2023 IEEE International Workshop on Electromagnetics: Applications and Student Innovation Competition

July 15-18, 2023 • Harbin, China
http://www.iwem2023.org/

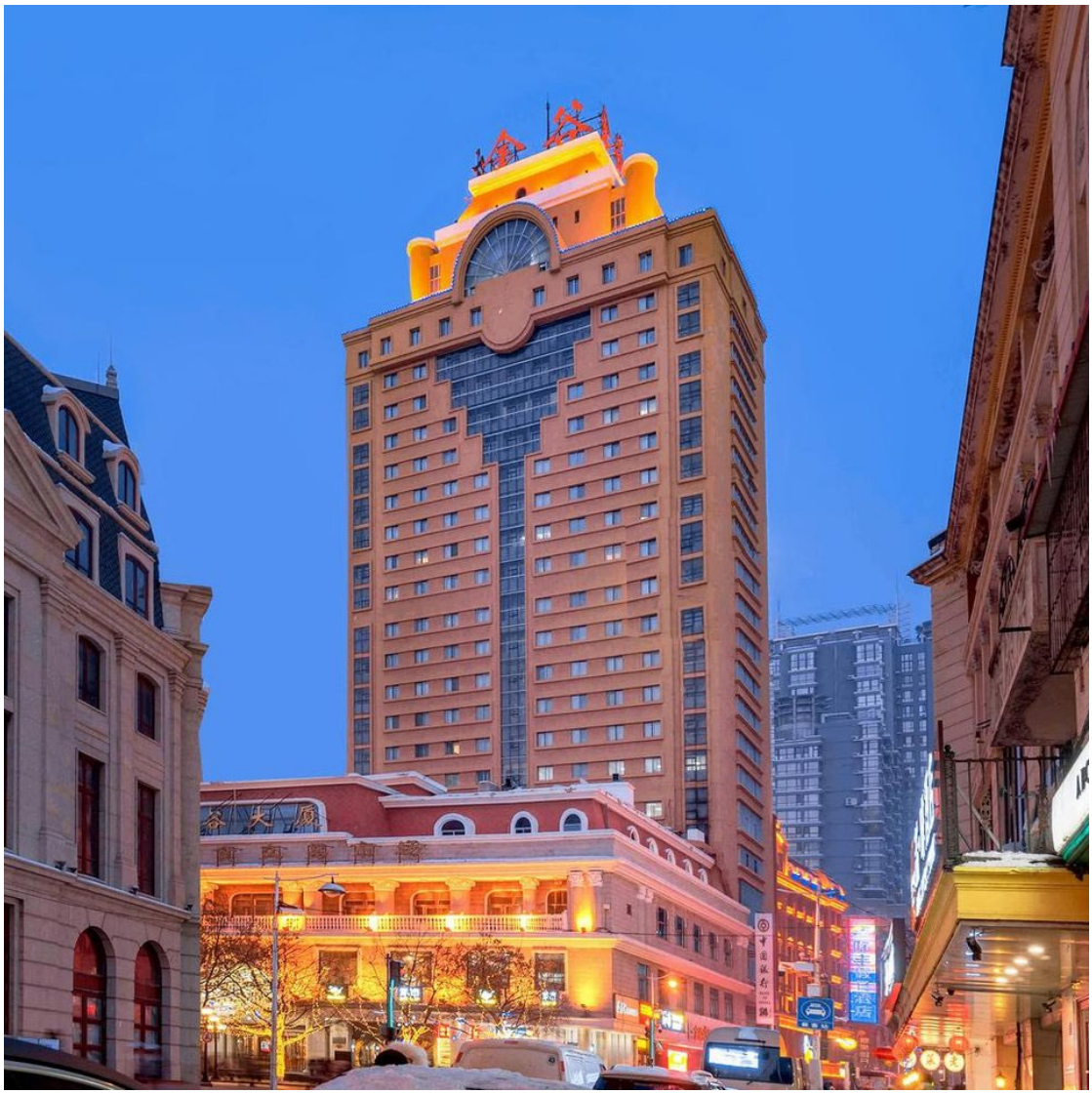
Contents

Venue

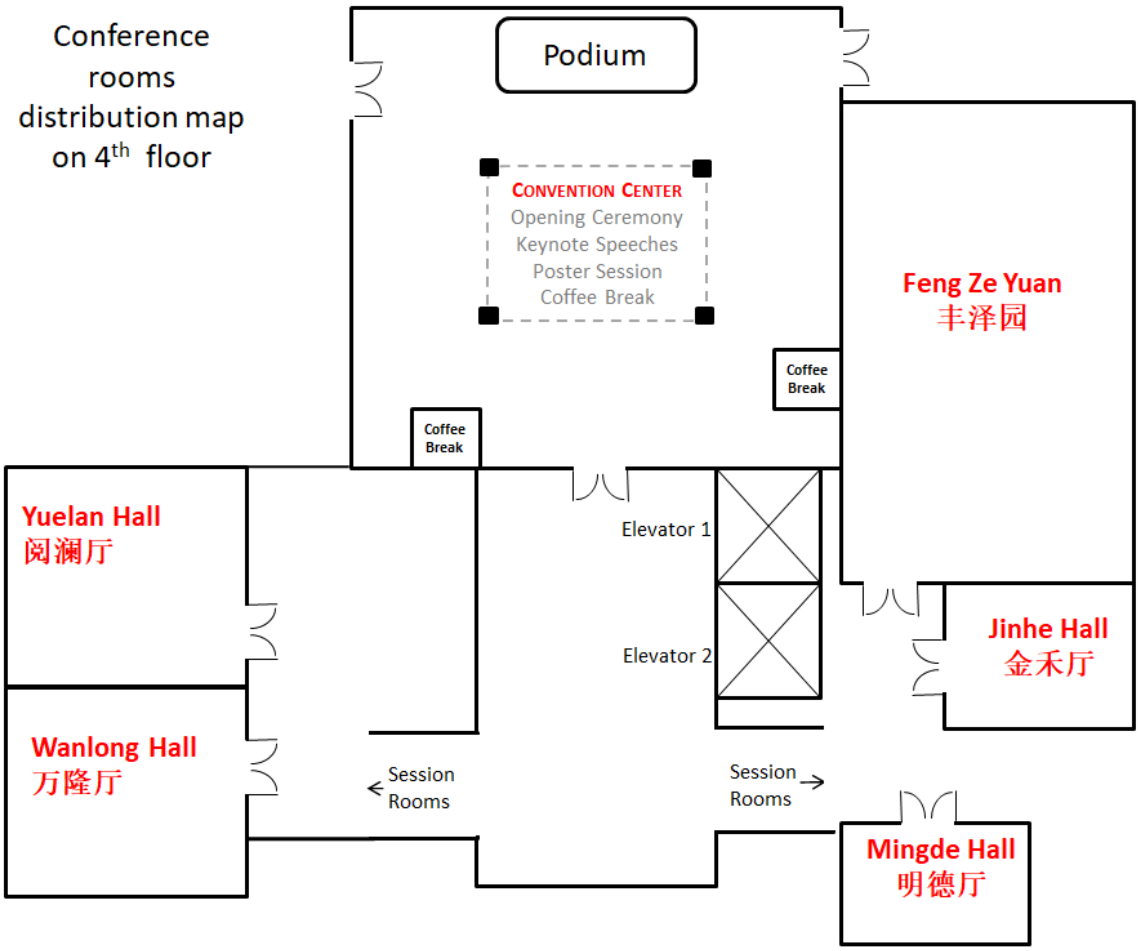
Conference Venue and Hotel: Jingu Hotel, Harbin

Address: 185 Zhongyang Street, Daoli District, Harbin
Tel: +86-451-8469 8700

金谷大厦酒店
地址：哈尔滨市道里区中央大街 185 号



Conference rooms distribution map on 4th floor



Program at a Glance

Saturday, July 15, 2023		
09:00-19:00	Registration	Hall of Jingu Hotel 金谷大厦 1 楼大厅

