2020 IEEE 3rd International Conference on Electronic Information and Communication Technology (ICEICT 2020)

Shenzhen, China 13 – 15 November 2020



IEEE Catalog Number: CFP20F64-POD **ISBN:**

978-1-7281-9046-4

Copyright © 2020 by the Institute of Electrical and Electronics Engineers, Inc. All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

*** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.

IEEE Catalog Number:	CFP20F64-POD
ISBN (Print-On-Demand):	978-1-7281-9046-4
ISBN (Online):	978-1-7281-9045-7

Additional Copies of This Publication Are Available From:

Curran Associates, Inc 57 Morehouse Lane Red Hook, NY 12571 USA Phone: (845) 758-0400 Fax: (845) 758-2633 E-mail: curran@proceedings.com Web: www.proceedings.com



Table of Contents

Topic 1. Communications and Network		
PID	Paper Information	First Page
5426	Performance Analysis of Single Link OAM Communication System Boyu Zhang, Li Deng, Shufang Li, Botao Feng School of Information and Communication Engineering BUPT	1
5488	Analysis of Ground Station Network Resources for Giant Constellation TT&C Service <i>Zhiyuan Li, Ming Wang, Jianping Liu, Bo Ren, Han Lei</i> State Key Laboratory of Astronautic Dynamics	6
5498	The Information Integration Platform for Satellite Earth Station based on The Dynamic Workflow Model Junying Xu, Shuai Chen, Yi Qiao, Lei Tong, Wenqiang Chen, Xiaofang Wu Beijing Aerospace Control Center	12
5504	Satellite Requirement Preference Driven TT&C Resources Scheduling Algorithm for Time Sensitive Missions <i>Bo Ren, Jianping Liu, Zhiyuan Li, Jiayang Wu, Zhihai Yao</i> Xi'an Satellite Control Center	15
5555	RLS-DPD Algorithm for Hybrid Precoding Architecture in MIMO-OFDM Systems <i>Tingyu Huang, Weijun Hong, Tingxiao Cai, Huanhuan Lin</i> Beijing University of Posts and Telecommunications	20
5557	An Empirical Study on the Impact of Social Presence on Customer Citizenship Behavior in E-business <i>Hanyang Luo, Zhaoliang Yuan, Huike Xu, Cheng Peng, Yanzong Zheng, Shaona</i> <i>Ma</i> Shenzhen University	25
5558	Research on the Influence of Logistics Service Quality on Post-purchase Behavior in E-business <i>Hanyang Luo, Shaona Ma, Jue Rao, Zeyi Zheng, Mingxia Li, Huike Xu</i> Shenzhen University	31
5637	Research On Wireless Local Area Network In Large Scale Manned Spacecraft Zhuang Tian The Institute of Spacecraft System Engineering	35
5649	Performance and Capacity Consistency Analysis of A Wireless UAV-Blockchain System Zebing Feng, Yang Jiao China Academy of Information and Communications Technology CAICT	39
5655	Wireless Channel Modeling, Simulation and Analysis for Electronic Registration Identification of Vehicles <i>Tingxiao Cai, Wenmin Fan, Jing Feng, Weijun Hong</i> China Electronics Standardization Institute	44
5656	Channel Model for RFID based Electronic Registration Identification of the motor vehicle in Practical Open Transportation Scenario Jing Feng, Wenmin Fan, Weijun Hong, Tingxiao Cai, Chunteng Shi, Jitianbai Zhou China Electronics Standardization Institute	49

5682	Use OFDM In OAM Communication to Redcuce Multi-path Effects Jingyue Shu, Li Deng, Shufang Li, Botao Feng Beijing Laboratory of Advanced Information Networks Beijing Key Laboratory of Network System Architecture and Convergence Beijing University of Posts and Telecommunications	54
5718	Broadband Power Amplifiers Behavioral Modeling Method Based on Instantaneous Input Power <i>Wei Li, Hongwei Bian, Jin Meng, Jiahao Zhang, Yi Li</i> National Key Laboratory of Science and Technology on Vessel Integrated Power System	57
5736	A Segment CRC Scheme for Polar Codes <i>Daolong WU, Ying LI, Chilian CHEN</i> Key Laboratory of Technology on Datalink China Electronics Technology Group Corporation CETC, 20 th Institute	62
5746	Security for Autonomous Vehicle Networks Aifen Sui, Gordon Muehl Huawei Technologies Duesseldorf GmbH	67

Topic 2. Signal Processing (SP) and Information Technology

PID	Paper Information	First Page
5398	Extraction Technology of Line of Sight Angular Velocity with Missile Rolling <i>Yuekun Zhang, Haishan Ding, Weiqiang Wang, Xiaoyang Zhang</i> China Airborne Missile Academy	70
5423	Implementation and Comparison of Signal Detection Methods in Radar Reconnaissance System <i>Yingbo Zhang, Heng Chai, Jinfeng Wang</i> The 723 Institute of CSIC	75
5444	Griffith Variable Step Size Sign FLANN Algorithm for Nonlinear ECG Cancellation <i>Kecen Wang</i> Sichuan University	80
5454	Adaptive Block Compressed Sensing Algorithm based on Integral Imaging <i>Yuejianan Gu, Yan Piao, Yufu Huang</i> Changchun University of Sciences and Technology	85
5495	A Novel Enhancement and Tracking Extraction Method of Bearing Fault Features for Rotating Machinery <i>Sifang Zhao, Qiang Song, Mingsheng Wang, Xin Huang, Dongdong Cao, Qin</i> <i>Zhang</i> Beijing Institute of Technology	89
5509	Real-Valued DOA Estimation for Impulsive Noise MengYa Guo, HeKun Shang, Zheng Cao Jiangsu University	94
5539	Robust Multi-kernel Generalized Maximum Correntropy Filters <i>Qiaona Sun, Tao Zhang, Xuewei Huang, Shiyuan Wang</i> SouthWestUniversity	99
5541	The Research on Propagation Characteristics of Acoustic Emission Signals at the Coupling Interface of Components <i>Xiaomin Wang, Cong Han, Li Qiu, Guoan Yang</i> Beijing University of Chemical Technology	104
5566	Local Path Planning of Intelligent Vehicle Based on Improved Artificial Potential Field <i>Zhiyong Chen, Qiong Gao, Xiaolan Wang, Xiang Liu</i> TongJi Universtiy	110

5458	The Accurate Actual-feed Illumination Technique for the Reflector Antenna <i>Xinhua Yu, Jiawen Sun, Niekang Yin, Hao Zeng, Jinjun Mo, Yiying Wang</i> Key Laboratory of Cognitive Radio and Information Processing, Ministry of	179
PID	Paper Information	First Page
	Topic 3. Antennas, Propagation, and Scattering	
5/73	Ankit Arora, Rohit Miri Dr. C V Raman Institute of Science and Technology	11/2
5743	Taylor-Grey Rider based Deep Recurrent Neural Network using feature level fusion for cryptography enabled biometric system	N/A
5741	UAV Attitude Angle Estimation Based on Door Frame Deformation in Image <i>Guobao HUI, Junfeng Hu, Xi Zhao</i> CETC Key Laboratory of Data Link Technology	167
5739	Kai Zhang, Yongping Zhang, Zhigang Wang Key Laboratory of Technology on Data link China Electronics Technology Group Corporation CETC, 20 th Institute	161
	Key Laboratary of Technology on Datalink China Electronics TechnologyGroup CorporationCETC,20th InstituteFrequent Pattern Mining Based On Occupation and Correlation	
5738	An Improved Simplified Soft Demodulation Algorithm for 64QAM Signal Di Mao, Chilian Chen, Baoming Bai	157
5720	Forward-moving RoSAR System Wen-jun Li, Guisheng Liao, Jingwei Xu National Laboratory of Radar Signal Processing	153
	Xidian University A Novel Imaging Algorithm Based on Keystone Transform for Heli-borne	
5717	DPT-MFP Mingming Tian, Guisheng Liao, Shengqi Zhu, Xiongpeng He, Yongjun Liu, Yunpeng Li	147
5077	Zhejiang University An Efficient Method for Ground Maneuvering Target Refocusing based on	144
5699	Shenzhen University Experiments on Blind Speech Separations Yan Zhang, Lixin Ran	144
5686	UWB Radar Boning Guo, Zhaocheng Yang, Yige Cheng, Jianhua Zhou	139
	Cheng, Feng Zheng Beijing University of Posts and Telecommunications Respiratory Frequency Estimation Method Based on Periodic Features Using	
5654	Blockchain and Northbound Data Trusted Storage Jingjing Ma, Xiangyu Wan, Zhongqiu Xiang, Pei Zhao, Shumin Jiang, Zhiyan	135
5611	Power Consumption Radar Haotai Liang, Zhaocheng Yang, Ruimin Yang, Fengyuan Shi Shenzhen University	129
	Sifang Zhao, Qiang Song, Mingsheng Wang, Xin Huang, Dongdong Cao, Qin ZhangBeijing Institute of TechnologyEnergy and Width Features-Based SVM for Vehicles Classification Using Low	
5588	An Early Fault Diagnosis Method of Rolling Element Bearings Based on MED, DFA, and Improved KNN	123
5580	Yueying Zhang, Ming Zhang, Qin Zhen, Yu Zheng, Wenwen Chen, Haibo Zhang Henan Key Laboratory of Spatial Information Application on Eco-environmental Protection	117
	Optimized Dictionary	

	A Miniatured Hexagon-Shaped UWB Antenna	
5466	Simin Li, Baojie Fu, Weiping Cao	184
0.00	Guilin University of Electronic Technology	101
	Reconfigurable Miniaturized Microstrip Antenna Based on Liquid Crystal	
5476	Weiping Cao, Zijuan Hong, Shunlan Zhang	188
0170	Guilin University of Electronic Technology	100
	A compact Microstrip duplexer	
	Simin Li, Li Luo, Weiping Cao	
5483	School of Information and Communication, Guilin University of Electronic	193
	Technology	
	X-Band Omnidirectional High Gain Biconical Array Antenna	
5485	Weiping Cao, Longjun Lian	195
5405		195
	Guilin University of Electronic Technology	
= 40(Dual-sleeve Monopole Antenna With Inductance Coil-loaded For Airborne	100
5486	Simin Li, Chenhao Zhang, Weiping Cao	199
	Guilin University of Electronic Technology	
	Circular Polarization Microstrip Antenna using Truncated Square Patches for	
5489	IR-UWB Localization System	202
	Wei Huang, Wenmin Zhao, Shaoyu Meng, Xiaozhang Zhu	
	Kunchen Technology Co. Ltd	
	Research on a High-precision Pattern Prediction Method of Reflector Antenna	
5542	with Phased Array Feed	204
	Yan Qu, Kai Zhang, Wencan Peng, Lin Li, Heng Liu, Yang Jing	
	Academy of Space Information SystemCASC Xian	
	A Frequency Reconfigurable Antenna Used for L Band	• • • •
5543	Xinwei Wang, Yuqiu Shang, Feng Shang	208
	Xian University of Post Telecommunications	
	Ray-Tracing Based Multi-Frequency Large-Scale Channel Characterization for	
5554	Indoor Millimeter Wave Communications	211
	Yu Zhou, Yuan Dong, Yuanyuan Liu, Xiangqian Sun	
	China Academy of Information and Communications Technology	
	Design of a Ridged Waveguide Slot Array Antenna with High Tolerance Power	
5563	for Radar Applications	214
	Ming Wei, Yang Gao, Tao Ni, Ying Liu	
	Xi'an Research Institute of Navigation Technology	
	Dual-Band Circularly Polarized Crossed-Dipole Antenna Backed by a Double	
5578	Layer Artificial Magnetic Conductor	217
0010	Cheng Jiang, Songcen Wang, Tong Wei, Qian Yang, Jianxing Li, Ersong Chen	
	China Electric Power Research Institute	
	A Joint Calibration Method for Array Gain-phase Errors and Mutual Coupling	
5581	Errors	221
	Wencan Peng, Yan Qu, Min Tian, Weihua Zuo, Caipin Li, Chongdi Duan	
	Academy of Space Information SystemCASC Xian	
	Design of a Ka-Band Intelligent Antenna	
5582	Mao Long, Biao Li, HongMou Zhang, Lin Li, Yan Li, Kai Zhang	226
	Academy of Space Electronic Information Technology CAST Xi'an	
	Design of a Compact Base Station Antenna for 5G N78-Band Application	
5596	Yali Chen, Qianqian Liu, Ying Zhang, Hongfei Li, Weihua Zong	229
	Qingdao University	
	A New Beam-Scanning Mechanism for Leaky Wave Antenna Based on	
5600	Metagratings	232
5000	Odai Hassan Raheem Al Soad, Jiahui Fu, Qun Wu	202
	Harbin Institute of Technology	

