

# IEEE-Xi'an

2024 IEEE 7th International Conference on  
Electronic Information and Communication  
Technology

2024 IEEE 第七届电子信息与通信技术国际会议

## [CONFERENCE PROGRAM]



西北工业大学  
NORTHWESTERN POLYTECHNICAL UNIVERSITY



IEEE



**Xi'an , China**  
July 30-August 2, 2024

# 2024 IEEE 7th International Conference on Electronic Information and Communication Technology

# 2024 ICEICT

## Conference Program

Organizers:



Co-organizers:





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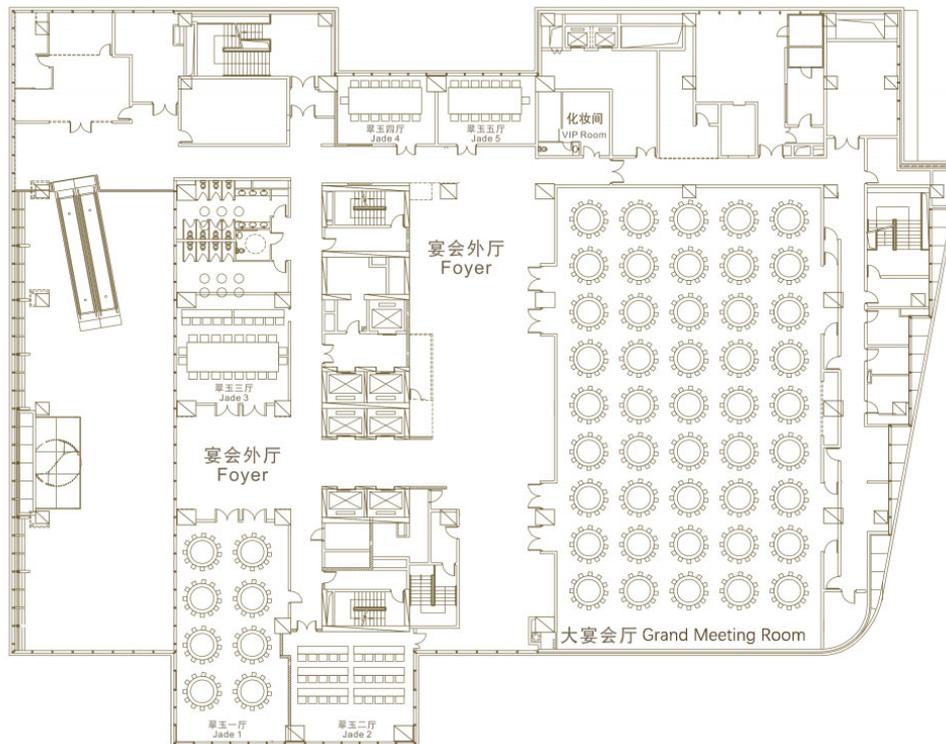


# Venue

## Conference Venue and Hotel: Holiday Inn

西安绿地假日酒店 (Holiday Inn Xi'an Greenland Century City)

Address: No.5 Jinye Road, High-Tech Industries Development Zone Xi'an



2<sup>nd</sup> floor plan of the venue

## Program at a Glance

Timeframe	Tuesday, July 30, 2024	
09:00-19:00	Registration	Hall of Holiday Inn 西安绿地假日酒店 1 楼大厅

Please scan below QR code to view photos of the event



The banner features the logos of Northwest Polytechnical University (西北工业大学) and IEEE at the top. The main title 'ICEICT 2024' is prominently displayed in large white letters against a blue background with circuit-like patterns. Below the title, the full name of the conference is written in English and Chinese. At the bottom of the banner, several co-organizer logos are shown, along with the location 'Xi'an, China' and the dates 'July 30-August 2, 2024'.

**2024 IEEE 7th International  
Conference on Electronic Information  
and Communication Technology**

July 30-August 2, 2024  
Xi'an, China



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THE PHOTOS OF THE EVENT

<b>Timeframe</b>	<b>Wednesday, July 31, 2024</b>	
<b>08:30-09:00</b>	<b>Opening Ceremony</b>	<b>2F Grand Meeting Room 2楼大宴会厅</b>
<b>09:00-09:30</b>	<b>Group Photo</b>	
<b>09:30-10:20</b>	<b>Plenary Speech I</b>	<b>Hosted by: Ying Liu</b>
<b>10:20-11:10</b>	<b>Plenary Speech II</b>	
<b>11:10-12:00</b>	<b>Plenary Speech III</b>	<b>Hosted by: Xiaoming Chen</b>
<b>12:00-13:30</b>	<b>Lunch</b>	
<b>13:30-15:15</b>	<b>Special Session 1 &amp; Topic 5</b>	<b>Jade 1 Meeting Room</b>
<b>13:30-15:30</b>	<b>Special Session 2 &amp; Topic 1</b>	<b>Jade 2 Meeting Room</b>
<b>13:30-15:25</b>	<b>Special Session 3</b>	<b>Jade 3 Meeting Room</b>
<b>13:30-15:20</b>	<b>Topic 7&amp; Topic 4</b>	<b>Jade 4 Meeting Room</b>
<b>13:30-15:30</b>	<b>Special Session 4 &amp; Topic 8 &amp; Topic 2</b>	<b>Jade 5 Meeting Room</b>
<b>13:30-15:30</b>	<b>Poster Session I</b>	<b>2F Hall</b>
<b>15:30-15:50</b>	<b>Coffee Break</b>	
<b>15:50-17:40</b>	<b>Special Session 6 &amp; Topic 2</b>	<b>Jade 1 Meeting Room</b>
<b>15:50-17:50</b>	<b>Special Session 7 &amp; Topic 2</b>	<b>Jade 2 Meeting Room</b>
<b>15:50-17:45</b>	<b>Special Session 8 &amp; Topic 3</b>	<b>Jade 3 Meeting Room</b>
<b>15:50-17:50</b>	<b>Special Session 9</b>	<b>Jade 4 Meeting Room</b>
<b>15:50-17:40</b>	<b>Special Session 10 &amp; Topic 3</b>	<b>Jade 5 Meeting Room</b>
<b>15:50-17:50</b>	<b>Poster Session II</b>	<b>2F Hall</b>
<b>18:00-20:00</b>	<b>Dinner</b>	
		<b>1F OASIS CAFÉ 1楼欧意咖啡厅</b>

<b>Timeframe</b>	<b>Thursday, August 1, 2024</b>		
<b>08:30-09:20</b>	<b>Plenary Speech IV</b>	<b>Hosted by: Yingsong Li</b>	<b>2F Grand Meeting Room 2楼大宴会厅</b>
<b>09:20-10:10</b>	<b>Plenary Speech V</b>	<b>Hosted by: Shigang Zhou</b>	
<b>10:10-10:40</b>	<b>Coffee Break</b>		
<b>10:40-11:30</b>	<b>Plenary Speech VI</b>	<b>Hosted by: Kuang Zhang</b>	
<b>11:40-13:30</b>	<b>Lunch</b>		<b>1F OASIS CAFÉ 1楼欧意咖啡厅</b>
<b>13:30-15:20</b>	<b>Special Session 12 &amp; Special Session 26</b>		<b>Jade 1 Meeting Room</b>
<b>13:30-15:30</b>	<b>Special Session 13</b>		<b>Jade 2 Meeting Room</b>
<b>13:30-15:35</b>	<b>Special Session 14 &amp; Topic 3</b>		<b>Jade 3 Meeting Room</b>
<b>13:30-15:30</b>	<b>Special Session 15</b>		<b>Jade 4 Meeting Room</b>
<b>13:30-15:25</b>	<b>Special Session 16 &amp; Special Session 13</b>		<b>Jade 5 Meeting Room</b>
<b>13:30-15:30</b>	<b>Poster Session III</b>		<b>2F Hall</b>
<b>15:30-15:50</b>	<b>Coffee Break</b>		
<b>15:50-17:35</b>	<b>Special Session 17</b>		<b>Jade 1 Meeting Room</b>
<b>15:50-17:50</b>	<b>Special Session 18 &amp; Special Session 20</b>		<b>Jade 2 Meeting Room</b>
<b>15:50-17:45</b>	<b>Special Session 19 &amp; Special Session 21</b>		<b>Jade 3 Meeting Room</b>
	<b>Special Session 22</b>		<b>Jade 4 Meeting Room</b>
<b>15:50-17:40</b>	<b>Special Session 24 &amp; Special Session 22</b>		<b>Jade 5 Meeting Room</b>
<b>15:50-17:50</b>	<b>Poster Session IV</b>		<b>2F Hall</b>
<b>18:00-20:00</b>	<b>Dinner</b>		<b>2F Grand Meeting Room 2楼大宴会厅 Hosted by: Shigang Zhou</b>

<b>Timeframe</b>	<b>Friday, August 2, 2024</b>	
<b>08:30-10:10</b>	<b>Special Session 23</b>	<b>Jade 1 meeting room</b>
<b>08:30-10:05</b>	<b>Special Session 25</b>	<b>Jade 2 meeting room</b>
<b>08:30-10:10</b>	<b>Special Session 27 &amp; Special Session 33</b>	<b>Jade 3 meeting room</b>
	<b>Special Session 28 &amp; Special Session 25</b>	<b>Jade 4 meeting room</b>
	<b>Special Session 31 &amp; Special Session 34</b>	<b>Jade 5 meeting room</b>
	<b>Poster Session V</b>	<b>2F Hall</b>
<b>10:10-10:25</b>	<b>Coffee Break</b>	
<b>10:25-11:55</b>	<b>Special Session 23</b>	<b>Jade 1 meeting room</b>
<b>10:25-11:45</b>	<b>Special Session 30 &amp; Special Session 23</b>	<b>Jade 2 meeting room</b>
<b>10:25-12:00</b>	<b>Special Session 32 &amp; Special Session 23</b>	<b>Jade 3 meeting room</b>
<b>10:25-11:55</b>	<b>Special Session 29</b>	<b>Jade 4 meeting room</b>
<b>10:25-11:50</b>	<b>Special Session 35 &amp; Special Session 34</b>	<b>Jade 5 meeting room</b>
<b>10:25-12:00</b>	<b>Poster Session VI</b>	<b>2F Hall</b>
<b>12:00-14:00</b>	<b>Lunch</b>	<b>1F OASIS CAFÉ 1 楼欧意咖啡厅</b>

# Organizing Committee

<b>Advisory Committee</b>	
Tiejun Cui	Tiejun Cui
Wei Huang	Wei Huang
Junfa Mao	Junfa Mao
Xiangang Luo	Xiangang Luo
Wei Hong	Wei Hong
Quan Xue	Quan Xue
Cheng-Wei Qiu	Cheng-Wei Qiu
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Ke Guan	Beijing Jiaotong University, China
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Lei Zuo	Xidian University, China
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Xiaowei Hu	Air Force Engineering University
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Xin Yang	Northwestern Polytechnical University

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Yongzhi Cheng	Wuhan University of Science and Technology
Yu Zheng	Qingdao University, China
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Luyang Ji	Northwestern Polytechnical University, China

## Special Session Chairs

<b>Special Session 1: Electric energy conversion and intelligent control</b>	
Tian Gao	Northwestern Polytechnical University
Jing Hou	Northwestern Polytechnical University
Qi Wang	Xi'an Technological University
<b>Special session 2: Advanced Technologies and Emerging Applications for Active and Passive Sensors</b>	
Mingliang Tao	Northwestern Polytechnical University
Jia Su	Northwestern Polytechnical University
Yifei Fan	Northwestern Polytechnical University
<b>Special session 3: Antennas and antenna arrays for MMW and THz applications</b>	
Qiubo Ye	Jimei University
Tongyu Ding	Jimei University
Jun Xiao	Jimei University
<b>Special session 4: 5G/6G LEO Satellite Mobile Communication</b>	
Qin Hao	Xidian University
Lei Jizhao	China Satellite Network System Co.,Ltd.
Zhen Li	Xi' an University of Posts and Telecommunications
<b>Special session 5: Electromagnetic Information Theory</b>	
Xu Hong Jing	Huawei Technologies Co., Ltd
<b>Special session 6: Radio Fuze Detection Technology</b>	

Xu Rui	Xi 'an Institute of Electromechanical Information Technology
<b>Special session 7: Miniatured Wideband Antenna</b>	
Wang Xiao Fei	Beijing Institute of Space Long March Vehicle
<b>Special session 8: microwave nonlinearity and microwave sensing</b>	
Ming Ye	Xi'an University of Architecture and Technology
Xiaolong Zhao	Xi'an Jiaotong University
<b>Special session 9: Design and Evaluation of Antenna Arrays for Next Generation Communications</b>	
Xiaoming Chen	Xi'an Jiaotong University
Luyu Zhao	Anhui University
<b>Special session 10: Advanced multifunctional metasurfaces: physics and applications</b>	
Hongyu Shi,	Xi'an Jiaotong University
Jiafu Wang	Airforce Engineering University
<b>Special session 11: RIS-aided Communication Technology</b>	
Yongjun Xu	Chongqing University of Posts and Telecommunications
Chongwen Huang	Zhejiang University
Qingqing Wu	Shanghai Jiao Tong University
<b>Special session 12: AI-based radar target detection, imaging, and recognition</b>	
Cunqian Feng	Air Force Engineering University
Weike Feng	Air Force Engineering University
Xiaowei Hu	Air Force Engineering University
<b>Special session 13: Recent Progress of Artificial Intelligence in Cyberspace Security, Information and Communications Technology</b>	

Zhipan Wu	Huizhou University
Xiaoye Wang	Huizhou University
<b>Special session 14: Emerging Sensing and Precision Measurement Technology</b>	
Yongjun Huang	University of Electronic Science and Technology of China
Kai Chen	University of Electronic Science and Technology of China
Guangwei Deng	University of Electronic Science and Technology of China
<b>Special session 15: Advanced Filtering Components</b>	
Xiaolong Wang	Jilin University
Baoping Ren	East China Jiaotong University
<b>Special session 16: Key Enablers for Smart Wireless Environments in the Era of 5G and Beyond</b>	
Ke Guan	Beijing Jiaotong University
Wei Wang	Chang'an University
Pan Tang	Beijing University of Posts and Telecommunications
<b>Special session 17: 6G multi-beam reconfigurable/scanning antenna and city development</b>	
Botao Feng	Shenzhen University
Wenzhe Gu	Huizhou University
<b>Special session 18: Efficient transmission and networking technology of satellite Internet for unmanned systems</b>	
Xin Yang	Northwestern Polytechnical University
Dawei Wang	Northwestern Polytechnical University
<b>Special session 19: Spotlight on Metasurfaces Technology: Recent Advances and Applications</b>	
Weiren zhu	Shanghai Jiao Tong University

Zhenfei Li	Northwestern Polytechnical University
<b>Special session 20: Optimal design of Intelligent metasurface-assisted systems</b>	
Li Deng	Beijing University of Posts and Telecommunications
Sixing Yin	Beijing University of Posts and Telecommunications
<b>Special session 21: Optimal design of Intelligent metasurface-assisted systems</b>	
Fan Zhang	Xi'an Jiaotong University
Xue Li	Shaanxi Normal University
Chen Wu	Xi'an University of Finance and Economics
<b>Special session 22: Optimal design of Intelligent metasurface-assisted systems</b>	
Sijia Li	Air Force Engineering University
Zhangjie Luo	Southeast University
Yongtao Jia	Xidian University
<b>Special session 23: Optimal design of Intelligent metasurface-assisted systems</b>	
Zhixiang Huang	Anhui University
Naixing Feng	Anhui University
Yuxian Zhang	Anhui University
<b>Special session 24: Optimal design of Intelligent metasurface-assisted systems</b>	
Ke Chen	Nanjing University
Yongtao Jia	Xidian University
<b>Session 25: Microwave-induced Plasma and its Application</b>	
Yang Yang	Sichuan University

