuowei Yin (China University of Geosciences); Yin Jie (China University of Geosciences); Bao Huang (Wuhan Raycus Fiber Laser Technologies Co., Ltd.); Jing Zhang (China University of Geosciences);*

13:35 Scalable and Autonomous Photonic Neural Networks

Invited

*Adria Grabulosa (Université Franche-Comté CNRS UMR 6174); Anas Skalli (Université Franche-Comté CNRS UMR 6174); Johnny Moughames (Université Franche-Comté CNRS UMR 6174); Xavier Porte (University of Strathclyde); James Lott (Technische Universität Berlin); Stephan Reitzenstein (Technische Universität Berlin); Daniel Brunner (Université Franche-Comté CNRS UMR 6174);*

13:55 Reservoir Computing-based Advance Warning of Ex-  
treme Events

*Tao Wang (Xidian University); H. Zhou (Xidian University); Q. Fang (Hangzhou Dianzi University); Y. Han (Xidian University); X. Guo (Xidian University); Y. Zhang (Xidian University); C. Qian (Zhejiang University); H. Chen (Zhejiang University); S. Barland (Université Côte d'Azur); S. Xiang (Xidian University); G. L. Lippi (Université Côte d'Azur);*

14:10 On-chip Pulse Pattern Generation and Fiber Propagation for Multidimensional Wave-packet Control

Invited Alexis Bougaud (Université de Limoges); Van-Thuy Hoang (Université de Limoges); Bruno P. Chaves (Université de Limoges); Yassin Boussafa (Université de Limoges); Lynn Sader (Université de Limoges); Sébastien Février (University of Limoges); Vincent Couderc (University of Limoges); Brent E. Little (QXP Technology); Sai T. Chu (City University of Hong Kong); David J. Moss (Swinburne University of Technology); Roberto Morandotti (Institut National de la Recherche Scientifique (INRS-EMT)); Benjamin Wetzol (XLIM-CNRS UMR 7252);

14:30 Multimode Fibers for Nonlinear Control of Structured Light

Jiaqi Li (Tampere University); Ines Caceres Pablo (Tampere University); Francesca Gallazzi (Tampere University); Zahra Eslami (Tampere University); Ekaterina Krutova (Tampere University); Goëry Genty (Tampere University);

14:45 Excitation and Manipulation of Super Cavity Solitons in Multi-stable Passive Kerr Resonators

Invited Pengxiang Wang (Huazhong University of Science and Technology); Jianxing Pan (China University of Geosciences); Tianye Huang (China University of Geosciences); Carlos Mas-Arabi (Universitat Politècnica de València); Gang Xu (Huazhong University of Science and Technology);

15:05 Emerging Trends in Multimode Fiber Optics

Invited Bertrand Kibler (Laboratoire Interdisciplinaire Carnot de Bourgogne); Karolina Stefanska (Laboratoire Interdisciplinaire Carnot de Bourgogne); Esteban Serrano (Laboratoire Interdisciplinaire Carnot de Bourgogne); Damien Bailleul (Laboratoire Interdisciplinaire Carnot de Bourgogne); Frédéric Smehtala (Laboratoire Interdisciplinaire Carnot de Bourgogne); Karol Tarnowski (Wrocław University of Science and Technology); Pierre Béjot (Laboratoire Interdisciplinaire Carnot de Bourgogne);

15:35 Coffee Break

16:00 Spatio-temporally Reconfigurable Light in Degenerate Laser Cavities

Invited A. Bartolo (Université Côte d'Azur); N. Vigne (University of Montpellier); M. Marconi (Université Côte d'Azur); Grégoire Beaudoin (CNRS, Université Paris Saclay); Konstantinos Pantzas (CNRS, Université Paris-Saclay); L. Gratiet (CNRS, Université Paris Saclay); Isabelle Sagnes (CNRS, Université Paris Saclay); A. Garnache (University of Montpellier); Massimo Giudici (Universite Cote d'Azur);

Session 2P7b  
Photonics & Nanophotonics

Tuesday PM, April 23, 2024

Room 7 - Xiling

Chaired by Xianzhong Chen, Aleksandr Sergeevich Shalin

16:20 Longitudinally Variable 3D Optical Polarization Structures Based on Metalens

Yan Li (Heriot-Watt University); Muhammad Afnan Ansari (Heriot-Watt University); Hammad Ahmed (Heriot-Watt University); Ruoxing Wang (North China Electric Power University); Guanchao Wang (Heriot-Watt University); Xianzhong Chen (Heriot-Watt University);

16:35 Silicon Waveguide Cross-sectional Dimension Estimation Based on Effective Refractive Index Extraction

Enge Zhang (Beijing University of Posts and Telecommunications); Xiaoran Zhu (Beijing University of Posts and Telecommunications); Lei Zhang (Beijing University of Posts and Telecommunications);

16:50 Novel Mechanism for Superscattering in All-dielectric Nanoparticles

Adrià Canós Valero (University of Graz); Hadi K. Shamkhi (ITMO University); Anton S. Kuprianov (Jilin University); Thomas Weiss (University of Graz); Vjaceslavs Bobrovs (Riga Technical University); Yuri S. Kivshar (Australian National University); Alexander Sergeevich Shalin (Moscow Institute of Physics and Technology);

17:05 Irradiation Effects of Gallium Ions on MoS<sub>2</sub> Field Effect Transistors

Yu Zhang (University of Electronic Science and Technology of China); Yazhou Wei (University of Electronic Science and Technology of China); Feiliang Chen (University of Electronic Science and Technology of China); Mo Li (University of Electronic Science and Technology of China); Jian Zhang (University of Electronic Science and Technology of China);

17:20 Neuromorphic Networks with Exciton Polariton Lattices

Evgeny S. Sedov (Westlake University); Alexey V. Kavokin (Westlake University);

17:35 MEMS-based Generalized Computational Mid-infrared Spectrometer

Heng Chen (Shanghai University); Jing Zhou (Shanghai University); Hui Zhang (The Hong Kong Polytechnic University); Nan Wang (Shanghai University); Yiming Ma (Shanghai University);

17:50 Autoencoder-denoised MEMS-based Computational Spectrometer

Jing Zhou (Shanghai University); Hui Zhang (The Hong Kong Polytechnic University); Heng Chen (Shanghai University); Nan Wang (Shanghai University); Yiming Ma (Shanghai University);

**Session 2P8****Thermal Radiation: Principles, Progress, and Potentials 2****Tuesday PM, April 23, 2024****Room 8 - Guixiang**

Organized by Bai Song, Kezhang Shi

Chaired by Bai Song, Kezhang Shi

13:00 Near-field Radiative Heat Transfer — A Personal Account and Its Recent Development

*Jianbin Xu (The Chinese University of Hong Kong); Yungui Ma (Zhejiang University);*

13:30 Photon Transport by Nonequilibrium Green's Functions

*Jian-Sheng Wang (National University of Singapore);*

13:50 Manipulation of Radiative Heat Transfer with Hyperbolic Materials

*Ceji Fu (Peking University);*

14:10 Photonic p-n Junction: Physics and Potential Applications

*Junming Zhao (Harbin Institute of Technology); Deyu Xu (Harbin Institute of Technology);*

14:30 Modulating Near-field Thermal Radiation through Temporal Drivings: A Quantum Many-body Theory

*Gaomin Tang (Graduate School of China Academy of Engineering Physics);*

14:50 Thermal Radiation Based on Quantum Phases

*Cheng-Long Zhou (Harbin Institute of Technology); Xinyu Jia (Harbin Institute of Technology); Yong Zhang (Harbin Institute of Technology); Hongliang Yi (Harbin Institute of Technology);*

15:10 Heat-assisted Detection and Ranging

*Fanglin Bao (Purdue University); Xueji Wang (Purdue University); Shree Hari Sureshabu (Purdue University); Gautam Sreekumar (Michigan State University); Liping Yang (Purdue University); Vaneet Aggarwal (Purdue University); Vishnu N. Boddeti (Michigan State University); Zubin Jacob (Purdue University);*

15:30 **Coffee Break**

16:00 Dynamic and Steady-state Thermal Nonreciprocity in Two-port and Three-port Systems

*Ying Li (Zhejiang University);*

16:20 Tailoring Thermal Radiation Based on Topological Photonic Structures

*Boxiang Wang (Shanghai Jiao Tong University);*

16:40 Experimental Demonstration of Enhanced Near-field Radiative Heat Transfer between Dielectric-organic Multilayers

*Lu Lu (Hubei University of Technology); Qiang Cheng (Huazhong University of Science and Technology);*

17:20 In-plane Phonon Polariton Thermal Conduction: A Combined Ellipsometric Measurements and Multiscale Simulations

*Jia-Yue Yang (Shandong University);*

17:55 Isotope Effect on the Casimir Force

*Lanyi Xie (Peking University); Fuwei Yang (Peking University); Bai Song (Peking University);*

18:10 Tunable Near-field Radiative Heat Transfer between Anisotropic Magneto-optical Metasurfaces

*Bo Zhang (Huazhong University of Science and Technology); Zixue Luo (Huazhong University of Science and Technology); Qiang Cheng (Huazhong University of Science and Technology);*

**Session 2P9****Non-Hermitian and Topological Phenomena with Electromagnetic Waves****Tuesday PM, April 23, 2024****Room 9 - Xinyu**

Organized by Luqi Yuan, Haoran Xue

Chaired by Luqi Yuan, Baile Zhang

13:00 3D Magnetic Topological Photonic Crystals

*Baile Zhang (Nanyang Technological University);*

13:20 Non-Hermitian Modulated Topological Modes in Optical Waveguides

*Wange Song (Nanjing University); Shengjie Wu (Nanjing University); Tao Li (Nanjing University);*

13:40 Continuum of Bound States in a Non-Hermitian Model

*Yidong Chong (Nanyang Technological University); Qiang Wang (Nanyang Technological University); Changyan Zhu (Nanyang Technological University); Xu Zheng (Nanyang Technological University); Haoran Xue (The Chinese University of Hong Kong); Baile Zhang (Nanyang Technological University);*

14:00 Scattering Extremizations in Momentum Space

*Wei Liu (National University of Defense Technology);*

14:20 Nonlinear Higher-order Topological States and Higher-order Topological Solitons

*Yiqi Zhang (Xi'an Jiaotong University); Yaroslav V. Kartashov (Institute of Spectroscopy, Russian Academy of Sciences);*

14:40 Observation of Time-reversal Photonic Topological Anderson Insulators

*Xiao-Dong Chen (Sun Yat-Sen University);*

15:00 Observation of the Photonic Floquet Skin-topological Effect

*Zhaoju Yang (Zhejiang University);*

- 15:20 Non-Hermitian Skin Effects in Higher-dimensional Systems  
Invited Mengying Hu (Fudan University); Kun Ding (Fudan University);
- 15:40 **Coffee Break**
- 16:00 Anti-parity-time Symmetry in Integrated Topological Photonics  
Invited Fei Gao (Zhejiang University);
- 16:20 Non-Hermitian Control on Floquet Topological States  
Invited Weiwei Zhu (Ocean University of China);
- 16:40 Observation of Momentum-gap Topology of Light  
Invited Yihao Yang (Zhejiang University);
- 17:00 Nonlinearity Enabled Higher-order Exceptional Point  
Invited Meng Xiao (Wuhan University);
- 17:20 Dynamical Detection of Topological Spectral Density  
Invited Feng Mei (Shanxi University);
- 17:40 Controllable Flatbands via Non-Hermiticity  
Shirong Lin (City University of Hong Kong); Yao Liang (City University of Hong Kong); Jingcheng Zhang (City University of Hong Kong); Mu Ku Chen (City University of Hong Kong); Din Ping Tsai (The Hong Kong Polytechnic University);
- 17:55 Experimental Observation of Non-Hermitian Antichiral Currents  
Yanyan He (Shanghai Jiao Tong University); Rui Ye (Shanghai Jiao Tong University); Guangzhen Li (Shanghai Jiao Tong University); Luqi Yuan (Shanghai Jiao Tong University); Xianfeng Chen (Shanghai Jiao Tong University);
- 13:30 Microwave Diagnostics of Cold Atmospheric Plasma Jets  
Chengxun Yuan (Harbin Institute of Technology); Aleksandr M. Astafiev (Saint Petersburg Electrotechnical University "LETI"); Anatoly A. Kudryavtsev (Harbin Institute of Technology); Aleksandr S. Chirtsov (Saint Petersburg Electrotechnical University "LETI");
- 13:45 Microwave Diagnostics of the Long-lived Atmospheric Afterglow  
Aleksandr M. Astafiev (Saint Petersburg Electrotechnical University "LETI"); Chengxun Yuan (Harbin Institute of Technology); Anatoly A. Kudryavtsev (Harbin Institute of Technology); Aleksandr S. Chirtsov (Saint Petersburg Electrotechnical University "LETI");
- 14:00 Modulation of Microwave Reflection by Grid Electrode DC Glow Discharge  
Zhiyong Li (Harbin Institute of Technology); Xingbao Lyu (Harbin Institute of Technology); Chengxun Yuan (Harbin Institute of Technology); Zhongxiang Zhou (Harbin Institute of Technology); Chunfeng Hou (Harbin Institute of Technology); Anatoly A. Kudryavtsev (Harbin Institute of Technology);
- 14:15 Effect of Material, Shape and Transmittance of the DC Glow Discharge Grid Anode on Microwave Transport in the Post-anode Plasma  
Xingbao Lyu (Harbin Institute of Technology); Chengxun Yuan (Harbin Institute of Technology); Svetlana V. Avtaeva (Harbin Institute of Technology); Anatoly A. Kudryavtsev (Harbin Institute of Technology); Zhongxiang Zhou (Harbin Institute of Technology);
- 14:30 Effect of Different Discharge Modes of Hollow Cathode Discharge on Electromagnetic Wave Propagation  
Qiuyue Zheng (Harbin Institute of Technology); Chengxun Yuan (Harbin Institute of Technology); Chen Zhou (Harbin Institute of Technology); Xingbao Lv (Harbin Institute of Technology); Zhian Hao (Harbin Institute of Technology); Zhongxiang Zhou (Harbin Institute of Technology); Anatoly A. Kudryavtsev (Harbin Institute of Technology);

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### Session 2P10

#### Interaction of Electromagnetic Waves with Ionized and Complex Media

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Tuesday PM, April 23, 2024

Room 10 - Shuliu

Organized by Anatoly A. Kudryavtsev, Chengxun Yuan  
Chaired by Anatoly A. Kudryavtsev, Chengxun Yuan

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- 13:00 Numerical Modeling of Energy Dissipation of the Superthermal Electrons in Ionosphere Plasma  
Nurken E. Aktaev (Harbin Institute of Technology); Anatoly A. Kudryavtsev (Harbin Institute of Technology); Chengxun Yuan (Harbin Institute of Technology);
- 13:15 Effect of EEDF Nonlocality on the Electromagnetic Wave Propagation Characteristics in Dusty Plasma  
Kurban M. Rabadanov (Dagestan State University); Anatoly A. Kudryavtsev (Harbin Institute of Technology); Chengxun Yuan (Harbin Institute of Technology);
- 14:45 The Numerical Simulation of a Microwave to Plasma Interaction in the S-band Microwave Pulse Compressor  
Vladislav S. Igumnov (Harbin Institute of Technology); Vasily Yu. Kozhevnikov (Harbin Institute of Technology); Zijian Liu (Harbin Institute of Technology); Chengxun Yuan (Harbin Institute of Technology);
- 15:00 Microhollow Cathode Plasma Studies and Effect of Array Structure on Electromagnetic Wave Propagation  
Yiru Zhou (Harbin Institute of Technology); Zhian Hao (Harbin Institute of Technology); Chengxun Yuan (Harbin Institute of Technology); Chen Zhou (Harbin Institute of Technology); Zhongxiang Zhou (Harbin Institute of Technology); Anatoly A. Kudryavtsev (Harbin Institute of Technology);

- 15:15 A Wave-absorbing Material Composed of Plasma and Electromagnetic Resonant Metasurface  
*Zhian Hao (Harbin Institute of Technology); Jianfei Li (Harbin Institute of Technology); Jingfeng Yao (Harbin Institute of Technology); Xingbao Lyu (Harbin Institute of Technology); Chengxun Yuan (Harbin Institute of Technology); Chen Zhou (Harbin Institute of Technology); Zhongxiang Zhou (Harbin Institute of Technology); Anatoly A. Kudryavtsev (Harbin Institute of Technology);*
- 15:30 **Coffee Break**
- 16:00 The Multiband Antenna Tuned by Plasma  
*Chen Chen (Harbin Institute of Technology); Zijia Chu (Harbin Institute of Technology); Jianfei Li (Harbin Institute of Technology); Jingfeng Yao (Harbin Institute of Technology); Chengxun Yuan (Harbin Institute of Technology); Vladislav Sergeevich Igumnov (Harbin Institute of Technology & National Research Tomsk Polytechnic University);*
- 16:15 Tunable Bound State in the Continuum in Asymmetrically One-dimensional Photonic Crystal Guided by Surface Plasmon Polariton  
*Ziyi Liu (Harbin Institute of Technology); Jingfeng Yao (Harbin Institute of Technology); Chengxun Yuan (Harbin Institute of Technology);*
- 16:30 Numerical Simulation of Assisted Electrode Discharges for Electromagnetic Wave Interactions  
*Junjie Li (Harbin Institute of Technology); Chen Zhou (Harbin Institute of Technology); Xingbao Lv (Harbin Institute of Technology); Chengxun Yuan (Harbin Institute of Technology); Zhongxiang Zhou (Harbin Institute of Technology); Anatoly A. Kudryavtsev (Harbin Institute of Technology);*
- 16:45 Research on the Characteristics of Focusing Effect of Electromagnetic Wave in Inhomogeneous Plasma  
*Jingfeng Yao (Harbin Institute of Technology); Hanlu Fei (Harbin Institute of Technology); Jianfei Li (Harbin Institute of Technology); Xin Ye (Harbin Institute of Technology); Chengxun Yuan (Harbin Institute of Technology); Zhongxiang Zhou (Harbin Institute of Technology);*
- 17:00 Thomson Scattering of Essentially Non-Gaussian Microwave Beams in Inhomogeneous Magnetized Plasma  
*Egor D. Gospodchikov (A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)); Timur A. Khusainov (A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)); Alexander G. Shalashov (A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS));*
- 17:15 Spontaneous Generation and Multiplication of Self-organized Current Structures in an Atmospheric Pressure Glow Discharge in Helium  
*Ismail Rafatov (Middle East Technical University); Gubad Islamov (Middle East Technical University); Ender Eylenceoglu (Middle East Technical University);*

- 17:30 Experimental Investigations of Topological States in Plasma Photonic Crystals  
*Jianfei Li (Harbin Institute of Technology); Jingfeng Yao (Harbin Institute of Technology); Chengxun Yuan (Harbin Institute of Technology);*

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### Session 2P11

#### Discharge Plasma in Contact with a Liquid 2

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Tuesday PM, April 23, 2024

Room 11 - Xiangyu

Organized by Qiang Chen, Wenjun Ning

Chaired by Qiang Chen, Xiaolong Huang

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- 13:00 Influence of Metal Ions Providing Methods on the Synthesis of Gold Nanoparticles from a Plasma-liquid System  
*Binhong Wu (Xiamen University); Qiang Chen (Xiamen University);*
- 13:15 Plasma Bubbles in Oil and Their Applications in Sterilization  
*Chenjie Wang (Dalian Minzu University); Xiaokang Tan (Dalian Minzu University); Yang Ming (Dalian Minzu University); Xiang-Jun Liu (Dalian Minzu University); Hong-Yu Fan (Dalian Minzu University); Jin-Hai Niu (Dalian Minzu University);*
- 13:30 Plasma-enhanced Electrolysis for Water Activation and Biomedical Applications  
*Jishen Zhang (Xi'an Jiaotong University); Jiao Lin (Xi'an Jiaotong University); Renwu Zhou (Xi'an Jiaotong University); Li Guo (Xi'an Jiaotong University); Dingxin Liu (Xi'an Jiaotong University); Mingzhe Rong (Xi'an Jiaotong University);*
- 13:45 How to Make Plasma Technology Achieve the Bulk Treatment of Liquid: A Novel Strategy for Liquid Phase Discharge Initiation  
*Quanli Wang (Dalian Maritime University); Yanbin Xin (Dalian Maritime University); Bing Sun (Dalian Maritime University);*
- 14:00 Carbon Fixation with Liquid-phase Plasma  
*Junchen Lu (Xiamen University); Xianhui Zhang (Xiamen University); Qiang Chen (Xiamen University);*
- 14:15 Degradation of PFOA by Atmospheric Pressure Three-dimensional Rotating Gliding Arc Plasma  
*Di Tian (Beijing Institute of Graphic Communication); Jiushan Cheng (Beijing Institute of Graphic Communication); Mengge Jia (Beijing Institute of Graphic Communication); Ruoxi Li (Beijing Institute of Graphic Communication); Zhongwei Liu (Beijing Institute of Graphic Communication); Qiang Chen (Beijing Institute of Graphic Communication);*

- 14:30 Study on the Cracking of the Heavy Oil Model Compound, n-hexadecane, by Heterogeneous Liquid Pulsed Discharge  
Yutong Yang (*Dalian Maritime University*); Bing Sun (*Dalian Maritime University*); Xiaomei Zhu (*Dalian Maritime University*); Yanbin Xin (*Dalian Maritime University*);
- 14:45 Effect of Gas Flow Rate on Silver Nanoparticles Synthesized by Plasma Electrochemistry  
Haochen Shen (*Nanjing University of Science and Technology*); Jisong Qian (*Nanjing University of Science and Technology*); Tangjie Cheng (*Nanjing University of Science and Technology*); Yanqiang Cao (*Nanjing University of Science and Technology*); Liyong Jiang (*Nanjing University of Science and Technology*); Ying Wang (*Nanjing University of Science and Technology*);
- 15:00 Ultralong-lasting Plasma Activated Water at Room Temperature: Production and Mechanism  
Xiang-Yu Ma (*Chongqing University*); Cong-Fu Ran (*Chongqing University*); Xiong-Feng Zhou (*Chongqing University*); Kun Liu (*Chongqing University*);
- 15:15 Mechanistic Study on the Interaction between Non-thermal Plasma and Aromatic Compounds in Fuel Oil  
Yadi Liu (*Shandong University*); Xiaojiao Wu (*Shandong University*); Hao Sun (*Institute of Electrical Engineering, Chinese Academy of Sciences*); Xiaolong Wang (*Shandong University*); Tao Shao (*Institute of Electrical Engineering, Chinese Academy of Sciences*);
- 15:30 **Coffee Break**
- 16:00 Investigation of Plasma Bio-Oil Hydrodeoxygenation Mechanism through Molecular Dynamics Simulation  
Xiaojiao Wu (*Shandong University*); Yadi Liu (*Shandong University*); Xiaolong Wang (*Shandong University*);
- 16:15 Fast Synthesis and Photoluminescent Property Regulation of Carbon Quantum Dots by Gas-liquid Discharges  
Yuan Li (*Xi'an Jiaotong University*); Yaxuan Shi (*Xi'an Jiaotong University*); Jing Gao (*Xi'an Jiaotong University*); Guan-Jun Zhang (*Xi'an Jiaotong University*);
- 16:30 Solution Plasma Processing Multiple Defects of Electrocatalysts  
Zongyuan Wang (*Shihezi University*); Feng Yu (*Shihezi University*); Bin Dai (*Shihezi University*);
- 16:45 Multiple Defects Activating Lattice Oxygen in Fe, N Co-Doped  $\alpha$ -Co(OH)<sub>2</sub> for Electrocatalytic Oxygen Evolution Reaction  
Qian Yang (*Shihezi University*); Yaao Li (*Shihezi University*); Zongyuan Wang (*Shihezi University*); Feng Yu (*Shihezi University*);
- 17:00 Cancer-targeting Carbon Quantum Dots Synthesized by Plasma Electrochemical Method for Red Light Activated Photodynamic Therapy  
Ruoyu Wang (*Shanghai Jiao Tong University*); Qing Zhang (*Shanghai Jiao Tong University*); Xiaoxia Zhong (*Shanghai Jiao Tong University*);
- 17:15 Plasma-enabled Synthesis of Pd/GO Rich in Oxygen-containing Groups and Defects for Highly Efficient 4-nitrophenol Reduction  
Xiaonan Du (*Dalian University*); Hong Li (*Dalian University*); Yue Hua (*Dalian University*); Lanbo Di (*Dalian University*); Xiuling Zhang (*Dalian University*);
- 17:30 Research on H<sub>2</sub>O<sub>2</sub> Conversion by Water Spray on Circular Electrolysis  
Sishu Huang (*Hohai University*); Chunyang Zhang (*Hohai University*); Fei Ding (*Hohai University*); Xiang He (*Hohai University*); Yongfeng Jiang (*Hohai University*); Bingyan Chen (*Hohai University*);

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### Session 2P12

#### High Power Microwave, Millimeter-Wave and Terahertz Wave Generation, Transmission and Radiation

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Tuesday PM, April 23, 2024

Room 12 - Siji 1

Organized by Jianing Zhao, Liangjie Bi

Chaired by Jianing Zhao, Liangjie Bi

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- 13:00 Research on the V-band Relativistic Diffraction Radiation Oscillator  
Invited  
Biao Hu (*Yangtze Delta Region Institute (Huzhou), University of Electronic Science and Technology of China (UESTC)*); Tian-Ming Li (*University of Electronic Science and Technology of China*); Huihui Wang (*University of Electronic Science and Technology of China*); Feng Lan (*University of Electronic Science and Technology of China*); Hao Li (*University of Electronic Science and Technology of China*); Hai-Yang Wang (*University of Electronic Science and Technology of China*); Yi-Hong Zhou (*University of Electronic Science and Technology of China*); Jianing Zhao (*University of Electronic Science and Technology of China*); Ke-qiang Wang (*Yangtze Delta Region Institute (Huzhou), University of Electronic Science and Technology of China (UESTC)*); Chaoxiong He (*Yangtze Delta Research Institute (Huzhou) of the University of Electronic Science and Technology of China*);
- 13:20 Generation of Ultrashort Pulse Sequences Based on the Superradiance of a Coaxial Relativistic Backward Wave Oscillator Operating at Low Magnetic Field  
Renzen Xiao (*Northwest Institute of Nuclear Technology*); Renjie Cheng (*University of Electronic Science and Technology of China*);



- 13:35 Research on Phase locking Characteristics of Overmoded Extended Interaction Oscillators for High-power THz Radiation  
*Liangjie Bi (University of Electronic Science and Technology of China); Xinyu Jiang (University of Electronic Science and Technology of China); Yong Yin (University of Electronic Science and Technology of China); Hai-Long Li (University of Electronic Science and Technology of China); Bin Wang (University of Science and Technology of China); Lin Meng (University of Electronic Science and Technology of China);*
- 13:50 Research on High-power Microwave Radiation System for Multi-port Relativistic Magnetron  
*Liwei Wu (University of Electronic Science and Technology of China); Hao Li (University of Electronic Science and Technology of China); Jianing Zhao (University of Electronic Science and Technology of China); Tian-Ming Li (University of Electronic Science and Technology of China); Biao Hu (University of Electronic Science and Technology of China); Hai-Yang Wang (University of Electronic Science and Technology of China); Yi-Hong Zhou (University of Electronic Science and Technology of China);*
- 14:05 A Compact Relativistic Magnetron with Diffraction Output of TE<sub>11</sub> Mode  
*Chaoxiong He (Yangtze Delta Research Institute (Huzhou) of the University of Electronic Science and Technology of China); Tian-Ming Li (University of Electronic Science and Technology of China); Renjie Cheng (University of Electronic Science and Technology of China); Hao Li (University of Electronic Science and Technology of China); Hai-Yang Wang (University of Electronic Science and Technology of China); Guangjun Wen (Yangtze Delta Region Institute (Huzhou), University of Electronic Science and Technology of China (UESTC)); Biao Hu (Yangtze Delta Region Institute (Huzhou), University of Electronic Science and Technology of China (UESTC)); Yi-Hong Zhou (University of Electronic Science and Technology of China);*
- 14:20 Parallel Phase-locked Relativistic Magnetrons with All Cavity Axial Extraction  
*Renjie Cheng (University of Electronic Science and Technology of China); Tian-Ming Li (University of Electronic Science and Technology of China); Renzhen Xiao (Northwest Institute of Nuclear Technology); Jiaoyin Wang (University of Electronic Science and Technology of China); Hai-Yang Wang (University of Electronic Science and Technology of China); Hao Li (University of Electronic Science and Technology of China); Yi-Hong Zhou (University of Electronic Science and Technology of China); Biao Hu (University of Electronic Science and Technology of China);*
- 14:35 A Compact Ku-band 24-cavity Relativistic Magnetron with TEM Mode Output  
*Bin Ding (National University of Defense Technology); Di-Fu Shi (National University of Defense Technology); Junpu Ling (National University of Defense Technology); Kunpeng Chen (National University of Defense Technology);*
- 14:50 Research on the Oversized and Compact TE<sub>01</sub> Mode Bend with Hexagonal Waveguide for High-power Microwave Applications  
*Keqiang Wang (University of Electronic Science and Technology of China (UESTC)); Chaoxiong He (University of Electronic Science and Technology of China); Hao Li (University of Electronic Science and Technology of China); Jianing Zhao (University of Electronic Science and Technology of China); Tian-Ming Li (University of Electronic Science and Technology of China); Guangjun Wen (University of Electronic Science and Technology of China (UESTC)); Hai-Yang Wang (University of Electronic Science and Technology of China); Biao Hu (University of Electronic Science and Technology of China (UESTC));*
- 15:05 A Novel Segmented Design Method for Serpentine Shaped Mode Converter  
*Xinhong Cui (The Key Laboratory of Advanced Science and Technology on High Power Microwave); Xiaoxin Zhu (The Key Laboratory of Advanced Science and Technology on High Power Microwave); Sen Wang (The Key Laboratory of Advanced Science and Technology on High Power Microwave);*
- 15:20 Design of a Variable Polarizer for High Power Microwave Applications  
*Yunfei Sun (National University of Defense Technology); Zhenqiang Cao (National University of Defense Technology); Qiang Zhang (National University of Defense Technology); Juntao He (National University of Defense Technology);*
- 15:35 **Coffee Break**
- 16:00 Experimental Analysis of the Promotive Effect of Temperature on the Field Electron Characteristics of Metallic Materials  
*Nongchao Tan (National University of Defense Technology); Ping Wu (Northwest Institute of Nuclear Technology); Jun Sun (Northwest Institute of Nuclear Technology); Wenhua Huang (Northwest Institute of Nuclear Technology);*

- 16:15 The Design of a Sheet Beam Electron Optical System for a Ku Band Continuous Wave Traveling Wave Tube  
Pengcheng Yin (*University of Electronic Science and Technology of China*); Jinchi Cai (*University of Electronic Science and Technology of China*); Jin Xu (*University of Electronic Science and Technology of China*); Lingna Yue (*University of Electronic Science and Technology of China*); Hairong Yin (*University of Electronic Science and Technology of China*); Yong Xu (*University of Electronic Science and Technology of China*); Guoqing Zhao (*University of Electronic Science and Technology of China*); Wenxiang Wang (*University of Electronic Science and Technology of China*); Yanyu Wei (*University of Electronic and Technology of China*);
- 16:30 K-band Variable Polarization Antenna Based on Waveguide Continuous Transverse Stubs for High-power Microwave Application  
Zhenqiang Cao (*National University of Defense Technology*); Yunfei Sun (*National University of Defense Technology*); Qiang Zhang (*National University of Defense Technology*); Xuan Liu (*National University of Defense Technology*); Guang Yang (*National University of Defense Technology*); Juntao He (*National University of Defense Technology*);
- 16:45 Research on Radiation Characteristics of Array Antennas in the Time-domain Based on NSGA-II Constrained Multi-objective Algorithm  
Xinyu Jiang (*University of Electronic Science and Technology of China*); Youjie Yan (*Northwest Institute of Nuclear Technology*); Kaiyue Zhang (*Northwest Institute of Nuclear Technology*); Liangjie Bi (*University of Electronic Science and Technology of China*); Lin Meng (*University of Electronic Science and Technology of China*);
- 17:00 Experimental Investigation on Time-domain Breakdown Characteristics of Microwave Gas Discharge Tubes  
Liangping Chen (*University of Electronic Science and Technology of China*); Yong Yin (*University of Electronic Science and Technology of China*); Shun Deng (*Chengdu Guoguang Electric Co., Ltd.*); Hai-Long Li (*University of Electronic Science and Technology of China*); Bin Wang (*University of Science and Technology of China*); Liangjie Bi (*University of Electronic Science and Technology of China*); Lin Meng (*University of Electronic Science and Technology of China*); Zhengfeng Xiong (*Northwest Institute of Nuclear Technology (NINT)*);
- 17:15 A High Power Stealthy Radome Based on Frequency Selective Surface for Radar Cross Section Reduction  
Xuan Liu (*National University of Defense Technology*); Qiang Zhang (*National University of Defense Technology*); Yunfei Sun (*National University of Defense Technology*); G. Yang (*National University of Defense Technology*); Zhenqiang Cao (*National University of Defense Technology*); Chengwei Yuan (*National University of Defense Technology*);
- 17:30 An All-metal Cross-slot Multilayer Circular Polarizer Conversion Unit for High-power Microwave Applications  
Zhaokun Ma (*National University of Defense Technology*); Yunfei Sun (*National University of Defense Technology*); Juntao He (*National University of Defense Technology*);
- 17:45 Simulation of a High-power V-band Transit-time Oscillator under a Low Magnetic Field  
Zu Long Chen (*National University of Defense Technology*); Lei Wang (*National University of Defense Technology*); Junpu Ling (*National University of Defense Technology*); Lili Song (*National University of Defense Technology*); Juntao He (*National University of Defense Technology*);
- 18:00 A High Efficiency C-band Relativistic Magnetron with All-cavity Extraction  
Kunpeng Chen (*National University of Defense Technology*); Zeyang Liu (*National University of Defense Technology*); Haodong Xu (*National University of Defense Technology*); Bin Ding (*National University of Defense Technology*); Yu-Wei Fan (*National University of Defense Technology*);
- 18:15 Design of S-band High-power Low Sidelobe Horn Antenna Based on Finite Size  
Aming Zhao (*University of Electronic Science and Technology of China*); Hai-Long Li (*University of Electronic Science and Technology of China*); Liangjie Bi (*University of Electronic Science and Technology of China*);
- 18:30 Suppression of Mode Competition in High-efficiency Phase-locking between High-power Magnetrons  
Qiong Zheng (*University of Electronic Science and Technology of China*); Liangjie Bi (*University of Electronic Science and Technology of China*); Hai-Long Li (*University of Electronic Science and Technology of China*); Dagui Shen (*University of Electronic Science and Technology of China*);
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- Session 2P13a**  
**Scientific Computing and Machine Learning in Subsurface Geophysical Prospecting**
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- Tuesday PM, April 23, 2024**  
**Room 13 - Siji 2**  
Organized by Decheng Hong, Lei Wang  
Chaired by Decheng Hong
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- 13:00 Rapid Simulation of Induction Logging Responses in Biaxial Anisotropic Formations  
Ping Qiao (*China University of Petroleum (East China)*); Zhiqiang Li (*The 22nd Research Institute of China Electronics Technology Group Corporation*); Hui Fang (*The 22nd Research Institute of China Electronics Technology Group Corporation*); Liwei Li (*FairOak Technology Inc*); Jianwen Zhou (*FairOak Technology Inc*); Lei Wang (*China University of Petroleum (East China)*);

- 13:15 Numerical Investigation of Detecting a Cased Borehole Using Dipole Acoustic LWD from a Nearby Well in Very Slow Formations  
*Jiayi Zhong (Chengdu University of Technology); Zhen Li (Chengdu University of Technology);*
- 13:30 Fast Computation of Array Induction Logging Responses in Cylindrically Layered Formations  
*Fuhua Cao (China University of Petroleum (East China)); Zhiqiang Li (The 22nd Research Institute of China Electronics Technology Group Corporation); Lei Wang (China University of Petroleum (East China)); Ping Qiao (China University of Petroleum (East China)); Yueyang Han (China University of Petroleum (East China)); Kailin Yang (China University of Petroleum (East China));*
- 13:45 Inversion of Azimuthal Electromagnetic Logging-while-drilling Based on Levenberg-Marquardt Algorithm Assisted by Deep Learning  
*Zhengming Kang (Xi'an Shiyou University); Haojie Qin (Xi'an Shiyou University);*
- 14:00 Numerical Simulation and Tool Structure Analysis of the Open-loop-half-circle Antenna-based Electromagnetic Logging Methods  
*Xiaoqiao Liao (Southwest Petroleum University); Zhen-guan Wu (Southwest Petroleum University);*
- 14:15 Fast FDTD Modeling of Transient Electromagnetic Logging through Casing  
*Qingtao Sun (Eastern Institute of Technology); Yun-yun Hu (Tongji University);*
- 14:30 An Enhanced BIM Inversion Method for 3-D Targets Imaging  
*Yunyun Hu (Tongji University); Qingtao Sun (Eastern Institute of Technology); Mei Song Tong (Tongji University);*
- 14:45 A Forward Modeling for Ultradeep Azimuthal Resistivity Logging in Planar-stratified Formation  
*Guoyu Li (Well-tech R&D Institute, China Oilfield Services Limited); Xizhou Yue (Well-tech R&D Institute, China Oilfield Services Limited); Tianlin Liu (Well-tech R&D Institute, China Oilfield Services Limited); Pengyun Zhang (Well-tech R&D Institute, China Oilfield Services Limited); Kai Zhao (Jilin University); Decheng Hong (Jilin University);*
- 15:00 Modified General Reflection/Transmission Coefficients for Electromagnetic Field in Cylindrically Multilayered Medium  
*Xianghong He (Guangdong University of Science and Technology); Xizhou Yue (Well-tech R&D Institute, China Oilfield Services Limited); Guoyu Li (Well-tech R&D Institute, China Oilfield Services Limited); Tianlin Liu (Well-tech R&D Institute, China Oilfield Services Limited); Kai Zhao (Jilin University); Decheng Hong (Jilin University);*
- 15:30 **Coffee Break**

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**Session 2P13b**  
**Subsurface Detection and Imaging**

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**Tuesday PM, April 23, 2024**

**Room 13 - Siji 2**

Organized by Hai Liu, Tian Lan

Chaired by Hai Liu, Tian Lan

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- 16:00 Investigation of Glacier Structure on Yulong Snow Mountain Using Low-frequency Ground-penetrating Radar  
*Tan Qin (Wuhan University); Xu Sun (Wuhan University); Yudi Pan (Wuhan University);*
- 16:15 Enhanced GPR Inversion Method in Complex Underground Environment  
*Shiwen Sheng (Beijing Institute of Technology); Xiaopeng Yang (Beijing Institute of Technology); Tian Lan (Beijing Institute of Technology);*
- 16:30 A Novel DOA Estimation Algorithm Combined Pulse Compression and MUSIC for Underground Target Detection  
*Chaowen Ju (Aerospace Information Research Institute, Chinese Academy of Sciences); Zhuo Zhang (Aerospace Information Research Institute, Chinese Academy of Sciences); Yixuan Liu (Aerospace Information Research Institute, Chinese Academy of Sciences); Xinger Cheng (Jilin University); Yuchen Luan (Aerospace Information Research Institute, Chinese Academy of Sciences);*
- 16:45 PIRESGAN: Radio Echo Sounding Signal Synthesis with Physic-informed Generative Adversarial Networks  
*Qian Ma (Tongji University); Tong Hao (Tongji University);*
- 17:00 Advancing Subsurface Imaging: A Novel Deep Learning Approach for Diffraction Separation in GPR Analysis  
*Xiangyu Wang (Guangzhou University); Hai Liu (Guangzhou University); Junhong Chen (Guangzhou University);*
- 17:15 Potential of a Dual-polarization Ground Penetrating Radar for Underground Cylinder Diameter Estimation  
*Bin Zhang (Guangzhou University); Guiquan Yuan (Guangzhou University); Hai Liu (Guangzhou University); Feng Ding (Guangdong Provincial Academy of Building Research Group Co.,Ltd.); Yao Wang (Guangzhou University); Xu Meng (Guangzhou University);*
- 17:30 Unsupervised Deep Learning Method with MS-SSIM Loss for Clutter Suppression in Ground Penetrating Radar Image  
*Feifei Hou (Central South University); Mengqi Fang (Central South University); Hai Liu (Guangzhou University);*

- 17:45 Modelling J-coupling in NMR Spectra at Low and Ultra-low Magnetic Fields  
*Rifat Gimatdin (Gebze Technical University); Pavel Kupriyanov (Gebze Technical University); Georgy Mozhukhin (Gebze Technical University); Vladimir Chizhik (Saint-Petersburg State University); Bulat Rameev (Gebze Technical University);*
- 18:00 NQR Detection of Ammonium Nitrate in Partially Shielded Volumes  
*Georgy Mozhukhin (Gebze Technical University); Pavel Kupriyanov (Gebze Technical University); Eren Doğan (Gebze Technical University); A. Marashi (Gebze Technical University); B. Çolak (Gebze Technical University); C. Okay (Marmara University); Maksut Maksutoğlu (Gebze Technical University); Sinan Kazan (Gebze Technical University); Bulat Rameev (Gebze Technical University);*

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### Session 2P14

#### Remote Sensing of Water and Energy Cycles

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Tuesday PM, April 23, 2024

Room 14 - Siji 3

Organized by Hui Lu, Jiancheng Shi

Chaired by Hui Lu, Jiancheng Shi

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- 13:00 Satellite Observations on Energy and Water Cycle over Tibet Plateau  
*Invited Jiancheng Shi (National Space Science Center, Chinese Academy of Sciences);*
- 13:20 A Multi-source Satellite Soil Moisture Fusion Method Considering the Influence of Geographic and Climatic Factors  
*Yanqing Yang (Institute of Mountain Hazards and Environment, Chinese Academy of Sciences); Wei Zhao (Institute of Mountain Hazards and Environment, Chinese Academy of Sciences); Tao Ding (Institute of Mountain Hazards and Environment, Chinese Academy of Sciences);*
- 13:35 An Adaptive Physics-embedded Artificial Neural Network Model for Layered Soil Microwave Remote Sensing  
*Xuyang Bai (Zhejiang University); Kaiqi Chen (Zhejiang University); Yiwen Fang (Zhejiang University/University of Illinois at Urbana-Champaign Institute); Shurun Tan (Zhejiang University/University of Illinois at Urbana-Champaign Institute);*
- 13:50 A Hierarchical Reconstruction Framework for the Gap Area of ESA CCI Soil Moisture Product Using Deep Learning Model  
*Tao Ding (Institute of Mountain Hazards and Environment, Chinese Academy of Sciences); Wei Zhao (Institute of Mountain Hazards and Environment, Chinese Academy of Sciences); Yanqing Yang (Institute of Mountain Hazards and Environment, Chinese Academy of Sciences); Tianhao Zhou (Institute of Mountain Hazards and Environment, Chinese Academy of Sciences);*

- 14:05 Measurement of Eastern Rwanda's Wetlands to Assess the Water Quality: Case of Lake Cyohoha North  
*William Habarurema (University of Rwanda College of Science and Technology (ACE IoT/UR CST)); Gerard Rushingabigwi (University of Rwanda College of Science and Technology (UR CST)); Anthony Vodacek (University of Rwanda College of Science and Technology (UR CST)); Louis Sibomana (University of Rwanda); Gad Bertrand Ishimwe (University of Rwanda College of Science and Technology (UR CST)); Alice Uwonkunda (University of Rwanda College of Science and Technology); Christine Musanase (University of Rwanda College of Science and Technology (ACE IoT/UR CST)); Kellen Sumwiza (University of Rwanda College of Science and Technology (ACE IoT/UR CST)); Fidele Maniraguha (University of Rwanda College of Science and Technology (ACE IoT/UR CST)); Claire D'Andre Hirwa (Rwanda Agricultural and Animal Resources Board (RAB));*
- 14:20 Representativeness Error Estimation in SSS Products Based on Quadruple Collocation Analysis  
*Yifan Li (Qingdao University); Xinyu Li (Qingdao University); Wenlong Bi (Qingdao University); Ran Yan (Qingdao University); Meijie Liu (Qingdao University); Jin Wang (Qingdao University);*
- 14:35 Development of a High-resolution Soil Moisture Product by Merging Multi-source Remote Sensing Data  
*Hui Lu (Tsinghua University);*
- 14:50 A New Cloud and Atmospheric Radiation (CARA Ver1.0) Product  
*Husi Letu (Aerospace Information Research Institute, Chinese Academy of Sciences); Takashi Y. Nakajima (Tokai University); Run Ma (Aerospace Information Research Institute, Chinese Academy of Sciences); Chong Shi (Aerospace Information Research Institute, Chinese Academy of Sciences); Dabin Ji (Aerospace Information Research Institute, Chinese Academy of Sciences); Huazhe Shang (Aerospace Information Research Institute, Chinese Academy of Sciences); Liangfu Chen (Aerospace Information Research Institute, Chinese Academy of Sciences); Jiancheng Shi (National Space Science Center, Chinese Academy of Sciences);*
- 15:05 A Precipitation Estimation Method by Considering Clouds Microphysical Parameters Based on Observations from Geostationary Satellite  
*Dabin Ji (Aerospace Information Research Institute, Chinese Academy of Sciences); Husi Letu (Aerospace Information Research Institute, Chinese Academy of Sciences); Huazhe Shang (Aerospace Information Research Institute, Chinese Academy of Sciences); Jiancheng Shi (National Space Science Center, Chinese Academy of Sciences);*
- 15:30 **Coffee Break**

- 16:00 L-band Microwave Propagation in Forested Environment Using Fast Hybrid Method of Full-wave Simulations of Foldy-Lax Multiple Scattering Equations  
*Jongwoo Jeong (University of Michigan); Leung Tsang (University of Michigan); Andreas Colliander (California Institute of Technology); Xiaolan Xu (California Institute of Technology); Simon H. Yueh (California Institute of Technology);*
- 16:15 Modelling of Microwave Emission from Seasonal Frozen Ground Using Dense Media Radiative Transfer Theory (DMRT)  
*Lingmei Jiang (Beijing Normal University); Jian Wang (Beijing Normal University);*
- 16:30 Exploring Spaceborne C-band SAR Data Sensitivity on Snow Depth Variability under Arctic Tundra Environment  
*Yuanhao Cao (University of Waterloo); Richard Kelly (University of Waterloo); Shurun Tan (Zhejiang University/University of Illinois at Urbana-Champaign Institute); Benoit Montpetit (Environment and Climate Change Canada, Climate Research Division); Branden Walker (Wilfrid Laurier University); Philip Marsh (Wilfrid Laurier University); Wang Wei (University of Waterloo); Joshua King (Environment and Climate Change Canada);*
- 16:45 Snow Water Equivalent Retrieval from Coupled Radiative Transfer and Hydrology Models by Assimilating Active and Passive Microwave Observations  
*Yiwen Fang (Zhejiang University/University of Illinois at Urbana-Champaign Institute); Yuanhao Cao (University of Waterloo); Shurun Tan (Zhejiang University/University of Illinois at Urbana-Champaign Institute); Do Hyuk Kang (NOAA Weather Program Office);*
- 17:00 C-band Polarimetric Backscattering of Snow: A Ground-based Experiment and Model Simulations  
*Chuan Xiong (Southwest Jiaotong University); Xudong Li (Southwest Jiaotong University); Wanyi Li (Southwest Jiaotong University); Haijiao Sun (Southwest Jiaotong University); Liang Yuan (Southwest Jiaotong University);*
- 13:15 A Higher-order BEM Discretization Scheme for the EEG Forward Problem  
*Rui Chen (Nanjing University of Science and Technology); Mengmeng Li (Nanjing University of Science and Technology); Da-Zhi Ding (Nanjing University of Science and Technology);*
- 13:30 Electromagnetic Modal Analysis for Side-fed Metasurface Antennas (Metantennas)  
*Ren-Zun Lian (Xidian University); Wen-Bin Fan (Xidian University);*
- 13:45 Characteristic Mode Analysis (CMA) for the Scatterer Excited by a Definite Driver  
*Ren-Zun Lian (Xidian University);*
- 14:00 The Application of VSIE Method with the Continuity Condition for Composite Magnetic Medium-PEC Objects  
*Jinbo Liu (Communication University of China); Zengrui Li (Communication University of China);*
- 14:15 A Directional Multilevel Green's Function Interpolation Method for Electric Field Integral Equation  
*Shidong Jiang (Zhejiang University); Hao Gang Wang (Zhejiang University);*
- 14:30 Characteristic Mode Analysis of Plasmonic Composite Nanostructures  
*Meruyert Khamitova (King Abdullah University of Science and Technology (KAUST)); Ran Zhao (University of Electronic Science and Technology of China); Doolos Aibek Uulu (University of Central Asia (UCA)); Hakan Bagci (King Abdullah University of Science and Technology (KAUST));*
- 14:45 Incorporation of Generalized Sheet Conditions with Normal Field Components into Surface Integral Equation Solvers  
*Sebastian Celis Sierra (King Abdullah University of Science and Technology (KAUST)); Ran Zhao (University of Electronic Science and Technology of China); Hakan Bagci (King Abdullah University of Science and Technology (KAUST));*
- 15:00 An Efficient Numerical Method for Analyzing Quasi-periodic Arrays Using the Theory of Characteristic Modes  
*Wei Zhou (Anhui University); Guangshang Cheng (Anhui University); Lixia Yang (Anhui University); Zhixiang Huang (Anhui University);*
- 15:15 Efficient Simulation Method for Composite Electromagnetic Scattering Characteristics of Urban Buildings and Background Environments  
*Yu Chen (Nanjing University of Science and Technology); Jihong Gu (Nanjing University of Science and Technology); Jie Yang (Nanjing University of Science and Technology); Zhou Cong (Nanjing University of Science and Technology); Dazhi Ding (Nanjing University of Science and Technology);*

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### Session 2P15a

### Integral Equation Methods in Electromagnetics

Tuesday PM, April 23, 2024

Room 15 - Siji 4

Organized by Ran Zhao, Guangshang Cheng

Chaired by Ran Zhao, Guangshang Cheng

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- 13:00 Fast Solution of Array Structures and Platform Using Parametric Model Order Reduction Method  
*Hanru Shao (Ningbo University);*

15:30 **Coffee Break**

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**Session 2P15b**  
**Intelligent Computing for Multiscale and**  
**Multiphysics Problem**

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**Tuesday PM, April 23, 2024**

**Room 15 - Siji 4**

Organized by Jian Wei You, Lianlin Li

Chaired by Jian Wei You

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- 16:00 The Brain-controlled Programmable Metasurface Holography  
*Qiang Xiao (Southeast University); Qian Ma (Southeast University); Tie Jun Cui (Southeast University);*
- 16:15 Fast Yield Estimation of Metasurface-based Microwave Absorber Using the Neuro-TF Approach  
*Xiu Mei Lin (Southeast University); Long Chen (Southeast University); Jia Nan Zhang (Southeast University); Jian Wei You (Southeast University);*
- 16:30 Multiperson Vital Signs Sensing Empowered by Space-time-coding Metasurfaces  
*Xinyu Li (Southeast University); Jingyuan Zhang (Southeast University); Ze Gu (Southeast University); Qian Ma (Southeast University); Jianwei You (Southeast University); Tie Jun Cui (Southeast University);*
- 16:45 Deep Neural Network Based Predictive Learning Benchmark for Time Domain Electromagnetic Simulation: 1D and 2D Cases  
*Junming Hou (Southeast University); Xuan Li (Southeast University); Xiaoyu Chen (Southeast University); Xiumei Lin (Southeast University); Xiong Wei Wu (Southeast University); Jianan Zhang (Southeast University); Jianwei You (Southeast University);*
- 17:00 Improved Variational Mode Decomposition for Contactless Heartbeat Monitoring  
*Jingyuan Zhang (Southeast University); Xinyu Li (Southeast University); Jianwei You (Southeast University);*
- 17:15 Research on Artificial Intelligence-based Three-dimensional Building Reconstruction Technology for Ultra-fast Large-scale Remote Sensing SAR Image Simulation  
*Guanshen Qi (Southeast University); Weiwei Sun (Southeast University); Haoyu Jiang (Southeast University); Haixu Yan (Southeast University); Tianhao Xia (Southeast University); Che Liu (Southeast University); Tie Jun Cui (Southeast University);*
- 17:30 Large-scale Natural Language Model Driven Metasurface Collaboration System  
*Jiawen Xu (Peking University);*
- 17:45 Data-driven Modeling of Plasma Electron Temperature Equation in SAMI2 by Fourier Neural Operator  
*Yuhong Liu (Fudan University); Jiayu Ma (Fudan University); Haiyang Fu (Fudan University);*

- 18:00 Magnetoelectric Basic Logic Element for Neuromorphic Computing  
*Vasilii A. Misilin (Yaroslav-the-Wise Novgorod State University); Viktor A. Kiselev (Yaroslav-the-Wise Novgorod State University); Aleksandr A. Mikhailov (Yaroslav-the-Wise Novgorod State University); Roman V. Petrov (Novgorod State University); Aleksandr O. Nikitin (Yaroslav-the-Wise Novgorod State University);*

- 18:15 Analysis of Electromagnetic Characteristics of a Hyper-sonic Vehicle Considering Multiphysical Effects  
*Xiong Wei Wu (Southeast University); Jun Ming Hou (Southeast University); Jianwei You (Southeast University);*

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**Session 2P16**

**Topological Condensed Matter and Artificial System 2**

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**Tuesday PM, April 23, 2024**

**Room 16 - Mudan**

Organized by Xiang Yuan, Cheng Zhang

Chaired by Xiang Yuan, Cheng Zhang

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- 13:00 Tunable Broken-symmetry States in Rhombohedral  
 Invited Multilayer Graphene  
*Guorui Chen (Shanghai Jiao Tong University);*
- 13:20 Layer-dependent Electromechanical Response and Inter-  
 Invited twined Strain Solitons in Twisted Graphene Moiré Superlattices  
*Zaiyao Fei (Nanjing University);*
- 13:40 New Opportunities of Engineering Excitonic Phases in  
 Invited 2D Materials  
*Liguo Ma (Cornell University);*
- 14:00 Doping on Demand in Low-dimensional Quantum Ma-  
 Invited terials  
*Wu Shi (Fudan University);*
- 14:20 Hydrodynamic Plasmons and Energy Waves in  
 Invited Graphene  
*Wenyu Zhao (Huazhong University of Science and Technology);*
- 14:40 Tuning of Natural Hyperbolic Plasmons in Van der  
 Invited Waals Thin Films  
*Chong Wang (Beijing Institute of Technology);*
- 15:00 Scanning Microwave Impedance Microscopy Study of  
 Invited Magnetic Topological Insulator  $\text{MnBi}_2\text{Te}_4$   
*Xiaodong Zhou (Fudan University);*
- 15:20 Infrared Study of the Multiband Low-energy Excitations  
 Invited of the Topological Antiferromagnet  $\text{MnBi}_2\text{Te}_4$   
*Bing Xu (Institute of Physics CAS);*
- 15:40 **Coffee Break**

16:00 Chiral Excitations in Magnetic Weyl Semimetal  
Invited  $\text{Co}_3\text{Sn}_2\text{S}_2$

Run Yang (Southeast University); T.-T. Zhang (Southeast University); M. Steigleder (Universität Stuttgart); X.-G. Qiu (Institute of Physics, Chinese Academy of Sciences); M. Dressel (Universität Stuttgart);

16:20 Giant  $g$ -factors and Fully Spin-polarized States in Metamorphic Short-period InAsSb/InSb  
Invited

Yuzuan Jiang (Anhui University);

16:40 Unconventional Flux Quantization of Topological Superconductors  
Invited

Yufan Li (The Chinese University of Hong Kong);

17:00 Spectroscopic Evidence of Spin-state Excitation in  $\text{FeSb}_2$   
Invited

Huayao Li (Southeast University); Guohua Wang (Shanghai Jiao Tong University); Dong Qian (Shanghai Jiao Tong University); Lin Miao (Southeast University);

17:20 Non-topological Origins of Fractional ac Josephson Signatures  
Invited

Po Zhang (Beijing Academy of Quantum Information Sciences);

17:40 A Pathway towards Massive Topological Edge Channels  
Invited

Fengfeng Zhu (Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences); Chenqiang Hua (Zhejiang University); Xiao Wang (Heinz Maier-Leibnitz Zentrum (MLZ)); Lin Miao (Southeast University); Yixi Su (Heinz Maier-Leibnitz Zentrum (MLZ)); Makoto Hashimoto (Stanford Institute for Materials and Energy Sciences); Donghui Lu (Stanford University); Zhi-Xun Shen (Stanford University); Jin-Feng Jia (Shanghai Jiao Tong University); Yunhao Lu (Zhejiang University); Dandan Guan (Shanghai Jiao Tong University); Dong Qian (Shanghai Jiao Tong University);

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### Session 2P17

### Mie-tronics and Metaphotonics 2

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Tuesday PM, April 23, 2024

Room 17 - Furong

Organized by Andrey A. Bogdanov, Yuri S. Kivshar

Chaired by Andrey A. Bogdanov, Yuri S. Kivshar

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13:00 Giant Optical Anisotropy in van der Waals Materials: Perspectives and Challenges  
Invited

Valentyn S. Volkov (Emerging Technologies Research Center, XPANCEO); G. A. Ermolaev (Emerging Technologies Research Center, XPANCEO); D. V. Grudin (Emerging Technologies Research Center, XPANCEO); K. V. Voronin (Donostia International Physics Center (DIPC)); A. A. Vyshnevyy (Emerging Technologies Research Center, XPANCEO); A. B. Mazitov (Institute of Materials, École Polytechnique Fédérale de Lausanne); G. I. Tselikov (Emerging Technologies Research Center, XPANCEO); I. A. Kruglov (Emerging Technologies Research Center, XPANCEO); D. A. Ghazaryan (Yerevan State University); L. Martin-Moreno (CSIC-Universidad de Zaragoza); A. V. Arsenin (Emerging Technologies Research Center, XPANCEO); K. S. Novoselov (National University of Singapore);

13:20 Transition Metal Dichalcogenides for High-index Nanophotonics, Nonlinear Optics and Strong Light-matter Coupling  
Invited

Timur O. Shegai (Chalmers University of Technology);

14:00 Mie Optics behind Vaterite-based Drug Delivery  
Invited

Pavel B. Ginzburg (Tel Aviv University); Hani Barhom (Tel Aviv University); Andrey Machnev (Tel Aviv University); Andrey Ushkov (Tel Aviv University); Hod Gilad (Tel Aviv University); Denis Kolchanov (Tel Aviv University);

14:20 Engineering Topological States in Arrays of Two-mode Nanostructured Dielectric Waveguides

A. O. Mikhin (ITMO University); V. Rutckaia (The City University of New York); Roman S. Savelev (ITMO University); I. S. Sinev (ITMO University); Andrea Ali (The City University of New York); Maxim A. Gorlach (ITMO University);

14:35 Graphene Perfect Absorber Based on Silicon Huygens' Metasurface  
Invited

Junichi Takahara (Osaka University);

14:55 A Broadband Polarization Degeneracy of the Waveguide Modes in Silicon Metasurface

Zarina F. Kondratenko (ITMO University); M. Asadulina (ITMO University);

15:10 Improved Ultrasensitive Sensors Based on Bound States in the Continuum  
Invited

Aleksandra A. Kutuzova (ITMO University); Mikhail V. Rybin (National Research University for Information Technology, Mechanics and Optics);

15:30 **Coffee Break**

16:00 Nanostructured Periodic Arrays for Sensing Applications  
Invited

Andrei V. Lavrinenko (Technical University of Denmark);

16:20 Uncertainty of Bloch Waves Traveling in Periodic Structures

*K. V. Semushev (ITMO University); Ekaterina E. Maslova (ITMO University); Mikhail V. Rybin (National Research University for Information Technology, Mechanics and Optics);*

16:35 Optical Field Modulation and Imaging Based on Meta-surfaces

*Juntao Li (Sun Yat-Sen University); Haowen Liang (Sun Yat-Sen University); Xue-Hua Wang (Sun Yat-Sen University);*

16:55 High-efficiency Broadband Achromatic Metalens for Terahertz Regime

*Cheng Chi (Beijing Institute of Technology);*

17:10 High-resolution Hyperspectral Video Understanding at 1.2 Tb/s and Ultrasensitive Detection via Universal Light Encoders

*A. B. Lopez (King Abdullah University of Science and Technology (KAUST)); Qizhou Wang (King Abdullah University of Science and Technology (KAUST)); Maksim Makarenko (King Abdullah University of Science and Technology (KAUST)); Andrea Fratalocchi (King Abdullah University of Science and Technology (KAUST));*

17:30 Geometric Phase Controlled Nonlinear Photonic Meta-surfaces

*Guixin Li (Southern University of Science and Technology);*

17:50 Polarization Control Based on PT-symmetric Metasurfaces

*Yicheng Li (Harbin Engineering University); Shicheng Wan (Harbin Engineering University); Andrey A. Bagdonav (Harbin Engineering University); Jinhui Shi (Harbin Engineering University);*

18:05 Electromagnetic Asymmetry and Optical Magnetism for Nonlinear Plasmonics

*Yaorong Wang (City University of Hongkong); Danyuan Lei (City University of Hongkong);*

18:20 Enhanced Interaction of Structured Light with Resonant Dielectric Metastructures

*Yiyuan Wang (Harbin Engineering University); Jin Hui Shi (Harbin Engineering University); Stefan A. Maier (Monash University); Haoran Ren (Monash University); Yuri S. Kivshar (Australian National University); Kirill Koshelev (Australian National University);*

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**Session 2P18a**  
**Optical and Acoustic Manipulation:**  
**Fundamental and Application 2**

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**Tuesday PM, April 23, 2024**

**Room 18 - Meilan**

Organized by Xiao Li, Jun Chen

Chaired by Xiao Li, Jun Chen

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13:00 Multipole Optomechanics

Invited

*Xiaohao Xu (Xi'an Institute of Optics and Precision Mechanics, Chinese Academy of Sciences); Shaohui Yan (Xi'an Institute of Optics and Precision Mechanics, Chinese Academy of Sciences); Baoli Yao (Xi'an Institute of Optics and Precision Mechanics, Chinese Academy of Sciences);*

13:20 Algorithms of Optical Gradient and Scattering Forces on Arbitrary Sized Micro-particles and Their Applications

Invited

*Huajin Chen (Guangxi University of Science and Technology); Hongxia Zheng (Guangxi University of Science and Technology); Xiaoshu Zhao (Fudan University); Wanli Lu (China University of Mining and Technology); Jack Ng (Southern University of Science and Technology); Zhifang Lin (Fudan University);*

13:40 Steering Micromotors via Reprogrammable Optoelectronic Paths

*Xi Chen (Chengdu University of Technology); Shuai-long Zhang (Beijing Institute of Technology); Wei Wang (Harbin Institute of Technology (Shenzhen));*

13:55 Non-Hermitian Non-Equipartition Theory of Trapped Particles

*Xiao Li (The Hong Kong University of Science and Technology); Yongyin Cao (Harbin Institute of Technology); Jack Ng (Southern University of Science and Technology); Che Ting Chan (The Hong Kong University of Science and Technology);*

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**Session 2P18b**  
**Meta-optics for Multidimensional Light Field Control**

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**Tuesday PM, April 23, 2024**

**Room 18 - Meilan**

Organized by Xiangping Li, Zi-Lan Deng

Chaired by Zi-Lan Deng, Xiangping Li

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14:10 Monocular Polarimetric Metalens for Ultracompact Snapshot Stereo-imaging

Invited

*Shu-Ming Wang (Nanjing University);*

14:30 Interaction between Plasmonic Nanostructures and Monolayer Transition Metal Dichalcogenides

Invited

*Hong Wei (Institute of Physics, Chinese Academy of Sciences);*



14:50 Multidimensional Metasurface Holography and Wavefront Engineering  
Invited

*Lingling Huang (Beijing Institute of Technology);*

15:10 Breaking the Limitation of Polarization Multiplexing in Optical Metasurfaces via Engineered Noise  
Invited

*Ru-Wen Peng (Nanjing University); Yongmin Liu (Northeastern University); Mu Wang (Nanjing University);*

15:30 **Coffee Break**

16:00 High Q-factor in All-dielectric Metasurface  
Invited

*Chaobiao Zhou (Guizhou Minzu University);*

16:20 Highly Efficient Metasurfaces for Bi-channel Multiplexing

*Changhong Dai (Fudan University); Tong Liu (The Hong Kong University of Science and Technology); Dongyi Wang (Hongkong Baptist University); Lei Zhou (Fudan University);*

16:35 Metalens for Accelerated Optoelectronic Edge Detection under Ambient Illumination

*Shuai Wang (Harbin Engineering University);*

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### Session 2P18c

#### Multiplexing Metasurfaces for Integrated EM Wave Manipulations

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**Tuesday PM, April 23, 2024**