PID	Paper Information	First Page
	Topic 4. Microwave Systems, Radar, RF	
5747	A Broadband Dual-polarized Antenna for Sub-6 GHz Base Station Application Bosong Qiu, Shengyuan Luo, Yingsong Li Harbin Engineering University	273
5740	Modeling and Interoperability Testing of Data Link Based on DEVS <i>Wanyong Tian, Chilian Chen, Lulu Zhao</i> Key Laboratory of Technology on Data link China Electronics Technology Group Corporation CETC, 20 th Institute	268
5737	A Triple-Band Printed Monopole Antenna for WLAN/WiMAX/5G Applications <i>Yu Wang, Chi-lian Chen</i> Key Laboratory of Technology on Datalink China Electronics Technology Group Corporation CETC, 20 th Institute	265
5722	The Path Loss of Human Arm for Wearable Application Niekang Yin, Xinhua Yu, Jiawen Sun Guilin University Of Electronic Technology	262
5714	Beijing University of Posts and Telecommunications A Dual-Band Metal-Rimmed Smartphone Antenna Shihao Lin, Lei Ge Shenzhen University	259
5697	Design of Circular Polarization Antenna Array Based on Sequential Phase Feed Network <i>Hui Yang, Weijun Hong, Jiaqi Cai, Yaping Jin</i>	255
5696	 Study on EM Scattering from Divisional Rough Surface of Mountainous Region <i>Gao Xiang Zou, Jian Bing Zhu, Bo Liu, Chuang Ming Tong, Hua Long Sun,</i> <i>Peng Peng</i> Air Force Engineering University 	252
5664	An Electronic Scanning Leaky-Wave Antenna Based on the Half-Mode Corrugated Integrated Waveguide <i>Qunhao Zhang, Wan Chen, Yulin Zhao, Jiahui Fu</i> Harbin Institude of Technology	249
5657	Dual band Millimeter Wave Phased Array Antenna for 5G Mobile Communications <i>Muhammad Usman Raza, Sen Yan</i> Xi'an Jiaotong University	247
5652	A Space Borne Self-Organizing Phased Array Antenna System HongMou Zhang, GuoXiang Shi, ZhuJun Li, Yan Li, Kai Zhang Academy of Space Electronic Information TechnologyCAST Xi'an	244
5640	A Novel Switch-Type Ultra-Wideband Active Frequency Selective Surface for Radar Applications <i>Yulin Zhao, Jiahui Fu, Qunhao Zhang, Zhefei Wang, Wan Chen, Bo Lv</i> Harbin Institute of Technology	241
5606	A Wide-Angle Beam Steering Parasitic Antenna <i>Qianqian Liu, Yali Chen, Ying Zhang, Hongfei Li, Weihua Zong</i> Qingdao University	238
5602	A Multiband Navigation Stacked Patch Antenna for GNSS Receiver Measurement <i>Xinwei Wang, Gengqi Zheng, Zhanhe Zhang</i> Xi'an University of Posts Telecommunications	235

5445	Design and Analysis of Microwave Energy Transmission System Based on 5.8GHz	276
5445	Linlin Jiang, Juan Chen Xian Jiaotong University	270
	Prediction Analysis of the Signal Coverage From Multi-antenna System	
5491	Linghui Kong, Zihan Xu, Changrong Liu, Yi Liu, Xueguan Liu	280
0.01	School of Electronic and Information Engineering, Soochow University	200
	Methods and Chanllenges of RF Conformance Test for 5G Millimeter Wave	
	Terminals	201
5553	Yu Zhou, Yuanyuan Liu, Yuan Dong, Xiangqian Sun	284
	China Academy of Information and Communications Technology	
	Ka-band GaAs MMIC Driver Amplifier Design	
5567	Lin Peng, Jiajin Li, Gary Zhang, Shaoxin Lin, Jianqiang Chen	287
	School of Information Engineering, Guangdong University of Technology	
	Design And Simulation of High-Power RF Power Supply for ICP Based on	
5583	Simulink	291
5505	Yang Zhou, Xuesong Xie, XiaoLing Zhang, Kunkun Huang	271
	Beijing University of technology	
	A Low Profile Wideband Absorption Structure based on Metasurface Embed	
5703	with Lumped Resistance	295
	Yaping Jin, Weijun Hong, Jiaqi Cai	
	Beijing Key Laboratory of Network System Architecture and Convergence	
	A Novel Miniaturization Method for Microstrip Filter	
5727	<i>Fatao Tong, Yannan Jiang, Weiping Cao</i> Key Laboratory of Cognitive Radio and Information Processing (Guilin	299
	University of Electronic Technology) Ministry of Education Guilin, China	
Spec	ial session 1: EMC and OTA Testing for the Next Generation Communication	Devices
Spec PID	ial session 1: EMC and OTA Testing for the Next Generation Communication Paper Information	Devices First Page
	Paper Information A Broadband Reference Antenna for Efficiency Measurements in a	
PID	Paper Information A Broadband Reference Antenna for Efficiency Measurements in a Reverberation Chamber	First Page
	Paper Information A Broadband Reference Antenna for Efficiency Measurements in a Reverberation Chamber Dandan Yan, Qian Xu, Chen Yu, Yi Huang, Tian Hong Loh	
PID	Paper Information A Broadband Reference Antenna for Efficiency Measurements in a Reverberation Chamber Dandan Yan, Qian Xu, Chen Yu, Yi Huang, Tian Hong Loh College of Electronic and Information Engineering Nanjing University of	First Page
PID	Paper Information A Broadband Reference Antenna for Efficiency Measurements in a Reverberation Chamber Dandan Yan, Qian Xu, Chen Yu, Yi Huang, Tian Hong Loh College of Electronic and Information Engineering Nanjing University of Aeronautics and Astronautics	First Page
PID 5451	Paper Information A Broadband Reference Antenna for Efficiency Measurements in a Reverberation Chamber Dandan Yan, Qian Xu, Chen Yu, Yi Huang, Tian Hong Loh College of Electronic and Information Engineering Nanjing University of Aeronautics and Astronautics Statistical Estimation of Measured Antenna Efficiency Using Non-reference	First Page
PID	Paper Information A Broadband Reference Antenna for Efficiency Measurements in a Reverberation Chamber Dandan Yan, Qian Xu, Chen Yu, Yi Huang, Tian Hong Loh College of Electronic and Information Engineering Nanjing University of Aeronautics and Astronautics Statistical Estimation of Measured Antenna Efficiency Using Non-reference Antenna Methods	First Page
PID 5451	Paper Information A Broadband Reference Antenna for Efficiency Measurements in a Reverberation Chamber Dandan Yan, Qian Xu, Chen Yu, Yi Huang, Tian Hong Loh College of Electronic and Information Engineering Nanjing University of Aeronautics and Astronautics Statistical Estimation of Measured Antenna Efficiency Using Non-reference Antenna Methods Wei Xue, Xiaoming Chen, Anxue Zhang	First Page 302
PID 5451	Paper Information A Broadband Reference Antenna for Efficiency Measurements in a Reverberation Chamber Dandan Yan, Qian Xu, Chen Yu, Yi Huang, Tian Hong Loh College of Electronic and Information Engineering Nanjing University of Aeronautics and Astronautics Statistical Estimation of Measured Antenna Efficiency Using Non-reference Antenna Methods Wei Xue, Xiaoming Chen, Anxue Zhang Xi'an Jiaotong University	First Page 302
PID 5451 5456	Paper Information A Broadband Reference Antenna for Efficiency Measurements in a Reverberation Chamber Dandan Yan, Qian Xu, Chen Yu, Yi Huang, Tian Hong Loh College of Electronic and Information Engineering Nanjing University of Aeronautics and Astronautics Statistical Estimation of Measured Antenna Efficiency Using Non-reference Antenna Methods Wei Xue, Xiaoming Chen, Anxue Zhang Xi'an Jiaotong University Fast Phased Array Calibration Method Based on Multiple Measuring Probes	First Page 302 306
PID 5451	Paper Information A Broadband Reference Antenna for Efficiency Measurements in a Reverberation Chamber Dandan Yan, Qian Xu, Chen Yu, Yi Huang, Tian Hong Loh College of Electronic and Information Engineering Nanjing University of Aeronautics and Astronautics Statistical Estimation of Measured Antenna Efficiency Using Non-reference Antenna Methods Wei Xue, Xiaoming Chen, Anxue Zhang Xi'an Jiaotong University Fast Phased Array Calibration Method Based on Multiple Measuring Probes Si Tang, Zhengpeng Wang	First Page 302
PID 5451 5456	Paper Information A Broadband Reference Antenna for Efficiency Measurements in a Reverberation Chamber Dandan Yan, Qian Xu, Chen Yu, Yi Huang, Tian Hong Loh College of Electronic and Information Engineering Nanjing University of Aeronautics and Astronautics Statistical Estimation of Measured Antenna Efficiency Using Non-reference Antenna Methods Wei Xue, Xiaoming Chen, Anxue Zhang Xi'an Jiaotong University Fast Phased Array Calibration Method Based on Multiple Measuring Probes Si Tang, Zhengpeng Wang School of Electronic and Information Engineering, Beihang University BUAA,	First Page 302 306
PID 5451 5456	Paper Information A Broadband Reference Antenna for Efficiency Measurements in a Reverberation Chamber Dandan Yan, Qian Xu, Chen Yu, Yi Huang, Tian Hong Loh College of Electronic and Information Engineering Nanjing University of Aeronautics and Astronautics Statistical Estimation of Measured Antenna Efficiency Using Non-reference Antenna Methods Wei Xue, Xiaoming Chen, Anxue Zhang Xi'an Jiaotong University Fast Phased Array Calibration Method Based on Multiple Measuring Probes Si Tang, Zhengpeng Wang	First Page 302 306
PID 5451 5456 5487	Paper Information A Broadband Reference Antenna for Efficiency Measurements in a Reverberation Chamber Dandan Yan, Qian Xu, Chen Yu, Yi Huang, Tian Hong Loh College of Electronic and Information Engineering Nanjing University of Aeronautics and Astronautics Statistical Estimation of Measured Antenna Efficiency Using Non-reference Antenna Methods Wei Xue, Xiaoming Chen, Anxue Zhang Xi'an Jiaotong University Fast Phased Array Calibration Method Based on Multiple Measuring Probes Si Tang, Zhengpeng Wang School of Electronic and Information Engineering, Beihang University BUAA, Beijing 100191, China	First Page 302 306 311
PID 5451 5456	Paper Information A Broadband Reference Antenna for Efficiency Measurements in a Reverberation Chamber Dandan Yan, Qian Xu, Chen Yu, Yi Huang, Tian Hong Loh College of Electronic and Information Engineering Nanjing University of Aeronautics and Astronautics Statistical Estimation of Measured Antenna Efficiency Using Non-reference Antenna Methods Wei Xue, Xiaoming Chen, Anxue Zhang Xi'an Jiaotong University Fast Phased Array Calibration Method Based on Multiple Measuring Probes Si Tang, Zhengpeng Wang School of Electronic and Information Engineering, Beihang University BUAA, Beijing 100191, China A Method Based on Metasurface to Reduce the Measurement Uncertainty in Reverberation Chamber Jiazhi Tang, Xiaoming Chen, Guoxiang Dong, Anxue Zhang	First Page 302 306
PID 5451 5456 5487	Paper Information A Broadband Reference Antenna for Efficiency Measurements in a Reverberation Chamber Dandan Yan, Qian Xu, Chen Yu, Yi Huang, Tian Hong Loh College of Electronic and Information Engineering Nanjing University of Aeronautics and Astronautics Statistical Estimation of Measured Antenna Efficiency Using Non-reference Antenna Methods Wei Xue, Xiaoming Chen, Anxue Zhang Xi'an Jiaotong University Fast Phased Array Calibration Method Based on Multiple Measuring Probes Si Tang, Zhengpeng Wang School of Electronic and Information Engineering, Beihang University BUAA, Beijing 100191, China A Method Based on Metasurface to Reduce the Measurement Uncertainty in Reverberation Chamber Jiazhi Tang, Xiaoming Chen, Guoxiang Dong, Anxue Zhang Xi'an Jiaotong University	First Page 302 306 311
PID 5451 5456 5487	Paper Information A Broadband Reference Antenna for Efficiency Measurements in a Reverberation Chamber Dandan Yan, Qian Xu, Chen Yu, Yi Huang, Tian Hong Loh College of Electronic and Information Engineering Nanjing University of Aeronautics and Astronautics Statistical Estimation of Measured Antenna Efficiency Using Non-reference Antenna Methods Wei Xue, Xiaoming Chen, Anxue Zhang Xi'an Jiaotong University Fast Phased Array Calibration Method Based on Multiple Measuring Probes Si Tang, Zhengpeng Wang School of Electronic and Information Engineering, Beihang University BUAA, Beijing 100191, China A Method Based on Metasurface to Reduce the Measurement Uncertainty in Reverberation Chamber Jiazhi Tang, Xiaoming Chen, Guoxiang Dong, Anxue Zhang Xi'an Jiaotong University Design and Implementation of Test System for Power 5G Communication	First Page 302 306 311
PID 5451 5456 5487 5494	Paper Information A Broadband Reference Antenna for Efficiency Measurements in a Reverberation Chamber Dandan Yan, Qian Xu, Chen Yu, Yi Huang, Tian Hong Loh College of Electronic and Information Engineering Nanjing University of Aeronautics and Astronautics Statistical Estimation of Measured Antenna Efficiency Using Non-reference Antenna Methods Wei Xue, Xiaoming Chen, Anxue Zhang Xi'an Jiaotong University Fast Phased Array Calibration Method Based on Multiple Measuring Probes Si Tang, Zhengpeng Wang School of Electronic and Information Engineering, Beihang University BUAA, Beijing 100191, China A Method Based on Metasurface to Reduce the Measurement Uncertainty in Reverberation Chamber Jiazhi Tang, Xiaoming Chen, Guoxiang Dong, Anxue Zhang Xi'an Jiaotong University Design and Implementation of Test System for Power 5G Communication Module Base on Cloud Computing Architecture	First Page 302 306 311
PID 5451 5456 5487	Paper Information A Broadband Reference Antenna for Efficiency Measurements in a Reverberation Chamber Dandan Yan, Qian Xu, Chen Yu, Yi Huang, Tian Hong Loh College of Electronic and Information Engineering Nanjing University of Aeronautics and Astronautics Statistical Estimation of Measured Antenna Efficiency Using Non-reference Antenna Methods Wei Xue, Xiaoming Chen, Anxue Zhang Xi'an Jiaotong University Fast Phased Array Calibration Method Based on Multiple Measuring Probes Si Tang, Zhengpeng Wang School of Electronic and Information Engineering, Beihang University BUAA, Beijing 100191, China A Method Based on Metasurface to Reduce the Measurement Uncertainty in Reverberation Chamber Jiazhi Tang, Xiaoming Chen, Guoxiang Dong, Anxue Zhang Xi'an Jiaotong University Design and Implementation of Test System for Power 5G Communication	First Page 302 306 311 314