Zhu Huacheng	Sichuan University
<b>Session 26: Green Communication for 6G</b>	
Li Xingwang	Henan Polytechnic University
Hao Wanming	Zhengzhou University
Yue Xinwei	Beijing Information Science and Technology University
<b>Session 27: Planar compact antenna and high-density array</b>	
Mei Li	Chongqing University
Neng-Wu Liu	Xidian University
Jianxing Li	Xi'an Jiaotong University
<b>Session 28: Microwave and Terahertz Metasurface-based devices: Recent Advances and Applications</b>	
Yongzhi Cheng	Wuhan University of Science and Technology
Song Wu	Hubei University of Technology
<b>Session 29: Multiphysics Simulation Method and Its Applications</b>	
Guangshang Cheng	Anhui University
Huanhuan Zhang	Xidian University
<b>Session 30: Emerging radiation and scattering manipulation technologies for antennas and arrays</b>	
Ting Shi	Southwest Jiaotong University
Junbing Duan	Southwest Jiaotong University
Zhong-Xun Liu	Xidian University
<b>Session 31: Frontiers in the areas of 6G and next-generation communication technology</b>	
Haiyang Ding	National University of Defense Technology

Haipeng Li	National University of Defense Technology
<b>Session 32: Spatiotemporal modulated Electromagnetic devices and applications</b>	
Xiaoyi Wang	Tongji University
XuDong Bai	Northwestern Polytechnical University
Jingfeng Chen	Shanghai Jiaotong University
<b>Special Session 33: Recent Advancements in Artistic Antennas and Metasurface-Based Antennas</b>	
Hailiang Zhu	Northwest Polytechnical University
Jianxun Su	Communication University of China
Kwok L. Chung	Huizhou University
<b>Special Session 34: RF and microwave metamaterials for wireless communications</b>	
Xiaojun Huang	Xi'an University of Science and Technology
Wang Yao	Xi'an University of Science and Technology
PHelin Yang	Central China Normal University
<b>Special Session 35: Advances in mmWave Lens Antennas, Conformal Array for Modern Wireless Communications</b>	
Min Wang	Chongqing University of Posts and Telecommunications
Huanhuan Yang	Air Force Engineering University
Wei Luo	Chongqing University of Posts and Telecommunications

## General Chair's Welcome

Good morning, ladies and gentleman. This is the IEEE 7th International Conference on Electronic Information and Communication Technology (ICEICT 2024). I'm He-Xiu Xu from Air Force Engineering University. On behalf of the Organizing Committee, it is my great honor and pleasure to welcome you to this conference, to be held in Xi'an, China on July 31-August 2, 2024.

The technologies in Electronics Information, and Communications have been playing important roles in our modern civilization and expected to stay as main characters in the future. The ICEICT 2024 intends to provide a platform for bringing together researchers, engineers, academicians as well as industrial professionals from all over the world to discuss ideas, challenges and potential solutions on established or emerging topics, present their research results and development activities related to theory and applications in communications, computer science, signal processing, EMC, antennas, propagation and microwave systems. The conference welcomes contributions that could enhance the collision of excellent ideas and generate sparkle of wisdom between researchers all over the world.

ICEICT 2024 is sponsored by Northwestern Polytechnical University and IEEE Harbin Section, IEEE Harbin AP/MTT/EMC Joint Chapter, Xidian University, Xi'an Jiaotong University, Anhui University, Beijing Jiaotong University, University of Electronic Science and Technology of China and South China University of Technology. Moreover, it is also sponsored by famous journals like Research, Chinese Journal of Electronics and Journal of Electronics & Information Technology.

Xi'an's long history can still be traced from its historical landmarks and archaeological sites. It is also a prestigious cultural centre and a city brimming with creativity and imagination. Thanks to its long history and cultural diversity, it has now become a rising star in the cultural industry, and thus a City of Cultural capital.

This conference has received enthusiastic responses, with approximately 480 submitted papers from 10 countries and nearly 140 university. The Technical Program Committee consists of over 120 international specialists in the paper review and selection process. Based on careful peer review, approximately 437 papers were accepted. The conference also invited 6 plenary speeches from famous researchers all over the world.

At last, I wish the conference a great success, and wish you all pleasant stay in Xi'an. We believe that your presentation and recognized stature can help strengthen the world-wide impact of conference and attract a broader participation from around the world.

He-Xiu Xu  Xiaoming Chen 

**Air Force Engineering University**

**Northwestern Polytechnical University**

**Xi'an Jiaotong University**

**Anhui University**

**General Chairs, ICEICT 2024**

## TPC Chair's Welcome

On behalf of the ICEICT2024 Technical Program Committee (TPC), we have the pleasure to introduce the technical program. A total of 480 full-paper submissions from 10 countries were received, including China Mainland, China Taiwan, China Hong Kong, United States, Sri Lanka, Japan, Italy, Canada, Brunei. Twenty-five percent of submissions were from countries outside China. All papers were subject to a review process where each paper received at least two independent reviews. A total of 83 reviewers, most of whom were from outside China, participated in the submission review. After selection, 394 papers were accepted for presentation in either oral (204) or poster (190) sessions. This equates to a reject rate of 20 percent.

In those acceptance papers, 153 papers related to microwave and millimeter components, 103 antenna theory and design, 82 to wireless communications, 23 to remote sensing and 21 papers to electromagnetic wave propagation.

There will be two plenary sessions, the first one will be held at 9:30 am on Wednesday 31 July 2024, together with the opening ceremony and the keynote addresses, and the second one will be held at 8:30 am on Thursday 1 August 2024. The regular conference sessions will commence from afternoon 13:30 pm on Wednesday 31 July to Friday 2 August, 2024. There are 30 oral sessions arranged in 6 parallel sessions, and five poster sessions. In addition to the regular papers, 37 papers selected as invited papers will be presented in the sessions.

On behalf of the Technical Program Committee, we would like to express our deepest gratitude to the reviewers for their enthusiasm and dedication to develop a technical program of the highest standard and level.

We wish all of you will have an enjoyable and fruitful time at ICEICT2024 @ Xi'an.

**Prof. Kuang ZHANG**

**Prof. Sijia LI**

**Prof. Jiangan Liang**

**Prof. Naixing Feng**

**TPC Chairs for ICEICT2024 TPC**

# Plenary Speech

Plenary Speaker I: Quan Xue



**Quan XUE**

**School of Electronic and Engineering Information & School of Microelectronics**

**South China University of Technology**

**eeqxue@scut.edu.cn**

## **Speaker's Biography:**

Professor Xue began his professional career in the University of Electronic Science and Technology of China (UESTC) in 1993 as a Lecturer, immediately after he obtained his Ph.D. In 1997, he became a Professor in UESTC then moved to Chinese University of Hong Kong to work as a Research Associate and then a Research Fellow. In 1999, he joined the City University of Hong Kong as Senior Scientific Officer, and then promoted as Associate Professor, Professor, and Chair Professor of Microwave Engineering. He also served the University as the Associate Vice President, the Director of Information and Communication Technology Center, and the Deputy Director of the State Key Lab of Millimeter Waves (Hong Kong). In 2017, he joined South China University of Technology. Now he is a Professor and serves as the Dean of the School of Electronics and Information Engineering, the Dean of the School of Microelectronics, and the Director of the Guangdong Key Laboratory of Terahertz and Millimeter Waves. He also served as the Chief Scientist of Antenna in the 2012 Labs of Huawei Technologies (2020-2023). He is a member of Chinese National 6G Technology General Expert Group. He has published over 600 internationally refereed journal papers and over 300 international conference papers. In addition, he has held more than 100 Chinese patents and more than 30 granted US patents. Prof. XUE's research interests include microwave/millimeter-wave/THz passive components, active components, antenna, microwave monolithic integrated circuits, etc.

**Speech title: Millimeter-wave Transceiver Chips with Antenna in Package**

## **Abstract:**

The increasing requirements of wireless communications and sensors are making research and commercialization of millimeter-wave integrated circuits and antennas experience tremendous growth. The advancement of modern CMOS technology facilitates it to become a prevailing technology to achieve low-cost and compact millimeter-wave integrated circuits. Meanwhile, the compound semiconductor is still a must for low noise and high power millimeter-wave system. As the operating frequency enters the millimeter-wave regime, the circuit component's size becomes comparable to the electromagnetic wave wavelength. Therefore, a mixed design methodology using both the lumped and distributed elements in the millimeter-wave integrated circuit design is of great interest, not only compound semiconductor but also CMOS integrated circuits. On one hand, to achieve high-integration and high-performance, the heterogeneous packaging architecture combined the merits of both CMOS and compound semiconductor millimeter-wave integrated circuits is becoming an attractive technology. On the other hand, considering the efficiency, cost, and integration of advanced wireless systems, discrete antenna is no longer suitable for millimeter-wave wireless systems. Therefore, antenna-in-package (AiP) has become the mainstream for millimeter-wave system, which implements an antenna or antennas on (or in) package of chips leading to a high efficiency and highly-integrated radio. In this talk, innovative on millimeter-wave integrated circuits, subsystems and corresponding antenna-in-package will be introduced.

## Plenary Speaker II: Cheng-Wei Qiu



**Cheng-Wei Qiu**  
National University of Singapore  
chengwei.qiu@nus.edu.sg

### **Speaker's Biography:**

Cheng-Wei Qiu is Fellow of APS, Optica, SPIE and The Electromagnetics Academy, US. He is the recipient of President's Science Award 2023, the highest science distinction in Singapore. He was elected Fellow of ASEAN Academy of Engineering and Technology. He is well known for his research in structured light and interfaces. He has published over 580 peer-reviewed journal papers. He was the recipient of URSI Young Scientist Award in 2008, NUS Young Investigator Award in 2011, MIT TR35@Singapore Award in 2012, Young Scientist Award by Singapore National Academy of Science in 2013, Faculty Young Research Award in NUS 2013, SPIE Rising Researcher Award 2018, Young Engineering Research Award 2018, and Engineering Researcher Award 2021 in NUS, and World Scientific Medal 2021 by Institute of Physics, Singapore, Achievement in Asia Award (Robert T. Poe Prize) by International Organization of Chinese Physicists and Astronomers in 2022. He was Highly Cited Researchers in 2019, 2020, 2021, 2022, 2023 by Web of Science. As an overseas partner, he has been awarded China's Top 10 Optical Breakthroughs for 5 times (2019, 2020, 2021(one in Fundamental Research, and one in Applied Research), 2023). He has been serving in Associate Editor for various journals such as JOSA B, Photonix, Photonics Research, and Editor-in-Chief for eLight. He also serves in Editorial Advisory Board for Laser and Photonics Review, Advanced Optical Materials, and ACS Photonics.

**Speech title: Vectorial, Filter-less, Full-Stokes and High-dimensional Metasurface Photodetectors**

### **Abstract:**

Mid-infrared detectors are of critical importance for a variety of applications including thermal imaging, spectrometer, sensing and free space communication. High sensitivity, zero power consumption, fast response, simple CMOS-compatible fabrication processes, small footprint, wavelength and polarization selectivity are highly desired, while still being elusive so far especially at room temperature. In this talk, we will report a series of metasurface-mediated detectors. Non-centrosymmetric metallic nanoantennas are deployed to break the symmetry of local electromagnetic field and induce directional flow of hot carriers in graphene, leading to large unbalanced mid-IR photoresponse at room temperature without external bias. We demonstrate zero-bias uncooled mid-infrared photodetectors with three orders higher responsivity than conventional bulk photovoltaic effect (BPVE) and a noise equivalent power of  $0.12 \text{ nW Hz}^{-1/2}$ . We further establish a scheme to realize configurable polarity transition by exploiting the vectorial and non-local photoresponse in hybrid metasurface of nanoantennas and graphene. By tuning the orientation of nanoantennas, polarization ratio (PR) values vary from positive (unipolar regime) to negative (bipolar regime), covering all possible numbers ( $1 \rightarrow \infty / -\infty \rightarrow -1$ ). Polarization-angle perturbation down to  $0.03^\circ \text{ Hz}^{-1/2}$  in the mid-infrared range is demonstrated. We will also report on-chip filterless photodetectors in mid-infrared which solely responds to circular polarizations. We finally showcase how machine learning could enable be full-Stokes photodetection and high-dimensional sensing of light's properties.

## Plenary Speaker III: Ahmed A Kishk



**Ahmed A Kishk**  
**Concordia University**  
**Montreal, Canada**

### **Speaker's Biography:**

Ahmed A. Kishk received a BSc in Electronics and Communication Engineering from Cairo University, Cairo, Egypt, in 1977 and a BSc. in Applied Mathematics from Ain-Shams University, Cairo, Egypt, 1980. In 1981, he joined the Department of Electrical Engineering, University of Manitoba, Winnipeg, Canada, where he obtained his M. Eng. and Ph.D. degrees in 1983 and 1986. From 1977 to 1981, he was a research assistant and an instructor at the Faculty of Engineering at Cairo University. From 1981 to 1985, he was a research assistant at the Department of Electrical Engineering, University of Manitoba. From December 1985 to August 1986, he was a research associate fellow in the same department. In 1986, he joined the Department of Electrical Engineering at the University of Mississippi as an assistant professor. He was on sabbatical leave at the Chalmers University of Technology, Sweden, during the 1994-1995 and 2009-2010 academic years. He was a Professor at the University of Mississippi (1995-2011). He was the Center for Applied Electromagnetic System Research (CAESR) director from 2010 to 2011. He is a Professor at Concordia University, Montréal, Québec, Canada (since 2011) as Tier 1 Canada Research Chair in Advanced Antenna Systems. He was an Associate Editor of Antennas & Propagation Society Newsletters from 1990 to 1993. He was a distinguished lecturer for the Antennas and Propagation Society (2013-2015). He was an Editor of Antennas & Propagation Magazine (1993-2014). He was a Co-editor of the special issue, "Advances in the Application of the Method of Moments to Electromagnetic Scattering Problems," in the ACES Journal. He was also an editor of the ACES Journal in 1997. He was an Editor-in-Chief of the ACES Journal from 1998 to 2001. He was the chair of the Physics and Engineering Division of the Mississippi Academy of Science (2001-2002). He was a Guest Editor of the special issue on artificial magnetic conductors, soft/hard surfaces, and other complex surfaces in the IEEE Transactions on Antennas and Propagation, January 2005. He was a co-guest editor for IEEE Antennas and Propagation and Wireless Letter on the special cluster on "5G/6G enabling antenna systems and associated testing technologies." He was a technical program committee member for several international conferences. He was a member of the AP-S AdCom (2013-2015). He was the 2017 AP-S president.

Prof. Kishk's research interest is broad in Electromagnetic Applications. He has recently worked on millimeter-wave antennas for 5G/6G applications, Analog beamforming networks, Electromagnetic Bandgap, artificial magnetic conductors, soft and hard surfaces, phased array antennas, reflectors/transmitarray, and wearable antennas. In addition, he is a pioneer in Dielectric resonator antennas, microstrip antennas, small antennas, microwave sensors, RFID antennas for readers and tags, Multi-function antennas, microwave circuits, and Feeds for Parabolic reflectors. He has published over 465 refereed journal articles, 550 international conference papers, and 125 local and regional conference papers. He co-authored four books and 13 chapters and was the editor of eight books. He offered several short courses at international conferences. According to Google Scholar, his work was cited over 34930 with an H-index of 79 in the 9th edition of Research.com ranking of the best scientists in Electronics and Electrical Engineering; it is based on data consolidated from various sources, including OpenAlex and CrossRef. The bibliometric data for estimating the citation-based metrics were gathered on December 21, 2022. Prof. Kishk was ranked first at Concordia University, 23rd in Canada, and 401 worldwide. ScholarGPS has placed Dr Kishk in the top 0.05% of all scholars worldwide, with # 231 in Electrical Engineering, #4 in Antennas, # 5 in Dielectric, and #78 in Microwave.