Sunday, July 16, 2023		
08:30-09:00	Opening Ceremony	4F Convention Center 4 楼会展中心 Tencent Meeting ID: 746-7577-8660
09:00-09:20	Group Photo	
09:20-09:50	Keynote Speech I-Online	
09:50-10:10	Coffee Break	
10:10-10:40	Keynote Speech II	
10:40-11:10	Keynote Speech III	
11:30-13:30	Lunch	3F, Chinese dining room 3 楼中餐厅
14:00-15:30	Paper Competition Selection Session Lambda Award Selection Session	Feng Ze Yuan 丰泽园
	Poster Session I	4F Convention Center 4 楼会展中心
	Oral Session 1-1	Yuelan Hall 阅澜厅
	Oral Session 1-2	Wanlong Hall 万隆厅
	Special Session 1 Oral Session	Jinhe Hall 金禾厅
	Special Session 18-1 Invited Talk Special Session 22 Invited Talk	Mingde Hall 明德厅
15:30-15:50	Coffee Break (4F Convention Center)	
15:50-17:20	Paper Competition Selection Session Lambda Award Selection Session	Feng Ze Yuan 丰泽园
	Special Session 3 Oral Session	Yuelan Hall 阅澜厅
	Special Session 4 Oral Session	Wanlong Hall 万隆厅
	Special Session 2 Invited Talk	Jinhe Hall 金禾厅
	Special Session 18-2 Invited Talk Special Session 19-1	Mingde Hall 明德厅
17:30-20:00	Dinner Awards Ceremony	4F Convention Center 4 楼会展中心

Monday, July 17, 2023		
08:30-10:15	Special Session 5-1 Invited Talk	Yuelan Hall 阅澜厅
	Special Session 5-2 Invited Talk	Wanlong Hall 万隆厅
	Special Session 6 Invited Talk	Jinhe Hall 金禾厅
	Special Session 7-1 Invited Talk Special Session 19-2 Invited Talk	Mingde Hall 明德厅
	Poster Session II	4F Convention Center 4 楼会展中心
10:15-10:30	Coffee Break (4F Convention Center)	
10:30-12:00	Special Session 5-3 Invited Talk	Yuelan Hall 阅澜厅
	Special Session 7-2 Invited Talk Special Session 19-3 Invited Talk	Wanlong Hall 万隆厅
	Special Session 8	Jinhe Hall 金禾厅
	Special Session 10	Mingde Hall 明德厅
	Poster Session III	4F Convention Center 4 楼会展中心
12:10-13:30	Lunch	3F, Chinese dining room 3 楼中餐厅
14:00-15:30	Special Session 11 Invited Talk Special Session 12 Invited Talk	Yuelan Hall 阅澜厅
	Special Session 12 Invited Talk	Wanlong Hall 万隆厅
	Special Session 14-1 Invited Talk	Jinhe Hall 金禾厅
	Special Session 13 Invited Talk Special Session 20 Invited Talk	Mingde Hall 明德厅
15:30-15:50	Coffee Break (4F Convention Center)	
15:50-17:20	Special Session 16 Invited Talk Special Session 15 Special Session 13	Yuelan Hall 阅澜厅
	Special Session 17 Invited Talk Special Session 13	Wanlong Hall 万隆厅
	Special Session 14-2 Invited Talk Special Session 13	Jinhe Hall 金禾厅
	Special Session 21 Invited Talk	Mingde Hall 明德厅
17:30-20:00	Dinner	4F Convention Center 4 楼会展中心

Organizing Committee

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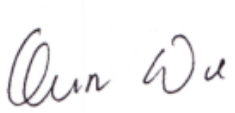
General Chair's Welcome

On behalf of the Organizing Committee of the IEEE International Workshop on Electromagnetics: Applications and Student Innovation Competition (IEEE iWEM2023), it is my great honor and pleasure to welcome you to this conference, to be held in Harbin, China, July 15 to 18, 2023.

IEEE iWEM2023 is sponsored by Harbin Institute of Technology and Anhui University, and technical sponsored by IEEE Harbin Section, IEEE Harbin AP/MTT/EMC Joint Chapter.

With rapid development of wireless technology and market, we have made a big progress in the research and development (R&D) of antenna and radio frequency (RF) technology, particularly, in Asia and Pacific over the past decades. All of these achievements are based on the fundamental development of electromagnetics, from theory and applications. Thus, we hope, IEEE iWEM2023 will echo this big change by providing an international forum to exchange the information about the latest progress in electromagnetics, including but not limited to basic theory, radio wave propagation, and applications from microwave to optical bands. Also, we wish, through iWEM2023 the researchers will have much more opportunities to make friendship and partnership with the colleagues from Asia-Pacific. Let us face technical challenges together.

At last, I want to cite a saying from Confucius, a famous Chinese Philosopher: "It is always a pleasure to greet a friend coming from a far". (有朋自远方来不亦乐乎). I wish the conference a great success, and wish you all pleasant stay in HARBIN.



Harbin Institute of Technology, China.
General Chair, iWEM2023

Keynote Speeches

Keynote Speech I: Efficient measurement of ground user terminals and ground stations in LEO satellites

Biography:

Prof. Dau-Chyrh Chang, IEEE Life Fellow, obtained his BS degree and MS degree from Chung-Cheng Institute of Technology, and Ph.D. degree in Electrical Engineering from University of Southern California. He spent 25 years in antenna R&D at CSIST. For 17 of these years, he served as director of antenna section. During his employment at CSIST, he developed reflector antennas, phased array antennas, slot array antennas, communication antennas, and various antenna test ranges. In 1998, he left his post as director of the antenna section to become Dean of the Engineering School at DYU (Da-Yeh University). He had been invited to be the Dean of College of Electrical and Communication Engineering at Asia Eastern University of Science and Technology (former as Oriental Institute of Technology) in 2006. He has been the Chair Professor and Director of Communication Research Center at AEUST from 2006 to 2016. He has been established four laboratories during executing various research programs, lab of hybrid antenna near field antenna test range, lab of TRP/TIS communication measurement system, lab of EMC, and lab of EM simulation. Except for various kinds of antenna research, Prof. Chang is also focus on the research on SI (Signal Integrity) with the funding support from industries. Since August 2016, he changes his career from academy to industry as consultants for several companies. He has published over 400 papers at journals and conferences and have 35 patents.

Prof. Chang established the IEEE AP-S Taipei Chapter and as the first Chair in 2001, Chair of IEEE MTT-S Taipei Chapter and President of Chinese Microwave Association in 2000-2002. He has been the General Chair of conferences or workshops, such as CSTRWC2001, CSTRWC2008, ISAP2008, ICONIC2009, AEM2C2010, IEEE iWEM2011, CSQRWC2012, PIERS2013, IEEE MTT-S IMWS-Bio 2015. He received many research awards when he was at CSIST, DYU, and AEUST. Prof. Chang received IEEE Life Achievement Award in 2022.

Abstract:

Large constellations of low earth orbit (LEO) satellites provide Internet access any place in the earth. They could help bridge the digital divide, particularly in rural regions, mountains, and oceans. In general, the user terminals or ground stations in earth use phased array antenna or reflector antennas to track the fast-moving LEO satellites during data communication. In order to verify the user terminals or ground stations work properly for precise beam tracking of fast-moving satellite, handover from satellite to satellite, wave fading during propagation, data throughput, etc., a simulator to simulate the LEO satellites for ground user terminals or ground stations is required.

Ground user terminals or ground stations receive or transmit plane waves from or to LEO satellites during data communication. Traditional plane wave can be generated by CATR

(compact antenna test range). The surface mechanical error of reflector, the spillover field from feed sources, and the diffraction field from edge of reflector are dominated the QZ (quiet zone) performance in test zone area. In general, the edge diffraction field can be minimized with edge treatment by rolled edge or serrated edge. the feed spillover field to the QZ could be reduced by covering absorbers. Multiple movable plane waves can be generated by multiple CATRs to simulate LEO satellites inside anechoic chamber. The mutual coupling among CATRs and feeds spillover to the QZ will cause the degradation of QZ for multiple CATRs. This talk will describe a brand-new TCATR (toroidal CATR) with multiple movable plane wave toward the cylindrical QZ. TCATR composes of a toroidal reflector inside main anechoic chamber and multiple movable feed systems inside another small anechoic chamber. Since there are not any edge discontinuity for toroidal reflector, the edge diffraction field is disappeared inside QZ. The feed spillover field to the QZ will be absorbed inside the small anechoic chamber. The QZ size of TCATR is a cylindrical shape with diameter is one quarter diameter of torus and height is two third height of torus. It does not only simulate fast-moving LEO satellites to verify the ground user terminals or ground stations but also save time for antenna power pattern measurement. The theory and characteristics of TCATR and traditional CATR will be compared during the talk.