5619	A Wideband Open TEM cell to Measure the Frequency Response of a Frequency Selective Surface <i>Xuemeng Wang, Xiangkun Kong, Shunliu Jiang, Lingqi Kong, Weihao Lin,</i> <i>Borui Bian</i> Nanjing University of Aeronautics and Astronautics Laboratory of Radar Imaging and Microwave Photonics, Ministry of Education	321
5629	Improving Field Uniformity Using Beam Deflection with Metasurface in a Reverberation Chamber <i>Chen Yu, Yongjiu Zhao, Wenjun Qi, Qian Xu</i> Nanjing University of Aeronautics and Astronautics	324
5647	Overview of PIM Test Calibrations with Its Improvement by Tunable PIM Standard <i>Xiong Chen, Tianxiong Ren</i> Tianjin University	328

Special session 2: Wearable Antennas and Biomedical Circuits

PID	Paper Information	First Page
	A Dual-band Smartwatch Antenna with Polarization Diversity	
5546	Buyun Wang, Sen Yan	331
	Xi'an Jiaotong University	
	High-sensitivity Planar Microfluidic Sensor Based on Zeroth-Order Resonance	
5597	Xinyue Song, Sen Yan	334
	Xi'an Jiaotong University	
	A Flexible Wearable Linear-to-Circular Polarizer for GNSS Application	
	Hidayath Mirza, Ping Jack Soh, Rais Ahmad Sheikh, Azremi Abdullah Al-Hadi,	
5661	Toufiq M Hossain, Sen Yan	337
	Dept. of Electrical Engineering, College of Engineering Jazan University Jazan,	
	Kingdom of Saudi Arabia	
	A Metamaterial Inspired Button Antenna for Wireless Power and Data Transfer	
5700	Jiahao Zhang, Jin Meng, Wei Li, Sen Yan, Guy Vandenbosch	341
5700	National Key Laboratory of Science and Technology on Vessel Integrated	541
	Power System	
	Experimental Investigation of Wearable Polarization Diversity Antenna	
5712	Hao Zeng, Xinhua Yu, Xianxi Wu	344
	Guilin University of Electronic Technology	
	Special session 4: Metasurface based Spatial Coding: Theory and Application	18
PID	Paper Information	First Page
	Metagrating for Single Order Diffraction with High Efficiency Based on	
	Bianisotropic Particles	
5721	Wang Yuxiang, Zhang Kuang, Yuan Yueyi, Li Jinxing	347
	Harbin Institute of Technology	
Sr	becial session 5: Waveguide and Antenna Design for mmWave and THz Applica	ations

PID	Paper Information	First Page
5432	Circularly Polarized Metasurface Antenna Based On The Theory Of Characteristic Mode <i>Guowei Tian, Xi Gao, Xiongbin Wu</i> School of Information and communication, Guilin University of Electronic Technology	350