Prof. Kishk and his students received several awards. He won the 1995 and 2006 outstanding paper awards for papers published in the Applied Computational Electromagnetic Society Journal. He

received the 1997 Outstanding Engineering Educator Award from the Memphis section of the IEEE. He received the Outstanding Engineering Faculty Member of the Year in 1998 and the 2009 Faculty Research Award for Outstanding Research Performance in 2001 and 2005. He received the Award of Distinguished Technical Communication for IEEE Antennas and Propagation Magazine's entry, 2001. He also received The Valued Contribution Award for an outstanding Invited Presentation, "EM Modeling of Surfaces with STOP or GO Characteristics – Artificial Magnetic Conductors and Soft and Hard Surfaces," from the Applied Computational Electromagnetic Society. He received the Microwave Theory and Techniques Society Microwave Prize in 2004. He received the 2013 Chen-To Tai Distinguished Educator Award of the IEEE Antennas and Propagation Society. In recognition, "For contributions and continuous improvements to teaching and research to prepare students for future careers in antennas and microwave circuits, Kishk is a Fellow of IEEE since 1998, Fellow of Electromagnetic Academy, and a Fellow of the Applied Computational Electromagnetics Society (ACES). He is a member of the Antennas and Propagation Society, Microwave Theory and Techniques, Sigma Xi Society, and Senior member of the International Union of Radio Science, Commission B, Phi Kappa Phi, Electromagnetic Compatibility, and Applied Computational Electromagnetics Society.

**Speech title: Compact Reflect/Transmitarray Antennas**

**Abstract:** A reflectarray (RA) antenna is a parasitic array of elements arranged periodically and spatially illuminated by a spherical wave generated by a feed located at a focal point away from the array. Conventionally, RA elements are arranged on a grounded planar surface. Thus, the focal point is virtual, chosen by the designer based on the feed characteristics. The RA antenna combines the characteristics of reflectors and array antennas. Thus, it can perform all the reflector and array antenna functions and overcome their disadvantages.

Broadband planar reflectarrays are usually achieved by designing broadband elements with a large focal-to-diameter ratio (F/D). This requires a huge volume and relatively large and heavy feed. A small F/D should be used to reduce the feed size and volume. However, planar RA with a small focal-to-diameter ratio (F/D) suffers from limited bandwidth regardless of the element bandwidth. The primary factor hindering the bandwidth is increasing the planar-RA spatial path delay from the center to the edge, which introduces substantial phase variations that cannot adequately compensate for the RA elements away from the design frequency. A faceted RA was proposed, but the structure became more complicated, particularly for a small F/D. Here, a new simple RA design approach is proposed to enhance the bandwidth. Planar RA is cut to annular rings of sub-reflectarrays (sub-RAs), with the center sub-RA being circular. The sub-RAs are displaced to lower levels below the outer sub-RA and kept at the same position as the feed to reserve feed edge illumination. An overview of RAs and the parameters that control their performance is presented. The proposed structure, referred to as "Stepped RA," is presented by an example of circularly polarized RA. Cross-bowtie elements are used in the planar- and stepped RA with an aperture diameter  $25.25\lambda$ . Element rotation is employed for phase compensation. The Stepped RA reduces the relative path delay as the ray moves toward the edge. A parametric study is performed, and a simple, compact Stepped RA is designed. The performance of the Stepped RA is compared to the Planar RA. The two RA configurations are fabricated and measured. The Stepped RA exhibits a matching bandwidth of 33.4 %, a 1-dB gain bandwidth of 23.2 %, a 1-dB axial ratio bandwidth of 33.4 %, and an aperture efficiency of 51 % (at 30 GHz). Based on the results, the stepped RA 1-dB gain bandwidth is improved by 13 % over the conventional planar RA. Other forms of compact RA are presented, such as the folded RA, which requires half of the focal length of the RA, and the wrapped RA constructed from textile material, both discussed in some detail.

In addition, transmitarray (TA) is where spherical waves impinge on a planar array of elements with two sides are discussed. The feed side is a receiving array of elements terminated by other elements on the other side to reradiate as a transmitting array. As in RA, the elements compensate for the phase errors and provide the required phases to reradiate to a specific direction or shape the beam.

## Plenary Speaker IV: Kin-Fai Tong



**Speaker's Biography:** Prof. Kin-Fai (Kenneth) Tong is a Full Professor of Antennas and Applied Electromagnetics at the Department of Electronic and Electrical Engineering (EEE) in UCL. During his PhD research, he has been credited to be one of the first who introduced the idea of embedding microstrip patch antennas into mobile phone handsets. He was an Expert Researcher in the Photonic and Millimetre-wave Devices Group of the National Institute of Information and Communications Technology, Japan. Prof. Tong is a Fellow of IEEE, Chartered Engineer of UK Engineering Council, Fellow of Electromagnetic Academy US and Fellow of Higher

Education Academy UK. His Innovate UK project was graded as “OUTSTANDING”, i.e., the top 5%, amongst all the funded projects. Recently, his AgriTech Internet-of-Thing (IoT) Hub project supported by EPSRC IAA (EP/K503745/1) has resulted in two start-up companies and winning the UCL Provost's Spirit of Enterprise Award. Prof Tong was the general chairman of the IEEE iWEM 2017 held in UK, the Lead Guest Editor of the IEEE OJAP Special Section, the Subject Editor of IET Electronics Letters, Associate Editor of IEEE AWPL.

### **Speech title: Recent Advancement of Position Versatile Fluid Antenna Systems**

**Abstract:** With research efforts gearing up to build the sixth-generation (6G) mobile communications, it is only logical to seek new mobile technologies that can provide the next generational leap for much better performance under harsher environments. To this end, one interesting concept is fluid antenna system (FAS) which utilizes flexible antenna architectures such as liquid-based antennas, reconfigurable RF pixel-based antennas, stepper motor-based antennas, etc., to enable dynamically relocatable antenna positions (i.e, port). In so doing, tremendous space diversity can be obtained in a novel way. The possibility of accessing seemingly a continuous fading envelope in the spatial domain also means that multiple access can be realized in a simple manner without complex optimization and processing. In the talk, we will share with you the recent advancement in theoretical and experimental research.

## Plenary Speaker V: Chau Yuen



**Chau Yuen (IEEE Fellow, Highly Cited Researcher)**  
**Associate Professor**  
**School of Electrical and Electronics Engineering (EEE)**  
**Nanyang Technological University (NTU)**  
**Email: [chau.yuen@ntu.edu.sg](mailto:chau.yuen@ntu.edu.sg)**

### **Speaker's Biography:**

Chau Yuen received the B.Eng. and Ph.D. degrees from Nanyang Technological University, Singapore, in 2000 and 2004, respectively. He was a Post-Doctoral Fellow with Lucent Technologies Bell Labs, Murray Hill, in 2005. Since 2023, he has been with the School of Electrical and Electronic Engineering, Nanyang Technological University. He is currently serve as Provost's Chair in Wireless Communications and Assistant Dean in Graduate College. Dr. Yuen received IEEE Communications Society Leonard G. Abraham Prize (2024), IEEE Communications Society Best Tutorial Paper Award (2024), IEEE Communications Society Fred W. Ellersick Prize (2023), IEEE Marconi Prize Paper Award in Wireless Communications (2021), IEEE APB Outstanding Paper Award (2023), and EURASIP Best Paper Award for JWCN (2021). He is an IEEE Fellow and also a Highly Cited Researcher by Clarivate Web of Science.

**Speech Title: Stacked Intelligent Metasurfaces Enabled Joint Signal Processing and Communication in the Wave Domain**

**Abstract:** We propose a new wave-based computing architecture called stacked intelligent metasurfaces (SIM) to enable joint signal processing and communication in electro-magnetic (EM) domain. An SIM is fabricated by stacking an array of programmable metasurface layers, where each layer consists of many low-cost passive meta-atoms that can individually manipulate EM waves. By appropriately configuring the passive meta-atoms, an SIM can automatically accomplish advanced computation tasks as the EM wave propagates through it, while reducing both the energy consumption and processing delay. In this talk, we will illustrate the application of SIM in multiple-input multiple-output (MIMO) and multi-user MIMO wireless communications.

## Plenary Speaker VI: Fan Yang



### Speaker's Biography:

Fan Yang is a Professor at Electronic Engineering Department, Tsinghua University, China, and a Fellow of IEEE. He received the B.S. and M.S. degrees from Tsinghua University, and the Ph.D. degree from University of California at Los Angeles. Prof. Yang's research interests include antennas, surface electromagnetics, computational electromagnetics, and applied electromagnetic systems. He has published six books, eight book chapters, and over 500 journal articles and conference papers. Dr. Yang served as an Associate Editor for IEEE Trans. Antennas Propagation (TAP), Associate Editor-in-Chief for Applied Computational Electromagnetics Society (ACES) Journal, and TPC chair of 2014 IEEE AP-S International Symposium. He is a co-founder of Beijing Actenna Inc., which focuses on RIS hardware and system applications.

### Speech Title: Surface Electromagnetics: Theory and Engineering

**Abstract:** From frequency selective surfaces to Huygens metasurfaces, novel electromagnetic surfaces have been emerging in both scientific exploration and engineering applications. Many intriguing phenomena occur on these surfaces, and novel devices and applications have been proposed accordingly, which have created an exciting paradigm in electromagnetics, the so-called "Surface Electromagnetics (SEM)". As a representative example, Reconfigurable Intelligent Surface (RIS) exhibits promising potential in communications, radars, imaging applications. This report will briefly introduce the development of surface electromagnetics, and then focus on the RIS design and engineering applications. Finally, the future development prospects of SEM and RIS will be discussed with participating experts and scholars.

## Invited Talk and Oral Session

13:30-15:15, Wednesday, July 31, 2024 Jade 1 meeting room		
<p><b>Special Session 1: Electric energy conversion and intelligent control</b>  <i>Session Chair:</i>  <b>Tian Gao, school of Electronic and Information, Northwestern Polytechnical University</b>  <b>Jing Hou, school of Electronic and Information, Northwestern Polytechnical University</b>  <b>Qi Wang, school of Electronic Information Engineering, Xi'an Technological University</b></p> <p><b>Topic 5: Microelectronic Devices and Integrated Circuits</b></p>		
Paper Information		
SS1-1 13:30-13:45	Robust Estimation of Lithium-ion Battery State of Health via Improved Extreme Learning Machine <i>Xue Jingsong, Ma Wentao, Cai Panfei</i> Xian University of Technology	8409
OS5-1 13:45-14:00	Self-Supervised Learning for Camouflaged Object Detection <i>Zhouyong Liu, taotao Ji, Chunguo Li, Luxi Yang</i> southeast university	8773
OS5-2 14:00-14:15	Cross-Language Code Development with Generative AI: A Source-to-Source Translation Perspective <i>Laxmisha Rai, Smriti Khatiwada, Chunrao Deng, Fasheng Liu</i> Shandong University of Science and Technology	8767
OS5-3 14:15-14:30	Time-Frequency Analysis of Phase Encoding in Spiking Neural Networks Using Polar Coordinates <i>Lei Zhang</i> University of Regina	8736
OS5-4 14:30-14:45	Optimizing Antenna Design through AI Integration: A Concise Review <i>Xiaotian Liu, Kwok L. Chung, Wenbiao Li, Ruihong Li, Shuwei Huang, Yingsong Li</i> Huizhou University	8686
OS5-5 14:45-15:00	An Effective Kriging-assisted Water Flow Optimization for Ultra-wideband Monopole Antenna Design <i>Xianan Ling, Xingning Jia</i> Ningxia University	8663
OS5-6 15:00-15:15	Randomized-enhanced Magnitude Channel Pruning for Radar Jamming Detection <i>Xun Ni, Hao Wu, Xuan Zhu, Zhao peng Shi</i> Huazhong University of Science and Technology	8582
Coffee Break		

13:30-15:30, Wednesday, July 31, 2024

Jade 2 meeting room

**Special Session 2: Advanced Technologies and Emerging Applications for Active and Passive Sensors**

*Session Chair:*

**Mingliang Tao, Northwestern Polytechnical University**

**Jia Su, Northwestern Polytechnical University**

**Yifei Fan, Northwestern Polytechnical University**

**Topic 1: Communications and Network**

**Paper Information**

SS2-1 13:30-13:45	Characterizing the Mutual Terrain Scattered Interference in Spaceborne SAR Images under Different Terrains <i>Yu Xin, Zexi Ren, Weike Li, Huanyu Sun, Mingliang Tao</i> Beijing Institute of Remote Sensing Information	8674
SS2-2 13:45-14:00	Point Cloud Generation with Millimeter-Wave Radar for UAV Taxiing <i>Xuchen Wang, Zhaolin Zhang, Jia Su, Zixun Guo, Jun Fan</i> Northwestern Polytechnical University, Xi'an, China	8670
SS2-3 14:00-14:15	Automatic Radar Antenna Scan Type Recognition Based on the Residual Network <i>Yanyun Gong, Danzi Qubi, yifei Fan, Shuting Tang, Zixun Guo, Xiangyang Liu</i> School of Electronics and Information Northwestern Polytechnical University	8647
SS2-4 14:15-14:30	An Jamming Mitigation Method For Time-Domain Phase Modulation of Electromagnetic Metasurfaces <i>Jiarong Song, Jia Su, Guonan Cui, Zhaolin Zhang, Tao Li, Xiangyang Liu</i> School of Electronics and Information	8592
SS2-5 14:30-14:45	Statistical Characteristics Analysis based on a Measured Ku-band Sea Clutter Dataset <i>Zijun Zhang, Yifei Fan, Shaofeng Zhang, Jia Su, Zixun Guo, Mingliang Tao</i> Northwestern Polytechnical University	8482
OS1-1 14:45-15:00	Efficient Multi-UAV Path Planning for Wireless Data Harvesting: A Deep Reinforcement Learning Approach <i>Nawaf Qasem Hamood Othman, Haithm M. Al-Gunid, Imran Younas</i> Xidian University	8785
OS1-2 15:00-15:15	Soft Multipath Information-Based UWB Tracking in Cluttered Scenarios: Preliminaries and Validations <i>Chenglong Li, Zukun Lu, Long Huang, Shaojie Ni, Guangfu Sun, Emmeric Tanghe, Wout Joseph</i> National University of Defense Technology	8433
OS1-3 15:15-15:30	Research on multidimensional reconstruction security billing strategy in cloud native scenarios <i>Sheng Shuo, Che Kun</i> Chengfang Financial Information Technology Services Co., Ltd	8379

**Coffee Break**

**13:30-15:25, Wednesday, July 31, 2024**  
**Jade 3 meeting room**

**Special Session 3: Antennas and antenna arrays for MMW and THz applications**

**Session Chair:**

**Qiubo Ye, School of Ocean Information Engineering, Jimei University**

**Tongyu Ding, School of Ocean Information Engineering, Jimei University**

**Jun Xiao, School of Ocean Information Engineering, Jimei University**

**Paper Information**

SS3-1 13:30-13:50	Broadband and High-Gain High-Order-Mode Fed Antenna Array for Millimeter-Wave Applications ( <i>Invited Talk</i> ) <i>Wenyu Zhao, Xiuping Li, Zihang Qi</i> Beijing University of Posts and Telecommunications	8750
SS3-2 13:50-14:10	Design and Simulation of Channel Simulator for Complex Enclosed Space ( <i>Invited Talk</i> ) <i>Yan Wang, Tao Zhang, Danqing Zou, Yu Mao</i> Shenyang Aircraft Design and Research Institute	8467
SS3-3 14:10-14:25	A Wideband 8-Element Dual-Circularly-Polarization Dielectric Rod Antenna for 5G Millimeter-Wave Communications <i>Yani Huang, Guji Gong, Mengchun Wu, Chong-Zhi Han, Yinqing Fang</i> Jimei University	8517
SS3-4 14:25-14:40	Broadband Orthomode Transducer Based on the Boifot Junction <i>Jizhao Wang</i> The China Mobile Group Device Co., Ltd	8516
SS3-5 14:40-14:55	A Series-fed Frequency-scanning Antenna for UAV's Obstacle Avoidance Radar <i>Feixiang Luo, Quan Sun, Mengchun Wu, Chong-Zhi Han, Lu Liu</i> Jimei University	8512
SS3-6 14:55-15:10	Design of a Potter Horn Antenna <i>Jing Wu, Chongzhi Han, Xuchu Deng, Jun Xiao</i> Jimei University	8455
SS3-7 15:10-15:25	A Serial-Fed Antenna Implementation for 60GHz Millimeter-Wave Radar Altimetry on Unmanned Aerial Vehicles <i>Yong Hu, Quan Sun, Daiweixuan Yang, Tongyu Ding, Ying Huang</i> Jimei University	8454