Keynote Speech II: Antenna Radar Cross Section: Theory and Design

Biography:

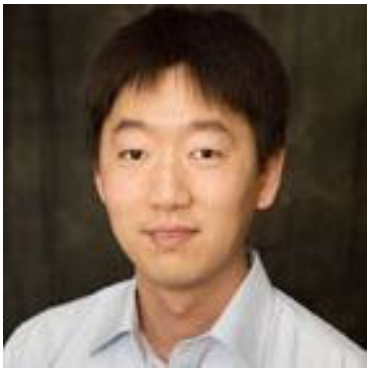
Ying Liu is a professor and the leader of the National Key Laboratory of Science and Technology on Antennas and Microwaves, Xidian University, Xi'an, China. She won the China Young Female Scientist Award in 2021 and the China Youth Science and Technology Award in 2022 by the China Association for Science and Technology, respectively. Prof. Liu is a fellow of the Institution of Engineering and Technology (IET), the Chinese Institute of Electronics (CIE), and the China Institute of Communications (CIC), respectively.

Prof. Liu' s research interests include prediction and control of antenna radar cross section and antenna theories and technology. She has authored or coauthored over 200 refereed journal papers, and 2 papers have been rated as the ESI highly cited papers. She has also authored Prediction and Reduction of Antenna Radar Cross Section (Xi'an: Xidian University Press, 2010), and Antennas for Mobile Communication Systems (Beijing: Electronics Industry Press, 2011). She is the Chair of the IEEE AP Xi'an Chapter. She is also a reviewer for several international journals and serves as the TPC co-chair for several IEEE flagship conferences.

Abstract:

In recent years, antenna RCS reduction has received high priority in the design of many platforms since it contributes significantly to the total RCS of low-observable platforms. As a special scattering object, antenna should be used to transmit and receive the electromagnetic fields firstly. As a result, antenna RCS is distinctly different for frequencies in the operating band as compared to those out of the operating band. Thus, effective control of antenna RCS must address the in-band and out-of-band frequencies separately. However, methods those are effective out of the operating band impact the antenna performance in its operating band. How to solve the mutual constraints of antenna radiation and scattering characteristics remains a tough task. In this talk, the scattering theory for antennas, effective RCS reduction method based on polarization conversion metasurface, low-RCS antenna with high-gain, and antenna with reconfigurable RCS, etc., will be discussed.

Keynote Speech III: High Efficiency Millimeter-wave Signal Generation and Future Prospects of Millimeter-wave Applications



Biography:

Prof. Xiaoguang "Leo" Liu received his Bachelor's degree from Chu Kochen Honors College, Zhejiang University, in 2004 and PhD degree from Purdue University, USA, in 2010. He was with the Department of Electrical and Computer Engineering, University of California, Davis, as an assistant professor from 2011 to 2017 and an associate professor from 2017 to 2021. In Mar. 2021, he joined the School of Microelectronics (SME) at the Southern University of Science and Technology (SUSTech), Shenzhen, China, as a full professor.

At SUSTech, his research group is investigating various aspects of cutting-edge high-frequency and high-speed circuit and system designs. Examples include novel designs and implementation techniques in microelectronic and photonic devices such as micro-electromechanical (MEMS) devices, high-frequency (RF to THz) integrated circuits, high-speed wireline and optical communications, and high-resolution sensing applications using radar and computer vision principles. He has published over 130 refereed papers in academic journals and conferences. He has advised and co-advised 18 Ph.D. students and 7 postdoctoral scholars.

Abstract:

In recent years, the millimeter-wave (mMW) and terahertz (THz) frequency bands (30 - 3000 GHz) has (re)emerged as a promising frequency spectrum for a variety of potential applications in wireless communications, remote sensing, security screening, industrial monitoring, biomedical and chemical spectroscopy, to name a few. The current enthusiasm in mmW/THz has largely been promoted by the rapid scaling of modern semiconductor integrated circuit processes, particularly CMOS and SiGe, which promise low barrier-to-entry mmW/THz systems. On the other hand, the aggressive scaling has generally resulted in a lower supply voltage and breakdown voltage, limiting the amount of power that can be generated. In this talk, we will review classical theories and present recent progress in our research group on state-of-the-art mmW/THz signal generation. In particular, we will demonstrate design and optimization strategies for high-efficiency oscillators working close to the maximum oscillation frequency FMAX of the underlying process with record-breaking power and efficiency performances. In addition, we will also discuss the application of these design techniques to high-speed chip-chip interconnect using micromachined dielectric waveguides.

Oral Session and Special Session

14:00-15:15, Sunday, July 16, 2023 **Yuelan Hall 阅澜厅**		
Topic2: Computational Electromagnetics **Topic3: Antennas and Propagation** **Topic4: Instrumentation and Measurement**		
Session chair: Ming Fang		
Paper Information:		
OS1-1 14:00-14:15	FDTD Modeling of Nonlocality in Nanoantenna Accelerated by Heterogeneous GPU-CPU Architecture and Subgridding Techniques Jian Feng, Ming Fang, Zhixiang Huang	7420
OS1-2 14:15-14:30	A hybrid one-step leapfrog ADI-FDTD and subgrid FDTD approach based on a heterogeneous platform Chenran Liu, Ming Fang, Jian Feng, Zhixiang Huang	7421
OS1-3 14:30-14:45	Improvement of Stochastic FDTD Method Based on Thermal Analysis Zijing Xiao, Kaikun Niu, Yingsong Li, Xingang Ren, Zhixiang Huang	7728
OS1-4 14:45-15:00	A Study of Measuring Indirect Effects of Lightning on Commercial Aircraft Engine Control Systems Bowen Wang, Ying Zhang, Min Peng, Xiaowu Lv, Shuyan Zhang, Zhe Zhang	7688
OS1-5 15:00-15:15	Design of A Broadband Dual-Polarized Magnetoelectric Dipole Antenna for 3G/4G/5G Communication Yan Yan, Yanhong Xu, anyi Wang	7399
	Coffee Break	

14:00-15:30, Sunday, July 16, 2023 Wanlong Hall 万隆厅		
Topic3: Antennas and Propagation **Tencent Meeting: 560-349-626**		
Session chair: Min Wang		
Paper Information:		
OS2-1 14:00-14:15	Miniaturized Via-Free Magneto-Electric Dipole Antenna Fed by Substrate Integrated Coaxial Line on Reactive Impedance Surface Tsz Ming Wong, Kwai Man Luk, Kin Fai Tong	7412
OS2-2 14:15-14:30	A Miniaturized Dual-Polarization Broadband Antenna for Base Station Applications Zhong-Qi Zhang, Min Chen, Xiao-Dong Li, Hao-Lei Liu, Rui-Sen Chen, Qiang Shao, Mustafa K. Taher Al-Nuaimi, Guan-Long Huang	7422
OS2-3 14:30-14:45	Design of 5.8-GHz-band Deployable Reflectarray Antennas for CubeSat Nakayama Gen, Kurokawa Haruki, Tomura Takashi, Sakamoto Hiraku	7424 Online
OS2-4 14:45-15:00	Miniaturized Dual-Band Dipole Antenna Loaded with U-Shaped Arms Yining Liu, Kai Lu, Nan Yang	7661
OS2-5 15:00-15:15	Reconfigurable Double-Folded Transmitarray Antenna With Low-Profile Based on Matesurface Ye HaoRan, Zhang Yan, Zhang Xurui	7708
OS2-6 15:15-15:30	A coupled resonator decoupling network for four-element antenna arrays Ge Zhao, Yuke Guo, Luyu Zhao	7736
OS2-7 15:30-15:45	A Novel Miniaturized Wideband High-Gain Palm-Leaf Vivaldi Array Antenna Min Wang, Xuan Li, Ceng Xiang, Zhengchuan Chen	7479
	Coffee Break	