	Terahertz Antenna Characterization by the Josephson Effect for	
5551	Superconducting Terahertz Detectors	353
5551	Yu Mei, Xu Weiwei, Shi Jin, Kong Linghui	555
	Nantong University	
	Design of a Dielectric Ridge Waveguide for Board Level High-speed	
5556	Interconnect	356
5550	Zihan Xu, Linghui Kong, Xingli He, Changrong Liu	550
	School of Electronic and Information Engineering, Soochow University	
	A Ka-band Filter Based on the Quater-height Pin Gap Waveguide with	
	Improved Reliability	
5599	Minjie Shu, Wenxuan Wu, Cheng Guo, Qian Yang, Jianzhong Chen, Anxue	359
0077	Zhang	•••
	School of Information and Communications Engineering, Xian Jiaotong	
	University	
	Broadband High-Gain Aperture-Coupled Patch Antenna Array Based on SIW	
5620	for 60 GHz Applications	362
	Hao Xiong, Zhengfang Qian, Hai Wang	
	College of Physics and Optoelectronic Engineering, Shenzhen University	
	SIW Slot Array Antenna with Non-Alternating Slot Placement for Impedance Bandwidth Enhancement	
5659		365
	Yi Zhang, Yu Jian Cheng, Hai Ning Yang, Ming Hua Zhao, Yong Fan	
	University of Electronic Science and Technology of China Modelling of Tunable CPW Structure Dielectric Phase Shifters	
5711	Xingli He, Linghui Kong, Yunjing Zhang	368
5/11	Soochow University	500
	Soothow Oniversity	
Sp	ecial session 6: Intelligence Signal Processing in Communication Navigation S	ystem
PID	Paper Information	First Page
PID	-	First Page
	Paper Information Polarization Sensitive Array Beamforming Algorithm for Multipath Mitigation in GNSS	
PID 5450	Polarization Sensitive Array Beamforming Algorithm for Multipath Mitigation in GNSS	First Page 372
	Polarization Sensitive Array Beamforming Algorithm for Multipath Mitigation	
	Polarization Sensitive Array Beamforming Algorithm for Multipath Mitigation in GNSS Xiaojian Wang, Jianxing Li, Ming Zhang, Wenchao Chen, Xiaoming Chen	
	Polarization Sensitive Array Beamforming Algorithm for Multipath Mitigation in GNSS <i>Xiaojian Wang, Jianxing Li, Ming Zhang, Wenchao Chen, Xiaoming Chen</i> Xian Jiaotong University EMI Analysis among LEO Satellites Based on Space Conjunction Theory <i>Bin CAO, Kangkang Gao, Jiangnan Xing, Tao JIANG</i>	
5450	Polarization Sensitive Array Beamforming Algorithm for Multipath Mitigation in GNSS <i>Xiaojian Wang, Jianxing Li, Ming Zhang, Wenchao Chen, Xiaoming Chen</i> Xian Jiaotong University EMI Analysis among LEO Satellites Based on Space Conjunction Theory <i>Bin CAO, Kangkang Gao, Jiangnan Xing, Tao JIANG</i> Marine Design Research of China	372
5450	Polarization Sensitive Array Beamforming Algorithm for Multipath Mitigation in GNSS Xiaojian Wang, Jianxing Li, Ming Zhang, Wenchao Chen, Xiaoming Chen Xian Jiaotong University EMI Analysis among LEO Satellites Based on Space Conjunction Theory Bin CAO, Kangkang Gao, Jiangnan Xing, Tao JIANG Marine Design Research of China Image Based Localization Algorithm Using Similarity Measurements and	372
5450 5506	Polarization Sensitive Array Beamforming Algorithm for Multipath Mitigation in GNSS Xiaojian Wang, Jianxing Li, Ming Zhang, Wenchao Chen, Xiaoming Chen Xian Jiaotong University EMI Analysis among LEO Satellites Based on Space Conjunction Theory Bin CAO, Kangkang Gao, Jiangnan Xing, Tao JIANG Marine Design Research of China Image Based Localization Algorithm Using Similarity Measurements and Back-Propagation Neural Network	372 375
5450	Polarization Sensitive Array Beamforming Algorithm for Multipath Mitigation in GNSS Xiaojian Wang, Jianxing Li, Ming Zhang, Wenchao Chen, Xiaoming Chen Xian Jiaotong University EMI Analysis among LEO Satellites Based on Space Conjunction Theory Bin CAO, Kangkang Gao, Jiangnan Xing, Tao JIANG Marine Design Research of China Image Based Localization Algorithm Using Similarity Measurements and Back-Propagation Neural Network Jun Yan, Zhu Hongliu	372
5450 5506	Polarization Sensitive Array Beamforming Algorithm for Multipath Mitigation in GNSS Xiaojian Wang, Jianxing Li, Ming Zhang, Wenchao Chen, Xiaoming Chen Xian Jiaotong University EMI Analysis among LEO Satellites Based on Space Conjunction Theory Bin CAO, Kangkang Gao, Jiangnan Xing, Tao JIANG Marine Design Research of China Image Based Localization Algorithm Using Similarity Measurements and Back-Propagation Neural Network Jun Yan, Zhu Hongliu NJUPT	372 375
5450 5506	Polarization Sensitive Array Beamforming Algorithm for Multipath Mitigation in GNSS Xiaojian Wang, Jianxing Li, Ming Zhang, Wenchao Chen, Xiaoming Chen Xian Jiaotong University EMI Analysis among LEO Satellites Based on Space Conjunction Theory Bin CAO, Kangkang Gao, Jiangnan Xing, Tao JIANG Marine Design Research of China Image Based Localization Algorithm Using Similarity Measurements and Back-Propagation Neural Network Jun Yan, Zhu Hongliu NJUPT Unmanned Vehicle Positioning Method in Satellite-jamming Environment	372 375
5450 5506	Polarization Sensitive Array Beamforming Algorithm for Multipath Mitigation in GNSS Xiaojian Wang, Jianxing Li, Ming Zhang, Wenchao Chen, Xiaoming Chen Xian Jiaotong University EMI Analysis among LEO Satellites Based on Space Conjunction Theory Bin CAO, Kangkang Gao, Jiangnan Xing, Tao JIANG Marine Design Research of China Image Based Localization Algorithm Using Similarity Measurements and Back-Propagation Neural Network Jun Yan, Zhu Hongliu NJUPT Unmanned Vehicle Positioning Method in Satellite-jamming Environment Based on Improved Factor Graph	372 375
5450 5506 5570	Polarization Sensitive Array Beamforming Algorithm for Multipath Mitigation in GNSS Xiaojian Wang, Jianxing Li, Ming Zhang, Wenchao Chen, Xiaoming Chen Xian Jiaotong University EMI Analysis among LEO Satellites Based on Space Conjunction Theory Bin CAO, Kangkang Gao, Jiangnan Xing, Tao JIANG Marine Design Research of China Image Based Localization Algorithm Using Similarity Measurements and Back-Propagation Neural Network Jun Yan, Zhu Hongliu NJUPT Unmanned Vehicle Positioning Method in Satellite-jamming Environment Based on Improved Factor Graph Hangyu Chen, Chunrui Tang, Yibing Li	372 375 379
5450 5506 5570	Polarization Sensitive Array Beamforming Algorithm for Multipath Mitigation in GNSS Xiaojian Wang, Jianxing Li, Ming Zhang, Wenchao Chen, Xiaoming Chen Xian Jiaotong University EMI Analysis among LEO Satellites Based on Space Conjunction Theory Bin CAO, Kangkang Gao, Jiangnan Xing, Tao JIANG Marine Design Research of China Image Based Localization Algorithm Using Similarity Measurements and Back-Propagation Neural Network Jun Yan, Zhu Hongliu NJUPT Unmanned Vehicle Positioning Method in Satellite-jamming Environment Based on Improved Factor Graph Hangyu Chen, Chunrui Tang, Yibing Li Harbin Engineering University	372 375 379
5450 5506 5570	Polarization Sensitive Array Beamforming Algorithm for Multipath Mitigation in GNSS Xiaojian Wang, Jianxing Li, Ming Zhang, Wenchao Chen, Xiaoming Chen Xian Jiaotong UniversityEMI Analysis among LEO Satellites Based on Space Conjunction Theory Bin CAO, Kangkang Gao, Jiangnan Xing, Tao JIANG Marine Design Research of ChinaImage Based Localization Algorithm Using Similarity Measurements and Back-Propagation Neural Network Jun Yan, Zhu Hongliu NJUPTUnmanned Vehicle Positioning Method in Satellite-jamming Environment Based on Improved Factor Graph Hangyu Chen, Chunrui Tang, Yibing Li Harbin Engineering UniversityPenetration Path Planning of Stealthy UAV based on Improved Sparse A-star	372 375 379
5450 5506 5570	Polarization Sensitive Array Beamforming Algorithm for Multipath Mitigation in GNSS Xiaojian Wang, Jianxing Li, Ming Zhang, Wenchao Chen, Xiaoming Chen Xian Jiaotong UniversityEMI Analysis among LEO Satellites Based on Space Conjunction Theory Bin CAO, Kangkang Gao, Jiangnan Xing, Tao JIANG Marine Design Research of ChinaImage Based Localization Algorithm Using Similarity Measurements and Back-Propagation Neural Network Jun Yan, Zhu Hongliu NJUPTUnmanned Vehicle Positioning Method in Satellite-jamming Environment Based on Improved Factor Graph Hangyu Chen, Chunrui Tang, Yibing Li Harbin Engineering UniversityPenetration Path Planning of Stealthy UAV based on Improved Sparse A-star Algorithm	372 375 379
5450 5506 5570 5610	Polarization Sensitive Array Beamforming Algorithm for Multipath Mitigation in GNSSXiaojian Wang, Jianxing Li, Ming Zhang, Wenchao Chen, Xiaoming Chen Xian Jiaotong UniversityEMI Analysis among LEO Satellites Based on Space Conjunction Theory Bin CAO, Kangkang Gao, Jiangnan Xing, Tao JIANG Marine Design Research of ChinaImage Based Localization Algorithm Using Similarity Measurements and Back-Propagation Neural Network Jun Yan, Zhu Hongliu NJUPTUnmanned Vehicle Positioning Method in Satellite-jamming Environment Based on Improved Factor Graph Hangyu Chen, Chunrui Tang, Yibing Li Harbin Engineering UniversityPenetration Path Planning of Stealthy UAV based on Improved Sparse A-star Algorithm Zitang Zhang, Chunrui Tang, Yibing Li	372 375 379 383
5450 5506 5570 5610	Polarization Sensitive Array Beamforming Algorithm for Multipath Mitigation in GNSSXiaojian Wang, Jianxing Li, Ming Zhang, Wenchao Chen, Xiaoming Chen Xian Jiaotong UniversityEMI Analysis among LEO Satellites Based on Space Conjunction Theory Bin CAO, Kangkang Gao, Jiangnan Xing, Tao JIANG Marine Design Research of ChinaImage Based Localization Algorithm Using Similarity Measurements and Back-Propagation Neural Network Jun Yan, Zhu Hongliu NJUPTUnmanned Vehicle Positioning Method in Satellite-jamming Environment Based on Improved Factor Graph Hangyu Chen, Chunrui Tang, Yibing Li Harbin Engineering UniversityPenetration Path Planning of Stealthy UAV based on Improved Sparse A-star Algorithm Zitang Zhang, Chunrui Tang, Yibing Li Harbin Engineering University	372 375 379 383
5450 5506 5570 5610 5636	Polarization Sensitive Array Beamforming Algorithm for Multipath Mitigation in GNSSXiaojian Wang, Jianxing Li, Ming Zhang, Wenchao Chen, Xiaoming Chen Xian Jiaotong UniversityEMI Analysis among LEO Satellites Based on Space Conjunction Theory Bin CAO, Kangkang Gao, Jiangnan Xing, Tao JIANG Marine Design Research of ChinaImage Based Localization Algorithm Using Similarity Measurements and Back-Propagation Neural Network Jun Yan, Zhu Hongliu NJUPTUnmanned Vehicle Positioning Method in Satellite-jamming Environment Based on Improved Factor Graph Hangyu Chen, Chunrui Tang, Yibing Li Harbin Engineering UniversityPenetration Path Planning of Stealthy UAV based on Improved Sparse A-star Algorithm Zitang Zhang, Chunrui Tang, Yibing Li Harbin Engineering UniversityWeak Signal Detection Based on WT-LSTM	372 375 379 383 388
5450 5506 5570 5610	Polarization Sensitive Array Beamforming Algorithm for Multipath Mitigation in GNSS Xiaojian Wang, Jianxing Li, Ming Zhang, Wenchao Chen, Xiaoming Chen Xian Jiaotong University EMI Analysis among LEO Satellites Based on Space Conjunction Theory Bin CAO, Kangkang Gao, Jiangnan Xing, Tao JIANG Marine Design Research of China Image Based Localization Algorithm Using Similarity Measurements and Back-Propagation Neural Network Jun Yan, Zhu Hongliu NJUPT Unmanned Vehicle Positioning Method in Satellite-jamming Environment Based on Improved Factor Graph Hangyu Chen, Chunrui Tang, Yibing Li Harbin Engineering University Penetration Path Planning of Stealthy UAV based on Improved Sparse A-star Algorithm Zitang Zhang, Chunrui Tang, Yibing Li Harbin Engineering University Weak Signal Detection Based on WT-LSTM Chunyan Wei, Lin Qi	372 375 379 383
5450 5506 5570 5610 5636	Polarization Sensitive Array Beamforming Algorithm for Multipath Mitigation in GNSS Xiaojian Wang, Jianxing Li, Ming Zhang, Wenchao Chen, Xiaoming Chen Xian Jiaotong University EMI Analysis among LEO Satellites Based on Space Conjunction Theory Bin CAO, Kangkang Gao, Jiangnan Xing, Tao JIANG Marine Design Research of China Image Based Localization Algorithm Using Similarity Measurements and Back-Propagation Neural Network Jun Yan, Zhu Hongliu NJUPT Unmanned Vehicle Positioning Method in Satellite-jamming Environment Based on Improved Factor Graph Hangyu Chen, Chunrui Tang, Yibing Li Harbin Engineering University Penetration Path Planning of Stealthy UAV based on Improved Sparse A-star Algorithm Zitang Zhang, Chunrui Tang, Yibing Li Harbin Engineering University Weak Signal Detection Based on WT-LSTM Chunyan Wei, Lin Qi Harbin Engineering University	372 375 379 383 388
5450 5506 5570 5610 5636 5687	Polarization Sensitive Array Beamforming Algorithm for Multipath Mitigation in GNSS Xiaojian Wang, Jianxing Li, Ming Zhang, Wenchao Chen, Xiaoming Chen Xian Jiaotong University EMI Analysis among LEO Satellites Based on Space Conjunction Theory Bin CAO, Kangkang Gao, Jiangnan Xing, Tao JIANG Marine Design Research of China Image Based Localization Algorithm Using Similarity Measurements and Back-Propagation Neural Network Jun Yan, Zhu Hongliu NJUPT Unmanned Vehicle Positioning Method in Satellite-jamming Environment Based on Improved Factor Graph Hangyu Chen, Chunrui Tang, Yibing Li Harbin Engineering University Penetration Path Planning of Stealthy UAV based on Improved Sparse A-star Algorithm Zitang Zhang, Chunrui Tang, Yibing Li Harbin Engineering University Weak Signal Detection Based on WT-LSTM Chunyan Wei, Lin Qi	372 375 379 383 388 393
5450 5506 5570 5610 5636	Polarization Sensitive Array Beamforming Algorithm for Multipath Mitigation in GNSS Xiaojian Wang, Jianxing Li, Ming Zhang, Wenchao Chen, Xiaoming Chen Xian Jiaotong University EMI Analysis among LEO Satellites Based on Space Conjunction Theory Bin CAO, Kangkang Gao, Jiangnan Xing, Tao JIANG Marine Design Research of China Image Based Localization Algorithm Using Similarity Measurements and Back-Propagation Neural Network Jun Yan, Zhu Hongliu NJUPT Unmanned Vehicle Positioning Method in Satellite-jamming Environment Based on Improved Factor Graph Hangyu Chen, Chunrui Tang, Yibing Li Harbin Engineering University Penetration Path Planning of Stealthy UAV based on Improved Sparse A-star Algorithm Zitang Zhang, Chunrui Tang, Yibing Li Harbin Engineering University Weak Signal Detection Based on WT-LSTM Chunyan Wei, Lin Qi Harbin Engineering University A Comprehensive Review on Energy Efficient Routing in Wireless Multimedia	372 375 379 383 388