**Room 18 - Meilan**

Organized by He-Xiu Xu, Yongjun Huang

Chaired by He-Xiu Xu, Yongjun Huang

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16:50 Super-reflector Enabled by Non-interleaved Spin-momentum-multiplexed Metasurface  
Invited

*He-Xiu Xu (Air Force Engineering University);*

17:10 Multi-field Coupling Analysis and Experimental Demonstrations of Nonlinear Optomechanical Metasurfaces  
Invited

*Yongjun Huang (University of Electronic Science and Technology of China);*

17:30 Thermally Tunable and Nonlinear Liquid-type Metamaterial Based on Fluid-metal ELC Structure

*Yugong Zhang (University of Electronic Science and Technology of China); Dexu Chen (University of Electronic Science and Technology of China); Liang Ma (University of Electronic Science and Technology of China); Yong Liang (Institute of Electronic and Information Engineering of UESTC in Guangdong); He-Xiu Xu (Air Force Engineering University); Guangjun Wen (University of Electronic Science and Technology of China); Yongjun Huang (University of Electronic Science and Technology of China);*

17:45 Radar-infrared Bi-stealth Vortex Beam Generator Using Hybrid Metasurface

*Yanzhao Wang (Air Force Engineering University); Meiling Zeng (Air Force Engineering University); Huiling Luo (Air Force Engineering University); He-Xiu Xu (Air Force Engineering University);*

18:15 Novel EBG Absorber in the Application of Ka Band Cavity Microwave Modules

*Yue Zhang (Harbin Institute of Technology); Yunfei Liu (Harbin Institute of Technology); Kuang Zhang (Harbin Institute of Technology);*

18:30 Wide-angle Meta-reflector Using a Non-periodic Metasurface

*Huiling Luo (Air Force Engineering University); Yanzhao Wang (Air Force Engineering University); Huanhuan Gao (Xi'an University of Science and Technology); Yanzhang Shao (Air Force Engineering University); He-Xiu Xu (Air Force Engineering University);*

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### Session 2P19

#### Poster Session 4

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**Tuesday PM, April 23, 2024**

**14:00 PM - 18:00 PM**

**Room Exhibition Area**

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1 Design of Angle-stable and High-transmittance Frequency Selective Resonator Based on Bilateral Connected Interdigital Resonator

*Yixuan Xu (National University of Defense Technology); Tongtong Shi (National University of Defense Technology); Xueyi Hu (National University of Defense Technology); Yuchen Yan (National University of Defense Technology); Weiwei Wu (National University of Defense Technology);*

2 Design of CA-CP-RLSA

*Feng Zhao (China Aerospace Science and Technology Corporation);*

3 Goal Decision-making in Active SLAM Using 2D Lidar Based on DRL Driven by Intrinsic Rewards

*Wenjie Na (Tongji University); Zhihao Liu (Tongji University); Mengqi He (Tongji University); Chao Li (Tongji University); Chengju Liu (Tongji University); Qijun Chen (Tongji University);*

4 Wideband RCS Reduction of Fabry-Perot Antenna Based on Diffuse Scattering Method

*Guoqiang Feng (Air Force Engineering University); Peng Xie (Air Force Engineering University);*

5 Inversion of Ocean Winds from C-band Dual-polarized SAR Images

*Yi Cheng (Guilin University of Technology); Ying Yang (Nanjing University of Science and Technology);*

- 6     **8 × 8 MIMO Antenna for 5G Mobile Applications**  
*Wei-Chen Cheng (National Taipei University of Technology); Guan-Pu Pan (National Taipei University of Technology); Y. H. Chang (National Taipei University of Technology); Guan-Yu Chen (National Taipei University of Technology); Jwo-Shiun Sun (National Taipei University of Technology);*
- 7     **Low-frequency Broadband Transparency and High-frequency Broadband RCS Reduction in RASORBER Design**  
*Wei Ding (Nanjing University); Zhen-Xu Yao (Nanjing University); Yuan-Cheng Shi (Nanjing University); Ruixin Wu (Nanjing University);*
- 8     **Vertical-cavity Surface-emitting Laser Linewidth Narrowing Enabled by Coupled-cavity**  
*Zhitang Tang (University of Electronic Science and Technology of China); Chuanlin Li (University of Electronic Science and Technology of China); Aobo Ren (University of Electronic Science and Technology of China); Jiang Wu (University of Electronic Science and Technology of China);*
- 9     **Compact Quasi-resonant Flyback Synchronous Rectifier Converter and Control Method**  
*Xiaoyan Wei (Southwest Jiaotong University); Quanyuan Feng (Southwest Jiaotong University); Tao Li (Southwest Jiaotong University);*
- 10    **Reconfigurable Split-Ring Resonators with the Enhanced Resonance in Coplanar Waveguide**  
*Hee-Jo Lee (Daegu University);*
- 11    **Infinite Speed of Light and Compton Scattering**  
*Namik Yener (Istanbul Commerce University);*
- 12    **Research on 5 kW Power Synthesis Medium-long Wave Radio Station Amplifier**  
*Congjin Wang (Southwest University of Science and Technology); Haoran Li (Southwest University of Science and Technology); Yuyu Zhu (Southwest University of Science and Technology); Li Wu (Southwest University of Science and Technology); Piaoyi Huang (Southwest University of Science and Technology); Yonghao Lu (Southwest University of Science and Technology); Xing Long Liu (Southwest University of Science and Technology);*
- 13    **Capacitor-based Branch-line Couplers for Simple Configuration of Flexible Phase-difference Butler Matrices**  
*Zulfi (Institut Teknologi Bandung); Sulistyaningsih (Institut Teknologi Bandung); Joko Suryana (Institut Teknologi Bandung); Achmad Munir (Bandung Institute of Technology);*
- 15    **A Multi-polarized Reflectarray Antenna Employing Planar Magnetoelectric Dipole Elements**  
*Sen Li (Space Engineering University); Hong Ma (Space Engineering University); Yang Cai (Space Engineering University); Lijun Bu (Space Engineering University); Siyu Qi (Space Engineering University); Yufan Cao (Space Engineering University); Tao Wu (Space Engineering University);*
- 16    **Development of Wavelength Demultiplexers Based on a Binary Search Inverse Design Algorithm**  
*Heng Zhong (Anhui University); Ming Fang (Anhui University);*
- 17    **Defining Internet Access Service QoS Measurement Server Placement Criteria in National Internet Network**  
*Alina Stafecka (Riga Technical University); Andrejs Lizunovs (Riga Technical University); Aleksandrs Olinš (Riga Technical University); Mihails Rjumsšins (Riga Technical University); Sandis Spolitis (Riga Technical University); Vjaceslavs Bobrovs (Riga Technical University);*
- 18    **Surface-wave Oscillators with Advanced Bragg Reflectors as a Way to Increase Frequency Stability and Tuning**  
*Nikolai Yu. Peskov (Institute of Applied Physics, RAS); Vladislav Yu. Zaslavsky (Institute of Applied Physics, RAS); K. A. Leshcheva (Institute of Applied Physics, RAS); Ekaterina D. Egorova (Institute of Applied Physics, RAS);*
- 19    **A 3D Mach-Zehnder Time-Domain EO Sensor for the EMP Measurement**  
*Yuewu Shi (Northwest Institute of Nuclear Technology); Wei Chen (Northwest Institute of Nuclear Technology); Xin Nie (Northwest Institute of Nuclear Technology); Wei Wu (Northwest Institute of Nuclear Technology); Wei Wang (Northwest Institute of Nuclear Technology); Jianguo Miao (Northwest Institute of Nuclear Technology);*
- 20    **Implementation of Medical Image Segmentation Algorithm Based on Deep Network**  
*Chao Tang (Tongji University); Yuxing Zhao (Tongji University); Lan Lin (Tongji University);*
- 21    **Research on Scattering Characteristics of Swarm Targets**  
*Jing-Yue Sun (Beijing Institute of Technology); Kun-Yi Guo (Beijing Institute of Technology); Xin-Qing Sheng (Beijing Institute of Technology); Wei Cong (Chengde Vocational College of Applied Technology);*
- 22    **Simulation and Analysis of Solid-state Switch-based High Voltage Pulse Power Supply Using Marx Generator**  
*Aashish Ranjan (CSIR-Central Electronics Engineering Research Institute); Anand Abhishek (CSIR-Central Electronics Engineering Research Institute); Niraj Kumar (CSIR-Central Electronics Engineering Research Institute (CSIR-CEERI)); Nikita Mikhailovich Ryskin (V. A. Kotel'nikov Institute of Radio Engineering and Electronics RAS); Vladimir N. Titov (Saratov State University); Roman Antonovich Torgashov (V. A. Kotel'nikov Institute of Radio Engineering and Electronics RAS);*

- 23 Use of Sectional Slow-wave Systems with One-dimensional and Two-dimensional Periodic Corrugations to Generate Radiation with an Azimuthal Symmetric Structure in Long-pulse Surface Wave Oscillators  
*Vladislav Yur'evich Zaslavsky (Institute of Applied Physics, Russian Academy of Sciences); Ilya V. Zheleznov (Institute of Applied Physics, RAS); Alexander S. Sergeev (Institute of Applied Physics, Russian Academy of Sciences); E. V. Ilyakov (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); I. S. Kulagin (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Naum S. Ginzburg (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences);*
- 24 Tunable High-power Soliton Generation up to 3.5  $\mu\text{m}$  in a Large Core Diameter Fluorotellurite Fiber  
*Linjing Yang (Beijing University of Technology); Chuanfei Yao (Beijing University of Technology); Xuan Wang (Beijing University of Technology); Zipeng Xu (Beijing University of Technology); Pingxue Li (Beijing University of Technology);*
- 25 Analysis of the Influence of Forwarding Waveform with Time-domain Mismatch on Time Difference Direction Finding  
*Qi Zhao (National University of Defense Technology); Zhonghao Lu (National University of Defense Technology); Shun-Ping Xiao (National University of Defense Technology);*
- 26 Design and Evaluation of Rare-Earth-Doped Fiber Amplifier for WDM-PON Transmission Systems  
*Dmitrijs Prigunovs (Riga Technical University); Ricards Kudojars (Riga Technical University); Patriks Morevs (Riga Technical University); Mareks Parfjonovs (Riga Technical University); Andis Supe (Riga Technical University); Svitlana Matsenko (Riga Technical University); Aleksandr Krotov (Riga Technical University "LETI"); Vjaceslavs Bobrovs (Riga Technical University); Toms Salgals (Riga Technical University);*
- 27 A Spherical Conformal Reflectarray Sensor Array for Long-distance Monitoring of Liquid Quality  
*Xiao Yu Li (Tongji University); Xiao Jie Lu (Tongji University); Zhen Wang (Tongji University); Mei Song Tong (Tongji University);*
- 28 A Flexible Chipless RFID Tag with Polymer Coatings Used for Harsh Environments  
*Lu Yi Liu (Tongji University); Ajay K. Poddar (Synergy Microwave Corporation); Ulrich L. Rohde (Synergy Microwave Corporation); Mei Song Tong (Tongji University);*
- 29 A Low-cost Displacement Sensor Based on Chipless RFID Tag with Microstrip Notch Circuit  
*Jia Hui Wang (Shanghai Institute of Technology); Lan Chen (Shanghai Institute of Technology); Mei Song Tong (Tongji University);*
- 30 Two-dimensional Microwave Through-wall Imaging Algorithm Based on Total Variational Compressive Sensing  
*Chi Zhou (Shanghai Normal University); Chunxia Yang (Shanghai Normal University); Mei Song Tong (Tongji University);*
- 31 Dual-channel Chip-to-Chip Communication Employing Field Enhancement Spoof Surface Plasmon Polaritons Transmission Line  
*Wen Jin (Guangzhou University); Zhikai Li (Guangzhou University); Yiqian Shan (Guangzhou University); Yuan Liang (Nanyang Technological University); Ke Yang (Guangzhou University); Liangming Lian (Guangzhou University);*
- 32 Angle of Arrival Estimation Method Based on SNR Threshold Detection and Data Cache  
*Shengguo Zhou (National Key Laboratory of Electromagnetic Effect and Security on Marine Equipment and Nanjing Marine Radar Institute); Pengfei Leng (Nanjing Marine Radar Institute); Liu Huang (Nanjing Marine Radar Institute); Boyang Wang (Nanjing Marine Radar Institute); Weixiang Lv (Nanjing Marine Radar Institute); Xinmin Zhang (Nanjing Marine Radar Institute);*
- 33 Research of Gate-drain Capacitance of 60 V UMOSFET  
*Mao Luo (Chengdu Technological University); Hang Ran (Chengdu Technological University); Lixiang Wang (Chengdu Technological University); Xiaopei Chen (Southwest Jiaotong University);*
- 34 Optimization of Carbon Dioxide Conversion in the DBD Plasma-chemical Reactor  
*Ismail Rafatov (Middle East Technical University);*
- 35 Ray Tracing Simulation of Electromagnetic Wave Interaction with Multilayered Medium Targets  
*Chen Yan (Xidian University); Yiping Han (Xidian University);*
- 36 Effect of Ionospheric Faraday Rotation on Polarimetric Scattering Similarity  
*Xun Wang (National Space Science Center, Chinese Academy of Sciences); Yunhua Zhang (National Space Science Center, Chinese Academy of Sciences); Dong Li (National Space Science Center, Chinese Academy of Sciences); Jiefang Yang (National Space Science Center, Chinese Academy of Sciences);*
- 37 A Frequency-scanning Antenna Based on A S-shaped Single-ridge Waveguide  
*Min Wang (Chongqing University of Posts and Telecommunications); Hao Chen (Chongqing University of Posts and Telecommunications); Nan Hu (A-INFO Inc.); Wenqing Xie (A-INFO Inc.); Xuan Li (Chongqing University of Posts and Telecommunications);*

- 38 Gain-switched Yb-doped Fiber Laser by Fast Modulation of a Pump Laser Diode  
*Juyong Shin (Korea Institute of Industrial Technology); Sungmok Kim (Korea Institute of Industrial Technology); Eunkyong Park (Hanyang University ERICA); Inchul Park (Hanyang University ERICA); Yejin Oh (Hanyang University ERICA); Jiwon Kim (Hanyang University ERICA); Hoon Jeong (Korea Institute of Industrial Technology);*
- 39 Manipulation of Epsilon-near-zero Properties in Magneton-sputtered Indium Tin Oxide Films  
*Chenxingyu Huang (Peking University); Qian Li (Peking University Shenzhen Graduate School); Hongyan Fu (Tsinghua University);*
- 40 Study on Shielding Efficiency of Metal Wire Mesh for Cable Joints  
*Quanfeng Jiang (Southwest University of Science and Technology); Qiangming Cai (Southwest University of Science and Technology); Jincheng Tang (Southwest University of Science and Technology); Guangjin Lin (Southwest University of Science and Technology); Haiyan Guo (Southwest University of Science and Technology); Xin Cao (Southwest University of Science and Technology); Longjian Zhou (Southwest University of Science and Technology); Haoran Li (Southwest University of Science and Technology); Zhen-Yong Du (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yixiang Li (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yuyu Zhu (Southwest University of Science and Technology); Bo Pu (DeTooLIC Technology Co., Ltd.); Jun Fan (Southwest University of Science and Technology);*
- 41 A Non-destructive Metal Classification System Based on Magnetic Induction and Mutual Impedance Measurement  
*Ji Deng (Southwest University of Science and Technology); Jincheng Tang (Southwest University of Science and Technology); Feng Guo (Southwest University of Science and Technology); Qiangming Cai (Southwest University of Science and Technology); Xin Cao (Southwest University of Science and Technology); Longjian Zhou (Southwest University of Science and Technology); Haoran Li (Southwest University of Science and Technology); Zhen-Yong Du (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yixiang Li (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yuyu Zhu (Southwest University of Science and Technology); Bo Pu (DeTooLIC Technology Co., Ltd); Jun Fan (Southwest University of Science and Technology);*
- 42 A **2.53 ~ 2.84** GHz Low-phase-noise Voltage-controlled Oscillator with Integrated Low Dropout Regulator in 0.18  $\mu\text{m}$  CMOS Technology  
*Yuxin Zhang (Guangzhou University); Wen Jin (Guangzhou University); Yiqian Shan (Guangzhou University); Yuan Liang (Nanyang Technological University); Guangyu Zhong (Guangzhou University); Liangming Lian (Guangzhou University);*
- 43 Narrowband SIW-SSPP Hybrid Bandpass Filter and Frequency Division Multiplexer at Ka Band  
*Zhaolin Li (Shandong University); Yasong Wang (Shandong University); Baoqing Zhang (Shandong University); Haotian Ling (Qilu Aerospace Information Research Institute (AIR), Chinese Academy of Sciences (CAS)); Aimin Song (University of Manchester); Yifei Zhang (Shandong University);*
- 44 Analysis of Transverse Induced Magnetization Characteristics of Large Asymmetric Ships  
*Yuelin Liu (Naval University of Engineering); Guohua Zhou (Naval University of Engineering); Shengdao Liu (Naval University of Engineering); Kena Wu (Naval University of Engineering);*
- 45 ITS-G5 Antennas: Powering Future Urban Transports  
*Abu Zafar Md. Imran (University of Hertfordshire, College Lane); Martin Thomas (University of Hertfordshire, College Lane); Eugene A. Ogbodo (University of Hertfordshire, College Lane); Azunka N. Ukala (University of Hertfordshire, College Lane);*
- 47 Diagnostics Systems for High-power Sub-THz/THz Radiation Fluxes Produced by Beam-plasma Generator and Long-pulse FELs  
*Evgeny S. Sandalov (Budker Institute of Nuclear Physics RAS); Andrey V. Arzhannikov (Budker Institute of Nuclear Physics RAS); D. A. Samtsov (Budker Institute of Nuclear Physics RAS); S. A. Kuznetsov (Budker Inst Nucl Phys SB RAS); Petr V. Kalinin (Budker Institute of Nuclear Physics RAS); Vasily D. Stepanov (Budker Institute of Nuclear Physics RAS); Stanislav L. Sinitsky (Budker Institute of Nuclear Physics Russian Academy of Sciences); M. A. Makarov (Budker Institute of Nuclear Physics RAS); Naum S. Ginzburg (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Nikolai Yu. Peskov (Institute of Applied Physics, RAS);*
- 48 Problems of Detecting Anomalous Sea Waves by Navigation Radars  
*Valery A. Permyakov (Moscow Power Engineering Institute (Technical University)); A. I. Baskakov (National Research University "Moscow Power Engineering Institute"); Mikhail Sergeyevich Mikhailov (National Research University "Moscow Power Engineering Institute"); S. V. Permiakov (National Research University "Moscow Power Engineering Institute");*
- 49 Optimization of an Extended Antenna Field  
*Alexey Mikhailovich Mikhailov (National Research University "Moscow Power Engineering Institute"); Mikhail Sergeyevich Mikhailov (National Research University "Moscow Power Engineering Institute"); A. A. Komarov (National Research University "Moscow Power Engineering Institute"); S. V. Orobchenko (National Research University "Moscow Power Engineering Institute");*

- 50 Design of Plasma Generator at Normal Temperature and Pressure  
*Xiaoyun Zhao (Chengdu University of Technology); Yihong Wang (Chengdu University of Technology); Biao Hu (Chengdu University of Technology);*
- 51 Multibeam Antenna Array Simulation  
*Kirill Sergeyevich Sychev (National Research University "Moscow Power Engineering Institute"); Anton Alekseevich Novikov (National Research University "Moscow Power Engineering Institute"); Andrey Alexeevich Pimenov (National Research University "Moscow Power Engineering Institute"); A. S. Filimonov (National Research University "Moscow Power Engineering Institute"); Mikhail Sergeyevich Mikhailov (National Research University "Moscow Power Engineering Institute");*
- 52 A First-principles Study of BiOCl Monolayer as Anode Potential Material for Na-ion Batteries  
*Yong Zhou (Chengdu Technological University); Beitong Cheng (Southwest Institute of Technical Physics); Xingyong Huang (Yibin University); Ruomei Jiang (Southwest Institute of Technical Physics); Xule Wang (Southwest Institute of Technical Physics); Shuai Huang (Southwest Institute of Technical Physics); Wei Zhang (Southwest Institute of Technical Physics); Hai-Zhi Song (Southwest Institute of Technical Physics & UESTC);*
- 53 Anisotropic Material for Nanoparticles with Resonant Optical Response  
*Ilya U. Titov (Moscow Center for Advanced Studies); Ilya A. Zavidovskiy (Moscow Center for Advanced Studies); Aleksandr S. Slavich (Moscow Center for Advanced Studies); Mikhail K. Tatmyshevskiy (Moscow Center for Advanced Studies); Georgy A. Ermolaev (Moscow Center for Advanced Studies); Alexei V. Prokhorov (Moscow Center for Advanced Studies); Aleksey V. Arsenin (Moscow Center for Advanced Studies); Valentyn S. Volkov (Emerging Technologies Research Center, XPANCEO, Dubai Investment Park First); Sergey M. Novikov (Moscow Center for Advanced Studies);*
- 54 Generation of Optical Vortex from an Optical Vortex Pumped Diamond Raman Laser  
*Chuang Xuan (Xinjiang Normal University); Palidan Aierken (Xinjiang Normal University); Yuzia Zhou (Xinjiang Normal University); Ying Wan (Nanjing University of Information Science & Technology); Jianxiang Wen (Shanghai University); Tazimaiti Yusufu (Xinjiang Normal University);*
- 55 An Estimation Method of Time Domain Radiation Pattern for UWB Array Antenna  
*Binwen Wang (Northwest Institute of Nuclear Technology); Hui Ning (Northwest Institute of Nuclear Technology); Qilong Liu (Northwest Institute of Nuclear Technology); Youjie Yan (Northwest Institute of Nuclear Technology);*
- 56 Double-polarization Slotted Arrays for Extremely Low Side-lobe Based on Single-ridged Waveguide  
*Ze Yu (The 38th Research Institute of China Electronic Technology Group Corporation); X. L. Zhang (The 38th Research Institute of China Electronic Technology Group Corporation); C. Chen (The 38th Research Institute of China Electronic Technology Group Corporation); W. D. Chen (The 38th Research Institute of China Electronic Technology Group Corporation);*
- 57 A Chip-scale Magnetic Field Sensor Based on Frequency Readout Cavity Optomechanical System  
*Zhe Li (University of Electronic Science and Technology of China); Chengwei Xian (University of Electronic Science and Technology of China); Pengju Kuang (University of Electronic Science and Technology of China); Jinglong Xiong (University of Electronic Science and Technology of China); Zihan Huang (University of Electronic Science and Technology of China); Senyu Zhang (University of Electronic Science and Technology of China); Guangjun Wen (University of Electronic Science and Technology of China (UESTC)); Kai Chen (University of Electronic Science and Technology of China); Yongjun Huang (University of Electronic Science and Technology of China);*
- 58 High-Q Fabry-Pérot Cavity Based on Micro-lens Array for Refractive Index Sensing  
*Qi Wang (Fudan University); Xuyang Zhao (Fudan University); Man Luo (Fudan University); Yuxiang Li (Fudan University); Junjie Liu (Fudan University); Xiang Wu (Fudan University);*
- 59 Marine Wireless Communication Channel Propagation Loss Model in Rough Sea Environment Based on Wind Speed and Direction Parameters  
*Yanlong Liu (Hainan University); Wanchao Li (Hainan University); Lihui Wang (Hainan University); Zhenjia Chen (Hainan University); Xiao Zhao (Hainan University);*
- 60 Virtual Simulation Experiment Training Platform of Radio Measurement Technology Based on Electromagnetic Spectrum Monitoring Method Combined Online and Offline  
*Songkun Chu (Hainan University); Zhenjia Chen (Hainan University); Lihui Wang (Hainan University);*
- 61 Research on a Simplified Ray Tracing Method for Indoor Radio Wave Propagation Calculation  
*Yuncheng Mo (Nanjing Normal University); Jianfeng Gu (Nanjing Normal University); Wanchun Tang (University of Nanjing Science and Technology);*

- 62 Comparison of One-photon Absorption and Two-photon Absorption Imaging through Dynamic Scattering Media  
*Wei Liu (Xi'an Institute of Applied Optics); Libing Hou (Xi'an Institute of Applied Optics); Yingchun Wu (Xi'an Institute of Applied Optics); Tan Wang (Xi'an Institute of Applied Optics); Bingtao Guo (Xi'an Institute of Applied Optics); Zhanming Li (Xi'an Institute of Applied Optics); Qiyao Sun (Xi'an Institute of Applied Optics); Shan Li (Xi'an Institute of Applied Optics); Weiguo Zhang (Xi'an Institute of Applied Optics); Wenbo Duan (Xi'an Institute of Applied Optics);*
- 63 Simulation Analysis of Indoor Electromagnetic Environment Based on Correlation Coefficient  
*Jianfeng Gu (Nanjing Normal University); Yuncheng Mo (Nanjing Normal University); Wanchun Tang (University of Nanjing Science and Technology);*
- 64 Flexible Light Manipulation in Non-Hermitian Frequency Su-Schrieffer-Heeger Lattice  
*Yiling Song (Wenzhou University);*
- 65 Mode-locking in Anti-PT Symmetric Frequency Lattices  
*Yiling Song (Wenzhou University);*
- 66 Selection and Enhancement of the Frequency Modes with Floquet Exceptional Points and Chiral Zener Tunneling  
*Yiling Song (Wenzhou University);*
- 67 Pre-training Deep Neural Network for Decoding Multiple Brain Regions Can Enhance Image Reconstruction  
*Wen Bo Zhu (Tongji University); Renzhou Gui (Tongji University); Ya Qi Wang (Tongji University); Yu Miao Yin (Tongji University); Mei Song Tong (Tongji University);*
- 68 Research on Early Depression Recognition Method by Combining Data and Knowledge Dual Driven Graph Network  
*Yu Miao Yin (Tongji University); Renzhou Gui (Tongji University); Ya Qi Wang (Tongji University); Wen Bo Zhu (Tongji University); Mei Song Tong (Tongji University);*

### Session 3A1

#### Quantum Computation and Quantum Simulation

Wednesday AM, April 24, 2024

Room 1 - Yarui

Organized by Gang Li, Xiaolong Su

Chaired by Gang Li

- 8:00 Simulators of Quantum Fluids Using Atomic Vapors  
Invited  
*Feng Li (Xi'an Jiaotong University);*
- 8:20 Neutral Atomic Array near an Optical Nanofiber  
Invited  
*Pengfei Zhang (Shanxi University);*

- 8:40 Quantum Programming of Topological Phases of Matter  
Invited  
*Feng Mei (Shanxi University);*
- 9:00 Preparation of Optical Cat States Carrying Laguerre-Gaussian Mode  
Invited  
*Meihong Wang (Shanxi University); Chenyu Qiao (Shanxi University); Fengyi Xu (Shanxi University); Rong Ma (Shanxi University); Xiaolong Su (Shanxi University);*
- 9:20 Robust Multi-qubit Quantum Network Nodes in Waveguide-integrated Superconducting Quantum Circuits  
Invited  
*Wei Nie (Tianjin University);*
- 9:40 Realization of Strong Coupling between Deterministic Single-atom Arrays and a High-finesse Miniature Optical Cavity  
Invited  
*Zhihui Wang (Shanxi University); Yanxin Liu (Shanxi University); Shijun Guan (Shanxi University); Pengfei Yang (Shanxi University); Pengfei Zhang (Shanxi University); Gang Li (Shanxi University); Tiancai Zhang (Shanxi University);*
- 10:00 **Coffee Break**
- 10:30 Towards Quantum Simulations with Ultracold Thulium Atoms at an Optical Lattice Formed by 1064nm Laser Light  
Invited  
*D. A. Kumpilov (Russian Quantum Center); D. A. Pershin (Russian Quantum Center); V. A. Khlebnikov (Russian Quantum Center); I. A. Pyrkh (Russian Quantum Center); A. E. Rudnev (Russian Quantum Center); E. A. Fedotova (Russian Quantum Center); D. V. Gaidudinov (Russian Quantum Center); Ivan S. Cojocaru (Russian Quantum Center); K. A. Khoruzhi (Russian Quantum Center); P. A. Aksentsev (Russian Quantum Center); A. K. Zykhova (Russian Quantum Center); V. V. Tsyganok (Russian Quantum Center); Aleksey V. Akimov (Russian Quantum Center);*
- 10:50 Coherent Ising Computation with Error Correction  
Invited  
*Chuan Wang (Beijing Normal University);*
- 11:30 Experimental Investigation of Quantum Correlations in Qutrit System with a Single NV Center in Diamond  
Invited  
*Xing Rong (University of Science and Technology of China); Y. Fu (Beijing Institute of Technology);*
- 11:50 FEM Modelling of the Loop-gap Resonator for Applications in Quantum Transduction  
*N. Güneş Sarıbaş (Gebze Technical University); Maksut Maksutoğlu (Gebze Technical University); Pavel Kupriyanov (Gebze Technical University); Fikret Yildiz (Gebze Technical University); Bulat Rameev (Gebze Technical University);*
- 12:05 Continuous Variable Quantum State Distributor  
*Qingwei Wang (Hangzhou Dianzi University); Y. Zheng (Shanxi University);*

**Session 3A2****Single Photon Detection: Device and Integration****Wednesday AM, April 24, 2024****Room 2 - Jincheng 3**

Organized by Wei Zhang, Hao Li

Chaired by Hao Li

8:20 Recent Advances on InGaAs/InP Geiger-mode  
Invited Avalanche Photodiode Arrays in SITP

*Yingjie Ma (Shanghai Institute of Technical Physics (SITP) of the Chinese Academy of Sciences); Xue Li (Shanghai Institute of Technical Physics, Chinese Academy of Science); Yi Gu (Shanghai Institute of Technical Physics, Chinese Academy of Science); Jingxian Bao (Shanghai Institute of Technical Physics, Chinese Academy of Science); Yueqi Zhai (Shanghai Institute of Technical Physics, Chinese Academy of Science); Xiumei Shao (Shanghai Institute of Technical Physics, Chinese Academy of Science); Tao Li (Shanghai Institute of Technical Physics, Chinese Academy of Science); Hai-Mei Gong (Shanghai Institute of Technical Physics, Chinese Academy of Science); Jiaxiong Fang (Shanghai Institute of Technical Physics, Chinese Academy of Science);*

8:40 Several Novel Applications of Single-photon Detector in  
Invited LiDAR

*Zhaohui Li (East China Normal University); Didi Zhai (East China Normal University); Weihua Zhang (East China Normal University); Guang Wu (East China Normal University);*

9:00 Inp/InGaAs Negative Feedback Avalanche Diodes  
Invited Working at Room Temperature

*Haifeng Ye (Yunnan University); Rong Bai (Yunnan University); Chen Liu (Yunnan University); Yan-Li Shi (Yunnan University);*

9:20 High Performance Semiconductor Single-photon Detec-  
Invited tors and Applications

*Chao Yu (University of Science and Technology of China); Qi Xu (University of Science and Technology of China); Dong An (University of Science and Technology of China); Xian-Song Zhao (University of Science and Technology of China); Jun Zhang (University of Science and Technology of China); Jian-Wei Pan (University of Science and Technology of China);*

9:40 Hybrid Integration of Near-infrared InGaAs/InP Single  
Photon Avalanche Diodes Array and Silicon Photonics  
Chip

*Xiaosong Ren (Tsinghua University); Dongning Liu (Tsinghua University); Mingzhong Hu (Tsinghua University); Yan-Li Shi (Yunnan University); Yidong Huang (Tsinghua University); Wei Zhang (Tsinghua University);*

10:00 **Coffee Break**

10:30 High Fidelity Photon-number-resolving Superconduct-  
Invited ing Nanowire Single-photon Detector

*Chaomeng Ding (Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences); Xingyu Zhang (Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences); Lingdong Kong (Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences); Lixing You (Shanghai Institute of Microsystem and Information Technology (SIMIT), Chinese Academy of Sciences); Hao Li (Shanghai Institute of Microsystem and Information Technology (SIMIT), CAS);*

10:50 Up-conversion Single Photon Detection and Its Integra-  
Invited tion

*Xina Wang (University of Science and Technology of China); Xufeng Jiao (University of Science and Technology of China); Bin Wang (Jinan Institute of Quantum Technology); Yang Liu (Jinan Institute of Quantum Technology); Xiuping Xie (Jinan Institute of Quantum Technology); Ming-Yang Zheng (Jinan Institute of Quantum Technology); Qiang Zhang (University of Science and Technology of China); Jian-Wei Pan (University of Science and Technology of China);*

11:10 Polarization-independent Photon-counting Reconstructive  
Spectrometer Based on Superconducting Nanowire  
Single-photon Detectors and On-chip Photonic Structures

*Mingzhong Hu (Tsinghua University); You Xiao (Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences); Xiaosong Ren (Tsinghua University); Hao Li (Shanghai Institute of Microsystem and Information Technology (SIMIT), CAS); Lixing You (Shanghai Institute of Microsystem and Information Technology (SIMIT), Chinese Academy of Sciences); Xue Feng (Tsinghua University); Fang Liu (Tsinghua University); Kaiyu Cui (Tsinghua University); Yidong Huang (Tsinghua University); Wei Zhang (Tsinghua University);*

**Session 3A3a****Advanced Decoupling Networks for Large-scale Arrays****Wednesday AM, April 24, 2024****Room 3 - Jincheng 2**

Organized by Qi Wu, Min Li

Chaired by Min Li

8:00 Hybrid Network Design for Enhanced Isolation and  
Throughput in MIMO Antenna Systems

*Min Li (Heriot-Watt University); Lijun Jiang (Missouri University of Science and Technology);*

- 8:15 A Simultaneous Transmit and Receive Slot Antenna with High Isolation Using Defected Ground Structures  
*Xudong Lu (Shenzhen University); Zheng Zhang (Shenzhen University); Meng-En Li (Shenzhen University); Xiao-Chong Zhang (Shenzhen University); Yaxin Li (Shenzhen University); Di Wu (Shenzhen University);*
- 8:30 A Novel MIMO Antenna with Compact Structure for 5G Smartphone Applications  
*Xiao-Chong Zhang (Shenzhen University); Xuan He (Shenzhen University); Yisha Cai (Shenzhen University); Yaxin Li (Shenzhen University); Xudong Lu (Shenzhen University); Di Wu (Shenzhen University);*
- 8:45 Transmission-line Implementation of Decoupling Feeding Networks  
*W. Q. Fan (Beihang University); Qi Wu (Beihang University);*
- 9:00 Dual-band Decoupling Network  
*Hang Liu (Dalian University of Technology); Min Li (Dalian University of Technology); Changfei Zhou (Dalian University of Technology);*
- 9:15 Array-antenna Decoupling Surface for MIMO Antennas  
*Hang Liu (Dalian University of Technology); Min Li (Dalian University of Technology); Changfei Zhou (Dalian University of Technology);*
- 9:30 Wide-angle Scanning in Azimuth Plane  
*Ren Wang (University of Electronic Science and Technology of China); Bing-Zhong Wang (University of Electronic Science and Technology of China);*
- 9:45 Radiation Pattern Decoupling: From Theory to Validation  
*Nan Yang (Sun Yat-sen University); Changwu Tong (Sun Yat-sen University); Guangyao Liu (Sun Yat-sen University); Jingbiao Wu (Sun Yat-sen University); Kwok Wa Leung (City University of Hong Kong);*
- 10:00 **Coffee Break**

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### Session 3A3b

#### Advanced Mode-inspired Antennas for 5G/B5G Communications

Wednesday AM, April 24, 2024

Room 3 - Jincheng 2

Organized by Neng-Wu Liu, Qianwen Liu

Chaired by Neng-Wu Liu, Qianwen Liu

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- 10:30 Design of Multi-mode Planar Antenna Based on the Patch Resonator and SIW Cavity  
*Qianwen Liu (Nanjing University of Posts and Telecommunications); Huan Yan (Nanjing University of Posts and Telecommunications);*
- 10:45 Decoupling Design between Near-field Resonant Parasitic (NFRP) and Electric Dipole Based on CM/DM Decoupling Theory  
*Buyun Wang (Xi'an Jiaotong University); Sen Yan (Xi'an Jiaotong University);*

- 11:00 Broadband Filtering Antenna Based on Microstrip Patch and Substrate Integrated Waveguide  
*Chengyu Li (Nanjing University of Posts and Telecommunications); Qianwen Liu (Nanjing University of Posts and Telecommunications); Yiming Tang (Nanjing University of Posts and Telecommunications);*
- 11:15 Performance Improvement of The Multi-port Antenna Based on the Multi-mode Concept  
*Neng-Wu Liu (Xidian University); Lei Zhu (Xidian University); Guang Fu (Xidian University); Ying Liu (Xidian University);*
- 11:30 Wide Bandwidth Microstrip Patch Antenna with Improved Cross-polarization  
*Bing-Bing Huang (Xidian University); Neng-Wu Liu (Xidian University);*
- 11:45 Design and Optimization of Vortex Electromagnetic Wave Antenna  
*Yali Lu (University of Electronic Science and Technology of China); Yating Yu (University of Electronic Science and Technology of China); Zhiwen Luo (University of Electronic Science and Technology of China); Shiy-ing Tu (University of Electronic Science and Technology of China);*

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### Session 3A4

#### Advances in Nanophotonics and Metasurfaces 2

Wednesday AM, April 24, 2024

Room 4 - Jincheng 1

Organized by Lingling Huang, Cheng Zhang

Chaired by Cheng Zhang, Lingling Huang

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- 8:00 Multifunctional Microscopy Based on an Ultrathin Metasurface  
*Muhammad Afnan Ansari (Heriot-Watt University); Yuttana Intaravanne (Heriot-Watt University); Ham-mad Ahmed (Heriot-Watt University); Narina Bileck-aja (University of Glasgow); Huabing Yin (University of Glasgow); Xianzhong Chen (Heriot-Watt University);*
- 8:15 Simultaneous Terahertz Generation and Manipulation  
Invited Using Nonlinear Metasurfaces  
*Xueqian Zhang (Tianjin University); Qingwei Wang (Tianjin University); Xi Feng (Tianjin University); Yongchang Lu (Tianjin University); Li Niu (Tianjin University); Haidi Qiu (Tianjin University); Quan Xu (Tianjin University); Jiaguang Han (Tianjin University);*
- 8:35 Visible Chalcogenide Metadevices  
Invited  
*Hao Dai (Zhejiang University); Yilin Shi (Westlake University); Jieren Song (Westlake University); Lan Li (Westlake University); Hongtao Lin (Zhejiang University);*



- 8:55 Dielectric Metasurface for Color Display  
Invited  
*Lei Jin (Hangzhou Dianzi University);*
- 9:15 Large-scale High-performance Broadband Perfect Absorber Designed via Bayesian Optimization  
*Moxin Li (Huazhong University of Science and Technology); Danyan Wang (Huazhong University of Science and Technology); Zhenyu Xing (Huazhong University of Science and Technology); Hao Gao (Huazhong University of Science and Technology); Cheng Zhang (Huazhong University of Science and Technology);*
- 9:30 Wide Band Full-Stokes Polarimetry Based on Optical Metasurface  
*Yuhui Hu (Huazhong University of Science and Technology); Hao Gao (Huazhong University of Science and Technology); Zhelin Lin (Huazhong University of Science and Technology); Cheng Zhang (Huazhong University of Science and Technology);*
- 9:45 High- $Q$  Resonances Enable Maximum Chirality in Metastructures  
Invited  
*Yang Chen (University of Science and Technology of China);*
- 10:05 **Coffee Break**
- 10:30 Generating Vector Beams Carrying Orbital Angular Momentums Using Ultraviolet Anisotropic Metasurfaces  
*Huixian Zhou (Huazhong University of Science and Technology); Hao Gao (Huazhong University of Science and Technology); Zhenyu Xing (Huazhong University of Science and Technology); Cheng Zhang (Huazhong University of Science and Technology);*
- 10:45 Inverse-designed Quantum Metasurfaces  
Invited  
*Jihua Zhang (Songshan Lake Materials Laboratory); Jinyong Ma (The Australian National University); Neuton Li (The Australian National University); Shaun Lung (The Australian National University); Andrey A. Sukhorukov (Australian National University);*
- 11:05 Study on Field Distribution of Nano-silver Sphere Array Structure  
*Xiaowei Ji (Liupanshui Normal College);*
- 11:20 Enhancing Color Purity and Brightness Through Transitional Resonance Cavity Effect in Layered Thin Film Structures  
*Danyan Wang (Huazhong University of Science and Technology); Chengang Ji (Ningbo Inlight Technology Co., Ltd.); Moxin Li (Huazhong University of Science and Technology); Zhenyu Xing (Huazhong University of Science and Technology); Hao Gao (Huazhong University of Science and Technology); Huixian Zhou (Huazhong University of Science and Technology); Yuhui Hu (Huazhong University of Science and Technology); Zhelin Lin (Huazhong University of Science and Technology); Cheng Zhang (Huazhong University of Science and Technology);*
- 11:35 Tailoring Hierarchical Metasurface Designs to Achieve Broadband Detections in the New-developed Ratchet Photodetector  
*Yiwei Wang (Institute of Applied Physics and Computational Mathematics); Peng Bai (Institute of Applied Physics and Computational Mathematics); Ning Yang (Institute of Applied Physics and Computational Mathematics); Weidong Chu (Institute of Applied Physics and Computational Mathematics);*
- 11:50 Valley-addressable Monolayer Lasing through Berry Phase Photonic Cavities  
Invited  
*Xiaoyang Duan (Beijing Institute of Technology);*
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- Session 3A5**  
**Advanced Photonic Technologies for Spectroscopic Applications 1**
- 
- Wednesday AM, April 24, 2024**  
**Room 5 - Yingbin**  
Organized by Wei Dong Chen, Vincenzo Spagnolo  
Chaired by Kun Liu, Weilin Ye
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- 8:00 Quartz-tuning-fork-based Laser Spectroscopy Sensing  
Invited  
*Yufei Ma (Harbin Institute of Technology); Ying He (Harbin Institute of Technology);*
- 8:20 Lithium Niobate Tuning Forks as Piezoelectric Transducers in Photoacoustic Spectroscopy  
Invited  
*Angelo Sampaolo (University and Politecnico of Bari); Aldo F. P. Cantatore (University and Politecnico of Bari); Giansergio Menduni (Politecnico and University of Bari); Andrea Zifarelli (Universita degli Studi di Bari and Politecnico di Bari); Miguel Gonzalez (Aramco Americas, Sensors Development Team); Huseyin R. Seren (Aramco Americas, Sensors Development Team); Pietro Patimisco (Universita degli Studi di Bari and Politecnico di Bari); Vincenzo Spagnolo (Politecnico di Bari);*
- 8:40 Advancements in Quartz-enhanced Photoacoustic and Photothermal Hybrid Spectroscopy Research  
Invited  
*Hongpeng Wu (Shanxi University); Ruyue Cui (Shanxi University); Vincenzo Spagnolo (Politecnico di Bari); Wei Dong Chen (Université du Littoral Côte d'Opale); Lei Dong (Shanxi University);*
- 9:00 Assessment of Methane Isotopologues Relaxation Rate in a Wet-nitrogen Matrix Using QEPAS  
*Marilena Giglio (University and Politecnico of Bari); Mariagrazia Olivieri (University and Politecnico of Bari); Giansergio Menduni (Politecnico and University of Bari); Andrea Zifarelli (Universita degli Studi di Bari and Politecnico di Bari); Angelo Sampaolo (University and Politecnico of Bari); Pietro Patimisco (Universita degli Studi di Bari and Politecnico di Bari); Vincenzo Spagnolo (Politecnico di Bari);*

9:15 Multiple Gas Detection by Cavity-enhanced Raman  
Invited Spectroscopy with Sub-ppm Sensitivity  
*Yan Tan (University of Science and Technology of China); Qing-Ying Yang (University of Science and Technology of China); Yu Sun (Institute of Advanced Science Facilities); An-Wen Liu (University of Science and Technology of China); Shui-Ming Hu (University of Science and Technology of China);*

9:35 Advanced Photoacoustic Multicomponent SF<sub>6</sub> Decom-  
Invited position Sensors for an Electric Power System Simple  
*Xukun Yin (Xidian University);*

10:00 **Coffee Break**

10:30 Development and Application of Innovative Folded-path  
Optical Cells for High-sensitivity Trace Gas Sensing  
*Ruyue Cui (Shanxi University); Hongpeng Wu (Shanxi University); Vincenzo Spagnolo (Politecnico di Bari); Weidong Chen (Université du Littoral Côte d'Opale); Lei Dong (Shanxi University);*

10:45 Gas Isotopologue Ratios Measurement Using a Mid-  
Invited Infrared Hollow Waveguide Gas Sensor  
*Haojie Zhang (Nanchang Hangkong University); Tao Wu (Nanchang Hangkong University); Qiang Wu (Northumbria University); Wei Dong Chen (Université du Littoral Côte d'Opale); Xingdao He (Nanchang Hangkong University);*

11:05 Development of VIPA Spectrometer for Broadband and  
Invited High Resolution Spectroscopy Detection  
*Weixiong Zhao (Anhui Institute of Optics and Fine Mechanics, Chinese Academy Sciences); Hao Zhou (Anhui Institute of Optics and Fine Mechanics, Chinese Academy Sciences); Bingxuan Lv (Anhui Institute of Optics and Fine Mechanics, Chinese Academy Sciences); Weihua Cui (Anhui Institute of Optics and Fine Mechanics, Chinese Academy Sciences); Bo Fang (Anhui Institute of Optics and Fine Mechanics, Chinese Academy Sciences); Nana Yang (Anhui Institute of Optics and Fine Mechanics, Chinese Academy Sciences); Weijun Zhang (Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences); Wei Dong Chen (Université du Littoral Côte d'Opale);*

11:25 Generation of Broadband Mid-infrared Supercontinuum  
Spectrum in Square-core Photonic Crystal Fiber for  
Low-power Pulses  
*Yongtao Xia (Lanzhou University of Technology); Jiayuan Liu (Lanzhou University of Technology); Shanglin Hou (Lanzhou University of Technology); Gang Wu (Lanzhou University of Technology); Zuyong Yan (Lanzhou University of Technology);*

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**Session 3A6a**  
**Non-Hermitian Optics and Photonics, and**  
**Exceptional Point**

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**Wednesday AM, April 24, 2024**

**Room 6 - Huanhua**

Organized by Pai-Yen Chen, Minye Yang

Chaired by Minye Yang

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8:00 Highly Homogeneous Zero-index Metamaterial for High-  
Invited directivity Antenna  
*Yang Li (Tsinghua University);*

8:20 Frequency Tunable Coherent Perfect Absorption and  
Lasing in Radio-frequency System for Ultrahigh-  
sensitive Sensing  
*Jianhui Wu (Zhejiang University); Jie Li (Zhejiang University); Chi Zhang (Zhejiang University); Weipeng Xuan (Hangzhou Dianzi University); Hao Jin (Zhejiang University); Shu Rong Dong (Zhejiang University); Jikui Luo (Zhejiang University);*

8:35 Higher-order Partity-time Symmetry Enabled Multi-  
modal Wireless Sensors  
*Zhilu Ye (Xi'an Jiaotong University); Pai-Yen Chen (University of Illinois at Chicago);*

8:50 Non-Hermitian Photonics Manipulations in Topological  
Waveguide Lattices  
*Wange Song (Nanjing University); Shining Zhu (Nanjing University); Tao Li (Nanjing University);*

9:05 Loss Difference Induced Localization in a Non-Hermitian  
Honeycomb Photonic Lattice  
*Zhenzhi Liu (Xi'an Jiaotong University); Yuan Feng (Xi'an Jiaotong University); Jiawei Yu (Xi'an Jiaotong University); Shun Liang (Xi'an Jiaotong University); Feng Li (Xi'an Jiaotong University); Yanpeng Zhang (Xi'an Jiaotong University); Min Xiao (Nanjing University); Zhaoyang Zhang (Xi'an Jiaotong University); Fu Liu (Xi'an Jiaotong University);*

9:20 Nonreciprocal Magnon-photon Coupling Based on Mi-  
crowave Photonic Crystal  
*Chi Zhang (Lanzhou University); Zhenhui Hao (Lanzhou University); Guozhi Chai (Lanzhou University);*

9:35 Pseudo-Hermitian Circuits and Their Novel Applica-  
tions  
*Ke Yin (Xi'an Jiaotong University); Yuangen Huang (Xi'an Jiaotong University); Zhuoyu Zhang (Xi'an Jiaotong University); Xi-Kui Ma (Xi'an Jiaotong University); Tianyu Dong (Xi'an Jiaotong University);*

10:00 **Coffee Break**

- 10:20 Tracking Exceptional Points above the Lasing Threshold  
*Kaiwen Ji (Centre de Nanosciences et de Nanotechnologies, CNRS); Zhong Qi (Michigan Technological University); Li Ge (CUNY); Gregoire Beaudoin (Centre de Nanosciences et de Nanotechnologies, CNRS); Isabelle Sagnes (Centre de Nanosciences et de Nanotechnologies, CNRS); Fabrice Raineri (Centre de Nanosciences et de Nanotechnologies, CNRS); Ramy El-Ganainy (Michigan Technological University); Alejandro M. Yacomotti (Centre de Nanosciences et de Nanotechnologies, CNRS);*

- 10:35 Dynamically Encircling an Exceptional Nexus for Chiral Mode Switching in Gainless and Lossless Anti-PT Symmetric System  
*Yuxin Zhong (Southern University of Science and Technology); Jingming Chen (Southern University of Science and Technology); Zhen Gao (Southern University of Science and Technology);*

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### Session 3A6b

#### Non-Hermitian Physics: Theory and Applications 2

Wednesday AM, April 24, 2024

Room 6 - Huanhua

Organized by Wei Wang, Guancong Ma, Kun Ding

Chaired by Guancong Ma, Kun Ding

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- 10:50 Localized Chiral Edge States in Non-Hermitian Photonic Chern Insulators  
*Gui-Geng Liu (Nanyang Technological University); Subhaskar Mandal (Nanyang Technological University); Pei-Heng Zhou (University of Electronic Science and Technology of China); Xiang Xi (Southern University of Science and Technology); Yihao Yang (Zhejiang University); Yidong Chong (Nanyang Technological University); Baile Zhang (Nanyang Technological University);*
- 11:05 Restoration of Non-Hermitian Bulk-boundary Correspondence by Counterbalancing Skin Effect  
*Yixin Xiao (The Hong Kong University of Science and Technology); Zhao-Qing Zhang (The Hong Kong University of Science and Technology); Che Ting Chan (The Hong Kong University of Science and Technology);*
- 11:20 Acoustic Circular Dichroism in a Three-dimensional Chiral Metamaterial  
*Qing Tong (City University of Hong Kong); Jensen Li (Hong Kong University of Science and Technology); Shubo Wang (City University of Hong Kong);*
- 11:35 Ultra-broadband Reflection-less Sound Absorbers with Angular Selectivity  
*Jinjie Shi (Nanjing University); Chenkai Liu (Nanjing University); Hongchen Chu (Nanjing University); Jie Luo (Soochow University); Xiaozhou Liu (Nanjing University); Jensen Li (Hong Kong University of Science and Technology); Yun Lai (Nanjing University);*

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### Session 3A7

#### Integrated Photonics Beyond the Communication Waveband

Wednesday AM, April 24, 2024

Room 7 - Xiling

Organized by Yi Zou, Rongping Wang

Chaired by Yi Zou, Rongping Wang

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- 8:00 In-situ Visualization of Nanosecond Laser-materials Processes and the Functional Structures Preparation of Thin Film  
 Invited *Dongfeng Qi (Shandong University of Technology); Letian Wang (University of California); Songyan Chen (Xiamen University); Costas P. Grigoropoulos (University of California, Berkeley);*
- 8:40 High Accuracy Terahertz Computed Tomography and Continuous-wave Terahertz Holographic Diffraction Tomography  
 Invited *Dayong Wang (Beijing University of Technology); Jie Zhao (Beijing University of Technology); Lu Rong (Beijing University of Technology); Yunxin Wang (Beijing University of Technology); Shufeng Lin (Beijing University of Technology);*
- 9:00 Hybrid Integration of Chalcogenide with Silica Pedestal for Mid-infrared Nonlinear Applications  
 Invited *Duk-Yong Choi (Australian National University);*
- 9:20 A Novel Tuned Phosphate Systems to Fabricate Glass for Their Variety of Optical Applications Thereof  
 Invited *El Sayed Said Yousef (King Khalid University); Mohammed S. Alqahtani (King Khalid University); A. M. Alshehri (King Khalid University); Bozena Burtan-Gwizdala (Cracow University of Technology); Manuela Reben (AGH — University of Science and Technology); Ganapathy Senthil Murugan (University of Southampton); Rongping Wang (Ningbo University);*
- 10:00 **Coffee Break**
- 10:30 Towards Removal of Water Vapour and Carbon Dioxide Effects from Mid-infrared Spectra  
 Invited *Waseem Ahmed (University of Southampton); Eleanor Osborne (University of Southampton); Ganapathy Senthil Murugan (University of Southampton);*
- 10:50 Ultrafast Optofluidic Imaging on a Chip for Massive Image-based Single-cell Profiling  
 Invited *Ting-Hui Xiao (Zhengzhou University);*
- 11:10 Group IV Integrated Photonics for Shortwave Infrared Applications  
 Invited *Li Shen (Huazhong University of Science and Technology);*
- 11:30 Broadband Double-layer L-shaped Grating Coupler  
*Wenxin Hao (Tongji University); Junhe Zhou (Tongji University);*

- 11:45 Mid-infrared On-chip Spectrometer for Chemical Sensing  
*Lipeng Xia (ShanghaiTech University); Yi Zou (ShanghaiTech University);*

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### Session 3A8

#### High-Q Photonic Resonances in All-dielectric Nanostructures and Their Applications 1

Wednesday AM, April 24, 2024

Room 8 - Guixiang

Organized by Zhanghua Han, Wei Wang

Chaired by Zhanghua Han

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- 8:00 The Hamiltonian of Optical Bound States in Photonic Crystal Slabs  
 Invited *Dezhuan Han (Chongqing University);*
- 8:20 High-Q Resonant Nanophotonics  
 Invited *Lujun Huang (East China Normal University);*
- 8:40 Investigation of Dirac Semimetal Supported Tunable Terahertz High Q-factor All-dielectric Metamaterials  
 Invited *Xiao-Yong He (Shanghai Normal University);*
- 9:00 Optical Nonlinearity in All-dielectric Nanostructures of High-Q Photonic Resonances  
 Invited *Tingyin Ning (Shandong Normal University);*
- 9:20 Scanning Probe Lithography for Optoelectronic Devices  
 Invited *Xiaorui Zheng (Westlake University);*
- 9:40 Metasurfaces for Manipulating and Controlling Visible-light Emission and Its Diverse Applications  
 Invited *Shaojun Wang (Soochow University);*
- 10:00 **Coffee Break**
- 10:30 High-Q EIT Resonance Freeform Dielectric Metasurface via Time-reversal Based Time-domain Topology Optimization  
 Invited *Mingfeng Xu (Chinese Academy of Sciences); Mingbo Pu (Institute of Optics and Electronics, Chinese Academy of Sciences); Tianqu Chen (Chinese Academy of Sciences); Yuhang Zheng (Chinese Academy of Sciences); Shilin Yu (Chinese Academy of Sciences); Fei Zhang (Chinese Academy of Sciences); Yinghui Guo (Institute of Optics and Electronics, Chinese Academy of Sciences); Xiong Li (Institute of Optics and Electronics, Chinese Academy of Sciences); Xiaoliang Ma (Institute of Optics and Electronics, Chinese Academy of Sciences); Xiangang Luo (Institute of Optics and Electronics, Chinese Academy of Sciences);*
- 10:50 Heterogeneous Vanadium Oxide Metasurface Empowered High-Q Infrared Thermal Switching  
 Invited *Hai Lu (Henan Normal University); Shi-Qing Dong (Henan Normal University); Hong-Chao Liu (Henan Normal University); Chao Dong (Henan Normal University); Ke-Sheng Shen (Henan Normal University);*

- 11:10 Bound States in the Continuum Manipulations with AL-3DLithography and Its Application in Optoelectronic Devices  
 Invited *Liaoyong Wen (Westlake University);*

- 11:30 Self-aligned Integration of Self-assembled Silicon Photonic Cavities with Atomic-scale Confinement in Photonic Circuits  
 Invited *Ali Nawaz Babar (Technical University of Denmark); Thor August Schimmell Weis (Technical University of Denmark); Konstantinos Tsoukalas (Technical University of Denmark); Shima Kakhodazadeh (Technical University of Denmark); Guillermo Arregui (Technical University of Denmark); Babak Vosoughi Lahijani (Technical University of Denmark); Soren Stobbe (Technical University of Denmark);*

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### Session 3A9

#### Organic, Perovskite and Low-dimensional Light Sources: Emerging Phenomena and Applications

Wednesday AM, April 24, 2024

Room 9 - Xinyu

Organized by Dawei Di

Chaired by Baodan Zhao, Chen Zou

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- 8:00 From Excitons to Polarons: The Photophysics of Lead Halide Perovskites  
 Invited *Michele Saba (Università di Cagliari); Riccardo Pau (Università di Cagliari); Federico Pitzalis (Università di Cagliari); Luyan Wu (Università di Cagliari); Ruirui Wu (Università di Cagliari); Selene Matta (Università di Cagliari); Stefano Lai (Università di Cagliari); Daniela Marongiu (Università di Cagliari); Angelica Simbula (Università di Cagliari); Valeria Demontis (Università di Cagliari); Francesco Quochi (Università di Cagliari); Andrea Mura (Università di Cagliari); Giovanni Bongiovanni (Università di Cagliari);*
- 8:20 Polaritonic Metasurface Based on Halide Perovskite  
 Invited *Hai Son Nguyen (Ecole Centrale de Lyon); Nguyen Ha My Dang (Université Claude Bernard Lyon 1); Simone Zanotti (Università di Pavia); Céline Chevalier (Université Claude Bernard Lyon 1); Emmanuel Drouard (Univ Lyon); Gaëlle Trippé-Allard (Université Paris-Saclay); Emmanuelle Deleporte (Ecole Normale Supérieure Paris-Saclay); Dario Gerace (Univ Pavia); Christian Seassal (Université Claude Bernard Lyon 1);*
- 8:40 Passivation Strategies for Mitigating Defect Challenges in Halide Perovskite Light-emitting Diodes  
 Invited *Bo-Ram Lee (Sungkyunkwan University);*
- 9:00 Interface-assisted Perovskite Modulations for High-performance Near-infrared Light-emitting Diodes  
 Invited *Sai Bai (University of Electronic Science and Technology);*

- 9:20 Challenges beyond Efficiency in Perovskite Light-emitting Diodes  
Invited Baodan Zhao (Zhejiang University); Dawei Di (Zhejiang University);
- 9:40 Towards Efficient Electrical Doping Strategies in Metal-halide Perovskites  
Invited Keehoon Kang (Seoul National University);
- 10:00 **Coffee Break**
- 10:30 Molecular Engineering Enabled High-performance Perovskite Light-emitting Diodes  
Invited Kang Wang (Institute of Chemistry Chinese Academy of Sciences); Letian Dou (Purdue University);
- 10:50 Patterning Multicolor Perovskite Films Using a Dry Lift-Off Method  
Invited Chen Zou (Zhejiang University);
- 11:10 Optical Routes to Enhance the Open Circuit Voltage from Organic and Perovskite Photovoltaic Cells  
Francisco Bernal-Texca (ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology); Mariia Kramarenko (ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology); Jordi Martorell (ICFO-Institut de Ciències Fotòniques);
- 11:25 Bright Circularly Polarized Photoluminescence in Chiral Layered Hybrid Lead-halide Perovskites  
Shangpu Liu (Universität Heidelberg); Yang Li (Universität Heidelberg); Stanislav Bodnar (Universität Heidelberg); Jonathan Zerhoch (Universität Heidelberg); Andrii Shcherbakov (Universität Heidelberg); Markus W. Heindl (Universität Heidelberg); Ulrich W. Paetzold (Karlsruhe Institute of Technology); Felix Deschler (Universität Heidelberg);
- 11:40 Multifunctional Additives for Bright, Efficient and Stable Lead-bromide Perovskite LEDs  
Shiyu Xing (Zhejiang University); Yucai Yuan (Zhejiang University); Gan Zhang (Zhejiang University); Shiang Zhang (Zhejiang University); Yaxiao Lian (Zhejiang University); Weidong Tang (Zhejiang University); Ke Zhou (Zhejiang University); Zhixiang Ren (Zhejiang University); Guoling Zhang (Zhejiang University); Baodan Zhao (Zhejiang University); Dawei Di (Zhejiang University);
- 8:00 Inception-V4 Convolutional Neural Network for Near-field to Far-field Transform  
Tianyang Zeng (Zhejiang University); Jianming Zhou (Zhejiang University); Donghao Han (Zhejiang University); Xingchang Wei (Zhejiang University);
- 8:15 Far Field Prediction Based on Non-fixed Height Near-field Scan and VGG19 Convolutional Neural Network  
Jianming Zhou (Zhejiang University); Tianyang Zeng (Zhejiang University); Donghao Han (Zhejiang University); Xingchang Wei (Zhejiang University);
- 8:30 Active Machine Learning for Automatic Electromagnetic Source Localization  
Ling Zhang (Zhejiang University); Jinghai Guo (Zhejiang University); Er-Ping Li (Zhejiang University);
- 8:45 Research Progress on Sub-band Fusion Technology for Ultra-wideband Radar Signals  
Denghui Huang (University of Electronic Science and Technology of China); Ying Zhang (University of Electronic Science and Technology of China); Huapeng Zhao (University of Electronic Science and Technology of China); Muchen He (University of Electronic Science and Technology of China); Yipeng Wang (University of Electronic Science and Technology of China); Xinxin Qin (University of Electronic Science and Technology of China);
- 9:00 Statistical Research on Human Posture Characteristics Based on RFID  
Yuan Zhao (Chengdu University of Information Technology); Zhiqiang Song (Chengdu University of Information Technology); Yihao Wan (Sunwave Communications Co., Ltd.); Haojie Ren (Chengdu University of Information Technology); Pengju Chen (Chengdu University of Information Technology); Guo-Hong Du (University of Science and Technology of China);
- 10:00 **Coffee Break**

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### Session 3A10b

### RF-THz Physical, Chemical and Biological Sensors and Measurement

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Wednesday AM, April 24, 2024

Room 10 - Shuliu

Organized by Yunjing Zhang, Wenhai Zhang

Chaired by Yunjing Zhang

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### Session 3A10a

### Measurement-computation Fusion for Advanced Applications

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Wednesday AM, April 24, 2024

Room 10 - Shuliu

Organized by Huapeng Zhao, Xingchang Wei

Chaired by Xingchang Wei

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- 10:30 Detection of Biological Sample by Using Terahertz Technology  
Nagendra Prasad Yadav (Hubei Polytechnic University); Guozhen Hu (Hubei Polytechnic University); Xiaofeng Cai (Hubei Polytechnic University);

- 10:45 Deep Learning-based Recognizing Liquids Using a Multi-resonance Microwave Sensor  
Yifan Zhou (*University of Electronic Science and Technology of China*); Jing Lei Yong (*Soochow University*); Jin Yang Peng (*Soochow University*); Peng Li (*Soochow University*); Mei Song Tong (*Tongji University*); Yun-jing Zhang (*Soochow University*);
- 11:00 A Wireless Temperature Monitoring Method for Battery Pack  
Yang Pan (*Zhejiang University*); Sijie Chen (*Zhejiang University*); Hongbin Ma (*Zhejiang University*); Ran Yan (*Zhejiang University*); Jiangtao Huangfu (*Zhejiang University*);
- 11:15 Pipeline Monitoring Based on Magnetic Inductive Coils Detection System  
Hongbin Ma (*Zhejiang University*); Xingyu Liu (*Zhejiang University*); Yang Pan (*Zhejiang University*); Yifang Sun (*Zhejiang University*); Jiangtao Huangfu (*Zhejiang University*);

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### Session 3A11

### Advanced Optical and Digital Signal Processing in Optical Communication Networks 1

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Wednesday AM, April 24, 2024

Room 11 - Xiangyu

Organized by Feng Wen, Mingming Tan, Tianhua Xu

Chaired by Feng Wen

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- 8:00 High-symbol Rate Silicon Photonics Ring Resonator  
Invited Modulators  
Oskars Ozoliņš (*Riga Technical University, Latvian Academy of Sciences*); Armands Ostrovskis (*Riga Technical University*); Aleksandrs Marinins (*Riga Technical University*); Toms Salgals (*Riga Technical University*); Michael Koenigsmann (*Keysight Technologies Deutschland GmbH*); Benjamin Krüger (*Keysight Technologies Deutschland GmbH*); Fabio Pittalà (*Keysight Technologies Deutschland GmbH*); Arvids Sedulis (*Riga Technical University*); Kristaps Rubuls (*Riga Technical University*); Ryan P. Scott (*Keysight Technologies, Inc.*); Hansjoerg Haisch (*Keysight Technologies Deutschland GmbH*); Richard Schatz (*Royal Institute of Technology (KTH)*); Rafael Puerta (*Ericsson Research*); Kattia Gallo (*KTH — Royal Institute of Technology*); Lu Zhang (*Zhejiang University*); Sandis Spolitis (*Riga Technical University*); Xianbin Yu (*Zhejiang University*); Markus Gruen (*Keysight Technologies Deutschland GmbH*); Hadrien Louchet (*Keysight Technologies Deutschland GmbH*); Kazuo Yamaguchi (*Keysight Technologies*); Vjaceslavs Bobrovs (*Riga Technical University*); Xiaodan Pang (*KTH Royal Institute of Technology, Riga Technical University*);