**Coffee Break**

**13:30-15:20, Wednesday, July 31, 2024**  
**Jade 4 meeting room**

**Topic 7: Sensors**  
**Topic 4: Microelectronic Devices and Integrated Circuits**

**Session Chair:**  
**Li Chenming, Zheng Shilie, Zhang Xianmin, Hui Xiaonan**  
**Zhejiang University**

**Paper Information**

OS7-1 13:30-13:50	Electromagnetic Model and Validation of Multi-point Near-field Cardiac Sensing System ( <i>Invited Talk</i> ) <i>Li Chenming, Zheng Shilie, Zhang Xianmin, Hui Xiaonan</i> Zhejiang University	8808
OS4-1 13:50-14:05	Detection of Hardware Attacks in Network on Chip Based on Machine Learning <i>Ruhui Ding, Ying Zhang, Shuying Xia, Zixiao Wang, Jie Deng, Xin Chen</i> Nanjing University of Aeronautics and Astronautics	8807
OS4-2 14:05-14:20	Design and Optimization of a Low-Noise Mixer Using Advanced Design System (ADS) for RF Applications <i>Xudong Hao, Xiao Wang, Shuo Chen, Zhengquan Zu, Zixi Li, Yansheng Li</i> Qingdao University of Technology	8714
OS4-3 14:20-14:35	Modulation and Demodulation A Defense Method Against Weight Bit-Flip Attacks in Floating Point CNN Hardware Accelerators <i>Wang Zixiao, Zhang Ying, Ding Ruhui, Xia Shuying, Fang Zhiyu, Chen Xin</i> Nanjing University of Aeronautics and Astronautics	8649
OS4-4 14:35-14:50	Error Compensation based Approximate Booth Multiplier with Improved Booth Encoder and Low Complexity Compressor <i>Zhiming Zhu, Junqi Huang, Hongyi Zhang, Huali Jiang, Xingen Gao</i> Xiamen University of Technology	8597
OS4-5 14:50-15:05	An approach to enhance the efficiency of RISC-V verification using intelligent algorithms <i>Shuying Xia, Ying Zhang, Zixiao Wang, Ruhui Ding, Hewei Cui, Xin Chen</i> Nanjing University of Aeronautics and Astronautics	8551
OS4-6 15:05-15:20	An Energy Efficient CMA Equalizer based on Approximate Computing <i>Junjie Zhou, Ke Chen</i> Nanjing University of Aeronautics and Astronautics	8486

**Coffee Break**

**13:30-15:30, Wednesday, July 31, 2024**  
**Jade 5 meeting room**

**Special Session 4: 5G/6G LEO Satellite Mobile Communication**

*Session Chair:*

**Qin Hao, Xidian University, hqin@mail.xidian.edu.cn**

**Lei Jizhao, China Satellite Network System Co.,Ltd., xdljz2000@163.com**

**Zhen Li, Xi' an University of Posts and Telecommunications, lzhen@xupt.edu.cn**

**Topic 8: Electrical Engineering and Automatic Control**

**Topic 2: Signal Processing (SP) and Information Technology**

**Paper Information**

SS4-1 13:30-13:45	Joint User Activity Detection and Channel Estimation for Grant-Free Temporal-Correlated Random Access in LEO Satellite Based IoT <i>Sheng Zhong, Li Zhen, Shuchang Li, Ping Dong, Hao Qin</i> Xi'an University of Posts and Telecommunications	8697
SS4-2 13:45-14:00	A Concatenated Mapping ZC Sequences Based Large-Capacity Grant-Free Random Access Preamble Design Method for Satellite Internet of Things <i>Mingke Ma, Li Zhen, Shuchang Li, Chenchen Pei, Hao Qin</i> Xian University of Posts and Telecommunications	8656
SS4-3 14:00-14:15	Chaotic Weighting Random Integration-Based Data Augmentation for Radio Frequency Fingerprint Identification With Extremely Small Sample Size <i>Haotian Zhang, Yuan Jiang, Lei Zhao</i> 1. School of Electronics and Communication Engineering, Sun Yat-Sen University, Shenzhen, China. 2. Guangdong Provincial Key Laboratory of Sea-Air-Space Communication, Shenzhen, China.	8566
SS4-4 14:15-14:30	A Flexible Resource Allocation Algorithm in Dual-Timescale Beam Hopping Satellite Systems <i>Shuangyi Li, Haoyu Sun, Jizhao Lei, Hao Qin</i> Xidian University	8530
OS8-1 14:30-14:45	EFT immunity test and damage localization of C-band limiters <i>Jiacheng Ma, Weiheng Shao, Deren Feng, Zhaoquan Chen, bin Liu</i> Anhui University of Technology	8831
OS8-2 14:45-15:00	Robust Event-Triggered Model Predictive Control for Uncertain Linear Parameter-Varying Systems <i>Hongru Jiang, Yue Guo, Tianxin Liu, Quan-Yong Fan, Kuan Lu</i> Northwestern Polytechnical University	8682
OS8-3 15:00-15:15	Path planning method for maritime drones based on NSGA II algorithm <i>Xiang Li</i> Hubei University	8619
OS2-1 15:15-15:30	Gridless Parameter Estimation for Integrated Sensing and Communications in Cellular Networks <i>Mengguan Pan, Yingsong Li, Lixia Yang, Anqi Xue, Zhixiang Huang, Guisheng Liao</i> School of Electronic and Information Engineering, Anhui University	8783

**Coffee Break**

**15:50-17:40, Wednesday, July 31, 2024**  
**Jade 1 meeting room**

**Special Session 6: Radio Fuze Detection Technology**

**Session Chair:**

**Xu Rui, Xi 'an Institute of Electromechanical Information Technology**

**Topic 2: Signal Processing (SP) and Information Technology**

**Paper Information**

SS6-1 15:50-16:10	Wide Solid Angle Scanning Conical Conformal Phased Array Antenna Based on Bidirectional Beam ( <i>Invited Talk</i> ) <i>Qiuyan Liang, Rui Xu, Zikang Xing</i> Science and Technology on Electromechanical Dynamic Control Laboratory	8477
SS6-2 16:10-16:25	A Design on Silicon-Based Millimeter-Wave Low Noise Amplifier Circuits <i>Zikang Xing, Qiuyan Liang, Rui Xu</i> Xi'an Institute of Electromechanical Information Technology	8544
OS2-2 16:25-16:40	A Self-interference Canceller Design Based on Knowledge-driven Neural Network <i>Peng Gao, Jinling Xing, Songhu Ge, Yu Guo, Zhongpu Cui, Fangmin He</i> College of Electrical Engineering, Zhejiang University	8780
OS2-3 16:40-16:55	Simultaneous Continuous- and Discrete-Time Unknown Input Filtering <i>CHIEN-SHU HSIEH</i> Chinese Culture University	8751
OS2-4 16:55-17:10	A Model-Based Spiking Neural Network Design for Real-time Spectra Analysis Using LMS Algorithm <i>Lei Zhang</i> University of Regina	8740
OS2-5 17:10-17:25	Characterization and Analysis of Mutual Terrain-Scattered Interference Based on Different Jamming Signal Waveforms <i>Zexi Ren, Zhaolin Zhang, Mingliang Tao, Zixun Guo, Jia Su</i> Northwestern Polytechnical University Xi'an, China	8673
OS2-6 17:25-17:40	Interrupted sampling forwarding jamming parameter estimation based on YOLOv7-tiny <i>Zhao peng Shi, Hao Wu, Xuan Zhu, Wan tian Wang, Xun Ni, Jia hao Zhang</i> School of Electronic Information and Communications, Huazhong University of Science and Technology	8564

**15:50-17:50, Wednesday, July 31, 2024**  
**Jade 2 meeting room**

**Special Session 7: Miniatured Wideband Antenna**

**Session Chair:**

**Wang Xiao Fei, Beijing Institute of Space Long March Vehicle**

**Topic 2: Signal Processing (SP) and Information Technology**

**Paper Information**

SS7-1 15:50-16:05	A novel tightly coupled dual-polarized crossed dipole array antenna <i>Xuebin Li, Ziyu Zhang, Xianbao Zheng, Jieying Bai, Xi Li, Jiawei Yang</i> Xidian University	8752
SS7-2 16:05-16:20	Ultra-Wideband Microstrip Patch Antenna with the Profile of 1.6 mm Covering 3.14~5.51 GHz for 5G Mobile Terminal Applications <i>Heng Zhang, Le Chang, Zhang Anxue</i> Xi'an Jiaotong University	8709
SS7-3 16:20-16:35	Fast Measurement of Single-Cut Far-Field Pattern of two-dimensional antenna array at a Quasi-Far-Field Range <i>Junshuo Shui, Shuangqi Wang, Sibao Deng, Xianbao Zheng, Xi Li</i> School of Information Science and Engineering Wuhan University of Science and Technolog	8699
OS2-7 16:35-16:50	Widely Linear Beamforming via Interpolated Difference-Sum Co-Array in Satellite Communications <i>Zhen Meng, Feng Shen, Fuqiang Li</i> China University of Mining and Technology	8531
OS2-8 16:50-17:05	Exact Observation Based Phase Preservation Bistatic SAR Sparse Imaging: Initial Result <i>Zhefan Jin, Jingjing Zhang, Yufan Song, Hui Bi</i> Nanjing University of Aeronautics and Astronautics	8476
OS2-9 17:05-17:20	A Novel Complex-Valued Network for Phase Preservation Sparse SAR Imaging: Initial Result <i>Lingyu Li, Hui Bi, Jingjing Zhang, Yufan Song, Qian Guo</i> Nanjing University of Aeronautics and Astronautics	8475
OS2-10 17:20-17:35	Research on Interference Methods for Interferometer Direction-finding Based on Dual-point Source Co-processing <i>Qi Zhao, Zhonghao Lu, Shunping Xiao</i> National University of Defense Technology	8370
OS2-11 17:35-17:50	Trial Study on Sea Clutter Identification and Target Detection <i>Hongguang Ma, Jinku Guo, Buyu Zhang, Binzhou Yan, Jian Wu, Weifeng Chen</i> Xi'an Daheng Tiancheng IT Co. Ltd	8238

**15:50-17:45, Wednesday, July 31, 2024**  
**Jade 3 meeting room**

**Special Session 8: microwave nonlinearity and microwave sensing**

**Session Chair:**

**Ming Ye, College of Information and Control Engineering, Xi'an University of Architecture and Technology**

**Xiaolong Zhao, School of Microelectronics, Xi'an Jiaotong University**

**Topic 3: Microwave Technology and Antennas**

**Paper Information**

SS8-1 15:50-16:10	Preliminary Study on Silicon Wafer Characterization Using Quasi-Optical Resonator ( <i>Invited Talk</i> ) <i>Wang Xueer, Ming Ye, Haotian Guo</i> Xian University of Architecture and Technology	8794
SS8-2 16:10-16:30	Modeling and EM Simulation Methods of Nonlinear Effects in Passive Microwave Components ( <i>Invited Talk</i> ) <i>Xiaolong Zhao</i> Xi'an Jiaotong University	None
SS8-3 16:30-16:45	Preliminary Study on Noncontact Measurement of Mechanical Vibration by Near-field Microwave <i>Ye Ming, Yongjiang Bai, Haolin Shi, Jianqiao Chen, Fang Yang</i> Xian University of Architecture and Technology	8790
SS8-4 16:45-17:00	Measurement of Sheet Resistance of Heated Coated Glass using Cylindrical Cavity Resonator <i>Wei Liu, Ming Ye, Gang Yu</i> Xian University of Architecture and Technology	8584
OS3-1 17:00-17:15	A novel 2×6 beamforming network for shaping flat-topped radiation patterns <i>Li Sun, Wang Li, Yihang Li, Junyi Gu, Yangming Wan, Guanjun Qian</i> Northwestern Polytechnical University	8843
OS3-2 17:15-17:30	Design of a broadband tightly coupled circular array antenna <i>Li Sun, Yihang Li, Wang Li, Junyi Gu, Yangming Wan, Guanjun Qian</i> Northwestern Polytechnical University	8842
OS3-3 17:30-17:45	A High Gain Omnidirectional Dipole Array Antenna for WiFi-6E <i>Wenzhe Gu, Botao Feng, Yiyuan Luo, Xuexin Zhu, Yun Lu</i> Huizhou University	8771

**15:50-17:50, Wednesday, July 31, 2024**  
**Jade 4 meeting room**

**Special Session 9: Design and Evaluation of Antenna Arrays for Next Generation Communications**

**Session Chair:**

**Xiaoming Chen, Xi'an Jiaotong University**

**Luyu Zhao, Anhui University**

**Paper Information**

SS9-1 15:50-16:10	Radiation Pattern Decoupling of E-Plane SIW Cavity-Based Slot Antenna and Arrays ( <i>Invited Talk</i> ) <i>Mingqi Li, Nan Yang, Kwok Wa Leung, Kai Lu, Peng Fei Hu, Yunliang Long</i> Sun Yat-sen University	8574
SS9-2 16:10-16:30	Field Behavior Control and Evaluation of Beamforming Near-Field Antenna Array ( <i>Invited Talk</i> ) <i>Ruizhi Liu, Zhian Deng, Weijian Si, Ke Wu</i> Harbin Engineering University	8571
SS9-3 16:30-16:50	MIMO Over-the-Air Testing for Wideband Carrier Aggregation Applications with a Radiated Two-Stage Method ( <i>Invited Talk</i> ) <i>Huaqiang Gao, Xiaoming Chen</i> Xi'an Jiaotong University	8474
SS9-4 16:50-17:05	A kind of Sub-6 GHz/Millimeter Wave Dual-Wideband Shared-Aperture Antennas by Reusing the Mushroom Structure <i>Geng Xin, Yang Wen-Wen, Chen Jian-Xin</i> Nantong University	8613
SS9-5 17:05-17:20	Diagnosis Using Equivalent Magnetic Current Method for Transmittary based CART <i>Jiaqian Ding, Junhao Zheng, Xiaobo Liu, Xiaoming Chen</i> Xi'an Jiaotong University	8590
SS9-6 17:20-17:35	Fast Total Radiated Power Tests Based on Igloo Sampling <i>Jianchuan Wei, Xiaoming Chen</i> Xian Jiaotong University	8465
SS9-7 17:35-17:50	A Gain-Enhanced 77GHz Series-fed Patch Antenna <i>Xinyue Guo, Qian Chen, Bowen Wu, Songlin Yan, Minjia Chai, Zhixiang Huang</i> Anhui university	8463