	Special session 7: Electromagnetic Environment Effects and Adaptability Anal	ysis
PID	Paper Information	First Page
5505	Research on Electromagnetic Pulse Prediction for Sensitive Equipment on Ship Bin CAO, Jiajun LU, Hanyu SHAN, Tao JIANG Marine Design Research of China	406
5608	Design of Frequency Selective Radome Based on Truss Structure Hanyu SHAN, Jiahe MEI, Kangkang Gao, Xin WANG, Jiangnan XING, Tao JIANG Harbin Engineering University	409
5666	Unmanned Noise Reduction Method of Micro- Electro-Mechanical System Inertial Measurement Unit Based on Improved EMD <i>Zhenpeng Zhang, Qian Sun, Yuan Tian</i> Harbin Engineering University	413
5667	Spoof Surface Plasmon Polaritons Supported by Substrate Integrated Waveguide With Arrays of Holes <i>Dawei Zhang, Tao Jiang, Yingsong Li, Kuang Zhang, Qun Wu</i> Harbin Engineering University	418
5710	A Navigation Satellite Selection Method Based on Tabu Search Artificial Bee Colony Algorithm <i>Jiechen Xia, Yansong Wang, Yibing Li</i> Harbin Engineering University	421
5749	Quantitative Structure Property Analysis of ship Electromagnetic Environment Effect Adaptability <i>Yi Tao, Cong Xiong, Yongheng Cao, Bin Cao, Jiajun Lu, Tao Jiang</i> Marine Design Research Institute of China	426
5750	Evaluation of Ship Electromagnetic Environment Effect based on Complex System Analysis Yongheng Cao, Wangqiu Cai, Bin Cao, Yi Tao, Jiajun Lu, Tao Jiang Marine Design Research Institute of China	429
5751	Research on Shipborne Short Wave Water Antenna Array Jiajun Lu, Hui Zhang, Zhenyi Xu, Yi Tao, Yongheng Cao, Tao Jiang Marine Design Research Institute of China	432
Specia	l session 8: Computational Methods for Advanced/Complex/Artificial Material	s/Surfaces
PID	Paper Information	First Page
5484	Analyzing Stability Condition of the Dispersive WCS-FDTD Method for Simulating Graphene <i>Ning Xu, Juan Chen, Jianguo Wang</i> Xi'an Jiaotong University	435
Special s	session 9: Advanced Channel Coding and Encryption Techniques for Beyond 5 Member	G Networks
PID	Paper Information	First Page
5698	Design of McEliece Cryptosystem Based on QC-MDPC Codes Guangfu Wu, Rui Yang, Ziheng Dai School of Information Engineering	440
5723	CRC-Aided Belief Propagation with Permutated Graphs Decoding of Polar Codes <i>Liyun Dai, Li Huang, Yaohui Bai, Yanqing Liu, Zhibin Liu</i> School of Software and Internet of Things Engineering Jiangxi University of Finance and Economics	445

PID	Paper Information	First Pag
5433	Graphene-based Metasurface for Multifunctional Polarization Converter Wenlong Zhang, Xi Gao, Xiongbin Wu School of Information and communication, Guilin University of Electronic	449
	Technology	
	Magnetically Controlled THz three-routing Switch based on Magnetic Photonic Crystals	150
5631	Changyi Wu, Junxing Fan, Guohua Wen Shenzhen University	452
	Reconfigurable Microwave Phase Shifter Based on Nematic Liquid Crystal :	
5634	Design and Experimental Validation <i>Yifan Wang, Xiangru Wang, Yu Wang, Chengyong Yu, Wenzhao Zhang, Feng</i> <i>Liang, Zhiyong Zhang, Shihan Gao, Jie Chen</i> University of Electronic Science and Technology of China	455
	Graphene-based Beam Steering Antenna	
5635	Junfeng Li, Bian Wu, Chi Fan Xidian University	460
	The Response of Fiber-Reinforced Laminates to Polarized THz	
5683	Electromagnetic waves Lin Fajun, Huang Yichou, Liu Yongyuan, Li Changyou	463
	China Research Institute of Radiowave Propagation	
Spe	cial session 11: Metamaterials, Metasurfaces, and Their Electromagnetic Appli	cations
Spe PID	cial session 11: Metamaterials, Metasurfaces, and Their Electromagnetic Appli Paper Information	
	Paper Information Generation of Quad-Beam Possessing Different Orbital Angular Momentum Modes Using Anisotropic Holographic Metasurface Xiangshuai Meng, Xiaoming Chen, Anxue Zhang School of Information and Communications Engineering Xi'an Jiaotong	
PID 5475	Paper Information Generation of Quad-Beam Possessing Different Orbital Angular Momentum Modes Using Anisotropic Holographic Metasurface Xiangshuai Meng, Xiaoming Chen, Anxue Zhang School of Information and Communications Engineering Xi'an Jiaotong University Design of Non-uniform Flexible Meta-surface for Antenna Beam-steering	First Pag N/A
PID	Paper Information Generation of Quad-Beam Possessing Different Orbital Angular Momentum Modes Using Anisotropic Holographic Metasurface Xiangshuai Meng, Xiaoming Chen, Anxue Zhang School of Information and Communications Engineering Xi'an Jiaotong University Design of Non-uniform Flexible Meta-surface for Antenna Beam-steering Yuwei Qiu, Zhiye Jiang, Pei Zheng	First Pag
PID 5475	Paper Information Generation of Quad-Beam Possessing Different Orbital Angular Momentum Modes Using Anisotropic Holographic Metasurface Xiangshuai Meng, Xiaoming Chen, Anxue Zhang School of Information and Communications Engineering Xi'an Jiaotong University Design of Non-uniform Flexible Meta-surface for Antenna Beam-steering Yuwei Qiu, Zhiye Jiang, Pei Zheng Northwestern Polytechnical University High-efficiency Receiver-Transmitter Metasurfaces with Independent Control of Polarization, Amplitude and Phase Xiaofeng Li, Haisheng Hou, Tong Cai, Guangming Wang, Xingshuo Cui, Taowu Deng	First Pag N/A
PID 5475 5499	Paper Information Generation of Quad-Beam Possessing Different Orbital Angular Momentum Modes Using Anisotropic Holographic Metasurface Xiangshuai Meng, Xiaoming Chen, Anxue Zhang School of Information and Communications Engineering Xi'an Jiaotong University Design of Non-uniform Flexible Meta-surface for Antenna Beam-steering Yuwei Qiu, Zhiye Jiang, Pei Zheng Northwestern Polytechnical University High-efficiency Receiver-Transmitter Metasurfaces with Independent Control of Polarization, Amplitude and Phase Xiaofeng Li, Haisheng Hou, Tong Cai, Guangming Wang, Xingshuo Cui, Taowu Deng Air Force Engineering University	First Pag N/A 471
PID 5475 5499	Paper Information Generation of Quad-Beam Possessing Different Orbital Angular Momentum Modes Using Anisotropic Holographic Metasurface Xiangshuai Meng, Xiaoming Chen, Anxue Zhang School of Information and Communications Engineering Xi'an Jiaotong University Design of Non-uniform Flexible Meta-surface for Antenna Beam-steering Yuwei Qiu, Zhiye Jiang, Pei Zheng Northwestern Polytechnical University High-efficiency Receiver-Transmitter Metasurfaces with Independent Control of Polarization, Amplitude and Phase Xiaofeng Li, Haisheng Hou, Tong Cai, Guangming Wang, Xingshuo Cui, Taowu Deng Air Force Engineering University Reconfigurable Absorptive Frequency-Selective Reflection Structure Based on Magnetic Material Shunliu Jiang, Xiangkun Kong, Lingqi Kong, Xuemeng Wang, Weihao Lin, Borui Bian	First Pag N/A 471
PID 5475 5499 5592	Paper Information Generation of Quad-Beam Possessing Different Orbital Angular Momentum Modes Using Anisotropic Holographic Metasurface Xiangshuai Meng, Xiaoming Chen, Anxue Zhang School of Information and Communications Engineering Xi'an Jiaotong University Design of Non-uniform Flexible Meta-surface for Antenna Beam-steering Yuwei Qiu, Zhiye Jiang, Pei Zheng Northwestern Polytechnical University High-efficiency Receiver-Transmitter Metasurfaces with Independent Control of Polarization, Amplitude and Phase Xiaofeng Li, Haisheng Hou, Tong Cai, Guangming Wang, Xingshuo Cui, Taowu Deng Air Force Engineering University Reconfigurable Absorptive Frequency-Selective Reflection Structure Based on Magnetic Material Shunliu Jiang, Xiangkun Kong, Lingqi Kong, Xuemeng Wang, Weihao Lin, Borui Bian Nanjing University of Aeronautics and Astronautics Harmonic Manipulation of Microwave by Time-varying	First Pag N/A 471 475
PID 5475 5499 5592	Paper Information Generation of Quad-Beam Possessing Different Orbital Angular Momentum Modes Using Anisotropic Holographic Metasurface Xiangshuai Meng, Xiaoming Chen, Anxue Zhang School of Information and Communications Engineering Xi'an Jiaotong University Design of Non-uniform Flexible Meta-surface for Antenna Beam-steering Yuwei Qiu, Zhiye Jiang, Pei Zheng Northwestern Polytechnical University High-efficiency Receiver-Transmitter Metasurfaces with Independent Control of Polarization, Amplitude and Phase Xiaofeng Li, Haisheng Hou, Tong Cai, Guangming Wang, Xingshuo Cui, Taowu Deng Air Force Engineering University Reconfigurable Absorptive Frequency-Selective Reflection Structure Based on Magnetic Material Shunliu Jiang, Xiangkun Kong, Lingqi Kong, Xuemeng Wang, Weihao Lin, Borui Bian Nanjing University of Aeronautics and Astronautics	First Pag N/A 471 475

5621	Broadband Ultra-thin Metasurface for High-Efficiency Polarization Conversion Huanhuan Yang, Junhui Wu, Tong Li, Xiangyu Cao, Pei Li, Jun Gao Air Force Engineering University	487
5624	Metasurfaces for Generating Focusing Vortex Beam Jialin Feng, Hongyu Shi, Anxue Zhang Xi'an Jiaotong University	490
5694	Design of a Programmable Meta-atom in C Band Li Zhu, XiangJun Gao, HaiSheng Hou Air force Engineering University	493
5695	Airy Beam Generation and Manipulation Utilizing Metasurface Zihan Zhao, Xumin Ding, Kuang Zhang, Qun Wu, Jiahui Fu Harbin Institute of Technology	496
5705	Flexible Resistive Film Broadband FSS Absorber Suitable for a Variety of Curved Surfaces Ziying YU, Bin CAO, Jiajun LU, Jingyi WANG Marine Design Research of China	500

Special session 12: Artificial Intelligence in Radar Signal Processing

PID	Paper Information	First Page
5474	A Novel Weighted Spatial Smoothing DOA Estimation Algorithm for Coherent Signals <i>Jiaqiang Peng, Guimei Zheng, Qinyu Zhu</i> Air Force Engineering University	504
5587	DOA Estimation For Electromagnetic Vector- Sensor Array Based on Biquaternion <i>Qin Yu ZHU, Gui Mei ZHENG, Jiaqiang Peng</i> Air Foece Engineering University	509
5622	Robust Direction-of-Arrival Estimation via Sparse Representation and Deep Residual Convolutional Network for Co-Prime Arrays <i>Ying Chen, Kunlai Xiong, Zhitao Huang</i> National University of Defense Technology	514
5630	Refined Signal Model of Meter Wave Radar for Height Measurement Under Complex Terrain <i>Yuwei Song, Guoping Hu, Guimei Zheng</i> Air and Missile Defense College, Air Force Engineering University, China	520
5641	A Target Selection Method for the MMW Seeker Based on Tracking Preserving Shichao Chen, Fugang Lu, Fei Ma, Jingbiao Wei, Yukai Sun, Ming Liu Xi'an Modern Control Technology Research Institute	525
5669	A Target Detection Method in SAR Images Based on Superpixel Segmentation <i>Ming Liu, Shichao Chen, Fugang Lu, Mengdao Xing, Jingbiao Wei</i> Shaanxi Normal University	528
5690	Multi-Target DOA Estimation in Passive Bistatic Radar Based on Sparse Reconstruction Jingxia Gao, Haitao Wang, Dong Jia Guilin University of Electronic Technology	531
5691	Density-Based Vehicle Detection Approach for Automotive Millimeter-Wave Radar <i>Yan Huang, Hui Zhang, Kunpeng Guo, Jie Li, Gang Xu, Zhanye Chen</i> Southeast University	534
5701	Weak Target Detection based on Deep Neural Network under Sea Clutter Background <i>Yifei Fan, Shuting Tang, Siyuan Zhao, Xiang Zhang, Mingliang Tao, Jia Su</i> Northwestern Polytechnical University	538