- 8:20 Directly Modulated Quantum Cascade Laser for Mid-wave and Long-wave Infrared Free-space Optical Communications  
Invited Xiaodan Pang (*KTH Royal Institute of Technology*); Richard Schatz (*Royal Institute of Technology (KTH)*); Mahdieh Joharifar (*KTH Royal Institute of Technology*); Hamza Dely (*Université Paris Cité, CNRS*); Laureline Durupt (*MirSense*); Gregory Maisons (*MirSense*); Djamal Gacemi (*Université Paris Cité, CNRS*); Rafael Puerta (*Ericsson Research*); Thomas Bonazzi (*Université Paris Cité, CNRS*); Lu Zhang (*Zhejiang University*); Sandis Spolitis (*Riga Technical University*); Yanting Sun (*KTH Royal Institute of Technology*); Vjaceslavs Bobrovs (*Riga Technical University*); Xianbin Yu (*Zhejiang University*); Angela Vasanelli (*Université Paris Cité, CNRS*); Carlo Sirtori (*Université Paris Cité, CNRS*); Oskars Ozolins (*Riga Technical University*);

- 8:40 A Novel Guard-interval Shortening Method for CS-  
Invited NFDM Transmission Approaching Its Spectral Efficiency Limit

Jianqing He (*Guangdong University of Technology*); Jianping Li (*Guangdong University of Technology*); Yuwen Qin (*Guangdong University of Technology*);

- 9:00 Eye-safe Random Fiber Lasers and Manipulation of  
Invited Their Optical Fields

Jun Liu (*Shenzhen University*); Xinying Li (*Shenzhen University*); Rui Ma (*Shenzhen University*);

- 9:20 Characterization of Coupled-core Four-core Fibers for  
Invited Long-haul Transmission

Lin Ma (*Shanghai Jiao Tong University*); Junjie Xiong (*Shanghai Jiao Tong University*);

- 9:40 Simplified Coherent Optical Transmissions Utilizing  
Invited Noise Shaping and Non-Integer-Oversampling Clock Data Recovery

Lin Sun (*Soochow University*); Haotian Mu (*Soochow University*);

- 10:00 **Coffee Break**

- 10:30 Analytical Solution of the Gaussian Noise Model Applied to Hybrid Heterogeneous Links

Tengyuan Liu (*Tongji University*); Yuheng Wang (*Tongji University*); Jiuzhou Guo (*Tongji University*); Junhe Zhou (*Tongji University*);

- 10:45 Mode-division Multiplexing Signals through Both Wired and Wireless Optical Channels

Shiyu Zong (*University of Electronic Science and Technology of China*); Feng Wen (*University of Electronic Science and Technology of China*); Tianfeng Zhao (*University of Electronic Science and Technology of China*); Kun Qiu (*University of Electronic Science and Technology of China*);

- 11:00 Mode Exchange of High-speed DP-QPSK Signals Using Spatial Light Modulator  
Wei Yan (*University of Electronic Science and Technology of China*); Bao-Jian Wu (*University of Electronic Science and Technology of China*); Yu Tang (*University of Electronic Science and Technology of China*); Yuhang Wang (*University of Electronic Science and Technology of China*); Kun Qiu (*University of Electronic Science and Technology of China*);
- 11:15 Semiconductor Optical Amplifier based on Optical Reservoir (SOA-OR) for Mode-division Multiplexing Signal Compensation  
Huiwen Luo (*University of Electronic Science and Technology of China*); Xiyong Liu (*University of Electronic Science and Technology of China*); Tianfeng Zhao (*University of Electronic Science and Technology of China*); Kun Qiu (*University of Electronic Science and Technology of China*); Feng Wen (*University of Electronic Science and Technology of China*);
- 11:30 A Out-of-band Noise Detection and Whitening Method for Polarization Dependent Loss Mitigation  
Jiuzhou Guo (*Tongji University*); Yuheng Wang (*Tongji University*); Tengyuan Liu (*Tongji University*); Junhe Zhou (*Tongji University*);

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### Session 3A12a

#### Passive Microwave and Millimeter-wave Components and Their Application for RF Frontend

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Wednesday AM, April 24, 2024

Room 12 - Siji 1

Organized by Xiaolong Wang, Yong Mao Huang  
Chaired by Xiaolong Wang, Yong Mao Huang

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- 8:00 A Novel Wideband Filtering Power Divider with Full Frequency Isolation Performance, Controllable Bandwidth and Reflection Level  
Shuo Yang (*Jilin University*); Xindong Zhang (*Jilin University*); Xiaolong Wang (*Jilin University*); Chun-Ping Chen (*Kanagawa University*); Gennadi Milinevsky (*Jilin University*); Geyu Lu (*Jilin University*);
- 8:15 A Design Method for Ring Type Dual-band Complex Filtering Impedance Transformer  
Chunxiao Li (*Jilin University*); Hongda Xu (*Jilin University*); Xiaolong Wang (*Jilin University*); Chun-Ping Chen (*Kanagawa University*); Gennadi Milinevsky (*Jilin University*); Geyu Lu (*Jilin University*);
- 8:30 Substrate Integrated Waveguide Miniaturization Filter with Interdigital Complementary Split-ring Resonator  
Yu Jie Huang (*Xihua University*); Yong Mao Huang (*Xihua University*);

- 8:45 Design of a 1 in 8 out Dual-frequency Power Divider  
Guanbao Long (*Guangdong Polytechnical Normal University*); Junyu Zhou (*Guangdong Polytechnical Normal University*); Songjie Zhao (*Guangdong Polytechnical Normal University*); Peng Xu (*Guangdong Polytechnical Normal University*); Ye Li (*Zhongkai University of Agriculture and Engineering*); Hui Liu (*Guangdong Polytechnical Normal University*);
- 9:00 Design of an N3-band FBAR Filter Chip for Mobile Communications  
Chen Zhao (*Guangdong Polytechnical Normal University*); Wenyu Yan (*Guangdong Polytechnical Normal University*); Shangran Wang (*Guangdong Polytechnical Normal University*); Zihao Lin (*Guangdong Polytechnical Normal University*); Hui Liu (*Guangdong Polytechnical Normal University*);
- 9:15 Miniaturized Power Divider Based on Parallel Coupled Microstrip Lines  
Wan Jiang (*Sichuan University*); Xiaobo Chang (*XiHua University*);
- 9:30 CSRR Loaded HMSIW Filtering Power Divider with Embedded Snake-shaped Slots  
Chen Wang (*Xihua University*); Yong Mao Huang (*Xihua University*);
- 9:45 Investigation of Electromagnetic Susceptibility Characteristics of Optocouplers by DPI Test Method  
Peng Huang (*Beihang University*); Jiayue Xing (*Beihang University*); Bing Li (*Beihang University*); Donglin Su (*Beihang University*);
- 10:00 **Coffee Break**

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### Session 3A12b

#### Advanced Mode-Inspired Filtering Techniques for 5G+/6G Communications

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Wednesday AM, April 24, 2024

Room 12 - Siji 1

Organized by Gang Zhang, Kai Xu  
Chaired by Gang Zhang, Kai Xu

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- 10:30 3-D Printed Multiband Filter and Multiplexer on Modified Multimode Coaxial Resonators: Modeling, Synthesis, and Validation  
Gang Zhang (*Nanjing Normal University*); Chenxin Ma (*Nanjing Normal University*); Zhanzhi Liu (*Nanjing Normal University*); Hongtao Gu (*Nanjing Normal University*);
- 10:45 Dual-band Helical Filter Based on Helical Coaxial Stepped Impedance Resonators  
Chenxin Ma (*Nanjing Normal University*); Zhanzhi Liu (*Nanjing Normal University*); Hongtao Gu (*Nanjing Normal University*); Gang Zhang (*Nanjing Normal University*); Wanchun Tang (*University of Nanjing Science and Technology*);

- 11:00 A Decoupling Antenna with Integrated Filtering Characteristics  
*Kai Xu (Nantong University and City University of Hong Kong); Binghe Wang (Nantong University); Shiwei Wang (Nantong University); Wei Zhang (Nantong University); Jin Shi (Nantong University);*
- 11:15 A Balanced Filtering Phase Shifter with Wide Operating Bandwidth  
*Jinwei Shi (Nantong University); Jin Shi (Nantong University); Mengjie Yue (Nantong University); Kai Xu (Nantong University and City University of Hong Kong); Wei Zhang (Nantong University);*
- 11:30 Bandstop Cavity Filter Based Decoupling Method for  $1 \times 2$  MIMO Slot Antennas  
*Mingqi Li (Sun Yat-sen University); Nan Yang (Sun Yat-sen University); Kai Lu (Sun Yat-sen University); Peng Fei Hu (Sun Yat-Sen University); Yunliang Long (Sun Yat-Sen University);*

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**Session 3A13a**

**New Mechanism and Data Processing of Ground Penetrating Radar**

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**Wednesday AM, April 24, 2024**

**Room 13 - Siji 2**

Organized by Tong Hao, Hongxia Ye

Chaired by Tong Hao, Hongxia Ye

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- 8:00 Time-varying Baseline Characteristics Analysis for Active and Passive Glacier Deep Exploration with Multi-satellites Formation Flying  
*H. M. Dai (National Space Science Center, Chinese Academy of Sciences); R. Li (National Space Science Center, Chinese Academy of Sciences); Li Deng (National space science center, Chinese Academy of Sciences);*
- 8:15 GPR Clutter Removal Based on Stationary Graph Process  
*Wenhao Luo (Tongji University); Tong Hao (Tongji University);*
- 8:30 Denoising Method for SHARAD Radar Signal Based on Diffusion Probabilistic Model  
*Rui Shi (Fudan University); Hongxia Ye (Fudan University);*
- 8:45 Shallow Neural Network-based Wavelet Synchrosqueezing for Near-surface Void Detection by GPR  
*Changyu Zhou (Tongji University College of Surveying & Geo-Informatics);*
- 9:00 The Sharpness Method Based on Window Interception Improves the Stability of Mars TEC Estimation  
*Yunlong Dong (Fudan University); Hongxia Ye (Fudan University);*

- 9:15 Design of a Directional Borehole Radar System  
*Shangyang Zhang (Guangzhou University); Hai Liu (Guangzhou University); Yao Wang (Guangzhou University); Xu Meng (Guangzhou University);*
- 9:30 An Intelligent Reconfigurable Anti-reflection Matching Layer for Ground Penetrating Radar  
*Linyan Guo (China University of Geosciences, Beijing); Bo Li (China University of Geosciences, Beijing);*
- 9:45 Integration of Metasurface-based Impedance Matching Layer with Ground Penetrating Radar  
*Tong Hao (Tongji University); Wuan Zheng (Tongji University); Xiaojing Li (Tongji University);*
- 10:00 **Coffee Break**

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**Session 3A13b**

**Progress in Inversion Method and Machine Learning Enhanced Inversion Method and Their Applications**

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**Wednesday AM, April 24, 2024**

**Room 13 - Siji 2**

Organized by Yunyun Hu, Rencheng Song

Chaired by Yunyun Hu, Rencheng Song

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- 10:30 Physics-informed Deep Neural Networks for Fourier Ptychographic Microscopy Imaging  
*Quan Chen (Sun Yat-Sen University); Rui Chen (Sun Yat-Sen University);*
- 10:45 A Sparsity-promoting Regularization Scheme for Electromagnetic Imaging  
*Lingqi Gao (King Abdullah University of Science and Technology); Hakan Bagci (King Abdullah University of Science and Technology (KAUST));*
- 11:00 Integrating Discrete-valued Search and Continuous Gradient Information through Probabilistic Approaches  
*Shanglin Yang (Xidian University); Hao Jia (Lanzhou University);*
- 11:15 New Thin Sheet Approximation of Hydraulic Fractures for Electromagnetic Surveys  
*Qingtao Sun (Eastern Institute of Technology); Yunyun Hu (Tongji University);*
- 11:30 Broadband Complete Polarization Control via Inverse-designed Photonic Crystal Slabs  
*Ruhuan Deng (Fudan University); Tongyu Li (Fudan University); Wenzhe Liu (Fudan University); Chao Peng (Peking University); Lei Shi (Fudan University);*
- 11:45 Meta-learning-accelerated Untrained Neural Network for Electromagnetic Inverse Scattering Problems  
*Qian Huang (Hefei University of Technology); Rencheng Song (Hefei University of Technology);*



**Session 3A14****Advanced Signal and Data Processing  
Methodologies for Multistatic Radar System****Wednesday AM, April 24, 2024****Room 14 - Siji 3**

Organized by Xiaolong Li, Shisheng Guo

Chaired by Xiaolong Li, Shisheng Guo

8:00 Target Detection and Parameters Estimation in GNSS-based FSR  
Invited

*Xiaofeng Ai (National University of Defense Technology); Yuqing Zheng (National University of Defense Technology);*

8:20 Multichannel Adaptive Signal Detection: Basic Theory and Some Examples  
Invited

*Weijian Liu (National University of Defense Technology);*

8:40 Collaborative Signal Processing in Radar Sensor Networks: Past, Present and Future  
Invited

*Jing Liang (University of Electronic Science and Technology of China);*

9:00 Multi-dimensional Transmit Resource Management Scheme for Phased Array Radar Networks in Target Tracking Application  
Invited

*Chenguang Shi (Nanjing University of Aeronautics and Astronautics);*

9:20 Spaceborne Distributed Aperture Radar Maneuvering Target Detection Approach with Space-time 2D Hybrid Integration Technique  
Invited

*Dong Li (Chongqing University);*

9:40 Joint Power and Time Allocation Algorithm in Multi-radar System for Cooperative Target Detection

*Xinrui Zhang (Nanjing University of Aeronautics and Astronautics); Chenguang Shi (Nanjing University of Aeronautics and Astronautics); Jianjiang Zhou (Nanjing University of Aeronautics and Astronautics);*

9:55 Intelligent Decision-making Algorithm for Anti-UAV Swarm Based on Convolutional Neural Networks

*Xuezhang Sun (Nanjing University of Aeronautics and Astronautics); Chenguang Shi (Nanjing University of Aeronautics and Astronautics); Jianjiang Zhou (Nanjing University of Aeronautics and Astronautics);*

10:05 **Coffee Break**

10:30 Advanced Spatial Signal Processing Based on Novel Spintronic Computing in Memory Accelerators Realizing Complex Weight Multiplications

*Haotian Wang (Beijing Institute of Radio Measurement); Liang Chang (University of Electronic Science and Technology of China);*

10:45 Wall Parameter Estimation Method Based on Consistent Target States for Distributed Through-wall Imaging Radar

*Yao Yu (University of Electronic Science and Technology of China); Shisheng Guo (University of Electronic Science and Technology of China); Jiahui Chen (University of Electronic Science and Technology of China);*

11:00 Enhanced Through-the-wall Radar Imaging Based on ADMM-Net

*Qiyue Hu (Shenyang Aerospace University); Lele Qu (Shenyang Aerospace University); Yan Yang (Shenyang Aerospace University);*

11:15 Through-the-wall Human Target Tracking Based on Low Center-frequency Ultra-wideband SFCW Radar

*Yang Zheng (Fourth Military Medical University); Jingwen Duan (Fourth Military Medical University); Qiang An (Fourth Military Medical University);*

11:30 An Efficient Algorithm for Low-PAPR Comb Jamming Signal Synthesis

*Yongjun Chen (National University of Defense Technology); Da Li (National University of Defense Technology); Wenjun Wu (National University of Defense Technology); Bo Tang (National University of Defense Technology);*

11:45 Experimental Results of Drone Detection Based on Passive Bistatic Radar Using Radar Illuminator

*Jiameng Pan (National University of Defense Technology); Jian Chen (National University of Defense Technology); Qinglong Bao (National University of Defense Technology); Xianghong Deng (National University of Defense Technology);*

**Session 3A15a****Computational Electromagnetics, Hybrid  
Methods and EMC 1****Wednesday AM, April 24, 2024****Room 15 - Siji 4**

Chaired by Huaguang Bao, Mikhail S. Lytaev

8:00 Theory of Electromagnetic Wave Scattering and Dispersion in Exponential Materials

*Sichao Qu (The University of Hong Kong); Erqian Dong (The University of Hong Kong); Nicholas X. Fang (The University of Hong Kong);*

8:15 Efficient Electromagnetic Scattering Simulation for Inhomogeneous Objects with Triply Periodic Minimal Surface Structure

*Zi-Zhu Qin (Beijing Institute of Technology); Wei-Jia He (Beijing Institute of Technology); Bi-Yi Wu (Beijing Institute of Technology); Ming-Lin Yang (Beijing Institute of Technology); Xin-Qing Sheng (Beijing Institute of Technology);*

- 8:30 Stochastic Parabolic Equation for the Radio Wave Propagation Modeling in Uncertain Tropospheric Ducts  
*Mikhail S. Lytaev (St. Petersburg Federal Research Center of the Russian Academy of Sciences);*
- 8:45 Enhanced Bi-LSTM for Modeling Nonlinear Amplification Dynamics of Ultra-short Optical Pulses  
*Karina P. Saraeva (Novosibirsk State University); Anastasia E. Bednyakova (Novosibirsk State University);*
- 9:00 A VIE-PEEC Method with Prism and Tetrahedron Mesh for Circuit Parameters Extraction from Complex Packaging Structures  
*Wei Yang (Southwest University of Science and Technology); Qiangming Cai (Southwest University of Science and Technology); Feng Guo (Southwest University of Science and Technology); Yu Tang (Southwest University of Science and Technology); Tao Zhou (Southwest University of Science and Technology); Xin Cao (Southwest University of Science and Technology); Longjian Zhou (Southwest University of Science and Technology); Hao-ran Li (Southwest University of Science and Technology); Zhen-Yong Du (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yixiang Li (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yuyu Zhu (Southwest University of Science and Technology); Bo Pu (DeTooLIC Technology Co., Ltd); Jun Fan (Southwest University of Science and Technology);*
- 9:15 Modeling of Planar Transformers Based on PEEC Method  
*Mingjun Li (Southwest University of Science and Technology); Qiangming Cai (Southwest University of Science and Technology); Tao Zhou (Southwest University of Science and Technology); Yu Tang (Southwest University of Science and Technology); Xin Cao (Southwest University of Science and Technology); Longjian Zhou (Southwest University of Science and Technology); Hao-ran Li (Southwest University of Science and Technology); Zhen-Yong Du (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yixiang Li (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yuyu Zhu (Southwest University of Science and Technology); Bo Pu (DeTooLIC Technology Co., Ltd.); Jun Fan (Southwest University of Science and Technology);*
- 9:30 Analysis of High Power Microwave Coupling Effect of PCB Traces  
*Huimin Yang (Nanjing University of Science and Technology); Yan Peng (Nanjing University of Science and Technology); Tiancheng Zhang (Nanjing University of Science and Technology); Huaguang Bao (Nanjing University of Science and Technology); Yanyan Zhang (National Key Laboratory of Electromagnetic Space Security); Dazhi Ding (Nanjing University of Science and Technology);*
- 9:45 Simulation of High Power Characteristics of PIN Diode Based on Electrothermal Physical Model  
*Yinchun Liu (Nanjing University of Science and Technology); Chunyu Li (Nanjing University of Science and Technology); Tiancheng Zhang (Nanjing University of Science and Technology); Huaguang Bao (Nanjing University of Science and Technology); Da-Zhi Ding (Nanjing University of Science and Technology);*
- 10:00 **Coffee Break**
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- Session 3A15b**  
**Efficient Algorithms in Computational Electromagnetics and Their Applications**
- 
- Wednesday AM, April 24, 2024**  
**Room 15 - Siji 4**  
Organized by Yang Liu, Bo O. Zhu  
Chaired by Bo O. Zhu
- 
- 10:30 Beam Tracing with Physical Optics for Angular Glint Calculation in Near Field  
*Yifan Wu (Zhejiang University); Yuxuan Li (Zhejiang University); Yuhao Shen (Zhejiang University); Lizhen Yang (Zhejiang University); Nan Wu (China Ship Development and Design Center); Hai Lin (Zhejiang University);*
- 10:45 Fast Physical Optics Integrated Based on Vulkan Ray Tracing  
*Xirun Yin (Zhejiang University); Ruoming Zhang (Zhejiang University); Ce Ding (Zhejiang University); Yan-peng Jia (Zhejiang University); Hai Lin (Zhejiang University);*
- 11:00 An Electrostatic Integral Equation Method Compatible with Non-conformal Meshes  
*Zhongyuan Pang (Nanjing University); Bo O. Zhu (Nanjing University);*
- 11:15 Finite Element Solution of Electrostatic Field Based on Three-dimensional Unstructured Mesh: A Study Case of PIC Method  
*Tianbo Shang (Institute of Applied Physics and Computational Mathematics Graduate School of China); Wei Yang (Institute of Applied Physics and Computational Mathematics); Mengmeng Song (Institute of Applied Physics and Computational Mathematics Graduate School of China);*
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- Session 3A16**  
**Topological Photonics: Fundamentals and Applications 2**
- 
- Wednesday AM, April 24, 2024**  
**Room 16 - Mudan**  
Organized by Yihao Yang  
Chaired by Yihao Yang
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- 8:00 The Full-tensor Material Parameter of Yttrium Iron Garnet Retrieval from 0.1 THz to 2 THz  
*Qindong Xie (University of Electronic Science and Technology of China); Zechuan Bin (University of Electronic Science and Technology of China); Yuxuan Wang (University of Electronic Science and Technology of China); Yujie Tang (University of Electronic Science and Technology of China); Dong Gao (University of Electronic Science and Technology of China); Weihang Yang (University of Electronic Science and Technology of China); Lei Bi (University of Electronic Science and Technology of China); Xiuli Yue (University of Electronic Science and Technology of China); Fu Tang (University of Electronic Science and Technology of China); Tianyu Zhang (University of Electronic Science and Technology of China); Qinghui Yang (University of Electronic Science and Technology of China); Min Hu (University of Electronic Science and Technology of China); Pei-Heng Zhou (University of Electronic Science and Technology of China);*
- 8:15 Observation of Tunable Topological Phases of Polaritons  
 Invited in a Cavity Waveguide  
*Yan Meng (Southern University of Science and Technology); Zhen Gao (Southern University of Science and Technology);*
- 8:35 Twisted Photonic Weyl Meta-crystals and Aperiodic  
 Invited Fermi Arc Scattering  
*Hanyu Wang (National University of Defense Technology); Wei Xu (National University of Defense Technology); Zhihong Zhu (National University of Defense Technology); Biao Yang (National University of Defense Technology);*
- 8:55 Coherent-resonance Enhancement of Sensing at the Exceptional Points  
*Jingming Chen (Southern University of Science and Technology); Zhen Gao (Southern University of Science and Technology);*
- 9:10 Observation of Scale-free Localized States Induced by  
 Invited Non-Hermitian Defects  
*Xinrong Xie (Zhejiang University); Gan Liang (Sun Yat-Sen University (Zhuhai Campus)); Fei Ma (Zhejiang University); Yulin Du (Zhejiang University); Yiwei Peng (Zhejiang University); Er Ping Li (Zhejiang University — UIUC Institute); Hongsheng Chen (Zhejiang University); Linhu Li (Sun Yat-Sen University (Zhuhai Campus)); Fei Gao (Zhejiang University); Haoran Xue (The Chinese University of Hong Kong);*
- 9:30 Realization of a Topological One-way Photonic Crystal  
 Invited Fiber  
*Xiang Xi (Southern University of Science and Technology); Zhen Gao (Southern University of Science and Technology);*
- 10:05 **Coffee Break**
- 10:30 Antichiral Surface States in Time-reversal-invariant Photonic Semimetals  
*Jian-Wei Liu (Sun Yat-Sen University); Wenjie Chen (Sun Yat-Sen University); Jian-Wen Dong (Sun Yat-Sen University);*
- 10:45 Robust Ultrahigh  $Q$  Factors of Brillouin Zone Folding Induced Bound States in the Continuum  
*Wenhao Wang (Nanyang Technological University); Yogesh Kumar Srivastava (Nanyang Technological University); Thomas Cai Wei Tan (Nanyang Technological University); Zhiming Wang (University of Electronic Science and Technology of China); Ranjan Singh (Nanyang Technological University);*
- 11:00 Counter-propagating Waves in Topological Slow Light and its Active Control on a Chip  
*Yi Ji Tan (Nanyang Technological University); Abhishek Kumar (Nanyang Technological University); Nikhil Navaratna (Nanyang Technological University); Manoj Gupta (Nanyang Technological University); Prakash Pitchappa (Institute of Microelectronics, Agency for Science, Technology and Research); Ranjan Singh (Nanyang Technological University);*
- 11:15 Optical-force-controlled Phase Transition of a Photonic SSH Cavity Chain  
*Feng Tian (The University of Tokyo); Satoshi Iwamoto (The University of Tokyo);*
- 11:30 Topologically Protected Strong-interaction of Photonics with Free Electron  
*Jing Li (Peking University); Yunquan Liu (Peking University);*
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- Session 3A17a**  
**Phononic Crystals, Acoustic/Elastic Metamaterials and Metasurfaces 2**
- 
- Wednesday AM, April 24, 2024**  
**Room 17 - Furong**  
 Organized by Fuyin Ma, Rui Zhu, Xue Jiang  
 Chaired by Fuyin Ma, Xue Jiang
- 
- 8:00 Acoustic Topological Metamaterial Based on Meta-atoms and Meta-molecules  
 Invited  
*Changlin Ding (Northwestern Polytechnical University); Yibao Dong (Northwestern Polytechnical University); Yang Sun (Northwestern Polytechnical University); Xiao-Peng Zhao (Northwestern Polytechnical University);*
- 8:20 Vibroacoustic Metasurface for Sound Transmission Enhancement through the Water-air Interface  
 Invited  
*Hong-Tao Zhou (Tianjin University); Shao-Cong Zhang (Tianjin University); Tong Zhu (Tianjin University); Yu-Ze Tian (Tianjin University); Yan-Feng Wang (Tianjin University); Yue-Sheng Wang (Tianjin University);*

- 8:40 Elastic Metagrating for Extraordinary Guided-wave Manipulations  
Invited Bing Li (Northwestern Polytechnical University); Yabin Hu (Northwestern Polytechnical University); Jiali Cheng (Northwestern Polytechnical University); Meizhen Li (Northwestern Polytechnical University);
- 9:00 Synthesizing Topological Acoustic Rainbow Trapping at Deep-subwavelength Corners  
Invited Zhiwang Zhang (Nanjing University); Ying Cheng (Nanjing University); Xiao-Jun Liu (Nanjing University); Johan Christensen (IMDEA Materials Institute);
- 9:20 Topological Rainbow Trapping and Piezoelectric Energy Harvesting of Airborne Sound Based on Acoustic Metamaterials  
Invited Xiao-Lei Tang (Tianjin University); Tianxue Ma (Beijing Jiaotong University); Yue-Sheng Wang (Tianjin University);
- 9:40 Inverse-designed Flexural Wave Metamaterial Beams with Thermally Induced Tunability  
Invited Xuebin Zhang (Chongqing University); Jun Zhang (Chongqing University); Caibin Xu (Chongqing University); Junjie Rong (Northwestern Polytechnical University); Ning Hu (Hebei University of Technology); Mingxi Deng (Chongqing University); Chuanzeng Zhang (University of Siegen);
- 10:00 **Coffee Break**

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**Session 3A17b**

**Physics and Applications in Photonic/Acoustic Micro-/Nano-Structures 1**

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**Wednesday AM, April 24, 2024**

**Room 17 - Furong**

Organized by Ying Chen, Feng Wu, Hongwei Wang

Chaired by Ying Chen, Hongwei Wang

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- 10:30 High- $Q$  Monolayer Near-perfect Absorber through Quasi-bound States in the Continuum  
Haosen Zhang (Shenzhen University); Kedi Wu (Shenzhen University);
- 10:45 Topological Chirality-dependent Edge Modes in One-dimensional Photonic Crystals  
Wei Qian (Tongji University); Haitao Jiang (Tongji University); Hong Chen (Tongji University);
- 11:00 Narrow-angle Privacy Protection Based on Anomalous Propagation Characteristics at Epsilon-near-zero Threshold Frequency of  $\text{YBa}_2\text{Cu}_3\text{O}_7$  Ceramic Material  
Bao-Fei Wan (Nanjing University of Posts and Telecommunications); Hai Feng Zhang (Nanjing University of Posts and Telecommunications);
- 11:15 Quasi-bound States in the Continuum in Subwavelength Gratings  
Invited Feng Wu (Guangdong Polytechnic Normal University); Shuyuan Xiao (Nanchang University);

- 11:35 Facile Triggering of Bound States in the Continuum in Plasmonic-photonic Configurations  
Shaoxin Shen (Huaqiao University); Wenxuan Liu (Huaqiao University); Guangxu Su (Zhejiang University of Technology); Zhilin Yang (Xiamen University);
- 11:50 Topological Effects in the Non-Euclidean Acoustic Metamaterials  
Ying Chen (Huaqiao University); Yuhang Yin (Xiamen University); Zhi-Kang Lin (Soochow University); Ze-Huan Zheng (Xiamen University); Yang Liu (Soochow University); Jian-Hua Jiang (Soochow University); Huanyang Chen (Xiamen University);

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**Session 3A18a**

**Structured Light: From Classical to Quantum 1**

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**Wednesday AM, April 24, 2024**

**Room 18 - Meilan**

Organized by Zhi-Han Zhu, Carmelo Rosales-Guzmán

Chaired by Carmelo Rosales-Guzmán

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- 8:40 Manipulation and Measurement Based on Vectorial Light-matter Interaction  
Invited Jinwen Wang (Xi'an Jiaotong University); Hong Gao (Xi'an Jiaotong University); Sonja Franke-Arnold (University of Glasgow);
- 9:00 Generation and Modulation of Spatially Structured Light Beams Realized via Photopatterning Liquid Crystals  
Invited Bing-Yan Wei (Northwestern Polytechnical University);
- 9:20 Programmable Liquid Crystal Superstructures for Soft-matter Photonics  
Invited Ling-Ling Ma (Nanjing University); Zeyu Wang (Nanjing University); Han Zhang (Nanjing University); Yan-Qing Lu (Nanjing University);
- 9:40 Intracavity Generation and Manipulation of Complex Nested Super-geometric Modes Structured Light  
Invited Jiashuo An (Hebei University of Technology); Zhenxu Bai (Hebei University of Technology); Yulei Wang (Hebei University of Technology); Zhiwei Lu (Hebei University of Technology);
- 10:00 **Coffee Break**

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**Session 3A18b**

**Light-matter Interaction in Disordered Structures and The Photonic Applications**

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**Wednesday AM, April 24, 2024**

**Room 18 - Meilan**

Organized by Jinhui Chen, Huanyang Chen

Chaired by Jinhui Chen

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- 10:50 Disordered Spin-orbit Interactions of Light in Two-dimensional Photonic Platforms 4  
Invited Bo Wang (Shanghai Jiao Tong University);
- 11:10 Harnessing Disorder Photonic Structures for High-dimensional Optical Information Multiplexing  
Yi Xu (Guangdong University of Technology);
- 11:25 Branched Flow of Light in Disordered Liquid Crystals  
Jinhui Chen (Xiamen University);
- 11:40 Anomalous Optical Whispering-gallery Mode Induced by Rotational Symmetry Breaking 5  
Jinhui Chen (Xiamen University); Wen Xiao (Xiamen University); Sheng-Ke Zhu (Xiamen University); Pei-Ji Zhang (Peking University); Qi-Tao Cao (Peking University); Chao-Fan Shen (Xiamen University); Cheng-Wei Qiu (National University of Singapore); Huangyang Chen (Xiamen University); Yun-Feng Xiao (Peking University);
- 11:55 Waves and Rays on Curved Surface 6  
Yixiao Ge (Xiamen University); Wen Xiao (Xiamen University); Huangyang Chen (Xiamen University);

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**Session 3A19**  
**Poster Session 5**

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**Wednesday AM, April 24, 2024**

**8:00 AM - 12:00 AM**

**Room Exhibition Area**

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- 1 Broadband RCS Reduction Based on 1-bit Polarization Conversion Metasurfaces  
Chao Zhang (University of Electronic Science and Technology of China); Shaojun Guo (National Institute of Defense Technology Innovation, Academy of Military Sciences PLA China); Jiawei Zhang (University of Electronic Science and Technology of China); Chunrong Zou (National Institute of Defense Technology Innovation, Academy of Military Sciences PLA China); Yan-Wen Zhao (National Institute of Defense Technology Innovation, Academy of Military Sciences PLA China); Tongsheng Shen (National Institute of Defense Technology Innovation, Academy of Military Sciences PLA China);
- 2 Stereo Vision SLAM Based on Feature Extraction Network  
Lei Zhang (Tongji University); Wenjie Na (Tongji University); Chenpeng Yao (Tongji University); Chengju Liu (Tongji University); Qijun Chen (Tongji University);
- 3 110–170 GHz Bandpass Filter with Steep Rejection Slope Based on Symmetrical  $H$ -plane Cavities  
Shu Jiang (Nanjing Institute of Technology); Yi Song (Nanjing Institute of Technology); Huijun Yang (Nanjing Institute of Technology); Hengfei Xu (Nanjing Institute of Technology); Shiqi Ge (Nanjing Research Institute of Electronics Technology); Wenbo Wang (Southeast University);
- 4 Optimization of Variable Thickness Rotationally-symmetric Dielectric Radome Based on Physical Optics  
Huan Yu (Shanghai Radio Equipment Research Institution); Wenchao Chen (Shanghai Radio Equipment Research Institution); Zijian Cai (Shanghai Radio Equipment Research Institution); Fuheng Zhang (Shanghai Radio Equipment Research Institution); Peng Xin (Shanghai Radio Equipment Research Institution); Hao Gu (Shanghai Radio Equipment Research Institution);
- 5 Design of Blass-like Matrix Based Wideband Beamforming Network with Arbitrary Power Distributions  
Shuo Li (Dalian Maritime University); Hongmei Liu (Dalian Maritime University); Yan Zhang (Dalian Maritime University); Teng Ma (Dalian Maritime University); Yanjie Pei (Dalian Maritime University);
- 6 Design of a Capacitive-based Isolated Signal Transmission Circuit  
Tao Li (Southwest Jiaotong University); Quanyuan Feng (Southwest Jiaotong University); Xiaoyan Wei (Southwest Jiaotong University);
- 7 Enhanced Terahertz Emission from Alcohol Solutions Induced by Ultrashort Laser Pulses  
Yong Zhang (Kunming University of Science and Technology); Tao Shen (Kunming University of Science and Technology); Haoyang Wang (Kunming University of Science and Technology); Hong Li (GBA Branch of Aerospace Information Research Institute, Chinese Academy of Science); Tianwu Wang (GBA Branch of Aerospace Information Research Institute, Chinese Academy of Sciences); Guangchao He (Kunming University of Science and Technology); Chao Chang (Kunming University of Science and Technology); Lirong Li (Kunming University of Science and Technology);
- 8 Surface Waves on Equivalent Impedance Metasurfaces: Recent Developments and New Goals  
Zhixia Xu (Dalian Maritime University);
- 9 Wideband Terahertz Waveguide Matched Load with Magnetic Metal Surfaces  
Bo Zhang (University of Electronic Science and Technology of China); Yong Zhang (University of Electronic Science and Technology of China);
- 10 Improvement of Evaluation Method of Automobile Electromagnetic Radiation on Human Health and Its Protection  
Bing Chen (China Automotive Engineering Research Institute Co., Ltd); Yang-Chun Gao (China Automotive Engineering Research Institute Co., Ltd); Xiao-Jiao Li (China Automotive Engineering Research Institute Co., Ltd); Ya-Wen Dong (Guangzhou Automobile Group Co., Ltd); Song Mao (China Automotive Engineering Research Institute Co., Ltd); Hong-Ling Yi (China Automotive Engineering Research Institute Co., Ltd); Man Xiong (Chongqing University of Technology);

- 11 A Novel Digital Piezoelectric Ceramic Power Amplifier of T-Type Three-levels Topology  
*Jing Chen (Southwest University of Science and Technology); Haoran Li (Southwest University of Science and Technology); Yuyu Zhu (Southwest University of Science and Technology); Chunxi Jiang (Southwest University of Science and Technology); Congjin Wang (Southwest University of Science and Technology);*
- 12 A Pair of Rectangular Slots for Bandwidth Improvement of Microstrip Antenna Fed by Proximity Coupling  
*Mohammad Ridwan Effendi (Institut Teknologi Bandung); Fadjrianah (Institut Teknologi Bandung); Rheyuniarto Sahlendar Asthan (Institut Teknologi Sumatera); Sulistyaningsih (Institut Teknologi Bandung); Rama Rahardi (Institut Teknologi Bandung); Achmad Munir (Bandung Institute of Technology);*
- 14 A Novel Design of an Aperiodic Array with Grating Lobe Suppression Based on the Einstein Tile  
*Yun Fei Qiang (Nanjing University); Wei Wang (No. 38 Research Institute of China Electronic Technology Corporation); Ruixin Wu (Nanjing University);*
- 15 Recent Progress in Transparent Perovskite Light-emitting Diodes  
*Zhengyang Ju (Zhejiang University); Dawei Di (Zhejiang University);*
- 16 Effect of Nitrogen on Carbon Dioxide Conversion in Nonequilibrium Plasma Supported by Microwave Radiation of a Gyrotron at Atmospheric Pressure  
*Nikita V. Chekmarev (Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Sergey V. Sintsov (Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); D. A. Mansfeld (Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); A. V. Vodopyanov (Federal Research Center A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences);*
- 17 Motion Sensors Data Fusion for Accurate Measurement in AHRS Systems  
*Jānis Klūga (Riga Technical University); Elans Grabs (Riga Technical University); Tianhua Chen (Riga Technical University); Arnis Ancans (Riga Technical University); Mihails Stetjuha (Riga Technical University); Dmitrijs Rjazanovs (Riga Technical University); Aleksandrs Ipatovs (Riga Technical University);*
- 18 The Impact of Measurement Atmosphere on the Ion Migration in Mixed-halide Perovskites  
*Shengnan Liu (Zhejiang University); Zhixiang Ren (Zhejiang University); Puyang Li (Zhejiang University); Ke Zhou (Zhejiang University); Baodan Zhao (Zhejiang University); Dawei Di (Zhejiang University);*
- 19 A Rotating Reconfigurable Water Antenna Design  
*Yifang Sun (Zhejiang University); Hongbin Ma (Zhejiang University); Yang Pan (Zhejiang University); Xingyu Liu (Zhejiang University); Zhuoyu Zhang (Zhejiang University); Jiangtao Huangfu (Zhejiang University);*
- 20 A Non-contact Electromagnetic Motion Measurement Method  
*Xingyu Liu (Zhejiang University); Hongbin Ma (Zhejiang University); Yang Pan (Zhejiang University); Yifang Sun (Zhejiang University); Jiangtao Huangfu (Zhejiang University);*
- 21 Location of the Suffa Observatory: Problems of Electromagnetic Compatibility and Regulatory Framework  
*Ilya V. Lesnov (Institute of Applied Physics of the RAS); D. B. Danilevsky (Radioobservatory RT-70); Gennady Shanin (Radioobservatory RT-70); Vyacheslav F. Vdovin (Institute of Applied Physics of the RAS);*
- 22 Gyro-multipliers Based on MW-level Gyrotrons  
*Grigory G. Denisov (Institute of Applied Physics, Russian Academy of Sciences); Irina V. Zotova (Institute of Applied Physics, RAS); Ilya V. Zheleznov (Institute of Applied Physics, RAS); Andrey M. Malkin (Institute of Applied Physics, RAS); Alexander S. Sergeev (Institute of Applied Physics, RAS); Mikhail Yu. Glyavin (Institute of Applied Physics, RAS);*
- 23 Mode-locking Regimes in a Helical Waveguide Gyro-BWO  
*Michael N. Vilkov (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Naum S. Ginzburg (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Irina V. Zotova (Institute of Applied Physics, RAS); Sergey V. Samsonov (Institute of Applied Physics, Russian Academy of Sciences); Roman M. Rozental (Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)); A. A. Bogdashov (Institute of Applied Physics, Russian Academy of Sciences); Alexander S. Sergeev (Institute of Applied Physics, Russian Academy of Sciences);*
- 24 High Power Near-infrared Supercontinuum Generation in All-fiber Polarization-maintaining Erbium-doped Amplifier  
*Zipeng Xu (Beijing University of Technology); Chuanfei Yao (Beijing University of Technology); Xuan Wang (Beijing University of Technology); Linjing Yang (Beijing University of Technology); Pingxue Li (Beijing University of Technology);*
- 25 A Method of 2D Electromagnetic Transmission Imaging through Comb Spectrum Hadamard Coding  
*Sijie Chen (Zhejiang University); Yang Pan (Zhejiang University); Hongbin Ma (Zhejiang University); Ran Yan (Zhejiang University); Jiangtao Huangfu (Zhejiang University);*

- 26 Research on a Compact Symmetrical 90° TE<sub>01</sub> Bend Based on Dielectric-coated Metallic Circular Waveguide  
*Meiling Ou (University of Electronic Science and Technology of China); Dagang Liu (University of Electronic Science and Technology of China); Hao Li (University of Electronic Science and Technology of China);*
- 27 A Spherical Conformal Microstrip Array Antenna with Circular Polarization and Gap-coupled Feeding for Omnidirectional Coverage  
*Xiao Yu Li (Tongji University); Zhen Wang (Tongji University); Xiao Jie Lu (Tongji University); Mei Song Tong (Tongji University);*
- 28 A Miniaturized Multiband Antenna Based on Koch-Minkowski Composite Fractal Structure  
*Jian Shi (Tongji University); Dan Ni Lin (Tongji University); Mei Song Tong (Tongji University);*
- 29 Optofluidic Tweezers: Efficient and Versatile Micro/Nano-manipulation Tools  
*Yuchen Zhu (Tongji University); Minmin You (Tongji University); Yuzhi Shi (Tongji University (TJU)); Haiyang Huang (Tongji University); Zeyong Wei (Tongji University); Tao He (Tongji University); Sha Xiong (Central South University); Zhanshan Wang (Tongji University); Xinbin Cheng (Tongji University);*
- 30 An Encoded Reconfigurable Chipless RFID Sensor with an U-shaped Structure  
*Kai Qing Wang (Shanghai Institute of Technology); Lan Chen (Shanghai Institute of Technology); Mei Song Tong (Tongji University);*
- 31 Non-contact Detection of Head Motions Using Bio-radar  
*Xiao Yu (Fourth Military Medical University);*
- 32 An Energy Efficient CMOS THz Inter-chip Interconnect with Spoof Surface Plasmon Polariton (SSPP) Waveguide and SSPP Oscillator  
*Zhikai Li (Guangzhou University); Wen Jin (Guangzhou University); Yiqian Shan (Guangzhou University); Yuan Liang (Nanyang Technological University); Guangyu Zhong (Guangzhou University); Ke Yang (Guangzhou University);*
- 33 Utilization of LC Circuit as Impedance Matching for Spiral Resonator-based Planar Antenna  
*Mochamad Yunus (University of Pakuan); Agustini Rodiah Mahdi (University of Pakuan); Yamato Tan (University of Pakuan); Muhammad Farhan Maulana (Institut Teknologi Bandung); Dwi Andi Nurmantris (Telkom University); Achmad Munir (Bandung Institute of Technology);*
- 34 Change in the Radiation Pattern of a Short Linear Antenna during the Interaction of Electromagnetic Waves with an Extended Plasma Region  
*Aleksandr M. Astafiev (Saint Petersburg Electrotechnical University "LETI"); Chengrun Yuan (Harbin Institute of Technology); Anatoly A. Kudryavtsev (Harbin Institute of Technology); Aleksandr S. Chirtsov (Saint Petersburg Electrotechnical University "LETI");*
- 35 Analytical Description of Energy Losses of Superthermal Electrons in the Discrete Loss Approximation  
*Nurken E. Aktaev (Harbin Institute of Technology); Anatoly A. Kudryavtsev (Harbin Institute of Technology); Dana Koldasbay (L. N. Gumilyov Eurasian National University); Chengrun Yuan (Harbin Institute of Technology);*
- 36 A Finite-gap Port Model in SIE with CRWG Basis Functions for Radiation Analysis  
*Yu-Rui Jia (Southwest University of Science and Technology); Qiangming Cai (Southwest University of Science and Technology); Zi-Qiang Wu (Southwest University of Science and Technology); Xin Cao (Southwest University of Science and Technology); Longjian Zhou (Southwest University of Science and Technology); Hao-ran Li (Southwest University of Science and Technology); Zhen-Yong Du (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yixiang Li (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yuyu Zhu (Southwest University of Science and Technology); Yu-Teng Zheng (DeTooLIC Technology Co., Ltd); Bo Pu (DeTooLIC Technology Co., Ltd); Jun Fan (Southwest University of Science and Technology);*
- 37 Inversion of Martian Arctic Sedimentary Layer and Basal Unit  
*Xin Shu (Fudan University); Hongxia Ye (Fudan University);*
- 38 A Metal-only Wideband Reflectarray Element for Dual-polarized Operation  
*Hao Chen (Chongqing University of Posts and Telecommunications); Nan Hu (A-INFO Inc.); Min Wang (Chongqing University of Posts and Telecommunications); Wenqing Xie (A-INFO Inc.);*
- 39 A Wide Beamwidth SIW 28G Antenna  
*Xia Zhou (Nokia Shanghai Bell Co., Ltd.); Yicheng Lai (Suzhou University);*
- 40 High Efficiency Ultrathin Metasurface for Independent Phase Controls in Transmission and Reflection Spaces  
*Lijun Bu (Space Engineering University); Hong Ma (Space Engineering University); Yang Cai (Space Engineering University); Tao Wu (Space Engineering University); Yufan Cao (Space Engineering University); Sen Li (Space Engineering University); Siyu Qi (Space Engineering University);*
- 41 Modeling the Performance of Electromagnetic Pulse Generation Circuit Based on Avalanche Transistor Switches  
*Zhenbo Cheng (Northwest Institute of Nuclear Technology); Chuanxiang Tang (Tsinghua University); Hao Cai (Northwest Institute of Nuclear Technology); Wei Zhao (Northwest Institute of Nuclear Technology); Yuying Chen (Northwest Institute of Nuclear Technology);*

- 42 Microstrip Ultra-wideband Omnidirectional Vertically Polarized Antenna  
*Chao Zou (Southwest University of Science and Technology); Longjian Zhou (Southwest University of Science and Technology); Qiangming Cai (Southwest University of Science and Technology); Xin Cao (Southwest University of Science and Technology); Haoran Li (Southwest University of Science and Technology); Zhen-Yong Du (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yixiang Li (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yuyu Zhu (Southwest University of Science and Technology); Yu-Teng Zheng (DeTooLIC Technology Co., Ltd.); Bo Pu (DeTooLIC Technology Co., Ltd.); Jun Fan (Southwest University of Science and Technology);*
- 43 High Resolution 3-D Imaging via Distributed UAVs SAR Tomography  
*Jiangbo Hu (University of Electronic Science and Technology of China); Shun-Jun Wei (University of Electronic Science and Technology of China); Rong Shen (University of Electronic Science and Technology of China); Xiang Cai (University of Electronic Science and Technology of China); Mou Wang (University of Electronic Science and Technology of China); Jun Shi (University of Electronic Science and Technology of China); Xiaoling Zhang (University of Electronic Science and Technology of China);*
- 44 Gain Enhancement Using SSR Metasurface for 5G Application  
*Ferdi K. Lumbantobing (Telkom University); Levy Olivia Nur (Telkom University); Bambang Setia Nugroho (Universitas Indonesia);*
- 45 A Nonconformal Volume Integral Equation Method for Electromagnetic Scattering from Multi-layer Dielectric Radome  
*Qifeng Cheng (Ichuan Jiuzhou Electric Group Co., Ltd.); Tao Liu (Sichuan Jiuzhou Electric Group Co., Ltd); Lei Han (Sichuan Jiuzhou Electric Group Co., Ltd.); Qiangming Cai (Southwest University of Science and Technology); Longjian Zhou (Southwest University of Science and Technology);*
- 46 Advanced Filtering Power Dividers: Achieving Superior Isolation in RF Applications  
*Hassan Sarfraz (University of Hertfordshire, College Lane); Azunka N. Ukala (University of Hertfordshire, College Lane); Eugene A. Ogbodo (University of Hertfordshire, College Lane); Martin Thomas (University of Hertfordshire, College Lane); Eze Stella Ifeyinwa (The Institute of Management and Technology);*
- 47 Investigation of an Ultrashort Second-order Cylindrical Vector Beam Focusing by Phase and Amplitude Binary Zone Plates  
*Elena Sergeevna Kozlova (Samara National Research University); Victor V. Kotlyar (Image Processing Systems Institute — Branch of the Federal Scientific Research Centre “Crystallography and Photonics” of RAS);*
- 48 Optimization of Compressive Sensing Reconstruction Algorithms Based on Deep Learning  
*Zhe Wang (Dalian University); Youyu Zhao (Liupanshui Normal University); Shixi Wen (Dalian University); Junjie Feng (Liupanshui Normal University);*
- 49 Research on ISAR Imaging Algorithm of a Certain Type of Shipborne Aircraft  
*Guanhongye Peng (Yan'an University); Xincheng Ren (Yan'an University); Yuqing Wang (Yan'an University); Ye Zhao (Yan'an University); Peng-Ju Yang (Yan'an University);*
- 50 Direction of Arrival Estimation Method of Correlative Interferometer Based on GRNN Neural Network  
*Xinchao Zhang (National University of Defense Technology); Xiaofa Zhang (National University of Defense Technology); Kaibo Cui (National University of Defense Technology); Zijing Liu (National University of Defense Technology);*
- 51 Direction-finding and Adaptive Beamforming Methods  
*Kirill Sergeyevich Sychev (National Research University “Moscow Power Engineering Institute”); Anton Alekseevich Novikov (National Research University “Moscow Power Engineering Institute”); Andrey Alexeevich Pimenov (National Research University “Moscow Power Engineering Institute”); A. S. Filimonov (National Research University “Moscow Power Engineering Institute”); Mikhail Sergeyevich Mikhailov (National Research University “Moscow Power Engineering Institute”);*
- 52 Increasing the Multimedia Network Effectiveness  
*Vladislav Skorpil (Brno University of Technology);*
- 53 Topological State in Photonic Crystals and Electric Circuits  
*Bin Liu (China University of Mining and Technology); Xinyue Qian (China University of Mining and Technology); Bin Yang (China University of Mining and Technology); Yuting Yang (China University of Mining and Technology);*
- 54 Miura Origami Based Reconfigurable Gradient Retroreflector for Asymmetric Control  
*Zhe Qin (Air Force Engineering University); Zhibiao Zhu (Air Force Engineering University); Yongfeng Li (Air Force Engineering University); Lixin Jiang (Air Force Engineering University); Wanwan Yang (Air Force Engineering University); Jiafu Wang (Air Force Engineering University); Hongya Chen (Air Force Engineering University); Shaobo Qu (Air Force Engineering University);*
- 55 Efficient Decoupling Vector Light Fields Based on Terahertz Metasurface  
*Zhuo Wang (Fudan University); Weikang Pan (Fudan University); Yu He (Fudan University); Zhiyan Zhu (Fudan University); Xiangyu Jin (Ningbo University); Muhan Liu (Fudan University); Qiong He (Fudan University); Shulin Sun (Fudan University); Lei Zhou (Fudan University);*



- 56 Spatiotemporal Control of Ultraviolet Optical Pulses  
*Yingjie Zhang (Nankai University); Lu Chen (Nankai University); Jingjun Xu (Nankai University);*
- 57 Wireless Performance Test and Evaluation for New Generation WiFi Router  
*Binhui Liu (The 5th Electronic Research Institute, Ministry of Industry and Information Technology); Kai Zhao (China Electronic Product Reliability and Environmental Testing Institute); Linyi Huang (China Electronic Product Reliability and Environmental Testing Institute); Huawei Xu (China Electronic Product Reliability and Environmental Testing Institute);*
- 58 Image Based Abnormal Behavior Recognition Algorithm Based on Function Change Rate  
*Tiaojun Zeng (Shihezi University);*
- 59 An Electrically Tunable Magnetic Sensor — Understanding the Physics Nature of Migratory Navigation  
*You-Quan Li (Nankai University);*
- 60 Electromagnetic Scattering of Infinitely Long Cylinder of Arbitrary Cross-section Based on PINNs  
*Wei Li (Xidian University); Huan Tang (Xidian University); Renxian Li (Xidian University); Mingyu Zhang (Xidian University); Qinyu Deng (Xidian University); Yuan Zhang (Xidian University); Zhuoyuan Shi (Xidian University);*
- 61 Joint Wideband Spectrum Sensing and Direction-of-arrival Estimation for Sub-Nyquist Sampled Sparse Linear Arrays  
*Xu Ren (Xidian University); Guisheng Liao (Xidian University); Jian Gao (The 29th Research Institute of China Electronics Technology Group Corporation); Sen Cao (The 29th Research Institute of China Electronics Technology Group Corporation); Chunxia Cai (The 29th Research Institute of China Electronics Technology Group Corporation); Dawei Gao (Xidian University);*
- 62 Tunable Terahertz Absorber Based on Graphene/Metal-mesh Core-shell Structure  
*Zhouying Jiang (Suzhou City University);*
- 63 The Bragg Gap in Photonic Crystals Containing Left-handed Materials and Right-handed Materials  
*Hui Zhang (High-Tech Institute of Xi'an); Yanling Li (High-Tech Institute of Xi'an); Jianwei Zhan (High-Tech Institute of Xi'an); Fei Cao (High-Tech Institute of Xi'an);*
- 64 Communication Signal Automatic Modulation Classification Based on Feature Fusion  
*Shengxiang Xu (National University of Defense Technology); Yu Zhou (National University of Defense Technology); Pengjiang Hu (National University of Defense Technology);*
- 65 Topological Transitions with an Imaginary Aubry-André-Harper Potential  
*Bofeng Zhu (Nanyang Technological University); Qi Jie Wang (Nanyang Technological University); Yidong Chong (Nanyang Technological University);*
- 66 An Optimizing Method for Parameters of Cavity Filter for Approximate Estimation of Class Curve Fitting  
*Junliang Wan (Southwest University of Science and Technology); Qiangming Cai (Southwest University of Science and Technology); Xin Cao (Southwest University of Science and Technology); Longjian Zhou (Southwest University of Science and Technology); Haoran Li (Southwest University of Science and Technology); Zhen-Yong Du (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yixiang Li (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yuyu Zhu (Southwest University of Science and Technology); Yu-Teng Zheng (DeTooLIC Technology Co., Ltd.); Bo Pu (DeTooLIC Technology Co., Ltd.); Jun Fan (Southwest University of Science and Technology);*
- 67 Analysis of the Effect of White Noise on Minimum Phase Algorithm  
*Peng Chen (Xidian University); Wei Wang (Northwest Institute of Nuclear Technology); Xin Nie (Northwest Institute of Nuclear Technology); Hongmin Lu (Xidian University);*
- 68 Generation of Vortex Harmonics in Momentum Space Based on Bound States in the Continuum  
*Run Chen (Nanjing University); Hao Chen (Nanjing University); Qianhui Bi (Nanjing University); Shu-Ming Wang (Nanjing University); Zhuo Chen (Nanjing University); Zhenlin Wang (Nanjing University);*

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**Session 3P1a**  
**Quantum Light Source and Quantum Interference 1**

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**Wednesday PM, April 24, 2024**

**Room 1 - Yarui**

Organized by Rui-Bo Jin, Chen-Zhi Yuan

Chaired by Baihong Li, Peter J. Mosley

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- 13:20 Quantum Entanglement Source and Its Applications in  
Invited Fundamental Tests of Quantum Physics  
*Zhengda Li (Southern University of Science and Technology);*
- 13:40 Unifying the Frequency and Bandwidth of Quantum  
Invited Light Sources via Four-wave Mixing in Photonic Crystal Fibre  
*Peter J. Mosley (University of Bath);*
- 14:00 Recent Progress in Quantum Interferometers  
Invited  
*Rui-Bo Jin (Wuhan Institute of Technology); Zi-Qi Zeng (Wuhan Institute of Technology);*
- 14:20 Experimental Investigation of Einstein-Podolsky-Rosen  
Invited Steering  
*Kai Sun (University of Science and Technology of China);*

- 14:40 Full Characterization of Biphotons with a Generalized  
Invited Quantum Interferometer  
*Baihong Li (Shaanxi University of Science and Technology);*
- 15:00 Measuring Ultrafast Transient Processes by Hong-Ou-  
Invited Mandel Interference  
*Chen-Zhi Yuan (Wuhan Institute of Technology); Rui-Bo Jin (Wuhan Institute of Technology);*
- 15:20 Efficient Multipartite Entanglement Distribution by Sin-  
Invited gle Photon-vacuum Inteference  
*Masahiro Takeoka (Keio University);*
- 15:40 **Coffee Break**

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**Session 3P1b**  
**Quantum Light Source and Quantum**  
**Interference 2**

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**Wednesday PM, April 24, 2024**

**Room 1 - Yarui**

Organized by Rui-Bo Jin, Chen-Zhi Yuan

Chaired by He Lu, Omar S. Magana-Loaiza

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- 16:00 Research on Generation and Applications of Quantum  
Invited Entanglement in Telecom Band  
*Zi-Chang Zhang (University of Electronic Science and Technology of China); Yun-Ru Fan (University of Electronic Science and Technology of China); Chen-Zhi Yuan (Wuhan Institute of Technology); Guangwei Deng (University of Electronic Science and Technology of China); You Wang (Southwest Institute of Technical Physics); Hai-Zhi Song (Southwest Institute of Technical Physics & UESTC); Guang-Can Guo (University of Electronic Science and Technology of China); Qiang Zhou (Tianfu Jiangxi Laboratory & University of Electronic Science and Technology of China);*
- 16:20 Tunable Super-bunching Light Source Based on Col-  
Invited loidal Quantum Dots and Its Applications in Correlated-photon Imaging  
*Yunrui Song (Shanxi University); Chengbing Qin (Shanxi University); Yuanyuan Li (Shanxi University); Xiangdong Li (Shanxi University); Liantuan Xiao (Shanxi University);*
- 16:40 Multiphoton Quantum Imaging Using Single-pixel Cam-  
Invited eras  
*Omar S. Magana-Loaiza (Louisiana State University);*
- 17:00 Quantum Key Distribution with Integrated Silicon Pho-  
Invited tonics  
*Kejin Wei (Guangxi University);*
- 17:20 Efficient Generation of Broadband Photon Pairs in  
Invited Shallow-etched Lithium Niobate Nanowaveguide  
*Xiaoxu Fang (Shandong University); He Lu (Shandong University);*

- 17:40 Toward TCAD for On-chip Nonlinear Quantum Photon-  
Invited ics  
*Young-Ik Sohn (Korea Advanced Institute of Science and Technology);*
- 18:00 Tunable Quantum Dots in Microcavities for High-  
performance Single-photon Sources  
*Jiawei Yang (Sun Yat-Sen University); Yan Chen (National University of Defense Technology); Ying Yu (Sun Yat-sen University); Siyuan Yu (Sun Yat-sen University);*
- 18:15 Multi-wavelength Quantum Light Source at Telecom-  
band  
*Yun-Ru Fan (University of Electronic Science and Technology of China); Chen Lyu (University of Electronic Science and Technology of China); Chen-Zhi Yuan (University of Electronic Science and Technology of China); Guangwei Deng (University of Electronic Science and Technology of China); Zhi-Yuan Zhou (University of Science and Technology of China); Yong Geng (University of Electronic Science and Technology of China); Hai-Zhi Song (Southwest Institute of Technical Physics & UESTC); You Wang (Southwest Institute of Technical Physics); Yanfeng Zhang (Sun Yat-sen University); Rui-Bo Jin (Wuhan Institute of Technology); Heng Zhou (University of Electronic Science and Technology of China); Lixing You (Shanghai Institute of Microsystem and Information Technology (SIMIT), Chinese Academy of Sciences); Zhen Wang (Shanghai Institute of Microsystem and Information Technology); Guang-Can Guo (University of Electronic Science and Technology of China); Qiang Zhou (Tianfu Jiangxi Laboratory & University of Electronic Science and Technology of China);*
- 18:30 Genuine High-dimensional Quantum Entanglement Net-  
work with Integrated Photonic Chip  
*Yu Cui (Nanjing University); Ran Yang (Nanjing University); Jia-Chen Duan (Nanjing University); Dong-Jie Guo (Nanjing University); Ling-Zhi Kong (Nanjing University); Zhen-Da Xie (Nanjing University); Yan-Xiao Gong (Nanjing University); Shi-Ning Zhu (Nanjing University);*

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**Session 3P2a**  
**Electromagnetic Modes in Metastructures and**  
**Their Applications**

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**Wednesday PM, April 24, 2024**

**Room 2 - Jincheng 3**

Organized by Jiafu Wang, Jie Yang

Chaired by Jie Yang

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- 13:00 A Wideband 2-Bit Amplifying Information Metasurface  
for Signal Energy Enhancement  
*Lijie Wu (Southeast University); Qunyan Zhou (Southeast University); Ruizhe Jiang (Southeast University); Qiang Cheng (Southeast University);*

- 13:15 High Efficiency Metasurface-Lens for Deformable OAM Beam Generation and Modulation  
Yueyi Yuan (*Harbin Institute of Technology*); Wenjie Zhou (*Harbin Institute of Technology*); Qun Wu (*Harbin Institute of Technology*); Kuang Zhang (*Harbin Institute of Technology*);
- 13:30 An Approach for Generating OAM Beams Using Spoof Surface Plasmon Polaritons Metasurfaces  
Weixi Qiu (*Northwestern Polytechnical University*); Zhichen Li (*Northwestern Polytechnical University*); Qianyi Zhang (*Northwestern Polytechnical University*); Fuli Zhang (*Northwestern Polytechnical University*); Yuancheng Fan (*Northwestern Polytechnical University*);
- 13:45 Principle, Design, and Applications of Hybrid Substrate Integrated Waveguide and Spoof Surface Plasmon Polariton Structure  
Invited Dong-Fang Guan (*National University of Defense Technology*); Zhangbiao Yang (*National University of Defense Technology*);
- 14:05 Vortex Beam Generation Using Ultrathin Huygens' Metasurface with 360° Phase Control  
Changfan Min (*Nanjing Tech University*); Ying Zhao (*Nanjing Tech University*); Yi Feng Li (*Nanjing Tech University*);
- 14:20 Ultrathin RCS Reduction Metasurface Based on Integer and Fractional Vortex Waves  
Qian Liu (*University of Electronic Science and Technology of China*); Difei Liang (*University of Electronic Science and Technology of China*); Haiyan Chen (*University of Electronic Science and Technology of China*); Tiancheng Han (*University of Electronic Science and Technology of China*); Xin Yao (*University of Electronic Science and Technology of China*); Qingting He (*University of Electronic Science and Technology of China*); Xiaodi Wang (*University of Electronic Science and Technology of China*); Shuntian Wen (*University of Electronic Science and Technology of China*); Zhichao Xue (*University of Electronic Science and Technology of China*);
- 15:05 A Metallic-mesh Patch Metasurface for EM Transparency Using Different Mechanisms for Different Polarization at Extreme Angles  
Tiefu Li (*Air Force Engineering University*); Chang Ding (*Air Force Engineering University*); Zuntian Chu (*Air Force Engineering University*); Ruichao Zhu (*Air Force Engineering University*); Jiafu Wang (*Air Force Engineering University*); Cun-Qian Feng (*Air Force Engineering University*);
- 15:30 **Coffee Break**

- 16:00 An Efficient Infrared-selective Infrared Selective Emitter with Digital Pixel Distribution with Transparency to Visible Light  
Yina Cui (*Air Force Engineering University*); Huiting Sun (*Air Force Engineering University*); Jun Wang (*Air Force Engineering University*); Jiafu Wang (*Air Force Engineering University*);
- 16:15 Multispectral Wideband Microwave Meta-absorber with Optically Transparency and Infrared Camouflage  
Huiting Sun (*Air Force Engineering University*); Liang-Wei Song (*Air Force Engineering University*); Jun Wang (*Air Force Engineering University*); Zuntian Chu (*Air Force Engineering University*); Ruichao Zhu (*Air Force Engineering University*); Yuxiang Jia (*Air Force Engineering University*); Yina Cui (*Air Force Engineering University*); Jiafu Wang (*Air Force Engineering University*); Shaobo Qu (*Air Force Engineering University*);

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### Session 3P2b

### Epsilon-near-zero (ENZ) Materials and ENZ Photonic Devices

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Wednesday PM, April 24, 2024