**15:50-17:40, Wednesday, July 31, 2024**  
**Jade 5 meeting room**

**Special Session 10: Advanced multifunctional metasurfaces: physics and applications**

**Session Chair:**

**Prof. Hongyu Shi, Xi'an Jiaotong University**

**Prof. Jiafu Wang, Airforce Engineering University**

**Topic 3: Microelectronic Devices and Integrated Circuits**

**Paper Information**

SS10-1 15:50-16:10	Janus Metasurfaces for Directional Control of Electromagnetic waves <i>(Invited Talk)</i> <i>Chen Ke</i> Nanjing University	8721
SS10-2 16:10-16:25	Microwave Polarization Detection System Based on Spoof Localized Surface Plasmons <i>Fei Ma, Yumeng Yang, Bo Wang, Hongsheng Chen, Fei Gao</i> Zhejiang University	8743
SS10-3 16:25-16:40	The sub-diffraction microwave needle beam generated by transmissive metasurface <i>Jialin Feng, Hongyu Shi, Jianjia Yi, Juan Chen, Xiaoming Chen, Anxue Zhang, Zhuo Xu</i> Xian Jiaotong University	8601
SS10-4 16:40-16:55	Multi-polarized Phase Reconfigurable Metasurface <i>Weiren Zhu, Jie Tian</i> Shanghai Jiao Tong University	8508
SS10-5 16:55-17:10	Design and Applications of Metasurfaces with Independent Amplitude and Phase Control <i>Yunhao Jiao, Hongyu Shi, Xiaoming Chen, Jianjia Yi, Juan Chen, Anxue Zhang, Haiwen Liu</i> xian jiaotong university	8507
OS3-4 17:10-17:25	All-Metal Metamaterial Based Leaky Wave Antenna with High Power Capacity and Fixed Frequency Beam Scanning <i>Yu Yang, Yeping Zhang, Ping Xie, Bixiao Jiang, Shitao Chen, Chuan Yu</i> Institute of Applied Electronics, China Academy of Engineering Physics	8605
OS3-5 17:25-17:40	A Study on the Wide-Angle Stability of Programmable Metasurfaces with Rectangular and Triangular Grids <i>Linying Fang, Lu Liu, Peng Chen, Tongyu Ding</i> School of Ocean Information Engineering, Jimei University, Xiamen 361021, China	8515

**13:30-15:20, Thursday, August 1, 2024**  
**Jade 1 meeting room**

**Special Session 12: AI-based radar target detection, imaging, and recognition**

*Session Chair:*

**Cunqian Feng, Air Force Engineering University, Xi'an, China**

**Weike Feng, Air Force Engineering University, Xi'an, China**

**Xiaowei Hu, Air Force Engineering University, Xi'an, China**

**Session 26: Green Communication for 6G**

**Organizer:**

**Li Xingwang, Henan Polytechnic University, lixingwang@hpu.edu.cn**

**Hao Wanming, Zhengzhou University, iewmhao@zzu.edu.cn**

**Yue Xinwei, Beijing Information Science and Technology University, xinwei.yue@bistu.edu.cn**

**Paper Information**

SS12-1 13:30-13:50	Clutter Suppression Based on ICUR-RPCA for Random Missing Data <i>(Invited Talk)</i> <i>Yifan Guo, XiXi Chen, Yingmin Wang</i> Northwestern Polytechnical University	8778
SS12-2 13:50-14:05	Deep unfolding based microwave imaging with spin-decoupled programmable metasurface <i>Fan Zhang, Weike Feng, Chaohui Wang, Tong Liu, Tao Pu, Huanhuan Gao, Zhengjie Wang, He-Xiu Xu</i> Air Force Engineering University	8799
SS12-3 14:05-14:20	Ultra-Low Altitude Target Intelligent Recognition via Airborne Pulse-Doppler Radar <i>Zhaolong Wang, Weike Feng, Xiaokuan Zhang, Tao Pu, Xixi Chen, Binfeng Zong</i> Air Force Engineering University	8667
SS12-4 14:20-14:35	Radar HRRP Estimation Based on Deep Unfolding Networks under Interrupted Sampling Repeater Jamming <i>Tao Pu, Weike Feng, Pengcheng Wan, Xiaowei Hu, Yiduo Guo, Xixi Chen</i> Air Force Engineering University	8572
SS12-5 14:35-14:50	A Real-Valued Off-Grid DOA Estimator Via Sparse Bayesian Learning Exploiting Wishart prior <i>Ninghui Li, Xiaokuan Zhang, Weike Feng, Fan Lv, Zhaolong Wang, Binfeng Zong</i> Air Force Engineering University	8490
SS12-6 14:50-15:05	Intelligent Perception Method of Shipborne Radar Jamming Signal Based on YOLOv8 <i>Xuan Zhu, Hao Wu, Fangmin He, Zhaopeng Shi, Xi Yu, Jin Meng</i> School of Electrical Engineering and Automation, Wuhan University	8418
SS26-1 15:05-15:20	Two-Stage High Precision Positioning for mm-Wave OFDM Systems <i>Junxia Li, Xin Wang, Zhengyu Zhu, Wanming Hao, Yongjun Xu, Xingwang Li</i> Henan Polytechnic University	8479

**Coffee Break**

**13:30-15:30, Thursday, August 1, 2024**  
**Jade 2 meeting room**

**Special Session 13: Recent Progress of Artificial Intelligence in Cyberspace Security, Information and Communications Technology**

*Session Chair:*

**Zhipan Wu, Huizhou University**

**Xiaoye Wang, Huizhou University**

**Paper Information**

SS13-1 13:30-13:50	Analog Circuit Fault Diagnosis Based on Residual Network and Deep Channel Attention ( <i>Invited Talk</i> ) <i>Lijian Zhou, Qingyu Meng, Yiping Sun, Yilin Lu, yuanfeng Zhang</i> Qingdao University of Technology	8820
SS13-2 13:50-14:10	Enhancing Precision Agriculture: YOLOv8 for Accurate Corn Disease and Pest Detection ( <i>Invited Talk</i> ) <i>Zhipan Wu, Yunhe Jiang, Xinyi Li, Kwok L. Chung</i> Huizhou University	8444
SS13-3 14:10-14:30	Prediction method of small sample formation fracture pressure based on BP neural network ( <i>Invited Talk</i> ) <i>Lijian Zhou, Yifan Kong, Mengyuan Wang, Wenchao Zhang, Kun Zhao</i> Qingdao University of Technology	8824
SS13-4 14:30-14:45	AI-Powered Cybersecurity: Enhancing Threat Detection and Defense in the Digital Age <i>Xianni Zhang, Pengfei Wang, Haonan Jia, Zhen Huang, Runfeng Zhao</i> Beijing Polytechnic College	8834
SS13-5 14:45-15:00	Design and Implementation of An Intelligent Automated System for Industrial Lamp Cup Inspection and Grading based on Machine Vision <i>Jiaji Zhang, Dongxiong Li, Chengjie Wei, Xiaoye Wang, Gang Peng</i> Huizhou University	8726
SS13-6 15:00-15:15	Multi-Scale SE-SK Network for Human Falling Detection using IR-UWB Radars <i>Qinhuan Yang, Xiaoye Wang, Xinyue Kang, Yulan Zhang, Jianchao Zheng</i> Huizhou University	8716
SS13-7 15:15-15:30	Design and Optimization of Quad-Band Qing-Shaped Patch Antenna Using CMA-Surrogate Model <i>Yingqi Pei, Kwok L. Chung, Caiying Li, Zhipan Wu, Guoming Lai</i> Huizhou University	8415

**Coffee Break**

**13:30-15:35, Thursday, August 1, 2024**  
**Jade 3 meeting room**

**Special Session 14: Emerging Sensing and Precision Measurement Technology**

**Session Chair:**

**Yongjun Huang, University of Electronic Science and Technology of China**

**Kai Chen, University of Electronic Science and Technology of China**

**Guangwei Deng, University of Electronic Science and Technology of China**

**Topic 3: Microwave Technology and Antennas**

**Paper Information**

SS14-1 13:30-13:50	Research and Experiment on Shock Protection Technology of High Overload MEMS Gyroscope ( <i>Invited Talk</i> ) <i>Boyu Hao, Huiliang Cao</i> North University of China	8558
OS3-6 13:50-14:05	Enhanced Harris Hawks Optimization Algorithm for Helical Array Synthesis <i>Tianlong Li, Yang Yang</i> College of Electronic Information, Sichuan University	8484
SS14-2 14:05-14:20	The optimal design of cavity optomechanical micro-hemispherical gyroscope <i>Maoyuan Wang, Senyu Zhang, Jun Liu, Zhe Li, Haoxuan Jiang, Xiaoliang Luo, Zhe Ji, Guangjun Wen, Yongjun Huang</i> School of Information and Communication Engineering University of Electronic Science and Technology of China Chengdu, China	8606
SS14-3 14:20-14:35	Attitude Measurement Based on Differential Array of MEMS Inertial Sensors <i>Haile Bai, Du Chen, Haomiao Jiang, Gang Li, Xiaoliang Luo, Zhe Ji, Guangjun Wen, Yongjun Huang</i> School of Information and Communication Engineering ,University of Electronic Science and Technology of China, Chengdu, China	8588
SS14-4 14:35-14:50	Design and realization of a high-precision cavity optomechanical accelerometer <i>Chengwei Xian, Pengju Kuang, Zhe Li, Xinwei Li, Xiaoliang Luo, Zhe Ji, Guangjun Wen, Yongjun Huang</i> University of Electronic Science and Technology	8554
OS3-7 14:50-15:05	A Non-contact Choke Structure for Broadside Adjustable Waveguide Phase Shifter <i>Xin Li, Bangji Wang</i> Southwest Jiaotong University	8478
OS3-8 15:05-15:20	A Compact Wide Load Rectifier Based on a grounded transmission line <i>Rufan Liu, Xuan Fan, Zijun Ma, yang yang, Huacheng Zhu</i> College of Electronics and Information Engineering, Sichuan University	8448
OS3-9 15:20-15:35	Digital Twin System for Reflector Antenna Structure Performance Evaluation Based on Surrogate Model <i>Hanwei Cui, Binbin Xiang, Wei Wang, Peiyuan Lian, Jianping Zhou, Shangmin Lin</i> Xinjiang University	8440

**Coffee Break**

**13:30-15:30, Thursday, August 1, 2024**  
**Jade 4 meeting room**

**Special Session 15: Advanced Filtering Components**

**Session Chair:**

**Xiaolong Wang, College of Electronic Science & Engineering, Jilin University**

**Baoping Ren, school of Information Engineering, East China Jiaotong University**

**Paper Information**

SS15-1 13:30-13:50	Multi-Band High-Temperature Superconducting Differential Bandpass Filters ( <i>Invited Talk</i> ) <i>Baoping Ren, Xuehui Guan</i> East China Jiaotong University	8768
SS15-2 13:50-14:10	Research Progresses of Vacuum Electronic Devices in AIRCAS ( <i>Invited Talk</i> ) <i>Wenxin Liu, Kedong Zhao, Zhihao Jin, Zhiqiang Zhang, Zhaochuan Zhang</i> Aerospace Information of Research Institute, Chinese Academy of Sciences	None
SS15-3 14:10-14:30	Microwave Ammonia Sensor Based on Waveguide Circuit ( <i>Invited Talk</i> ) <i>Quan Jin, Juhua Xu, Chang Xu, Xiaolong Wang</i> Jilin University	8495
SS15-4 14:30-14:45	Wide-Stopband HMSIW Filter Using Interdigital-Slot-Loaded Complementary Split-Ring Resonator and Ring-Mushroom-Shaped Slow-Wave Unit Cells <i>Huang Yujie, Huang Yong Mao, Wang Xiaolong</i> Xihua University	8793
SS15-5 14:45-15:00	A Novel Power Divider With Tunable Power Ratios and Reconfigurable Output Phase Differences <i>Jialin Huang, Xulong Guo, Shanshan Xue, Chang Xu, Yong Mao Huang, Xiaolong Wang</i> Jilin University	8493
SS15-6 15:00-15:15	Compact Lowpass Filter Based on Asymmetric Spoof Surface Plasmon Polaritons <i>Shengli Long, Baoping Ren, Chenguang Zhao, Wenjian Chen, Xuehui Guan</i> East China Jiaotong University	8402
SS15-7 15:15-15:30	A Flexible Graphene-Based Antenna for RF Vortex Generation <i>Shoudong Gu, Zuxian He, Xiaolong Wang, Volodymyr I Fesenko, Vladimir R Tuz</i> State Key Laboratory on Integrated Optoelectronics College of Electronic Science and Engineering International Center of Future Science, Jilin University	8377

**Coffee Break**

**13:30-15:25, Thursday, August 1, 2024**  
**Jade 5 meeting room**

**Special Session 16: Key Enablers for Smart Wireless Environments in the Era of 5G and Beyond**

*Session Chair:*

**Ke Guan, Beijing Jiaotong University**

**Wei Wang, Chang'an University**

**Pan Tang, Beijing University of Posts and Telecommunications**

**Special Session 13: Recent Progress of Artificial Intelligence in Cyberspace Security, Information and Communications Technology**

*Organizer:*

**Zhipan Wu, Huizhou University**

**Xiaoye Wang, Huizhou University**

**Paper Information**

SS16-1 13:30-13:50	Intelligent Interpretation and Application of Remote Sensing Images Under Information Constraints ( <i>Invited Talk</i> ) <i>Jie Feng</i> Xidian University	8810
SS16-2 13:50-14:10	Near-Field Channel Modeling for RIS-Enabled UAV Communications ( <i>Invited Talk</i> ) <i>Wangqi Shi, Hao Jiang</i> NUIST	8704
SS16-3 14:10-14:25	Ray-Tracing based CDL Modeling for C-V2X Scenarios with Multiple Roadside Vehicles <i>Yiran Wang, Danping He, Hao Duo, Hao An, Ke Guan, Dao Tian, Andrej Hrovat</i> Beijing Jiaotong University	8744
SS16-4 14:25-14:40	Analysis of Low-Altitude UAV-to-Ground Channel Characteristics in Rural Environment <i>Yuanfeng He, Yufan Wang, Haochuan Yue, Jiahui Chai, Yuzhe Sun, Yue Lyu, Qinghui Wu, Wei Wang</i> Chang'an University	8473
SS16-5 14:40-14:55	An Experimental Analysis of Channel Similarity in the UMa Scenario for 6G FR3 Communications <i>Ke Chen, Pan Tang, Tao Jiang, Huixin Xu, Gaofeng Nie, Lei Tian, Jianhua Zhang</i> Beijing University of Posts and Telecommunications	8383
SS13-8 14:55-15:10	Comparative Analysis of Object Detection Algorithms for Wood Defect Detection <i>Yaxuan Fang, Wanjie Huang, Chunwei Zheng, Xi Huang, Ming-Tzau Lin, Jung-Kuei Yang</i> Dongguan University Of Technology	8690
SS13-9 15:10-15:25	YOLO-LRHG: Long Range Hand Gesture detection using YOLO with attention mechanism <i>Yu-Yu Yang, Hsu-Han Yang, Jung-Kuei Yang</i> Dong Hwa University	8689

**Coffee Break**

**15:50-17:35, Thursday, August 1, 2024**  
**Jade 1 meeting room**

**Special Session 17: 6G multi-beam reconfigurable/scanning antenna and city development**

**Session Chair:**

**Botao Feng, Shenzhen University**

**Wenzhe Gu, Huizhou University**

**Paper Information**

SS17-1 15:50-16:05	A Polarization Reconfigurable Magneto-Electric Dipole Antenna for 2.2-2.7 GHz Band <i>Xuhang Zhou, Botao Feng, Xiao Ding, Li Deng, Wenzhe Gu, Qingsheng Zeng</i> Shenzhen University	8765
SS17-2 16:05-16:20	A Broadband Array Antenna Based on E-Shaped Folded Strip Elements for Millimeter-Wave N259/N260 Applications <i>Xi Wu, Botao Feng, Xiao Ding, Wenzhe Gu, Li Deng, Qingsheng Zeng</i> Shenzhen University	8762
SS17-3 16:20-16:35	Dual-Band Printed Antenna Design for Bluetooth and WLAN Applications <i>Naveed Hamid Nawaz Khan, Botao Feng, Xiao Ding, Wenzhe Gu, Li Deng, Kwok L. Chung</i> Shenzhen University	8761
SS17-4 16:35-16:50	Application of Evolutionary Computing for Optimal Design of Base Station Antenna <i>Naveed Hamid Nawaz Khan, Botao Feng, Xiao Ding, Li Deng, Wenzhe Gu, Kwok L. Chung</i> Shenzhen University	8760
SS17-5 16:50-17:05	A Reconfigurable Reflectarray Antenna at X-band <i>Lin Du, Botao Feng, Xiao Ding, Li Deng, Wenzhe Gu, Qingsheng Zeng</i> Shenzhen University	8758
SS17-6 17:05-17:20	A Leaky-Wave Beam Scanning Antenna with PIN Diodes <i>Gengbo Xiao, Botao Feng, Xiao Ding, Li Deng, Kwok L. Chung, Wenzhe Gu</i> Shenzhen University	8756
SS17-7 17:20-17:35	Device-free Human Activity Recognition Based on CSI Characteristic <i>Wei Yang, Xiaojun Jing, Hai Huang, Jinru Liu, Lei Ning, Botao Feng</i> Shenzhen Technology University	8420