5702	Distributed Computing method for Synthetic Aperture Radar Compressed Sensing Imaging based on MapReduce <i>Can Zheng, Kefei Liao, Shan Ouyan, Changshu Li</i> Guilin University of Electronic Technology	541
5719	Small Target Detection in Sea Clutter by Time-Fequency Tri-Feature based SVM Detector Dan Fang, Jia Su, Haojiang Li, Xiang Zhang, Yifei Fan, Tao Li School of Electronics and Information Northwestern Polytechnical University	545
Special se	ession 13: Emerging Trends in Space, Air, Ground, and Sea Information Netwo B5G	orks towards
PID	Paper Information	First Page
5452	Digital Modeling Simulation System of Agile Satellite Operation State Li Liu, Dong Yan, Hongqiang Wang, Ying Lu, Yao Chen, Xiaoke Wei Space Star Technology Co.,LTD.	549
5459	Allocating Resource for Task Groups in MEC IoT Systems with Reinforcement Learning <i>Chidiebere Chidume, Qianyue Qi, Chao Zhang</i> Xi'an Jiaotong University	554
5477	Inter-Satellite Broadcast Topology Planning Method for Walker Constellation Using TDMA Link <i>Xiaosong Gu, Jian Bai, Hongze Pan, Jun Wei, Hui Yuan, Yutong Chang</i> Xi'an Satellite Control Center	560
5478	A Method for Space TT&C Resources Scheduling Based on Auction Mechanism <i>Jian Bai, Xiaosong Gu, Hongze Pan, Anliang Li, Yuanyuan Li, Zixing Yang</i> Xi'an Satellite Control Center	564
5616	Reinforcement Learning based Waveform Design for Cognitive Imaging Radar Shichao Xiong, Qun Zhang, Ying Luo, Kaiming Li Institute of Telecommunication Engineering of AFEU	568
5626	Missile-borne Near-field Radar Coincidence Imaging Using a Uniform Circular Array Zhidong Liu, Kaiming Li, Rui Li, Guojian Jiang, Zilong Song Air Force Engineering University	574
5650	A Secure and Efficient Anonymous User Authentication and Key Agreement Scheme for Global Mobility Networks Based on Bilinear Pairing <i>Jiaqing Mo, Kaiming Li</i> School of Computer Science and Software,Zhaoqing University	579
	Special session 14: Antenna Technologies for 5G/B5G Communications	
PID	Paper Information	First Page
5437	U-shaped Decoupling Structure for MIMO Antenna Array Quanxin Ren, Xiaoming Chen, Bo Liu, Yipeng Wang Xi'an Jiaotong University	585
5443	A Dual-Polarized Antenna Array For Base Station Applications <i>Yiran Da, Teng Li, Qinlong Li, Xiaoming Chen, Anxue Zhang</i> Xian Jiaotong University	590
5464	Broadband Dual-polarization Dual-dipole Filter Antenna Applied to Base Station Bingyi Qian, Peng Hu, Bo Liu, Juan Chen, Xiaoming Chen Xian Jiaotong University	594

ay by Using Iterative FFT <i>Rui, Jingjing Bai, Zhiming Bao, Yanhui Liu</i> itute of Electromagnetics and Acoustics, Xiamen University. crostrip Phased Array Antenna With Small Element Space for 5G limeter-Wave Applications <i>twei Zhao, Yuqing Zhu, Changjiang Deng</i> jing Key Laboratory of Millimeter Wave and Terahertz Technology, School nformation and Electronics, Beijing Institute of Technology, Beijing, China Wideband L-probe Fed Antenna Based on Metasurface with High Efficiency <i>mshan Yuan, Changfei Zhou, Hui Li</i> ian University of Technology //mmetric CPW-fed Wideband Circularly Polarized Antenna for Sub-6 GHz plication <i>song Qiu, Yingsong Li</i> bin Engineering University Special session 15: Antennas and Arrays for Diverse Applications	616 620 623 626
ay by Using Iterative FFT <i>Rui, Jingjing Bai, Zhiming Bao, Yanhui Liu</i> itute of Electromagnetics and Acoustics, Xiamen University. crostrip Phased Array Antenna With Small Element Space for 5G limeter-Wave Applications <i>twei Zhao, Yuqing Zhu, Changjiang Deng</i> jing Key Laboratory of Millimeter Wave and Terahertz Technology, School nformation and Electronics, Beijing Institute of Technology, Beijing, China Wideband L-probe Fed Antenna Based on Metasurface with High Efficiency <i>mshan Yuan, Changfei Zhou, Hui Li</i> ian University of Technology mmetric CPW-fed Wideband Circularly Polarized Antenna for Sub-6 GHz plication <i>cong Qiu, Yingsong Li</i>	620 623
ay by Using Iterative FFT <i>Rui, Jingjing Bai, Zhiming Bao, Yanhui Liu</i> itute of Electromagnetics and Acoustics, Xiamen University. crostrip Phased Array Antenna With Small Element Space for 5G limeter-Wave Applications <i>twei Zhao, Yuqing Zhu, Changjiang Deng</i> jing Key Laboratory of Millimeter Wave and Terahertz Technology, School nformation and Electronics, Beijing Institute of Technology, Beijing, China Wideband L-probe Fed Antenna Based on Metasurface with High Efficiency <i>unshan Yuan, Changfei Zhou, Hui Li</i> ian University of Technology remetric CPW-fed Wideband Circularly Polarized Antenna for Sub-6 GHz polication	620 623
ay by Using Iterative FFT <i>Rui, Jingjing Bai, Zhiming Bao, Yanhui Liu</i> itute of Electromagnetics and Acoustics, Xiamen University. crostrip Phased Array Antenna With Small Element Space for 5G limeter-Wave Applications <i>wei Zhao, Yuqing Zhu, Changjiang Deng</i> jing Key Laboratory of Millimeter Wave and Terahertz Technology, School nformation and Electronics, Beijing Institute of Technology, Beijing, China Wideband L-probe Fed Antenna Based on Metasurface with High Efficiency <i>unshan Yuan, Changfei Zhou, Hui Li</i> ian University of Technology	620
ay by Using Iterative FFT Rui, Jingjing Bai, Zhiming Bao, Yanhui Liu itute of Electromagnetics and Acoustics, Xiamen University. crostrip Phased Array Antenna With Small Element Space for 5G limeter-Wave Applications wei Zhao, Yuqing Zhu, Changjiang Deng jing Key Laboratory of Millimeter Wave and Terahertz Technology, School nformation and Electronics, Beijing Institute of Technology, Beijing, China Wideband L-probe Fed Antenna Based on Metasurface with High Efficiency unshan Yuan, Changfei Zhou, Hui Li	620
ay by Using Iterative FFT <i>Rui, Jingjing Bai, Zhiming Bao, Yanhui Liu</i> <u>stute of Electromagnetics and Acoustics, Xiamen University.</u> crostrip Phased Array Antenna With Small Element Space for 5G limeter-Wave Applications <i>wei Zhao, Yuqing Zhu, Changjiang Deng</i> jing Key Laboratory of Millimeter Wave and Terahertz Technology, School nformation and Electronics, Beijing Institute of Technology, Beijing, China	
ay by Using Iterative FFT <i>Rui, Jingjing Bai, Zhiming Bao, Yanhui Liu</i> itute of Electromagnetics and Acoustics, Xiamen University. crostrip Phased Array Antenna With Small Element Space for 5G limeter-Wave Applications	
ay by Using Iterative FFT Rui, Jingjing Bai, Zhiming Bao, Yanhui Liu	616
icient Suppression of Average Sidelobe Level for Millimeter-Wave Antenna	
bile Handsets <i>ing Zhu, Zhewei Zhao, Changjiang Deng</i> jing Key Laboratory of Millimeter Wave and Terahertz Technology, School nformation and Electronics, Beijing Institute of Technology, Beijing, China	613
limeter-Wave Dual-Polarized Frame-Integrated Patch Antenna Array for 5G	
deband Patch Antenna Array for 5G Terminal Devices <i>neng Ling, Chuanhao Liu, Hui Li</i> ian Univeristy of Technology	610
<i>The Second Seco</i>	607
bact of Front-to-Rear Ratio, Side Lobe Level, and Beam Orientation of Base tion Antennas on MIMO Performance	
mittivity Optimization of Lens Based on Multibeam Planar Luneberg Lens Jenna <i>ungbin Liu, Anxue Zhang, Siming Liu</i> n Jiaotong University	604
Compact Ultra-Wideband Microstrip patch Antenna for 5G and WLAN <i>he Chen, Yannan Jiang, Weiping Cao</i> Ilin University of Electronic Technology	601
$\mathbf{A} = \mathbf{A} \mathbf{A} \mathbf{A} \mathbf{A} \mathbf{A} \mathbf{A} \mathbf{A} \mathbf{A}$	
h	in University of Electronic Technology

PID	Paper Information	First Page
5482	Highly Efficient Generation of Non-diffraction Bessel Beams with Metasurface <i>Ting Zeng, Li Deng, Shufang Li, Botao Feng</i> Beijing Laboratory of Advanced Information Networks Beijing Key Laboratory of Network System Architecture and Convergence, Beijing University of Posts and Telecommunications	629
5497	Ku-band Omnidirectional High Gain Antenna Weiping Cao, Yawei Ma Guilin University of Electronic Technology	632
5544	Reflective Metasurface for Controlling the Beam Divergence Angles of Dual-mode OAM Waves <i>Xiaoyuan He, Li Deng, Botao Feng</i> Beijing University of Posts and Telecommunications	636