Room 2 - Jincheng 3

Organized by Hongyan Fu, Qian Li

Chaired by Hongyan Fu, Qian Li

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- 16:40 Low-velocity-favored Transition Radiation Based on Ultrathin ENZ Slab  
Jialin Chen (*Zhejiang University*); Ruoxi Chen (*Zhejiang University*); Fuyang Tay (*Rice University*); Zheng Gong (*Zhejiang University*); Hao Hu (*Nanyang Technological University*); Yi Yang (*University of Hong Kong*); Xinyan Zhang (*Zhejiang University*); Chan Wang (*Zhejiang University*); Ido Kaminer (*Technion-Israel Institute of Technology*); Hongsheng Chen (*Zhejiang University*); Baile Zhang (*Nanyang Technological University*); Xiao Lin (*Zhejiang University*);
- 16:55 Evanescent-wave-induced Effective-medium Theory Breakdown and Flux Control Effects in Zero-index Metamaterials  
Ran Mei (*Soochow University*); Dongyang Yan (*Soochow University*); Yun Lai (*Nanjing University*); Jie Luo (*Soochow University*);
- 17:10 Epsilon-near-zero Photonics and Fiber Laser with Intracavity Epsilon-near-zero Effect  
Qian Li (*Peking University Shenzhen Graduate School*);
- 17:40 The Nonlinear Optical Response and Electron Dynamics in Transparent Conducting Oxides  
Ieng-Wai Un (*South China Normal University*); Subhajit Sarkar (*Ben-Gurion University of the Negev*); Yonatan Sivan (*Ben-Gurion University of the Negev*);

**Session 3P3****Reconfigurable Array, Transmitarray, Conformal Array, Array Theory and Applications****Wednesday PM, April 24, 2024****Room 3 - Jincheng 2**

Chaired by Yanhong Xu, Yan Wang

- 13:00 The Advanced Grey Wolf Optimizer and Its Applications in Electromagnetics  
Invited *Xun Li (Xidian University);*
- 13:20 Conical Beam Scanning Antenna Based on Leaky Wave Antenna Technology  
*Wen Jie Zhang (Xi'an Jiaotong University); Yuanxi Cao (Xi'an Jiaotong University); Jianxing Li (Xi'an Jiaotong University); Sen Yan (Xi'an Jiaotong University); Juan Chen (Xi'an Jiaotong University);*
- 13:35 Low Cost Reconfigurable One-bit Phased Array Antenna for Mobile Communication  
*Yan Wang (Fudan University);*
- 13:50 A Low-cost Reconfigurable One-bit Phased Array with Wide-angle Scanning  
*Yan Wang (Fudan University); Feng Xu (Fudan University);*
- 14:05 Adaptive Switched Beam Reconfigurable Antenna for Wireless Sensor Network Applications  
*Mukendi Leingthone Muamba (Universite de Quebec en Abitibi-Temiscamingue and Underground Communications Research Laboratory (LRTCS));*
- 14:20 A Novel Polarization-reconfigurable Dielectric Resonator Antenna Based on Liquid Material  
*Dan Ni Lin (Tongji University); Ajay K. Poddar (Synergy Microwave Corporation); Ulrich L. Rohde (Synergy Microwave Corporation); Mei Song Tong (Tongji University);*
- 14:35 A New Subarray Partition Method for Generating Arbitrary Shaped Beam Patterns  
*Y. H. Li (Hubei Key Laboratory of Intelligent Vision Based Monitoring for Hydroelectric Engineering (China Three Gorges University)); Qinghe Zhang (Three Gorges University);*
- 14:50 A Compact Transmitarray Element Based on 3-D Printing Technology  
*Yuying Li (North China Electric Power University); Yang Li (North China Electric Power University); Xiangyu Li (North China Electric Power University); Xiyuan Yao (North China Electric Power University);*
- 15:05 Design of Transmitarray Based on Optimization Algorithm for Compact Antenna Test Range  
*Yan Zhang (Beijing University of Aeronautics and Astronautics (BUAA)); Haoran Ye (Beihang University); Chao Chao Zhao (Beihang University); Xurui Zhang (Beihang University);*
- 15:20 On the Feasibility of Uniform-Kaiser Weighting Configuration on Power-weighted Planar Array Design  
*Hartuti Mistialustina (Institut Teknologi Bandung); Chairunnisa (Institut Teknologi Bandung); Achmad Munir (Bandung Institute of Technology);*
- 15:35 **Coffee Break**
- 16:00 Design of a 2.4 GHz Directional Antenna Array for Wi-Fi Applications  
*Junyu Zhou (Guangdong Polytechnical Normal University); Yuhui Zhao (Guangdong Polytechnical Normal University); Yizhou Jin (Guangdong Polytechnical Normal University); Zixuan Liu (South China Normal University); Weiliang Zeng (Guangdong Polytechnical Normal University); Hui Liu (Guangdong Polytechnical Normal University);*
- 16:15 Measurement of Polarization Efficiency on a Switchable Polarized Triangular Antenna Array  
*Trasma Yunita (Institut Teknologi Bandung); Chairunnisa (Institut Teknologi Bandung); Aloysius Adya Pramudita (Telkom University); Achmad Munir (Bandung Institute of Technology);*
- 16:30 A Wideband Circularly Polarized Vivaldi Array Antenna with Axial Ratio Enhancement  
*Min Wang (Chongqing University of Posts and Telecommunications); Xuan Li (Chongqing University of Posts and Telecommunications); Wei Luo (Chongqing University of Posts and Telecommunications); Hao Chen (Chongqing University of Posts and Telecommunications); Shu-Lin Chen (University of Technology Sydney (UTS));*
- 16:45 Synthesis of Linear Sparse Arrays by Adaptive Alternating Convex Optimization  
*Xiaowen Zhao (National Space Science Center, Chinese Academy of Sciences); Jixi Lu (National Space Science Center, Chinese Academy of Sciences); Yunhua Zhang (National Space Science Center, Chinese Academy of Sciences);*
- 17:00 Circularly Polarized Spherical-conformal Dielectric Resonator Antenna with Wideband and Wide Beamwidth  
*Sihan Liu (Dalian Maritime University); Hongmei Liu (Dalian Maritime University); T. Ma (Dalian Maritime University); Yan Zhang (Dalian Maritime University); Xinlei Sun (Dalian Maritime University);*
- 17:15 Generation of Microwave Vortex Waves by a Flexible Graphene-based Antenna  
*Zuxian He (Jilin University); Volodymyr I. Fesenko (Institute of Radio Astronomy of NASU); Shoudong Gu (Jilin University); Xiaolong Wang (Jilin University); Vladimir R. Tuz (Jilin University);*
- 17:30 A Low-profile UHF-RFID Tag Antenna with Interdigitated Inductive-coupling-fed for Metallic Objects  
*Xuan He (Southwest Jiaotong University); Quanyuan Feng (Southwest Jiaotong University); Tao Li (Southwest Jiaotong University); Zhangmin Wang (Southwest Jiaotong University);*

- 17:45 An ANN-ANN Iterative Optimization Algorithm for Pattern Synthesis of Arbitrary Conformal Arrays  
*Hailong Sun (Southwest Jiaotong University); You-Feng Cheng (Southwest Jiaotong University); Guo Bai (Southwest Jiaotong University); Xuan-Ming Zhong (Southwest Jiaotong University); Cheng Liao (Southwest Jiaotong University);*

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### Session 3P4

#### Electromagnetic Absorption, Thermal Manipulation and Their Coupling Effects 1 & 2

Wednesday PM, April 24, 2024

Room 4 - Jincheng 1

Organized by Tiancheng Han, Cheng-Wei Qiu, Ying Li

Chaired by Tiancheng Han, Ying Li

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- 13:00 Metamaterials with Unusual Thermal Expansion and Thermal Flux Manipulation Performance  
 Invited *Lingling Wu (Xi'an Jiaotong University); Xiaochang Xing (Zhejiang University); Xiaoyong Tian (Xi'an Jiaotong University); Dichen Li (Xi'an Jiaotong University);*
- 13:20 Quantum-like Effects in Diffusive Transport  
 Invited *Guoqiang Xu (National University of Singapore);*
- 13:40 Topology Optimization of Transformation Multiphysics Metamaterials  
 Invited *Run Hu (Huazhong University of Science and Technology);*
- 14:00 Diffusion Control with Metamaterials  
 Invited *Liujun Xu (Graduate School of China Academy of Engineering Physics);*
- 14:20 Research Advance in Transparent Electromagnetic Shielding Materials and Reinforcement of Optical Channel Shielding  
 Invited *Xianjun Huang (National University of Defense Technology); Yuanlong Liang (National University of Defense Technology); Wencong Liu (National University of Defense Technology); Lixiang Yao (National University of Defense Technology); Kui Wen (National University of Defense Technology);*
- 14:40 The Realization of Broadband Electromagnetically Induced Transparency Metastructure Based on Micro-strip Lines  
*Hai-Ning Ye (Nanjing University of Posts and Telecommunications); Hai Feng Zhang (Nanjing University of Posts and Telecommunications);*

- 14:55 Multi-physics Analysis of a Rasorber  
*Kaihuai Wen (University of Electronic Science and Technology of China); Haiyan Xie (University of Electronic Science and Technology of China); Xiuli Yue (University of Electronic Science and Technology of China); Mutian Xie (University of Electronic Science and Technology of China); Tiancheng Han (University of Electronic Science and Technology of China);*

### 15:30 Coffee Break

- 16:00 Electro-magnetic Collaborative Design and Micro-mechanism Research on MXene-based Microwave Absorption Composites  
*Xiao Li (Xi'an Jiaotong University);*
- 16:30 Investigation of Polarization-insensitive Near-omnidirectional Microwave Absorption  
*Ting Shi (Southwest Jiaotong University); He-Xiu Xu (Air Force Engineering University);*
- 17:00 Reconfigurable Thermal Emission in PS/W-doped VO<sub>2</sub> Bilayer Material and Its Application  
*Jiong Wang (University of Electronic Science and Technology of China); Maoren Wang (University of Electronic Science and Technology of China); Qindong Xie (University of Electronic Science and Technology of China); Wenxin Li (AVIC Chengdu Aircraft Industrial (Group) Co., Ltd.); Li Zhang (University of Electronic Science and Technology of China); Linbo Zhang (University of Electronic Science and Technology of China); Jianliang Xie (University of Electronic Science and Technology of China); Pei-Heng Zhou (University of Electronic Science and Technology of China);*
- 17:15 Manipulating Electromagnetic Absorption and Heat Transfer Simultaneously  
*Yun Wang (University of Electronic Science and Technology of China); Tiancheng Han (University of Electronic Science and Technology of China); Difei Liang (University of Electronic Science and Technology of China); Long-Jiang Deng (University of Electronic Science and Technology of China);*
- 17:30 Broadband Anomalous Reflection and Radar Cross Section Reduction Metasurface Based on Deep Learning  
*Xiuli Yue (University of Electronic Science and Technology of China); Haiyan Xie (University of Electronic Science and Technology of China); Kaihuai Wen (University of Electronic Science and Technology of China); Quanfang Chen (University of Electronic Science and Technology of China); Wenjiang Xu (University of Electronic Science and Technology of China); Tiancheng Han (University of Electronic Science and Technology of China);*

**Session 3P5a****Advanced Photonic Technologies for Spectroscopic Applications 2****Wednesday PM, April 24, 2024****Room 5 - Yingbin**

Organized by Lei Dong, Ulrike Willer

Chaired by Tao Wu, Yufei Ma

- 13:00 Development of Optical Parameters Estimation Technique in Subsurface Structure Using NIR Backscattered Light - For Noninvasive Blood Turbidity Measurement in Subcutaneous Blood Vessels -  
*Shiyang Liang (Waseda University); Takeo Miyake (Waseda University); Koichi Shimizu (Xidian University);*
- 13:15 An Approach for Evaluating and Predicting Battery State of Health (SOH) Using Multi-point Fiber Optic Temperature Sensor under Real-world Operating Conditions  
Invited *Yi Jiang (Clausthal University of Technology);*
- 13:35 The One Health Approach: Perspectives for Quartz-enhanced Photoacoustic Spectroscopy  
Invited *Pietro Patimisco (Universita degli Studi di Bari and Politecnico di Bari); Andrea Zifarelli (Universita degli Studi di Bari and Politecnico di Bari); Raffaele De Palo (Universita degli Studi di Bari and Politecnico di Bari); Marilena Giglio (University and Politecnico of Bari); Angelo Sampaolo (University and Politecnico of Bari); Vincenzo Spagnolo (University and Politecnico of Bari);*
- 13:55 Two-dimensional CRDS in Gas-phase Free Radical Spectroscopy Measurements and Reaction Kinetics  
Invited *Chuanliang Li (Taiyuan University of Science and Technology);*
- 14:15 Waveguide-on-silicon On-chip Infrared Gas Sensing Technique  
Invited *Chuantao Zheng (Jilin University); Huan Zhao (Jilin University); Mingquan Pi (Jilin University); Zihang Peng (Jilin University); Yiding Wang (Jilin University);*
- 14:35 Symmetrized Dot Pattern Infrared Absorption Spectroscopy  
*Weilin Ye (Shantou University); Yifei Huang (Shantou University); Linfeng He (Shantou University); Lifu Duan (Shantou University); Zhidan Zheng (Shantou University);*
- 14:50 Optical Diagnostics of Second-life Lithium Batteries — Sensors, Artificial Intelligence and Applications  
Invited *Wolfgang Schade (Fraunhofer Heinrich Hertz Institute); Fangqi Li (Fraunhofer Heinrich Hertz Institute); Antonio Nedjalkov (Fraunhofer Heinrich Hertz Institute);*

- 15:10 Development of Photonic Instruments for Measurement of Aerosol Optical Properties  
Invited

*Gaoxuan Wang (Zhejiang University); Pierre Kulinski (Université du Littoral Côte d'Opale); Hongming Yi (Université du Littoral Côte d'Opale); Patrice Hubert (Université de Lille 1); Alexandre Deguine (Université de Lille 1); Denis Petitprez (Université de Lille 1); Eric Fertein (University of the Littoral Opal Coast); Marc Fourmentin (Université du Littoral Côte d'Opale); Karine Deboudt (Université du Littoral Côte d'Opale); Pascal Flament (Université du Littoral Côte d'Opale); Markus W. Sigrist (ETH Zurich); Dean S. Venables (University College Cork); Wei Dong Chen (Université du Littoral Côte d'Opale);*

**15:30 Coffee Break**

- 16:00 Trace Formaldehyde Gas Detection Based on the Spectroscopy Sensing Methods  
*Xiu Yang (Xidian University); Jinshou Wang (Xidian University); Chenchen Zhu (Xidian University); Xing Zhou (Xidian University); Qiaoyan Hu (Xidian University); Xukun Yin (Xidian University);*
- 16:15 Recent Progress in Laser Absorption Spectroscopy and Applications  
Invited *Kun Liu (Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences); Wei Dong Chen (Université du Littoral Côte d'Opale); Xiaoming Gao (Hefei Institutes of Physical Science, Chinese Academy of Sciences);*
- 16:35 Radial Cavity Quartz-enhanced Photoacoustic Spectroscopy  
Invited *Huadan Zheng (Jinan University); Bin Liu (Foshan University);*

**Session 3P5b****Optical Sensors for Professional and Consumer Use, with Additional Functionality Enabled by Artificial Intelligence****Wednesday PM, April 24, 2024****Room 5 - Yingbin**

Organized by Cees Ronda, Gaoxuan Wang

Chaired by Hans M. Wyss

- 16:55 Laser Absorption Spectroscopy for Trace Gases Measurements  
*Kun Liu (Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences); Yuan Cao (Anhui Institute of Optics and Fine Mechanics, Chinese Academy of Sciences); Xiaoming Gao (Anhui Institutes of Physical Science, Chinese Academy of Sciences);*
- 17:10 A New Platform for High-throughput Measurements of Phase Separation Processes Using Microfluidics  
Invited *Hailin Fu (TU Eindhoven); Chris Li (TU Eindhoven); Kalpit Bakal (TU Eindhoven); Jaap Den Toonder (TU Eindhoven); Bert Meijer (TU Eindhoven); Hans M. Wyss (TU Eindhoven);*

- 17:30 A Dual-gas Sensor for Simultaneous and Fast Optical Sensing of HONO and CH<sub>4</sub> in Ambient Air Based on a Quantum Cascade Laser  
Xiaojuan Cui (Anhui University); Chaochao Jiang (Anhui University); Xiaohan Cui (Anhui University); Yafan Li (Anhui University); Qizhi Zhu (Anhui University); Shuaikang Yin (Anhui University); Xin Shi (Anhui University); Siru Yang (Anhui University); Yang Hong (Jianghuai Advance Technology Center);
- 17:45 Development and Research of a Monoblock Ring Confo- cal Resonator  
Yuri V. Filatov (Saint Petersburg Electrotechnical Uni- versity "LETI"); Alina V. Gorelaya (Saint Petersburg Electrotechnical University "LETI"); H. Alhasan (Saint Petersburg Electrotechnical University "LETI"); V. A. Neuzorov (Saint Petersburg Electrotechnical University "LETI"); Egor V. Shalymov (Saint Pe- tersburg Electrotechnical University "LETI"); Anasta- sia V. Venediktova (St. Petersburg State University); Vladimir Yu. Venediktov (Saint Petersburg State Elec- trotechnical University "LETI");

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### Session 3P6a

#### Plasmonics and Photonics for Sustainability 2

Wednesday PM, April 24, 2024

Room 6 - Huanhua

Organized by Emiliano Cortes, Matias Herran

Chaired by Emiliano Cortes, Matias Herran

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- 13:00 Engineering Plasmonic Nanocatalysts for Efficient Hy-  
Invited drogen Production Using Sunlight  
Ana Sousa-Castillo (Centro de Investigación en Nano- materiales e Biomedicina);
- 13:20 Harnessing Sunlight-driven Microrobots for Efficient Mi-  
croplastic Degradation in Natural Environments  
Mohsen Beladi Mousavi (Ludwig-Maximilians- University, Munich (LMU)); E. Cortes (Ludwig- Maximilians-University, Munich (LMU));
- 13:35 Real-time Imaging of Catalytic Interfaces  
Christoph G. Gruber (Ludwig-Maximilians-Universität München); F. Gröbmeyer (Ludwig-Maximilians- Universität München); S. M. Beladi-Mousavi (Ludwig- Maximilians-Universität München); A. Mancini (Ludwig-Maximilians-Universität München); E. Cortés (Ludwig-Maximilians-Universität München);
- 13:50 Modelling Hot Carriers in Metallic Nanoparticles: From  
Invited Creation to Catalysis  
Johannes Lischner (Imperial College London);

- 14:10 Light-induced Atomic Reconfigured Photoanodes for  
Invited Water Splitting with Stability beyond 250 Hours and Enhanced Efficiency  
Fei Xiang (King Abdullah University of Science and Technology (KAUST)); Ning Li (King Abdullah Uni- versity of Science and Technology (KAUST)); Ar- turo Burguete-Lopez (King Abdullah University of Sci- ence and Technology (KAUST)); Zhao He (King Abdul- lah University of Science and Technology (KAUST)); Maxim Elizarov (King Abdullah University of Sci- ence and Technology (KAUST)); Andrea Fratalocchi (King Abdullah University of Science and Technology (KAUST));
- 14:30 Hot-electron Generation in Chiral Plasmonic Nanoma-  
Invited terials and Chiral Plasmon-assisted Photochemistry  
Alexander O. Govorov (Ohio University);
- 14:50 Selective SERS on Plasmonic Metal-organic Frameworks  
Invited  
Ramon A. Alvarez-Puebla (ICREA);
- 15:10 Hot-electron-mediated Tuning of Plasmon Resonances  
Invited with Light  
Tao Ding (Wuhan University);
- 15:30 Coffee Break

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### Session 3P6b

#### Recent Advances in Optical Metasurfaces 2

Wednesday PM, April 24, 2024

Room 6 - Huanhua

Organized by Fei Ding, Cheng Zhang

Chaired by Fei Ding, Cheng Zhang

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- 16:00 Nanowire Metasurfaces  
Invited  
Ruixing Xia (University of Science and Technology of China); Dong Zhao (University of Science and Technol- ogy of China); Kun Huang (University of Science and Technology of China);
- 16:40 Functional Metasurface for Improving Imaging Perfor-  
Invited mance  
Haowen Liang (Sun Yat-Sen University); Juntao Li (Sun Yat-Sen University);
- 17:00 On-chip Wavefront Control of Semiconductor Lasers Us-  
Invited ing Integrated Metasurfaces  
Pei-Nan Ni (Zhengzhou University); Fei Ding (Univer- sity of Southern Denmark);
- 17:20 Hafnium Oxide Pancharatnam-Berry Metasurfaces for  
Flat-top Beam Shaping in the Ultraviolet  
Hao Gao (Huazhong University of Science and Technol- ogy); Zhelin Lin (Huazhong University of Science and Technology); Cheng Zhang (Huazhong University of Sci- ence and Technology);

- 17:35 All-optical Differentiator of Various Orders Based on Single-layer Multiplexed Metasurfaces  
*Niu Liu (Huazhong University of Science and Technology); Zhenyu Xing (Huazhong University of Science and Technology); Zhelin Lin (Huazhong University of Science and Technology); Huixian Zhou (Huazhong University of Science and Technology); Cheng Zhang (Huazhong University of Science and Technology); Xinliang Zhang (Huazhong University of Science and Technology);*
- 17:50 High-performance Ultraviolet Metasurfaces Based on Tantalum Pentoxide  
*Zhelin Lin (Huazhong University of Science and Technology); Cheng Zhang (Huazhong University of Science and Technology);*
- 18:05 Photonic Spin-multiplexing Metalens for Spiral Phase Contrast and Bright Field Imaging  
*Zhenyu Xing (Huazhong University of Science and Technology); Zhelin Lin (Huazhong University of Science and Technology); Niu Liu (Huazhong University of Science and Technology); Cheng Zhang (Huazhong University of Science and Technology);*
- 18:20 Polarization Engineered Second Harmonic Generation in Antenna-coupled Lithium Niobate Thin Films  
*Yiwen Liu (University of Southern Denmark); Fei Ding (University of Southern Denmark); Chao Meng (University of Southern Denmark); Sergey I. Bozhevolnyi (University of Southern Denmark);*

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### Session 3P7

#### Advances in Tunable Photonic Integrated Waveguide Chips

Wednesday PM, April 24, 2024

Room 7 - Xiling

Organized by Jieyun Wu, Quandong Huang

Chaired by Jieyun Wu, Quandong Huang

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- 13:00 Graphene-buried Polymer-waveguide Platform for the  
Invited Study of Nonlinear Mode Coupling  
*Kin Seng Chiang (City University of Hong Kong); Lianzhong Jiang (City University of Hong Kong);*
- 13:20 Tunable Photonic Devices Based on Micro and Nanos-  
Invited tructured Thin Film Lithium Niobate  
*Huihui Lu (Jinan University);*
- 13:40 Integrated Lithium Niobate Photonics: From Communi-  
Invited cations to Metrology  
*Yang Li (Tsinghua University);*

- 14:00 Tunable Optical Waveguide Filter Based on Phase-  
change Laser Induced Periodic Surface Structures  
*Evgenii V. Menshikov (ITMO University); Petr I. Lazarenko (National Research University of Electronic Technology); V. V. Kovalyuk (Moscow State Pedagogical University); Aleksey I. Prokhotsov (National Research University of Electronic Technology); Sergey A. Kozyukhin (Institute of General and Inorganic Chemistry); Ivan S. Sinev (Ecole Polytechnique Federale de Lausanne);*
- 14:15 Photonic Chiplet Integration on Optical Interposer: Can Hybrid Bonding Realize Passive Optical Coupling?  
*How Yuan Hwang (Tyndall National Institute); Peter O'Brien (Tyndall National Institute);*
- 14:30 High-performance Thin-film Lithium Niobate Mach-Zehnder Modulator Based on Dual-capacitor Structure  
*Xiaofeng Liu (Guangdong University of Technology); Bin Xiao (Guangdong University of Technology); Ou Xu (Guangdong University of Technology); Yuwen Qin (Guangdong University of Technology); Quandong Huang (Guangdong University of Technology);*
- 14:45 Highly Sensitive and Cost-effective Liquid Refractive Index Sensor Based on Polymer Two-mode Waveguide Interferometer  
*Yinglu Zhang (University of Electronic Science and Technology of China); M. T. Chen (University of Electronic Science and Technology of China); Kaixin Chen (University of Electronic Science and Technology of China);*
- 15:30 **Coffee Break**
- 16:00 The Organic-based Electro-optic Materials and Modula-  
Invited tors  
*Shuhui Bo (Minzu University of China); Zhuo Chen (Technical Institute of Physics and Chemistry, Chinese Academy of Sciences); Chuanbo Li (Minzu University of China); Shuai Feng (Minzu University of China); Genxiang Chen (Minzu University of China);*
- 16:20 Mode-insensitive Optical Switch Based on Mach-Zehnder Interferometer Integrated with Multimode Interferometers  
Invited  
*Xi-Bin Wang (Jilin University); Shijie Sun (Jilin University); Daming Zhang (Jilin University);*
- 16:40 High-Q Thin-film Lithium Niobate Asymmetric Microring Resonator with Different Etching Depths and a Multimode Interferometer Coupler  
*Wanzhen Wu (University of Electronic Science and Technology of China); Kaixin Chen (University of Electronic Science and Technology of China);*
- 16:55 EO-tunable Long-period Waveguide Grating Based on Electro-optic Polymer  
*Xingyue Wang (University of Electronic Science and Technology of China); Yingzhou Yu (University of Electronic Science and Technology of China); Kaixin Chen (University of Electronic Science and Technology of China); Jieyun Wu (University of Electronic Science and Technology of China);*



- 17:10 Highly Efficient and Stable Binary Cross-linkable Organic Nonlinear Optical Chromophore for Electro-optic Modulation  
*Fuyang Huo (Guangzhou University); Weijun Zhang (Guangzhou University); Lian Zhang (Guangzhou University); Fenggang Liu (Guangzhou University);*
- 17:25 Metal-organic Decomposition-made Bi:YIG Crystallized by Laser Radiation for Magnetophotonic Crystals and Waveguide Modulators  
*Georgiy M. Yankovskii (Dukhov Automatics Research Institute (VNIIA)); Artem V. Shelaev (Dukhov Automatics Research Institute (VNIIA)); Yevgeniy M. Sgibnev (Lomonosov Moscow State University); Andrey G. Shishkin (Dukhov Automatics Research Institute (VNIIA)); Peter N. Tananaev (Dukhov Automatics Research Institute (VNIIA)); Konstantin N. Afanasyev (Institute of Theoretical and Applied Electrodynamics, RAS); Alexander V. Baryshev (Dukhov Research Institute of Automatics);*
- 17:40 Bi Substituted YIG Thin Films of Different Thickness via MOD Process: Laser Crystallization on Si/SiO<sub>2</sub>  
*Peter N. Tananaev (Dukhov Automatics Research Institute (VNIIA)); Artem V. Shelaev (Dukhov Automatics Research Institute (VNIIA)); Yevgeniy M. Sgibnev (Lomonosov Moscow State University); Daria P. Kulikova (Lomonosov Moscow State University); Alexander V. Baryshev (Dukhov Research Institute of Automatics);*

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### Session 3P8a

#### Nanomaterials and Nanophotonics for Sensing

Wednesday PM, April 24, 2024

#### Room 8 - Guixiang

Organized by Pier Paolo Pompa, Antonello Cutolo

Chaired by Pier Paolo Pompa, Antonello Cutolo

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- 13:20 A Suite of Novel Genetically Encoded Fluorescent Probes for Monitoring Biological Signals  
*Hanbin Zhang (Westlake University); Shihao Zhou (Westlake University); Lina Yang (Westlake University); Kiryl D. Piatkevich (Westlake University);*
- 13:40 Optical Fiber Sensing Probes for Cancer Biomarker Detection  
*Marco Pisco (University of Sannio); M. A. Cutolo (University of Sannio); C. Esposito (University of Sannio); V. Iazzetta (University of Sannio); M. Janneh (University of Sannio); S. Spaziani (University of Sannio); Andrea Cusano (University of Sannio);*
- 14:50 Advanced Integrated Optical Devices for Ultrasound Diagnostics  
*Barbara Rossi (University of Naples Federico II); Martino Giaquinto (University of Sannio); M. A. Cutolo (University of Sannio); Andrea Cusano (University of Sannio);*

- 15:05 Plasmonic Colorimetric Biosensors for Point-of-care Applications  
*Helena Torné-Morató (Istituto Italiano di Tecnologia); P. Donati (Istituto Italiano di Tecnologia); V. Tripathi (Istituto Italiano di Tecnologia); Pier Paolo Pompa (Italian Institute of Technology);*
- 15:20 On mechanisms of Coloration of Tungsten Trioxide in Hydrogen via Retrieval of the Complex Dielectric Permittivity  
*Daria P. Kulikova (Lomonosov Moscow State University); Yevgeniy M. Sgibnev (Lomonosov Moscow State University); Eugeny D. Chubchev (Lomonosov Moscow State University); Aleksandr S. Baburin (BMSTU); Evgeniy S. Lotkov (Lomonosov Moscow State University); Alexander V. Dorofeenko (Lomonosov Moscow State University); Ilya A. Rodionov (Bauman Moscow State Technical University); Alexander V. Baryshev (Dukhov Research Institute of Automatics);*
- 15:35 **Coffee Break**

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### Session 3P8b

#### Harvesting Losses in Nanophotonics: Hot Electrons and Heat, Chirality, and Bio-sensing

Wednesday PM, April 24, 2024

#### Room 8 - Guixiang

Organized by Alexander O. Govorov, Peng Yu

Chaired by Alexander O. Govorov

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- 16:00 Chirality in Plasmonic Gold Nanoparticle  
Keynote  
*Ki Tae Nam (Seoul National University);*
- 16:30 Investigating Losses in Single Plasmonic Nanoparticles  
*Emiliano Cortes (University of Munich (LMU));*
- 16:45 Low Level Light Biothermal Characterization at a Cellular Level  
*Taeyul Choi (University of North Texas);*
- 17:00 Harvesting Plasmonic Losses for Photocatalysis  
*Alberto Naldoni (University of Turin);*
- 17:15 Plasmonic-catalytic 2D Supercrystals for H<sub>2</sub> Production  
*Matias Herran (Fritz Haber Institute); Sabrina Jørgensen (Freie Universitaet Berlin); Ana Sousa-Castillo (Ludwig-Maximilians-Universität München); Holger Lange (University of Potsdam); Stephanie Reich (Freie Universitaet Berlin); Florian Schulz (University of Hamburg); Emiliano Cortes (University of Munich (LMU));*
- 17:30 Chiral Sensing with Plasmonic Nanostructures  
*Chi Zhang (Wuhan University); Yong Li (Wuhan University); Xiaolin Lu (Wuhan University); Tao Ding (Wuhan University);*
- 17:45 Harvesting Losses in Plasmonic Nanostructures for Photodetection in Telecommunication Band  
*Cheng Zhang (Soochow University); Xiaofeng Li (Soochow University);*

18:00 Chiral Interaction in an On-chip DNA-assembled Hybrid Nanostructure

*Li Ma (University of Electronic Science and Technology of China); Alexander O. Govorov (Ohio University); Zhiming Wang (University of Electronic Science and Technology of China);*

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### Session 3P9

#### Functional Optoelectronic Devices: Light Sources and Detectors

Wednesday PM, April 24, 2024

Room 9 - Xinyu

Organized by Jingxuan Wei, Yang Chen

Chaired by Jingxuan Wei, Yang Chen

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13:00 Spin Light Sources Generated from Berry-phase Photonic Crystals

Invited *Bo Wang (Shanghai Jiao Tong University);*

13:20 Resonant Metasurfaces for Polarized Light Emission

Invited *Zi-Lan Deng (Jinan University); Tan Shi (Jinan University); Zhiwei Feng (Jinan University);*

13:40 Optically Switchable Chiral Emission Based on Achiral Metasurfaces

Invited *Yang Chen (University of Science and Technology of China);*

14:00 Interface Polaritonics in van der Waals Materials for Advanced Optoelectronic Devices

Invited *Qing Zhang (University of Electronic Science and Technology of China); Yihua Bai (University of Electronic Science and Technology of China); Haoran Lv (University of Electronic Science and Technology of China);*

14:20 Hybrid Integrated Two-dimensional Material Optoelectronic Devices on Silicon

Invited *Junjia Wang (Southeast University);*

14:40 Metasurface-based Spectrometers and Tunable Colorfilters

Invited *Dandan Wen (Northwestern Polytechnical University);*

15:00 Controllable Distant Interactions at Bound State in the Continuum

Invited *Haijun Tang (Harbin Institute of Technology); Qinghai Song (Harbin Institute of Technology); Can Huang (Harbin Institute of Technology);*

15:30 **Coffee Break**

16:00 Chiroptical Detection by Photonic Orbital Angular Momentum

Invited *Jincheng Ni (University of Science and Technology of China);*

16:20 Towards Broadband Photodetection Using Low-dimensional Materials

Invited *Shaojuan Li (Changchun Institute of Optics, Fine Mechanics and Physics (CIOMP), Chinese Academy of Sciences);*

16:40 Nanoantenna Enhanced Integrated Infrared Polarization Detectors

*Jing Zhou (Shanghai Institute of Technical Physics, Chinese Academy of Sciences); Jie Deng (Shanghai Institute of Technical Physics, Chinese Academy of Sciences); Yonghao Bu (Shanghai Institute of Technical Physics, Chinese Academy of Sciences); Tianyun Zhu (Shanghai Institute of Technical Physics, Chinese Academy of Sciences); Wenji Jing (Shanghai Institute of Technical Physics, Chinese Academy of Sciences); Xiansong Ren (Shanghai Institute of Technical Physics, Chinese Academy of Sciences); Jiexian Ye (Shanghai Institute of Technical Physics, Chinese Academy of Sciences); Wei-Da Hu (Shanghai Institute of Technical Physics, Chinese Academy of Sciences); Xiaoshuang Chen (Shanghai Institute of Technical Physics, Chinese Academy of Sciences); Wei Lu (Shanghai Institute of Technical Physics, Chinese Academy of Sciences);*

17:20 Shortwave Infrared Photodetectors Based on Interlayer Transition in van der Waals MoS<sub>2</sub>/MoTe<sub>2</sub> Heterostructures

*Jiong Yang (Soochow University);*

17:35 Novel Polarization-sensitive Photodetectors Based on Optoelectronic Nanostructures

Invited *Jingxuan Wei (University of Electronic Science and Technology of China);*

17:55 All-optical Hot Plugging Polariton Classifier

*Chuyuan Zheng (University of Electronic Science and Technology of China); Wei Li Zhang (University of Electronic Science and Technology of China);*

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### Session 3P10a

#### Radar Target Scattering Signature Modeling and Application

Wednesday PM, April 24, 2024

Room 10 - Shuliu

Organized by Si-Yuan He, Yunhua Zhang

Chaired by Si-Yuan He, Yunhua Zhang

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13:00 Modeling and Analysis of Creeping Wave Diffraction of Complex Target Surface Based on Planar Mesh Model

*Yuan Long Li (Wuhan University); Si-Yuan He (Wuhan University); Yunhua Zhang (Wuhan University); Qi Huang (Wuhan University);*

13:15 Extraction of Scattering Centers by Physics-informed Deep Learning Model

*Jiangnan Bao (Southeast University); Che Liu (Southeast University); Tie Jun Cui (Southeast University);*

13:30 A Study of the Inherent Physical Attributes of Component-level Scattering Center Position

*Wancong Li (Wuhan University); Si-Yuan He (Wuhan University); Zhengqiu Tian (Wuhan University);*

- 13:45 Forward Modeling of Bistatic Scattering Center for Complex Target  
*Zhi-Dan Bian (Wuhan University); Yan Zhu (Wuhan University); Jia Ning Yin (Wuhan University); Si-Yuan He (Wuhan University);*
- 14:00 A Forward Parametric Modeling Method for Buried Targets  
*Yan Zhu (Wuhan University); Zhi Dan Bian (Wuhan University); Si-Yuan He (Wuhan University);*
- 14:15 Research on Forward Modeling of Robust Scattering Centers from Ships on Time-varying Sea Surface  
*Ru-Meng Chen (Wuhan University); Jia Ning Yin (Wuhan University); Si-Yuan He (Wuhan University);*
- 14:30 Applicability Analysis of Creeping Wave Diffraction Mechanism in Attributed Scattering Center Model  
*Qi Huang (National Key Laboratory of Scattering and Radiation); Hua Yan (National Key Laboratory of Scattering and Radiation); Lei Zhang (National Key Laboratory of Scattering and Radiation); Jinwen Lu (National Key Laboratory of Scattering and Radiation); Xiaoyan Huang (National Key Laboratory of Scattering and Radiation); Yanming Hu (National Key Laboratory of Scattering and Radiation); Hongcheng Yin (National Key Laboratory of Scattering and Radiation);*
- 15:30 **Coffee Break**

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### Session 3P10b

#### Micro-processing and Micro-fabrication with Lasers

Wednesday PM, April 24, 2024

Room 10 - Shuliu

Organized by You Wang, Dongdong Wang

Chaired by You Wang, Dongdong Wang

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- 16:00 Theoretical Study of Morphology of Holes Drilled by a Double-pulsed Laser Train  
*Jiaqi Wang (Southwest Institute of Technical Physics); Di Song (Southwest Institute of Technical Physics); Meng Zhang (Southwest Institute of Technical Physics); Liancong Gao (Southwest Institute of Technical Physics); Xinyang Wu (Xinjiang University); Dongdong Wang (Southwest Institute of Technical Physics); Jiao Yang (Southwest Institute of Technical Physics); Yaqing Jin (Southwest Institute of Technical Physics); Jiawei Guo (Southwest Institute of Technical Physics); Xiaoxu Liu (Southwest Institute of Technical Physics); You Wang (Southwest Institute of Technical Physics);*

- 16:15 Comparison of Characteristics of Drilled Holes Using a Gaussian Beam and a Flat-top Beam in Laser Perforation  
*Di Song (Southwest Institute of Technical Physics); Jiaqi Wang (Southwest Institute of Technical Physics); Xi Yang (Southwest Institute of Technical Physics); Yalan Wang (Southwest Institute of Technical Physics); Qing Luo (Southwest Institute of Technical Physics); Song Wang (Southwest Institute of Technical Physics); Menglin Guo (Southwest Institute of Technical Physics); Juhong Han (Southwest Institute of Technical Physics); He Cai (Southwest Institute of Technical Physics); Guofei An (Southwest Institute of Technical Physics); You Wang (Southwest Institute of Technical Physics);*
- 16:30 Micro/Nanofabrication through Partition Laser Assembling (PLA) Techniques  
*Wei Zhao (Northwest University);*
- 16:45 Utilizing Two-photon Polymerization for a Fiber-end Phase Mask in Precise Micro/nanofiber Fabrication  
*Xingyu Zhao (Zhejiang University); Xuefeng Luo (Zhejiang University); Wei Fang (Zhejiang University); Limin Tong (Zhejiang University);*
- 17:00 A Wet Etching-based Polarization Independent 3D-2D Taper Edge Coupler for Integrated Lithium Niobate Photonics  
*Jing Shang (Tsinghua University); Rongjin Zhuang (Tsinghua University); Yang Li (Tsinghua University);*
- 17:15 Nanosecond-femtosecond Laser-materials Processes and the Functional Structures Preparation of Thin Film  
*Dongfeng Qi (Shandong University of Technology); Letian Wang (University of California); Songyan Chen (Xiamen University); Costas P. Grigoropoulos (University of California, Berkeley);*
- 17:30 Photoinduced Enhanced Raman Spectroscopy with Periodic Nanostructures on LNOI Fabricated by Femtosecond Laser Inscription  
*Yingying Ren (Shandong Normal University); Peng An (Shandong Normal University); Shenglin Luo (Shandong Normal University & Soochow University); Zhen Li (Shandong Normal University & Soochow University);*

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### Session 3P11a

#### Advanced Optical and Digital Signal Processing in Optical Communication Networks 2

Wednesday PM, April 24, 2024

Room 11 - Xiangyu

Organized by Feng Wen, Mingming Tan, Tianhua Xu

Chaired by Feng Wen

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- 13:00 High-capacity Wavelength Selective Switches and the Invited Emerging Applications  
*Haining Yang (Southeast University);*

- 13:20 Increasing the Sensitivity Gains via Four-dimensional Geometric Shaping-based Coded Modulation for Optical Communication  
Invited *Bin Chen (Hefei University of Technology); Yajie Sheng (Hefei University of Technology); Yi Lei (Hefei University of Technology); Jiwei Xu (Hefei University of Technology); Weiqin Zhou (ZTE Corporation); Kai Tao (ZTE Corporation);*
- 13:40 Long-period Grating for Multimode and Multicore Fibers  
Invited *Yunhe Zhao (Shanghai Maritime University);*
- 14:00 Reservoir Computing Networks by Using Gain Saturation in a Semiconductor Optical Amplifier (SOA) Applied to Nonlinear Channel Equalization  
*Xiyong Liu (University of Electronic Science and Technology of China); Hanwen Gao (University of Electronic Science and Technology of China); Huiwen Luo (University of Electronic Science and Technology of China); Feng Wen (University of Electronic Science and Technology of China);*
- 14:15 The Advanced Transmission Technology  
Invited *Feng Tian (Beijing University of Posts and Telecommunications);*

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**Session 3P11b**

**Optical Wireless Communication**

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**Wednesday PM, April 24, 2024**

**Room 11 - Xiangyu**

Organized by Jianyang Shi, Chao Fei

Chaired by Jianyang Shi, Chao Fei

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- 14:40 Optical Wireless Communications for the Heterogeneous Networks of Intelligent Transportation  
Invited *Jian Song (Tsinghua University);*
- 15:00 On RIS-aided NLOS Underwater Wireless Optical Communication Systems  
Invited *Zhou Gan (Tsinghua University); Mitchell A. Cox (University of the Witwatersrand); Yuhang Dong (Tsinghua University);*
- 15:20 Key Technologies and Prospects of Intelligent Optical Wireless Communication for 6G  
Invited *Jianyang Shi (Fudan University);*
- 15:40 **Coffee Break**

- 16:00 Availability of Optical and mmWave Terrestrial Links at Low and Mid Latitudes  
*Elizabeth Verdugo (Pontifical Catholic University of Rio de Janeiro); Lorenzo Luini (Politecnico di Milano); Carlo Riva (Politecnico di Milano); Luiz Da Silva Mello (Pontifical Catholic University of Rio de Janeiro); Laura Resteghini (Huawei Technologies Italia S.r.l.); Alessandro D'Acierno (Huawei Technologies Italia S.r.l.); Renato Lombardi (Huawei Technologies Italia S.r.l.); Zhao Ying (Huawei Technologies Co., Ltd.); Roberto Nebuloni (CNR-Istituto di Elettronica e di Ingegneria dell'Informazione e delle Telecomunicazioni);*
- 16:15 50-m/20-Mbps Underwater Wireless Optical Communication Enabled by a Large Beam Divergence Angle Light-emitting Diode  
*Qingrui Chen (Zhejiang University);*
- 16:30 Scintillation Index of Plane and Spherical Laser Beams Propagating in Arbitrary Oceanic Turbulence  
*Weijie Dai (Tsinghua University); Liyan Zhang (Tsinghua University); Jiaming Lin (Tsinghua University); Kun Wu (Tsinghua University); Tiankuo Wei (Tsinghua University); Zongyao Zhao (Tsinghua University); Xinke Tang (Peng Cheng Laboratory); Jian Song (Tsinghua University); Xiao-Ping Zhang (Tsinghua University); Yuhang Dong (Tsinghua University);*
- 16:45 Joint Channel Estimator Combining Deterministic and Random Noise for Wireless Optical Communication  
*Yuan Wei (Fudan University); Chaoxu Chen (Fudan University); Ziwei Li (Fudan University); Chao Shen (Fudan University); Junwen Zhang (Fudan University); Nan Chi (Fudan University); Jianyang Shi (Fudan University);*
- 17:00 Indoor Health Monitoring with VLC-based Passive Posture Monitoring  
*Jiarong Li (Tsinghua University); Zixuan Xie (Tsinghua University); Chenxin Liang (Tsinghua University); Chihan Xu (Tsinghua University); Changshuo Ge (Tsinghua University); Zhancong Xu (Tsinghua University); Jingyang Wang (Tsinghua University); Liguang Ruan (Tsinghua University); Weihua Gui (Central South University); Xiaojun Liang (Peng Cheng Laboratory); Wenbo Ding (Tsinghua University);*
- 17:15 LiFall: Passive Indoor Fall Detection System Based on Illumination and Visible Light Communication Networks  
*Zhancong Xu (Tsinghua University); Chenxin Liang (Tsinghua University); Jingyang Wang (Tsinghua University); Liguang Ruan (Tsinghua University); Jiarong Li (Tsinghua University); Yuhang Dong (Tsinghua University); Wenbo Ding (Tsinghua University); Jian Song (Tsinghua University);*

- 17:30 Dual-polarization Multiplexing and Nonlinear Equalization Assisted in LED-based Underwater Wireless Optical Communication  
Invited  
*Yitong Xie (Zhejiang University); Fei Zhang (Zhejiang University); Junwei Zhang (The Hong Kong Polytechnic University); Tianyi Zhang (Zhejiang University); Yuan Wang (Zhejiang University); Jiahao Tian (Zhejiang University); Xiaojian Hong (Zhejiang University); Chao Fei (Zhejiang University); Guowu Zhang (Zhejiang University); Gaoxuan Wang (Zhejiang University); Sailing He (Royal Institute of Technology & Zhejiang University);*
- 17:50 Hybrid Artificial Noise Design for Indoor MISO VLC Wiretap Systems  
*Weishen Wang (Tsinghua University); Fan Yang (Tsinghua University); Liang Li (Tsinghua University); Weijie Dai (Tsinghua University); Yuhao Dong (Tsinghua University);*

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### Session 3P12a

#### Recent Advances in Artificial Intelligence Applications to the High Power Electromagnetics (HPEM) Effect of Electronic Systems 1 & 2

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Wednesday PM, April 24, 2024

Room 12 - Siji 1

Organized by Chuanbao Du, Congguang Mao, Wanzhi Ma

Chaired by Chuanbao Du, Congguang Mao, Mintao Zhang

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- 13:00 Field-line Coupling Effect under High Power Microwave  
*Yihao Guo (Sun Yat-sen University); Jinyuan Xiang (Sun Yat-sen University); Zong Qi Cai (CEPREL); Qifeng Huang (Sun Yat-sen University); Yongqi Tan (Sun Yat-sen University); Wenxiao Fang (Sun Yat-sen University);*
- 13:15 Monte Carlo Simulation of BOPP Metalized Film Breakdown under High-amplitude Electric Stress  
*Yuanjin Xiang (Xiangtan University); Wenxiao Fang (Sun Yat-sen University); Zhe Zhu (Xiangtan University);*
- 13:30 Study on Immunity of Interface Integrated Circuit under Electromagnetic Pulse Interference  
*Rui Ding (China Electronic Product Reliability and Environmental Testing Research Institute); Chengyang Luo (China Electronic Product Reliability and Environmental Testing Research Institute); Wenxiao Fang (Sun Yat-sen University); Weiheng Shao (China Electronic Product Reliability and Environmental Testing Research Institute);*

- 13:45 Analysis of Coupling Response in Communication Systems under High-altitude Electromagnetic Pulse Environment  
*Mintao Zhang (Xihua University); Chuanbao Du (Northwest Institute of Nuclear Technology); Yinjie Zhang (Xihua University); Wanzhi Ma (University of Electronic Science and Technology of China); Congguang Mao (Northwest Institute of Nuclear Technology);*
- 14:00 Comprehensive Evaluation of Shielding Effect of Electronic Enclosures Based on EM Norms  
*Jin Tian (Xidian University); Jiang-Wei Guo (Xidian University); Lu Sun (Xidian University); Chuanbao Du (Northwest Institute of Nuclear Technology); Yang Qiu (Xidian University);*
- 14:15 Application of Scattering Parameters in Source Waveform Reconstruction of Bounded Wave Simulator  
*Zhuo Wang (Xidian University); You-Huo Huang (Xidian University); Jing-Li Guo (Xidian University); Chuanbao Du (Northwest Institute of Nuclear Technology); Zhitong Cui (Northwest Institute of Nuclear Technology); Linshen Xie (Northwest Institute of Nuclear Technology);*
- 14:30 Study on Coupling Effect of Typical Communication Interface and Cable under Strong Electromagnetic Pulse Excitation  
*Ya-Nan Du (Xidian University); Lu Sun (Xidian University); Jin Tian (Xidian University); Chuanbao Du (Northwest Institute of Nuclear Technology); Yang Qiu (Xidian University);*
- 14:45 Equivalent Circuit Modeling for Antenna Feed Networks in HPEM Environments  
*Zhuo Wang (Xidian University); Chuanbao Du (Northwest Institute of Nuclear Technology); Wei Wang (Northwest Institute of Nuclear Technology); Zhitong Cui (Northwest Institute of Nuclear Technology); You-Huo Huang (Xidian University);*
- 15:00 Analysis of HEMP Coupled Responses for RF Front-End Circuit of Wireless Communication Equipment  
*Yinjie Zhang (Xihua University); Chuanbao Du (Northwest Institute of Nuclear Technology); Mintao Zhang (Xihua University); Wanzhi Ma (University of Electronic Science and Technology of China); Congguang Mao (Northwest Institute of Nuclear Technology); Xin Nie (Northwest Institute of Nuclear Technology);*
- 15:15 Sample Size Uncertainty Analysis in the System Vulnerability Assessment Results for IEMI  
*Keyue Wang (Xi'an Jiaotong University); Jinru Sun (Xi'an Jiaotong University); Xueling Yao (Xi'an Jiaotong University); Congguang Mao (Northwest Institute of Nuclear Technology);*
- 15:30 **Coffee Break**

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**Session 3P12b**

**Microwave and Millimeter Wave Circuits and Devices 1**

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**Wednesday PM, April 24, 2024**

**Room 12 - Siji 1**

Chaired by Lei Kuang

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- 16:00 Compact Wideband Four-coupled-line Based Filtering Directional Coupler with Wide Upper Stopband  
*Yan Zhang (Dalian Maritime University); Hongmei Liu (Dalian Maritime University); Yanjie Pei (Dalian Maritime University); Teng Ma (Dalian Maritime University); Siran Zhang (Dalian Maritime University);*
- 16:15 Design of U-band Frequency Doubler Based on Schottky Diode MA4E1317  
*Xi Fang (Chongqing University of Posts and Telecommunications); Bo Zhang (University of Electronic Science and Technology of China); Yunhan Qin (China National Accreditation Service for Conformity Assessment); Yuanbo Wen (Chongqing University of Posts and Telecommunications);*
- 16:30 Micro-magnetic Simulation Study on High-frequency Microwave Generators Utilizing Spin Torque Oscillation in Orthogonal Magnetization Disks with Strong Biquadratic Magnetic Coupling  
*Chuhan Liu (Kyushu University); Yuichiro Kurokawa (Kyushu University); Naoki Hashimoto (Kyushu University); Terumitsu Tanaka (Kyushu University); Hiromi Yuasa (Kyushu University);*
- 16:45 A Compact Surface Wave Launcher with Higher Directivity for Leaky Wave Antenna of Producing Hologram  
*Yi Ruo Wang (Tongji University); Zhen Wang (Tongji University); Ajay K. Poddar (Synergy Microwave Corporation); Ulrich L. Rohde (Synergy Microwave Corporation); Mei Song Tong (Tongji University);*
- 17:00 Fast Simulation of SAW Devices Using the Improved Hierarchical Cascading Technique  
*Bangwei Xu (East China Normal University); Shaoqing Duan (East China Normal University); Lei Kuang (East China Normal University);*

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**Session 3P13a**

**Quantum Technologies Related to Electromagnetics**

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**Wednesday PM, April 24, 2024**

**Room 13 - Siji 2**

Organized by Weng Cho Chew, Dong-Yeop Na

Chaired by Weng Cho Chew, Dong-Yeop Na

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- 13:00 Quantum Computing Method to Solve the Finite Element Equation in EM Problems  
*Tian Jian Peng (Southeast University); Jianan Zhang (Southeast University); Jianwei You (Southeast University); Tie Jun Cui (Southeast University);*

- 13:15 Recent Research Progresses of Quantum Radar  
*Hai-Zhi Song (Southwest Institute of Technical Physics & UESTC); Zichang Zhang (Southwest Institute of Technical Physics); Jing Qiu (Southwest Institute of Technical Physics); Mochou Yang (Southwest Institute of Technical Physics); Beitong Cheng (Southwest Institute of Technical Physics);*
- 13:30 Metalens-array-based High-dimensional Quantum Random Number Generator  
*Yubin Fan (City University of Hong Kong); Mu Ku Chen (City University of Hong Kong); Din Ping Tsai (City University of Hong Kong);*
- 13:45 Numerical Modeling of the Dynamics of Multiple Atoms in a Lossy Cavity from the Fully-quantum-theoretic Aspect  
*Dong-Yeop Na (Pohang University of Science and Technology); Christopher Jayun Ryu (University of Illinois Urbana-Champaign); Weng Cho Chew (Purdue University);*
- 14:00 On the Stability Conditions of FDTD Methods for Maxwell and Schrodinger Equations  
*Eng Leong Tan (Nanyang Technological University);*
- 14:15 Controllable Multi-photon Entanglement in Optical Synthetic Dimensions  
*Junlin Wang (Zhejiang University); Luqi Yuan (Shanghai Jiao Tong University); Lei Ying (Zhejiang University);*
- 14:30 Numerical Study of Amplitude-modulation Receivers Based on Rydberg Atoms  
*Wenjie Ding (Anhui University); Wei E. I. Sha (Zhejiang University); Zhi-Xiang Huang (Anhui University); Pan Pan (Anhui University); Guoda Xie (Anhui University);*
- 14:45 Modeling of a Flux Qubit Coupled to a Coplanar Waveguide Resonator Using Discrete Exterior Calculus  
*Christopher Jayun Ryu (University of Illinois Urbana-Champaign); Boyuan Zhang (Purdue University); Dong-Yeop Na (Pohang University of Science and Technology); Kudeki Erhan (University of Illinois); Weng Cho Chew (Purdue University);*
- 15:00 Study on the Spectrum Splitting by Dielectric Loading for Room-temperature Optical Quantum Bits Design  
*Boyuan Zhang (Purdue University); Jie Zhu (Purdue University); Dong-Yeop Na (Pohang University of Science and Technology); Thomas E. Roth (Purdue University); Weng Cho Chew (Purdue University);*

**Session 3P13b****Advancement of UAV/Drone Applications for Earth Resource Monitoring****Wednesday PM, April 24, 2024****Room 13 - Siji 2**

Organized by Voon Chet Koo, Hean-Teik Chuah

Chaired by Yee Kit Chan

- 16:00 Monitoring Coastal Blue Carbon Ecosystems by Combining Satellite and UAV Remote Sensing Data in Southern China  
*Di Dong (South China Sea Development Research Institute, MNR); Huamei Huang (South China Sea Development Research Institute, MNR); Qing Gao (South China Sea Development Research Institute, MNR);*
- 16:15 Design and Development of Drone Based Synthetic Aperture Radar (SAR) System for Environmental and Disaster Monitoring  
*Yee Kit Chan (Multimedia University); Voon Chet Koo (Multimedia University); Chee-Siong Lim (Multimedia University); Tien Sze Lim (Multimedia University);*
- 16:30 Large Scale Oil Palm Tree Detection and Counting Using Deep Learning  
*Chee Cheong Lee (Multimedia University); Voon Chet Koo (Multimedia University); Tien Sze Lim (Multimedia University);*
- 16:45 Study on the Evaluation Index of Vehicle Tracking on Two-lane Road by Using Fractal Image Analysis  
*Yifan Wu (Nihon University); Syota Yazawa (Nihon University); Kiyozumi Niizuma (Nihon University); Takashi Kuroiwa (Nihon University);*
- 17:00 The Utilization of Drones as a Catalyst for Igniting Passion in STEM Education in Malaysia  
*Danny Wee Kiat Ng (Universiti Tunku Abdul Rahman); Ban Hoe Kwan (Universiti Tunku Abdul Rahman); Yeong-Nan Phua (Universiti Tunku Abdul Rahman); Kiah Ju Ong (Universiti Tunku Abdul Rahman); Faidz Abd-Rahman (Universiti Tunku Abdul Rahman);*

**Session 3P13c****Progress on Electromagnetics for Biomedical Imaging Methods and Systems****Wednesday PM, April 24, 2024****Room 13 - Siji 2**

Organized by Shao Ying Huang, Xiuzhu Ye

Chaired by Xiuzhu Ye

- 17:15 Novel UWB Antennas for Microwave Breast Cancer Detection  
*Yiyi Yao (Harbin Institute of Technology, Weihai); Qihang Zhou (University of Electronic Science and Technology of China (UESTC));*

- 17:30 A Microwave Device for Human Cerebral Hemodynamics Measurement  
*Mengchu Wang (Tsinghua University); Rui Guo (Tsinghua University); Maokun Li (Tsinghua University); Fan Yang (Tsinghua University); Shenheng Xu (Tsinghua University);*
- 17:45 Magnetic Resonance Electrical Property Tomography with Inhomogeneous Background Prior Information  
*Yuyue Zhang (National University of Singapore); Xudong Chen (National University of Singapore);*
- 18:00 Sample Entropy-based Characterization of Electrical Impedance in Epilepsy  
*Xiaoxiao Bai (Northwestern Polytechnical University); Jiaming Xu (Northwestern Polytechnical University); Jingrong Yang (Northwestern Polytechnical University); Lei Wang (Institute of Medical Research, Northwestern Polytechnical University);*
- 18:15 Inverse Scattering Imaging of Metal Targets inside Human Body Based on Compressive Sensing  
*Xinhui Zhang (Beijing Institute of Technology); Naike Du (Beijing Institute of Technology); Xiuzhu Ye (Beijing Institute of Technology);*

**Session 3P14****Ocean and Coastal Remote Sensing: The AI Approach****Wednesday PM, April 24, 2024****Room 14 - Siji 3**

Organized by Xiaofeng Li, Xiaofeng Yang

Chaired by Xiaofeng Yang

- 13:00 Information Fusion for GNSS-R Wind Speed Retrieval Based on Residual Fully Connected Network  
*Hao Du (Institute of Space Sciences (ICE, CSIC)); Weiqiang Li (Institute of Space Sciences (ICE, CSIC)); E. Cardellach (Institute of Space Sciences (ICE, CSIC)); Serni Ribo (Institute of Space Sciences (ICE, CSIC)); Antonio Rius (Institute of Space Sciences (ICE, CSIC));*
- 13:15 Tropical Cyclone Surface Pressure Fields Estimation Using the Fengyun Satellite 50–60 GHz and 118 GHz Passive Microwave Measurements over Oceans  
*Zijin Zhang (National Space Science Center, Chinese Academy of Sciences); Xiaolong Dong (National Space Science Center, Chinese Academy of Sciences);*
- 13:30 Sea Surface Wind Direction Retrieval from Satellite SAR Images Using Deep Learning  
*Xiaofeng Yang (Aerospace Information Research Institute, Chinese Academy of Sciences);*
- 13:45 Inversion of Oil Slick Thickness Using SAR Data Based on ANN  
*Tingyu Meng (Aerospace Information Research Institute, Chinese Academy of Sciences); Xiaofeng Yang (Aerospace Information Research Institute, Chinese Academy of Sciences); Kun-Shan Chen (Nanjing University);*

- 14:00 Reconstruction of Ocean Temperature Field Based on a Temperature Profile  
*Xuanwei Wan (Ministry of Natural Resources); Gang Zheng (The Second Institute of Oceanography, Chinese Ministry of Natural Resources); Xiaofeng Li (Institute of Oceanography, Chinese Academy of Sciences); Lizhang Zhou (Zhejiang University);*
- 14:15 Mangrove and Salt Marsh Detection in a Mangrove-saltmarsh Ecotone Using Segment Anything Model from Drone Imagery  
*Di Dong (South China Sea Development Research Institute, MNR); Huamei Huang (South China Sea Development Research Institute, MNR); Bingxin Guo (Henan University of Urban Construction); Jia Yang (Henan University of Urban Construction); Qing Gao (South China Sea Development Research Institute, MNR); Zheng Wei (South China Sea Development Research Institute, MNR); Yuchao Sun (South China Sea Development Research Institute, MNR);*
- 14:30 Deep Learning Based Tropical Cyclone Center Fixing from Satellite Infrared Images  
*Qing Xu (Ocean University of China); Han Wang (Ocean University of China); Xiaobin Yin (Ocean University of China); Yongcun Cheng (PIESAT Information Technology Co., Ltd.);*
- 14:45 Transfer Learning-driven Retrieval of Subsurface Temperature and Salinity for Mesoscale Eddies in the Oyashio Current  
*Yingjie Liu (Institute of Oceanology, Chinese Academy of Sciences); Le Gao (Institute of Oceanography, Chinese Academy of Sciences); Haoyu Wang (Institute of Oceanology, Chinese Academy of Sciences); Fei Jiang (Institute of Oceanology, Chinese Academy of Sciences); Xiaofeng Li (Institute of Oceanography, Chinese Academy of Sciences);*
- 15:30 **Coffee Break**
- 16:00 A Direct Sun Correction Method for Interferometric Microwave Radiometer Based on SMOS Data  
*Xiaobin Yin (Ocean University of China); Dunchao Du (Ocean University of China); Yan Li (Ocean University of China); Wu Zhou (National Satellite Ocean Application Service); Chaofei Ma (National Satellite Ocean Application Service); Huan Zhang (China Academy of Space Technology); Yinan Li (China Academy of Space Technology (Xi'an)); Jingjing Ren (China Academy of Space Technology);*
- 16:15 Multi-source Satellite Observation on Internal Solitary Waves in the Lombok Strait  
*Chuyuan Zhuang (Institute of Oceanology, Chinese Academy of Sciences); Xiaofeng Li (Institute of Oceanology, Chinese Academy of Sciences); Dongliang Shen (Institute of Oceanology, Chinese Academy of Sciences); Xudong Zhang (Institute of Oceanology, Chinese Academy of Sciences);*
- 16:30 Improved Tropical Cyclone Observations by Scatterometers, Using SAR Learning  
*Weicheng Ni (National University of Defense Technology); Ad Stoffelen (Royal Netherlands Meteorological Institute (KNMI)); Kaijun Ren (National University of Defense Technology); Jur Vogelzang (Royal Netherlands Meteorological Institute); Yanlai Zhao (National University of Defense Technology); Wuxin Wang (National University of Defense Technology);*
- 16:45 Deep Learning-driven Forecasting of Daily Sea Surface Temperatures in the South China Sea  
*Jifeng Qi (Institute of Oceanology, Chinese Academy of Sciences); Bowen Xie (Institute of Oceanology, Chinese Academy of Sciences); Dezhou Yang (Institute of Oceanology, Chinese Academy of Sciences); Delei Li (Institute of Oceanology, Chinese Academy of Sciences); Baoshu Yin (Institute of Oceanology, Chinese Academy of Sciences);*
- 17:00 Extraction of Nearshore Aquaculture Raft Regions through Spatial-frequency Domain Feature Fusion Network  
*Yuan Zhou (Tianjin University); Mengda Chao (Tianjin University); J. W. Tang (Laoshan Laboratory); Q. Li (Xidian University); Xiaofeng Li (Institute of Oceanology, Chinese Academy of Sciences);*
- 17:15 Coastal Sea Fog Detection Based on Multi-channel Fusion Transformer  
*Keran Chen (Tianjin University); Yuan Zhou (Tianjin University); Xiaofeng Li (Institute of Oceanology, Chinese Academy of Sciences);*
- 17:45 Aptcnet: Enhancing Wind Retrieval in Satellite Remote Sensing with Adaptive Penalty and Triple Collocation  
*Xinjie Shi (National University of Defense Technology); Qingguo Su (National University of Defense Technology); Wuxin Wang (National University of Defense Technology); Boheng Duan (National University of Defense Technology); Weicheng Ni (National University of Defense Technology); Kaijun Ren (National University of Defense Technology);*

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### Session 3P15a

### Advanced Modeling and Simulation Methods for Multiphysics and Multiscale Problems

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Wednesday PM, April 24, 2024

Room 15 - Siji 4

Organized by Ming Jiang, Wei Yang

Chaired by Ming Jiang, Huan Huan Zhang

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- 13:00 Analysis Method for the Energy-decoupled Transmitting Modes of Horn-fed Metamaterial Lens (Metalens)  
*Ren-Zun Lian (Xidian University);*