**15:50-17:50, Thursday, August 1, 2024**  
**Jade 2 meeting room**

**Special Session 18: Efficient transmission and networking technology of satellite Internet for unmanned systems**

**Session Chair:**

**Xin Yang, Northwestern Polytechnical University,**  
**Dawei Wang, Northwestern Polytechnical University**

**Special Session 20: Optimal design of Intelligent metasurface-assisted systems**

**Session Chair:**

**Li Deng, Beijing University of Posts and Telecommunications**  
**Sixing Yin, Beijing University of Posts and Telecommunications**

**Paper Information**

SS18-1 15:50-16:05	A Time Allocation-Based User Position Monitoring for Satellite Networks <i>Ting Liu, Qian Xu, Xin Yang, Yanyun Gong, Jian Xie</i> Northwestern Polytechnical University	8804
SS18-2 16:05-16:20	Ground-based Radio Navigation Base Station Deployment Method based on Improved Multi-Objective Particle Swarm Optimization <i>Jiawei Liu, Chengyan He, Zhaolin Zhang, Chuang Han, Ling Wang, Mingliang Tao</i> Northwestern Polytechnical University	8688
SS18-3 16:20-16:35	Research on anti-jamming antenna based on Tiantong satellite <i>ZhongYing Liang, ZhaoLin Zhang, Ling Wang</i> Northwestern Polytechnical University	8595
SS18-4 16:35-16:50	Research on Satellite Beam Tracking Method Based on Carrier Detection and BP Neural Network Correction <i>Chongsen Chen, Xin Yang, Jianying Li, Xin Sui</i> Northwestern Polytechnical University	8447
SS20-1 16:50-17:05	Fast Microwave Near-Field Phase Retrieval Based on Improved Diffraction Neural Networks <i>Ying Li, Li Deng, Lijie Chen</i> Beijing University of Posts and Telecommunications	8777
SS20-2 17:05-17:20	Wideband Reconfigurable Bow-Tie Metasurface Design for Focusing <i>Kaiyue Yin, Li Deng, Lijie Chen</i> Beijing University of Posts and Telecommunications	8746
SS20-3 17:20-17:35	Dual-frequency Focusing Metasurface Based on Time Reversal in Complex Scattering Environment <i>Xingyu Liu, Li Deng, Lijie Chen</i> Beijing University of Posts and Telecommunications	8733
SS20-4 17:35-17:50	Compact UWB Antenna Array covering the X-band for the Radar Application <i>Dinglun He, Li Deng, Lijie Chen</i> Beijing University of Posts and Telecommunications	8727

**15:50-17:45, Thursday, August 1, 2024**  
**Jade 3 meeting room**

**Special Session 19: Spotlight on Metasurfaces Technology: Recent Advances and Applications**  
**Session Chair:**

**Weiren zhu, Shanghai Jiao Tong University, weiren.zhu@sjtu.edu.cn**  
**Zhenfei Li, Northwestern Polytechnical University, zhenfei\_li@nwpu.edu.cn**

**Special Session 21: The applications of digital technologies in economic society**  
**Session Chair:**

**Fan Zhang, School of Economics and Finance, Xi'an Jiaotong University**  
**Xue Li, International Business School, Shaanxi Normal University**  
**Chen Wu, School of Economics, Xi'an University of Finance and Economics**

**Paper Information**

SS19-1 15:50-16:10	Terahertz Full-Space Metasurface with Independent Amplitude-Phase Control based on FSS ( <i>Invited Talk</i> ) <i>Xin Zhang, Chiben Zhang</i> Aerospace Technology System Simulation Technology Beijing Corporation Ltd	8533
SS19-2 16:10-16:30	Broadband Omnidirectional Abnormal Behavior of Ultralow Loss Visible Spectrum Metamaterials ( <i>Invited Talk</i> ) <i>Xianfeng Wu, Jing Zhao, Xiaopeng Zhao</i> Northwestern Polytechnical University	8506
SS19-3 16:30-16:45	Arbitrary Polarization Conversion And Phase Control Using Full-Parameter AA-Phase Metasurface <i>Tong Liu, Yanzhao Wang, Weike Feng, Chaohui Wang, Fan Zhang, Zhengjie Wang, Yuqiong Zhang, Hui Wang, He-Xiu Xu</i> Air force Engineering University	8622
SS19-4 16:45-17:00	Broadband Extreme Scattering Reduction In A Graphene-Based Transparent And Flexible Metasurface <i>Haoyang Shi, Weiren Zhu</i> Shanghai Jiao Tong University	8502
SS19-5 17:00-17:15	Mode Switchable Vortex Beam Generation Using Annular Traveling-Wave Fed Antenna Array <i>Luyi Wang, Hongyu Shi</i> Xian Jiaotong University	8500
SS21-1 17:15-17:30	Research On The Influencing Factors Of The Spread Of Posts In The Field Of Climate Change - Take Sina Weibo As An Example <i>Xue Li, Yizhuo Li, Yande Wu, Chen Wu, Juan Shi, Ying'an Cui</i> Shaanxi Normal University	8764
SS21-2 17:30-17:45	Research of Sampling Method For Cybercrime Black Industry Chain <i>Yingan Cui, Xue Li, Yande Wu</i> Xian University Of Technology	8651

**15:50-17:45, Thursday, August 1, 2024**  
**Jade 4 meeting room**

**Special Session 22: metasurface antenna and its application**

**Session Chair:**

**Li Sijia, Air Force Engineering University, lsj051@126.com**

**Luo Zhangjie, Southeast University, zjluogood@seu.edu.cn**

**Jia Yongtao, Xidian University, jiyongtao@xidian.edu.cn**

**Paper Information**

SS22-1 15:50-16:10	Optically-controlled Metasurface for Hybrid Wireless Communications <i>(Invited Talk)</i> Xin Ge Zhang, Ya Lun Sun, Wei Xiang Jiang Southeast University	8668
SS22-2 16:10-16:30	Breaking the Entanglement of Multiple Harmonics Using A Space-Time-Coding Metasurface <i>(Invited Talk)</i> Zhangjie Luo Southeast University	8557
SS22-3 16:30-16:45	An Ultralow-Profile Folded Transmitarray Antenna with Low RCS Based on Metasurface and Rasorber Zhengjie Wang, Yanzhao Wang, Chao Tian, Jiangang Liang, Weike Feng, Chaohui Wang, Tong Liu, Fan Zhang, He-Xiu Xu Air force Engineering University	8784
SS22-4 16:45-17:00	A Low-Profile Wideband Circularly Polarized Metasurface-based Filtering Antenna Xia Zhang, Guangshang Cheng, Lixia Yang, Yingsong Li, Zhixiang Huang Anhui University	8711
SS22-5 17:00-17:15	A Dual-Band Dual-Circularly Polarized Folded Transmitarray Using Dual Metasurfaces Hui Wang, Yuqiong Zhang, Yanzhao Wang, Zhengjie Wang, Tong Liu, Fan Zhang, Chaohui Wang, He-Xiu Xu, Chao Tian Air force Engineering University	8672
SS22-6 17:15-17:30	Low-scattering Two-dimensional antenna array based on Zero-backtracking Method Yukang Lu, Jiaming Sun, Jiandong Zhao, Xiaochuan Gao, Zhuohuang Cao, Yuejun Zheng College of Electronic Science and Technology, National University of Defense Technology Changsha China	8618
SS22-7 17:30-17:45	A Low-power 1-Bit Wideband Reflection-Type Phase Shifter for Reconfigurable Metasurface Xinyu Cai, Mengyao Zhao, Zhangjie Luo Southeast University	8548

**15:50-17:40, Thursday, August 1, 2024**  
**Jade 5 meeting room**

**Special Session 24: Reconfigurable and multifunctional metasurfaces and their antenna applications**

**Session Chair:**

**Ke Chen, Nanjing University, ke.chen@nju.edu.cn**

**Jia Yongtao, Xidian University, jiayongtao@xidian.edu.cn**

**Session 22: metasurface antenna and its application**

**Paper Information**

SS24-1 15:50-16:10	Multibeam Metasurface Antenna Enabled by Orbital Angular Momentum Demultiplexing Feeding ( <i>Invited Talk</i> ) <i>Hongyu Shi, Luyi Wang</i> Xi'an Jiaotong University	8499
SS24-2 16:10-16:25	A Polarization-Multiplexing Metasurface Logic Operator <i>Qiuyu Zheng, Kai Qu, Ke Chen, Junming Zhao, Tian Jiang, Yijun Feng</i> Nanjing University	8723
SS24-3 16:25-16:40	Reconfigurable Absorptive-Polarization-Converting Metasurface for Dynamic Wavefront Control <i>Jiahao Wang, Ke Chen, Shaojie Wang, Junming Zhao, Yijun Feng</i> Nanjing University	8707
SS24-4 16:40-16:55	Graphene-enabled tunable and multifunctional metasurface for broadband diversity manipulation of terahertz wave <i>Yin Zhang, Wenjing Zhu, Wanghui Zhang</i> School of Information Engineering, Nanjing University of Finance and Economics	8701
SS24-5 16:55-17:10	Design of Reconfigurable Frequency Selective Resorber with Liquid Metal <i>Peng Geng, Yongtao Jia, Ying Liu</i> National Key Laboratory of Radar Detection and Sensing, Xidian University	8522
SS24-6 17:10-17:25	Transmissive Reconfigurable Metasurface for Near-field Focusing in C-Band <i>Jingchen Yang, Yueyi Yuan, Yuxiang Wang, Kuang Zhang</i> Harbin Institute of Technology	8510
SS22-8 17:25-17:40	A Dual-polarization Amplitude and Phase Modulated Active Metasurface <i>Ziming Wei, Xiongbin Wu, Daolin Fu, Wei Xiong, Hong Bie, Yong Mao, Yongjin Zhou</i> Shanghai University	8717

**08:30-10:10, Friday, August 2, 2024**  
**Jade 1 meeting room**

**Special Session 23: Discussion of advanced numerical techniques and its applications on microwave circuits, radiation components, optical devices and other integrated design**

**Session Chair:**

**Zhixiang Huang, Anhui University, zxhuang@ahu.edu.cn**

**Naixing Feng, Anhui University, fengnaixing@ahu.edu.cn**

**Yuxian Zhang, Anhui University, yxzhang@ahu.edu.cn**

**Paper Information**

SS23-1 08:30-8:50	Efficient Full-wave Finite Element EM Simulations for Real-life Signal Integrity Applications ( <i>Invited Talk</i> ) <i>Wei Wang, Peng Zhao, Kanglong Zhang, Gaofeng Wang</i> Hangzhou Dianzi University	8795
SS23-2 08:50-09:10	Far-Field Wireless Power Transfer System Enabled by Electrically Small Huygens Dipole Antennas for Battery-Free Internet-of-Things Applications ( <i>Invited Talk</i> ) <i>Wei Lin</i> The Hong Kong Polytechnic University	8642
SS23-3 09:10-09:25	Design of An Ultra-Wideband Antenna Considered Multiple Input Multiple Output Function <i>Zhao Linfei, Zheng Hongxing</i> Hebei University of Technology	8825
SS23-4 09:25-09:40	Efficient Gas Breakdown Analysis Method for Transient Physical Models Based on Implicit Differencing <i>Xi Shen, Haoran Qin, Tiancheng Zhang, Huaguang Bao, Dazhi Ding</i> Department of Integrated Circuit Engineering Nanjing University of Science and Technology	8754
SS23-5 09:40-09:55	A Compact Wideband SIW Horn Antenna for Applications in X and Ku Bands <i>Shirui Chen, Yilin Si, Huiqing Zhai, Cheng Zhu, Nan Wang</i> School of Electronic Engineering, Xidian University	8729
SS23-6 09:55-10:10	Phase spectrum prediction and structure design of metasurface based on attention mechanism and deep neural network <i>Yin Zhang, Jun Yu</i> School of Information Engineering, Nanjing University of Finance and Economics	8700

**Coffee Break**

08:30-10:05, Friday, August 2, 2024  
Jade 2 meeting room

**Special Session 25: Microwave-induced Plasma and its Application**

*Session Chair:*

**Yang Yang, Sichuan University, [yyang@scu.edu.cn](mailto:yyang@scu.edu.cn)**

**Zhu Huacheng, Sichuan University, [zhuhuacheng@126.com](mailto:zhuhuacheng@126.com)**

**Paper Information**

SS25-1 08:30-08:50	Microwave Plasma Technology and Its Applications in Semiconductor Manufacturing ( <i>Invited Talk</i> ) <i>Yang Yang</i> College of Electronic Information, Sichuan University	8450
SS25-2 08:50-09:05	Efficient microwave plasma torch based on asymmetric propagation <i>Jing Zhang, Huacheng Zhu</i> College of Electronics and Information Engineering, Sichuan University	8579
SS25-3 09:05-09:20	Multi-physics simulation of hydrogen electron cyclotron resonance microwave plasma vapor deposition <i>Jiahui Han, Huacheng Zhu, Yang Yang</i> School of Electronic Information Sichuan University	8658
SS25-4 09:20-09:35	Design and investigation of a large area microwave plasma device <i>Qiulin Wang, Huacheng Zhu</i> Sichuan University	8527
SS25-5 09:35-09:50	Compact Surface Wave Plasma Electrodeless Lamps Based on Coaxial Structure <i>Yuqing Huang, Huacheng Zhu, Yang Yang</i> Sichuan University	8497
SS25-6 09:50-10:05	Design of Microwave Plasma Sources Based on Gradient Index Metamaterials <i>Fengming Yang, Huacheng Zhu, Yang Yang</i> Chengdu University of Technology	8461

**Coffee Break**

**08:30-10:10, Friday, August 2, 2024**  
**Jade 3 meeting room**

**Special Session 27: Planar compact antenna and high-density array**

**Session Chair:**

**Mei Li, Chongqing University, li.mei@cqu.edu.cn**

**Neng-Wu Liu, Xidian University, nwliu@xidian.edu.cn**

**Jianxing Li, Xi'an Jiaotong University, jianxingli.china@xjtu.edu.cn**

**Special Session 33: Recent Advancements in Artistic Antennas and Metasurface-Based Antennas**

**Session Chair:**

**Hailiang Zhu, Northwest Polytechnical University**

**Jianxun Su, Communication University of China**

**Kwok L. Chung, Huizhou University**

**Paper Information**

SS27-1 08:30-08:50	Design of a Compact Low-Profile Wideband Metasurface Antenna ( <i>Invited Talk</i> ) <i>Wei Zhu, Mei Li, Tang Ming-Chun</i> Chongqing University	8623
SS27-2 08:50-09:10	Design Principle of Multi-Mode Antennas and Their Application ( <i>Invited Talk</i> ) <i>Neng-Wu Liu</i> Xidian University	8513
SS27-3 09:10-09:25	An Evanescent Wave Narrow-Band Diplex Filtenna Based on All-Metal Design <i>Wei Zhou, Da Yi, Ming-Chun Tang</i> Chongqing university	8614
SS27-4 09:25-09:40	Design Approach of The Wideband Power Divider <i>Ruixi Yang, Shixi Huang, Mingrui Li, Nengwu Liu</i> Xidian University	8562
SS33-1 09:40-09:55	A Dual-Band LiShu Guo-Shaped Patch Antenna for 5G/B5G Wireless Communications <i>Caiying Li, Kwok L. Chung, Guoming Lai, Shiquan Wang</i> Huizhou University	8396
SS33-2 09:55-10:10	A Novel DM-RPA-Based Strain Sensor for High-Sensitivity 2-Dimensional Strain Monitoring <i>Lingling WANG, Kwok L. CHUNG, Ping SUN</i> Weifang University	8856