14:00-15:30, Sunday, July 16, 2023 **Jinhe Hall 金禾厅**		
Special Session 1: Metamaterials and Metasurfaces and Their Applications **Dr. Mustafa K. Taher Al-Nuaimi, Loughborough University/Foshan University, UK** **Professor Guan-Long Huang, Foshan University, China** **Topic6: Wireless Systems** **Topic8: Microwave Circuits and Systems** **Topic12: Other EM Topics**		
Session chair: Mustafa K. Taher Al-Nuaimi, Guan-Long Huang		
Paper Information:		
SS1-1 14:00-14:15	A Chiral Metasurface for Vortex Wavefront Manipulation in Microwave Region Shuai Yang, Shuai Huang, Yueyi Yuan, Qun Wu	7675
SS1-2 14:15-14:30	Design of Information Metasurface with Nonlinear Transmission Control Yu Ming Ning, Qian Ma, Qiang Xiao, Ze Gu, Tie Jun Cui	7678
SS1-3 14:30-14:45	Intelligent metasurface system for automatic beam tracking of multi-target based on computer vision Weihan Li, Jiayu Chen, Yunfeng Zhang, Shizhao Gao, Jiaxuan Wei, Wenxuan Tang, Tie Jun Cui	7845
SS1-4 14:45-15:00	Research on Optomechanical Reconfigurable Airy-beam Metasurface Yuqiong Zhang, Yuedan Zhou, Liang Ma, Zhe Ji, Jian Li, Guangjun Wen, He-Xiu Xu*, Yongjun Huang*	7707
OS3-1 15:00-15:15	MetaWall: Intelligent Omni-Metasurface for Ubiquitous Wireless Communication Improvement Qi Hu, Kui Tang, Ye Deng, Ke Chen, Yijun Feng	7870
OS3-2 15:15-15:30	A High-Efficicncy and Wideband Filtering Power Amplifier Run-Ze Zhan, Yuan Chun Li	7854
OS3-3 15:30-15:45	A Radiation Performance Improvement Method of Extremely Low Frequency Acoustics Promoted Antenna Junwei Qi, Chenwei Zhang, Yingsong Li, Zhixiang Huang, Tian Hong Loh	7454
	Coffee Break	

14:00-15:45, Sunday, July 16, 2023 **Mingde Hall 明德厅**		
Special Session 18: Metasuface antennas and their applications **Haipeng Li, National University of Defense Technology, China** **Jiaqi Han, Xidian University, China** **Xiaowen Liu, National University of Defense Technology, China** **Special Session 22: Recent advances in magnetoelectric dipole antenna technologies for microwave and millimeter-wave applications** **Yujian Li, Beijing Jiaotong University** **Lei Ge, Shenzhen University**		
Session chair: Haipeng Li, Yujian Li, Lei Ge		
Paper Information:		
SS18-1 14:00-14:30	Uniform and Gradient Metasurfaces for Backscatter Communication Haipeng Li, Xiaowen Liu, Letian Wang	7894 Invited Talk
SS18-2 14:30-14:45	Dual-band and Dual-polarized Folded Transmitarray Antenna with Low Profile Based on Metasurface Tangjing Li, Guangming Wang	7891
SS18-3 14:45-15:00	1-bit conformal programmable metasurface for RCS reduction Yuhao Wu, Jiaqi Han, Long Li	7685
SS22-1 15:00-15:30	Wideband Multibeam Quasi-Spherical Lens Antenna Fed By Dual-Polarized ME-Dipoles for Millimeter-Wave Applications Xujun Yang, Lei Ge	7889 Invited Talk
SS22-2 15:30-15:45	A Broadband Multimode-Composite Complementary Source Antenna duoyu lv, yujian li, junhong wang	7893
	Coffee Break	

15:50-17:20, Sunday, July 16, 2023 Yuelan Hall 阅澜厅		
Special Session 3: Recent Advancement in Low-Scattering Antennas and Metasurfaces **Yongtao Jia, Xidian University, China** **Topic10: EMC**		
Session chair: Yongtao Jia		
Paper Information:		
SS3-1 15:50-16:05	An Absorptive/Transmissive Frequency Selective Surface Based Low-RCS Microstrip Antenna Array Ao Fu, Xiaoyu Pang, Shenghui Zhao, Yifang Song, Yufeng Fu, Ping Chen	7898
SS3-2 16:05-16:20	Ultrawideband low-RCS metasurface based on reconfigurable polarization rotation metasurface Weihao Tang, Yongtao Jia	7718
SS3-3 16:20-16:35	A Wideband Transmission Frequency Selective Rasorber based on Multi-layer Meander-Line Meng Weiwei, Pang Xiaoyu, Zhao Shenghui, Zhang Xiangrui, Duan Kun, Zhao Junming	7837
OS4-1 16:34-16:50	Frequency Dependence Analysis of MMW Clothed-Skin Exposure using Regression Algorithm Kun Li	7413
OS4-2 16:50-17:05	A Simple Broadband Slotted Circularly Polarization Antenna Lihua Wang, Yingsong Li, Zhixiang Huang	7455

15:50-17:20, Sunday, July 16, 2023 Wanlong Hall 万隆厅		
Special Session 4: Wireless Testing Methodology and Antenna Measurements **Xiaoming Chen, Xi'an Jiaotong University, China** **Yuxin Ren, China Academy of Information and Communications Technology, China** **Topic7: Millimeter Wave, THz Technologies**		
Session chair: Xiaoming Chen, Yuxin Ren		
Paper Information:		
SS4-1 15:50-16:20	Dual-polarized Antiphase Fed Vivaldi Antenna with One Decade Bandwidth Miaoshan Song, Wei Zhao, Lei Zhao, Zhengpeng Wang	7730 Invited Talk
SS4-2 16:20-16:35	Throughput Multiplexing Efficiency of MIMO Terminal Antennas Considering Adaptive MCS and Layers Jianchuan Wei, Xiaoyu Huang, Bingyi Qian, Aofang Zhang, Kunpeng Wei, Xiaoming Chen	7418
OS5-1 16:35-17:05	A Novel Parameter Estimation Algorithm for UAV by the Combined CVMD and TMSST Technique Yitong Pan, Ying-chun Li, Haozhen Bai, Xiang Feng, Zhengjie Zhou, Zhiquan Zhou	7902 Invited Talk
OS5-2 17:05-17:20	Wideband Single-feed Circularly Polarized Stacked Patch Antenna Using L-shaped Stub Wen Li, Wei Xue, Yingsong Li, Tian Hong Loh	7453

15:50-17:20, Sunday, July 16, 2023 Jinhe Hall 金禾厅		
Special Session 2: Advanced Multipoint/wideband Matching Technique and the Application **Xiaolong Wang, Jilin University, China** **Xin Guo, Nanjing University of Science and Technology, China**		
Session chair: Xiaolong Wang, Xin Guo		
Paper Information:		
SS2-1 15:50-16:20	A General Design Approach of Filter With Equal-Ripple Level Responses Xiaolong Wang, Shanshan Xue, Zhenkui Huang, Hongyu Chen, Gennadi Milinevsky, Geyu Lu	7689 Invited Talk
SS2-2 16:20-16:35	A Ring Type Bandpass Filtering Impedance Transformer With Complex Load Wang Yuetian, Sun Zizhuo, Yang Xianwang, Li Kun, Wang Xiaolong, Milinevsky Gennadi, Lu Geyu	7588
SS2-3 16:35-16:50	Analysis of a Π-Model-Based Filtering Complex Impedance Transformer With Controllable FBW Xianwang Yang, Yuetian Wang, Zizhuo Sun, Dayong Liu, Xiaolong Wang, Chen Chun-Ping, Gennadi Milinevsky, Geyu Lu	7671
SS2-4 16:50-17:05	Phase Designable Antenna Element Using Filtering Theory Meiyu Du, Xin Guo, Wen Wu	7701
SS2-5 17:05-17:20	Wideband Highly Selective Unequal Power Divider Jiayao Liu, Yuhua Liu, Xin Guo, Wen Wu	7702