- 13:15 Plasmonic Nanostructures Analysis Using Characteristic Mode Method  
*Xuechun Wang (Nanjing University of Posts and Telecommunications); Ting Wan (Nanjing University of Posts and Telecommunications);*
- 13:30 Simulation Implementation on EM Scattering of a Target Coated by a Plasma by Volumetric-SBR  
*Wei Yang (University of Electronic Science and Technology of China); Yu-Feng Cai (University of Electronic Science and Technology of China); Hao-Quan Hu (University of Electronic Science and Technology of China);*
- 13:45 Multi-Scale Simulation Analysis of Millimeter Wave Propagation Characteristics in Mountainous UAV-aided Communications Based on Ray Tracing Method  
*Jian Song (Kunming University of Science and Technology); Penghui Ding (Kunming University of Science and Technology); Jiangling Dou (Kunming University of Science and Technology); Qingwang Wang (Kunming University of Science and Technology); Yebo Gu (Kunming University of Science and Technology); Tao Shen (Kunming University of Science and Technology);*
- 14:00 Signal Integrity Analysis of Integrated Circuits Based on DGTD Method  
*Heng Fei Ma (Xidian University); Qing Nan Fan (Xidian University); Zheng Lang Jia (Xidian University); Huan Huan Zhang (Xidian University);*
- 14:15 Analysis of the Influence of Radome on Seeker Antenna with the Consideration of Multiphysics Effects  
*Qing Nan Fan (Xidian University); Heng Fei Ma (Xidian University); Zheng Lang Jia (Xidian University); Huan Huan Zhang (Xidian University);*
- 14:30 Electromagnetic-circuit-thermal-mechanical Multiphysics Numerical Simulation Method for Microwave Circuits and Antennas  
*Huan Huan Zhang (Xidian University); Ying Liu (Xidian University); Lijun Jiang (Missouri University of Science and Technology); Wei E. I. Sha (Zhejiang University); Da-Zhi Ding (Nanjing University of Science and Technology);*
- 14:45 Accurate Electromagnetic Scattering Analysis of Multi-scale Objects by Discontinuous Galerkin Integral Equation Method with Buffa-Christiansen Functions  
*Zi-Yang Liang (Beijing Institute of Technology); Hong-Wei Gao (Beijing Institute of Technology); Zhen Peng (University of Illinois at Urbana-Champaign);*
- 15:00 A Hierarchical Approximation Inversion Preconditioner for Surface Integral Equations in Electromagnetic Analysis of Multi-scale Objects  
*Jin-Gang Liu (Beijing Institute of Technology); Xiao-Wei Huang (Beijing Institute of Technology); Shi-Yin Liu (Beijing Institute of Technology); Dan Guo (Beijing Institute of Technology); Xin-Qing Sheng (Beijing Institute of Technology);*
- 15:15 An Efficient Domain Decomposition Method for Multiphysics Simulation of Chiplet  
*Y. Xu (Xiamen University); Qiuyue Wu (Xiamen University); Mingwei Zhuang (Xiamen University); Na Liu (Xiamen University);*
- 15:30 Electromagnetic-thermal Co-simulation Based on Sub-grid Method  
*Guanghuan Zhang (Anhui University); Kaikun Niu (Anhui University); Zhi-Xiang Huang (Anhui University);*
- 15:45 **Coffee Break**
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- Session 3P15b**  
**Numerical Methods for the Approximation of Maxwell's Equations**
- 
- Wednesday PM, April 24, 2024**  
**Room 15 - Siji 4**  
Organized by Daniele Boffi, Lucia Gastaldi  
Chaired by Daniele Boffi, Lucia Gastaldi
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- 16:00 On the Finite Element Approximation of Maxwell's Eigenvalues  
*Daniele Boffi (King Abdullah University of Science and Technology (KAUST));*
- 16:15 Approximation of the Maxwell Eigenvalue Problem in a Least-squares Setting  
*Fleurianne Bertrand (Fakultat fur Mathematik, TU Chemnitz); Daniele Boffi (King Abdullah University of Science and Technology (KAUST)); Lucia Gastaldi (University of Brescia);*
- 16:30 Convergence of Adaptive Finite Element Methods in Finite Element Exterior Calculus  
*Yuwen Li (Zhejiang University);*
- 16:45 Band Structure Calculations of Dispersive Photonic Crystals in 3D Using Holomorphic Operator Functions  
*Wenqiang Xiao (Inner Mongolia University); Bo Gong (Beijing University of Technology); Junshan Lin (Auburn University); Jiguang Sun (Michigan Technological University);*
- 17:00 An Analysis of Schwarz Methods for Frequency-domain Wave Equations Using Impedance Boundary Conditions or PMLs  
*Shihua Gong (The Chinese University of Hong Kong (Shenzhen));*
- 17:15 Deep Neural Networks and Finite Elements  
*Juncai He (King Abdullah University of Science and Technology (KAUST));*
- 17:30 Analysis of Nitsche's Method to Weakly Prescribe the Dirichlet Boundary Conditions in FEM Approximations of Maxwell's Problem  
*Daniele Boffi (King Abdullah University of Science and Technology (KAUST)); Ramon Codina (Universitat Politècnica de Catalunya); Onder Türk (Middle East Technical University);*

17:45 An Extended Lagrange FEM for the Maxwell Eigenvalue Problem  
*Jiayu Han (Guizhou Normal University);*

18:00 Guaranteed Computation for Maxwell Equations  
*Xuefeng Liu (Tokyo Woman's Christian University);*

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### Session 3P16a

#### Bound States in the Continuum and Singular Optics 1

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Wednesday PM, April 24, 2024

Room 16 - Mudan

Organized by Wenzhe Liu, Dezhuhan Han, Chao Peng

Chaired by Wenzhe Liu, Dezhuhan Han

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13:00 Lasing Control with Different Bound States in Continuum Based on Phase Change Material  
*Xinghong Chen (Shanghai Jiao Tong University); Mingxuan Gu (Shanghai Jiao Tong University); Jiankai Tang (Shanghai Jiao Tong University); Yifei Mao (Shanghai Jiao Tong University);*

13:15 Dynamically Switchable Unidirectional Radiation Enabled by Topological Charges  
*Kong Zhang (Shanghai Jiao Tong University); Guan-jie Zhang (Shanghai Jiao Tong University); Yifei Mao (Shanghai Jiao Tong University);*

13:30 Dynamics of Bound States in the Continuum under Non-Hermitian Perturbations  
*Qianju Song (Southwest University of Science and Technology); Dezhuhan Han (Chongqing University);*

13:45 Topologically Complex Singular Electromagnetic Waves  
Invited *Yijie Shen (Nanyang Technological University);*

14:05 Interference Methods for the Structured Light Formation  
*Boris A. Evtushenko (Saint Petersburg State Electrotechnical University "LETI"); Anastasia A. Ryzhaya (Saint Petersburg State Electrotechnical University "LETI"); Alexander A. Sevryugin (Saint Petersburg Electrotechnical University); Egor V. Shalymov (Saint Petersburg Electrotechnical University "LETI"); Ekaterina K. Iuryeva (Saint Petersburg State Electrotechnical University "LETI"); Vladimir Yu. Venediktov (Saint Petersburg State Electrotechnical University "LETI"); Andrey L. Sokolov (Scientific and Production Corporation "Precision Instrument Engineering Systems");*

14:20 Diabolic and Exceptional Singularities in Scattering Matrices of Photonic Systems  
Invited *Wenzhe Liu (The Hong Kong University of Science and Technology); Jiangguang Chen (Fudan University); Lei Shi (Fudan University); Jian Zi (Fudan University); Che Ting Chan (The Hong Kong University of Science and Technology);*

14:40 Generic and Non-generic Bound States in the Continuum: Definitions and Properties  
*Nan Zhang (City University of Hong Kong); Ya Yan Lu (City University of Hong Kong);*

14:55 Enhance the Quality Factors of Bound States in the Continuum in Entire Brillouin Zone  
*Guanjie Zhang (Shanghai Jiao Tong University); Yifei Mao (Shanghai Jiao Tong University);*

15:30 Coffee Break

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### Session 3P16b

#### Nanophotonics and Topological Photonics 3

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Wednesday PM, April 24, 2024

Room 16 - Mudan

Organized by Lin Chen, Cuicui Lu, Zhiwei Guo

Chaired by Cuicui Lu, Zhiwei Guo

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16:00 Experimental Realization of a Three-dimensional Higher-order Photonic Topological Insulator  
*Ziyao Wang (Southern University of Science and Technology); Zhen Gao (Southern University of Science and Technology);*

16:15 Realization of Topology-controlled Photonic Cavities in Valley Photonic Crystals  
*Bei Yan (Southern University of Science and Technology); Zhen Gao (Southern University of Science and Technology);*

16:30 Photonic  $\mathbb{Z}_2$  Topological Anderson Insulators  
*Xiaohan Cui (The Hong Kong University of Science and Technology); Ruo-Yang Zhang (The Hong Kong University of Science and Technology); Xiao-Dong Chen (Sun Yat-Sen University); Che Ting Chan (The Hong Kong University of Science and Technology);*

16:45 Multiorbital Topological Waveguide Arrays  
Invited *Shaolin Ke (Wuhan Institute of Technology); Yang Liu (Wuhan Institute of Technology); Fengyi Zhang (Wuhan Institute of Technology);*

17:05 Band Structure Engineering and Its Impact on Light Behavior in Topological Photonic Lattices  
Invited *Xinyuan Qi (Northwest University); Junhao Yang (Northwest University); Yu Lin (Northwest University); Yixuan Fu (Northwest University);*

17:25 Spin-selective Light Manipulation Based on Chiral Artificial Nanostructures  
Invited *Zhancheng Li (Nankai University); Jiaqi Cheng (Nankai University); Shuqi Chen (Nankai University);*

17:45 Design of a Photonic Router via Sandwiched Valley-Hall Interface States  
Invited *Jiayu Fan (The Hong Kong University of Science and Technology (Guangzhou)); Xiaoxiao Wu (The Hong Kong University of Science and Technology (Guangzhou));*

- 18:05 Magnetically Controllable Multimode Interference in Topological Photonic Crystals  
*Weiyuan Tang (The University of Hong Kong); Mudi Wang (The Hong Kong University of Science and Technology); Shaojie Ma (The University of Hong Kong); Che Ting Chan (The Hong Kong University of Science and Technology); Shuang Zhang (The University of Hong Kong);*

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**Session 3P17**

**Phononic Crystals, Acoustic/Elastic Metamaterials and Metasurfaces 3**

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**Wednesday PM, April 24, 2024**

**Room 17 - Furong**

Organized by Fuyin Ma, Rui Zhu, Xue Jiang

Chaired by Fuyin Ma, Xue Jiang

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- 13:00 Sound Insulation Properties of Truss-based Inertial Amplification Double-panel Acoustic Metamaterial  
*Yonghang Sun (Shanghai Jiao Tong University); Jingjie Dong (Shanghai Jiao Tong University); Heow Pueh Lee (National University of Singapore); Hui Zheng (Shanghai Jiao Tong University);*
- 13:15 Specified-state Metasurfaces in OAM Beam Generation: An Inverse-design Approach  
*Chuanxin Zhang (Fudan University); Xue Jiang (Fudan University);*
- 13:30 Acoustic Metamaterials for Sensing Application  
 Invited *Yabin Jin (Tongji University);*
- 13:50 Acoustic Metasurface Design for Aeroacoustic Reduction  
 Invited *Jie Zhou (Northwestern Polytechnical University);*
- 14:10 Multifunctional and Multi-frequency Acoustic Metasurface Based on Reconfigurable Slitted Round Tubes  
*Siyuan Peng (East China University of Science and Technology); Ai Ling Song (East China University of Science and Technology); Yanxun Xiang (East China University of Science and Technology);*
- 14:25 Non-Hermitian Skin Effect in Acoustic Systems  
 Invited *Zhongming Gu (Tongji University); Jie Zhu (Tongji University);*
- 14:45 Piezoelectric Metamaterials for Vibration Suppression and Energy Harvesting  
 Invited *Guobiao Hu (Hong Kong University of Science and Technology);*
- 15:30 **Coffee Break**
- 16:00 Far-field Subwavelength Ultrasound Imaging Using Metagrating Illumination through Obstacles  
*Liyang Lu (Fudan University); Chuanxin Zhang (Fudan University); Xue Jiang (Fudan University);*

- 16:15 Reconfigurable Acoustic Metacage

Invited

*Heow Pueh Lee (National University of Singapore); Yung Boon Chong (National University of Singapore); Kian Meng Lim (National University of Singapore);*

- 16:35 Broadband Low-frequency Sound Attenuation by Composite Meta-liner under Grazing Flow

*Hao Wang (Northwestern Polytechnical University); Shuwei Ren (Northwestern Polytechnical University); Xiangyang Zeng (Northwestern Polytechnical University); Haitao Wang (Northwestern Polytechnical University); Ye Lei (Northwestern Polytechnical University);*

- 16:50 Bio-inspired Design of 3D Horseshoe-shaped Soft Network Metamaterials

Invited

*Dongjia Yan (University of Science and Technology Beijing); Jinxuan Zhou (University of Science and Technology Beijing); Zheng-Yang Li (University of Science and Technology Beijing); Chuan-Zeng Zhang (University of Siegen);*

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**Session 3P18a**

**Acoustic Topological Metamaterials 1**

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**Wednesday PM, April 24, 2024**

**Room 18 - Meilan**

Organized by Zhiwang Zhang, Hai-Xiao Wang, Jiuyang Lu

Chaired by Zhiwang Zhang, Hai-Xiao Wang

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- 13:00 Synergistic Acoustic Topological States in Periodic Structures  
 Invited *Zhen Huang (Xi'an Jiaotong University); Fuyin Ma (Xi'an Jiaotong University); Jiu Hui Wu (Xi'an Jiaotong University);*
- 13:20 Hybrid-order and Variable-order Topological Insulators  
*Yating Yang (Beijing University of Chemical Technology); Xueqin Huang (South China University of Technology); Jiuyang Lu (Wuhan University); Weiyin Deng (South China University of Technology); Zhengyou Liu (Wuhan University);*
- 13:35 Observation of Multiple Off-site Corner States Induced by Next-nearest-neighbor Coupling in a Sonic Crystal  
*Wei Xiong (Nanjing University); Zhiwang Zhang (Nanjing University); Ying Cheng (Nanjing University); Xiao-Jun Liu (Nanjing University);*
- 13:50 Customizable Second-order Phoxonic Topological Insulators via Inverse Design  
 Invited *Yafeng Chen (The Hong Kong Polytechnic University); Zhongqing Su (The Hong Kong Polytechnic University);*
- 14:10 Anti-Parity-Time Symmetry in a Su-Schrieffer-Heeger Sonic Lattice  
 Invited *Bolun Hu (Jiangnan University); Zhiwang Zhang (Nanjing University); Ying Cheng (Nanjing University); Xiao-Jun Liu (Nanjing University); Johan Christensen (IMDEA Materials Institute);*

14:30 Observation of D-class Topology in an Acoustic Metamaterial  
*Shiqiao Wu (Foshan University);*

14:45 Orbital Higher-order Topological Acoustics  
Invited  
*Feng Gao (Huazhong University of Science and Technology); Yu-Gui Peng (Huazhong University of Science and Technology); Xue-Feng Zhu (Huazhong University of Science and Technology);*

15:05 A Frequency Selective Surface with Low Radar Cross Section Based on Flip Coding  
*Tiefu Li (Air Force Engineering University); Chang Ding (Air Force Engineering University); Zuntian Chu (Air Force Engineering University); Ruichao Zhu (Air Force Engineering University); Jiafu Wang (Air Force Engineering University); Cun-Qian Feng (Air Force Engineering University);*

15:30 Coffee Break

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**Session 3P18b**  
**Structured Light: From Classical to Quantum 2**  
**Wednesday PM, April 24, 2024**  
**Room 18 - Meilan**  
Organized by Zhi-Han Zhu, Carmelo Rosales-Guzmán  
Chaired by Zhi-Han Zhu

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16:20 Free Modulation and Multidimensional Trapping of Vortex Beams  
Invited  
*Xinzhong Li (Henan University of Science and Technology);*

16:40 High-dimensional Nonseparable States of Light  
Invited  
*Yijie Shen (Nanyang Technological University);*

17:00 Spatiotemporal Hologram  
Invited  
*Qian Cao (University of Shanghai for Science and Technology); Qiwen Zhan (University of Shanghai for Science and Technology);*

17:20 Tight Focusing of Vector Beams without Longitudinal Component of the Electric Field  
*Sergey S. Stafeev (Image Processing Systems Institute — Branch of the Federal Scientific Research Centre “Crystallography and Photonics” of RAS); Victor V. Kotlyar (Image Processing Systems Institute — Branch of the Federal Scientific Research Centre “Crystallography and Photonics” of RAS);*

17:35 Properties of Vortex Beams with a Squared Laguerre Polynomial

*Elena Sergeevna Kozlova (Image Processing Systems Institute of the Russian Academy of Sciences); A. A. Kovalev (Image Processing Systems Institute of the Russian Academy of Sciences); Alexandra A. Savelyeva (Image Processing Systems Institute of the Russian Academy of Sciences); Victor V. Kotlyar (IPSI RAS — Branch of the FSRC “Crystallography and Photonics” RAS);*

17:50 Generation of Laguerre-Gaussian Petal-like Beams from an Optical Vortex Parametric Oscillator  
*Yuxia Zhou (Xinjiang Normal University); Palidan Aierken (Xinjiang Normal University); Jianqiang Ye (Xinjiang Normal University); Ying Wan (Nanjing University of Information Science & Technology); Jianxiang Wen (Shanghai University); Taximaiti Yusufu (Xinjiang Normal University);*

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**Session 3P19**  
**Poster Session 6**  
**Wednesday PM, April 24, 2024**  
**14:00 PM - 18:00 PM**  
**Room Exhibition Area**

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2 Broadband Radar Cross-Section Reduction Based on Polarization Conversion Metasurface  
*Jiawei Zhang (University of Electronic Science and Technology of China); Shaojun Guo (National Institute of Defense Technology Innovation, Academy of Military Sciences PLA China); Chao Zhang (University of Electronic Science and Technology of China); Yan-Wen Zhao (National Institute of Defense Technology Innovation, Academy of Military Sciences PLA China); Tongsheng Shen (National Institute of Defense Technology Innovation, Academy of Military Sciences PLA China);*

3 Wideband Class-D Radio Frequency Power Amplifier Based on Novel Bootstrap Driver  
*Zhihui Luo (Hangzhou Dianzi University); Xinyu Zhou (The Hong Kong Polytechnic University); Shichang Chen (Hangzhou Dianzi University);*

4 Prediction of Ionospheric F2 Layer Heights Obtained from HFSWR during Typhoons Utilizing GA-BP Neural Network Model  
*Xuekun Chen (Harbin Institute of Technology at Weihai); Hongjuan Yang (Harbin Institute of Technology at Weihai); Jinze Gao (Harbin Institute of Technology at Weihai); Chang Jun Yu (Harbin Institute of Technology at Weihai);*

- 5 Analysis of Electromagnetic Scattering Properties of Hypersonic Turbulence  
*Zheng Bian (Xi'an Electronic Engineering Research Institute); Xiaoyu Ma (Xi'an Electronic Engineering Research Institute); Kunmei Li (Xi'an Electronic Engineering Research Institute); Zhiwei Wang (Xi'an Electronic Engineering Research Institute); Kaige Wen (Xi'an Electronic Engineering Research Institute); Wei Xu (Xi'an Electronic Engineering Research Institute);*
- 6 Uncertainty of Radar Backscattering Coefficients from Bare Soil Surface Due to Roughness Sample Variances  
*Zhihua Wang (Guilin University of Technology); Ying Yang (Nanjing University of Science and Technology); Kun-Shan Chen (Nanjing University);*
- 7 Optimizing Ultra-wideband Antennas Through Finite Element Numerical Simulations and Complex Material Integration  
*M. H. Zhao (University of Electronic Science and Tech of China); Li Xu (University of Electronic Science and Technology of China); Hao Wang (University of Electronic Science and Tech of China); B. Q. Liu (University of Electronic Science and Tech of China); H. X. Liu (University of Electronic Science and Tech of China);*
- 8 A Low Power Oscillator with Temperature Compensation  
*Huchao Li (Southwest Jiaotong University); Xiaoyan Wei (Southwest Jiaotong University); Quanyuan Feng (Southwest Jiaotong University);*
- 9 Simulations of Carbon Nano Tubes *CNT* Uses for Environment Protection from Heavy Metals and Toxics  
*Diyar Bajalan (TU Wien);*
- 10 Research of Transmission Characteristics of Two-dimensional Photonic Crystal Resonant Cavity  
*Xue Zhou (Dalian Maritime University); Shuo Bao (Southeast University); Zhixia Xu (Dalian Maritime University);*
- 11 Millimeter Wave Dual-function Low-side-lobe Multi-beam Reflectarray Antenna Based on Genetic Algorithm  
*Liu Luo (Chongqing University of Posts and Telecommunications); Wei Luo (Chongqing University of Posts and Telecommunications); Meilin Liu (Chongqing Institute of Digital Arena);*
- 12 An Efficient Antenna Optimization Method Based on a Parameter Dimensionality Reduction Approach  
*Jiangling Dou (Kunming University of Science and Technology); Chenyang Zhao (Kunming University of Science and Technology); Jian Song (Kunming University of Science and Technology); Qingwang Wang (Kunming University of Science and Technology); Tao Shen (Kunming University of Science and Technology);*
- 13 An X-band Fabry-Perot Cavity Antenna with Broadband and High-gain  
*Shuai Meng (Hefei University of Technology); Zhao-neng Jiang (Hefei University of Technology); Hui Liang (Hefei University of Technology); Cheng Peng (Hefei University of Technology); Weixing Gao (Hefei University of Technology);*
- 14 Dual Circularly Polarized Hybrid Dielectric Resonant Antenna Based on Cross Slot Feeding  
*Guizhi Tian (Hunan University); Hongbo Chu (Hunan University); Huanhuan Peng (Hunan University); Gaosheng Li (Hunan University);*
- 16 Reducing Hysteresis in Perovskite Light-emitting Diodes  
*Xiaokang Fu (Zhejiang University); Shengnan Liu (Zhejiang University); Puyang Li (Zhejiang University); Zhixiang Ren (Zhejiang University); Ke Zhou (Zhejiang University); Baodan Zhao (Zhejiang University); Dawei Di (Zhejiang University);*
- 17 Equivalent Circuit of 3D Printed SIW Bandpass Filter Loaded by Artificial Dielectric Material  
*Muhammad Farhan Maulana (Institut Teknologi Bandung); Hartuti Mistialustina (Institut Teknologi Bandung); Zulfi (Institut Teknologi Bandung); Achmad Munir (Bandung Institute of Technology);*
- 18 A Survey and Practical Application of SLAM Algorithms  
*Roberts Benķis (Riga Technical University); Elans Grabs (Riga Technical University); Tianhua Chen (Riga Technical University); Artjoms Ratkuns (Riga Technical University); Dmitrijs Čulkovs (Riga Technical University); Arnis Ancans (Riga Technical University); Aleksandrs Ipatovs (Riga Technical University);*
- 19 Enhancement of Thermal Radiation via the Hybridization of Surface Phonon-polaritons and Guided Modes  
*Coral Maelie (The University of Tokyo); Jose Ordonez-Miranda (The University of Tokyo); Yannick De Wilde (Institut Langevin); Laurent Jalabert (The University of Tokyo); Masahiro Nomura (The University of Tokyo); Sebastian Volz (Centre National de la Recherche Scientifique);*
- 20 Design of Multi-beam Anti-sorting Waveform for MIMO Radar Based on Spatial Angle Encoding  
*Xinan Zheng (National University of Defense Technology); Jian Chen (National University of Defense Technology); Qinglong Bao (National University of Defense Technology); Jiameng Pan (National University of Defense Technology); Ziqiao Yuan (Xi'an Electronic Engineering Research Institute);*
- 21 Electron Guns for Highly Efficient Electron-Cyclotron Energy Converters  
*G. G. Denisov (Institute of Applied Physics, Russian Academy of Sciences); Mikhail Yu. Glyavin (Institute of Applied Physics RAS); Vladimir N. Manuilov (Institute of Applied Physics RAS); I. V. Zotova (Institute of Applied Physics RAS); Ilya V. Zheleznov (Institute of Applied Physics, RAS);*

- 22 Fluoride Interfaces Enhance the Performance of Perovskite Light-emitting Diodes  
*Yucai Yuan (Zhejiang University); Shiyu Xing (Zhejiang University); Gan Zhang (Zhejiang University); Shiang Zhang (Zhejiang University); Yaxiao Lian (Zhejiang University); Weidong Tang (Zhejiang University); Ke Zhou (Zhejiang University); Zhixiang Ren (Zhejiang University); Guoling Zhang (Zhejiang University); Baodan Zhao (Zhejiang University); Dawei Di (Zhejiang University);*
- 23 Test and Analysis of Electromagnetic Susceptibility of SPST Analog Switch  
*Wenxuan Huang (Beihang University); Bing Li (Beihang University); Mengyuan Wei (Beihang University); Peng Huang (Beihang University); Xiaozong Huang (The 24th Research Institute of China Electronics Technology Group Corporation); Shuling Zhou (The 24th Research Institute of China Electronics Technology Group Corporation); Xiaokang Wen (The 24th Research Institute of China Electronics Technology Group Corporation);*
- 24 Nonadiabatic Effects in the Electron-optical System of a Relativistic Millimeter-wave Gyrotron  
*Alexander Nikolaevich Leontyev (Institute of Applied Physics of the Russian Academy of Sciences); Vladislav Evgen'evich Nechaev (Institute of Applied Physics of the Russian Academy of Sciences); Oleg Petrovich Plankin (Institute of Applied Physics of the RAS); Evgeny Sergeevich Semenov (Institute of Applied Physics of the Russian Academy of Sciences); Roman Markovich Rozental (Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS));*
- 25 Quasi-bound States in the Continuum Lasing in High Order Surface Grating Edge-emitting Laser  
*Yingqiu Dai (Institute of Semiconductors, CAS); Xin Qi (Tongji University); Yufei Wang (Institute of Semiconductors, CAS); Ting Fu (Institute of Semiconductors, CAS); Jingxuan Chen (Institute of Semiconductors, CAS); Ziyuan Liao (Institute of Semiconductors, CAS); Haiyang Ji (Institute of Semiconductors, CAS); Yang Chen (Institute of Semiconductors, CAS); Yong Sun (Tongji University); Wanhua Zheng (Institute of Semiconductors, CAS);*
- 26 Atmospheric Numerical Prediction Based on Graph Convolution, Waveguide Discrimination, and Electromagnetic Transmission  
*Yuxuan Wang (Xidian University); Jiangting Li (Xidian University); Tong Xu (China Institute of Radio Wave Propagation); Yan Zheng (Xidian University); Zhangyi Li (Xidian University);*
- 27 Drone Cooperation, NAT Traversal and Performance  
*Dmitrijs Rjazanovs (Riga Technical University); Elans Grabs (Riga Technical University); Ernests Pētersons (Riga Technical University); Daniils Aleksandrov-Moisejs (Riga Technical University); Tianhua Chen (Riga Technical University); Dmitrijs Čulkovs (Riga Technical University); Māris Aleksandrov (Riga Technical University); Aleksandrs Ipatovs (Riga Technical University);*
- 28 Antenna Element Design for Emitting UWB Signals  
*Polina Mikhailovna Nikitina (National Research University "Moscow Power Engineering Institute"); A. M. Ignatov (National Research University "Moscow Power Engineering Institute"); V. V. Trubetskoy (Moscow Technical University of Communications and Informatics (MTUCI)); S. A. Serov (National Research University "Moscow Power Engineering Institute"); Mikhail Sergeyevich Mikhailov (National Research University "Moscow Power Engineering Institute");*
- 29 Design of a Circular Polarized Filter-antenna  
*Mikhail Sergeyevich Mikhailov (National Research University "Moscow Power Engineering Institute"); Feras Habib Rammah (National Research University "Moscow Power Engineering Institute"); A. A. Komarov (National Research University "Moscow Power Engineering Institute");*
- 30 A Design of Wireless Sensor Network with Ultra-low Power for Air Quality Detection  
*Peng Cheng Kong (Shanghai Institute of Technology); Lan Chen (Shanghai Institute of Technology); Dan Ni Lin (Tongji University); Mei Song Tong (Tongji University);*
- 31 Optical Super-resolution Imaging under Different Fluorescence Temporal Fluctuations  
*Zhiping Zeng (Fuzhou University); Jin Qiu (Fuzhou University); Biqing Xu (Fuzhou University); Xinyi Chen (Fuzhou University);*
- 32 Reuse of Electromagnetic Band Gap Structures and Antennas  
*Hui Zhong (Guangdong University of Technology);*
- 33 A Novel Switchable Absorber/Reflector Based on Diode-embedded Square-loop Array  
*Jiwen Sun (Huaiyin Normal University); Qing-Bo Li (Huaiyin Normal University); Lin Zhu (Nanjing University of Aeronautics and Astronautics); Qunsheng Cao (Nanjing University of Aeronautics and Astronautics);*
- 34 Numerical Simulation and Analysis of Microwave Backscattering Characteristics from Sea Surface with Breaking Waves and Foam  
*Pengbo Du (Ocean University of China); Yunhua Wang (Ocean University of China); Yushi Zhang (Ocean University of China); Xin Li (National Key Laboratory of Electromagnetic Environment of China Research Institute of Radio Wave Propagation); Jinpeng Zhang (National Key Laboratory of Electromagnetic Environment); Chunzhi Hou (National Key Laboratory of Electromagnetic Environment);*

- 35 Characterization of Slotted Microstrip Patch Array Antenna for UAV Communication System  
*Achmad Munir (Bandung Institute of Technology); Novelita Rahayu (National Research and Innovation Agency (BRIN)); Radial Anwar (Telkom University); Dwi Andi Nurmantris (Telkom University); Muhamad Hilman Fauzi (Universitas Pendidikan Indonesia); Farohaji Kurniawan (National Research and Innovation Agency);*
- 36 Energy Dissipation of Superthermal Electrons in the Ionosphere  
*Nurken E. Aktaev (Harbin Institute of Technology); Anatoly A. Kudryavtsev (Harbin Institute of Technology); Mohamed M. Mandour (Harbin Institute of Technology); Aziza Kaliyeva (L. N. Gumilyov Eurasian National University); Chengxun Yuan (Harbin Institute of Technology);*
- 37 Bound States at Disclinations: An Additive Rule of Real and Reciprocal Space Topology  
*Qinghua He (Ningbo University); Feng Liu (Ningbo University);*
- 38 A Hybrid Excitation Method of Finite-gap Port Model and Plane Wave in SIE for Electromagnetic Problems  
*Qiangming Cai (Southwest University of Science and Technology); Zi-Qiang Wu (Southwest University of Science and Technology); Xin Cao (Southwest University of Science and Technology); Longjian Zhou (Southwest University of Science and Technology); Haoran Li (Southwest University of Science and Technology); Zhen-Yong Du (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yixiang Li (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yuyu Zhu (Southwest University of Science and Technology); Yu-Teng Zheng (DeTooLIC Technology Co., Ltd); Bo Pu (DeTooLIC Technology Co., Ltd); Jun Fan (Southwest University of Science and Technology);*
- 39 Evaluation of FY3G Brightness Temperature Using Microwave Radiation Transfer Model  
*Ruanyu Zhang (Shanghai Spaceflight Institute of TT&C and Telecommunication); Xiaodong Zhang (Shanghai Spaceflight Institute of TT&C and Telecommunication); Fangli Dou (National Satellite Meteorological Center (National Centre for Space Weather)); Enchen Li (Shanghai Spaceflight Institute of TT&C and Telecommunication); Xue Li (Shanghai Spaceflight Institute of TT&C and Telecommunication);*
- 40 Reconfigurable Microwave Signal Processor Based on Branch-Line Coupler and Loop Resonator  
*Junzai Chen (Tongji University); Xiaoyi Wang (Tongji University);*
- 41 Lens-loaded Technique in Monopulse Goniometry  
*Siyu Qi (Space Engineering University); Guoting Zhang (Beijing Institute of Tracking and Telecommunication Technology); Hong Ma (Space Engineering University); Yang Cai (Space Engineering University); Yufan Cao (Space Engineering University); Tao Wu (Space Engineering University);*
- 42 A Two-dimensional Joint Estimation Method Based on Deep Unfolding Iterative Adaptive Algorithm  
*Xiao Sun (National University of Defense Technology); Panhe Hu (National University of Defense Technology); Zhiliang Pan (National University of Defense Technology); Xiaolong Su (National University of Defense Technology); Wei Yang (National University of Defense Technology);*
- 43 L/C Dual Band Vertical Polarized Shared-aperture Antenna  
*Hailing Zhao (Southwest University of Science and Technology); Chao Zou (Southwest University of Science and Technology); Longjian Zhou (Southwest University of Science and Technology); Qiangming Cai (Southwest University of Science and Technology); Xin Cao (Southwest University of Science and Technology); Haoran Li (Southwest University of Science and Technology); Zhen-Yong Du (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yixiang Li (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yuyu Zhu (Southwest University of Science and Technology); Yu-Teng Zheng (DeTooLIC Technology Co., Ltd); Bo Pu (DeTooLIC Technology Co., Ltd); Jun Fan (Southwest University of Science and Technology);*
- 44 On-chip Spectrometer with a Microring Resonator and a Lattice Filter  
*Shiqi Zhang (Beijing University of Posts and Telecommunication); Tongxin Yang (Beijing University of Posts and Telecommunications); Xiuli Fu (Beijing University of Posts and Telecommunications); Lei Zhang (Beijing University of Posts and Telecommunications);*
- 45 TV-Driven MMW 3-D Radar Imaging of Non-line-of-sight Environments  
*Xiang Cai (University of Electronic Science and Technology of China); Shun-Jun Wei (University of Electronic Science and Technology of China); Yanbo Wen (University of Electronic Science and Technology of China); Jiangbo Hu (University of Electronic Science and Technology of China); Mou Wang (University of Electronic Science and Technology of China); Jun Shi (University of Electronic Science and Technology of China); Xiaoling Zhang (University of Electronic Science and Technology of China);*
- 47 Evaluation of the Number of Nanogold Layers Onto Optical Fiber Tapers for Glucose Detection  
*Mariam Nasser (Khalifa University); Manal Alhammadi (Khalifa University); Meera Alhosani (Khalifa University); Sagar Arya (Khalifa University); Jaime Viegas (Khalifa University); Anna Maria Pappa (Khalifa University); M. Fatima Domingues (Khalifa University);*

- 48 A Ray Model of Radio Wave Propagation in Tropospheric Waveguides  
*Andrey Alexeevich Pimenov (National Research University "Moscow Power Engineering Institute"); A. S. Filimonov (National Research University "Moscow Power Engineering Institute"); A. A. Novikov (National Research University "Moscow Power Engineering Institute"); Kirill Sergeyevich Sychev (National Research University "Moscow Power Engineering Institute"); Alexandr Alexandrovich Gladchenko (National Research University "Moscow Power Engineering Institute"); Mikhail Sergeyevich Mikhailov (National Research University "Moscow Power Engineering Institute");*
- 49 Tight Focusing of Optical Vortices with Hybrid Polarization  
*Vladislav D. Zaitsev (Samara National Research University); Sergey S. Stafeyev (Image Processing Systems Institute — Branch of the Federal Scientific Research Centre "Crystallography and Photonics" of RAS); Victor V. Kotlyar (Image Processing Systems Institute — Branch of the Federal Scientific Research Centre "Crystallography and Photonics" of RAS);*
- 50 Aperture Miniaturized Magneto-electric Dipole with Dual Linearly Polarization for 28/38 GHz Millimeter-wave Applications  
*Yanhong Xu (Xi'an University of Science and Technology); Wanshan Hu (Xi'an University of Science and Technology); Zheng Wang (Xi'an University of Science and Technology); Haoxiang Li (Xi'an University of Science and Technology);*
- 51 A High-gain Antipodal Vivaldi Antenna Loaded with Metamaterial and Semi-trapezoidal Slots  
*Jiayuan Hu (Southwest University of Science and Technology); Zuxue Xia (Southwest University of Science and Technology); Wenhai Xia (Zhejiang Lierda Internet of Things Technology Co. Ltd.); Xin Cao (Southwest University of Science and Technology); Xin Xiong (Southwest University of Science and Technology); Rui Cheng (Southwest University of Science and Technology); Haoxin Luo (Southwest University of Science and Technology);*
- 52 Intelligent Traffic Routing Algorithm for Wireless Sensor Networks  
*Jurijs Titovičs (Riga Technical University); Romualds Beļinskis (Riga Technical University); Nikolajs Bogdanovs (Riga Technical University); Sandis Spolitis (Riga Technical University); Elans Grabs (Riga Technical University); Tianhua Chen (Riga Technical University); Aleksandrs Ipatovs (Riga Technical University);*
- 53 Polarization-insensitive  $1 \times 2$  Multi-mode Interference Coupler on SOI  
*Liuwei Chen (Beijing University of Posts and Telecommunications); Enge Zhang (Beijing University of Posts and Telecommunications); Lei Zhang (Beijing University of Posts and Telecommunications);*
- 54 Extremely Low Power Consumption Ultraviolet Sensor Design for Low Light Signal Processing Demodulation with Photomultiplier Tube  
*Tianzheng Ren (Beijing University of Posts and Telecommunications); Dahai Han (Beijing University of Posts and Telecommunications); Min Zhang (Beijing University of Posts and Telecommunications); Tongtong Wan (Beijing University of Posts and Telecommunications); Qibin Xu (Beijing University of Posts and Telecommunications);*
- 55 Spectrum Situational Awareness Model Based on Wave Propagation Loss Characteristics and Distributed Electromagnetic Spectrum Detection Method  
*Geyu Hou (Hainan University); Zhenjia Chen (Hainan University); Ran Chen (Hainan University);*
- 56 WiFi Testing and Analysis Based on Interference Scenarios  
*Kai Zhao (China Electronic Product Reliability and Environmental Testing Institute); Huawei Xu (China Electronic Product Reliability and Environmental Testing Institute); Linyi Huang (China Electronic Product Reliability and Environmental Testing Institute); Binhui Liu (The 5th Electronic Research Institute, Ministry of Industry and Information Technology);*
- 58 Kalman Filter for Temperature Estimation in Fiber System  
*Yinong Zhao (Hangzhou Dianzi University); Jia Kong (Hangzhou Dianzi University);*
- 59 Expert System Research for Electromagnetic Simulation Algorithm Recommendation  
*Jiaxin Shi (Harbin Institute of Technology at Weihai); Jun Hu (University of Electronic Science and Technology of China); Huapeng Zhao (University of Electronic Science and Technology of China); Ran Zhao (University of Electronic Science and Technology of China); Ming Zhang (Harbin Institute of Technology at Weihai); Lizhong Song (Harbin Institute of Technology);*
- 60  $\text{Te}_x\text{Se}_{1-x}$  Photodiode Shortwave Infrared Detection and Imaging  
*Sen Li (Huazhong University of Science and Technology); Chao Chen (Huazhong University of Science and Technology);*
- 61 Soliton Microcombs in the High-Q Lithium Niobate Microresonators  
*Pi-Yu Wang (University of Science and Technology of China); Shuai Wan (University of Science and Technology of China); Rui Ma (Nankai University); Fang Bo (Nankai University); Guang-Can Guo (University of Electronic Science and Technology of China); Chun-Hua Dong (University of Science and Technology of China);*
- 62 Excitation of Terahertz Plasmonic Waves in Double-layer Convective 2DEG Structures  
*Shengpeng Yang (University of Electronic Science and Technology of China); Yubin Gong (University of Electronic Science and Technology of China);*



- 63 Enhanced Transmission Efficiency in Inductively Coupled Wireless Power Transfer Using Deep Adaptive Impedance Matching  
*Xu Xu (Chengdu University of Information and Technology); Ruoyue Wei (Chengdu University of Information Technology); Yucheng Yao (Chengdu University of Information Technology); Junqing Lan (Chengdu University of Information Technology);*
- 64 Wavefront Shaping Based on Coordinate Transformation  
*Dingran Xia (Shenzhen University); Kedi Wu (Shenzhen University); Guo Ping Wang (Shenzhen University);*
- 65 Cascade Enhancement of Magnetic Dipole Emission and Efficient Collection of Photons by the Hybrid Topological Structure  
*Yali Jia (Peking University); Zhaohua Tian (Peking University); Qi Liu (Peking University); Zihan Mo (Peking University); Qihuang Gong (Peking University); Ying Gu (Peking University);*
- 66 Noise Analysis of Quantum Correlation Imaging Based on Fourier Wavefront Coding  
*Xiangguo Xiao (Xi'an Institute of Applied Optics); Ruichang Li (Xi'an Institute of Applied Optics); Jing Gao (Xi'an Institute of Applied Optics); Hua Qiang (Xi'an Institute of Applied Optics); Jiaheng Li (Xi'an Institute of Applied Optics);*
- 67 Theoretical and Experimental Studies of Eigenmodes of Surface-wave Bragg Resonators  
*Andrey M. Malkin (Institute of Applied Physics, Russian Academy of Sciences); Vladislav Yur'evich Zaslavsky (Institute of Applied Physics, Russian Academy of Sciences); Naum S. Ginzburg (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Mikhail D. Proyavin (Institute of Applied Physics, Russian Academy of Sciences); Dmitry I. Sobolev (Institute of Applied Physics, Russian Academy of Sciences); Ilya V. Zheleznov (Institute of Applied Physics, RAS); A. A. Orlovsky (Institute of Applied Physics, Russian Academy of Sciences); Alexander S. Sergeev (Institute of Applied Physics, Russian Academy of Sciences);*
- 68 Dynamic Strong Light-matter Interaction Tailored by 3D Bound State in Continuum Metasurface for Q-switched Nanophotonic Biosensor  
*Jiacheng Sun (Westlake University); Liaoyong Wen (Westlake University);*
- 8:00 Inseparability of Triple-photon States  
Invited  
*Da Zhang (Shanxi Normal University);*
- 8:20 Nonreciprocity and Non-Hermitian Skin Effect Induced by Losses  
Invited  
*Xinyao Huang (Beihang University); Yong-Chun Liu (Tsinghua University);*
- 8:40 Faithful Geometric Measures for Genuine Tripartite Entanglement  
Invited  
*Xiaozhen Ge (Tongji University); Yong Wang (Tongji University); Yu Xiang (Tongji University); Guofeng Zhang (The Hong Kong Polytechnic University); Lijun Liu (Shanxi Normal University); Li Li (Tongji University); Shuming Cheng (Tongji University);*
- 9:20 Characteristic Mode-based Quantization of Electromagnetic Scattering  
Invited  
*Ilay Levie (Tel Aviv University); Gregory Slepian (Tel Aviv University); Amir Boag (Tel Aviv University);*
- 9:40 Detecting Bell Correlations in Multipartite Non-Gaussian Spin States  
*Jiajie Guo (Peking University); Jordi Tura ( $\langle aQa^L \rangle$  Applied Quantum Algorithms Leiden); Qiong Yi He (Peking University); Matteo Fadel (ETH Zürich);*
- 9:55 Preparation of Hybrid Entangled State Carrying Orbital Angular Momentum  
*Fengyi Xu (Shanxi University); Shujing Li (Shanxi University); Chenyu Qiao (Shanxi University); Rong Ma (Shanxi University); Meihong Wang (Shanxi University); Xiaolong Su (Shanxi University);*
- 10:10 **Coffee Break**
- 10:30 All-optical Quantum Information Protocols Based on Four-wave Mixing Process  
Invited  
*Shengshuai Liu (East China Normal University);*
- 10:50 Quantum Control and Quantum Precision Measurement of Silicon Carbide Color Centers  
Invited  
*Junfeng Wang (Sichuan University);*
- 11:10 Distillation of Quantum Resources: Steering, Coherence and Entanglement  
Invited  
*He Lu (Shandong University);*
- 11:30 Resource Theory of Imaginarity: New Distributed Scenarios  
*Kang-Da Wu (University of Science and Technology of China, CAS); Tulja Varun Kondra (University of Warsaw); Carlo Maria Scandolo (University of Calgary); Swapna Rana (Indian Statistical Institute); Guo-Yong Xiang (University of Science and Technology of China, CAS); Chuan-Feng Li (University of Science and Technology of China, CAS); Guang-Can Guo (University of Science and Technology of China); Alexander Streltsov (University of Warsaw);*
- 11:45 Continuous-variable Quantum Dense Coding in the Fiber Channel  
*Siyu Ren (Shanxi University); Yanru Yan (Shanxi University); Xiaolong Su (Shanxi University);*

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### Session 4A1

### Quantum Entanglement and Its Applications 1

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Thursday AM, April 25, 2024

Room 1 - Yarui

Organized by Yu Xiang, Meihong Wang, Xiaolong Su  
Chaired by Yu Xiang, Meihong Wang

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**Session 4A2a****Advances in Modeling and Measurement Techniques for Electromagnetic Safety Assessment and Biomedical Applications****Thursday AM, April 25, 2024****Room 2 - Jincheng 3**

Organized by Yinliang Diao, Junqing Lan

Chaired by Yinliang Diao, Kun Li

- 8:00 An Evaluation of Field Uniformity for a Novel Wireless Transmission System for Implantable Medical Devices  
*Ruoyue Wei (Chengdu University of Information Technology); Xu Xu (Chengdu University of Information Technology); Yucheng Yao (Chengdu University of Information Technology); Junqing Lan (Chengdu University of Information Technology);*
- 8:15 A Statistical Analysis for Predicting Human Skin Exposure Level in Millimeter Wave Wireless Systems  
*Kun Li (The University of Electro-Communications);*
- 8:30 A New Coil Design to Achieve Deep Penetration for Transcranial Magnetic Stimulation  
*Li Liu (South China Agricultural University); Yinliang Diao (South China Agricultural University);*
- 8:45 A Rapid Evaluation Model for Mobile Phone Antenna Performance  
*Hui Zhao (China Academy of Information and Communications Technology); Congsheng Li (China Academy of Information and Communications Technology);*
- 9:00 Fast Estimation of Specific Absorption Rate Based on Biplane Phase-free Measurements  
*Ruijie Xiao (Northwestern Polytechnical University); Miao Cao (Northwestern Polytechnical University); Zhan Wang (Zhejiang Energy Digital Technology Co., Ltd.); Zicheng Liu (Northwestern Polytechnical University);*
- 9:15 Assessment of Induced Electric Field Using Adaptively Sampled Magnetic Fields  
*Zexin Chen (South China Agricultural University); Yinliang Diao (South China Agricultural University);*
- 10:00 **Coffee Break**

**Session 4A2b****RF and Microwave Metamaterials for Wireless Communications 1****Thursday AM, April 25, 2024****Room 2 - Jincheng 3**

Organized by Xiaojun Huang, He-Lin Yang

Chaired by Xiaojun Huang

- 11:00 Manipulation of Orbital Angular Momentum Energy by Huygens' Metasurfaces with Donut-shaped Phase Distribution  
*Sihan Cui (Xi'an University of Science and Technology); Xiaojun Huang (Xi'an University of Science and Technology);*
- 11:15 A Novel Reconfigurable Polarization Conversion Metasurface Based on Water Structure  
*Fan Ding (The China Ship Development and Design Center); Qing Xu (The China Ship Development and Design Center); Yang Fu (Central China Normal University); Houyuan Cheng (Central China Normal University); He-Lin Yang (Huazhong Normal University);*
- 11:30 W-band High-gain Circularly Polarized Lens  
*Yueming Lei (University of Electronic Science and Technology of China (UESTC)); Bingyang Liang (University of Electronic Science and Technology of China (UESTC)); Zhanliang Wang (University of Electronic Science and Technology of China (UESTC)); Yubing Gong (University of Electronic Science and Technology of China);*

**Session 4A3****Physics and Applications in Photonic/Acoustic Micro-/Nano-Structures 2****Thursday AM, April 25, 2024****Room 3 - Jincheng 2**

Organized by Ying Chen, Feng Wu, Hongwei Wang

Chaired by Ying Chen, Feng Wu

- 8:00 Robust and Broadband On-chip Mode Multiplexing  
Invited Based on Thouless Pumping Mechanism  
*Lu Sun (Shanghai Jiao Tong University); Yingdi Pan (Shanghai Jiao Tong University); Yikai Su (Shanghai Jiao Tong University);*
- 8:55 Realization of Photonic Nodal Ring in One-dimensional Photonic Crystals  
*Weimin Deng (Nanchang University); Wenjie Chen (Sun Yat-Sen University); Jian-Wen Dong (Sun Yat-Sen University);*
- 9:10 Detecting Higher-order and Fragile Band Topology  
Invited through Bulk-defect Correspondence in Acoustic Systems  
*Zhi-Kang Lin (Soochow University); Ying Wu (Nanjing University of Science and Technology); Feng Li (Beijing Institute of Technology); Jian-Hua Jiang (Soochow University);*
- 9:30 Gradient Index Porous Core Photonic Crystal Fiber for Sub-wavelength Field Confinement  
*K. Renuka Rani (Vellore Institute of Technology); Natesan Yogesh (National Institute of Technology Calicut); Barakathulla Asrafali (Shenzhen University); Zhengbiao Ouyang (Shenzhen University); Krishnan Chitra (Vellore Institute of Technology);*
- 10:00 **Coffee Break**

- 10:30 Critical Issues in the Fabrication of Color Conversion Layers for Micro-LED Display via Electrohydrodynamic Inject Printing  
Invited Yue Lin (Xiamen University); Xiaotong Fan (Xiamen University); Xiao Yang (Xiamen University); Yihang Chen (Xiamen University); Tianqi Zhang (Xiamen University); Guolong Chen (Xiamen University); Shuli Wang (Xiamen University); Zhong Chen (Xiamen University);
- 10:50 Applications of the Topological Photonics in Optical Communications  
Hongwei Wang (Shanghai Jiao Tong University); Yong Zhang (Shanghai Jiao Tong University); Yikai Su (Shanghai Jiao Tong University);
- 11:05 Space-coiled Photonic Structures for Waveshaping and Light Confinement Applications  
Sneha Mary Biju (National Institute of Technology Calicut); S. Gokul (National Institute of Technology Calicut); P. Sandra (National Institute of Technology Calicut); Natesan Yogesh (National Institute of Technology Calicut);
- 11:20 Unsupervised Learning of Topological Non-Abelian Braiding in Non-Hermitian Bands  
Invited Yang Long (Nanyang Technological University); Baile Zhang (Nanyang Technological University);
- 11:40 Optimum Laser Parameters for Efficient Laser Propulsion and Active Debris Removal  
Claude R. Phipps (Photonic Associates, LLC);
- 8:30 A DC-40 GHz Single-Pole-Single-Throw Switch in 130 nm SiGe BiCMOS Technology  
Ze Yu Xie (Southeast University); Zi Wen Zhang (Southeast University); Jiang Luo (Hangzhou Dianzi University); Junyan Dai (Southeast University); Qiang Cheng (Southeast University);
- 8:45 Advancing Millimeter Wave/Terahertz Broadband Wireless Communications: A Novel Perspective through Space-time Coding Metasurface Transmitters  
Yujie Liu (Southeast University);
- 9:00 Dual-channel Transformation of Scalar and Vector Beams in Terahertz Band Based on Metasurfaces  
Jie Li (Chengdu University of Information Technology); Xiao Liu (Chengdu University of Information Technology); Chen Liu (Chengdu University of Information Technology); Hui Li (Tianjin University); Hang Xu (Tianjin University); Yuxin Zou (Chengdu University of Information Technology); Li Luo (Chengdu University of Information Technology); Tingting Tang (Chengdu University of Information Technology); Jian-Quan Yao (Tianjin University);
- 9:15 Generation of Dark Field Spatial Patterns Using Phase Profile Coded Metasurfaces for Optical Trapping Applications  
B. Aravind (National Institute of Technology Calicut); V. Shanto (National Institute of Technology Calicut); M. Pavithra (University of Madras (Guindy Campus)); K. Ravichandran (University of Madras (Guindy Campus)); Barkathulla Asrafali (Shenzhen University); Zhengbiao Ouyang (Shenzhen University); Natesan Yogesh (National Institute of Technology Calicut);

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#### Session 4A4a

#### Millimeter Wave and Terahertz Metasurfaces: Fundamentals and Applications

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Thursday AM, April 25, 2024

Room 4 - Jincheng 1

Organized by Xiaojian Fu, Xinxi Zeng

Chaired by Xinxi Zeng

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- 8:00 Physics-informed Inverse Design of Multi-bit Programmable Terahertz Metasurface  
Yu Cheng Xu (Nanjing University); Jia-Qi Yang (State Key Laboratory for Novel Software); Sheng Wang (Nanjing University); Hangbing Guo (Nanjing University); Jingbo Wu (Nanjing University); Caihong Zhang (Nanjing University); De-Chuan Zhan (State Key Laboratory for Novel Software); Biaobing Jin (Nanjing University); Kebin Fan (Nanjing University);
- 8:15 A DC-20 GHz 5-bit CMOS Digital Step Attenuator for Phased-array Applications  
Jian Pei Dong (Hangzhou Dianzi University); Wen Zhu Zhang (Hangzhou Dianzi University); Jiang Luo (Hangzhou Dianzi University); Xiang Wang (Hangzhou Dianzi University); Jun Liu (Hangzhou Dianzi University);
- 9:30 3D Printing Metasurfaces for Switching Terahertz Absorptions  
Invited Xinxi Zeng (University of Science & Technology Beijing);
- 9:50 A Digitally Controlled CMOS Vector-sum Phase Shifter with Low RMS Phase Error for Ka-band Phased-arrays  
Huanhuan He (Nanjing Electronic Devices Institute); Feng Wang (Nanjing Electronic Devices Institute); Hongyun Zhang (Hangzhou Dianzi University); Licheng Zhang (Hangzhou Dianzi University); Jiankang Li (Nanjing Electronic Devices Institute); Jiang Luo (Hangzhou Dianzi University);
- 10:05 Coffee Break
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- Session 4A4b**
- Metamaterial Inspired Beam Steering Antennas**
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- Thursday AM, April 25, 2024
- Room 4 - Jincheng 1
- Organized by Liang Peng, Zhen Liao
- Chaired by Liang Peng, Zhen Liao
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- 10:30 Mode-reconfigurable Beam Steering Antenna Based on Spoof Surface Plasmon Polariton  
Zhi-Jun Qin (*Jilin University*); Zhaohua Xu (*Jilin University*); Wenya Xu (*Suzhou Institute of Nano-tech and Nano-bionics, Chinese Academy of Sciences*); Wen-Ming Su (*Suzhou Institute of Nano-tech and Nano-bionics, Chinese Academy of Sciences*); Su Xu (*Jilin University*);
- 10:45 Knowledge-inherited Learning for Intelligent Metasurface Design and Assembly  
Yuetian Jia (*Zhejiang University*); Chao Qian (*Zhejiang University*); Liang Peng (*Hangzhou City University*); Hongsheng Chen (*Zhejiang University*);
- 11:00 A Compact Helical OAM Antenna Based on Spoof Surface Plasmon Polaritons  
Zhen Liao (*Nanjing University of Posts and Telecommunications*);
- 11:15 Metamaterial Assisted Fast Beam Scanning Leaky Wave Antennas  
Lihui Lv (*Hangzhou City University*); Wenjing Wu (*Hangzhou City University*); Lina Shang (*Hangzhou City University*); Liang Peng (*Hangzhou City University*);
- 11:30 Microwave Imaging with Sparse MIMO Array for Suppressed Sidelobe  
Zhengyue Dong (*Hangzhou Dianzi University*); Liang Peng (*Hangzhou City University*); Kuiwen Xu (*Hangzhou Dianzi University*);
- 8:45 Timing Fluctuation Correction for the Front End of a 100-PW Laser  
Hongyang Li (*Tongji University*);
- 9:00 Self-compression of Ultrahigh-intensity Femtosecond Pulse in Normally Dispersive Region  
Renjing Chen (*Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences*); Wenhai Liang (*Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences*); Yilin Xu (*Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences*); Xiong Shen (*Zhangjiang Laboratory*); Peng Wang (*Zhangjiang Laboratory*); Jun Liu (*Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences*); Ruxin Li (*Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences*);
- 10:00 **Coffee Break**
- 11:30 A Dual-comb Thin-disk Laser  
Quanming Li (*GBA Branch of Aerospace Information Research Institute, Chinese Academy of Sciences*); Hanze Bai (*GBA Branch of Aerospace Information Research Institute, Chinese Academy of Sciences*); Xiaodan Teng (*GBA Branch of Aerospace Information Research Institute, Chinese Academy of Sciences*); Hanghang Yu (*GBA Branch of Aerospace Information Research Institute, Chinese Academy of Sciences*); Hongwen Xuan (*GBA Branch of Aerospace Information Research Institute, Chinese Academy of Sciences*);

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**Session 4A5**  
**Ultrafast Optics**

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**Thursday AM, April 25, 2024**

**Room 5 - Yingbin**

Organized by Guangyu Fan, Qian Cao

Chaired by Qian Cao

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- 8:15 Ultra-stable Self-started Femtosecond Thin-disk Oscillator  
Tingting Yang (*Huazhong University of Science and Technology*); Fan Wu (*Huazhong University of Science and Technology*); He Yan Liu (*Huazhong University of Science and Technology*); Jinwei Zhang (*Huazhong University of Science and Technology*);
- 8:30 Ultrafast Quantum Control of Atomic Excited States via Interferometric Two-photon Rabi Oscillations  
Yudong Chen (*Fudan University*); Sainan Peng (*Fudan University*); Zongyuan Fu (*Fudan University*); Liyang Qiu (*Fudan University*); Guangyu Fan (*University of Shanghai for Science and Technology*); Yi Liu (*University of Shanghai for Science and Technology*); Saijun Wu (*Fudan University*); Xinhua Xie (*SwissFEL, Paul Scherrer Institute*); Zhensheng Tao (*Fudan University*);

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**Session 4A6**

**Bound States in the Continuum and Singular Optics 2**

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**Thursday AM, April 25, 2024**

**Room 6 - Huanhua**

Organized by Wenzhe Liu, Dezhan Han, Chao Peng

Chaired by Wenzhe Liu, Dezhan Han

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- 8:15 Scalar Topological Photonic Meta-crystals  
Invited  
Biao Yang (*National University of Defence Technology*);
- 8:35 Do Vortex Beams Carry Orbital Angular Momentum?  
Invited  
Wei Liu (*National University of Defense Technology*);
- 8:55 Origins and Conservation of Topological Polarization Defects in Periodic Photonic Structure  
Invited  
Xuefan Yin (*Peking University*); Chao Peng (*Peking University*);
- 10:00 **Coffee Break**

## 10:30 Bound States in the Continuum in a Wire Medium

Invited

*I. Matchenya (ITMO University); G. Karsakov (ITMO University); E. Koreshin (ITMO University); S. Gladyshev (ITMO University); R. Balafendiev (ITMO University); I. Terekhov (ITMO University); Pavel A. Belov (ITMO University); Andrey A. Bogdanov (Harbin Engineering University);*

## 10:50 Finite Barrier Bound States

Invited

*Meng Xiao (Wuhan University);*

## 11:10 Spin-Orbit-Locking Chiral Bound States in the Continuum

*Xingqi Zhao (Fudan University); Jiajun Wang (Fudan University); Wenzhe Liu (The Hong Kong University of Science and Technology); Zhiyuan Che (Fudan University); Xinhao Wang (Fudan University); Che Ting Chan (The Hong Kong University of Science and Technology); Lei Shi (Fudan University); Jian Zi (Fudan University);*

## 11:25 Continuous Spectral and Coupling Encoding with Dual-gradient Metasurfaces

*Andreas Aigner (Ludwig-Maximilians-University Munich); Thomas Weber (Ludwig-Maximilians-Universität München); Alwin Wester (Ludwig-Maximilians-University Munich); Stefan A. Maier (Monash University); Andreas Tittl (Ludwig-Maximilians-Universität München);*

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**Session 4A7a**
**High-Q Photonic Resonances in All-dielectric Nanostructures and Their Applications 2**


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**Thursday AM, April 25, 2024**
**Room 7 - Xiling**

Organized by Zhanghua Han, Wei Wang

 Chaired by Zhanghua Han
 

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## 8:00 Ultranarrow and Angle-independence Metasurface Thermal Emitters Based on Bound States in the Continuum

Invited

*J. H. Zhou (Shanghai Jiao Tong University); M. Q. Liu (Shanghai Jiao Tong University); Boxiang Wang (Shanghai Jiao Tong University); Changying Zhao (Shanghai Jiao Tong University);*

## 8:20 Dual-coupled Optical Resonant Systems for Efficient Spectral Engineering and Their Applications in Energy Devices

Invited

*Boxiang Wang (Shanghai Jiao Tong University);*

## 8:40 Design and Analysis of High-precision Frame-type Optomechanical Gyroscope

*Chengwei Xian (University of Electronic Science and Technology of China); Pengju Kuang (University of Electronic Science and Technology of China); Zihan Huang (University of Electronic Science and Technology of China); Senyu Zhang (University of Electronic Science and Technology of China); Zhe Li (University of Electronic Science and Technology of China); Guangjun Wen (University of Electronic Science and Technology of China); Yongjun Huang (University of Electronic Science and Technology of China);*

## 9:15 Steerable Q-factor Scaling Rules in Momentum Space

*Chuanlin Li (University of Electronic Science and Technology of China); Aobo Ren (University of Electronic Science and Technology of China); Jiang Wu (University of Electronic Science and Technology of China);*

## 9:30 Quasi-BIC on a Hybrid Anapole Regime in All-dielectric Nanocones

*Aleksei V. Kuznetsov (Moscow Institute of Physics and Technology); Vjaceslavs Bobrovs (Riga Technical University); Mikhail V. Rybin (ITMO University); Alexander Sergeevich Shalin (Moscow Institute of Physics and Technology);*

## 9:45 Superchiral Metasurfaces Based on Brillouin Zone Folding-induced Bound States in the Continuum

Invited

*Tianyao Sheng (Nanjing University of Science and Technology); Zhenhong Fan (Nanjing University of Science and Technology); Yefeng Yu (Nanjing University of Science and Technology);*

## 10:05 Coffee Break

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**Session 4A7b**
**Novel Optical Fiber Based Sensors**


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**Thursday AM, April 25, 2024**
**Room 7 - Xiling**

Organized by Hongyan Fu, Daru Chen

 Chaired by Xuewen Shu
 

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## 10:30 Femtosecond Laser Inscribed Optical Fiber Microstructures for Curvature Sensing

Invited

*Xuewen Shu (Huazhong University of Science and Technology);*

## 10:50 Diaphragm Fiber Optic FP Sensor and Its Applications

Invited

*Sheng Peng Wan (Nanchang Hangkong University); Yangfeng Wang (Nanchang Hangkong University); Mingqi Wang (Nanchang Hangkong University); Jun-song Yu (Nanchang Hangkong University);*

- 11:10 Cascaded Optical Fiber Sensor for Measurement of Pulse Wave Signals  
Invited Zhangwei Yu (Zhejiang Normal University); Yang Li (Zhejiang Normal University); Zhiwei Duan (Zhejiang Normal University); Qishuang Zhang (Zhejiang Normal University); Qiang Ling (Zhejiang Normal University); Daru Chen (Zhejiang Normal University);
- 11:30 An Efficient Method to Build Fiber Meta-tip  
Song Sun (Microsystem and Terahertz Research Center, China Academy of Engineering Physics); N. N. Li (Microsystem and Terahertz Research Center, China Academy of Engineering Physics); L. Zhang (Wuhan University of Technology); Q. G. Du (Wuhan University of Technology);
- 11:45 Hybrid Two-stage Preamplification for Small Signal Enhancement in  $\varphi$ -OTDR Distributed Acoustic Sensing  
Leonardo Rossi (IMM, National Research Council); Francesco Falcetelli (University of Bologna); Lun-Kai Cheng (TNO); Wim De Jong (TNO); Rob Jansen (TNO); Gabriele Bolognini (IMM, National Research Council);
- 12:00 Agarose-coated FBG Humidity Sensor for Real-time Respiratory Rate Monitoring  
Si Luo (Zhejiang Normal University); Zijun Liao (Zhejiang Normal University); Yunlian Ding (Zhejiang Normal University); Haichao Han (Zhejiang Normal University); Rujun Zhou (Zhejiang Normal University); Jiahui Lin (Zhejiang Normal University); Hao Chen (Zhejiang Normal University); Qiang Ling (Zhejiang Normal University);

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**Session 4A8**  
**Optical Soliton and Applications**

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**Thursday AM, April 25, 2024**

**Room 8 - Guixiang**

Organized by Yudong Cui, Junsong Peng

Chaired by Yudong Cui

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- 8:00 Recent Progress in Spatiotemporal Mode-locked Lasers  
Invited Xiaosheng Xiao (Beijing University of Posts and Telecommunications);
- 8:20 Deep Neural Network for Modeling Soliton Dynamics in the Mode-locked Laser  
Invited Zhi-Zeng Si (Zhejiang A&F University); Yin Fang (Zhejiang A&F University); Xue-Peng Wang (Zhejiang A&F University); Yue Yue Wang (Zhejiang A&F University); Chao-Qing Dai (Zhejiang Agriculture and Forestry University);
- 9:00 Attosecond Precision Quasi-period Dynamics of Soliton Molecules in an Ultrafast Fiber Laser  
Defeng Zou (Tianjin University); Youjian Song (Tianjin University); Perry Ping Shum (Southern University of Science and Technology); Ming-Lie Hu (Tianjin University);