**Coffee Break**

**08:30-10:10, Friday, August 2, 2024**  
**Jade 4 meeting room**

**Special Session 28: Microwave and Terahertz Metasurface-based devices: Recent Advances and Applications**

**Session Chair:**

**Yongzhi Cheng, Wuhan University of Science and Technology, chengyz@wust.edu.cn**

**Song Wu, Hubei University of Technology, 20191049@hbut.edu.cn**

**Special Session 25: Microwave-induced Plasma and its Application**

**Organizer:**

**Yang Yang, Sichuan University, yyang@scu.edu.cn**

**Zhu Huacheng, Sichuan University, zhuhuacheng@126.com**

**Paper Information**

SS28-1 08:30-08:50	Low Radar Cross-Section Metasurface Antenna with High Spatial Utilization ( <i>Invited Talk</i> ) <i>Jie Yang, Wenyu Hao, Xiao Ji</i> Huazhong University of Science and Technology	8821
SS25-1 08:50-09:10	Modelling and design of microwave plasma sources for electronic applications ( <i>Invited Talk</i> ) <i>Wencong Zhang, Yong Yang, Dongxue Han, Renyu Peng, Jialiang Yang</i> <i>Jiangqi Yu</i> Guiyang University	8422
SS28-2 09:10-09:25	Graphene-Based Metasurface for Full-space Terahertz Wave Manipulation <i>Liu Cao, Yujie Liu, Xiaojian Fu</i> Southeast University	8702
SS28-3 09:25-09:40	A Graphical aid of the Smith Chart to Analyze the Linear to Circular Polarization Converter Based on Metasurfaces <i>Geng Wang, Yihang Zhang, Yangsen Hu, Jing Xia, Xiao Ji, Song Wu</i> Hubei University of Technology	8657
SS28-4 09:40-09:55	Metasurface-based Polarization Converter Using Smith Chart Analysis <i>Yihang Zhang, Yangsen Hu, Zhao Liu, Wanwan Jin, Xiao Ji, Song Wu</i> Hubei University of Technology	8620
SS28-5 09:55-10:10	Design of a Ku-band ESS with High Shielding Effectiveness <i>Dong Wang, Yongzhi Cheng</i> wuhan university of science and technology	8462

**Coffee Break**

**08:30-10:10, Friday, August 2, 2024**  
**Jade 5 meeting room**

**Special Session 31: Frontiers in the areas of 6G and next-generation communication technology**

**Session Chair:**

**Haiyang Ding, National University of Defense Technology, dinghy2003@nudt.edu.cn**

**Haipeng Li, National University of Defense Technology, lihaipeng@nudt.edu.cn**

**Special Session 34: RF and microwave metamaterials for wireless communications**

**Session Chair:**

**Prof. Xiaojun Huang, Xi'an University of Science and Technology, Email:hxj@xust.edu.cn**

**Dr. Wang Yao, Xi'an University of Science and Technology, Email:yaowang@xust.edu.cn**

**Prof. Helin Yang, Central China Normal University, Email: emyang@mail.cnu.edu.cn**

**Paper Information**

SS31-1 08:30-08:50	Improving Antenna Isolation for Bistatic In-band Full-duplex Base Station Application with Graphene and DGS ( <i>Invited Talk</i> ) <i>Xiaosheng Zhang, Yuke Guo, Luyu Zhao</i> Xidian University	8788
SS31-2 08:50-09:10	Metasurfaces for Backscatter Communication ( <i>Invited Talk</i> ) <i>Haipeng Li</i> National University of Defense Technology	8742
SS34-1 09:10-09:25	A 2.5V 200mA CMOS Low-Dropout Voltage Regulator with Robust PVT <i>Wangting Bao, Jiang Luo, Yongjian Jin, Yi Shen, Shuhuan Fu, Yuqian Pu, Hongchang Shen</i> Hangzhou Dianzi University	8857
SS34-2 09:25-09:40	W-band CMOS $\times 8$ Frequency Multiplier With High Harmonic Rejection <i>Yizhao Li, Jiang Luo, Yi Shen, Xiang Wang, Jun Liu, Hongchang Shen</i> Hangzhou Dianzi University	8854
SS34-3 09:40-09:55	Incident Power Density Evaluation Method Base on Metalens and R-U-Net <i>Miao Cao, Zicheng Liu, Ruijie Xiao</i> Northwestern Polytechnical University	8710
SS34-4 09:55-10:10	Design and Analysis of Independently Modulatable Dual-Frequency Energy-Selective Surface <i>Ji Yuhao, Huang Xiaojun</i> College of Communication and Information Engineering Xi'an University of Science and Technology	8616

**Coffee Break**

**10:25-11:55, Friday, August 2, 2024**  
**Jade 1 meeting room**

**Special Session 23: Discussion of advanced numerical techniques and its applications on microwave circuits, radiation components, optical devices and other integrated design**

**Session Chair**

**Zhixiang Huang, Anhui University, zxhuang@ahu.edu.cn**

**Naixing Feng, Anhui University, fengnaixing@ahu.edu.cn**

**Yuxian Zhang, Anhui University, yxzhang@ahu.edu.cn**

**Paper Information**

SS23-1 10:25-10:40	Efficient Microwave Rectifiers with Wide Input Power Dynamic Range <i>Ou Jun-Hui</i> South China University of Technology	8659
SS23-2 10:40-10:55	FEM Simulation of Hybrid-2DLMS-based Plasma Array Structure Used in Confrontation with High-Power Microwave <i>Chunzhi Dong, Naixing Feng, Xuesong Deng, Lixia Yang, Zhixiang Huang</i> Anhui University	8521
SS23-3 10:55-11:10	A 205 GHz Fully integrated Power Amplifier in 40-nm CMOS at Near-fmax Frequencies <i>yiheng song, fuchang chen, ruibing dong, Yi Wang</i> South China University of Technology	8509
SS23-4 11:10-11:25	A Structured Meshing Approach for FDTD Method <i>Bo Zhong, Jian Feng, Ming Fang, Zhixiang Huang</i> Anhui University	8350
SS23-5 11:25-11:40	Modeling of Resonant Radiation in Rod-like Structures <i>Nengcheng Deng, Yunhua Zhang, Siyuan He, Rumeng Chen, Wei Gong</i> Wuhan University	8519
SS23-6 11:40-11:55	High-Gain Difference Beam Planar Antenna Array for Millimeter-Wave Applications <i>Zhiwei Chen, Quan Sun, Daiweixuan Yang, Tongyu Ding, Ying Huang</i> Jimei University	8511

**10:25-11:45, Friday, August 2, 2024**  
**Jade 2 meeting room**

**Special Session 30: Emerging radiation and scattering manipulation technologies for antennas and arrays**

**Session Chair:**

**Ting Shi, Southwest Jiaotong University, tingshi@swjtu.edu.cn**

**Junbing Duan, Southwest Jiaotong University, duanjunbing@swjtu.edu.cn**

**Zhong-Xun Liu, Xidian University, liuzhongxun@xidian.edu.cn**

**Special Session 23: Discussion of advanced numerical techniques and its applications on microwave circuits, radiation components, optical devices and other integrated design**

**Organizer:**

**Zhixiang Huang, Anhui University, zxhuang@ahu.edu.cn**

**Naixing Feng, Anhui University, fengnaixing@ahu.edu.cn**

**Yuxian Zhang, Anhui University, yxzhang@ahu.edu.cn**

**Paper Information**

SS30-1 10:25-10:45	Design of A High Gain, Compact Patch Antenna with a Tilted Radiation Pattern ( <i>Invited Talk</i> ) <i>Chen Xiaoming, Wu Zhentian, Fang Xin</i> Anhui University	8671
SS30-2 10:45-11:00	A Transparent Metadevice for Radar-Infrared Compatible Stealth using Dual-Sized Thin ITO meta-films <i>Yanzhao Wang, Huiling Luo, Huanhuan Gao, Kai-yue Liu, He-Xiu Xu</i> Air force Engineering University	8553
SS30-3 11:00-11:15	Wide-Angle Scanning and Backward Scattering-Reduced Phased Array Composed of Dual Anti-Reflection-Phase Elements <i>Jia-Li Zhong, You-Feng Cheng, Ting Shi, Xin-Long Bian, Cheng Liao</i> Southwest Jiaotong University	8503
SS30-4 11:15-11:30	An Effective Control Strategy for Propagation Constants of Stub-Loaded Endfire Leaky-Wave Antenna <i>Junbing Duan, Lei Zhu, Cheng Liao</i> Southwest Jiaotong University	8491
SS23-7 11:30-11:45	A Collaborative Optimization Methodology for 2.5-D Advanced Package Considering Thermal and Power Integrity <i>Peng Zhang, Da-Wei Wang, Qiqiang Liu, Wen-Sheng Zhao</i> Hangzhou Dianzi University	8549

**10:25-12:00, Friday, August 2, 2024**  
**Jade 3 meeting room**

**Special Session 32: Spatiotemporal modulated Electromagnetic devices and applications**

*Session Chair:*

**Xiaoyi Wang, Tongji University**

**XuDong Bai, Northwestern Polytechnical University**

**Jingfeng Chen, Shanghai Jiaotong University**

**Special Session 23: Discussion of advanced numerical techniques and its applications on microwave circuits, radiation components, optical devices and other integrated design**

*Organizer:*

**Zhixiang Huang, Anhui University, zxhuang@ahu.edu.cn**

**Naixing Feng, Anhui University, fengnaixing@ahu.edu.cn**

**Yuxian Zhang, Anhui University, yxzhang@ahu.edu.cn**

**Paper Information**

SS32-1 10:25-10:45	Time-Modulated Spread-Spectrum Metasurfaces for Wireless Applications <i>(Invited Talk)</i> <i>Xiaoyi Wang</i> Tongji University	8537
SS32-2 10:45-11:00	Intra Beam Harmonic Suppression of 1-bit Space-time-coding Metasurfaces for Wideband Communication <i>TONG WU, Qingqing Wu, Zhenji Liu, Yu Xia, Ronghong Jin, Jingfeng Chen</i> Shanghai JiaoTong University	8695
SS32-3 11:00-11:15	Ultra-Wideband Transmissive Programmable Metasurface for Dynamic Electromagnetic Modulation <i>Longpan Wang, Yuhua Chen, Xudong Bai, Mengmeng Sun, Zhenyuan Li, Zhuoran Zhang</i> Northwestern Polytechnical University	8615
SS32-4 11:15-11:30	A Decoupling Method Based on Time-modulated Array with Harmonic Characteristic Analysis <i>Yu Xia, Anjie Cao, Xiaonan Zhao, Tong Wu, Ronghong Jin, Jingfeng Chen</i> Shanghai Jiao Tong University	8529
SS23-8 11:30-11:45	A Cylindrical Dielectric Resonator Antenna With Differential Beam <i>Yang Lanlan, Li Daotong, Sui Dongyi, Liu Xinyao, Liu Ying, Jiang Qi</i> Chongqing University	8691
SS23-9 11:45-12:00	Large-Scale Parallel Non-Conformal Complete Domain Decomposition for FE-BI-MLFMA <i>Jia-Tong Jing, Ming-Lin Yang, Wei-Jia He, Xin-Qing Sheng</i> Beijing Institute of Technology	8556

**10:25-11:55, Friday, August 2, 2024**  
**Jade 4 meeting room**

**Special Session 29: Multiphysics Simulation Method and Its Applications**

*Session Chair:*

**Guangshang Cheng, Anhui University, gscheng89@ahu.edu.cn**

**Huanhuan Zhang, Xidian University, hhzhang@xidian.edu.cn**

**Paper Information**

SS29-1 10:25-10:40	A Fast Analysis Method for Electromagnetic Scattering in Broad Frequency Band and Angular Domains of Periodic Arrays <i>Wei Zhou, Guangshang Cheng</i> Anhui University	8718
SS29-2 10:40-10:55	Signal Integrity Analysis of Microwave Circuits Based on FETD Method <i>Heng Fei Ma, Zheng Liang Lv, Qing Nan Fan, Hang Liu, Zheng Liang Jia, Huan Huan Zhang</i> Xidian University	8676
SS29-3 10:55-11:10	A Compact Improved Performance Circularly Polarized Rectenna With Harmonic Suppression <i>Chen Chen, Rasool Nouman, Jinwei Gao, Lin Wang, Yuan Yang</i> China West Normal University	8608
SS29-4 11:10-11:25	Simulation of Microfluidic Microwave Sensor Based on Taiji Resonator <i>Yun Ma, Chenxi Zhao, Deshen Hou, Chaojun Chen, Quanlin Guo, Dezhi Gou</i> China West Normal University	8573
SS29-5 11:25-11:40	Study on A Packed Bed Dielectric Barrier Discharge Plasma Reactor <i>ChangJiang Liao, Yuan Yang, Lin Wang</i> China West Normal University	8547
SS29-6 11:40-11:55	Absorbing Boundary Condition for the Hexagonal-Mesh-Based FDTD <i>Donghua Zhou, Bo Zhong, Jian Feng, Ming Fang</i> Anhui University	8468

**10:25-11:50, Friday, August 2, 2024**  
**Jade 5 meeting room**

**Special Session 35: Advances in mmWave Lens Antennas, Conformal Array for Modern Wireless Communications**

**Session Chair:**

**Min Wang, Chongqing University of Posts and Telecommunications, wangm@cqupt.edu.cn**

**Huanhuan Yang, Air Force Engineering University, jianye8901@126.com**

**Wei Luo, Chongqing University of Posts and Telecommunications, luoweil@cqupt.edu.cn**

**Special Session 34: RF and microwave metamaterials for wireless communications**

**Organizers:**

**Prof. Xiaojun Huang, Xi'an University of Science and Technology, Email:hxj@xust.edu.cn**

**Dr. Wang Yao, Xi'an University of Science and Technology, Email:yaowang@xust.edu.cn**

**Prof. Helin Yang, Central China Normal University, Email: emyang@mail.cnu.edu.cn**

**Paper Information**

SS35-1 10:25-10:45	A Circularly Polarized Filtering Dielectric Resonator Antenna based on SIW Cavity ( <i>Invited Talk</i> ) <i>Xiaozhen Liu, Wei Luo, Meilin Liu, Teng Xiong</i> Chongqing University of Posts and Telecommunications	8693
SS34-1 10:45-11:00	Ultra-Wideband Absorber Combining Magnetic Material and Metasurface <i>Gao Xinjie, Huang Xiaojun, Xu Hexiu</i> Xian University of Science and Technology	8591
SS34-2 11:00-11:15	A Highly Selective Frequency Selective Resorber With Helical Structure <i>Mao Minghao, Huang Xiaojun</i> Xian University of Science and Technology	8587
SS34-3 11:15-11:30	The influence of antenna frequency and roadway cross-sectional area on radio wave propagation in mine roadway <i>Wang Yiwen, Huang Xiaojun</i> Xian University of Science and Technology	8581
SS34-4 11:30-11:35	An active metasurface for beam manipulation <i>Xue Qi, Huang Xiaojun</i> Xian University of Science and Technology	8580
SS34-5 11:35-11:50	A Broadband Low-RCS Co-polarized Antenna Array Based on Metasurface <i>Ying Tian, Wang Yao, Huang Xiaojun</i> Xi'an University of Science and Technology	8538