15:50-17:20, Sunday, July 16, 2023 Mingde Hall 明德厅		
Special Session 18: Metasuface antennas and their applications **Haipeng Li, National University of Defense Technology, China** **Jiaqi Han, Xidian University, China** **Xiaowen Liu, National University of Defense Technology, China** **Special Session 19: Flexible Metasurfaces and Metagratings for Electromagnetic Wave Manipulations** **Zuojia Wang, Zhejiang University** **Jianjia Yi, Xi'an Jiaotong University**		
Session chair: Jiaqi Han, Xiaowen Liu, Jianjia Yi		
Paper Information:		
SS18-4 15:50-16:20	Programmable Metasurfaces for Radar System Applications: A Mini-Review Jiaqi Han, Xiangjin Ma, Lihao Zhu, Long Li	7849 Invited Talk
SS18-5 16:20-16:35	Millimeter-wave FSS Improving Antenna Performance in 5G Mobile Terminal with Glass Cover Case Jin Zhou, Ke Chen, Meng Hou, Hanyang Wang, Yijun Feng	7868
SS18-6 16:35-16:50	Axial Ratio Enhancement for Circularly Polarized Array Antenna Using a Dual-Phase Technique Xiaofeng Li, Peng Xie, Guangming Wang	7875
SS19-1 16:50-17:20	Hybridized analog-computing Metasurfaces Empowered by Quasi-Bound States in the Continuum Haochen Yang, Xuan Chen, Liqiao Jing	7691 Invited Talk

08:30-10:15, Monday, July 17, 2023 Yuelan Hall 阅澜厅		
Special Session 5: Microwave Energy Application **Huacheng Zhu, Sichuan University, China (hczhu@scu.edu.cn)**		
Session chair: Yanping Zhou		
Paper Information:		
SS5-1 08:30-09:00	Microwave-carbon fiber cloth co-ignited degradation of waste organic wastes Yanping Zhou	7458 Invited Talk
SS5-2 09:00-09:15	Research on Carbon Dioxide Conversion Based on Atmospheric Pressure Microwave Plasma Xin Li, Jiaqi Zong, Xiao Wei	7446
SS5-3 09:15-09:30	A High-Efficiency Microwave Plasma Torch Based on Focusing Dielectric Yedai Hu, Huacheng Zhu, Yang Yang	7466
SS5-4 09:30-09:45	Feedback Control for Steady Output Power of Magnetrons Based on Signal Reconstruction Yinhong Liao	7468
SS5-5 09:45-10:00	Microwave-assisted low temperature pyrolysis behavior of biomass Hu Luo, Lingzhao Kong	7507
SS5-6 10:00-10:15	A Six-stub Strip Line Impedance Tuner Rufan Liu, Huacheng Zhu, Yang Yang	7522
	Coffee Break	

08:30-10:15, Monday, July 17, 2023 Wanlong Hall 万隆厅		
Special Session 5: Microwave Energy Application **Huacheng Zhu, Sichuan University, China (hczhu@scu.edu.cn)**		
Session chair: Wencong Zhang		
Paper Information:		
SS5-7 08:30-09:00	Multi-physics modelling in microwave plasma mechanism research and setup design Wencong Zhang, Yong Yang, Yuantao Huang, Wenqin Luo, Jun Deng, Ziyi Yang	7503 Invited Talk
SS5-8 09:00-09:15	Influence of Soil Medium on Resonant Wireless Power Transfer System Haiyan Lin, Ziyang Wang, Haichuan Chen, Yinghong Xu, Ping Tang, Hongrui Qiu	7537
SS5-9 09:15-09:30	A Novel Dynamic Measurement Method for Complex Permittivity of Microwave Plasma Ge Wang, Yang Yang, Huacheng Zhu	7543
SS5-10 09:30-09:45	High efficiency microwave heating system for tubular materials based on electromagnetic black hole Wen Dai, Huacheng Zhu	7560
SS5-11 09:45-10:00	Microwave Efficient Heating Device Based on Metasurface Fengming Yang, huacheng Zhu, Yang Yang, Kama Huang	7561
SS5-12 10:00-10:15	Asymmetric-propagation-waveguide-based high-efficiency microwave continuous-flow reactor Hao Tang	7565
	Coffee Break	

08:30-10:00, Monday, July 17, 2023 **Jinhe Hall 金禾厅**		
Special Session 6: Microwave Devices and Antennas Based on Spoof Surface Plasmon Polaritons **Bian Wu, Xidian University, China** **Wenxuan Tang, Southeast University, China**		
Session chair: Bian Wu, Wenxuan Tang		
Paper Information:		
SS6-1 08:30-09:00	Microwave Sensing based on Spoof Surface Plasmon Resonances Xuanru Zhang	7883 Invited Talk
SS6-2 09:00-09:15	An Implementation Method for Asymmetric Transmission based on Spoof Surface Plasmon Polaritons Tianshuo Qiu, Weihan Li, Jingfan Yang, Wenxuan Tang	7896
SS6-3 09:15-09:30	Design of Single and Dual-Channel Filters Based on Spoof Surface Plasmon Polaritons Xin Yuli, Wu Bian, Song Xiangzhuang, Ding Longqiang, Xie Hanyu	7657
SS6-4 09:30-09:45	Electronically Controlled Beam-Scanning Antenna Based on Spoof Surface Plasma Polaritons Song Xiangzhuang, Sun Xiaoyuan, Fan Yifeng, Wu Bian	7734
SS6-5 09:45-10:00	Spoof Surface Plasmon Polaritons Based Periodic Leaky-wave Antenna with Suppressed Open Stopband Feiyu Ge, Sheng Gao, Jinlun Li, Hongxin Zhao, Shunli Li, Xiaoxing Yin	7863
	Coffee Break	

08:30-10:15, Monday, July 17, 2023 Mingde Hall 明德厅		
Special Session 7: Multifunctional electromagnetic metasurface and metagrating **Junming Zhao, Ping Chen, Nanjing University, China** **Special Session 19: Flexible Metasurfaces and Metagratings for Electromagnetic Wave Manipulations** **Zuojia Wang, Zhejiang University** **Jianjia Yi, Xi'an Jiaotong University**		
Session chair: Junming Zhao, Ping Chen , Zuojia Wang, Jianjia Yi		
Paper Information:		
SS7-1 08:30-09:00	A Stripline Structure Dual-Band Frequency Selective Surface Junyi Wang, Hongyu Shi, Xiaoming Chen, Jianjia Yi, Juan Chen, Anxue Zhang, Haiwen Liu	7529 Invited Talk
SS7-2 09:00-09:15	Research on Machine Learning-based Metagrating Design Yixiao Zhang, Chen Wang, Ping Chen	7650
SS7-3 09:15-09:30	Design of a Multifunctional Metasurface with Frequency-selective Absorbing Properties Liangwei Xiong, Ao Fu, Yufeng Fu, Ruiyang Tan, Ping Chen	7651
SS7-4 09:30-09:45	A Hybrid 2-D–3-D Wide Bandpass FSS with Angle stability Property Weiwei Meng, Xiaoyu Pang, Shenghui Zhao, Junzhe Ni, Wenbo Zhao, Junming Zhao	7840
SS19-2 09:45-10:00	Terahertz Light Source Based on Spoof Surface Plasmons Cherenkov Radiation Jie Zhang, Xiaofeng Hu, Hongsheng Chen, Fei Gao	7684
SS19-3 10:00-10:15	Laser Direct Writing based Superhydrophobic Infrared Invisibility surface Jun-Hao Yang, Dong-Dong Han, Xiao-Liang Ge, Su Xu	7686
	Coffee Break	

10:30-12:00, Monday, July 17, 2023 Yuelan Hall 阅澜厅		
Special Session 5: Microwave Energy Application **Huacheng Zhu, Sichuan University, China (hczhu@scu.edu.cn)**		
Session chair: Huacheng Zhu		
Paper Information:		
SS5-13 10:30-11:00	Food microwave processing technology basis and industrialization innovation practice Bowen Yan, Nana Zhang, Yuan Tao, Wei Chen, Daming Fan	7703 Invited Talk
SS5-14 11:00-11:15	An Impedance Matching Method Based on Magic-T Tuner Danfeng Zhou, Tao Hong	7604
SS5-15 11:15-11:30	Low-Pressure Microwave Plasma Sterilization of Slender Tube Inner Surfaces Miaomiao Xu, Huacheng Zhu, Yang Yang	7648
SS5-16 11:30-11:45	Fast Tuning Algorithm and Low Reflection Tuning Strategy Based on Three-stub Tuners Yang Yang, Huacheng Zhu, Rufan Liu	7653
SS5-17 11:45-12:00	Design and Development of Microwave 3D Printing Process for Food Materials Zilong Zhao, Bowen Yan, Nana Zhang, Yuan Tao, Daming Fan	7704