- 9:15 Information Encoding and Storage Based on the Mode-locked Fiber Laser  
Invited Xue-Peng Wang (Zhejiang A&F University); Zhi-Zeng Si (Zhejiang A&F University); Zhao-Xuan Li (Zhejiang A&F University); Yue Yue Wang (Zhejiang A&F University); Chao-Qing Dai (Zhejiang Agriculture and Forestry University);
- 10:00 **Coffee Break**
- 10:50 Pulsating and Starting Dissipative Soliton Dynamics in Mamyshev Oscillators  
Invited Chengying Bao (Tsinghua University);
- 11:10 Polychromatic Soliton Complexes in Fiber Laser  
Invited Dong Mao (Northwestern Polytechnical University);

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**Session 4A9**  
**Low Dimensional Optoelectronic Materials and Advanced Semiconductor Lasers**

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**Thursday AM, April 25, 2024**

**Room 9 - Xinyu**

Organized by Cheng-Ao Yang, Ying Yu

Chaired by Cheng-Ao Yang, Ying Yu

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- 8:00 Frequency Combs and Dissipative Kerr Solitons in Ring Quantum Cascade Lasers  
Invited Bo Meng (Fine Mechanics and Physics, Chinese Academy of Sciences); Matthew Singleton (Empa); J. Hillbrand (Sensorion); Martin Franckić (Mathrix Group); Mattias Beck (ETH Zürich); Jerome Faist (ETH Zurich);
- 8:20 Mid-infrared Laser-based Gas Sensors with Low Power Consumption  
Invited Chenlu Liu (Qilu University of Technology (Shandong Academy of Sciences)); Weihua Gong (Qilu University of Technology (Shandong Academy of Sciences)); Zhaowei Wang (Qilu University of Technology (Shandong Academy of Sciences)); Yubin Wei (Qilu University of Technology (Shandong Academy of Sciences)); Tingting Zhang (Qilu University of Technology (Shandong Academy of Sciences)); Tongyu Liu (Qilu University of Technology (Shandong Academy of Sciences));
- 8:55 Development of  $3^\circ \times 3^\circ$  Free-space Collimated 1030 nm Semiconductor Laser Pointer  
Dongxin Xu (Hainan Normal University); Wenjun Yu (Hainan Normal University); Qi Wu (Hainan Normal University); Huasheng Hu (Hainan Normal University); Qinlong Jin (Hainan Normal University); Yi Qu (Hainan Normal University); Guojun Liu (Hainan Normal University); Zhongliang Qiao (Hainan Normal University); Zaijin Li (Hainan Normal University); Lina Zeng (Hainan Normal University); Lin Li (Hainan Normal University); Zhibin Zhao (Hainan Normal University);

- 9:10 Multibeam Lasing Action from Bound States in the Continuum of Photonic Crystal Slab Waveguides  
*Jitong Wang (University College London); Danqi Lei (University College London); Mingchu Tang (University College London); Nicolae-Coriolan Panoiu (University College London);*
- 9:25 Research Progress on Littman Tunable External Cavity Semiconductor Lasers in the Near-infrared Band  
*Wei Luo (Hainan Normal University); Xuan Li (Hainan Normal University); Linyu Zhang (Hainan Normal University); Zaijin Li (Hainan Normal University); Dongxin Xu (Hainan Normal University); Yi Qu (Hainan Normal University); Zhongliang Qiao (Hainan Normal University); Lin Li (Hainan Normal University);*
- 10:00 **Coffee Break**
- 10:50 Sustainable Ultrawide Bandgap 2D Semiconductors for Electronics and Optoelectronics Applications  
*Yee Sin Ang (Singapore University of Technology and Design (SUTD)); Chuin Wei Tan (Harvard University);*
- 11:05 Kekulé-distorted Topological Bulk Cavity for Intrinsic Lateral Beam Shifting of High-purity Linear-polarized Light Emission  
*Zichen Li (Zhejiang University); Hongsheng Chen (Zhejiang University); Song Han (Zhejiang University);*
- 11:20 Statistical Analysis of the Polarization Noise of a 1.55- $\mu\text{m}$  Vertical Cavity Emitting Laser  
*Tao Wang (Xidian University); Gian Luca Lippi (Université Côte d'Azur);*
- 11:35 Research Progress of Narrow Linewidth Blue Semiconductor Lasers  
*Linyu Zhang (Hainan Normal University); Xuan Li (Hainan Normal University); Wei Luo (Hainan Normal University); Zaijin Li (Hainan Normal University); Dongxin Xu (Hainan Normal University); Yi Qu (Hainan Normal University); Zhongliang Qiao (Hainan Normal University); Lin Li (Hainan Normal University);*
- 11:50 Research on 1.55  $\mu\text{m}$  Waveband Discrete External Cavity Tunable Semiconductor Lasers  
*Xuan Li (Hainan Normal University); Linyu Zhang (Hainan Normal University); Wei Luo (Hainan Normal University); Zaijin Li (Hainan Normal University); Dongxin Xu (Hainan Normal University); Yi Qu (Hainan Normal University); Zhongliang Qiao (Hainan Normal University); Lin Li (Hainan Normal University);*

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**Session 4A10**  
**Theories, Experiments, and Applications:**  
**Ferroelectrics and Electroceramics**

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**Thursday AM, April 25, 2024**

**Room 10 - Shuliu**

Organized by Shi-Gu Cao, Yunya Liu

Chaired by Yunya Liu, Shi-Gu Cao

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- 8:00 Electrocaloric Effect of Nanoparticle-filled Ferroelectric Polymers  
*Da Zu (Xiangtan University); Yunya Liu (Xiangtan University);*
- 8:15 Electrocaloric Effect in Ferroelectrics Investigated by Invited Phase-field Simulations  
*Yunya Liu (Xiangtan University);*
- 8:35 The Electrocaloric Response Distribution and Structure Optimization of Multilayer Ceramic Capacitor  
*Chunbiao Zhang (Xiangtan University); Dongliang Shan (Xiangtan University);*
- 8:50 Local Electrocaloric Effect Measurement by Scanning Thermal Microscopy  
*Dongliang Shan (Xiangtan University); Yunya Liu (Xiangtan University); Jiangyu Li (Southern University of Science and Technology);*
- 10:50 Stress Induced Twinning and Phase Transition in Ferroelectric Perovskites  
*Shi-Gu Cao (HKUST Shenzhen-Hong Kong Collaborative Innovation Research Institute);*
- 11:05 Progress and Prospects of Machine Learning on Ferroelectric Materials  
*Shi-Gu Cao (HKUST Shenzhen-Hong Kong Collaborative Innovation Research Institute);*

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**Session 4A11a**  
**LiDAR: Photonic Integration, Signal processing,**  
**Imaging, Applications**

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**Thursday AM, April 25, 2024**

**Room 11 - Xiangyu**

Organized by Jingguo Zhu, Dong Liu

Chaired by Xiaochen Sun

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- 8:00 A Three-frequency  $\text{Ca}^+$  Doppler Lidar for Ion Density and Temperature Measurements in the E and F Regions  
*Fang Wu (National Space Science Center, Chinese Academy of Sciences); Lifang Du (National Space Science Center, Chinese Academy of Sciences); Hao-ran Zheng (National Space Science Center, Chinese Academy of Sciences); Zelong Wang (National Space Science Center, Chinese Academy of Sciences); Xuewu Cheng (Innovation Academy for Precision Measurement Science and Technology, Chinese Academy of Sciences); Jing Jiao (National Space Science Center, Chinese Academy of Sciences); Fujun Wu (National Space Science Center, Chinese Academy of Sciences); Yuan Xia (Nanjing Xiaozhuang University); Wei Wang (Innovation Academy for Precision Measurement Science and Technology, Chinese Academy of Sciences); Kexin Wang (National Space Science Center, Chinese Academy of Sciences); Yuchang Xun (National Space Science Center, Chinese Academy of Sciences); Guo Tao Yang (National Space Science Center, Chinese Academy of Sciences);*
- 8:15 Single-photon Imaging LIDAR for Real-time 3D Imaging over Long Distance  
*Xing Wang (Xi'an Institute of Optics and Precision Mechanics (XIOPM), Chinese Academy of Sciences (CAS));*
- 8:30 Research on Retina-like Scanning Imaging Based on MEMS Mirror  
*Long Liang (Beijing Institute of Technology); Hui Wang (Beijing Institute of Astronautical Systems Engineering); Jie Cao (Beijing Institute of Technology); Yang Li (Beijing Institute of Technology);*
- 8:45 Si Photonics FMCW Optical Engine for High Precision Ranging  
*Qihao Zhang (Luminwave Technology); Linpeng Gu (Luminwave Technology); Yulin Zhu (Luminwave Technology); Hao Wang (Luminwave Technology); Shiquan Yang (Luminwave Technology); Xiaochen Sun (LuminWave Technology);*
- 9:00 Discriminative Fusion Methods for FMCW LiDAR: Leveraging All-phase FFT and Time-shifted Phase Difference  
*Ye Yuan (Institute of Microelectronics, Chinese Academy of Sciences); Jingguo Zhu (Institute of Microelectronics, Chinese Academy of Sciences); Chenghao Jiang (Institute of Microelectronics, Chinese Academy of Sciences); Fude Huang (Institute of Microelectronics, Chinese Academy of Sciences); Ming Wu (Institute of Microelectronics, Chinese Academy of Sciences); Ruqing Liu (Institute of Microelectronics, Chinese Academy of Sciences); Dingfu Zhou (Southwest Institute of Technical Physics);*
- 9:15 Lidar in the Study of Marine Systems  
*Yudi Zhou (Zhejiang University); Dong Liu (Zhejiang University);*
- 9:30 An Iterative Neural Network for Imaging Multi-layer Targets in Single-photon Applications  
*Zixuan Zhang (Zhejiang University - University of Illinois Urbana-Champaign Institute); Yuyang Zhao (Institute of Microelectronics of the Chinese Academy of Sciences); Jingguo Zhu (Institute of Microelectronics, Chinese Academy of Sciences);*
- 9:45 Photonic Integrated Circuit with Multiple Waveguide Layers for Broadband High-efficient 3D Optical Phased Arrays  
*D. Wu (University of Michigan); K. Owen (University of Michigan); Yasha Yi (University of Michigan);*
- 10:05 **Coffee Break**
- 10:45 A Novel Radial Phase Modulation Technique Aided LiDAR System  
*Ruotong Wang (Tongji University); Chengwen Huang (Tongji University); Hao Xie (Tongji University); Junhe Zhou (Tongji University);*
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- Session 4A11b**  
**Beamforming in Optical and RF Domain 1**
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- Thursday AM, April 25, 2024**  
**Room 11 - Xiangyu**  
 Organized by Lei Zhang, Xin Fu  
 Chaired by Lei Zhang, Xin Fu
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- 11:00 Spectral Scanning Technologies in LiDARs  
 Invited *Hongyan Fu (Tsinghua University);*
- 11:20 Optical Phased Array Lidar  
 Invited *Junfeng Song (Jilin University); Bosong Chen (Jilin University); Heming Hu (Jilin University); Qijie Xie (Peng Cheng Laboratory); Quanxin Na (Peng Cheng Laboratory); Xiaolong Hu (Jilin University); Min Tao (Jilin University); Xueyan Li (Jilin University);*
- 11:40 OPA LiDAR Transmitter on the Multi-layer Silicon Photonics Platform  
 Invited *Weihan Xu (Shanghai Jiao Tong University); Yuyao Guo (Shanghai Jiao Tong University); Xinhang Li (Shanghai Jiao Tong University); Chuxin Liu (Shanghai Jiao Tong University); Liangjun Lu (Shanghai Jiao Tong University); Jianping Chen (Shanghai Jiao Tong University); Linjie Zhou (Shanghai Jiao Tong University);*



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**Session 4A12**  
**Terahertz Technology and Applications**

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**Thursday AM, April 25, 2024**

**Room 12 - Siji 1**

Organized by Xiaodong Chen, Bo Zhang

Chaired by Bo Zhang

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- 8:15 Switchable Broadband Terahertz Absorbers Based on  
Invited Conducting Polymer-cellulose Aerogels  
*Shangzhi Chen (Linkoping University); Chaoyang Kuang (Linkoping University); Qiye Wen (University of Electronic Science and Technology of China); Magnus P. Jonsson (Linkoping University);*
- 8:35 A Graphene-based Broadband Absorber at Terahertz Regime  
*Kai-Da Xu (Xi'an Jiaotong University); Dongxu Wang (Xi'an Jiaotong University); Qiang Chen (Tohoku University);*
- 9:05 Terahertz Phased-array Fed Transmitting Antenna and Its System Implementation  
*Yihong Su (University of Electronic Science and Technology of China); Haozhong Liu (University of Electronic Science and Technology of China); Xian Qi Lin (University of Electronic Science and Technology of China); Zhong Bo Zhu (Xi'an Branch of China Academy of Space Technology);*
- 9:20 Simulation on the Membrane Potential Variations by THz Unipolar Stimulation with Triangle Envelope  
*Wenfei Bo (University of Electronic Science and Technology of China); Rong Che (National University of Defense Technology); Lemeng Guo (National University of Defense Technology); Xiaobo Zhang (National University of Defense Technology); Qiang Liu (National University of Defense Technology); Bo Tao (National University of Defense Technology); Baosong Duan (National University of Defense Technology); Yuansheng Li (National University of Defense Technology); Yu-Bin Gong (University of Electronic Science and Technology of China);*
- 9:35 Terahertz 2-to-1 Data Selector Based on VO<sub>2</sub>-integrated Cascaded Metasurfaces  
*W. Xiong (Chongqing University of Posts and Telecommunications); Yi Ren (Chongqing University of Posts and Telecommunications); Jia Ran (Chongqing University of Posts and Telecommunications);*
- 10:00 **Coffee Break**
- 10:30 220 GHz and 205 GHz Orthogonal Modulators Used in a Real Time Communication System  
*Ge Liu (Microsystem and Terahertz Research Center, China Academy of Engineering Physics); Yue He (Microsystem and Terahertz Research Center, China Academy of Engineering Physics); Jun Jiang (Institute of Electronic Engineering, China Academy of Engineering Physics);*

- 10:45 D-band Duplexer Based on Directly Coupled Micro-coaxial Line Bandpass Filters  
*Xinyao Liu (Chongqing University); Daotong Li (Chongqing University);*
- 11:00 Multi-band Polarization-insensitive Terahertz Metamaterial Absorber Based on Composite Circular Ring Structure  
*Dongyi Sui (Chongqing University); Daotong Li (Chongqing University); Xinyao Liu (Chongqing University); Lanlan Yang (Chongqing University); Naoki Shinohara (Kyoto University);*
- 11:15 WR-4 band Frequency Division Duplexer Real-time Communication Systems with Transmission Distances of 1050 m  
*Yinian Feng (University of Electronic Science and Technology of China); Bo Zhang (University of Electronic Science and Technology of China);*

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**Session 4A13a**

**SAR Electromagnetic Scattering Characteristic Analysis, Extraction, Imaging and Recognition**

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**Thursday AM, April 25, 2024**

**Room 13 - Siji 2**

Organized by Junjie Wu, Wei Pu

Chaired by Junjie Wu, Wei Pu

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- 8:00 Microwave Photonic Radar Structured Imaging Based on Scattering Inversion and Structure Reconstruction  
*Yu Hai (University of Electronic Science and Technology of China); Zhaoyi Shao (University of Electronic Science and Technology of China); Wei Pu (University of Electronic Science and Technology of China); Junjie Wu (University of Electronic Science and Technology of China); Anle Wang (Early Warning Academy); Yulin Huang (University of Electronic Science and Technology of China); Jianyu Yang (University of Electronic Science and Technology of China);*
- 8:15 BiSAR Image Autofocus Method Based on Target Scattering Parameters  
*Yue Song (University of Electronic Science and Technology of China); Zihao Ren (University of Electronic Science and Technology of China); Wei Pu (University of Electronic Science and Technology of China); Junjie Wu (University of Electronic Science and Technology of China); Jianyu Yang (University of Electronic Science and Technology of China);*
- 8:30 Microwave Photonic ISAR Imaging Algorithm Based on Improved TSPN-TV-ADMM Algorithm  
*Haoyu Wang (University of Electronic Science and Technology of China); Yu Hai (University of Electronic Science and Technology of China); Junjie Wu (University of Electronic Science and Technology of China); Wei Pu (University of Electronic Science and Technology of China); Anle Wang (Air Force Early Warning Academy);*

- 8:45 The Study of Consistency Imaging Method for Optics and SAR Based on Common Aperture  
*Ke Wang (University of Chinese Academy of Sciences); Chong Song (Aerospace Information Research Institute, Chinese Academy of Sciences); Yinshen Wang (Aerospace Information Research Institute, Chinese Academy of Sciences); Bingnan Wang (Aerospace Information Research Institute, Chinese Academy of Sciences); Maosheng Xiang (Institute of Electronics, Chinese Academy of Sciences);*
- 9:00 MD-JoSAR Imaging System and Application Based on Multidimensional Joint Spatial Observations  
*Zhengyang Yao (Aerospace Information Research Institute, Chinese Academy of Sciences); Qinghai Dong (Aerospace Information Research Institute, Chinese Academy of Sciences); Chong Song (Aerospace Information Research Institute, Chinese Academy of Sciences); Zekun Jiao (Aerospace Information Research Institute, Chinese Academy of Sciences); Bingnan Wang (Aerospace Information Research Institute, Chinese Academy of Sciences); Maosheng Xiang (Aerospace Information Research Institute, Chinese Academy of Sciences);*
- 9:15 Comparative Analysis of Statistical Characteristics between Bi-SAR Images and Mon-SAR Images  
*Xiaoting Wang (University of Electronic Science and Technology of China); Yue Song (University of Electronic Science and Technology of China); Zihao Ren (University of Electronic Science and Technology of China); Wei Pu (University of Electronic Science and Technology of China); Junjie Wu (University of Electronic Science and Technology of China);*
- 9:30 SAR Automated Imaging Software for Maritime Ship Targets  
*Qian Liu (University of Electronic Science and Technology of China); Junao Li (University of Electronic Science and Technology of China); Qing Yang (University of Electronic Science and Technology of China); Zhongyu Li (University of Electronic Science and Technology of China); Junjie Wu (University of Electronic Science and Technology of China); Jianyu Yang (University of Electronic Science and Technology of China);*
- 9:45 SAR Radio Frequency Interference Measurement Method and Software Verification  
*Chi Zhang (University of Electronic Science and Technology of China); Hongyang An (University of Electronic Science and Technology of China); Mingyue Lou (University of Electronic Science and Technology of China); Bowen Yang (University of Electronic Science and Technology of China); Zhu Liu (University of Electronic Science and Technology of China); Zhongyu Li (University of Electronic Science and Technology of China); Junjie Wu (University of Electronic Science and Technology of China); Jianyu Yang (University of Electronic Science and Technology of China);*
- 10:30 VMD-based Micro-Doppler Feature Extraction Method of UAVS for Millimeter Wave Radar  
*Liang Gui (University of Electronic Science and Technology of China); Yu Hai (University of Electronic Science and Technology of China); Hui Kuang (China Academy of Space Technology); Junjie Wu (University of Electronic Science and Technology of China); Zhongyu Li (University of Electronic Science and Technology of China); Jianyu Yang (University of Electronic Science and Technology of China);*
- 10:45 Multi-task Cooperative Scheduling for Swarm UAV SAR Based on Two-stage Optimization Framework  
*Yinsong Luo (University of Electronic Science and Technology of China); Zhichao Sun (University of Electronic Science and Technology of China); Zi Guan (University of Electronic Science and Technology of China); Hang Ren (University of Electronic Science and Technology of China); Junjie Wu (University of Electronic Science and Technology of China); Jianyu Yang (University of Electronic Science and Technology of China);*
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- Session 4A13b**  
**Advanced and Intelligent Techniques in Electromagnetic Scattering and Imaging**
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- Thursday AM, April 25, 2024**  
**Room 13 - Siji 2**  
Organized by Xiao-Min Pan, Kuiwen Xu  
Chaired by Xiao-Min Pan
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- 11:00 Electromagnetic Inverse Scattering Super-resolution Imaging Based on Orbital Angular Momentum Wave  
*Shasha Hou (Hangzhou Dianzi University); Kuiwen Xu (Hangzhou Dianzi University);*
- 11:15 Space Satellite Target Identification Based on Squeeze-and-Excitation Network  
*Dong Zeng (Nanjing University of Science and Technology); Shaoran Wang (Nanjing University of Science and Technology); Ruixin Lai (Nanjing University of Science and Technology); Mengmeng Li (Nanjing University of Science and Technology); Dazhi Ding (Nanjing University of Science and Technology);*
- 11:30 A Channel Estimation Scheme for Internet of Vehicles Communications  
*Zheng Liu (Beijing Institute of Technology); Xiao-Min Pan (Beijing Institute of Technology);*
- 11:45 Preliminary Test Study on RI Reconstruction Performance with Label-free Microscope Data by Inverse Scattering Algorithms  
*Yingying Qin (UiT The Arctic University of Norway); Ankit Butola (UiT The Arctic University of Norway); Krishna Agarwal (UiT The Arctic University of Norway);*

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**Session 4A14**
**Recent Advances in Random Medium Scattering Theory and Remote Sensing Techniques**


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**Thursday AM, April 25, 2024**
**Room 14 - Siji 3**

Organized by Shurun Tan, Yanlei Du

 Chaired by Shurun Tan, Yanlei Du

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- 8:00 Effective Permittivity of Bi-continuous Media for the Applications in Microwave Remote Sensing of Firn Aaquirer and Wet Snow at L-band  
*Haokui Xu (University of Michigan); Zhenming Huang (University of Michigan); Leung Tsang (University of Michigan); Brooke Medley (Earth Sciences Division, NASA Goddard Space Flight Center); Joel T. Johnson (The Ohio State University); Firoz Borah (University of Michigan); Roger de Roo (University of Michigan);*
- 8:15 An Extension of Comprehensive Layer Emission Model Based on Scattering Operators for Mountain Glacier with Basal Slope  
*Dongjin Bai (National Space Science Center, Chinese Academy of Sciences); Xiaolong Dong (National Space Science Center, Chinese Academy of Sciences); Saibun Tjvatja (University of Texas at Arlington); Di Zhu (National Space Science Center, Chinese Academy of Sciences); Zijin Zhang (National Space Science Center, Chinese Academy of Sciences);*
- 8:30 Recent Advances in Geometric Representation of Wet Snow through a Tri-continuous Random Composite and Its Scattering Characterization with the Discrete Dipole Approximation  
*Jiayi Du (University of Waterloo); Xin Lv (Zhejiang University); Yuanhao Cao (University of Waterloo); Shurun Tan (Zhejiang University/University of Illinois at Urbana-Champaign Institute);*
- 8:45 Microwave Scattering and Emission Variability from Snow-covered Sea Ice  
*Qi Song Wei (Guilin University of Technology); Ying Yang (Nanjing University of Science and Technology); Kun-Shan Chen (Nanjing University);*
- 9:00 Abnormal Dip in Bistatic Transmission Coefficients for VV and VH Polarizations from Slightly Rough Surfaces with Exponential Correlation Functions  
*Honghu Wan (Hubei University of Technology); Peng Xu (Hubei University of Technology);*
- 9:15 Analysis of P- to L-band Microwave Signatures from Snowmelt over Polar Ice Sheets Through a Partially Coherent Model  
*Syed Imran Haider (Zhejiang University); Shurun Tan (Zhejiang University/University of Illinois at Urbana-Champaign Institute);*
- 9:30 THz Polarized Bistatic Scattering from Multiscale Rough Surface  
*Ying Yang (Nanjing University of Science and Technology); Kun-Shan Chen (Nanjing University);*
- 9:45 Estimation of 1-km All-sky Land Surface Temperature by Integration of Passive Microwave and Thermal Infrared Remote Sensing Data through Random Forest  
*Xiaodong Zhang (Shanghai Spaceflight Institute of TT&C and Telecommunication); Ruanyu Zhang (Shanghai Spaceflight Institute of TT&C and Telecommunication); Pingkai Wang (Shanghai Spaceflight Institute of TT&C and Telecommunication); Kesong Dong (Shanghai Spaceflight Institute of TT&C and Telecommunication); Lingge Qu (Shanghai Center for Meteorological Disaster Prevention Technology (Shanghai Lightning Protection Center)); Lifei Jiang (Shanghai Spaceflight Institute of TT&C and Telecommunication);*
- 10:00 **Coffee Break**
- 10:30 Inhomogeneous Soil Scattering through a Volume Integral Equation Based Numerical Maxwell Model of 3-D Simulations  
*Xuyang Bai (Zhejiang University); Kaiqi Chen (Zhejiang University); Shurun Tan (Zhejiang University/University of Illinois at Urbana-Champaign Institute);*
- 10:45 A Backscattering Model for Non-Gaussian Sea Surface  
*Yuhua Guo (State Key Laboratory of Space-Ground Integrated Information Technology); Zhilong Zhao (State Key Laboratory of Space-Ground Integrated Information Technology); Meng Wang (State Key Laboratory of Space-Ground Integrated Information Technology); Wenning Gao (State Key Laboratory of Space-Ground Integrated Information Technology); Xin Liu (State Key Laboratory of Space-Ground Integrated Information Technology); Yao Zhang (State Key Laboratory of Space-Ground Integrated Information Technology); Changhu Xue (State Key Laboratory of Space-Ground Integrated Information Technology); Zongqiang Liu (State Key Laboratory of Space-Ground Integrated Information Technology); Ying Zhang (State Key Laboratory of Space-Ground Integrated Information Technology); Zhenghuan Xia (Beijing Institute of Satellite Information Engineering); Shichao Jin (State Key Laboratory of Space-Ground Integrated Information Technology);*
- 11:00 A Comprehensive Multiple Scattering Characterization of Vegetated Land Surface Emission at L-band Using Radiative Transfer Theory  
*Shurun Tan (Zhejiang University/University of Illinois at Urbana-Champaign Institute); Kaiqi Chen (Zhejiang University);*
- 11:15 Coastline Detection in Polarimetric SAR Images Based on GMM-HMM Segmentation Using Volume Scattering Component  
*Chun Liu (Northwestern Polytechnical University); Yongchao Cheng (Northwestern Polytechnical University); Shicong Liu (Northwestern Polytechnical University); Qun Sun (Northwestern Polytechnical University);*

- 11:30 A Deep-learning-based Frontal Detection in the China Sea  
*Le Gao (Institute of Oceanography, Chinese Academy of Sciences); Yi Yang (Institute of Oceanography, Chinese Academy of Sciences); Meng Jiao Wang (Institute of Oceanography, Chinese Academy of Sciences); Xiaofeng Li (Institute of Oceanology, Chinese Academy of Sciences);*
- 11:45 An Improved Doppler Radar Imaging Model for Retrieving Ocean Current Velocity from SAR Image under DCA Framework  
*Yanlei Du (Aerospace Information Research Institute, Chinese Academy of Sciences); Junjun Yin (University of Science and Technology Beijing); Jian Yang (Tsinghua University);*

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**Session 4A15a**  
**Computational Electromagnetics, Hybrid**  
**Methods and EMC 2**

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**Thursday AM, April 25, 2024**

**Room 15 - Siji 4**

Chaired by Naixing Feng, Yuxian Zhang

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- 8:00 Random Forest Regression-based Model for Fitting Multilayer Isotropic Medium Scattering Problems  
*Shuiqing Zeng (Anhui University); Huan Wang (Anhui University); Yuxian Zhang (Anhui University); Zhi-Xiang Huang (Anhui University); Naixing Feng (Anhui University);*
- 8:15 A Well-posed Spurious-free Electric-field Integral Equation Solver for Non-conformal h-adaptivity Electromagnetic Modeling  
*Ran Zhao (University of Electronic Science and Technology of China); Yuyu Lu (Anhui University); Haojie Cao (University of Electronic Science and Technology of China); Jun Hu (University of Electronic Science and Technology of China);*
- 8:30 Fast Electromagnetic Simulations through Reduced-order Modeling  
*Liang Li (University of Electronic Science and Technology of China); Kun Li (Southwestern University of Finance and Economics); Stephane Lanteri (Cote d'Azur University, Inria, CNRS, LJAD); Bin Li (University of Electronic Science and Technology of China);*
- 8:45 Reliable and Efficient Finite Elements Domain Decomposition Solvers for Large-scale Electromagnetic Computations  
*Wei Wang (Hangzhou Dianzi University);*
- 9:00 A Theoretical Approach to Analyzing Electric Field Characteristics inside a Columnar Insulator with Exponentially Nonlinear Conductivity under Pulse Excitation  
*Minyu Mao (Xi'an Jiaotong University); Jiawei Wang (Xi'an Jiaotong University); Jinghui Shao (Xi'an Jiaotong University);*

- 9:15 Random Forest Algorithm Based High Dimensional Space-mapping Method for Stratified Medium  
*Huan Wang (Anhui University); Shuiqing Zeng (Anhui University); Yuxian Zhang (Anhui University); Zhi-Xiang Huang (Anhui University); Naixing Feng (Anhui University);*
- 9:30 Simulation of Simplified Cascade Waveguide Plasma Limiter under High Power Microwave  
*Lin Wang (China West Normal University); Jiamin Wu (China West Normal University); Yusen Yang (China West Normal University);*

10:00 **Coffee Break**

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**Session 4A15b**  
**Advanced Computational Electromagnetic**  
**Methods and Theory**

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**Thursday AM, April 25, 2024**

**Room 15 - Siji 4**

Organized by Juan Chen, Bing Wei

Chaired by Juan Chen

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- 10:30 Optimization of Electric Field Sampling in DGTD Thin Wire Studies  
*Qian Yang (Xidian University); Bing Wei (Xidian University); Lingqian Li (Xidian University);*
- 10:45 Effects of Tangent Plane Approximation and Divergence Factor in Light Scattering by a Large Dielectric Object with Curved Surface  
*Ce Zhang (Southeast University); Kuan Fang Ren (Normandie Universite, CNRS, Universite et INSA de Rouen); Wenming Yu (Southeast University);*
- 11:00 Propagation Characteristics of Layered Bianisotropic Chiral Media Based on Transfer Matrix Method  
*Samira Nemati Pehrabad (University of Electronic Science and Technology of China); Mao Yan Wang (University of Electronic Science and Technology of China); Bing Liu (University of Electronic Science and Technology of China);*
- 11:15 Efficient Heterogeneous Scalable Finite Element Exterior Calculus Simulations for Electromagnetic Scattering on Manifold  
*Yifan Feng (Zhengzhou University); Qiang Chen (Zhengzhou University); Tiankuo Wang (Zhengzhou University); Zeze Ning (Zhengzhou University); Xu Tao (Zhengzhou University);*
- 11:30 Analysis of the Influence of Underground Media on the Ground Field Characteristics in Low Altitude Explosion Source Areas  
*Zhao-Min Li (Xidian University); Jia-Rong Dong (Xidian University); Bing Wei (Xidian University);*

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**Session 4A18a**  
**Topological Optics**

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**Thursday AM, April 25, 2024**

**Room 18 - Meilan**

Organized by Shenhe Fu, Xinrui Lei

Chaired by Shenhe Fu, Xinrui Lei

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- 8:00 Conversion and Superposition of Optical Stokes Skyrmion Topologies  
*Houan Teng (University of Shanghai for Science and Technology); Jinzhan Zhong (University of Shanghai for Science and Technology); Jian Chen (University of Shanghai for Science and Technology); Xinrui Lei (University of Shanghai for Science and Technology); Qiwen Zhan (University of Shanghai for Science and Technology);*
- 8:15 Nanoplasmonic Color Router Utilizing Ultrasmall Asymmetric Structure for Communication Bands  
*Xianghua Liu (University of Chinese Academy of Sciences); Jiahao Peng (University of Chinese Academy of Sciences); Ruxue Wang (University of Chinese Academy of Sciences); Aimin Wu (University of Chinese Academy of Sciences);*
- 8:30 Higher-order Topological States in Multidimensional Topological Photonic Crystals  
*Xiaoxue Li (Southeast University); Guanghao Rui (Southeast University); Bing Gu (Southeast University);*
- 8:45 Manipulation of the Photonic Topological Spin Textures  
*Min Lin (Shenzhen University); Luping Du (Shenzhen University); Xiao-Cong Yuan (Shenzhen University);*
- 9:00 Micro Optical Sensing Chips Based on Quasi-bound State  
*Junfeng Li (Nanjing University of Science and Technology); Zekai Wang (Nanjing University of Science and Technology); Wenjie Sun (Nanjing University of Science and Technology); Yikai Chen (Nanjing University of Science and Technology);*
- 9:15 Dynamics of Topological Polarization Singularities in Momentum Space Based on Far-field Interference  
*Liangliang Liu (University of Science and Technology of China); Haoqi Luo (University of Science and Technology of China); Yonghua Lu (University of Science and Technology of China);*
- 9:45 Multi-objective Optimization Design of Reflective Dual-band Linear-circular Polarizer Based on Surrogate Method  
*S. X. Wu (China Three Gorges University); Z. Y. Wang (China Three Gorges University); Qinghe Zhang (Three Gorges University);*
- 10:00 **Coffee Break**

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**Session 4A18b**  
**Metamaterials & Metasurface 1**

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**Thursday AM, April 25, 2024**

**Room 18 - Meilan**

Chaired by Diana V. Semenikhina

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- 10:30 Underwater Ultrasound Non-diffractive Focusing Based on Airy Beams  
*Shumeng Yu (Fudan University); Chuanxin Zhang (Fudan University); Xue Jiang (Fudan University);*
- 10:45 A Time-modulated Metasurface with Polarization Division Multiplexing for Wireless Communication Systems  
*Xiao Jie Lu (Tongji University); Xiaoyi Wang (Tongji University); Mei Song Tong (Tongji University);*
- 11:00 Switchable Reflective Metasurfaces Composed of Line Resonators for Beam Control Function in X-band Range  
*Dwi Andi Nurmantris (Telkom University); Achmad Munir (Bandung Institute of Technology);*
- 11:15 Combined Phase Coding of PB-metasurfaces with OAM Generation for Wide-angle RCS Reduction  
*Andrey I. Semenikhin (Southern Federal University); Diana V. Semenikhina (Southern Federal University); Yury Vladimirovich Yukhanov (Southern Federal University);*
- 11:30 Digital PB-metasurfaces Based on 2-bit OAM Modules for Wide-angle RCS Reduction  
*Andrey I. Semenikhin (Southern Federal University); Diana V. Semenikhina (Southern Federal University); Yury Vladimirovich Yukhanov (Southern Federal University);*

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**Session 4A19**  
**Poster Session 7**

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**Thursday AM, April 25, 2024**

**8:00 AM - 12:00 AM**

**Room Exhibition Area**

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- 1 Decoupling of Antipodal Vivaldi Antenna Array with Polarization Conversion Metasurface  
*Xiao-Jun Zou (National University of Defense Technology); Ming Tan (National University of Defense Technology); Ya-Wei Wang (Air Force Engineering University); Wei Song (National University of Defense Technology); Hang Zhu (National University of Defense Technology); Hai-Yan Lv (National University of Defense Technology); Guo-Qin Kang (National University of Defense Technology); Guang-Ming Wang (Air Force Engineering University);*
- 2 Using FY-3E Data to Independently Retrieve Sea Ice Thickness  
*Yunjian Xie (Nanjing University of Information Science and Technology); Yingqin Zhen (Nanjing University of Information Science and Technology); Qingyun Yan (Nanjing University of Information Science and Technology);*

- 3 Design of SIW Filtering Power Dividers Based on Fractal Metamaterial Slotted Resonators  
*Zhilin He (Southwest University of Science and Technology); Xin Cao (Southwest University of Science and Technology); Qiangming Cai (Southwest University of Science and Technology); Longjian Zhou (Southwest University of Science and Technology); Hao-ran Li (Southwest University of Science and Technology); Yuyu Zhu (Southwest University of Science and Technology);*
- 4 Design of a Miniaturized Low Sidelobe Slot Antenna Based on Dielectric Waveguide in X-band  
*Huai Jie Ke (Southwest University of Science and Technology); Xin Cao (Southwest University of Science and Technology); Qiangming Cai (Southwest University of Science and Technology); Longjian Zhou (Southwest University of Science and Technology); Yuyu Zhu (Southwest University of Science and Technology); Wei Yang (Southwest University of Science and Technology);*
- 5 Few-shot ISAR Target Recognition Method Based on Improved Prototype Networks  
*Shuai Xia (Harbin Institute of Technology at Weihai); Aijun Liu (Harbin Institute of Technology at Weihai); Chang Jun Yu (Harbin Institute of Technology at Weihai); Benteng Lyu (Harbin Institute of Technology at Weihai); Hongbo Fei (Harbin Institute of Technology at Weihai);*
- 6 Enhanced Fourier Series for Precise Signal Analysis  
*Hsin-Jung Lee (National Taiwan University); Cheng-Che Lee (National Taiwan University); Yi-Min Yang (National Taiwan University); Wei-Yu Lee (National Taiwan University); Chieh-Hsiung Kuan (National Taiwan University);*
- 7 A Study of Performance Assessment in Automotive Millimeter Wave Radar Industry  
*Huanlei Chen (Shanghai Motor Vehicle Inspection Certification & Tech Innovation Center Co., Ltd.); Xiaolei Zhang (Shanghai Motor Vehicle Inspection Certification & Tech Innovation Center Co., Ltd.); Yafei Shen (Shanghai Motor Vehicle Inspection Certification & Tech Innovation Center Co., Ltd.); Li Shen (Shanghai Motor Vehicle Inspection Certification & Tech Innovation Center Co., Ltd.);*
- 8 Performance Evaluation Method of LiDAR in Rainfall Conditions  
*Xiaolei Zhang (Shanghai Motor Vehicle Inspection Certification & Tech Innovation Center Co., Ltd.); Yafei Shen (Shanghai Motor Vehicle Inspection Certification & Tech Innovation Center Co., Ltd.); Li Shen (Shanghai Motor Vehicle Inspection Certification & Tech Innovation Center Co., Ltd.);*
- 9 A Broadband Circularly Polarized Patch Antenna Based on Bowknot-shaped Slot-coupled Feeding for UHF RFID Application  
*Hongmei Wang (Dalian Maritime University); Hongbao Wang (Dalian Maritime University); Yan Zhang (Dalian Maritime University); Shipeng Zhao (Dalian Maritime University); Hongmei Liu (Dalian Maritime University);*
- 10 Design of a New Low-power Relaxation Oscillator without Comparator  
*Jiaxiong Deng (Southwest Jiaotong University); Quanyuan Feng (Southwest Jiaotong University); Zujing Zhang (Southwest Jiaotong University);*
- 11 Simulation Carbon Nano Tubes *CNT* Reliability for Hydrogen *H* Storage  
*Diyar Bajalan (TU Wien);*
- 12 Equivalent Circuit Analysis Accelerated for Design of Bandpass Frequency Selective Surfaces  
*Minxin Zhao (Nanjing University); Yuan-Cheng Shi (Nanjing University); Kai Xu (Nanjing University); Yangchen Hao (Nanjing University); Ruixin Wu (Nanjing University);*
- 13 Design of a Broadband High-gain Patch Antenna for 5G Millimeter-wave Applications  
*Tianhang Zhang (Henan University); Ruina Lian (Xidian University); Di Wu (Shenzhen University); Mian Qin (Henan University); Jinlong Zhang (Henan University);*
- 14 A Multi-objective Antenna Optimization Method Based on Preferred Parameter Spaces  
*Jiangling Dou (Kunming University of Science and Technology); Siyu Lin (Kunming University of Science and Technology); Jian Song (Kunming University of Science and Technology); Qingwang Wang (Kunming University of Science and Technology); Tao Shen (Kunming University of Science and Technology);*
- 15 A Conformal CP Antenna Based on Isotropic Holographic Metasurface  
*Hui Liang (Hefei University of Technology); Zhao-neng Jiang (Hefei University of Technology); Shuai Meng (Hefei University of Technology); Cheng Peng (Hefei University of Technology); Weixing Gao (Hefei University of Technology);*
- 16 Investigation on X-band Wave Absorber Performance Characterized Using Two Horn Antennas  
*Budi Syihabuddin (Institut Teknologi Bandung); Junas Haidi (Institut Teknologi Bandung); Mohammad Ridwan Effendi (Institut Teknologi Bandung); Achmad Munir (Bandung Institute of Technology);*
- 17 Mach-Zehnder Type Fiber Optic Sensor for pH Detection in Alizarin Red S Solutions  
*Mario Angel Rico-Mendez (Universidad Autonoma de Nuevo Leon); Romeo Selvas-Aguilar (Universidad Autonoma de Nuevo Leon); Norma Patricia Puente-Ramirez (Universidad Autonoma de Nuevo Leon); Daniel Toral-Acosta (Universidad Autonoma de Nuevo Leon); Oxana V. Kharissova (Universidad Autonoma de Nuevo Leon);*

- 18 Intelligent Inversion of Magnetic Resonance Sounding Data Using Convolutional Neural Network  
*Meng Wei (Jilin University); Yujing Yang (Jilin University); Tingting Lin (Jilin University);*
- 19 Development of Array Feeding Network with Beamforming Feature for Local Positioning System  
*Thirza Nabila Syafriady (Institut Teknologi Bandung); Sarah Rahayu (Institut Teknologi Bandung); Budi Syihabuddin (Institut Teknologi Bandung); Hartuti Mistialustina (Institut Teknologi Bandung); Achmad Munir (Bandung Institute of Technology);*
- 20 Research Progress in Quantum Weak Measurement Methods for Chiral Molecule Detection  
*Yuanchang Zhang (Southwest Institute of Technical Physics); Wei Zhang (Southwest Institute of Technical Physics); Pu Zeng (Southwest Institute of Technical Physics); Chaojun Zhao (Southwest Institute of Technical Physics); Shuai Huang (Southwest Institute of Technical Physics); Tong Li (Southwest Institute of Technical Physics); Xuele Wang (Southwest Institute of Technical Physics); Hai-Zhi Song (Southwest Institute of Technical Physics & UESTC);*
- 21 Predictive Analysis of IoT Systems Performance  
*Igor Tasic (Universidad Politécnica de Cartagena); Tianhua Chen (Riga Technical University); Elans Grabs (Riga Technical University); Aleksandrs Ipatovs (Riga Technical University); Maria-Dolores Cano (Universidad Politécnica de Cartagena);*
- 22 TE Mode Surface Waves Excitation with Polarization-controlled Propagation Direction for Orthogonal Linear Polarized Incidences  
*Yueyu Meng (Air Force Engineering University); Hua Ma (Air Force Engineering University); Weiyu Wang (Air Force Engineering University); Jingming Jiang (Air Force Engineering University); Lin Zheng (Air Force Engineering University); Jiafu Wang (Air Force Engineering University); Shaobo Qu (Air Force Engineering University);*
- 23 Project of 700GHz/300kW/10ms Pulsed Gyrotron for Initiating and Studying Localized Gas Discharges  
*Mikhail Yu. Glyavin (Institute of Applied Physics RAS); Vladimir N. Manuilov (Institute of Applied Physics RAS); I. V. Zotova (Institute of Applied Physics RAS); Ilya V. Zheleznov (Institute of Applied Physics, RAS); Houxiu Xiao (Huazhong University of Science and Technology); Xiaotao Han (Huazhong University of Science and Technology); Xianfei Chen (Huazhong University of Science and Technology); Shaozhe Zhang (Huazhong University of Science and Technology);*
- 24 Multi-target Tracking Method of Non-cooperative Bistatic Radar System Based on Improved PHD Filter  
*Chun Li (National University of Defense Technology); Qinglong Bao (National University of Defense Technology); Jiameng Pan (National University of Defense Technology);*
- 25 The Influence of Cable Paths on Shielding Effectiveness Testing in a Reverberation Chamber  
*Wenzuan Huang (Beihang University); Zongfei Zhou (Beihang University); Bing Li (Beihang University);*
- 26 Study of a Miniaturized Folded Waveguide Terahertz Traveling Wave Tube with the Cold Cathode Electron Source  
*Ruirui Jiang (Nantong University); G. X. Wu (Nantong University); J. Shi (Nantong University);*
- 27 A Lightweight and Scalable Half-brick and Half-tile Design for X-band Digital T/R Sub-array  
*Nan Zhao (Nanjing Marine Radar Institute); Tingfeng Jin (Nanjing Marine Radar Institute); Liu Yang (Nanjing Marine Radar Institute); Yuan Huang (National Key Laboratory of Electromagnetic Effect and Security on Marine Equipment and Nanjing Marine Radar Institute); Honghu Wu (Nanjing Marine Radar Institute); Xinmin Zhang (Nanjing Marine Radar Institute);*
- 28 Lateral Cavity Photonic Crystal Surface-emitting Quantum Cascade Laser at 9.4  $\mu\text{m}$   
*Ziyuan Liao (Institute of Semiconductors, CAS); Yufei Wang (Institute of Semiconductors, CAS); Xuyan Zhou (Institute of Semiconductors, CAS); Yuzhe Lin (Institute of Semiconductors, CAS); Qi Aiyi (Institute of Semiconductors, Chinese Academy of Sciences); Wanhua Zheng (Institute of Semiconductors, CAS);*
- 29 A Spatiotemporal Correlation Sea Clutter Generation Method Based on Measured Data Characteristics  
*Peng Zeng (China Research Institute of Radio Wave Propagation); Yushi Zhang (China Research Institute of Radio Wave Propagation); Xiaoyun Xia (Research Institute of Radio Wave Propagation); Jinpeng Zhang (China Research Institute of Radiowave Propagation); Pengbo Du (Ocean University of China); Zhaohe Zeng (China Research Institute of Radio Wave Propagation); Zhi Heng Hua (Ocean University of China);*
- 30 Creating a Printed UWB Antenna for Local Navigation  
*A. M. Ignatov (National Research University "Moscow Power Engineering Institute"); Polina Mikhailovna Nikitina (National Research University "Moscow Power Engineering Institute"); V. V. Trubetskoy (Moscow Technical University of Communications and Informatics (MTUCI)); S. A. Serov (National Research University "Moscow Power Engineering Institute"); Mikhail Sergeyevich Mikhailov (National Research University "Moscow Power Engineering Institute");*
- 31 A High-Stability Crystal Oscillator with a Controllable Oscillation Amplitude  
*Lei Zhao (Tongji University); Zhi Chong Wan (Tongji University); Mei Song Tong (Tongji University);*

- 32 Design of Chebyshev's Bandpass Filter Based on Square Open Loop Resonator (SOLR) at 5.8 GHz  
*Mikhail Sergeyevich Mikhailov (National Research University "Moscow Power Engineering Institute"); Feras Habib Rammah (National Research University "Moscow Power Engineering Institute"); A. A. Komarov (National Research University "Moscow Power Engineering Institute");*
- 33 A Wideband Monostatic Co-Circularly Polarized Simultaneous Transmit and Receive Antenna for 60-GHz Applications  
*Yazin Li (Shenzhen University); Junze Liang (Shenzhen University); Xudong Lu (Shenzhen University); Xiao-Chong Zhang (Shenzhen University); Yu-Xiang Sun (Shenzhen University); Di Wu (Shenzhen University);*
- 34 High-precision Atmospheric Aerosol Detection by Mie-scattering Lidar Combine with Raman Lidar  
*Jiyuan Cheng (North MinZu University); Hu Zhao (North MinZu University);*
- 35 Microwave Energy Harvesting Metamaterial Absorber at Mobile Phone Communication Waveband (2.44 GHz)  
*C. Abdul Varis (National Institute of Technology Calicut); Amogh Suseelan (National Institute of Technology Calicut); P. V. Arjun (National Institute of Technology Calicut); Barakathulla Asrafali (Shenzhen University); Zhengbiao Ouyang (Shenzhen University); Natesan Yogesh (National Institute of Technology Calicut);*
- 36 A Delay Calibration Method for the Multi-channel Broadband Microwave Photonic System  
*Yuan Huang (National Key Laboratory of Electromagnetic Effect and Security on Marine Equipment and Nanjing Marine Radar Institute); Nan Zhao (Nanjing Marine Radar Institute); Shengguo Zhou (National Key Laboratory of Electromagnetic Effect and Security on Marine Equipment and Nanjing Marine Radar Institute); Mingming Sun (Nanjing Marine Radar Institute); Xinmin Zhang (Nanjing Marine Radar Institute);*
- 37 Control Points Rearrangement of Spline-based CPW-fed Spearhead Monopole Antenna Using Particle Swarm Optimizer  
*Agus Dwi Prasetyo (Institut Teknologi Bandung); Trasma Yunita (Telkom University); Deny Hamdani (Institut Teknologi Bandung); Achmad Munir (Bandung Institute of Technology);*
- 38 Plasmonic Self-complementary Metasurface Supporting Broadband Polarization Degeneracy  
*Abanoub Mikhail (ITMO University); Zarina F. Kondratenko (Sadrieva) (ITMO University); S. M. Asadulina (ITMO University);*
- 39 A Hybrid Excitation Method of Finite-gap Port Model in SIE for Electromagnetic Radiation Analysis  
*Zi-Qiang Wu (Southwest University of Science and Technology); Qiangming Cai (Southwest University of Science and Technology); Xin Cao (Southwest University of Science and Technology); Longjian Zhou (Southwest University of Science and Technology); Haoran Li (Southwest University of Science and Technology); Zhen-Yong Du (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yixiang Li (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yuyu Zhu (Southwest University of Science and Technology); Yu-Teng Zheng (DeTooLIC Technology Co., Ltd.); Bo Pu (DeTooLIC Technology Co., Ltd.); Jun Fan (Southwest University of Science and Technology);*
- 40 Coastal Regions Sea Surface Salinity Retrieval of SMAP MISSION Based on Light Gradient Boosting Model  
*Haoming Song (Beijing Information Science and Technology University); Yifan Zhang (Beijing Information Science and Technology University); Biao Zhang (Beijing Information Science and Technology University); Yanfang Lv (Beijing Information Science and Technology University); Lanjie Zhang (Beijing Information Science and Technology University);*
- 41 Research on Construction Method of Maritime Environment Model Based on Distributed Electromagnetic Spectrum Monitoring System  
*Lihui Wang (Hainan University); Yonghui Zhang (Hainan University); Zhenjia Chen (Hainan University); Po Shao (Hainan University); Ran Chen (Hainan University); Geyu Hou (Hainan University);*
- 42 Edge Detection of Plant Root Images Based on Improved Canny Algorithm  
*Ting Fang Tan (Hainan University); Lihui Wang (Hainan University); Wen Long Zhou (Hainan University);*
- 43 Spatial Multiplexing Cascaded Metasurfaces  
*Zhixiang Fan (Zhejiang University); Yuetian Jia (Zhejiang University); Chao Qian (Zhejiang University); Hongsheng Chen (Zhejiang University);*
- 44 Accurate RLC Extraction for Stripline Structures Using 2D-FEM  
*Chenxi Liu (Southwest University of Science and Technology); Xiaoping Li (Southwest University of Science and Technology); Quan Deng (Southwest University of Science and Technology); Qiangming Cai (Southwest University of Science and Technology); Xin Cao (Southwest University of Science and Technology); Longjian Zhou (Southwest University of Science and Technology); Yuyu Zhu (Southwest University of Science and Technology); Jun Fan (Southwest University of Science and Technology);*



- 45 A Multilayer Low-pass Frequency Selective Surface with Wide Stopband  
Hao-Nan Huang (Southwest University of Science and Technology); Chao Zou (Southwest University of Science and Technology); Longjian Zhou (Southwest University of Science and Technology); Qiangming Cai (Southwest University of Science and Technology); Xin Cao (Southwest University of Science and Technology); Haoran Li (Southwest University of Science and Technology); Zhen-Yong Du (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yixiang Li (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yuyu Zhu (Southwest University of Science and Technology); Yu-Teng Zheng (DeTooLIC Technology Co., Ltd.); Bo Pu (DeTooLIC Technology Co., Ltd.); Jun Fan (Southwest University of Science and Technology);
- 46 Sensitivity-tunable Glucose Sensor Based on Tilted Fiber Bragg Gratings  
Ruichen Dai (Shanghai Maritime University); Feng Xu (Shanghai Maritime University); Jie Cao (Shanghai Maritime University); Xin Wang (Shanghai Maritime University); Mengjiao Ding (Shanghai Maritime University); Yunhe Zhao (Shanghai Maritime University);
- 47 Research on Few-sample Target Recognition Algorithm Based on GAN Network  
Bo Peng (East China Normal University); Lei Kuang (East China Normal University);
- 48 Development of a  $4 \times 4$  Microstrip Antenna Array in the X-band  
A. S. Filimonov (National Research University "Moscow Power Engineering Institute"); Andrey Alexeevich Pimenov (National Research University "Moscow Power Engineering Institute"); A. A. Novikov (National Research University "Moscow Power Engineering Institute"); Kirill Sergeyevich Sychev (National Research University "Moscow Power Engineering Institute"); Alexandr Alexandrovich Gladchenko (National Research University "Moscow Power Engineering Institute"); Mikhail Sergeyevich Mikhailov (National Research University "Moscow Power Engineering Institute");
- 49 Spin-orbital Conversion in Tightly Focused Optical Vortices with Vector Polarization  
Sergey S. Stafeev (Image Processing Systems Institute — Branch of the Federal Scientific Research Centre "Crystallography and Photonics" of RAS); Victor V. Kotlyar (Image Processing Systems Institute — Branch of the Federal Scientific Research Centre "Crystallography and Photonics" of RAS);
- 50 Optical Hall Effect at the Tight Focus of Hybrid Vector Beams  
Vladislav D. Zaitsev (Samara National Research University); Sergey S. Stafeev (Image Processing Systems Institute — Branch of the Federal Scientific Research Centre "Crystallography and Photonics" of RAS); Victor V. Kotlyar (Image Processing Systems Institute — Branch of the Federal Scientific Research Centre "Crystallography and Photonics" of RAS);
- 51 Beampattern Synthesis of Thinned Linear Arrays Using Artificial Neural Network  
Can Cui (Xi'an University of Science and Technology); Yue Hou (Xi'an University of Science and Technology); Yanhong Xu (Xi'an University of Science and Technology); Xuhui Fan (Xi'an University of Science and Technology);
- 52 Terrain Classification with Airborne Multi-band PolSAR Data Based on Polarization Feature Registration  
Shuo Li (Beijing University of Chemical Technology); Hong Yang (Aerospace Information Research Institute, Chinese Academy of Sciences); Qiang Yin (Beijing University of Chemical Technology); Fan Zhang (Beijing University of Chemical Technology);
- 53 Effect of Two PEC Metal Netting Models on Fields of Bounded-wave EMP Simulator  
Xiang-Qin Zhu (Northwest Institute of Nuclear Technology); Wei Wu (National Key Laboratory of Intense Pulsed Radiation Simulation and Effect); Yinjun Gao (National Key Laboratory of Intense Pulsed Radiation Simulation and Effect); Hongfu Xia (National Key Laboratory of Intense Pulsed Radiation Simulation and Effect);
- 54 Thickness Dependent Electronic and Optical Characteristics of Multilayer hBN/Graphene/MoS<sub>2</sub>  
Beitong Cheng (Southwest Institute of Technical Physics); Yuyan Zhao (Southwest Institute of Technical Physics); Yong Zhou (Chengdu Technological University); Ruomei Jiang (Southwest Institute of Technical Physics); Xule Wang (Southwest Institute of Technical Physics); Shuai Huang (Southwest Institute of Technical Physics); Wei Zhang (Southwest Institute of Technical Physics); Hai-Zhi Song (Southwest Institute of Technical Physics & UESTC);
- 55 Topology Construction Method of Distributed AD Hoc Network for Complex Maritime Electromagnetic Spectrum Environment  
Songkun Chu (Hainan University); Zhenjia Chen (Hainan University); Min Wang (Hainan University);
- 56 The Relationship Between Microwave Irradiation Power Density and Rock Damage in Microwave-assisted Rock Breakage  
Xiaoyun Zhao (Chengdu University of Technology);
- 57 Cross-domain SAR Object Detection by Efficiently Fine-tuning SAM  
Kaioy Hu (Beijing University of Chemical Technology); Hongjie Wan (Beijing University of Chemical Technology); Fei Ma (Beijing University of Chemical Technology); Fan Zhang (Beijing University of Chemical Technology);
- 58 A Compact High-gain Array Antenna Based on Gap Waveguide Feed in W-band  
Peng Sheng Nie (Guilin University of Electronic Technology); YiJie Cao (The University of Sheffield); Li Li Sheng (Guilin University of Electronic Technology); Wei-Ping Cao (Guilin University of Electronic Technology);

- 59 State Switching, Soliton Explosion and Chaos in the Multi-wavelength Ultrafast Fiber Laser  
*Zhi-Zeng Si (Zhejiang A&F University); Zhen-Tao Ju (Zhejiang A&F University); Yue Yue Wang (Zhejiang A&F University); Chao-Qing Dai (Zhejiang Agriculture and Forestry University);*
- 60 Kinetic Vacuum Plasma Expansion Beyond the “Plasma Approximation”  
*Vasily Yu. Kozhevnikov (Harbin Institute of Technology); Vladislav S. Igumnov (Harbin Institute of Technology); Chengxun Yuan (Harbin Institute of Technology);*
- 61 Broadband Independent Absorption Control for Orthogonal Circular Polarized Waves Using Achiral Active Metasurface  
*Yan Pang (Air Force Engineering University); Yueyu Meng (Air Force Engineering University);*
- 62 High-Q Refractive Index Sensor Exploiting Quasi-bound States in the Continuum with Dielectric Metasurfaces for Enhanced Exosome Detection  
*Dang Du Nguyen (Sungkyunkwan University); Inki Kim (Sungkyunkwan University);*
- 63 MBE Growth of Optically Active Ge Shell on GaAs Nanowires  
*Ziyue Yin (University College London); Haotian Zeng (University College London); Giorgos Boras (University College London); Mingchu Tang (University College London); Huiyun Liu (University College London);*
- 64 Second Harmonic Generation with 9972%/W Efficiency on thin Film Lithium Niobate  
*Jian Cheng (Huazhong University of Science and Technology); Yuzhao Dong (Huazhong University of Science and Technology); Dingshan Gao (Huazhong University of Science and Technology);*
- 65 A Scale-invariant Large-area Single-mode Topological Photonic Cavity  
*Zhongfu Li (The Chinese University of Hong Kong, Shenzhen); Shiqi Li (Nanjing University); Bei Yan (Southern University of Science and Technology); Hsun-Chi Chan (The University of Hong Kong); Jing Li (The Chinese University of Hong Kong, Shenzhen); Jun Guan (The Chinese University of Hong Kong, Shenzhen); Wengang Bi (The Chinese University of Hong Kong, Shenzhen); Yuanjiang Xiang (Hunan University); Zhen Gao (Southern University of Science and Technology); Shuang Zhang (The University of Hong Kong); Peng Zhan (Nanjing University); Zhenlin Wang (Nanjing University); Biye Xie (The Chinese University of Hong Kong, Shenzhen);*
- 66 Simulation of Microwave Frequency Combs Generation in a W-band Helical Waveguide Gyro-TWT Locked by a Saturable Absorber  
*Michael Vilkov (A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Naum S. Ginzburg (A. V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Irina V. Zotova (Institute of Applied Physics, RAS); Sergey V. Samsonov (Institute of Applied Physics, Russian Academy of Sciences); Alexander S. Sergeev (Institute of Applied Physics, RAS);*
- 68 Functionality Multiplexing in High-efficiency Metasurfaces Based on Coherent Wave Interferences  
*Yuejiao Zhou (Fudan University); Tong Liu (The Hong Kong University of Science and Technology); Changhong Dai (Fudan University); Dongyi Wang (Hongkong Baptist University); Lei Zhou (Fudan University);*

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**Session 4P1a**
**Quantum Entanglement and Its Applications 2**


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**Thursday PM, April 25, 2024**
**Room 1 - Yarui**

Organized by Yu Xiang, Meihong Wang, Xiaolong Su

Chaired by Yu Xiang, Meihong Wang

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- 13:00 Generation and Coherent Control of Multimode Entanglement Networks  
Invited *Yin Cai (Xi'an Jiaotong University);*
- 13:20 Multi-wavelength Quantum Light Source in the Telecom C band  
Invited *Yun-Ru Fan (University of Electronic Science and Technology of China);*
- 13:40 Experimental Aspects of Causal Nonseparability  
*Yu Guo (University of Science and Technology of China);*
- 13:55 Quantum Steering Swapping with Gaussian Entangled State  
*Na Wang (Shanxi University); Meihong Wang (Shanxi University); Xiaolong Su (Shanxi University);*

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**Session 4P1b**
**Quantum Algorithms from The Ground Up**


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**Thursday PM, April 25, 2024**
**Room 1 - Yarui**

Organized by Hao Tang, Zizhu Wang

Chaired by Hao Tang

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- 14:15 Gaussian Boson Sampling Validation via Detector Binning  
*Gabriele Bressanini (Imperial College London);*

14:30 Demystify Problem-dependent Power of Quantum Neural Networks on Multi-class Classification

Invited Yuxuan Du (*JD Explore Academy*); Yibo Yang (*JD Explore Academy*); Dacheng Tao (*JD Explore Academy*); Min-Hsiu Hsieh (*Hon Hai (Foxconn) Research Institute*);

14:50 Information Compression via Hidden Subgroup Quantum Autoencoders

Feiyang Liu (*Southern University of Science and Technology*); Kaiming Bian (*Southern University of Science and Technology*); Fei Meng (*City University of Hong Kong*); Wen Zhang (*HiSilicon Research, Huawei Technology*); Oscar Dahlsten (*City University of Hong Kong*);

15:05 Quantumness of Energy-storing Quantum Systems

Invited Shao-Ming Fei (*Capital Normal University*); Ming-Xing Luo (*Southwest Jiaotong University*);

15:25 **Coffee Break**

16:00 Fast-forwarding with NISQ Processors without Feedback Loop

Kian Hwee Lim (*National University of Singapore*); Tobias Haug (*Imperial College London*); Leong Chuan Kwek (*National University of Singapore*); Kishor Bharti (*National University of Singapore*);

16:15 Quantum Walks of Correlated Photons in Non-Hermitian Photonic Lattices

Invited Chong Sheng (*Nanjing University*);

16:35 Virtual Quantum Markov Chains

Invited Yu-Ao Chen (*Hong Kong University of Science and Technology (Guangzhou)*); Chengkai Zhu (*Hong Kong University of Science and Technology (Guangzhou)*); Keming He (*Hong Kong University of Science and Technology (Guangzhou)*); Mingrui Jing (*Hong Kong University of Science and Technology (Guangzhou)*); Xin Wang (*Hong Kong University of Science and Technology (Guangzhou)*);

16:55 Equivalence Checking of Quantum Circuits by Nonlocality

Invited Weixiao Sun (*Tsinghua University*); Zhaohui Wei (*Tsinghua University*);

17:15 Analog Counterdiabatic Quantum Computing towards Quantum Usefulness

Qi Zhang (*Kipu Quantum*); Enrique Solano (*Kipu Quantum*); Eric Michon (*Kipu Quantum*);

17:30 Digitized Counterdiabatic Quantum Computing

Eric Michon (*Kipu Quantum*); Qi Zhang (*Kipu Quantum*); Enrique Solano (*Kipu Quantum*);

17:45 Measurement-driven Quantum Dynamics on a Photonic Chip

Hao Tang (*Shanghai Jiao Tong University*); Xian-Min Jin (*Shanghai Jiao Tong University*); Xuan Chen (*Shanghai Jiao Tong University*);

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### Session 4P2a

### RF and Microwave Metamaterials for Wireless Communications 2

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Thursday PM, April 25, 2024

Room 2 - Jincheng 3

Organized by Xiaojun Huang, He-Lin Yang

Chaired by Xiaojun Huang

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13:00 Low-profile Dual-channel Coded Metasurface for Independent Phase Manipulation of Electromagnetic Waves

Wentao Li (*Xi'an University of Science and Technology*); Xiaojun Huang (*Xi'an University of Science and Technology*);

13:15 Bifunctional Metamaterials with Linear-to-linear Polarization Conversion and Broadband Absorption

Zhaoyang Shen (*China Three Gorges University*);

13:30 Water-based Metamaterial with Thermal Tunability for Dual-band Absorption

Shangru Li (*Central China Normal University*); He-Lin Yang (*Huazhong Normal University*); Shuyuan Gong (*China Normal University*);

13:45 A Low-scattering Water-based Metasurface Array Antenna

Yuejie Yang (*Central China Normal University*); He-Lin Yang (*Central China Normal University*); Shangru Li (*Central China Normal University*);

14:00 A Metasurface with Switchable Reflection, Transmission and Absorption Functionalities

Xia Ma (*Northwestern Polytechnical University*); Yanni Wang (*Northwestern Polytechnical University*); Feiran Bai (*Northwestern Polytechnical University*); Chen-Jiang Guo (*Northwestern Polytechnical University*);

14:15 Broadband Polarization Reconfigurable Metasurface Antenna Using Characteristic Mode Analysis