550/	An One-dimensional Holographic Antenna For RFID Reader	C 10
5586	Xiaokui Ren, Li Deng, Shufang Li, Chen Zhang, Botao Feng	640
	Beijing University of Posts and Telecommunications	
	Novel Polarization Conversion Metasurface for Circularly Polarized	
5594	Fabry-Perot Cavity Antenna	642
	Peng Xie, Guangming Wang, Xiaojun Zou, Hao Bai, Chiben Zhang	
	Air force Engineering University	
5(07	Ultra-Wideband MIMO Array Antenna New Decoupling Structure	
5607	Shaoying Li, Benzheng Shi, Laxmisha Rai	645
	Shandong University of Science and Technology	
	Wideband High-Efficiency Circularly Polarized Phased Array Antenna with	
	Low Profile for Ka-Band Satellite Communication	
5628	Yang Dai, Fengyuan Tan	649
	Information Science Academy China Electronics Technology Group	
	Corporation	
	A Sparsely Six-arm Spiral Phased array antenna for W-band applications	
5638	Jiang Mei, Ji Song, Xuan Xiaobo, Han Rubing, Zhu Lili	652
	Shanghai Radio Equipment Research Institute	
	Dual Polarized OAM Multibeams Metasurface for Terahertz Applications	
5639	Teng Huang, Li Deng, Shufang Li, Botao Feng	655
	Beijing University of Posts and Telecommunications	
	Compact Dual-Band Circularly-Polarized Four-Element Sequential-Rotation	
5671	Array Antenna	658
5671	Jiahui Fu, Jihong Wang, Wan Chen	0.50
	Harbin Institute of Technology	
5689	Harbin Institute of TechnologyA Holographic Metasurface for Microwave Power Transmission ApplicationsCheng Jiang, Songcen Wang, Xiaokang Wu, Chuankai Yang	661
5689	Harbin Institute of TechnologyA Holographic Metasurface for Microwave Power Transmission Applications	661
	Harbin Institute of TechnologyA Holographic Metasurface for Microwave Power Transmission ApplicationsCheng Jiang, Songcen Wang, Xiaokang Wu, Chuankai Yang	
	Harbin Institute of TechnologyA Holographic Metasurface for Microwave Power Transmission ApplicationsCheng Jiang, Songcen Wang, Xiaokang Wu, Chuankai YangChina Electric Power Research Institute	6G Antenna
Special	Harbin Institute of Technology A Holographic Metasurface for Microwave Power Transmission Applications Cheng Jiang, Songcen Wang, Xiaokang Wu, Chuankai Yang China Electric Power Research Institute session 16: Special Session on Cloud Computing in Smart Cities and 5G/B5G/C Paper Information	6G Antenna
Special	Harbin Institute of Technology A Holographic Metasurface for Microwave Power Transmission Applications Cheng Jiang, Songcen Wang, Xiaokang Wu, Chuankai Yang China Electric Power Research Institute session 16: Special Session on Cloud Computing in Smart Cities and 5G/B5G/C Paper Information Optimal Control Design for Load Frequency Control with Network-induced	6G Antenna
Special PID	Harbin Institute of Technology A Holographic Metasurface for Microwave Power Transmission Applications Cheng Jiang, Songcen Wang, Xiaokang Wu, Chuankai Yang China Electric Power Research Institute session 16: Special Session on Cloud Computing in Smart Cities and 5G/B5G/C Paper Information Optimal Control Design for Load Frequency Control with Network-induced Delays	6G Antenna First Pag
Special	Harbin Institute of Technology A Holographic Metasurface for Microwave Power Transmission Applications Cheng Jiang, Songcen Wang, Xiaokang Wu, Chuankai Yang China Electric Power Research Institute session 16: Special Session on Cloud Computing in Smart Cities and 5G/B5G/C Paper Information Optimal Control Design for Load Frequency Control with Network-induced Delays Heng Wang, Zhuwei Wang, Yifan Sun, Yuehui Guo, Chao Fang, Meng Li, Yang	6G Antenna
Special PID	Harbin Institute of Technology A Holographic Metasurface for Microwave Power Transmission Applications Cheng Jiang, Songcen Wang, Xiaokang Wu, Chuankai Yang China Electric Power Research Institute session 16: Special Session on Cloud Computing in Smart Cities and 5G/B5G/C Paper Information Optimal Control Design for Load Frequency Control with Network-induced Delays Heng Wang, Zhuwei Wang, Yifan Sun, Yuehui Guo, Chao Fang, Meng Li, Yang Sun	6G Antenna First Pag
Special PID	Harbin Institute of Technology A Holographic Metasurface for Microwave Power Transmission Applications Cheng Jiang, Songcen Wang, Xiaokang Wu, Chuankai Yang China Electric Power Research Institute session 16: Special Session on Cloud Computing in Smart Cities and 5G/B5G/C Paper Information Optimal Control Design for Load Frequency Control with Network-induced Delays Heng Wang, Zhuwei Wang, Yifan Sun, Yuehui Guo, Chao Fang, Meng Li, Yang Sun Beijing University of Technology	6G Antenna First Pag
Special PID 5453	Harbin Institute of Technology A Holographic Metasurface for Microwave Power Transmission Applications Cheng Jiang, Songcen Wang, Xiaokang Wu, Chuankai Yang China Electric Power Research Institute session 16: Special Session on Cloud Computing in Smart Cities and 5G/B5G/C Paper Information Optimal Control Design for Load Frequency Control with Network-induced Delays Heng Wang, Zhuwei Wang, Yifan Sun, Yuehui Guo, Chao Fang, Meng Li, Yang Sun Beijing University of Technology An Edge Computing Framework for Digital Grid	6G Antenna First Pag 664
Special PID	Harbin Institute of Technology A Holographic Metasurface for Microwave Power Transmission Applications Cheng Jiang, Songcen Wang, Xiaokang Wu, Chuankai Yang China Electric Power Research Institute session 16: Special Session on Cloud Computing in Smart Cities and 5G/B5G/C Paper Information Optimal Control Design for Load Frequency Control with Network-induced Delays Heng Wang, Zhuwei Wang, Yifan Sun, Yuehui Guo, Chao Fang, Meng Li, Yang Sun Beijing University of Technology An Edge Computing Framework for Digital Grid Jiajia Fu, Zhan Shi, Zhengfeng Zhang	6G Antenna First Pag
Special PID 5453	Harbin Institute of Technology A Holographic Metasurface for Microwave Power Transmission Applications Cheng Jiang, Songcen Wang, Xiaokang Wu, Chuankai Yang China Electric Power Research Institute session 16: Special Session on Cloud Computing in Smart Cities and 5G/B5G/C Paper Information Optimal Control Design for Load Frequency Control with Network-induced Delays Heng Wang, Zhuwei Wang, Yifan Sun, Yuehui Guo, Chao Fang, Meng Li, Yang Sun Beijing University of Technology An Edge Computing Framework for Digital Grid Jiajia Fu, Zhan Shi, Zhengfeng Zhang Ltd. Power Dispatching Control Center, Guangdong Power Grid Co.	6G Antenna First Pag 664
Special PID 5453 5521	Harbin Institute of Technology A Holographic Metasurface for Microwave Power Transmission Applications Cheng Jiang, Songcen Wang, Xiaokang Wu, Chuankai Yang China Electric Power Research Institute session 16: Special Session on Cloud Computing in Smart Cities and 5G/B5G/G Paper Information Optimal Control Design for Load Frequency Control with Network-induced Delays Heng Wang, Zhuwei Wang, Yifan Sun, Yuehui Guo, Chao Fang, Meng Li, Yang Sun Beijing University of Technology An Edge Computing Framework for Digital Grid Jiajia Fu, Zhan Shi, Zhengfeng Zhang Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Deep Learning based Short Term Load Prediction in Smart Grids	6G Antenna First Pag 664 670
Special PID 5453	Harbin Institute of Technology A Holographic Metasurface for Microwave Power Transmission Applications Cheng Jiang, Songcen Wang, Xiaokang Wu, Chuankai Yang China Electric Power Research Institute session 16: Special Session on Cloud Computing in Smart Cities and 5G/B5G/G Paper Information Optimal Control Design for Load Frequency Control with Network-induced Delays Heng Wang, Zhuwei Wang, Yifan Sun, Yuehui Guo, Chao Fang, Meng Li, Yang Sun Beijing University of Technology An Edge Computing Framework for Digital Grid Jiajia Fu, Zhan Shi, Zhengfeng Zhang Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Deep Learning based Short Term Load Prediction in Smart Grids Wenhong Zhu, Ying Zeng, Zhongmiao Kang, Jiajia Fu	6G Antenna First Pag 664
Special PID 5453 5521	Harbin Institute of Technology A Holographic Metasurface for Microwave Power Transmission Applications Cheng Jiang, Songcen Wang, Xiaokang Wu, Chuankai Yang China Electric Power Research Institute session 16: Special Session on Cloud Computing in Smart Cities and 5G/B5G/C Paper Information Optimal Control Design for Load Frequency Control with Network-induced Delays Heng Wang, Zhuwei Wang, Yifan Sun, Yuehui Guo, Chao Fang, Meng Li, Yang Sun Beijing University of Technology An Edge Computing Framework for Digital Grid Jiajia Fu, Zhan Shi, Zhengfeng Zhang Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Deep Learning based Short Term Load Prediction in Smart Grids Wenhong Zhu, Ying Zeng, Zhongmiao Kang, Jiajia Fu Ltd. Power Dispatching Control Center, Guangdong Power Grid Co.	6G Antenna First Pag 664 670
Special PID 5453 5521 5547	Harbin Institute of Technology A Holographic Metasurface for Microwave Power Transmission Applications Cheng Jiang, Songcen Wang, Xiaokang Wu, Chuankai Yang China Electric Power Research Institute session 16: Special Session on Cloud Computing in Smart Cities and 5G/B5G/G Paper Information Optimal Control Design for Load Frequency Control with Network-induced Delays Heng Wang, Zhuwei Wang, Yifan Sun, Yuehui Guo, Chao Fang, Meng Li, Yang Sun Beijing University of Technology An Edge Computing Framework for Digital Grid Jiajia Fu, Zhan Shi, Zhengfeng Zhang Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Deep Learning based Short Term Load Prediction in Smart Grids Wenhong Zhu, Ying Zeng, Zhongmiao Kang, Jiajia Fu Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Research on 5G Network Slicing for Digital Power Grid	6G Antenna First Pag 664 670 674
Special PID 5453 5521	Harbin Institute of Technology A Holographic Metasurface for Microwave Power Transmission Applications Cheng Jiang, Songcen Wang, Xiaokang Wu, Chuankai Yang China Electric Power Research Institute session 16: Special Session on Cloud Computing in Smart Cities and 5G/B5G/G Paper Information Optimal Control Design for Load Frequency Control with Network-induced Delays Heng Wang, Zhuwei Wang, Yifan Sun, Yuehui Guo, Chao Fang, Meng Li, Yang Sun Beijing University of Technology An Edge Computing Framework for Digital Grid Jiajia Fu, Zhan Shi, Zhengfeng Zhang Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Deep Learning based Short Term Load Prediction in Smart Grids Wenhong Zhu, Ying Zeng, Zhongmiao Kang, Jiajia Fu Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Research on 5G Network Slicing for Digital Power Grid Research on 5G Network Slicing for Digital Power Grid Weijian Li, Zanhong Wu, Peiming Zhang	6G Antenna First Pag 664 670
Special PID 5453 5521 5547	Harbin Institute of Technology A Holographic Metasurface for Microwave Power Transmission Applications Cheng Jiang, Songcen Wang, Xiaokang Wu, Chuankai Yang China Electric Power Research Institute session 16: Special Session on Cloud Computing in Smart Cities and 5G/B5G/C Paper Information Optimal Control Design for Load Frequency Control with Network-induced Delays Heng Wang, Zhuwei Wang, Yifan Sun, Yuehui Guo, Chao Fang, Meng Li, Yang Sun Beijing University of Technology An Edge Computing Framework for Digital Grid Jiajia Fu, Zhan Shi, Zhengfeng Zhang Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Deep Learning based Short Term Load Prediction in Smart Grids Wenhong Zhu, Ying Zeng, Zhongmiao Kang, Jiajia Fu Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Research on 5G Network Slicing for Digital Power Grid Weijian Li, Zanhong Wu, Peiming Zhang Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Research on 5G Network Slicing for Digital Power Grid Weijian Li, Zanhong Wu, Peiming Zhang Ltd. Power Dispatching Control Center, Guangdong Power Grid Co.	6G Antenna First Pag 664 670 674
Special PID 5453 5521 5547 5590	Harbin Institute of Technology A Holographic Metasurface for Microwave Power Transmission Applications Cheng Jiang, Songcen Wang, Xiaokang Wu, Chuankai Yang China Electric Power Research Institute session 16: Special Session on Cloud Computing in Smart Cities and 5G/B5G/C Paper Information Optimal Control Design for Load Frequency Control with Network-induced Delays Heng Wang, Zhuwei Wang, Yifan Sun, Yuehui Guo, Chao Fang, Meng Li, Yang Sun Beijing University of Technology An Edge Computing Framework for Digital Grid Jiajia Fu, Zhan Shi, Zhengfeng Zhang Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Deep Learning based Short Term Load Prediction in Smart Grids Wenhong Zhu, Ying Zeng, Zhongmiao Kang, Jiajia Fu Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Research on 5G Network Slicing for Digital Power Grid Weijian Li, Zanhong Wu, Peiming Zhang Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Research on 5G Network Slicing for Digital Power Grid Weijian Li, Zanhong Wu, Peiming Zhang Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Architecture, Challenges and Prospect of Digital Power Grid	6G Antenna First Pag 664 670 674 679
Special PID 5453 5521 5547	Harbin Institute of Technology A Holographic Metasurface for Microwave Power Transmission Applications Cheng Jiang, Songcen Wang, Xiaokang Wu, Chuankai Yang China Electric Power Research Institute session 16: Special Session on Cloud Computing in Smart Cities and 5G/B5G/C Paper Information Optimal Control Design for Load Frequency Control with Network-induced Delays Heng Wang, Zhuwei Wang, Yifan Sun, Yuehui Guo, Chao Fang, Meng Li, Yang Sun Beijing University of Technology An Edge Computing Framework for Digital Grid Jiajia Fu, Zhan Shi, Zhengfeng Zhang Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Deep Learning based Short Term Load Prediction in Smart Grids Wenhong Zhu, Ying Zeng, Zhongmiao Kang, Jiajia Fu Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Research on 5G Network Slicing for Digital Power Grid Weijian Li, Zanhong Wu, Peiming Zhang Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Research on 5G Network Slicing for Digital Power Grid Weijian Li, Zanhong Wu, Peiming Zhang Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Architecture, Challenges and Prospect of Digital Power Grid Peiming Zhang, Jiajia Fu, Yijie Li	6G Antenna First Pag 664 670 674
Special PID 5453 5521 5547 5590	Harbin Institute of Technology A Holographic Metasurface for Microwave Power Transmission Applications Cheng Jiang, Songcen Wang, Xiaokang Wu, Chuankai Yang China Electric Power Research Institute session 16: Special Session on Cloud Computing in Smart Cities and 5G/B5G/0 Paper Information Optimal Control Design for Load Frequency Control with Network-induced Delays Heng Wang, Zhuwei Wang, Yifan Sun, Yuehui Guo, Chao Fang, Meng Li, Yang Sun Beijing University of Technology An Edge Computing Framework for Digital Grid Jiajia Fu, Zhan Shi, Zhengfeng Zhang Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Deep Learning based Short Term Load Prediction in Smart Grids Wenhong Zhu, Ying Zeng, Zhongmiao Kang, Jiajia Fu Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Research on 5G Network Slicing for Digital Power Grid Weijian Li, Zanhong Wu, Peiming Zhang Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Architecture, Challenges and Prospect of Digital Power Grid Peiming Zhang, Jiajia Fu, Yijie Li Ltd. Power Dispatching Control Center, Guangdong Power Grid Co.	6G Antenna First Pag 664 670 674 679
Special PID 5453 5521 5547 5590 5614	Harbin Institute of Technology A Holographic Metasurface for Microwave Power Transmission Applications Cheng Jiang, Songcen Wang, Xiaokang Wu, Chuankai Yang China Electric Power Research Institute session 16: Special Session on Cloud Computing in Smart Cities and 5G/B5G/0 Paper Information Optimal Control Design for Load Frequency Control with Network-induced Delays Heng Wang, Zhuwei Wang, Yifan Sun, Yuehui Guo, Chao Fang, Meng Li, Yang Sun Beijing University of Technology An Edge Computing Framework for Digital Grid Jiajia Fu, Zhan Shi, Zhengfeng Zhang Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Deep Learning based Short Term Load Prediction in Smart Grids Wenhong Zhu, Ying Zeng, Zhongmiao Kang, Jiajia Fu Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Research on 5G Network Slicing for Digital Power Grid Weijian Li, Zanhong Wu, Peiming Zhang Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Architecture, Challenges and Prospect of Digital Power Grid Architecture, Challenges and Prospect of Digital Power Grid Peiming Zhang, Jiajia Fu, Yijie Li Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Architecture, Challenges and Prospect of Digital Power Grid Peiming Zhang, Jiajia Fu, Yijie Li Ltd. Power Dispatching Control	6G Antenna First Pag 664 670 674 679 683
Special PID 5453 5521 5547 5590	Harbin Institute of Technology A Holographic Metasurface for Microwave Power Transmission Applications Cheng Jiang, Songcen Wang, Xiaokang Wu, Chuankai Yang China Electric Power Research Institute session 16: Special Session on Cloud Computing in Smart Cities and 5G/B5G/G Paper Information Optimal Control Design for Load Frequency Control with Network-induced Delays Heng Wang, Zhuwei Wang, Yifan Sun, Yuehui Guo, Chao Fang, Meng Li, Yang Sun Beijing University of Technology An Edge Computing Framework for Digital Grid Jiajia Fu, Zhan Shi, Zhengfeng Zhang Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Deep Learning based Short Term Load Prediction in Smart Grids Wenhong Zhu, Ying Zeng, Zhongmiao Kang, Jiajia Fu Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Research on 5G Network Slicing for Digital Power Grid Weijian Li, Zanhong Wu, Peiming Zhang Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Architecture, Challenges and Prospect of Digital Power Grid Co. Architecture, Challenges and Prospect of Digital Power Grid Co. Architecture, Challenges and Prospect of Digital Power Grid Co. Architecture Challenges and Prospect of Digital Power Grid Co. Architecture, Challenges and Prospect of Digital Power Grid Co. Architecture, Challenges and Prospect of Digital Power Grid Co. Architecture Stream Data Proce	6G Antenna First Pag 664 670 674 679
Special PID 5453 5521 5547 5590 5614	Harbin Institute of Technology A Holographic Metasurface for Microwave Power Transmission Applications Cheng Jiang, Songcen Wang, Xiaokang Wu, Chuankai Yang China Electric Power Research Institute session 16: Special Session on Cloud Computing in Smart Cities and 5G/B5G/0 Paper Information Optimal Control Design for Load Frequency Control with Network-induced Delays Heng Wang, Zhuwei Wang, Yifan Sun, Yuehui Guo, Chao Fang, Meng Li, Yang Sun Beijing University of Technology An Edge Computing Framework for Digital Grid Jiajia Fu, Zhan Shi, Zhengfeng Zhang Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Deep Learning based Short Term Load Prediction in Smart Grids Wenhong Zhu, Ying Zeng, Zhongmiao Kang, Jiajia Fu Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Research on 5G Network Slicing for Digital Power Grid Weijian Li, Zanhong Wu, Peiming Zhang Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Architecture, Challenges and Prospect of Digital Power Grid Architecture, Challenges and Prospect of Digital Power Grid Peiming Zhang, Jiajia Fu, Yijie Li Ltd. Power Dispatching Control Center, Guangdong Power Grid Co. Architecture, Challenges and Prospect of Digital Power Grid Peiming Zhang, Jiajia Fu, Yijie Li Ltd. Power Dispatching Control	6G Antenna First Pag 664 670 674 679 683