10:30-12:00, Monday, July 17, 2023 Wanlong Hall 万隆厅		
Special Session 10: Machine learning for Electromagnetic modeling and optimization **session chair:** **Feng Feng, Tianjin University** **Wei Zhang, Beijing University of Posts and Telecommunications** **Jianan Zhang, Southeast University**		
Session chair: Feng Feng, Wei Zhang, Jianan Zhang		
Paper Information:		
SS10-1 10:30-11:00	EM Optimization of Microwave Tunable Filter using Surrogate-Based Simultaneous Multiple Tuning-Driven Method Xueliang Gu, Haitian Hu, Xin Peng, Wei Zhang, Weicong Na, Zhiguo Zhang	7663 Invited Talk
SS10-2 11:00-11:15	Predicting Ice Thickness of Transmission Lines Using Gaussian Regression Process and Micrometeorological Parameters: A Machine Learning Approach Pancheng Yin, Hong Zhang, Chengjiang Liu, Qianqian Zhang, Yan Li, Jingjie Xu	7735
SS10-3 11:15-11:30	Recent Advances in Automated Multiphysics Parametric Modeling for Microwave Components Weicong Na, Taiqi Bai, Ke Liu, Feng Feng, Wanrong Zhang	7738
SS10-4 11:30-11:45	Lightweight Metasurface Absorber Customization with a Conditional Generative Adversarial Network Bingqing Li, Ke Chen, Tian Jiang, Junming Zhao, Yijun Feng	7878

10:30-12:00, Monday, July 17, 2023 Jinhe Hall 金禾厅		
Special Session 8: Theory and Applications of Measurement-Computation Integration **Huapeng Zhao, University of Electronic Science and Technology of China** **Xiuzhu Ye, Beijing Institute of Technology, China**		
Session chair: Huapeng Zhao, Xiuzhu Ye		
Paper Information:		
SS8-1 10:30-11:00	Improving Imaging Performance of Modified Born Approximation Method Based on Dominant Subdomain Xinhui Zhang, Xiuzhu Ye	7860 Invited Talk
SS8-2 11:00-11:15	Experimental Validation of Multipole-Expansion-Based Measurement-Computation-Integration Huapeng Zhao, Xianjie Liu	7890
SS8-3 11:15-11:30	Design and Simulation of a planar printed slot array antenna Xiaofei Shi, Jiaxin Shi, Jiaqi Liu, Zhongyi Fang, Lei Wang, Lizhong Song	7719
SS8-4 11:30-11:45	Preliminary study on the determining factor of far-field relationship Shengying Li, Huapeng Zhao, Jun Hu	7858
SS8-5 11:45-12:00	Research on Performance of the Through Wall Imaging Radar Based on CST Simulation Software Yuanchen Ji, Xiuzhu Ye	7861
SS8-6 12:00-12:15	Elimination of Critical Geometric Features of Radar Imaging by Arranging Corner Reflector Array Jiaming Li, Xiuzhu Zhang, Xiuzhu Ye	7862

10:30-12:00, Monday, July 17, 2023 Mingde Hall 明德厅		
Special Session 7: Multifunctional electromagnetic metasurface and metagrating **Junming Zhao, Ping Chen, Nanjing University, China** **Special Session 19: Flexible Metasurfaces and Metagratings for Electromagnetic Wave Manipulations** **Zuojia Wang, Zhejiang University** **Jianjia Yi, Xi'an Jiaotong University**		
Session chair: Junming Zhao, Ping Chen , Zuojia Wang, Jianjia Y		
Paper Information:		
SS7-5 10:30-11:00	Singularity Excited by Linear Polarization Xintong Shi, Kun Wang, Hai Lin	7809 Invited Talk
SS19-4 11:00-11:30	Tunable Multi-Band Absorbers Based on Two-Dimensional Plasma Photonic Crystals Jiayue Nie, Xuesong Deng, Ming Fang	7832 Invited Talk

14:00-15:15, Monday, July 17, 2023 Yuelan Hall 阅澜厅		
Special Session 11: High performance computational electromagnetics **Minglin Yang, Biyi Wu, Beijing Institute of Technology, China** **Special Session 12: Emerging Theory and Technologies for Wireless Power Transfer and Antennas** **Qinghua Wang, Anhui University** **Pengde Wu, Hangzhou Dianzi University**		
Session chair: Minglin Yang, Biyi Wu		
Paper Information:		
SS11-1 14:00-14:30	On the Efficient Full-Wave Simulation of Large-Scale Reflective Array Antennas with Fast and Flexible Mesh Reconstruction Ze-Lin Li, Bi-Yi Wu, Ming-Lin Yang, Xin-Qing Sheng	7729 Invited Talk
SS11-2 14:30-14:45	An Explicit and Unconditionally Stable Subgridding FDTD Method for GPR Modeling xiaoyan Zhang, ruilong Chen, Yuxu Hu, ziao Li	7712
SS11-3 14:45-15:00	Improving the efficiency of the discontinuous Galerkin volume integral equation method for electromagnetic scattering from inhomogeneous dielectric objects Yueqian Wu, Liming Zhang	7872
SS11-4 15:00-15:15	On the GPU parallel computing for Sommerfeld integral tails Xin Yuan, ChaoZe Yan, BiYi Wu, MingLin Yang, XinQing Sheng	7900
	Coffee Break	

14:00-15:30, Monday, July 17, 2023 **Wanlong Hall 万隆厅**		
Special Session 12: Emerging Theory and Technologies for Wireless Power Transfer and Antennas **Qinghua Wang, Anhui University** **Pengde Wu, Hangzhou Dianzi University**		
Session chair: Qinghua Wang, Pengde Wu		
Paper Information:		
SS12-1 14:00-14:30	Design of a broadband rectifier with a coupled transmission line Qinghua Wang, Mei Yang, Yunfei Zhou, Lixia Yang	7867 Invited Talk
SS12-2 14:30-15:00	Differential Rectenna for RF/MW Wave Energy Harvesting Yumei Chang	7886 Invited Talk
SS12-3 15:00-15:15	Novel Frequency-Reconfigurable Metasurface Antennas based on Phase Change Materials Jinghao Li, Wanchen Yang, Wenquan Che, Quan Xue	7871
SS12-4 15:15-15:30	A Wide Dynamic Range Rectifier based on Doherty Configuration and Adaptive Power Distribution Zhenlong Liu	7876
SS12-5 15:30-15:45	Novel Shared-aperture Method of Millimeter-wave & C-band Antenna Arrays Based on Metasurface Li Wei, Wanchen Yang, Wenquan Che, Quan Xue	7880
	Coffee Break	

14:00-15:15, Monday, July 17, 2023 **Jinhe Hall 金禾厅**		
Special Session 14: Millimeter-Wave and Terahertz Antennas and Arrays **Fan Wu (SEU), Zhuo-Wei Miao (SEU), and Zhi Hao Jiang (SEU)** **Tencent Meeting ID: 164-317-722**		
Session chair: Fan Wu, Zhuo-Wei Miao, and Zhi Hao Jiang		
Paper Information:		
SS14-1 14:00-14:30	Recent Developments of Millimeter-Wave Substrate Integrated Antenna Arrays Yingrui Yu	7706 Invited Talk
SS14-2 14:30-14:45	160 GHz Millimeter-wave Huygens Beam-forming Transmit Arrays for Fixed Radio Link Communication Systems Gupta Shulabh, MacDonell Keigan, Tomura Takashi, Hirokawa Jiro	7658 Online
SS14-3 14:45-15:00	A Broadband Magneto-Electric Dipole Transmitarray Antenna with Improved Aperture Efficiency Penghui Jian, Fan Wu, Zhuowei Miao, Jingxue Wang, Zhihao Jiang	7720
SS14-4 15:00-15:15	WR-1.0 Band Passive Components Based on High-Precision Micromachining Process Zhuo-Wei Miao, Zhang-Cheng Hao, Chen-Yu Ding, Jia-Hui Zhao, Zhengbo Jiang	7836
	Coffee Break	