Feiran Bai (*Northwestern Polytechnical University*); Xun Qu (*Northwestern Polytechnical University*); Xia Ma (*Northwestern Polytechnical University*); Jun Ding (*Northwestern Polytechnical University*);

14:30 A New Design Approach for CMT-based Low RCS Metasurface and Antenna

Yanni Wang (*Northwestern Polytechnical University*); Xia Ma (*Northwestern Polytechnical University*); Feiran Bai (*Northwestern Polytechnical University*); Chen-Jiang Guo (*Northwestern Polytechnical University*);

14:45 Imaging Quality Enhancement Based on Near-field Focusing and Synthetic Aperture Algorithm

Qifei Zhang (*China University of Geosciences*);

15:30 **Coffee Break**

**Session 4P2b****Active and Reconfigurable Metasurfaces:  
Fundamentals and Applications****Thursday PM, April 25, 2024****Room 2 - Jincheng 3**

Organized by Fuli Zhang, Yuancheng Fan

Chaired by Yuancheng Fan

- 16:20 Band Degeneracy Conversions Determined by the Relative Homotopy: Realization and Characterization  
Invited *Qian Zhao (Tsinghua University); Maopeng Wu (Tsinghua University); Mingze Weng (Tsinghua University); Yonggang Meng (Tsinghua University); Ji Zhou (Tsinghua University);*
- 16:40 Nonreciprocal Wave Control with Active Acoustic Metamaterials  
*Xinhua Wen (The Hong Kong University of Science and Technology); Jensen Li (Hong Kong University of Science and Technology);*
- 16:55 Smart Electromagnetic Manipulation Based on Programmable Metasurfaces  
*Yuanke Liu (Southeast University); Wei Xiang Jiang (Southeast University);*
- 17:10 Smart Metasurface for Active and Passive Cooperative Manipulation of Electromagnetic Waves  
*Lixin Jiang (Airforce Engineering University); Hao Yang (Airforce Engineering University); Yongfeng Li (Air Force Engineering University); Lin Zheng (Air Force Engineering University); Zhibiao Zhu (Air Force Engineering University); Zhe Qin (Air Force Engineering University); Yongqiang Pang (Air Force Engineering University); Jiafu Wang (Air Force Engineering University); Hongya Chen (Air Force Engineering University); Wanwan Yang (Air Force Engineering University); Shaobo Qu (Air Force Engineering University);*
- 17:25 Janus Faces of Dipole-matter Interactions with an Oriented Misalignment  
*Chenxu Bian (Zhejiang University); Yuhan Zhong (Zhejiang University); Xuhuinan Chen (Zhejiang University); Tony Low (University of Minnesota); Hongsheng Chen (Zhejiang University); Baile Zhang (Nanyang Technological University); Xiao Lin (Zhejiang University);*
- 17:40 Dual-band Functionalities Switchable Reconfigurable Metasurface  
*Hamza Asif Khan (Southeast University); Jingjing Zhang (Southeast University); Jun Wei Zhang (Southeast University);*

- 18:10 Dual Quasi-bound State Strongly Enhanced Second Harmonic Generation Using in Lithium Niobate Metasurfaces

*Zhehao Ye (Northwestern Polytechnical University); Kangyao Sun (Northwestern Polytechnical University); Weixi Qiu (Northwestern Polytechnical University); Hongkui Shi (Northwestern Polytechnical University); Yuancheng Fan (Northwestern Polytechnical University); Fuli Zhang (Northwestern Polytechnical University);*

**Session 4P3****Mie-tronics and Metaphotonics 3****Thursday PM, April 25, 2024****Room 3 - Jincheng 2**

Organized by Andrey A. Bogdanov, Yuri S. Kivshar

Chaired by Andrey A. Bogdanov, Yuri S. Kivshar

- 13:00 Ultra-low-loss Optical Interconnect Enabled by Topological Unidirectional Radiation  
Invited *Haoran Wang (Peking University); Chao Peng (Peking University);*
- 13:20 Hybrid and Heterostructured Van Der Waals Metasurfaces for Control of Collective and Coherent Optical Effects  
*Alexei V. Prokhorov (Moscow Institute of Physics and Technology); Alexander I. Chernov (Moscow Institute of Physics and Technology); Mikhail Yu. Gubin (Vladimir State University named after A. G. and N. G. Stoletovs); Sergey M. Novikov (Moscow Institute of Physics and Technology); Roman V. Kirtaev (Moscow Institute of Physics and Technology); Elena I. Titova (Moscow Institute of Physics and Technology); Davit A. Ghazaryan (Moscow Center for Advanced Studies); Adilet N. Toksumakov (Moscow Center for Advanced Studies); Alexander V. Shesterikov (Vladimir State University named after A. G. and N. G. Stoletovs); Mikhail K. Tatmyshevskiy (Moscow Center for Advanced Studies); Dmitry I. Yakubovsky (Mocsov Institute of Physics and Technology); Elena S. Zhukova (Moscow Institute of Physics and Technology); Aleksey V. Arsenin (Emerging Technologies Research Center, XPANCEO); Valentyn S. Volkov (Yerevan State University);*
- 13:35 New Twists on Dielectric Chiral Meta-mirrors: Cavities, Polaritons, and van der Waals Platforms  
Invited *Denis G. Baranov (Chalmers University of Technology);*
- 13:55 Chiral Electroluminescence from Perovskite Metacavities  
Invited *Young Chul Jun (Ulsan National Institute of Science and Technology);*

- 14:15 Chiral Luminescence by Metasurfaces with Maximum-chiral Eigenstates  
*Alexander Antonov (Shubnikov Institute of Crystallography, FSRC "Crystallography and Photonics", RAS); Maxim V. Gorkunov (A. V. Shubnikov Institute of Crystallography, Russian Academy of Sciences);*
- 14:30 Temperature-tunable Photonic Bound State in the Continuum  
*Pavel Sergeevich Pankin (Siberian Federal University);*
- 14:45 Quasi-bound States in the Continuum in Ensembles of Quantum Emitters  
Invited *Mihail I. Petrov (ITMO University); N. Ustimenko (ITMO University); Danil F. Kornovan (ITMO University); Ilya A. Volkov (ITMO University); Roman S. Savelev (ITMO University); A. Sheremet (ITMO University);*
- 15:05 Enhancement of Photoluminescence of Colloidal Quantum Dots in Plasmonic Metasurfaces Supporting Bound State in the Continuum  
*Albert A. Seredin (ITMO University); Kseniia V. Baryshnikova (ITMO University); Mihail I. Petrov (ITMO University); Aleksandr A. Sergeev (Institute of Automation and Control Processes, FEB, RAS); D. V. Pavlov (Institute of Automation and Control Processes of the FEB RAS); Aleksandr A. Kuchmizhak (Institute of Automation and Control Processes, Far Eastern Branch, Russian Academy of Science); K. A. Sergeeva (City University of Hong Kong); A. Sokolova (City University of Hong Kong); Andrey L. Rogach (City University of Hong Kong);*
- 15:20 Inverse Design of Stacked Cylinders Scatterers by Evolutionary Optimization  
*Vladimir Dmitrievich Igoshin (ITMO University); Alexey Kokhanovskiy (Novosibirsk State University); Mihail I. Petrov (ITMO University);*
- 15:35 **Coffee Break**
- 16:00 Hybrid Metal-dielectric Nanostructures: Optical Properties and Applications  
Invited *Dmitry A. Zuev (ITMO University);*
- 16:20 Opto-mechanical Manipulation of CrPbBr<sub>3</sub> Perovskite Particles  
Invited *Alexey Kokhanovskiy (ITMO University); Mihail Vdovichenko (ITMO University Lomonosov); Gavriil Romanenko (ITMO University Lomonosov); Natalia Kostina (ITMO University Lomonosov); Qinghao Song (ITMO University Lomonosov); Irina Koryakina (ITMO University Lomonosov); Alexey Blazhenov (ITMO University); Olga Dalevskaya (ITMO University); Larisa Brylevskaya (ITMO University); Mikhail Zyuzin (ITMO University Lomonosov); Sergey Makarov (ITMO University); Mihail I. Petrov (ITMO University);*
- 16:40 Encapsulated Plasmons in Dielectrics for Photonic Applications  
Invited *Feng Chen (Shandong University);*
- 17:00 Photonics of Topological Transition from Dielectric Ring to Split Ring  
*Mikhail E. Bochkarev (ITMO University); Nikolay S. Solodovchenko (ITMO University); Kirill B. Samusev (ITMO University); Mikhail F. Limonov (ITMO University);*
- 17:15 Scattering Spectra and Hot Spots in Dielectric Ring and Ring-disk Dimer  
*Alina P. Chetverikova (ITMO University); Kirill A. Bronnikov (Novosibirsk National Research State University); Nikolay S. Solodovchenko (ITMO University); Mikhail E. Bochkarev (ITMO University); Kirill B. Samusev (ITMO University); Mikhail F. Limonov (ITMO University);*
- 17:30 Rewritable Structure of an Arbitrary Topological Charge  
*Alexander I. Solomonov (ITMO University);*
- 17:45 Semiconductor Nanowires for Resonant Enhancement, Light Guiding and Hybrid Sources Development  
Invited *Alexey D. Bolshakov (Moscow Institute of Physics and Technology);*
- 18:05 Tunable Microwave Cavity for Axion Dark Matter Search  
Invited *R. Balafendiev (ITMO University); Maxim A. Gorlach (ITMO University); Pavel A. Belov (ITMO University);*

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### Session 4P4a

### Electromagnetic Metasurfaces and Their Applications in Antenna Designs

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Thursday PM, April 25, 2024

Room 4 - Jincheng 1

Organized by Ke Chen, Kuang Zhang

Chaired by Ke Chen, Kuang Zhang

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- 13:00 Design of Low-cost All Metal Electromagnetic Lens Based on Near-field Energy Focusing  
*Qifei Zhang (China University of Geoscience); Linyan Guo (China University of Geosciences, Beijing);*
- 13:15 Dipolar Huygens-Kerker Radiation  
*Xuhuan Chen (Zhejiang University); Chan Wang (Zhejiang University); Yuhang Zhong (Zhejiang University); Baile Zhang (Nanyang Technological University); Hongsheng Chen (Zhejiang University); Xiao Lin (Zhejiang University);*
- 13:30 Waveguide Cavity Filter Based Gain-filtering 3D Transmitarray for Arbitrary Polarization and Wavefront Manipulation  
*Sen Yan (Xi'an Jiaotong University); Yuanxi Cao (Xi'an Jiaotong University);*
- 13:45 A Novel Equivalent Circuit Model for the Design and Analysis of Square Loop Metamaterials  
*Ismail Abiola Shittu (Khalifa University); Ibrahim (Abe) M. Elfadel (Khalifa University);*

- 14:00 Microwave Bifunctional Polarization-selective Metagratings  
*Ruimeng Zhang (Xi'an Jiaotong University); Jiahui Ji (Xi'an Jiaotong University); Ziang Jiang (Xi'an Jiaotong University); Shixiong Wang (Xi'an Jiaotong University); Jian Jia Yi (Xi'an Jiaotong University);*
- 14:15 Tri-layered Metasurface for Diode-like Asymmetric Reflection of Circularly Polarized Electromagnetic Waves  
*V. Shanto (National Institute of Technology Calicut); B. Aravind (National Institute of Technology Calicut); M. Pavithra (University of Madras (Guindy Campus)); K. Ravichandran (University of Madras (Guindy Campus)); Barkathulla Asrafali (Shenzhen University); Zhengbiao Ouyang (Shenzhen University); Natesan Yogesh (National Institute of Technology Calicut);*
- 14:30 Scattering Manipulation of Polarization Independent Metagratings with Large-angle Incidence  
*Shaojie Wang (Nanjing University); Ke Chen (Nanjing University); Yijun Feng (Nanjing University);*
- 14:45 Polarization-Insensitive Rotationally Reconfigurable 2D Beam Scanning Based on Few-layer Bi-isotropic Huygens' Metasurfaces  
*Jinxing Li (Harbin Institute of Technology); Yueyi Yuan (Harbin Institute of Technology); Qun Wu (Harbin Institute of Technology); Kuang Zhang (Harbin Institute of Technology);*
- 15:00 Coupling Reduction for Microstrip Antenna Array with Low RCS Performance  
*Xianliang Zeng (National Key Laboratory of Electromagnetic Effect and Security on Marine Equipment); Weijun Wu (National Key Laboratory of Electromagnetic Effect and Security on Marine Equipment); Shuang Li (National Key Laboratory of Electromagnetic Effect and Security on Marine Equipment); Li Tao (National Key Laboratory of Electromagnetic Effect and Security on Marine Equipment); Jianpu Qiao (National Key Laboratory of Electromagnetic Effect and Security on Marine Equipment); Bo Luo (Changjiang Polytechnic);*
- 16:15 Sierpinski Metamaterial for Near-perfect Terahertz Tunable Broadband Absorber Using Vanadium Dioxide  
*Barkathulla Asrafali (Shenzhen University); Fahim Khan (Shenzhen University); M. Pavithra (University of Madras (Guindy Campus)); K. Renuka Rani (Vellore Institute of Technology); Yaoxian Zheng (Xidian University); Natesan Yogesh (National Institute of Technology Calicut); Yin-Bing An (Shenzhen University); Zhengbiao Ouyang (Shenzhen University);*
- 16:30 Design of Reflective Metasurface and Signal Enhancement in a Mine Tunnel  
*Yifei Wang (Xi'an University of Science and Technology); Xiaojun Huang (Xi'an University of Science and Technology);*
- 16:45 Simultaneous Transmitting and Reflecting (STAR) Metasurface for Spin-decoupled Full-space Quadruplex Channels Independent Phase Modulation  
*Jianfeng Zhu (South China University of Technology); Yang Yang (University of Technology Sydney); Shaowei Liao (South China University of Technology); Quan Xue (South China University of Technology);*
- 17:00 Optical Instrumentation Based on Metasurface Augmented Camera Systems at Visible Wavelengths  
*Arturo Burguete-Lopez (King Abdullah University of Science and Technology (KAUST)); M. Makarenko (King Abdullah University of Science and Technology (KAUST)); Q. Wang (King Abdullah University of Science and Technology (KAUST)); A. Fratalocchi (King Abdullah University of Science and Technology (KAUST));*
- Invited 17:15 Graphene-based Nonlinear Metasurfaces for Efficient Third Harmonic Generation at THz Frequencies  
*Odysseas Tsilipakos (National Hellenic Research Foundation); A. Theodosi (Foundation for Research and Technology-Hellas); Maria Kafesaki (Research and Technology Hellas (FORTH)); Thomas Christopoulos (Aristotle University of Thessaloniki); Emmanouil E. Kriezis (Aristotle University of Thessaloniki);*
- 17:35 Microwave Computational Imaging with Programmable Metasurface through a Binary Inversion Method  
*Fang-Fang Wang (Nanjing University of Posts and Telecommunications); Ming-Le Xu (Nanjing University of Posts and Telecommunications);*
- 17:50 Metal-enhanced Fluorescence Platform Based on Plasmonic Metamaterial  
*Yifei Gao (Duke Kunshan University); Zilin Jiang (Duke Kunshan University); Domna G. Kotsifaki (Duke Kunshan University);*

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### Session 4P4b

### Metamaterials & Metasurface 2

Thursday PM, April 25, 2024

Room 4 - Jincheng 1

Chaired by Domna G. Kotsifaki

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- 16:00 Tunable Asymmetric Transmission in Bulk Dirac Semimetal Based Terahertz Metamaterial  
*M. Pavithra (University of Madras (Guindy Campus)); Barkathulla Asrafali (Shenzhen University); Zhengbiao Ouyang (Shenzhen University); K. Ravichandran (University of Madras (Guindy Campus)); Natesan Yogesh (National Institute of Technology Calicut);*

- 18:05 Metasurface Encoder-based AI Sensing Platform for Ultra-sensitive Detection  
*Qizhou Wang (King Abdullah University of Science and Technology (KAUST)); Ning Li (King Abdullah University of Science and Technology (KAUST)); Zhao He (King Abdullah University of Science and Technology (KAUST)); Arturo Burguete-Lopez (King Abdullah University of Science and Technology (KAUST)); Fei Xiang (King Abdullah University of Science and Technology (KAUST)); Andrea Fratalocchi (King Abdullah University of Science and Technology (KAUST));*

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### Session 4P5a

#### Ultrafast Opto-spintronics Based Terahertz Radiation Sources and Their Applications

Thursday PM, April 25, 2024

Room 5 - Yingbin

Organized by Zuanming Jin

Chaired by Guohong Ma, Zhensheng Tao

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- 13:00 Flexible Generation of Structured Terahertz Fields via Programmable Exchange-biased Spintronic Emitters  
*Invited Shunjia Wang (Fudan University); Wentao Qin (Fudan University); Tongyang Guan (Fudan University); Jingyu Liu (Capital Normal University); Qingnan Cai (Fudan University); Sheng Zhang (Fudan University); Lei Zhou (Fudan University); Yan Zhang (Capital Normal University); Yizheng Wu (Fudan University); Zhensheng Tao (Fudan University);*
- 13:20 Anomalous Nernst Effect Induced Terahertz Emission in a Single Ferromagnetic Film  
*Invited Zheng Feng (Institute of Electronic Engineering, CAEP);*
- 13:40 Terahertz Emission via Ultrafast Photothermoelectric Effects in Topological Semimetal  $\text{Cd}_3\text{As}_2$   
*Invited Wei Lu (Songshan Lake Materials Laboratory); Dong Sun (Peking University);*
- 14:00 Superdiffusive Spin Transport in Cu Detected by Terahertz Time Domain Spectroscopy  
*C. Q. Liu (National University of Defense Technology);*
- 14:15 Ultrafast Charge Transfer and Terahertz Emission in Graphene/TMDCs Heterostructures  
*Invited Yuqing Zou (Shanghai University); Yifan Cheng (Shanghai University); Cheng Wang (Shanghai University); Peng Suo (Shanghai University); Xian Lin (Shanghai University); Guohong Ma (Shanghai University);*
- 14:35 Intensity Enhancement and Active Manipulation of Spintronic Terahertz Emitters  
*Invited Qiuping Huang (University of Science and Technology of China);*
- 14:55 Ultrastrong Magnon-magnon Coupling in a c-cut Terbium Orthoferrite at 1.6 K  
*Invited Xiangfeng Wang (Fuzhou University);*

- 15:15 Cascaded Amplification and Manipulation of Terahertz Pulses Emitted from Flexible Spintronic Heterostructures  
*Invited Zuanming Jin (University of Shanghai for Science and Technology); Zhangshun Li (University of Shanghai for Science and Technology); Yingyu Guo (University of Shanghai for Science and Technology); Huixiang Hong (University of Shanghai for Science and Technology); Yan Peng (University of Shanghai for Science and Technology); Yiming Zhu (University of Shanghai for Science and Technology);*

15:35 Coffee Break

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### Session 4P5b

#### Space Time Optics

Thursday PM, April 25, 2024

Room 5 - Yingbin

Organized by Chenhao Wan, Wei Chen

Chaired by Wei Chen, Qian Cao

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- 16:00 Spatiotemporal Coupling Induced Controllable Orientation of Photonic Orbital Angular Momentum  
*Invited Guanghao Rui (Southeast University); Zhaorui Zhang (Southeast University);*
- 16:20 Observation of Spatiotemporal Optical Vortices Enabled by Nonlocal Metasurfaces  
*Invited Ting Xu (Nanjing University); Pengcheng Huo (Nanjing University);*
- 16:40 Single-shot Recognition of Spatiotemporal Optical Vortex String and Its Application in Optical Communication  
*Invited Shunlin Huang (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences); Jinping Yao (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences); Jun Liu (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences); Ruxin Li (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences);*
- 17:00 Recent Progress in Spatiotemporal Optics Study  
*Qian Cao (University of Shanghai for Science and Technology); Qiwen Zhan (University of Shanghai for Science and Technology);*
- 17:15 Generation of Spatiotemporal Acoustic Vortices with Arbitrarily Oriented Orbital Angular Momentum  
*Invited Hao Ge (Nanjing University); Shuai Liu (Nanjing University); Ming-Hui Lu (Nanjing University); Yan-Feng Chen (Nanjing University);*

## 17:35 Vectorial Liquid-crystal Holography

Invited

Zeyu Wang (Nanjing University); Zhou Zhou (National University of Singapore); Han Zhang (Nanjing University); Yang Wei (Nanjing University); Hong-Guan Yu (Nanjing University); Wei Hu (Nanjing University); Wei Chen (Nanjing University); Haitao Dai (Tianjin University); Ling-Ling Ma (Nanjing University); Cheng-Wei Qiu (National University of Singapore); Yan-Qing Lu (Nanjing University);

## 17:55 Real Time Measurements of Ultrafast Instabilities in a Dissipative Soliton System

Invited

Fanchao Meng (Jilin University);

18:15 Observation of Acoustic Floquet  $\pi$  Modes in a Time-varying Lattice

Zhaoxian Chen (Nanjing University); An Chen (Nanjing University); Yu-Gui Peng (Huazhong University of Science and Technology); Zheng-Wei Li (Nanjing University); Bin Liang (Nanjing University); Jing Yang (Nanjing University); Xuefeng Zhu (Nanjing University); Yan-Qing Lu (Nanjing University); Jian-Chun Cheng (Nanjing University);

**Session 4P6****Acoustic Topological Metamaterials 2****Thursday PM, April 25, 2024****Room 6 - Huanhua**

Organized by Zhiwang Zhang, Hai-Xiao Wang, Jiuyang Lu

Chaired by Zhiwang Zhang, Hai-Xiao Wang

## 13:00 Higher-order Topological Insulators in Two-dimensional Acoustic Crystals

Invited

Xueqin Huang (South China University of Technology); Weiyin Deng (Wuhan University); Jiuyang Lu (Wuhan University); Gang Chen (Zhengzhou University); Zhengyou Liu (Wuhan University);

## 13:20 Three-dimensional Flat Landau Levels in an Inhomogeneous Acoustic Crystal

Zheyu Cheng (Nanyang Technological University); Yi-Jun Guan (Jiangsu University); Haoran Xue (The Chinese University of Hong Kong); Yong Ge (Institute of Acoustics, Chinese Academy of Sciences); Ding Jia (Jiangsu University); Yang Long (Nanyang Technological University); Shou-Qi Yuan (Jiangsu University); Hong-Xiang Sun (Jiangsu University); Yidong Chong (Nanyang Technological University); Baile Zhang (Nanyang Technological University);

## 13:35 Topological States in Hermitian and Non-Hermitian Beams

Invited

Yabin Jin (Tongji University);

## 13:55 Braiding of Bloch Eigenmodes in a Non-Abelian Topological Phase with Quaternion Charge

Xiaoming Wang (Hong Kong Baptist University); Guancong Ma (Hong Kong Baptist University);

## 14:10 Boundary Induced Chiral Anomaly Bulk States and Their Transport Properties

Mudi Wang (The Hong Kong University of Science and Technology); Zhengyou Liu (Wuhan University); Che Ting Chan (The Hong Kong University of Science and Technology);

## 14:25 Engineering Topological States in Non-Hermitian Acoustic Crystals

Xulong Wang (Hong Kong Baptist University); Wei Wang (Hong Kong Baptist University); Guancong Ma (Hong Kong Baptist University);

## 14:40 Acoustic Realization of Multiple Topological Corner Modes in a Coupling-inverted Phononic Crystal

Dongyi Wang (Hongkong Baptist University); Yuanchen Deng (The Pennsylvania State University); Jun Ji (The Pennsylvania State University); Mourad Oudich (The Pennsylvania State University); Wladimir A. Benalcazar (Emory University); Guancong Ma (Hong Kong Baptist University); Yun Jing (The Pennsylvania State University);

## 14:55 Stiefel-Whitney Topological Charges in a Three-dimensional Acoustic Nodal-line Crystal

Invited

Haoran Xue (The Chinese University of Hong Kong); Z. Y. Chen (Nanjing University); Zheyu Cheng (Nanyang Technological University); J. X. Dai (Nanjing University); Yang Long (Nanyang Technological University); Yixin Zhao (Nanjing University); Baile Zhang (Nanyang Technological University);

## 15:15 Topological Materials for Full-vector Elastic Waves

Invited

Ying Wu (Nanjing University of Science and Technology); Jiuyang Lu (Wuhan University); Xueqin Huang (South China University of Technology); Feng Li (Beijing Institute of Technology); Weiyin Deng (Wuhan University); Zhengyou Liu (Wuhan University);

15:35 **Coffee Break**

## 16:00 Anomalous Floquet Topological Edge States in Active System

Minqi Cheng (Southern University of Science and Technology); Jingming Chen (Southern University of Science and Technology); Linyun Yang (Southern University of Science and Technology); Zhen Gao (Southern University of Science and Technology);

## 16:15 Analytic Solution of n-dimensional Su-Schrieffer-Heeger Model

Invited

Feng Liu (Ningbo University);

## 16:35 Realization of the Quantum Spin Hall Effect Based on Tunable Topological Acoustic Metamaterials

Jia-He Chen (Soochow University); Zhi Hong Hang (Soochow University);

## 16:50 Robust Topological Edge States Induced by Latent Mirror Symmetry

Invited

Li-Yang Zheng (Shenzhen Campus of Sun Yat-sen University);



- 17:10 Acoustic Three-dimensional Chern Insulators with Arbitrary Chern Vectors  
*Linyun Yang (Southern University of Science and Technology); Xiang Xi (Southern University of Science and Technology); Yan Meng (Southern University of Science and Technology); Zhenxiao Zhu (Southern University of Science and Technology); Bei Yan (Southern University of Science and Technology); Gui-Geng Liu (Nanyang Technological University); Baile Zhang (Nanyang Technological University); Zhen Gao (Southern University of Science and Technology);*

- 17:25 Tunable Topological States in Typical Two-dimensional Intrinsic Magnetic Topological Materials  
*Jiaheng Li ();*

- 17:40 Brillouin Klein Space and Half-turn Space in Three-dimensional Acoustic Crystals  
*Zhenxiao Zhu (Southern University of Science and Technology); Zhen Gao (Southern University of Science and Technology);*

- 17:55 Observation of Topological Properties of Non-Hermitian Acoustic Crystals with Diversified Coupled Resonators Units  
*Weiying Sun (Guangdong University of Technology); Kaiyan Zhang (Guangdong University of Technology); Li Luo (Guangdong University of Technology); Xin Zhang (Guangdong University of Technology);*

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#### Session 4P7

#### Emerging Technologies in Optical Metasurfaces

Thursday PM, April 25, 2024

Room 7 - Xiling

Organized by Dandan Wen, Xianzhong Chen

Chaired by Xianzhong Chen

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- 13:00 Metasurfaces for Engineering 3D Polarization Structures and Grafted Vortex Beams  
 Invited *Xianzhong Chen (Heriot-Watt University);*

- 13:20 Efficient Polarization Conversion with Double-layer Metal Metasurface  
 Invited *Yan Zhang (Capital Normal University); Jingyu Liu (Capital Normal University); Xinke Wang (Capital Normal University);*

- 13:40 Multi-foci Metalens with Customized Polarization and Dispersion  
*Ruozing Wang (North China Electric Power University);*

- 13:55 Nanoprinted Diffractive Layers-integrated Vertical-cavity Surface-emitting Vortex Lasers with Scalable Topological Charge  
*Yibo Dong (University of Shanghai for Science and Technology); Xinyuan Fang (University of Shanghai for Science and Technology);*

- 14:10 The Complex Optical Response of Hybrid Metasurfaces  
 Invited

*D. Ray (Indian Institute of Technology Kanpur); A. Kiselev (Swiss Federal Institute of Technology Lausanne (EPFL)); Olivier J. F. Martin (Swiss Federal Institute of Technology Lausanne (EPFL));*

- 14:30 Vectorial Holography for Independent Intensity and Polarization Control

*Kai Pan (Northwestern Polytechnical University); Xuanguang Wu (Northwestern Polytechnical University); Liang Zhou (Northwestern Polytechnical University); Bing-Yan Wei (Northwestern Polytechnical University); Dong Li (Northwestern Polytechnical University); Sheng Liu (Northwestern Polytechnical University); Peng Li (Northwestern Polytechnical University); Dexing Yang (Northwestern Polytechnical University); Jian-Lin Zhao (Northwestern Polytechnical University); Dandan Wen (Northwestern Polytechnical University);*

- 14:45 Design Method for Broadband Metasurfaces with a Function of a Two-dimensional Axicon Lens  
*Tsutomu Nagayama (Kagoshima University);*

#### 15:00 Coffee Break

- 16:00 Topological Corner States of 2D SSH Metasurfaces for Wireless Power Transfer  
*Jie Jiang (Tongji University); Zhiwei Guo (Tongji University); Hong Chen (Tongji University);*

- 16:15 Visible and Near-infrared Spectroscopy Based on Silicon Metasurface  
*Kaikai Gao (Northwestern Polytechnical University); Dandan Wen (Northwestern Polytechnical University);*

- 16:30 Tunable All-dielectric Metasurface with Indium Tin Oxide for Active Control of Light Transmission  
*Ruize Ma (Northwestern Polytechnical University); Dandan Wen (Northwestern Polytechnical University);*

- 16:45 Inverse Design of Metasurface with Arbitrary Q-factor  
 Invited *Fano Resonance via Bidirectional Neural Networks*  
*Qingguo Du (Wuhan University of Technology); Lei Zhang (Wuhan University of Technology); Yi Tian (Wuhan University of Technology); Song Sun (Wuhan University of Technology);*

- 17:05 Monocular Metasurface Camera for Single-shot Multi-dimensional Imaging  
 Invited *Yuanmu Yang (Tsinghua University);*

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#### Session 4P8a

#### Integrated Nano-opto-(electro-)mechanical Systems (NOEMS and NOMS)

Thursday PM, April 25, 2024

Room 8 - Guixiang

Organized by Huan Li, Lei Wan

Chaired by Huan Li, Lei Wan

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13:00 Frequency Conversion in Optomechanical Microresonators  
Invited

Zhen Shen (*University of Science and Technology of China*); Yan-Lei Zhang (*University of Science and Technology of China*); Guan-Ting Xu (*University of Science and Technology of China*); Mai Zhang (*University of Science and Technology of China*); Yu Wang (*University of Science and Technology of China*); Cheng-Zhe Chai (*University of Science and Technology of China*); Changling Zou (*University of Science and Technology of China*); Guang-Can Guo (*University of Electronic Science and Technology of China*); Chun-Hua Dong (*University of Science and Technology of China*);

13:20 Several Novel Applications of Integrated Optomechanical Devices  
Invited

Lei Shi (*Huazhong University of Science and Technology*);

13:40 The Casimir Effect and Its Applications in Micro/Nano Manipulations

Lixin Ge (*Xinyang Normal University*); Xi Shi (*Shanghai Normal University*); Ke Gong (*Xinyang Normal University*);

13:55 Mode-coupling and Phonon Dynamics in Nano-electromechanical Systems  
Invited

Guangwei Deng (*University of Electronic Science and Technology of China*);

14:15 Efficient and Wideband Acousto-optic Modulation Based on Chalcogenide Loaded Lithium Niobate on Insulator Platform  
Invited

Jiantao Jiang (*Jinan University*); Lei Wan (*Jinan University*); Jiyang Huang (*Jinan University*); Hongyi Huang (*Jinan University*); Weiping Liu (*Jinan University*); Zhaohui Li (*Sun Yat-sen University*);

14:35 Highly Efficient In-plane Electronic-photon-phononic Circuit Crossings for Suspended Silicon Photonics  
Invited

Bingrui Lu (*Technical University of Denmark*); Babak Vosoughi Lahijani (*Technical University of Denmark*); Marcus Albrechtsen (*Technical University of Denmark*); Rasmus E. Christiansen (*Technical University of Denmark*); Christian A. Rosiek (*Technical University of Denmark*); Konstantinos Tsoukalas (*Technical University of Denmark*); Mathias T. Sutherland (*Technical University of Denmark*); Soren Stobbe (*Technical University of Denmark*);

14:55 Harnessing MEMS to Expand the Horizons of Silicon Photonics: Optical Switch, Programmable Photonics, LiDAR, and Ultrasound Sensor  
Invited

Sangyoon Han (*Daegu Gyeongbuk Institute of Science and Technology (DGIST)*);

15:15 Integrated Silicon Photonic MEMS Devices and Circuits  
Invited

Huan Li (*Zhejiang University*); Yinpeng Hu (*Zhejiang University*); Ye Lu (*Zhejiang University*); Qian Ma (*Zhejiang University*); Daoxin Dai (*Zhejiang University*);

15:35 Coffee Break

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**Session 4P8b**  
**Liquid Crystal Photonics**

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**Thursday PM, April 25, 2024**

**Room 8 - Guixiang**

Organized by Deng-Ke Yang

Chaired by Peter Palffy-Muhoray, Huai Yang

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16:00 Flexoelectric Effect in Liquid Crystals and Its Applications in Smart Window

Deng-Ke Yang (*Kent State University*); Yunho Shin (*Kent State University*); Yingfei Jiang (*Kent State University*); Suman Halder (*Kent State University*); Ziyuan Zhou (*Kent State University*); Xinfang Zhang (*Kent State University*); Lang Hu (*Kent State University*);

16:15 Nontrivial Polar Switching in Ferroelectric Nematic Fluids  
Invited

Satoshi Aya (*South China Advanced Institute for Soft Matter Science and Technology (AISMST)*);

16:30 Ferroelectric Nematic Liquid Crystal Materials with Large Birefringence and Low Driving Voltage

Mingjun Huang (*South China University of Technology*); Satoshi Aya (*South China University of Technology*); Yaohao Song (*South China University of Technology*);

16:45 Beam Shaping via Photopatterned Liquid Crystals  
Invited

Wei Hu (*Nanjing University*); Chun-Ting Xu (*Nanjing University*); Quan-Ming Chen (*Nanjing University*);

17:00 Photopatterning of Molecular Orientations and Its Applications  
Invited

Miao Jiang (*Southern University of Science and Technology*); Hai Yun (*Southern University of Science and Technology*); Songxu Jiang (*Southern University of Science and Technology*); Hao Chen (*Southern University of Science and Technology*); Qi-Huo Wei (*Southern University of Science and Technology*);

17:15 Chirality and Optical Torque

Xiaoyu Zheng (*Kent State University*); Peter Palffy-Muhoray (*Kent State University*);

17:30 Intelligent Light Transmittance Controllable Films Based on a Polymer Dispersed & Stabilized Liquid Crystal System  
Invited

Huai Yang (*Peking University*);

17:50 Photoelectric Display Film of Liquid Crystals

Zemin He (*Northwestern Polytechnical University*); Zongcheng Miao (*Northwestern Polytechnical University*);

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**Session 4P9a**  
**Advanced Materials and Devices for**  
**Photoelectric Detection**

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**Thursday PM, April 25, 2024**

**Room 9 - Xinyu**

Organized by Yan-Li Shi, Donghai Wu

Chaired by Yan-Li Shi, Donghai Wu

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13:00 Broadband Colloidal Quantum-dot Infrared Imagers

Invited

*Xin Tang (Beijing Institute of Technology);*

13:15 HOT MWIR Photodetector Development with Ga-free Type-II Superlattices

Invited

*Donghai Wu (Institute of Semiconductor, CAS); Yifan Shan (Institute of Semiconductors, Chinese Academy of Sciences); Dongwei Jiang (Institute of Semiconductors, Chinese Academy of Sciences); Hongyue Hao (Institute of Semiconductors, Chinese Academy of Sciences); Guowei Wang (Institute of Semiconductors, Chinese Academy of Sciences); Yingqiang Xu (Institute of Semiconductors, Chinese Academy of Sciences); Zhichuan Niu (Institute of Semiconductors, Chinese Academy of Sciences);*

13:30 Se-stabilized HgTe Quantum Dots for High-performance Photodetectors

Invited

*Mengxuan Yu (Huazhong University of Science and Technology); Ji Yang (Huazhong University of Science and Technology); Xingchen Zhang (Huazhong University of Science and Technology); Mohan Yuan (Huazhong University of Science and Technology); Xinzhen Lan (Huazhong University of Science and Technology);*

13:45 Infrared Photodetection Based on Plasmon-induced Hot Carriers

*Yuanfang Yu (Nanjing University of Posts and Telecommunications);*

14:00 Key Technologies of SPAD Interface Circuit

Invited

*Lixia Zheng (Southeast University);*

14:15 Neuron Inspired Printable Photochromic Micro Power Supply

Invited

*Zelin Lu (Beihang University); Fan Wang (Beihang University); Xiaolan Zhong (Beihang University);*

14:30 Digital Readout Techniques for Infrared Focal Plane Arrays

Invited

*Libin Yao (Kunming Institute of Physics);*

14:45 Linear/Single-photon Dual-mode Adaptive Detection in the Near-infrared with InGaAs/InP SPAD

Invited

*Linshan Sun (Shandong University); Junliang Liu (Shandong University); Yakui Dong (Shandong University); Yongfu Li (Shandong University); Xian Zhao (Shandong University);*

15:00 Recent Progress in Type II Superlattice Based MW-LW

Invited Dual-band Infrared Photodetectors

*Ming Liu (North China Research Institute of Electro-Optics); Yunong Hu (North China Research Institute of Electro-Optics); Peng Zhou (North China Research Institute of Electro-Optics);*

15:15 Enhancing Infrared Detection through Metamaterial Perfect Absorber and Metasurface Micro-lens Array

Invited

*Song Yue (Institute of Microelectronics of the Chinese Academy of Sciences); Xinyu Liu (Institute of Microelectronics of Chinese Academy of Sciences); Maojing Hou (Institute of Microelectronics of Chinese Academy of Sciences); Ran Wang (Institute of Microelectronics of Chinese Academy of Sciences); Zichen Zhang (Institute of Microelectronics of Chinese Academy of Sciences);*

15:35 **Coffee Break**

16:00 Performance Optimization of 3-gain-stage InGaAs/InAlAs Avalanche Photodetector

Invited

*Tong Sun (Beijing University of Posts and Telecommunications); Xiaoning Guan (Beijing University of Posts and Telecommunications); Xueyan Yang (Beijing University of Posts and Telecommunications); Pengfei Lu (Beijing University of Posts and Telecommunications); Feng Zhou (Beijing University of Posts and Telecommunications);*

16:15 A Discussion on the Design Space of GaN APDs

Invited

*Dong Ji (The Chinese University of Hong Kong);*

16:30 Deep UV Photodetector with Ultra-low Dark Current Using Self-assembled hBN Nanosheets

Invited

*Qiang Li (Xi'an Jiaotong University); Qifan Zhang (Xi'an Jiaotong University); Feng Yun (Xi'an Jiaotong University); Tao Wang (University of Sheffield); Yue Hao (Xidian University);*

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**Session 4P9b**  
**Advanced Simulation Methods, Designs and**  
**Mechanisms for Energy Photonics**

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**Thursday PM, April 25, 2024**

**Room 9 - Xinyu**

Organized by Zhenhai Yang, Guoyang Cao

Chaired by Zhenhai Yang, Guoyang Cao

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17:15 Optical and Electrical Analysis of an Advanced 4T All-perovskite Tandem Solar Cell

*Zhaosheng Xia (Anhui University); Xingang Ren (Anhui University); Shengyang Wei (Anhui University); Zhi-Xiang Huang (Anhui University);*

**Session 4P10a****Antennas, Array Antennas, MIMO Antenna for 5G****Thursday PM, April 25, 2024****Room 10 - Shuliu**

Chaired by Mikhail Sergeyevich Mikhailov, Qing Zhao

- 13:00 Toward Dual-band Circularly Polarized Antenna for High-precision Marine BeiDou Satellite Navigation Application — Improvements of Antenna Structure and Feed Network  
*Yan Zhang (Dalian Maritime University); Hongmei Liu (Dalian Maritime University); Sihan Liu (Dalian Maritime University); Youjie Zeng (Dalian Maritime University); Shuo Li (Dalian Maritime University);*
- 13:30 Millimeter Wave Broadband Antenna in Package for 5G Communication  
*Guo-Hong Du (University of Science and Technology of China); Mingli Chen (Chengdu University of Information Technology); Yunhao Li (Chengdu University of Information Technology); Xiangyong Mou (Chengdu University of Information Technology); Xiaofeng Sun (Chengdu University of Information Technology);*
- 13:45 A Four-element Ultra-wideband MIMO Antenna with High Isolation for IOT Applications  
*Lu Yi Liu (Tongji University); Peng Rui Zhang (Tongji University); Ajay K. Poddar (Synergy Microwave Corporation); Ulrich L. Rohde (Synergy Microwave Corporation); Mei Song Tong (Tongji University);*
- 14:15 An SISL High Gain Filtering Dielectric Resonator Antenna for 5G Millimeter-wave Applications  
*Hongyan Yuan (Tianjin University); Ningning Yan (Tianjin University); Yu Luo (Tianjin University); Kaixue Ma (Tianjin University);*

**Session 4P10b****Metamaterials/Metasurface Antennas****Thursday PM, April 25, 2024****Room 10 - Shuliu**

Chaired by Yujie Zhang

- 14:45 A High-gain Circularly Polarized Magnetolectric Dipole Antenna Array  
*Jin Tian (Jimei University); Jun Xiao (Jimei University); Jing Wu (Jimei University); Qiubo Ye (Jimei University);*
- 15:00 Design of Flexible Wearable Antenna Based on Artificial Magnetic Conductor Structure  
*Yong Zhou (NUIST); Jiajie Zhuang (NUIST); Jiahao Zhou (NUIST);*

- 15:15 Enhanced Wideband Circularly Polarized Fabry-Perot Antenna with Dual-layer Partially Reflective Surface for X-band Satellite Communications  
*Muhammad Usman Raza (Xi'an Jiaotong University); Sen Yan (Xi'an Jiaotong University);*

**15:30 Coffee Break**

- 16:00 Dual-band Artificial Magnetic Conductor for Wi-Fi Antenna  
*Junyu Zhou (Guangdong Polytechnical Normal University); Yanwen Zhang (Guangdong Polytechnical Normal University); Xiahua Dong (Guangdong Polytechnical Normal University); Jiahao Huang (Guangdong Polytechnical Normal University); Qingchong Liu (Zhejiang University); Yizhou Jin (Guangdong Polytechnical Normal University); Hui Liu (Guangdong Polytechnical Normal University);*
- 16:15 Changing Polarization from Linear to Circular for Ultra-wideband Antenna by Metasurface Structure  
*Yue Wu (Hebei University of Technology); Hong-Xing Zheng (Hebei University of Technology);*
- 16:30 Holographic Stealth Antenna Based on Resonant Absorbing Metasurface  
*Yao Zhou (Southwest University of Science and Technology); Wei Tong Min (Southwest University of Science and Technology); Lunyi Liu (Southwest University of Science and Technology); Yue Hu (Southwest University of Science and Technology); Qi Chen (Southwest University of Science and Technology);*
- 16:45 Reconfigurable Intelligent Electromagnetics: From Antenna to Surface Design  
*Yujie Zhang (National University of Singapore); Xudong Chen (National University of Singapore);*
- 17:00 A Miniaturized Low-profile Wideband Pattern Diversity Metasurface Antenna for 5G-NR  
*Zhangmin Wang (Southwest Jiaotong University); Quanyuan Feng (Southwest Jiaotong University); Xuan He (Southwest Jiaotong University); Tao Li (Southwest Jiaotong University);*
- 17:15 A Transverse Scanning Periodic Leaky Wave Antenna Loaded with Metamaterials  
*Tao Li (Southwest Jiaotong University); Quanyuan Feng (Southwest Jiaotong University); Xuan He (Southwest Jiaotong University); Zhangmin Wang (Southwest Jiaotong University);*
- 17:30 An Efficient Machine Learning-based Optimization Method for Broadband Metasurface Antennas  
*Jianing Zhao (University of Electronic Science and Technology of China);*

- 17:45 Impedance Matching Layer for Enhancing Transmission Efficiency of Dual-band Implantable Antenna  
*Yibo Pan (University of Electronic Science and Technology of China); Wenjie Fu (University of Electronic Science and Technology of China); Dun Lu (University of Electronic Science and Technology of China); Qinglin Zeng (University of Electronic Science and Technology of China); Fengqiong Zeng (University of Electronic Science and Technology of China); Yang Yan (University of Electronic Science and Technology of China);*

- 14:30 Silicon-based Optical Phased Arrays for Beamforming & Steering and Related Applications  
 Invited *Guihan Wu (Nanjing University); Shicong Yang (Nanjing University); Yu Xin (Nanjing University); Wei Jiang (Nanjing University);*

- 14:50 Recent Progress in Chip-scale Lidar Using Optical Phased Array  
 Invited *Tianbo Sun (LightIC Technologies Ltd);*

15:30 **Coffee Break**

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#### Session 4P11a

#### Beamforming in Optical and RF Domain 2

Thursday PM, April 25, 2024

Room 11 - Xiangyu

Organized by Lei Zhang, Xin Fu

Chaired by Lei Zhang, Xin Fu

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- 13:00 Integrated Optical Phased Array for Solid-state LiDAR  
 Invited *Hao Hu (Technical University of Denmark);*

- 13:20 Microwave Photonic Beamforming Chip  
 Invited *Binfeng Yun (Southeast University);*

- 13:40 Research on Focal Plane Array Chips for Lidar Applications  
 Invited *Pengfei Wang (Institute of Semiconductor, Chinese Academy of Science); Lei Yu (Institute of Semiconductors, Chinese Academy of Sciences); Yifan Xin (Institute of Semiconductors, Chinese Academy of Sciences); Yejin Zhang (Institute of Semiconductors, Chinese Academy of Science); Jiaoqing Pan (Institute of Semiconductors, Chinese Academy of Science);*

- 14:00 The Phase Encoding Signal Generation Based on the Time Domain Mode Locking Optoelectronic Oscillator  
*Feng Xiong (Hubei University); Yalan Wang (Air Force Early Warning Academy); Jichen Weng (Air Force Early Warning Academy); Yibei Wang (Hubei University); Jin Zhang (Air Force Early Warning Academy); Anle Wang (Air Force Early Warning Academy); Hongyi Wang (Air Force Early Warning Academy); Xiaotong Liu (Air Force Early Warning Academy); Dongyu Li (Air Force Early Warning Academy); Dangwei Wang (Air Force Early Warning Academy); Xiaoni Peng (Hubei University);*

- 14:15 Wafer-thick GaAs Photonic-electronic Platform for Fast Terahertz Beam Steerers  
*Alexander Shurakov (Moscow Pedagogical State University); A. Prihodko (National Research University "Higher School of Economics"); I. Belikov (National Research University "Higher School of Economics"); Grigory N. Gol'tsman (Moscow Pedagogical State University);*

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#### Session 4P11b

#### Unconventional Antenna Array Design, Beamforming and DOA Estimation Algorithms

Thursday PM, April 25, 2024

Room 11 - Xiangyu

Organized by Le Zuo, Yanhui Liu

Chaired by Yanhui Liu, Le Zuo

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- 16:00 An Ultra-wideband Circular Array Interferometer and Direction Finding Algorithm  
*Qiancheng Ying (Southwest Institute of Electronic Equipment); Le Zuo (Southwest Institute of Electronic Equipment);*

- 16:15 A High-gain 3D-printed Phased Array Antenna for Satellite Applications  
*Jiahao Xie (Science and Technology on Electronic Information Control Laboratory); Kuo Zhang (Southwest Electronic Equipment Research Institute); Le Zuo (Southwest Institute of Electronic Equipment);*

- 16:30 Design of Low Cross Polarization Phased Antenna Arrays for X-band Spaceborne SAR Applications  
*Kuo Zhang (Southwest Electronic Equipment Research Institute); Jiahao Xie (Science and Technology on Electronic Information Control Laboratory); Zhen-Yang Liu (Science and Technology on Electronic Information Control Laboratory); Song-Tao Yu (Xidian University);*

- 16:45 Synthesis of Ultra-wideband Beam Scanning Sparse Planar Antenna Arrays by Iterative Convex Optimization with Fermat Spiral Initialization  
*Yang Liu (University of Electronic Science and Technology of China); Liyang Chen (University of Electronic Science and Technology of China); Yanhui Liu (University of Electronic Science and Technology of China);*

- 17:00 Polarization Control Method for the Main Lobe Based on Phase-only Beamforming  
*Dongwei Lu (National University of Defense Technology); Jiazhi Ma (National University of Defense Technology);*

- 17:15 Application of X-band High Isolation Phased Array Payload in Satellite Data Transmission Communication  
*Zhen-Yang Liu (Science and Technology on Electronic Information Control Laboratory); Kuo Zhang (Southwest Electronic Equipment Research Institute); Hongfei Bao (Science and Technology on Electronic Information Control Laboratory); Yang Song (Science and Technology on Electronic Information Control Laboratory);*
- 17:30 Design of the Real-time Control System for a Large-scaled Phased Array Based on High-speed Serial Bus  
*Wei Wang (Science and Technology on Electronic Information Control Laboratory);*
- 17:45 Fast and Accurate 2-D DOA Estimation with Uniform Circular Array Interferometers Exploiting Integral Transform  
*Le Zuo (Southwest Institute of Electronic Equipment); J. Nie (Southwest Institute of Electronic Equipment); H. Zhang (Southwest Institute of Electronic Equipment);*

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**Session 4P12a**  
**THz Technology**

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**Thursday PM, April 25, 2024**

**Room 12 - Siji 1**

Chaired by Amine El Moutaouakil, Xinlong Xu

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- 13:15 Broadband Photonic Terahertz Frequency-hopping Source Based on Two-stage Optical Injection Locking  
*Zhencan Yang (University of Electronic Science and Technology of China); Fan Yang (University of Electronic Science and Technology of China); Yuchao Liu (University of Electronic Science and Technology of China); Mo Li (University of Electronic Science and Technology of China); Jian Zhang (University of Electronic Science and Technology of China);*
- 13:30 Orbitronics: Light-induced Orbital Currents in Ni Studied by Terahertz Emission Experiments  
*Yong Xu (Beihang University); Fan Zhang (Beihang University); Albert Fert (Beihang University); Henri-Yves Jaffres (Université Paris-Saclay); Yongshan Liu (Beihang University); Renyou Xu (Beihang University); Yuhao Jiang (Beihang University); Houyi Cheng (Beihang University); Weisheng Zhao (Beihang University);*
- 13:45 Nonlinear Optical Responses in Metamaterials  
*Xinlong Xu (Northwest University);*
- 14:00 Terahertz Emission Spectrum Characterization Using an Imaging Array and a Metamaterial Wavelength Encoder  
*Meng Chen (National Engineering Research Center for Dangerous Articles and Explosives Detection Technologies); Ruifeng Liu (National Engineering Research Center for Dangerous Articles and Explosives Detection Technologies); Yingxin Wang (Tsinghua University); Ziran Zhao (Tsinghua University);*

- 14:15 Tunable THz Transmittance of Si Nanofilms by Graphene Plasmon Polaritons  
*Yunhui Wu (University of Tokyo); Yuriy A. Kosevich (Russian Academy of Science); Jose Ordonez-Miranda (Centre National de la Recherche Scientifique); Kazuhiko Hirakawa (University of Tokyo); Sebastian Volz (Centre National de la Recherche Scientifique); Masahiro Nomura (The University of Tokyo);*

15:30 **Coffee Break**

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**Session 4P12b**  
**Microwave and Millimeter Wave Circuits and Devices 2**

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**Thursday PM, April 25, 2024**

**Room 12 - Siji 1**

Chaired by Nagendra Prasad Yadav

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- 14:45 Hierarchical Cascading Technique for Single Periodic SAW Models  
*Shaoqing Duan (East China Normal University); Lei Kuang (East China Normal University);*
- 15:00 Four-channel Wavelength Selective Switch Based on Vernier Second-order Microring Resonators with Asymmetric Coupling Regions  
*Tao Song (Beijing University of Posts and Telecommunications); Lei Zhang (Beijing University of Posts and Telecommunications); Xu Yang (The 54th Research Institute of China Electronic Technology Group Corporation);*
- 15:15 **Coffee Break**
- 16:00 A Resistor-free Absorptive Common-mode Filter Based on Transmission Space Separation Structure  
*Wensheng Zhao (Hangzhou Dianzi University); Yi-Hao Ma (Hangzhou Dianzi University);*
- 16:30 Investigation of Magneto-dielectric Material Properties Using Substrate Integrated Waveguide Structure  
*Junas Haidi (Institut Teknologi Bandung); Agustinus Agung Nugroho Sulisty Hutomo (Institut Teknologi Bandung); Achmad Munir (Bandung Institute of Technology);*
- 16:45 High Selectivity Filtering Power Divider Based on SAW Resonator  
*Zhongxian Zheng (Xi'an Jiaotong University); Jitao Chen (Xi'an Jiaotong University); Jianxing Li (Xi'an Jiaotong University); Sen Yan (Xi'an Jiaotong University); Juan Chen (Xi'an Jiaotong University); Wen Jie Zhang (Xi'an Jiaotong University);*

- 17:00 High Out-band Rejection, Ultra-wideband, Compact Band Pass Filter Based on SSPPs-DGS  
*Haihong Liu (Wuhan University of Science and Technology); Lingling Yang (Wuhan Software Engineering Vocational College); Yongzhi Cheng (Wuhan University of Science and Technology); Hui Luo (Wuhan University of Science and Technology); Fu Chen (Wuhan University of Science and Technology); Xiangcheng Li (Wuhan University of Science and Technology);*
- 17:15 The Design and Realization Technology of the Amplitude Flatness of Multi-chip Interconnect in Ka Band Broadband Inverter  
*Meixia Ma (China Academy of Space Technology); Jinhua Yu (China Academy of Space Technology);*

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### Session 4P13

### Quantum Secure Communication and Its Beyond

Thursday PM, April 25, 2024

Room 13 - Siji 2

Organized by Shuang Wang, Qiang Zhou

Chaired by Qiang Zhou, Yun-Ru Fan

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- 13:00 Entangled Two Photon Source in the Mid-infrared Band  
 Invited *Zhi-Yuan Zhou (University of Science and Technology of China); Zheng Ge (University of Science and Technology of China); Baosen Shi (University of Science and Technology of China);*
- 13:20 Free-space Continuous-variable Quantum Key Distribution: Techniques and Experiments  
 Invited *Peng Huang (Shanghai Jiao Tong University); Shiyu Wang (Shanghai Jiao Tong University); Shurong Wei (Shanghai Jiao Tong University); Ping Wang (Shanghai Jiao Tong University); Mingqi Zhang (Shanghai Jiao Tong University); Feiyu Ji (Shanghai Jiao Tong University); Guihua Zeng (Shanghai Jiao Tong University);*
- 13:40 Quantum Key Distribution and Multiparty Quantum Cryptography  
 Invited *Hua-Lei Yin (Nanjing University);*
- 14:00 Controlled Quantum Teleportation of Polarization State  
 Invited *Zhihui Yan (Shanxi University); Jieli Yan (Shanxi University); Xiaojun Jia (Shanxi University); Changde Xie (Shanxi University); Kunchi Peng (Shanxi University);*
- 14:20 Demonstration of Fiber-based Quantum Secure Clock Synchronization Network  
 Invited *Bo Liu (National University of Defense Technology); Bangying Tang (National University of Defense Technology); Huan Chen (National University of Defense Technology); Hui Han (National University of Defense Technology); Bo Xu (National University of Defense Technology); Fang-Zhao Li (National University of Defense Technology); Wanrong Yu (National University of Defense Technology);*

- 14:40 AlGaAs Bragg Reflection Waveguide Entangled Photon Pair Source for Quantum LAN  
 Invited *Bin Niu (Science and Technology on Monolithic Integrated Circuits and Modules Laboratory); Xiaodong Zheng (Nanjing Electronic Devices Institute); Xu Jing (Nanjing Normal University); Cheng Qian (Nanjing Normal University); Yufu Li (Nanjing Electronic Devices Institute); Yuechan Kong (Nanjing Electronic Devices Institute); Tangsheng Chen (Nanjing Electronic Devices Institute); Liangliang Lu (Nanjing Normal University);*
- 15:00 Topological Switch for Entanglement States in Non-Hermitian Quantum Walks  
 Invited *Tian Chen (Beijing Institute of Technology);*
- 15:20 Practical Source Security of On-chip Continuous Variable Measurement Device Independent Quantum Key Distribution  
*Lang Li (Shanghai Jiao Tong University); Tao Wang (Shanghai Jiao Tong University); Peng Huang (Shanghai Jiao Tong University); Yuehan Xu (Shanghai Jiao Tong University); Xu Liu (Shanghai Jiao Tong University); Huanxi Zhao (Shanghai Jiao Tong University); Guihua Zeng (Shanghai Jiao Tong University);*
- 15:35 **Coffee Break**
- 16:00 Coherent Photons and Coherent Spins from Low-noise GaAs Quantum Dots  
 Invited *Liang Zhai (University of Basel); Nguyen Giang N. (University of Basel); Clemens Spinnler (University of Basel); Julian Ritzmann (Ruhr-Universität Bochum); Alisa Javadi (University of Basel); Matthias C. Loebl (University of Basel); Mark R. Hogg (University of Basel); Marcel Erbe (University of Basel); Hans-Georg Babin (Ruhr-Universität Bochum); Andreas D. Wieck (Ruhr-Universität Bochum); Arne Ludwig (Ruhr-Universität Bochum); Richard J. Warburton (University of Basel);*
- 16:20 Continuous-variable Quantum Key Distribution Access Network  
 Invited *Tao Wang (Shanghai Jiao Tong University); Yuehan Xu (Shanghai Jiao Tong University); Lang Li (Shanghai Jiao Tong University); Xu Liu (Shanghai Jiao Tong University); Zicong Tan (Shanghai Jiao Tong University); Peng Huang (Shanghai Jiao Tong University); Guihua Zeng (Shanghai Jiao Tong University);*
- 16:40 Integrated Quantum Photonics with Silicon Carbide  
 Invited *Yu Zhou (Harbin Institute of Technology (Shenzhen));*
- 17:20 Progresses on Security of Measurement-device-independent Quantum key Distribution  
 Invited *Zhen Qiang Yin (University of Science and Technology of China);*

17:40 Experimental Study on Silicon Photonics Integrated Continuous Variable Quantum Key Distribution  
 Invited Xuyang Wang (Shanxi University); Tao Zheng (Shanxi University); Yanxiang Jia (Shanxi University); Yu Zhang (Shanxi University); Yunjie Zhang (Shanxi University); Yizhuo Hou (Shanxi University); Yuqi Shi (Shanxi University); Qianru Zhao (Shanxi University); Jun Zou (Zhejiang University); Yongmin Li (Shanxi University);

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### Session 4P14a

#### Efficient Processing and Interference Mitigation for Multidimensional Radar Signals

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Thursday PM, April 25, 2024

Room 14 - Siji 3

Organized by Ye Yuan, Wujun Li

Chaired by Wei Yi

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- 13:00 Persymmetric Target Detection with Data Dividing Dimensionality Reduction  
 Juexin Zhang (Aerospace System Engineering Shanghai); Mingwen Li (Aerospace System Engineering Shanghai); Haoyuan Lu (Aerospace System Engineering Shanghai); Xiaoquan Jiao (Aerospace System Engineering Shanghai);
- 13:15 Motion Compensation Based Track-before-detect Methods for Automotive Radar System  
 Qing Miao (University of Electronic Science and Technology of China); Pan Mou (University of Electronic Science and Technology of China); Miao Li (University of Electronic Science and Technology of China); Wujun Li (University of Electronic Science and Technology of China); Wei Yi (University of Electronic Science and Technology of China);
- 13:45 Robust Target Detection of Multi-band Coherent Processing UWB Systems  
 Jiale He (Tsinghua University); Zongyao Zhao (Tsinghua University); Jianhua Pei (Tsinghua University); Yuhan Dong (Tsinghua University);
- 14:00 Adjacent Multi-extended Targets Tracking in Traffic Scenes  
 Yunlian Tian (University of Electronic Science and Technology of China); Wunjun Li (University of Electronic Science and Technology of China); Wei Yi (University of Electronic Science and Technology of China);
- 14:15 Naive Bayesian Classifier-based Collaborative Tracking and Recognition for Multi-radar Systems  
 Shuoyang Ma (University of Electronic Science and Technology of China); Ye Yuan (University of Electronic Science and Technology of China); Wei Yi (University of Electronic Science and Technology of China);

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### Session 4P14b

#### Remote Sensing and Polarimetry, SAR

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Thursday PM, April 25, 2024

Room 14 - Siji 3

Chaired by Xiongyao Xie, Yunhua Wang

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- 14:30 Analysis of Microphysical Characteristics of Icing Clouds Based on Aircraft Probing  
 Wenhui Yan (Chinese Flight Test Establishment); Wei Cheng (Beijing Institute of Applied Meteorology); Tiantian Yu (Chengdu University of Information Technology); Yue Sun (Institute of Atmospheric Physics, Chinese Academy of Sciences); Hui Xiao (Institute of Atmospheric Physics, Chinese Academy of Sciences); Shuangshuang Bian (State Key Laboratory of Geo-Information Engineering); Jinzhi Liao (China Meteorological Administration Radar Meteorology Key Laboratory);
- 14:45 Comparative Study of Wind Field Measurements by Networked Weather Radars in the Hangzhou Area  
 Zhangwei Wang (Zhejiang Atmospheric Observation Technology Support Center); Jing Liang (Chengdu University of Information Technology); Jie Fu (Chengdu University of Information Technology); Hao Chen (Zhejiang Atmospheric Observation Technology Support Center); Han Wang (Zhejiang Atmospheric Observation Technology Support Center); Xiaoqiong Zhen (Chengdu University of Information Technology); Tiantian Yu (Chengdu University of Information Technology);
- 15:00 Investigation of Particle Spectra and Atmospheric Vertical Velocity Inversion under Non-precipitating Conditions  
 Jie Fu (Meteorological Observation Centre, CMA); Fa Tao (Meteorological Observation Centre, CMA); Tiantian Yu (Chengdu University of Information Technology); Xiaoqiong Zhen (Chengdu University of Information Technology);
- 15:15 Design and Application of Dual-polarization Weather Radar Signal Simulator  
 Yuxiang Wen (Chengdu University of Information Technology); Zhao Shi (Chengdu University of Information Technology); Jianxin He (Chengdu University of Information Technology);
- 15:30 **Coffee Break**
- 16:00 Attitude Error Analysis of Interferometric Radar Altimeter in the Ocean Surface Height Measurement  
 Qian Li (Ocean University of China); Yunhua Wang (Ocean University of China); Yanmin Zhang (Ocean University of China); Hanwei Sun (Beijing Institute of Radio Measurement);
- 16:15 A Research on Input Schemes of Polarimetric SAR Classification through Convolutional Neural Networks  
 Shuaiying Zhang (National University of Defense Technology); Zhen Dong (National University of Defense Technology); Wentao An (National Satellite Ocean Application Service);