## Poster Session I

<b>13:30-15:30, Wednesday, July 31, 2024</b> <b>Session chair: Anxue Zhang</b>	
Closed-form Equation for Passive Intermodulation of Microstrip Line due to Resistivity Nonlinearity <i>Xiaolong Zhao, yongning He, Anxue Zhang</i> Xian Jiaotong University	8847
A point-interval prediction method for photovoltaic power generation considering weather types: a novel hybrid deep learning model <i>Yuzhuo Dong, Wentao Ma, Jiahui Dai, Lihong Qiu, Peng Guo</i> Xi'an University of Technology	8830
Deep unfolding based microwave imaging with spin-decoupled programmable metasurface <i>Fan Zhang, Weike Feng, Chaohui Wang, Tong Liu, Tao Pu, Huanhuan Gao, Zhengjie Wang, He-Xiu Xu</i> Air Force Engineering University	8799
A Real-Valued Off-Grid DOA Estimator Via Sparse Bayesian Learning Exploiting Wishart prior <i>Ninghui Li, Xiaokuan Zhang, Weike Feng, Fan Lv, Zhaolong Wang, Binfeng Zong</i> Air Force Engineering University	8490
An Ultralow-Profile Folded Transmitarray Antenna with Low RCS Based on Metasurface and Rasorber <i>Zhengjie Wang, Yanzhao Wang, Chao Tian, Jiangang Liang, Weike Feng, Chaohui Wang, Tong Liu, Fan Zhang, He-Xiu Xu</i> Air force Engineering University	8784
A High Gain Omnidirectional Dipole Array Antenna for WiFi-6E <i>Wenzhe Gu, Botao Feng, Yiyuan Luo, Xuexin Zhu, Yun Lu</i> Huizhou University	8771
Research On The Influencing Factors Of The Spread Of Posts In The Field Of Climate Change - Take Sina Weibo As An Example <i>Xue Li, Yizhuo Li, Yande Wu, Chen Wu, Juan Shi, Ying'an Cui</i> Shaanxi Normal University	8764
Microwave Polarization Detection System Based on Spoof Localized Surface Plasmons <i>Fei Ma, Yumeng Yang, Bo Wang, Hongsheng Chen, Fei Gao</i> Zhejiang University	8743
The Analysis of Structures of a kind of Equilibrium Networks in a Cournot Oligopoly <i>Chen Wu, Fan Zhang</i> Xi an University of Finance and Economics	8735
A Compact Wideband SIW Horn Antenna for Applications in X and Ku Bands <i>Shirui Chen, Yilin Si, Huiqing Zhai, Cheng Zhu, Nan Wang</i> School of Electronic Engineering, Xidian University	8729
Design and Implementation of An Intelligent Automated System for Industrial Lamp Cup Inspection and Grading based on Machine Vision <i>Jiaji Zhang, Dongxiong Li, Chengjie Wei, Xiaoye Wang, Gang Peng</i> Huizhou University	8726
A Polarization-Multiplexing Metasurface Logic Operator <i>Qiuyu Zheng, Kai Qu, Ke Chen, Junming Zhao, Tian Jiang, Yijun Feng</i> Nanjing University	8723

Multi-Scale SE-SK Network for Human Falling Detection using IR-UWB Radars <i>Qinhuan Yang, Xiaoye Wang, Xinyue Kang, Yulan Zhang, Jianchao Zheng</i> Huizhou University	8716
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Incident Power Density Evaluation Method Base on Metalens and R-U-Net <i>Miao Cao, Zicheng Liu, Ruijie Xiao</i> Northwestern Polytechnical University	8710
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A Planar Dual Circularly Polarized Wide-Angle Scanning Phased Array <i>Zhe-Jun Zhu, Yu-Hang Yang, Lian-Wei Zhu, Yi-Lin Dong, Shi-gang Zhou</i> Northwestern Polytechnical University	8832
A Seawater Reconfigurable Antenna Based on 3d Printing Technology <i>Jing Gao</i> Liaoning Technical University	8826
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An Artificial Electromagnetic Metasurface For Special Reflective Reconfigurable Antenna Array <i>Yitong Cheng, Yuqi Zhang, Liang Zhou, Qingfeng Kong, Yiping Zang, Mengxin Ma, Jie Ma, Peng Li</i> Xi'an Institute of Electromechanical Information Technology	8596
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Radiation Pattern Computation with the Variable Resolution for Reflector Antennas using the CZT <i>Yang Zhang, Binbin Xiang, Shangmin Lin, Yongqin Zhao, Shike Mo, Wei Wang</i> School of Mechanical Engineering Xinjiang University	8543

D-plane Cross-polarization Suppression of Microstrip Patch Antennas <i>Guanglei Song, Qingnan Rong</i> China Academy of Aerospace Science and Innovation	8539
A RFID Chipless Tag Based on Hybrid Frequency-Polarization Coding <i>Zilong Chen, Yang Yang, Xiaoxiang He, Shengchuan Xiao</i> Nanjing University of Aeronautics and Astronautics	8535
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Active Compensation of Reflector Antenna Structural Deformation Based on Deep BP-Neural Network <i>Tianxiang Zheng, Binbin Xiang, Shangmin Lin, Wei Wang, Peiyuan Lian, Hanwei Cui</i> School of Mechanical Engineering, Xinjiang University, Urumqi, China	8441
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Study on a Dual-Function Thermoelectric Cooler-Thermoelectric Generator System <i>Rixiong Li, Min Tang, Longfei Li</i> Shanghai Jiao Tong University	8534
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Influence of AI on Network Security and Its Future Development <i>Xianni ZHANG, Cong CHENG, Mengze JIA, Yuqi LIU, Ziao GAO</i> Beijing Polytechnic College	8833
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A Circularly-polarized Metasurface antenna Array in Random Arrangement <i>Yi Zhao</i> officers college of PAP	8449
Fast and Accurate Electromagnetic-Thermal Multiphysics Analysis of Microwave Circuit Devices <i>Qi Zhang, Yanghui Pu, Zhicheng Ye, Ting Wan</i> Nanjing University of Posts and Telecommunications	8753
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A Screen-Shooting Resilient Video Watermarking Algorithm Utilizing Information Membrane Overlay <i>Jiameng Wang, Xiang Li, Xiaolong Li, Yao Zhao</i> Beijing Jiaotong University	8776

<p>Research on Low-Power FPGA Accelerator for Radar Detection  <i>Shuaijie Liu, Kun Li, Jinyang Luo, Xiaolong Li</i>  Anhui University</p>	8770
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<p>Real-time Wind Speed Analysis at Wind-damaged Tower of a Transmission Line  <i>Jiehua Ding, Xiaoling Yang, Yongsheng Zhao</i>  Central?Southern?China?Electric?Power?Design?Institute?CO.,LTD.?of?China?Power?Engineering?Consulting?Group</p>	8662
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<p>Bilinear Interpolation Algorithm Based on Verilog  <i>Yao Lu, Xiaoling Yang, Yongbo Jin</i>  Hubei University of Technology</p>	8635
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<p>Dual Bandpass Tunable Frequency Selective Surface Design  <i>jing xia, chang zhou, wanwan jin</i>  Wuhan Second Ship Design And Research Institute</p>	8630
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Improved Particle Swarm Algorithm for Sparse Array with Superior Global Sidelobe Levels <i>Jinyang Luo, Yuyan Duan, Kun Li, Lixia Yang</i> Anhui University	8541
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A Space-Time Modulated Metasurface Encoding Scheme for Orbital Angular Momentum Multiplexing <i>Yingqi Yue, Hui Deng, Junbing Liu, Minjie Li, Rongqiang Yang</i> Beihang University	8380
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A Fast Analysis Method of Port Voltage Standing Wave Ratio for Special Cascade Networks <i>Weidong Kong, Jihu Li, Kang Wu, Qiaonan Wang, Shixiong Deng, Peng Lin, Cong Wang, Kuang Zhang, Guohui Yang</i> Hebei Semiconductor Research Institute	8850
V-band Transceiver Based on Through Silicon Via (TSV) Technique <i>Yan-hong Gao, Dong-bo Chen, Shi-gang Zhou, Xi-long Lu</i> The 13th Research Institute of China Electronics Technology Group Corporation	8841
Testing and Analysis of DC/DC Circuit Boards Based in ESD Interference Sources <i>Jinxin Zhang, Dezhi Zeng, Deren Feng, Jinfu Liao, Zhaoquan Chen, Rui Ding, Rui Zhou, Jinming Chen, Weiheng Shao</i> School of Electric and Information Engineering Anhui University of Technology Ma'anshanAnhui, China	8798
Efficiency Analysis of UCAA for OAM Beam Generation <i>Lyu Lyu, Shitao Zhu, Die Li, Caipin Li</i> Xian Jiaotong University	8731

Ultra-wideband Vivaldi antenna for applications in microwave medical imaging <i>Yongli Han, Chaozhu Zhang, Mingyuan Ma, Xinyu Liao</i> Qilu University of Technology Jinan, China	8728
A Novel Broadband Low Profile Circularly Polarized Antenna Using AMC <i>Haowen Shi, Jilong Cui, Zijian Xing</i> School of Electronics and Information, Northwestern Polytechnical University	8607
Antenna Stealth Design Based on Polarization Reconfigurable Metasurfaces <i>Huan Gu</i> Jiangsu JARI Information Technology Co.,Ltd	8600
A Dual-Polarization Ultra-Wideband Frequency Selective Surface Based On External Dielectric Loading At Large Angle of Incidence <i>Huan Gu</i> Jiangsu JARI Information Technology Co.,Ltd	8599
A Wideband Circularly Polarized Folded Transmitarray Antenna With Linearly Polarized Feed <i>Xiangdong Sun, Xulong Guo, Yin Li, Yongliang Zhang, Yingsong Li</i> Inner Mongolia University	8430
A Design for an Ultra-Wideband Antenna with Reconfigurable Band-Notch Capabilities <i>Hao Zhang, Fang Zhang</i> College of Physical Science and Technology, Bohai University	8426
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Compact Tri-band Monopole Antenna for RFID/GPS/WLAN/WiMAX Applications <i>Ming Yang, Jinzhi Zhou</i> West Anhui University	8365
Three-Dimensional Silicon Based SIP Design of the Four-Channel Phased Array Radar TR Module for Ka-band Applications <i>Yanhong Gao, Dongbo Chen, Yihao Xia, Qingyu Kong, Zeyuan Chen, Zhongpeng Liu, Shigang Zhou, Xilong Lu</i> The 13th Research Institute of China Electronics Technology Group Corporation Shijiazhuang, China	8838
A Novel Design Method for a Miniaturized Vertical Interconnection TSV Structure <i>Yihao Xia, Qingyu Kong, Zeyuan Chen, Zhongpeng Liu, Yanhong Gao, Dongbo Chen, Shigang Zhou, Xilong Lu</i> School of Microelectronics Northwestern Polytechnical University Taicang, China	8837
A SPICE-Compatible Model for On-Chip Coplanar Coupled Waveguides Up to 110 GHz <i>Hong-Shun Yin, Peng Zhang, Xuan Lin, Chen-Yang Yao, Da-Wei Wang, Qi-Qiang Liu, Cheng-Hao Yu, Wen-Sheng Zhao</i> Hangzhou Dianzi University	8504
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BeautyGuard: Style Transfer-Based Adversarial Beautification for Facial Privacy Protection <i>Tiankuo Shi, Jingtian Wang, Xiaolong Li, Yao Zhao</i> Beijing Jiaotong University	8769

Optimal Arrangement of Time-shiftable Loads for Photovoltaic Power <i>Shuang Qie, Xuan Liu, Jian Dou, Yue Tang, Yina Du, Yue Han</i> China Electric Power Research Institute Co., Ltd	8732
A Network Security Management System Structure Based on Internet of Things <i>Shiliang Luo</i> Huizhou University	8494
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Exploratory Application of Dynamic Incremental-based Graph Attention Networks for Financial Fraud Recognition in Listed Companies <i>Wu Chengying, Liu Ruijia, Tan Shide</i> Zhejiang University	8443
Dual-branch Brain Tumor Classification Based on CNN and Transformer <i>Qian Wang, Haoshu Shi, Xiangping Wu, Xia Li</i> School of Information Engineering China Jiliang University	8437
A Dehazing Algorithm for Endoscopic Images Based on Cycle GAN <i>Shaoye Liu, Ling Dai, Han Dong, Bingxuan Zhang, Xiangping Wu</i> School of Information Engineering China Jiliang University	8436
A Fast Stereo Matching Network Based on Multi-Scale Feature Fusion <i>Bingxuan Zhang, Wangjun Wan, Shaoye Liu, Xiangping Wu</i> School of Information Engineering China Jiliang University	8435
Lung Nodule Detection Algorithm Based on Improved YOLOv5 Network Modeling <i>Xinchan Li, Pengfei He, Peixue Liu, Yiyan Zhang</i> Yantai University	8412
A Contactless Temperature Measurement and Identity Recognition Device <i>Dun Mao, Xindong Huang, Shuhua Li, Shaokang Zhou, Hongkai Nian</i> School of Opto-electronic and Communication Engineering, Xiamen University of Technology, Xiamen 361024, China	8401

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MonoMixNet: Self-Supervised Monocular Depth Estimation with a Mixed Network <i>Hongming Tao, Ping Wang, Junqing Wang, Yifan Cheng, Fajian Liu</i> School of Communication and Information Engineering Chongqing University of Posts and Telecommunications	8385
Research on Document Image Binarization: A Survey <i>Jinlong Ho, Min Liu</i> School of Opto-Electronic Communication Engineering Xiamen University of Technology	8375
Study on Oracle Bone Image Preprocessing Based on Fusion of Denoising and Enhancement Techniques: Improving Text Detection Accuracy <i>Hankun Yang, Bowei Zhu, Yanmin Zhang, Beiming Li</i> Yantai Research Institute of Harbin Engineering University	8373
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Thyristor Conduction Angle Acquisition Based on Strong Tracking Filter <i>Zhang Liguang, Liu Shan, Zhao Yuqian, Zhang Yuzhe</i> Xian Technological University	8722
A Control Method for Current Sharing in Interleaved LLC Resonant Converter <i>Yuan He, Yetao Jia, Longxiang Gao, Wei Xue, Yan Yang, Tian Gao</i> Northwestern Polytechnical University	8631
A Low-profile Wideband Antenna Based on Decoupling Surface for Millimeter-wave Phased Array Application <i>Bao Xiong, Yongzhong Zhu, Leng Han, Wenxuan Xie</i> Engineering University of PAP	8458
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A Wideband Cross-dipole Circularly Polarized Phased Array Antenna <i>Mengting Yang, Qian Chen, Xiangyu Zhou, Songlin Yan, Minjia Chai, Zhixiang Huang</i> Anhui University	8545
An Optically Transparent Infrared Selective Emitter accompanied by Customizable Digital Distribution <i>Yina Cui, Jun Wang, Huiting Sun, Yan Pang, Jiafu Wang</i> Air Force Engineering University	8638
Elimination of Interference Analysis for RIS Element Damage <i>Sipei Min, Canping Yu, Liping Li, Yingsong Li, Nikola Zlatanov</i> Anhui university	8712
Phase-shift Optimization and Trajectory Design for Wireless Communications aided by Double UAV-mounted Intelligent Reflecting Surfaces <i>Jie Song, Sixing Yin</i> Beijing University of Posts and Telecommunications	8540
Intelligent Reflecting Surface Aided Wireless Communication Systems: Joint Location and Passive Beamforming Design <i>Jintao Luo, Sixing Yin</i> Beijing University of Posts and Telecommunications	8249
A Salient Feature-guided Network Using a Two-stage Transfer Learning Strategy for Few-Shot Aircraft Detection in SAR Images <i>Jiyun Chen, Qian Guo, Jingjing Zhang, Hui Bi</i> Nanjing University of Aeronautics and Astronautics	8675
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