14:00-15:45, Monday, July 17, 2023 Mingde Hall 明德厅		
Special Session 13: Fundamentals and applications of terahertz metasurface **Jingbo Wu, Kebin Fan, Nanjing University, China** **Special Session 20: Multi-Function Microwave Circuits** **Yuanchun Li, South China University of Technology**		
Session chair: Jingbo Wu, Yuanchun Li		
Paper Information:		
SS13-1 14:00-14:30	Reconfigurable and Programmable Terahertz Metasurface Based on Phase Change Material Jingbo Wu	7722 Invited Talk
SS20-1 14:30-15:00	Multi-Mode Dielectric Waveguide Resonator Filters Yuanchun Li	7848 Invited Talk
SS20-2 15:00-15:15	A Wideband Doherty Power Amplifier by Using Non-infinite Peaking Impedance Cheng Bi, Zhijiang Dai, Jingzhou Pang, Kang Zhong, Ge Bai, Ye Zhong	7710
SS20-3 15:15-15:45	Advanced RF Filtering Components Based on 3D Printed Technology Zhang Gang, Sun Zhengyu, Feng Shuai, Yang Xinyu	7851 Invited Talk
	Coffee Break	

15:50-17:20, Monday, July 17, 2023 Yuelan Hall 阅澜厅		
Special Session 16: Scattering and Inverse Scattering **Qiang Ren, Beihang University** **Anqi Wang, Auhui University** **Yuanguo Zhou, Xi'an University of Science and Technology** **Special Session 15: Wearable electronics, antennas and antenna-user interaction for next-generation communications** **Hui Li (DUT) and Kwok L. Chung (HZU)** **Special Session 13: Fundamentals and applications of terahertz metasurface** **Jingbo Wu, Kebin Fan, Nanjing University, China**		
Session chair: Qiang Ren, Kwok L. Chung		
Paper Information:		
SS16-1 15:50-16:20	A Novel Hybridizable Discontinuous Galerkin Method Based on Vector Basis Functions Yu Chen, Yuanguo Zhou, Qiang Ren	7855 Invited Talk
SS15-1 16:20-16:35	Determination of Continuous Dielectric Properties of Clothing Materials Using Hybrid Method Manni Chen, Kwok Chung, Zhining Huang, Jiating Wen, Li Yingsong	7380
SS15-2 16:35-16:50	Optimizing Antenna Radiation Efficiency using N-Port Networks HongYu Gao, Hui Li	7856
SS15-3 16:50-17:05	Pattern-Reconfigurable Smartwatch Antenna for GPS Applications Wenrui Zheng, Yonghua Kong, Nan Yang, Hui Li	7882
SS13-2 17:05-17:20	Normalizing Flows for Efficient Inverse Design of Thermophotovoltaic Emitters Yucheng Xu, Kebin Fan	7847

15:50-17:20, Monday, July 17, 2023 Wanlong Hall 万隆厅		
Special Session 17: Electromagnetic modeling and statistical analysis of dynamic targets and environments **Tao JIANG, Harbin Engineering University** **Yingsong LI, Anhui University** **Special Session 13: Fundamentals and applications of terahertz metasurface** **Jingbo Wu, Kebin Fan, Nanjing University, China**		
Session chair: Tao Jiang, Yingsong Li		
Paper Information:		
SS17-1 15:50-16:20	Analysis of Ship Rotation Effects on the Electromagnetic Scattering of Wake Juncheng Yi, Jianxuan Li, Tao Jiang	7835 Invited Talk
SS17-2 16:20-16:35	A dual-polarization frequency selective rasorber with wideband absorption Jing Xia, Chang Zhou, Gang Liu, Xiang Wan	7909
SS17-3 16:35-16:50	Simulation of Two Dimensional Time Varying Sea Surfaces from JONSWAP Spectra Chengkai He, Yuxuan Liang, Tao Jiang	7834
SS13-3 16:50-17:05	Ultra-thin Asymmetric Terahertz Perfect Absorber Hao Ma, Fengjie Zhu, Jingbo Wu, Caihong Zhang, Biao-Bing Jin, Kebin Fan	7850
SS13-4 17:05-17:20	Tunable terahertz polarization converter based on liquid crystal Sheng Wang, Jingbo Wu, Hangbing Guo, Weili Li, Kebin Fan, Caihong Zhang, Biaobing Jin, Jian Chen, Peiheng Wu	7857

15:50-17:20, Monday, July 17, 2023 Jinhe Hall 金禾厅		
Special Session 14: Millimeter-Wave and Terahertz Antennas and Arrays **Fan Wu (SEU), Zhuo-Wei Miao (SEU), and Zhi Hao Jiang (SEU)** **Special Session 13: Fundamentals and applications of terahertz metasurface** **Jingbo Wu, Kebin Fan, Nanjing University, China**		
Session chair: Fan Wu, Zhuo-Wei Miao, and Zhi Hao Jiang		
Paper Information:		
SS14-6 15:50-16:20	Some Concepts and Techniques for Beam-Scanning Rate Management of Leaky-Wave Antennas Zheng Dongze	7668 Invited Talk
SS13-5 16:20-16:35	Freestanding and Broadband Terahertz Spatial Light Modulator Hangbing Guo, Jingbo Wu, Xinyu Hu, Sheng Wang, Caihong Zhang, Kebin Fan, Biaobing Jin, Jian Chen, Peiheng Wu	7864
SS13-6 16:35-16:50	Reflective Liquid Crystal Programmable Metasurface For Terahertz Communication Xinyu Hu, Jingbo Wu, Caihong Zhang, Kebin Fan, Biaobing Jin, Jian Chen	7884

15:50-17:20, Monday, July 17, 2023 Mingde Hall 明德厅		
Special Session 21: Theory, design, and applications of metasurfaces **Ke Chen, Nanjing University** **Cheng Zhang, Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences** **Lu Ping, Sichuan University**		
Session chair: Ke Chen, Cheng Zhang, Lu Ping		
Paper Information:		
SS21-1 15:50-16:20	Flexible Metamaterial Absorbers on Textile: Material Innovation, Digital Manufacturing and Experimental Results Yalan Yang, Chaoyun Song, Cheng Zhang, Panagiotis Kosmas, Furong Yang, Qiaoling Zhang	7904 Invited Talk
SS21-2 16:20-16:35	Plasmonic Fano Resonance Metasurface Wei Zhu	7906
SS21-3 16:35-16:50	A Single-layer Microwave Logic Operator Based on Diffraction Neural Network Kai Qu, Ke Chen, Yijun Feng	7869
SS21-4 16:50-17:05	A Nonlinear Modulation and Demodulation Method Design Applied to RIS Communication System Kewei Xin, Bing Li, Haiyang Ding, Haipeng Li	7881

Poster Session

Poster Session I 14:00-15:30, Monday, July 16, 2023 4F Convention Center 4 楼会展中心 Session chair: Yueyi Yuan, Yuxiang Wang	
A Wireless Power Transfer IoT Electronic Flower Pot System Design Chih-Lung Hsiao, Chih-Fu Yang, Sheng-Feng Liu, Chih-Wei Huang	7408
Improved Helmholtz Coils to Obtain Maximum Magnetic field Uniformity in Different Using Space Zhouqiang Yang, Peiling Cui, xikai Liu	7411
Design of Single Layer 1-bit and 3-bit Coding Metasurfaces for RCS Reduction Shi-Long Zhu, Mustafa K. Taher Al-Nuaimi, Guan-Long Huang	7414
A Miniaturized and Circularly Polarized Antenna with Improved Radiation Efficiency Wen-Yi Xiao, Zhe Chen, Tao Yuan	7415
A Dual-band Low-profile Quadrifilar Helix Antenna for Satellite Navigation System Jiahong Wang, Junwei Qi	7452
An Ultra-Wideband Carpet Cloak Based On An Ultra-Thin Metasurface Shipeng Liu, Yongtao Jia, Ying Liu	7616
Design and research of THz metamaterial sensor device BoChen Song, Yue Wang, Xiang Zhang, Fan Luo, XiaoJu Zhang, ZhenYu Yao	7638
Unidirectional propagation of surface plasmon polaritons based on black phosphorus TaiJie Xuan, Yue Wang, Guangcheng Sun, HaoJie Wang, HongYu Zhang, Hui Hu	7639
Design of a Switchable Reflectionless Filter with Bandpass and Bandstop Modes Hao Wu, Gangxiong Wu, Jin Shi	7723
Efficient Discontinuous Galerkin Integral Equation Method for Electromagnetic Modelling of Multi-Scale PEC Objects Hanqin Jia, Xi-Min Xin, Kaizi Hao, Hong-Wei Gao, Xin-Qing Sheng	7724
Study on the Electromagnetic Scattering Properties of Time-Varying and Moving Plasma with Parallel FDTD Method Haiyan Li, Yong Bo, Lixia Yang, Yingsong Li, Mouping Jin, Zhixiang Huang	7731
Implementation of exceptional topological phase based on PT-symmetric metasurface Shicheng Wan, Zhengqi Zhuang	7887
Exceptional points enhance sensing with a bilayer metasurface Zhengqi Zhuang, Shicheng Wan	7888