- 16:30 A New Improved Three-stage Tree Height Inversion Algorithm Based on PolInSAR  
*Chenghao Lu (University of Electronic Science and Technology of China); Taoli Yang (University of Electronic Science and Technology of China); Hanwen Yu (University of Electronic Science and Technology of China);*
- 16:45 Multitarget Vital Signs Detection Based on MIMO-FMCW Radar  
*Lele Qu (Shenyang Aerospace University); Yang Yan (Shenyang Aerospace University); Qiyue Hu (Shenyang Aerospace University);*
- 17:00 View-spatial-attention Augmentation on Multi-view Micro-Doppler Spectra for Hidden Human Activity Recognition  
*Yimeng Zhao (Chengdu University of Technology); Jianqi Wang (Fourth Military Medical University); Yong Jia (Chengdu University of Technology); Fu Gui Qi (Fourth Military Medical University);*
- 17:15 Radiometer Can be Used for Disclosing Stealth  
*Chao Wu (Harbin Institute of Technology); Shuang Qiu (Hainan Hongke Innovation Research Institute Co., LTD); Jing-Hui Qiu (Harbin Institute of Technology); Oleksandr Denisov (Hainan Hongke Innovation Research Institute Co., LTD); Vasyl Molebny (Hainan Hongke Innovation Research Institute Co., LTD);*
- 17:30 GPR Data Analysis System Utilizing Artificial Intelligence and Elastic Compute Service for Backfill Grouting Thickness Detection in Shield Tunnels  
*Kang Li (Tongji University); Xiongyao Xie (Tongji University); Changfu Huang (Tongji University); Biao Zhou (Tongji University); Honglin Lin (Xiamen Rail Transit Group Co Ltd);*
- 17:45 Inversion of Microphysical Parameters Based on Dual-polarization Radar  
*Wenhui Yan (Chinese Flight Test Establishment); Wei Cheng (Beijing Institute of Applied Meteorology); Tiantian Yu (Chengdu University of Information Technology); Yue Sun (Institute of Atmospheric Physics, Chinese Academy of Sciences); Hui Xiao (Institute of Atmospheric Physics, Chinese Academy of Sciences); Shuangshuang Bian (State Key Laboratory of Geo-Information Engineering); Jinzhi Liao (China Meteorological Administration Radar Meteorology Key Laboratory);*
- 13:00 A Switched-Huygens-subgridding-based Combined FDTD-PITD Method for Fine Structures  
*Mingjun Chi (Xi'an Jiaotong University); Xikui Ma (Xi'an Jiaotong University); Liang Ma (Xi'an Jiaotong University);*
- 13:15 Comparison of Time Integration Methods for the FDTD Method in Lossy Media  
*Ru Xiang (Xi'an Jiaotong University); Xikui Ma (Xi'an Jiaotong University); Liang Ma (Xi'an Jiaotong University); Mingjun Chi (Xi'an Jiaotong University); Jiawei Wang (Xi'an Jiaotong University);*
- 13:30 An Upwind Condition-based Hybrid FDTD-PITD Method for Multiscale Problems  
*Liang Ma (Xi'an Jiaotong University); Xi-Kui Ma (Xi'an Jiaotong University); Mingjun Chi (Xi'an Jiaotong University); Ru Xiang (Xi'an Jiaotong University); Xiaojie Zhu (Xi'an Jiaotong University);*
- 13:45 Numerical Calculation for Electromagnetic Radiation of RF MEMS Switch with a Cantilever Beam Based on FDTD Method  
*Wei Wang (Xi'an Jiaotong University); Jiawei Wang (Xi'an Jiaotong University); Minyu Mao (Xi'an Jiaotong University); Jinghui Shao (Xi'an Jiaotong University);*
- 14:00 Numerical Analysis of Transient Electromagnetic Responses in Cuboidal Cavities Exposed to X-ray Radiation  
*Xuesong Meng (Institute of Computational Mathematics and Applied Physics); Guangrong Li (Institute of Computational Mathematics and Applied Physics); Lingyu Zhang (Institute of Applied Physics and Computational Mathematics);*
- 14:15 Analysis of Transmission Coefficients in Multilayer Media Structures Using Scale Compressed Finite-Difference Time-Domain Method  
*Yilin Kang (Anhui University); Naixing Feng (Anhui University); Yuxian Zhang (Anhui University); Xiaoli Feng (Anhui University); Huan Wang (Anhui University); Jiuyang Fan (Anhui University); Lixia Yang (Anhui University); Zhi-Xiang Huang (Anhui University);*
- 14:30 Application of Mur Absorbing Boundary Condition for Time Domain Integral Equation  
*Jing Yang (Northwest Institute of Nuclear Technology); Mengtong Qiu (Northwest Institute of Nuclear Science); Zhizhen Zhu (Northwest Institution of Nuclear Technology); Yayun Dong (Northwest Institution of Nuclear Technology); Fei Cao (High-Tech Institute of Xi'an); Chuan He (Xi'an Research Institute of High Technology);*
- 14:45 Development Strategy of Teaching Textbooks in Military Academies under the Background of Digitalization  
*Zhi-Ming Deng (Naval Petty Officer Academy);*

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#### Session 4P15a

#### Advanced Time-domain Electromagnetic Methods and FDTD-based Methods for Multiscale Electromagnetic Analysis

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Thursday PM, April 25, 2024

Room 15 - Siji 4

Chaired by Eng Leong Tan, Xuesong Meng

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- 15:00 Electromagnetic Field Prediction in 2D Inhomogeneous Distributions of Permeability with Galerkin Neural Operator  
*Xiuzhen Gong (Nanjing University of Aeronautics and Astronautics); Zheng-Yu Huang (Nanjing University of Aeronautics and Astronautics); Eng Leong Tan (Nanyang Technological University); Xuezhi Zheng (KU Leuven); Yi-Ru Zheng (Nanjing University of Aeronautics and Astronautics); Han-Yan Duan (Nanjing University of Aeronautics and Astronautics); Feng Jiang (Nanjing University of Aeronautics and Astronautics);*
- 15:15 Revisiting Maxwell Equations on Field-Potential Dilemmas: Resolution, FDTD Computation and Enhanced Learning  
*Eng Leong Tan (Nanyang Technological University);*
- 15:30 **Coffee Break**

**Session 4P15b****Computational Electromagnetics, Hybrid Methods and EMC 3****Thursday PM, April 25, 2024****Room 15 - Siji 4**

Chaired by Eng Leong Tan, Xuesong Meng

- 16:00 Sensitivity Testing Method and Characteristics Study of Active Filtering Amplifiers  
*Shixiang Zhou (Beihang University); Hui Xu (Beihang University);*
- 16:15 The Electromagnetic Shielding Fabric Based on Graphene Layer-by-layer Assembly Improves the Absorption and Shielding Performance  
*Yajing Wang (Xi'an Polytechnic University); Xiuchen Wang (Xi'an Polytechnic University); Zhe Liu (Xi'an Polytechnic University);*
- 16:45 Adverse Effect Reduction of Pores on Shielding Effectiveness of Electromagnetic Shielding Fabric via Split Ring Resonator  
*Xiuchen Wang (Xi'an Polytechnic University); Zhuowu Yu (Xi'an Polytechnic University); Yajing Wang (Xi'an Polytechnic University); Zhe Liu (Xi'an Polytechnic University);*

**Session 4P15c****Plasma, Electromagnetic Theory & Applications****Thursday PM, April 25, 2024****Room 15 - Siji 4**

Chaired by Thomas T. Y. Wong

- 17:00 Electromagnetic Charge Density with a Causal Current Density Vector and Infinite Speed of Light  
*Namik Yener (Istanbul Commerce University);*

- 17:15 Circuits Perspective of an Elementary Green's Function for the Poisson's Equation  
*Xavier Crawford (Illinois Institute of Technology); Huiying Deng (Illinois Institute of Technology); Thomas T. Y. Wong (Illinois Institute of Technology);*
- 17:30 Copper-doped BiFeO<sub>3</sub> Prepared by Solution Plasma for Electrocatalytic Nitrate Reduction to Ammonia  
*Yuxiang Li (Shihezi University); Zongguan Wang (Shihezi University); Feng Yu (Shihezi University); Bin Dai (Shihezi University);*
- 17:45 Study on Reflection and Transmission Characteristics of Electromagnetic Waves Propagation in Different Medium Based on Constitutive Parameters  
*Sulistyaningsih (Institut Teknologi Bandung); Umar Khayam (Institut Teknologi Bandung); Achmad Munir (Bandung Institute of Technology);*

**Session 4P18a****Optical Manipulation of Micro-nano Objects****Thursday PM, April 25, 2024****Room 18 - Meilan**

Organized by Fuxing Gu, Hongbao Xin

Chaired by Fuxing Gu, Jiaxin Yu

- 13:00 Nanoscale Force Measurement in Solution by Ion-Invited resonance Optical Tweezers  
*Fan Wang (Beihang University);*
- 13:30 Exotic Optical Forces in Optical Tweezers  
Invited  
*Yuzhi Shi (Tongji University (TJU));*
- 13:45 Optothermal Tweezers: Bio-nanoparticle Manipulation and Identification  
Invited  
*Jiajie Chen (Shenzhen University); Jianxing Zhou (Shenzhen University); Xiaoqi Dai (Shenzhen University); Han Zhang (Shenzhen University); Junle Qu (Shenzhen University); Yonghong Shao (Shenzhen University);*
- 14:00 Versatile Nano-optomechanics: From Micro-manipulation to Meta-manipulation  
Invited  
*Tianyue Li (Nanjing University);*
- 14:15 Off-axis Trapping and Orbital Rotation of Micro/Nano-particles in a Light Beam  
Invited  
*Lei-Ming Zhou (Hefei University of Technology); X.-Y. Zhu (Hefei University of Technology);*
- 14:30 Photothermal-shock Tweezers and Nano-conventional Robots  
Invited  
*Fuxing Gu (University of Shanghai for Science and Technology);*
- 14:45 On-chip Optical Trapping and Mode Conversion with Integrated 3D Freeform Micro-optics  
Invited  
*Shaoliang Yu (Zhejiang Laboratory);*
- 15:00 Research Progress of Precision Sensing Based on Optical Tweezers in Vacuum  
Invited  
*Nan Li (Zhejiang University);*

15:15 A Nanowire-dimer Plasmonic Cavity with Advanced Optical Properties  
Invited Jiaxin Yu (*University of Shanghai for Science and Technology*);

15:35 **Coffee Break**

16:00 Optical Surface-wave Nano-tweezers for Particle Manipulation and Application  
Invited Changjun Min (*Shenzhen University*);

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### Session 4P18b

#### EM Manipulations with Advanced Materials in Metasurface and Antenna Applications

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**Thursday PM, April 25, 2024**

**Room 18 - Meilan**

Organized by Daping He, Bian Wu

Chaired by Bian Wu

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- 16:15 Topological Metadevices for Wireless Communication Based on Plasmonic Metasurface  
Sijie Li (*Shanghai Jiao Tong University*); Menglin L. N. Chen (*The Hong Kong Polytechnic University*); Ping Li (*Shanghai Jiao Tong University*);
- 16:30 Planar Monopole Graphene Assembled Film Based Antenna for Wi-Fi 6E Applications  
Zhi Luo (*Wuhan University of Technology*); Biao Chen (*Wuhan University of Technology*); Rongguo Song (*Wuhan University of Technology*); Haoran Zu (*Wuhan University of Technology*); Daping He (*Wuhan University of Technology*);
- 16:45 Design of Ultra-wideband Amplitude-adjustable Electromagnetic Absorber  
Ran Liu (*Xidian University*); Ding Zhang (*Xidian University*); Yu-Tong Zhao (*Xidian University*); Bian Wu (*Xidian University*);
- 17:00 A Non-Hermitian Sensing via Matching Singularities Using Multi-port Excitation  
Xintong Shi (*Central China Normal University*); Jing Jin (*Central China Normal University*); Hai Lin (*Central China Normal University*);
- 17:15 A Low-RCS Wearable Planar Monopole Antenna Based on Phase Cancellation  
Taotao Yan (*Xi'an Jiaotong University*); Pan Lu (*Xi'an Jiaotong University*); Jiaohao Zhang (*Naval University of Engineering*); Sen Yan (*Xi'an Jiaotong University*);
- 17:30 AE-D2NN: Autoencoder in Diffractive Neural Network Form  
Peijie Feng (*Peking University*); Zong-Kun Zhang (*Peking University*); Ming-Zhe Chong (*Peking University*); Yunhua Tan (*Peking University*);
- 17:45 Surface Termination and Interlayer Engineering Effects on the Microwave Absorption Properties of MXenes  
Jin Duan (*Xi'an Polytechnic University*); Zhe Liu (*Xi'an Polytechnic University*); Xiuchen Wang (*Xi'an Polytechnic University*);

- 18:00 Array Excitation of Localized Spoof Surface Plasmons  
Rui Zhou (*Central China Normal University*); Xintong Shi (*Central China Normal University*); Menglin L. N. Chen (*The Hong Kong Polytechnic University*); Hai Lin (*Central China Normal University*);

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### Session 4P19

#### Poster Session 8

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**Thursday PM, April 25, 2024**

**14:00 PM - 18:00 PM**

**Room Exhibition Area**

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- 1 A Wideband 1-Bit  $16 \times 16$  Electronically Reconfigurable Reflectarray at X-band  
Qia Wang (*China Academy of Space Technology (Xi'an)*); Jixiang Wan (*China Academy of Space Technology (Xi'an)*); Li Yu (*China Academy of Space Technology (Xi'an)*); Langtao Bai (*China Academy of Space Technology (Xi'an)*);
- 2 Estimation of Sea Ice Thickness Using FY-3E Data Based on Random Forest Method  
Hongying Li (*Nanjing University of Information Science and Technology*); Qingyun Yan (*Nanjing University of Information Science and Technology*); Yingqin Zhen (*Nanjing University of Information Science and Technology*);
- 3 Parasitic Effects Analysis and Equivalent Circuit Modeling of Tapered Serpentine Interconnects of On-chip FBAR up to 67 GHz  
Xin Cao (*Southwest University of Science and Technology*); Weiping Li (*East China Jiaotong University*); Qiangming Cai (*Southwest University of Science and Technology*); Longjian Zhou (*Southwest University of Science and Technology*); Yuyu Zhu (*Southwest University of Science and Technology*);
- 4 Pedestrian Gait Recognition Method Based on Micro-Doppler and Power Spectrum  
Benteng Lyu (*Harbin Institute of Technology at Weihai*); Aijun Liu (*Harbin Institute of Technology at Weihai*); Chang Jun Yu (*Harbin Institute of Technology at Weihai*); Shuai Xia (*Harbin Institute of Technology at Weihai*);
- 5 Dual-functional Metamaterial Device Controlled by a Singular Switch  
Yong-Diao Wen (*Nanjing University of Aeronautics and Astronautics*); Gang Li (*Science and Technology on Electromechanical Dynamic Control Laboratory*); Tie Li (*Science and Technology on Electromechanical Dynamic Control Laboratory*);

- 6 Analysis of the Influence of Ground Reflection on Far-field RCS Measurement in Non-darkroom Environment  
*Jinshi Liu (University of Electronic Science and Technology of China); Xiangbao Zhu (University of Electronic Science and Technology of China); Lin Qin (University of Electronic Science and Technology of China); Haoyu Wen (University of Electronic Science and Technology of China); Jiahao Zheng (University of Electronic Science and Technology of China); En Li (University of Electronic Science and Technology of China);*
- 7 A Wideband Filtering Rat-race Ring Coupler Based on Double-sided Parallel Striplines with Excellent Isolation  
*Bing Wang (Dalian Maritime University); Zhongbao Wang (Dalian Maritime University); Yan Zhang (Dalian Maritime University); Shipeng Zhao (Dalian Maritime University); Hongmei Liu (Dalian Maritime University);*
- 8 A Segmented Compensation Wide Operating Range Bandgap Reference Voltage Source  
*Hao He (Southwest Jiaotong University); Quanyuan Feng (Southwest Jiaotong University); Zujing Zhang (Southwest Jiaotong University);*
- 9 1-nm-resolution Sorting of sub-10-nm Nanoparticles Using a Dielectric Metasurface with Toroidal Responses  
*Hong Luo (Tongji University); Yuzhi Shi (Tongji University (TJU)); Xinbin Cheng (Tongji University);*
- 10 Retrieval of Global Total Precipitable Water over Sea Surfaces from MWHS-II/FY-3D Data Using the BP Neural Network  
*Yifan Zhang (Fudan University); Geng-Ming Jiang (Fudan University);*
- 11 Analysis of Magnetic Material Boundary Conditions Based on Generalized Maxwell Equations  
*Chao Wu (Harbin Institute of Technology); Shuang Qiu (Hainan Hongke Innovation Research Institute Co., LTD); Jing-Hui Qiu (Harbin Institute of Technology); Oleksandr Denisov (Hainan Hongke Innovation Research Institute Co., LTD); Vasyl Molebny (Hainan Hongke Innovation Research Institute Co., LTD);*
- 12 An Effective Finite Element Method for Maxwell Eigenvalue Problem in a Radial Inhomogeneous Medium  
*Wei Wang (Guizhou Normal University); Jihui Zheng (Guizhou Normal University); Jiayu Han (Guizhou Normal University);*
- 13 A Full-bridge LLC Resonator with Hybrid Control Mode for High-voltage Magnetron Power System  
*Gang Lei (Southwest University of Science and Technology); Zuxue Xia (Southwest University of Science and Technology); Wenhai Xia (Zhejiang Lierda Internet of Things Technology Co. Ltd.); Haoran Li (Southwest University of Science and Technology); Rui Cheng (Southwest University of Science and Technology); Yuyu Zhu (Southwest University of Science and Technology);*
- 14 Conformal Compact Metasurface for Enhancing Performance of Brain Ultra-low-field Magnetic Resonance Imaging System  
*Yu Liu (Tianjin University); Xia Xiao (Tianjin University); Xiangzheng Kong (Tianjin University); Yanwei Pang (Tianjin University);*
- 15 Design and Characterization of a Three-layer PCB Low-pass Filter for Enhanced Harmonic Suppression in Wi-Fi Frequency Bands: An Application of Characteristic Mode Analysis  
*Jingyan Mo (Nokia Shanghai Bell Inc.);*
- 16 Effects of PEA1 Post-treatments on the Ion Migration in Lead Iodide Perovskites  
*Puyang Li (Zhejiang University); Shengnan Liu (Zhejiang University); Wenjing Qi (Zhejiang University); Xiaokang Fu (Zhejiang University); Ke Zhou (Zhejiang University); Baodan Zhao (Zhejiang University); Dawei Di (Zhejiang University);*
- 17 Near Fields in Conical Horn Reflector Antenna in High Power Microwave Source Application  
*Shih-Chung Tuan (Asia Eastern University of Science and Technology); Shen Shou Max Chung (National Penghu University of Technology);*
- 18 Modelling and Analyses of the Range Gate Pull-off (RGPO) Effect on Radar Tracking  
*Yanfeng Wang (National University of Defense Technology); Qihua Wu (National University of Defense Technology); Tiehua Zhao (National University of Defense Technology); Xiaobin Liu (National University of Defense Technology); Feng Zhao (National University of Defense Technology); Shunping Xiao (National University of Defense Technology);*
- 19 Theory and Simulations of Frequency-locking Operation of a MW-level Gyrotron  
*Grigory G. Denisov (Institute of Applied Physics, Russian Academy of Sciences); Irina V. Zotova (Institute of Applied Physics, RAS); Ilya V. Zheleznov (Institute of Applied Physics, RAS); Andrey N. Kuftin (Institute of Applied Physics of the RAS); Naum S. Ginzburg (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Andrey Mikhailovich Malkin (Institute of Applied Physics, Russian Academy of Sciences); Alexander S. Sergeev (Institute of Applied Physics, Russian Academy of Sciences); M. V. Manuilov (Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)); Mikhail Yu. Glyavin (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences);*
- 20 Frequency-tunable Sub-THz Gyrotrons with External Mirrors  
*Ilya V. Bandurkin (Institute of Applied Physics RAS); Yuriy Kalynov (Institute of Applied Physics, RAS); Ivan V. Osharin (Institute of Applied Physics, RAS); Andrei V. Savilov (Institute of Applied Physics, RAS); Evgeny S. Semenov (Institute of Applied Physics of the Russian Academy of Sciences);*

- 21 Development of a Single-mode DFB Heterolaser with Surface-emitted Radiation Output  
*Ekaterina D. Egorova (Institute of Applied Physics, Russian Academy of Science); V. R. Baryshev (Institute of Applied Physics, Russian Academy of Sciences); Naum S. Ginzburg (Institute of Applied Physics, Russian Academy of Sciences); E. R. Kocharovskaya (Institute of Applied Physics, Russian Academy of Sciences); Andrey M. Malkin (Institute of Applied Physics, Russian Academy of Sciences); Vladislav Yur'evich Zaslavsky (Institute of Applied Physics, Russian Academy of Sciences); Morozov Sergey (Institute for Physics of Microstructures, Russian Academy of Sciences); Alexander S. Sergeev (Institute of Applied Physics, Russian Academy of Sciences);*
- 22 Angle-resolved Polarized Raman Spectroscopy of Layered Germanium Disulfide  
*Ilya Zavidovskiy (Moscow Center for Advanced Studies); A. S. Slavich (Moscow Center for Advanced Studies); M. K. Tatmyshevskiy (Moscow Center for Advanced Studies); A. N. Toksumakov (Moscow Center for Advanced Studies); A. V. Syuy (Moscow Center for Advanced Studies); K. V. Kravtsov (Moscow Center for Advanced Studies); Ivan Kruglov (Dukhov Research Institute of Automatics); D. A. Ghazaryan (Moscow Center for Advanced Studies); A. V. Arsenin (Moscow Center for Advanced Studies); V. S. Volkov (Yerevan State University); S. Novikov (Moscow Center for Advanced Studies);*
- 23 A Design of Linear Polarization Convert 2-bit Reconfigurable Reflectarray Element at Ku Band  
*Haoran Ye (Beihang University); Xurui Zhang (Beihang University); Yan Zhang (Beijing University of Aeronautics and Astronautics (BUAA));*
- 24 High Power Talbot Effect Based Tunable Divider of Millimeter Wave Beam  
*M. Yu. Shmelev (A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences); Grigory G. Denisov (Institute of Applied Physics, Russian Academy of Sciences); Dmitry I. Sobolev (Institute of Applied Physics, Russian Academy of Sciences);*
- 25 PT-symmetry Analysis by Manipulating Pump and Coupling Strength in Semiconductor Ridge Lasers  
*Yang Chen (Institute of Semiconductors, CAS); Yufei Wang (Institute of Semiconductors, CAS); Ting Fu (Institute of Semiconductors, CAS); Jingxuan Chen (Institute of Semiconductors, CAS); Yingqiu Dai (Institute of Semiconductors, CAS); Ziyuan Liao (Institute of Semiconductors, CAS); Haiyang Ji (Institute of Semiconductors, CAS); Guangliang Sun (Institute of Semiconductors, CAS); Wanhua Zheng (Institute of Semiconductors, CAS);*
- 26 Development of Printed Antenna Models for GNSS C-band Antennas  
*V. V. Trubetskoy (Moscow Technical University of Communications and Informatics (MTUCI)); A. M. Ignatov (National Research University "Moscow Power Engineering Institute"); Polina Mikhailovna Nikitina (National Research University "Moscow Power Engineering Institute"); S. A. Serov (National Research University "Moscow Power Engineering Institute"); Mikhail Sergeyevich Mikhailov (National Research University "Moscow Power Engineering Institute");*
- 27 Measurements of Millimeter Wave Radar from the Wave Tank at Low Incidence Angles  
*Qinghui Xu (Wuhan University); Chen Zhao (Wuhan University); Zezong Chen (Wuhan University); Sitao Wu (Wuhan University); Xiao Wang (Wuhan University); Haoyang Fan (Wuhan University); Faliang Guo (Wuhan University); Zhijie Hu (Wuhan University);*
- 28 Characterization of an Ion Trap Setup for Quantum Computations  
*Olga Lakhmanskaya (Russian Quantum Center); N. Morozov (Russian Quantum Center); N. Sterligov (Russian Quantum Center); E. Anikin (Russian Quantum Center); L. A. Akopyan (Russian Quantum Center); N. Matveev (Russian Quantum Center); K. Lakhmanskii (Russian Quantum Center);*
- 29 Circular Polarized Patch Antenna Array as an Element of the Antenna Field at 1.6 GHz  
*Mikhail Sergeyevich Mikhailov (National Research University "Moscow Power Engineering Institute"); Feras Habib Rammah (National Research University "Moscow Power Engineering Institute"); A. A. Komarov (National Research University "Moscow Power Engineering Institute");*
- 30 A Chipless Flexible Strain Sensor Based on Improved U-shaped Resonator Array  
*Han Zhang (Tongji University); Guo Chun Wan (Tongji University); Mei Song Tong (Tongji University);*
- 31 A Single-layer Unit of Reflectarray Antenna Based on Mandelbrot Fractal Geometry for Dual-band Communications  
*Hou Yi Ding (Tongji University); Lu Yi Liu (Tongji University); Yunyun Hu (Tongji University); Mei Song Tong (Tongji University);*
- 32 Chiral Metamaterial for Sensing Dielectric Objects Based on Cross-polarization Conversion Ratio at Microwave Frequencies  
*Akshay S. Nair (National Institute of Technology Calicut); Adithya Danaj (National Institute of Technology Calicut); Barkathulla Asrafali (Shenzhen University); Zhengbiao Ouyang (Shenzhen University); Natesan Yogesh (National Institute of Technology Calicut);*

- 33 Research on Pulsed Laser Doppler Vibration Measurement Method  
*Shengguo Zhou (National Key Laboratory of Electromagnetic Effect and Security on Marine Equipment and Nanjing Marine Radar Institute); Jinlong Tian (Nanjing Marine Radar Institute); Mingming Sun (Nanjing Marine Radar Institute); Yuan Huang (National Key Laboratory of Electromagnetic Effect and Security on Marine Equipment and Nanjing Marine Radar Institute); Weixiang Lv (Nanjing Marine Radar Institute); Xinmin Zhang (Nanjing Marine Radar Institute);*
- 34 Study on a Novel High-resolution and Wide-Swath SAR System with Mixed Baseline  
*Zongming Zhang (University of Electronic Science and Technology of China); Taoli Yang (University of Electronic Science and Technology of China); Chenghao Lu (University of Electronic Science and Technology of China);*
- 35 Design and Realization of Axial-mode Helix-conical Antenna for ISM Band Wireless Communication  
*Sania Asri Monica (Telkom University); Heroe Wijanto (Telkom University); Trasma Yunita (Institut Teknologi Bandung); Rheyuniarto Sahlendar Asthan (Institut Teknologi Sumatera); Achmad Munir (Bandung Institute of Technology);*
- 36 An Extended Maxwell Equation System  
*Xiufang Wang (Southwest Jiaotong University); Kemin Sheng (Southwest Jiaotong University); Hao Wang (Southwest Jiaotong University);*
- 37 Broadband Circularly Polarized Spin-selective Metadevice Based on Three-dimensional Printed Helical Structure  
*Shaojie Wang (Air Force Engineering University); Yuci Li (Air Force Engineering University); Tiefu Li (Air Force Engineering University); Ruichao Zhu (Air Force Engineering University); Jiafu Wang (Air Force Engineering University);*
- 38 Ship Detection by Tiangong-2 Interferometric Imaging Radar Altimeter  
*Xueyan Kang (National Space Science Center, Chinese Academy of Sciences); Yunhua Zhang (National Space Science Center, Chinese Academy of Sciences); Xiao Dong (National Space Science Center, Chinese Academy of Sciences); Wenshuai Zhai (National Space Science Center, Chinese Academy of Sciences);*
- 39 Machine Learning Algorithm Based Plant Root Contour Extraction in Edge Devices  
*Peng Zhao (Hainan University); Ting Fang Tan (Hainan University); Lihui Wang (Hainan University);*
- 40 Research on Construction Method of Dual-path Model Based on Complex Marine Environment  
*Lihui Wang (Hainan University); Yonghui Zhang (Hainan University); Zhenjia Chen (Hainan University); Po Shao (Hainan University); Ran Chen (Hainan University); Songkun Chu (Hainan University);*
- 41 A 94.6 to 105.2 GHz CMOS Power Amplifier Achieving 17 dBm  $P_{\text{sat}}$ , 12.5 dBm  $OP_{1\text{ dB}}$  and 11.5% PAE with a Digital Power Detection Loop  
*Liangming Lian (Guangzhou University); Yuxin Zhang (Guangzhou University); Yiqian Shan (Guangzhou University); Yuan Liang (Nanyang Technological University); Wen Jin (Guangzhou University); Ke Yang (Guangzhou University);*
- 42 Research on Background Electromagnetic Interference Suppression Method Based on MUSIC-LCMV Algorithm  
*Quan Deng (Southwest University of Science and Technology); Qiangming Cai (Southwest University of Science and Technology); Xin Cao (Southwest University of Science and Technology); Longjian Zhou (Southwest University of Science and Technology); Haoran Li (Southwest University of Science and Technology); Zhen-Yong Du (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yixiang Li (Chengdu Juji Millimeter Wave Technology Co., Ltd); Yuyu Zhu (Southwest University of Science and Technology); Yu-Teng Zheng (DeTooLIC Technology Co., Ltd.); Bo Pu (DeTooLIC Technology Co., Ltd.); Jun Fan (Southwest University of Science and Technology);*
- 43 A Hybrid Optical Fiber Interferometer Based on Capillary and Three-core Fiber for Refractive Index Detection  
*Jie Cao (Shanghai Maritime University); Feng Xu (Shanghai Maritime University); Ruichen Dai (Shanghai Maritime University); Mengjiao Ding (Shanghai Maritime University); Yunhe Zhao (Shanghai Maritime University);*
- 44 Quality Assessment of MAXSS Global Merged Wind Products under Tropical Cyclone Conditions  
*Weicheng Ni (National University of Defense Technology); Kaijun Ren (National University of Defense Technology); Yanlai Zhao (National University of Defense Technology); Wuxin Wang (National University of Defense Technology);*
- 45 Higher-order Topological Insulators in Metamaterials  
*Changsheng He (Fudan University); Shaojie Ma (Fudan University);*
- 46 Performance Analysis of Beamforming with Conjugate Field Matching in Phased Array Receiver  
*Kai Wang (Xinjiang Astronomical Observatory, CAS); L. Cao (Xinjiang Astronomical Observatory, Chinese Academy of Sciences); H. Yan (Xinjiang Astronomical Observatory, Chinese Academy of Sciences); M. Z. Chen (Xinjiang Astronomical Observatory, Chinese Academy of Sciences); X. F. Duan (Xinjiang Astronomical Observatory, Chinese Academy of Sciences); J. H. Li (Xinjiang Astronomical Observatory, Chinese Academy of Sciences);*

- 47 Zone Plate Based Method for Measurement of Shift or Thickness  
*Sergey S. Stafeev (Image Processing Systems Institute — Branch of the Federal Scientific Research Centre “Crystallography and Photonics” of RAS); Anton G. Nalimov (Image Processing Systems Institute — Branch of the Federal Scientific Research Centre “Crystallography and Photonics” of RAS); Elena Sergeevna Kozlova (Image Processing Systems Institute of the Russian Academy of Sciences); Victor V. Kotlyar (Image Processing Systems Institute — Branch of the Federal Scientific Research Centre “Crystallography and Photonics” of RAS);*
- 48 Poincare Beams in Sharp Focus  
*Vladislav D. Zaitsev (Samara National Research University); Sergey S. Stafeev (NRC Kurchatov Institute); Victor V. Kotlyar (Image Processing Systems Institute — Branch of the Federal Scientific Research Centre “Crystallography and Photonics” of RAS);*
- 49 The Influence of Radiation Distance on Microwave Coupling Efficiency in Microwave-assisted Rock Breakage  
*Xiaoyun Zhao (Chengdu University of Technology);*
- 50 Anomalous Electromagnetic Radiation Detection Method for Distributed Electromagnetic Spectrum Detection System Based on RF I/Q Signal in Pre-earthquake Period  
*Yupei Fan (Hainan Earthquake Agency); Zhenjia Chen (Hainan University); Ting Su (Hainan University);*
- 51 Simple and High-precision Polarization Rotation Measurement Based on a High-order Vector Vortex Beam  
*Guojian Li (Northwest Minzu University); Aning Ma (Lanzhou University);*
- 52 A 2.4GHz Wireless Power Transmission: Design and Testing  
*Muthia Dwiwulandari (Universitas Hasanuddin (UNHAS)); Elyas Palantei (Universitas Hasanuddin (UNHAS)); Intan Sari Areni (Universitas Hasanuddin); Zufahmi Rizal (Universitas Hasanuddin (UNHAS));*
- 53 Rapid FSS Design Method Based on Fourier Transform  
*Huanran Qiu (Xidian University); Jiaqi Han (Xidian University); Qiang Feng (Xidian University); Rui Xi (Xidian University); Ying Li (Zhejiang University); Hongsheng Chen (Zhejiang University); Bin Zheng (Zhejiang University); Long Li (Xidian University);*
- 54 Nonlinear Interaction Effects in a Three-mode Cavity Optomechanical System  
*Jing Qiu (Southwest Institute of Technical Physics); Li-Jing Jin (Institute for Quantum Computing, Baidu Research); Zhen-Yang Peng (Institute of Theoretical Physics, Chinese Academy of Science); Hai-Zhi Song (Southwest Institute of Technical Physics & UESTC); Stefano Chesi (Beijing Computational Science Research Center); Ying-Dan Wang (Institute of Theoretical Physics, Chinese Academy of Science);*
- 55 Quantum Magnetic Gradiometer with Entangled Twin Light Beams  
*Jun Chen (Shanghai Jiaotong University); Shuhe Wu (Shanghai Jiao Tong University); Guzhi Bao (Shanghai Jiao Tong University); Liqing Chen (East China Normal University); Weiping Zhang (Shanghai Jiao Tong University);*
- 56 Ultrafast Laser-induced Nano-structural Optical Storage Enhanced by Deep Learning  
*Chu-Han Wang (Shanghai Jiao Tong University); Jie Ma (Shanghai Jiao Tong University); Xiaoyun Xu (Shanghai Jiao Tong University); Tian-Yu Zhang (Shanghai Jiao Tong University); Ke Cheng (Shanghai Jiao Tong University); Xian-Min Jin (Shanghai Jiao Tong University);*
- 57 Impact of Cu Ions on Optical Properties of the Thin Film within Composition  $\text{Cu}_x(\text{In}_{0.6}, \text{Ga}_{0.4})_{2-x}\text{Se}_2$  and Their Application  
*Aeshah A. Alahmari (King Khalid University); El Sayed Said Yousef (King Khalid University); H. H. Hegazy (King Khalid University); A. M. Alsabi (King Khalid University);*
- 58 Systematic Evaluation of a Sub-Terahertz CMOS Wireless Link with an Interposer-based Mushroom Antenna in a Heterogeneous Technology  
*Guangyu Zhong (Guangzhou University); Zhikai Li (Guangzhou University); Yiqian Shan (Guangzhou University); Yuan Liang (Nanyang Technological University); Wen Jin (Guangzhou University); Ke Yang (Guangzhou University);*
- 59 Fault Diagnosis System for Automotive Air Conditioning Actuators Utilizing COPOD Algorithm  
*Hongwei Liu (Changjiang Polytechnic); Wenjing Peng (Tohoku University); Jing Xiao (Hubei Science and Technology College); Qingyao Wang (China Ship Development and Design Centre); Fang Chen (Changjiang Polytechnic); Luo Bo (Changjiang Polytechnic); Chong-Hua Fang (China Ship Development and Design Center);*
- 60 Sub-80-fs All-solid-state Kerr-lens Mode-locked Laser Based on Yb: GdScO<sub>3</sub> Crystal  
*Siyuan Niu (Xidian University); Yang Yu (Xidian University); Geyang Wang (Xidian University); Wenlong Tian (Xidian University); Xiaodong Xu (Jiangsu Normal University); Zhiyi Wei (Institute of Physics, Chinese Academy of Sciences); Jiangfeng Zhu (Xidian University);*
- 61 Research on Image Compression Technique by Deep Learning Algorithm with Semantic Coding and Decoding  
*Jiaqi Rong (Beijing University of Posts and Telecommunication); Dahai Han (Beijing University of Posts and Telecommunications); Min Zhang (Beijing University of Posts and Telecommunications); Xu Kun Chen (Beijing University of Posts and Telecommunications); Sihang Liu (Beijing University of Posts and Telecommunications);*

- 62 A Polarization Reconfigurable Microstrip Antenna Based on a Return-shape Slot  
*Hui Zhang (High-Tech Institute of Xi'an); Yanling Li (High-Tech Institute of Xi'an); Jianwei Zhan (High-Tech Institute of Xi'an); Fei Cao (High-Tech Institute of Xi'an);*
- 63 Synthesized Complex-frequency Excitation for Ultrasensitive Molecular Sensing  
*Kebo Zeng (University of Hong Kong); Chenchen Wu (National Center for Nanoscience and Technology); Xiangdong Guo (National Center for Nanoscience and Technology); Fuxin Guan (University of Hong Kong); Yu Duan (National Center for Nanoscience and Technology); Lauren L. Zhang (Harvard University); Xiaoxia Yang (National Center for Nanoscience and Technology); Na Liu (University of Stuttgart); Qing Dai (National Center for Nanoscience and Technology); Shuang Zhang (University of Hong Kong);*
- 64 Dimension-confined-growth of Crack-free PbS Nanoplates Array for Infrared Image Sensing  
*Yu Wan (Nanchang University); Yan Wang (Nanchang University); Shengpeng Yuan (Nanchang University); Zhiyang Wan (Nanchang University); Yan Lu (Nanchang University); Li Wang (Nanchang University); Qisheng Wang (Nanchang University);*
- 65 Plasmonic Metasurfaces and Metalenses Fabricated by Nano-imprinting Lithography  
*Yung-Chun Lee (National Cheng-Kung University);*
- 66 Chiral Photonic Crystals from Sphere Packing  
*Duanduan Wan (Wuhan University);*
- 67 Effect of Material and Creepage Distance on the Flashover Characteristics of Insulators under HEMP  
*Yixiong Wang (Northwest Institute of Nuclear Technology); Wei Chen (Northwest Institute of Nuclear Technology); Feng Qin (Northwest Institute of Nuclear Technology); Xin Nie (Northwest Institute of Nuclear Technology);*
- 68 Utilizing 'Non-Hermitian Gain' to Realize Ultra-high-quality-factors in Optical Manipulation Systems  
*Yang Li (Southern University of Science and Technology); Xiao Li (The Hong Kong University of Science and Technology); Jack Ng (Southern University of Science and Technology);*



| April 21 (Sunday PM) |  |
|----------------------|--|
| Room 0 - Sichuan     | 0P0a - Mie-tronics and Metaphotonics 1<br>0P0b - Hot Topics in Photonics and Electromagnetics  |
| Room 1 - Yarui       | 0P1 - Quantum Biology and Quantum Devices 1  |
| Room 2 - Jincheng 3  | 0P2 - Quantum Sensing Methods and Applications   |
| Room 3 - Jincheng 2  | 0P3 - New Antennas and Testing Techniques for 5G/B5G Communications and Sensing Applications   |
| Room 4 - Jincheng 1  | 0P4 - Recent Advances in Optical Metasurfaces 1  |
| Room 5 - Yingbin     | 0P5 - Advances of Numerical Methods in Computational Electromagnetics  |
| Room 6 - Huanhua     | 0P6 - Plasmonics and Photonics for Sustainability 1  |
| Room 7 - Xiling      | 0P7a - Metasurface: Concepts and Applications<br>0P7b - Oral Presentations for Best Student Paper Awards --- CEM, EMC, Scattering & EM Theory  |
| Room 8 - Guixiang    | 0P8 - High Power Millimeter-wave and Terahertz Radiation Sources   |
| Room 9 - Xinyu       | 0P9 - Near-/Mid-/Far-Infrared Semiconductor Optoelectronic Devices: Fundamentals and Applications  |
| Room 10 - Shuliu     | 0P10a - Advances in EM Scattering and Propagation from Complex Land/Marine Environment: Theories, Measurements and Applications<br>0P10b - Wave Propagation and Scattering: Advances, Trends, and New Applications |
| Room 11 - Xiangyu    | 0P11 - Stimulated Scattering and Its Applications  |
| Room 12 - Siji 1     | 0P12 - Gyrotrons and Fast Wave Devices 1   |
| Room 13 - Siji 2     | 0P13 - Signal Processing Techniques in 4D Automotive Radar Imaging and Information Processing  |
| Room 14 - Siji 3     | 0P14 - Synthetic Aperture Radar System, Method and Applications 1  |
| Room 15 - Siji 4     | 0P15a - Progress in Electromagnetic Compatibility (EMC), Signal Integrity (SI), and Power Integrity (PI)<br>0P15b - Electromagnetic Modeling and Statistical Analysis of Dynamic Targets and Environments          |
| Room 16 - Mudan      | 0P16 - Nanophotonics and Topological Photonics 1   |
| Room 17 - Furong     | 0P17 - Light Emission from Particle-matter Interactions  |
| Room 18 - Meilan     | 0P18 - New Topics on Metasurfaces: Structured Light Shaping and Artificial Intelligence  |

|                     | April 22 (Monday AM)  | April 22 (Monday PM)   |
|---------------------|---|--|
| Room 1 - Yarui      | 1A1a - Quantum Biology and Quantum Devices 2<br>1A1b - Quantum Measurement and Metrology  | 1P1a - Quantum Information Processing and Devices<br>1P1b - Foundation and Implementation of Optical Quantum Information   |
| Room 2 - Jincheng 3 | 1A2a - Quantum Walks and Their Practical Applications<br>1A2b - Quantum Sensing   | 1P2 - Terahertz Meta-Devices 1 & 2   |
| Room 3 - Jincheng 2 | 1A3a - Antenna and Antenna Array Design for Radiative WPT and Energy Harvesting<br>1A3b - Advanced Design for Wideband and High-Gain Millimeter/Terahertz Lens Antennas | 1P3 - New Physics and Applications of Zero-index and Other Extraordinary Metamaterials   |
| Room 4 - Jincheng 1 | 1A4 - Reconfigurable Metasurfaces and Applications  | 1P4a - Special Session on Quantum Frontiers<br>1P4b - Quantum Chip   |
| Room 5 - Yingbin    | 1A5a - Microwave Photonics for Communication, Sensing and Measurements<br>1A5b - Plasmon-enhanced Raman Spectroscopy and Its Chemistry 1                                | 1P5a - Plasmon-enhanced Raman Spectroscopy and Its Chemistry 2<br>1P5b - Miniaturization of Optical Spectrometers  |
| Room 6 - Huanhua    | 1A6 - Non-Hermitian Physics: Theory and Applications 1  | 1P6 - Advances in Nanophotonics and Metasurfaces 1   |
| Room 7 - Xiling     | 1A7 - Nonlinear Optical Effect in Complex Nanostructures 1  | 1P7a - Nonlinear Optical Effect in Complex Nanostructures 2<br>1P7b - Integrated Microwave Photonics   |
| Room 8 - Guixiang   | 1A8 - Thermal Photonics: Fundamental Physics and Application 1  | 1P8 - Thermal Photonics: Fundamental Physics and Application 2   |
| Room 9 - Xinyu      | 1A9 - Nonclassical Plasmonics and Nonlinear Optics 1  | 1P9a - Nonclassical Plasmonics and Nonlinear Optics 2<br>1P9b - Advances in Nanophotonics/Plasmonics/Metasurfaces and Their Applications   |
| Room 10 - Shuliu    | 1A10a - Optical Interconnect Technologies for Datacom and Computercom<br>1A10b - Biotechnology Related to Electromagnetics  | 1P10a - Simulation of Radar Echo and Scattering Center Extraction Technology<br>1P10b - EM Modeling, and Inversion and Applications  |
| Room 11 - Xiangyu   | 1A11 - Biophotonics Part 1  | 1P11a - Biophotonics Part 2<br>1P11b - Biophotonics Part 3   |
| Room 12 - Siji 1    | 1A12a - Novel Electromagnetic Selective Structures and Applications<br>1A12b - Oral Presentations for Best Student Paper Awards --- Antennas and Microwave Technologies | 1P12a - Gyrotrons and Fast Wave Devices 2<br>1P12b - Microwave and Millimeter Wave Devices and Systems   |
| Room 13 - Siji 2    | 1A13 - Computational Imaging: Novel System Design and Reconstruction Algorithms 1   | 1P13a - Computational Imaging: Novel System Design and Reconstruction Algorithms 2<br>1P13b - Electromagnetic Quantitative Imaging via Machine Learning                                      |
| Room 14 - Siji 3    | 1A14 - Synthetic Aperture Radar System, Method and Applications 2   | 1P14 - Remote Sensing of Atmosphere, Ocean and Land Using GNSS and Other Sensors   |
| Room 15 - Siji 4    | 1A15a - Deep Learning Techniques in Computational Electromagnetics<br>1A15b - Emerging Computational Methodologies for Computer-aided EM Design and Optimization        | 1P15a - Numerical Methods in Analysis and Design of Metasurfaces<br>1P15b - Advanced Electromagnetic Methods and Channel Propagation Modeling in Indoor, Urban, and Terrestrial Environments |
| Room 16 - Mudan     | 1A16a - Topological Photonics: Fundamentals and Applications 1<br>1A16b - Wave Engineering in Complex Media   | 1P16 - Nanophotonics and Topological Photonics 2   |
| Room 17 - Furong    | 1A17 - Acoustic/Phononic Metamaterials, Metasurfaces, and Metadevices 1   | 1P17a - Acoustic/Phononic Metamaterials, Metasurfaces, and Metadevices 2<br>1P17b - Recent Advances and Applications in Photonic/Acoustic Metasurfaces                                       |
| Room 18 - Meilan    | 1A18 - Optical Metasurface for Light Manipulation and Novel Response  | 1P18 - Nascent Light-matter Interactions   |
| Exhibition Area     | 1A19 - Poster Session 1   | 1P19 - Poster Session 2  |

|                     | April 23 (Tuesday AM)   | April 23 (Tuesday PM)  |
|---------------------|---|--|
| Room 1 - Yarui      | 2A1a - Quantum Information Physics, Materials and Devices 1<br>2A1b - High-dimensional Quantum Information  | 2P1a - Quantum Information Physics, Materials and Devices 2<br>2P1b - Atomic Quantum Optics  |
| Room 2 - Jincheng 3 | 2A2 - Metasurface Inspired Antennas and Microwave Components  | 2P2 - Deep Learning-enabled Metasurface Design and Autonomous Meta-devices   |
| Room 3 - Jincheng 2 | 2A3a - Advanced Antenna Design Technologies for Pattern Diversity and Reconfigurability<br>2A3b - Compact Antennas and Their Arrays for Modern Wireless Communications                                  | 2P3 - Antenna Designs, Measurements, and Trends for 5G/B5G and Satellite Communications  |
| Room 4 - Jincheng 1 | 2A4 - Wave Phenomena in Space/Time Varying Metamaterials/Metasurfaces 1   | 2P4a - Wave Phenomena in Space/Time Varying Metamaterials/Metasurfaces 2<br>2P4b - Time-modulated Metamaterials and Time-variant Systems   |
| Room 5 - Yingbin    | 2A5 - The Merge of Artificial Intelligence and Nanophotonics for Optical Computing, Sensing and Imaging   | 2P5a - Optics for AR, VR, and MR<br>2P5b - Emerging Biomedical Applications of Optical Imaging and Spectroscopy  |
| Room 6 - Huanhua    | 2A6 - High Power Fiber Laser Technology and Applications  | 2P6a - Optical Skyrmions 1<br>2P6b - Optical Skyrmions 2   |
| Room 7 - Xiling     | 2A7 - Integrated Nonlinear Photonics: From Materials to Devices and Applications  | 2P7a - New Trends in Nonlinear Optics and Emerging Platforms for The Generation of Complex Light<br>2P7b - Photonics & Nanophotonics   |
| Room 8 - Guixiang   | 2A8a - Thermal Radiation: Principles, Progress, and Potentials 1<br>2A8b - Thermal Photonics: Fundamental Physics and Application 3   | 2P8 - Thermal Radiation: Principles, Progress, and Potentials 2  |
| Room 9 - Xinyu      | 2A9a - Hybrid Optoelectronics<br>2A9b - Advanced Light Source Using Integrated Photonics Technologies   | 2P9 - Non-Hermitian and Topological Phenomena with Electromagnetic Waves   |
| Room 10 - Shuliu    | 2A10a - Oral Presentations for Best Student Paper Awards --- Optics and Photonics<br>2A10b - Oral Presentations for Best Student Paper Awards --- Metamaterials, Plasmonics and Complex Media           | 2P10 - Interaction of Electromagnetic Waves with Ionized and Complex Media   |
| Room 11 - Xiangyu   | 2A11a - Fiber Sensing Tech. and Fiber-based Devices<br>2A11b - Discharge Plasma in Contact with a Liquid 1  | 2P11 - Discharge Plasma in Contact with a Liquid 2   |
| Room 12 - Siji 1    | 2A12 - AI/Machine Learning Based Modeling and Design Optimization Techniques in Microwaves  | 2P12 - High Power Microwave, Millimeter-Wave and Terahertz Wave Generation, Transmission and Radiation   |
| Room 13 - Siji 2    | 2A13a - EM Medical Sensing and Imaging for Healthcare: Recent Progress, Clinical Applications and Future Prospects<br>2A13b - Oral Presentations for Best Student Paper Awards --- Remote Sensing, etc. | 2P13a - Scientific Computing and Machine Learning in Subsurface Geophysical Prospecting<br>2P13b - Subsurface Detection and Imaging  |
| Room 14 - Siji 3    | 2A14 - Advanced Optimization and Intelligent Processing Methodologies for Radar Systems   | 2P14 - Remote Sensing of Water and Energy Cycles   |
| Room 15 - Siji 4    | 2A15 - Advanced Techniques in Electromagnetic Numerical Analysis and Applications   | 2P15a - Integral Equation Methods in Electromagnetics<br>2P15b - Intelligent Computing for Multiscale and Multiphysics Problem   |
| Room 16 - Mudan     | 2A16 - Topological Condensed Matter and Artificial System 1   | 2P16 - Topological Condensed Matter and Artificial System 2  |
| Room 17 - Furong    | 2A17 - Phononic Crystals, Acoustic/Elastic Metamaterials and Metasurfaces 1   | 2P17 - Mie-tronics and Metaphotonics 2   |
| Room 18 - Meilan    | 2A18 - Optical and Acoustic Manipulation: Fundamental and Application 1   | 2P18a - Optical and Acoustic Manipulation: Fundamental and Application 2<br>2P18b - Meta-optics for Multidimensional Light Field Control<br>2P18c - Multiplexing Metasurfaces for Integrated EM Wave Manipulations |
| Exhibition Area     | 2A19 - Poster Session 3   | 2P19 - Poster Session 4  |

|                     | April 24 (Wednesday AM)   | April 24 (Wednesday PM)  |
|---------------------|---|--|
| Room 1 - Yarui      | 3A1 - Quantum Computation and Quantum Simulation  | 3P1a - Quantum Light Source and Quantum Interference 1<br>3P1b - Quantum Light Source and Quantum Interference 2   |
| Room 2 - Jincheng 3 | 3A2 - Single Photon Detection: Device and Integration   | 3P2a - EM Modes in Metastructures and Their Applications<br>3P2b - ENZ Materials and ENZ Photonic Devices  |
| Room 3 - Jincheng 2 | 3A3a - Advanced Decoupling Networks for Large-scale Arrays<br>3A3b - Advanced Mode-inspired Antennas for 5G/B5G Communications  | 3P3 - Reconfigurable Array, Transmitarray, Conformal Array, Array Theory and Applications  |
| Room 4 - Jincheng 1 | 3A4 - Advances in Nanophotonics and Metasurfaces 2  | 3P4 - Electromagnetic Absorption, Thermal Manipulation and Their Coupling Effects 1 & 2  |
| Room 5 - Yingbin    | 3A5 - Advanced Photonic Technologies for Spectroscopic Applications 1   | 3P5a - Advanced Photonic Technologies for Spectroscopic Applications 2<br>3P5b - Optical Sensors for Professional and Consumer Use, with Add. Functionality Enabled by AI                        |
| Room 6 - Huanhua    | 3A6a - Non-Hermitian Optics and Photonics, and Exceptional Point<br>3A6b - Non-Hermitian Physics: Theory and Applications 2   | 3P6a - Plasmonics and Photonics for Sustainability 2<br>3P6b - Recent Advances in Optical Metasurfaces 2   |
| Room 7 - Xiling     | 3A7 - Integrated Photonics Beyond the Communication Waveband  | 3P7 - Advances in Tunable Photonic Integrated Waveguide Chips  |
| Room 8 - Guixiang   | 3A8 - High-Q Photonic Resonances in All-dielectric Nanostructures and Their Applications 1  | 3P8a - Nanomaterials and Nanophotonics for Sensing<br>3P8b - Harvesting Losses in Nanophotonics: Hot Electrons and Heat, Chirality, and Bio-sensing  |
| Room 9 - Xinyu      | 3A9 - Organic, Perovskite and Low-dimensional Light Sources: Emerging Phenomena and Applications  | 3P9 - Functional Optoelectronic Devices: Light Sources and Detectors   |
| Room 10 - Shuliu    | 3A10a - Measurement-computation Fusion for Advanced Applications<br>3A10b - RF-THz Physical, Chemical and Biological Sensors and Measurement  | 3P10a - Radar Target Scattering Signature Modeling and Application<br>3P10b - Micro-processing and Micro-fabrication with Lasers   |
| Room 11 - Xiangyu   | 3A11 - Advanced Optical and Digital Signal Processing in Optical Communication Networks 1   | 3P11a - Advanced Optical and Digital Signal Processing in Optical Communication Networks 2<br>3P11b - Optical Wireless Communication   |
| Room 12 - Siji 1    | 3A12a - Passive Microwave and Millimeter-wave Components and Their Application for RF Frontend<br>3A12b - Advanced Mode-Inspired Filtering Techniques for 5G+/6G Communications     | 3P12a - Recent Advances in AI Applications to the HPEM Effect of Electronic Systems<br>3P12b - Microwave and Millimeter Wave Circuits and Devices 1  |
| Room 13 - Siji 2    | 3A13a - New Mechanism and Data Processing of Ground Penetrating Radar<br>3A13b - Progress in Inversion Method and Machine Learning Enhanced Inversion Method and Their Applications | 3P13a - Quantum Technologies Related to EMs<br>3P13b - Advancement of UAV/Drone Applications for Earth Resource Monitoring<br>3P13c - Progress on EMs for Biomedical Imaging Methods and Systems |
| Room 14 - Siji 3    | 3A14 - Advanced Signal and Data Processing Methodologies for Multistatic Radar System   | 3P14 - Ocean and Coastal Remote Sensing: The AI Approach   |
| Room 15 - Siji 4    | 3A15a - Computational EMs, Hybrid Methods and EMC 1<br>3A15b - Efficient Algorithms in Computational EMs and Their Applications   | 3P15a - Advanced Modeling and Simulation Methods for Multiphysics and Multiscale Problems<br>3P15b - Numerical Methods for the Approximation of Maxwell's Equations                              |
| Room 16 - Mudan     | 3A16 - Topological Photonics: Fundamentals and Applications 2   | 3P16a - Bound States in the Continuum and Singular Optics 1<br>3P16b - Nanophotonics and Topological Photonics 3   |
| Room 17 - Furong    | 3A17a - Phononic Crystals, Acoustic/Elastic Metamaterials and Metasurfaces 2<br>3A17b - Physics and Applications in Photonic/Acoustic Micro-/Nano-Structures 1                      | 3P17 - Phononic Crystals, Acoustic/Elastic Metamaterials and Metasurfaces 3  |
| Room 18 - Meilan    | 3A18a - Structured Light: From Classical to Quantum 1<br>3A18b - Light-matter Interaction in Disordered Structures and The Photonic Applications                                    | 3P18a - Acoustic Topological Metamaterials 1<br>3P18b - Structured Light: From Classical to Quantum 2  |
| Exhibition Area     | 3A19 - Poster Session 5   | 3P19 - Poster Session 6  |

|                     | April 25 (Thursday AM)   | April 25 (Thursday PM)  |
|---------------------|--|---|
| Room 1 - Yarui      | 4A1 - Quantum Entanglement and Its Applications 1  | 4P1a - Quantum Entanglement and Its Applications 2<br>4P1b - Quantum Algorithms from The Ground Up  |
| Room 2 - Jincheng 3 | 4A2a - Advances in Modeling and Measurement Techniques for EM Safety Assessment and Biomedical Applications<br>4A2b - RF and Microwave Metamaterials for Wireless Communications 1 | 4P2a - RF and Microwave Metamaterials for Wireless Communications 2<br>4P2b - Active and Reconfigurable Metasurfaces: Fundamentals and Applications   |
| Room 3 - Jincheng 2 | 4A3 - Physics and Applications in Photonic/Acoustic Micro-/Nano-Structures 2   | 4P3 - Mie-tronics and Metaphotonics 3   |
| Room 4 - Jincheng 1 | 4A4a - Millimeter Wave and Terahertz Metasurfaces: Fundamentals and Applications<br>4A4b - Metamaterial Inspired Beam Steering Antennas  | 4P4a - Electromagnetic Metasurfaces and Their Applications in Antenna Designs<br>4P4b - Metamaterials & Metasurface 2   |
| Room 5 - Yingbin    | 4A5 - Ultrafast Optics   | 4P5a - Ultrafast Opto-spintronics Based Terahertz Radiation Sources and Their Applications<br>4P5b - Space Time Optics  |
| Room 6 - Huanhua    | 4A6 - Bound States in the Continuum and Singular Optics 2  | 4P6 - Acoustic Topological Metamaterials 2  |
| Room 7 - Xiling     | 4A7a - High-Q Photonic Resonances in All-dielectric Nanostructures and Their Applications 2<br>4A7b - Novel Optical Fiber Based Sensors  | 4P7 - Emerging Technologies in Optical Metasurfaces   |
| Room 8 - Guixiang   | 4A8 - Optical Soliton and Applications   | 4P8a - Integrated Nano-opto-(electro-)mechanical Systems (NOEMS and NOMS)<br>4P8b - Liquid Crystal Photonics  |
| Room 9 - Xinyu      | 4A9 - Low Dimensional Optoelectronic Materials and Advanced Semiconductor Lasers   | 4P9a - Advanced Materials and Devices for Photoelectric Detection<br>4P9b - Advanced Simulation Methods, Designs and Mechanisms for Energy Photonics  |
| Room 10 - Shuliu    | 4A10 - Theories, Experiments, and Applications: Ferroelectrics and Electroceramics   | 4P10a - Antennas, Array Antennas, MIMO Antenna for 5G<br>4P10b - Metamaterials/Metasurface Antennas   |
| Room 11 - Xiangyu   | 4A11a - LiDAR: Photonic Integration, Signal processing, Imaging, Applications<br>4A11b - Beamforming in Optical and RF Domain 1  | 4P11a - Beamforming in Optical and RF Domain 2<br>4P11b - Unconventional Antenna Array Design, Beamforming and DOA Estimation Algorithms  |
| Room 12 - Siji 1    | 4A12 - Terahertz Technology and Applications   | 4P12a - THz Technology<br>4P12b - Microwave and Millimeter Wave Circuits and Devices 2  |
| Room 13 - Siji 2    | 4A13a - SAR EM Scattering Characteristic Analysis, Extraction, Imaging and Recognition<br>4A13b - Advanced and Intelligent Techniques in EM Scattering and Imaging                 | 4P13 - Quantum Secure Communication and Its Beyond  |
| Room 14 - Siji 3    | 4A14 - Recent Advances in Random Medium Scattering Theory and Remote Sensing Techniques  | 4P14a - Efficient Processing and Interference Mitigation for Multidimensional Radar Signals<br>4P14b - Remote Sensing and Polarimetry, SAR  |
| Room 15 - Siji 4    | 4A15a - Computational EMs, Hybrid Methods and EMC 2<br>4A15b - Advanced Computational Electromagnetic Methods and Theory   | 4P15a - Advanced Time-domain EM Methods and FDTD-based Methods for Multiscale Electromagnetic Analysis<br>4P15b - Computational Electromagnetics, Hybrid Methods and EMC 3<br>4P15c - Plasma, Electromagnetic Theory & Applications |
| Room 16 - Mudan     |  |   |
| Room 17 - Furong    |  |   |
| Room 18 - Meilan    | 4A18a - Topological Optics<br>4A18b - Metamaterials & Metasurface 1  | 4P18a - Optical Manipulation of Micro-nano Objects<br>4P18b - EM Manipulations with Advanced Materials in Metasurface and Antenna Applications  |
| Exhibition Area     | 4A19 - Poster Session 7  | 4P19 - Poster Session 8   |

# Better Research with LINBOU



For over 8 years, LINBOU have been providing customized field scanners that are being used in top institutions [1], and achieving **good results** [2].

[1] Institutions such as:

Chinese Academy of Sciences, Tsinghua University, The Chinese University of Hong Kong, Zhejiang University, Nanjing University, Sun Yat-sen University, Tongji University, Southern University of Science and Technology, Harbin Institute of Technology (Shenzhen), The Hong Kong University of Science And Technology (Guangzhou), Singapore DSO laboratory, Nanyang Technological University, Gwangju Institute of Science and Technology.

[2] Results such as:

- 2022--**Nature**--Topological Chern vectors in three-dimensional photonic crystals
- 2019--**Nature**--Realization of a three-dimensional photonic topological insulator
- 2019--**Nature Material**--Acoustic higher-order topological insulator on a kagome lattice
- 2019--**Nature Physics**--Topological triply degenerate point with double Fermi arcs
- 2018--**Nature Physics**--Topologically protected refraction of robust kink states in valley photonic crystal
- 2017--**Nature Material**--Valley photonic crystals for control of spin and topology



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成都活力低温设备有限公司  
CHENGDU HOLY CRYOGENIC EQUIPMENT CO.,LTD.

# MBE液氮输送循环系统

Liquid Nitrogen Transport Circulation System for MBE Equipment

## 系统简介

### System Introduction

公司自主研发MBE设备专用液氮输送循环系统，是以真空绝热保温为基础的多功能自控系统。它由贮槽出液阀为始，MBE设备专用真空液氮接头为终，实现对液氮的输送、排杂质、减压、稳压、排氮气及循环利用等功能，全程均由低温传感器监测及PLC控制。采用动态真空系统，实时确保系统真空度。

目前，是国内稳定运行DCA、RIBER、FERMI等品牌设备的专业液氮输送循环系统厂商。

The Liquid Nitrogen Transport Circulation System starts from the storage tank and ends with the MBE equipment to realize the functions of liquid nitrogen transportation, impurity discharge, pressure reduction & regulation, nitrogen discharge and recycling. The whole process is monitored by cryogenic sensor and controlled by PLC, which can realize function switch between automatic and manual operation.

At present, The system stably operate MBE equipment from DCA, RIBER and FERMI manufacturers.



## 项目业绩表

### Performance Table

|       |                 |    |
|-------|-----------------|----|
| 2007年 | 中国电子科技集团 第十一研究所 | 2套 |
| 2014年 | 中国电子科技集团 第十一研究所 | 1套 |
| 2019年 | 中国科学院 上海技术物理研究所 | 1套 |
| 2019年 | 海思光电子有限公司       | 1套 |

|       |                 |    |
|-------|-----------------|----|
| 2020年 | 海思光电子有限公司       | 1套 |
|       | 中国科学院 上海技术物理研究所 | 1套 |
|       | 中国电子科技集团 第十一研究所 | 1套 |

|       |                 |    |
|-------|-----------------|----|
| 2021年 | 中国电子科技集团 第十一研究所 | 2套 |
|       | 北京邮电大学          | 1套 |
|       | 海思光电子有限公司       | 1套 |
|       | 烟台睿创微纳技术有限公司    | 1套 |
|       | 费勉仪器科技（南京）有限公司  | 1套 |

|       |                      |    |
|-------|----------------------|----|
| 2022年 | 中国电子科技集团 第十一研究所      | 4套 |
|       | 中国电子科技集团 第四十八研究所     | 3套 |
|       | 海思光电子有限公司            | 1套 |
|       | 中国科学院 苏州纳米技术与纳米仿生研究所 | 1套 |
|       | 中国科学院 沈阳科学仪器股份有限公司   | 1套 |
|       | 中国科学院 上海微系统与信息技术研究所  | 1套 |
|       | 青岛翼晨镭硕科技有限公司         | 1套 |
|       | 费勉仪器科技（南京）有限公司       | 1套 |
|       | 中国台湾项目               | 1套 |

|       |                   |    |
|-------|-------------------|----|
| 2023年 | 苏州焜原光电有限公司        | 4套 |
|       | 武汉延旌科技有限公司        | 2套 |
|       | 中国电子科技集团 第五十五研究所  | 1套 |
|       | 中国电子科技集团 第四十八研究所  | 1套 |
|       | 中国科学院 重庆绿色智能技术研究院 | 1套 |
|       | 费勉仪器科技（南京）有限公司    | 1套 |
|       | 普源精电科技股份有限公司      | 1套 |
|       | 俄罗斯项目             | 1套 |

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SDE > 95%



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DCR < 1 cps



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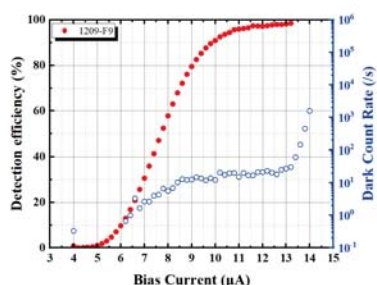


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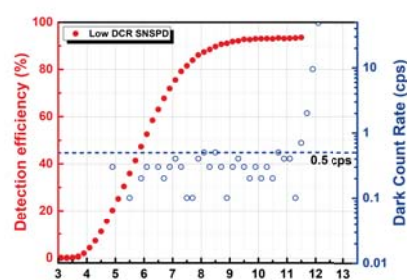
Users have published more than 70 high-level papers by using SNSPD products developed by Photec, including 3 in Nature, 1 in Science, 4 in Nature Photonics and 20 in PRL. In 2020, Our SNSPD were used to establish a quantum computer, named "Jiuzhang", which achieved quantum computational advantage.

Photec will keep developing unparalleled SNSPD to assist scientist to hit the limitation of physics.



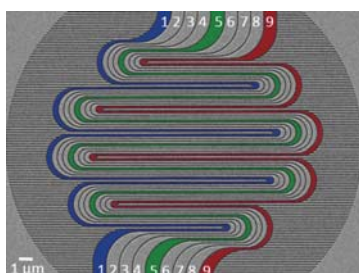
### High detection efficiency > 95%

- ◎ SDE > 95%, up to 98% @ 1550 nm
- ◎ Multiple wavelengths options: 532, 850, 1064, 1310, 1550, 2000 nm



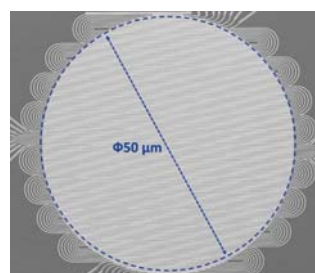
### Low dark count rate < 1 cps

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- ◎ Wavelength: 1550 ± 10 nm



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