Dielectric Embedded Broadband Dual-Polarized Antenna for 5G Applications Yuhang Zhang, Zongliang Zheng	7897
A miniaturized HF coil antenna with reconfigurable pattern by magnetic ferrite loading Ting Liu, Zongliang Zheng	7895
Passive Millimeter-Wave Imaging Simulation of Ship Kelvin Wakes Using Computation Fluid Dynamices Analysis Xinyang Ren, Yayun Cheng, Jinghui Qiu	7903
Poster Session II **08:30-09:30, Monday, July 17, 2023** **4F Convention Center** **4 楼会展中心** **Session chair: Yueyi Yuan, Yuxiang Wang**	
A Wireless Power Transfer IoT Electronic Flower Pot System Design Chih-Lung Hsiao, Chih-Fu Yang, Sheng-Feng Liu, Chih-Wei Huang	7429
A Wide Range Rectifier Based on Multi-Branches Structure mei yang, yunfei zhou, qinghua wang, lixia yang	7866
Design of WLAN2.4/5GHz/WRC 5G C-bands MIMO Laptop Antennas with Asymmetric Antenna Structures Yan-Han Zeng, Wei-Ren Huang, Yong-Hao Liu, Wen-Shan Chen, Chi-Yu Kuo	7449
Study on the Manufacturing Process of Multilayer Silicon-based Filters Based on Au-Sn Soldering Yaolong Gong, Shicheng Yang, Sheng Li, Feng Wang, Weijuan Xia, Ping Wang	7726
Research and Protection of Silver Migration in Hybrid Microcircuits Dangpo Wang, xuzhou Jia, Peng Sun, Tong Liu, Xiaolong Wang, Yanan Zhang	7727
A process method for making BGA solder mask using nickel oxide Lin Zhuo, Geng Hui, Hui Bin, Jiang Wei, Li Xinlei, Xiao Huiguo	7843
A High Angular Resolution Transceiver Cascaded Automotive Front Radar with Novel Antennas Jinghu Sun, Li Huang, Yuanyuan Zhang, Zhang Xiuyin	7470
A dual-band sample selection method for 2-dimension digital predistortion Yi Gao, Cuiping Yu, Shulan Li, Yuanan Liu	7715
Optimizing Energy-Efficient Flow Shop Scheduling for Pickling Titanium Strips Using Microwave Heating Biao Yang, yuyi Shi, zhaogang Wu	7676
A method for selecting the position of each source in a multi-source microwave heating cavity Biao Yang, Yudong Qian, Zemin Han	7682
Design metamaterial with wave-absorption and wave-transparent functions using deep learning and genetic algorithm Rui-Xin Wu, Zhen-Xu Yao, Wei Ding, Yi-Xiang Fu	7687

Effect of Size Disorder on the Absorbing Properties of Metasurfaces Zonghui Li, Ju Gao, Xin Che	7409
Reconfigurable Metasurface with Varactor Diodes for Dynamic Beam Scanning in X-Band Yong Zhang, Yanhua Li, Yunsheng Zhou	7497
Wideband Bandpass Filtering Impedance Transformer With Cascaded Coupled-line Sections for Complex Terminal Loads Yubo Xie, Chang Xu, Jian Ma, Min-Xin Sun, Xiaolong Wang, Chen Chun-Ping, Gennadi Milinevsky, Geyu Lu	7672
A Novel Out-of-Phase Unequal Filtering Power Divider With Good Isolation and Out-of-Band Suppression Zhixin Wang, Dayong Liu, He Liu, Xiaolong Wang, Chen Chun-Ping, Gennadi Milinevsky, Geyu Lu	7674
Repair of Holes Appearing in the Stereo Reconstruction Based on 3D Reprojection and DCGAN Mengtong Guo, Hao Chen	7901
Broadband Absorptive Common-Mode Filter Based on H-Shaped Defect Ground Structure Jun-Chen Lv, Yi-Hao Ma, Wen-Sheng Zhao	7636
A Single-Notch Ultra-Wideband Bandpass Filter Based on Bow-Tie Cells Yufeng Xie, Yihao Ma, Wensheng Zhan	7637
Research on Unexpected Electromagnetic Energy Coupling and Energy Release in High Field Strength Environments Yueqing Wang, Haijun Ye, yubin Ma, shuai Huang	7732
Poster Session III **10:30-11:30, Monday, July 17, 2023** **4F Convention Center** **4 楼会展中心** **Session chair: Yueyi Yuan, Yuxiang Wang**	
Improved Complying-Divergence Implicit FDTD Method with Auxiliary Differential Equation (ADE) Method for General Dispersive Anisotropic Material Simulation Guilin Hou, Guoda Xie, Ziheng Song, Zhixiang Huang	7427
Analysis of Electromagnetic Propagation Properties of High-Speed Moving Plasma Plates Xianmin Guo, yong Bo, Lixia Yang, Yingsong Li, Mouping Jin, Zhixiang Huang, Wei Chen, Anqi Wang	7683
A Low-RCS Microstrip Antenna Design with Concentric Ring Metasurface Aidi Ren, Chengwei Yu, Lixia Yang, Yingsong Li, Wei Cui	7405
A Wideband Circularly Polarized Folded Transmitarray Antenna Xuan Huang, Zi Long Ma	7425
Wideband Differentially Fed Circularly Polarized Antenna Array Based on Higher Order Mode Substrate Integrated Waveguide Kai Yang, Zi Long Ma	7426

A Low Sidelobe Planar X-Band Antenna Array With Air Coaxial Feedline Network for Weather Radar Applications Chang Hong Song	7465
Design of a Wideband SIW Slot Antenna with Enhanced Gain Min Wang, Xuan Li, Dongsheng Mo, Zhengchuan Chen	7478
Circular-polarized Low Profile Horn Antenna Based on Sequential Rotation Feed Zhihao Xu, Zhihui Liu, Zhao Li, Hao Zhou	7485
A Circularly Polarized Folded Transmitarray Antenna with Reduced Profile Xuan Huang	7630
Design of High Gain Metasurface Antenna Based on Characteristic Mode Analysis Xinyan Wang, Liang Zhang, Lixia Yang	7879
A miniaturized substrate integrated waveguide bandpass filter using stub-loaded technique Dun Liang, anqi Wang, lixia Yang	7419
Full-wave Numerical Study of a 90° Miter-Bend with Overmoded Corrugated Waveguide for HPM Transmission Lines Rutai Chen, Tianzhong Zhang, Qixiang Zhao, Yanyan Zhang, Qianyu Zhang	7557
Design of Miniaturized Broad Stopband Lowpass Filter on GaAs IPD Technology Yiru Bian, Yunxiang Xu, Qingyuan Lu, Jianpeng Wang, Xiaojun Wang, Jiamin Zhu	7713
Asymmetric Doherty power amplifier improve bandwidth with parallel architecture YunFei Xu, JiaZhen Zhang, Yu Qian, Tao Song	7733
Machine Learning-Assisted Synthesis of Low-Phase Noise Oscillator Zhenyuan Sun, Jiahao Wei, Qi Wu, Haiming Wang	7885
A Broadband Microwave Absorber Based on Composite Multilayer Metamaterial Jiayue Nie, Xuesong Deng, Ming Fang	7831
IoT NTN retransmission technology and its verification Yujuan Ma, Xiayu Li, Yuhang Wu, Shuo Liu, Xing Xin	7500
RCS Reduction of Antenna by Using Antenna Mode and Structural Mode Cancellation Method Yan Long, Yuejun Zheng, Chen Chen	7662
A Dual-Polarized 2×2-Slot Subarray Antenna on Parallel-Plate Waveguide Yaxiang Wu, Jiro Hirokawa, Takashi Tomura	7407