5668	A Metasurfaced Circularly-Polarized Antenna for Electronic Toll Collection System <i>Chen Junlong, Feng Botao, Chung Kwok L., Deng Li</i> College of Electronics and Information Engineering, Shenzhen University	694
5672	A Metasurface Antenna with Dual Circularly Polarization for 5G Millimeter-Wave Applications <i>Chen Junlong, Feng Botao, Zeng Qingsheng, Deng Li</i> College of Electronics and Information Engineering, Shenzhen University	697
5673	A Novel Omni-directional Antenna with Low Gain Variations for WiFi Communications Deng Wucai, Feng Botao, Deng Li College of Electronics and Information Engineering, Shenzhen University	700
5674	A Dual-Polarized Omnidirectional Antenna with High Isolation for 2G/3G/LTE/5G Scenarios <i>Li Haoming, Cao Wenhua, Feng Botao, Deng Li</i> College of Electronics and Information Engineering, Shenzhen University	702
5675	A Compact Dual-Polarized Differentially-Fed Antenna with High Gain for 5G Microcells Li Haoming, Cao Wenhua, Feng Botao, Deng Li College of Electronics and Information Engineering, Shenzhen University	705
5676	An Omni-directional Array Antenna with a Feeding Structure in Series Liu YaQi, Feng Botao, Deng Li College of Electronics and Information Engineering, Shenzhen University	708
5677	An Omni-directional Antenna with High Gain for WiFi-6 Applications Yang Baifa, Huang Haixuan, Feng Botao, Deng Li College of Electronics and Information Engineering, Shenzhen University	711
5678	An Omnidirectional Antenna with Wide Bandwidth and High Gain for WiFi-5 and WiFi-6 Applications <i>Yang Baifa, Huang Haixuan, Feng Botao, Deng Li</i> College of Electronics and Information Engineering, Shenzhen University	714
5679	A Wide-Beamwidth Magneto-Electric Dipole Antenna with Low Cross-Polarization and High Front-to-Back Ratio <i>Li Liangying, Yan Wei, Feng Botao, Deng Li</i> College of Physics and Optoelectronic Engineering, Shenzhen University	717
5680	A Wideband Omni-directional Antenna Based on Printed Log-Periodic Element Li Liangying, Yan Wei, Feng Botao, Deng Li College of Physics and Optoelectronic Engineering, Shenzhen University	719
	Special session 17: Special Session on 5G and Artificial Intelligence	
PID	Paper Information	First Page
5574	Research on Frontier Issues of New Generation Artificial Intelligence <i>Yuxiang Tao, Chaonan Wu, Jingying Li, Ye Yuan</i> Key Laboratory of E-commerce and Modern Logistics Chongqing University of Post and Telecommunications	721
5576	Evolutionary Game Analysis of Harmful Information Governance in Social Networks with Public Participation <i>Zifu Fan, Kexin Fan, Yiyu Tian, Wei Zhang</i> School of Economics and Management, Chongqing University of Posts and Telecommunications	725
5577	The BERT-BiLSTM-CRF Question Event Information Extraction Method Jiming Liu, Cheng Sun, Ye Yuan Key Laboratory of E-commerce and Modern Logistics Chongqing University of Posts and Telecommunications	729

		r
	Hand Gesture Recognition System for Parking Applications based on Machine	
5615	Vision	734
5015	Jie Wang, Laxmisha Rai	154
	Shandong University of Science and Technology	
	Apple Leaf Disease Identification and Classification using ResNet Models	
5633	Xin Li, Laxmisha Rai	738
	Shandong University of Science and Technology	
	Multi-Feature Extraction and Fusion Method for Pedestrian Re-identification	
5716	Xu Zhang, Laxmisha Rai	743
	Shandong University of Science and Technology	
	CNN-SC Decoder for Polar Codes under Correlated Noise Channels	
5724	Wenyuan Rao, Zhibin Liu, Li Huang, Jiancheng Sun, Liyun Dai	748
5124	School of Software and Internet of Things Engineering Jiangxi University of	/40
	Finance and Economics	L
Spo	ecial session 18: Electromagnetic Resonators for Emerging Monitoring Applica	ations
PID	Paper Information	First Page
	CP-Patch-Based Strain Sensor With High Sensitivity for Structural Health	
5457	Monitoring	750
5457	Lingling Wang, Kwok Chung, Jianlin Luo	752
	Qingdao University of Technology	
	A Quantitative Study of Crack Monitoring for Electromagnetic Resonators by	
5572	Perturbation Method	755
0012	Jun Zhang, Jie Cao, Yao Li, Chutian Huang, Kun Wang	100
	Guangdong University of Technology	
	Smart Coating based on Frequency-Selective Spoof Surface Plasmon Polaritons	
5573	for Crack Monitoring	758
	Chutian Huang, Xionghui Zhou, Kang Rong, Jie Cao, Jun Zhang, Kun Wang	
	Guangdong University of Technology	
	Microwave Sensor Based on Complementary Circular Spiral Resonator for	
5653	Non-Destructive Testing of Cracks In Dielectric Plate	761
	Changyou Li, Jingyi Hao, Ruodi Li, Xize Wang, Dingyi Xiong, Guiyun Tian	
	Northwestern Polytechnical University	
	A Tri-band Wilkinson Power Divider Based on Triple Section Step-Impedance	
5707	Resonator Chenglong Liu, Mi Wu, Jingkai Yuan, Kwok L Chung, Yansheng Li	765
	Qingdao University of Technology	
C		
Spec	ial session 19: Time Domain and Frequency Domain Methods and Their Appli	
PID	Paper Information	First Page
	Spherical Convolution Matched Layer in Cartesian Coordinate System for the	
5709	FDTD Solver	768
5709	Jinhang Wang, Kuo Liu, Lu Wang, Hongxing Zheng	/00
	Hebei University of Technology	
	Design of Parallelly Concatenated Spatially Coupled RA Codes	
5730	Yang Liu, Xin Liu, Shuangyi Cheng, Yuzhi Zhang	771
	Xian University of Science and Technology	
	Continuous Wavelength Characterization of 1.3µm Quantum Dot Mesa Diode	
5731	Yufei Huang, Subin Wang, Lingying Wang	776
	Xiamen University of Technology	
	Xiamen University of Technology Design of High cost performance Airborne Particle Detection Circuit	
5732	Xiamen University of TechnologyDesign of High cost performance Airborne Particle Detection CircuitXindong Huang, Xin Lv, Shengzhe Ye, Leimeng Shi, Ben Zhou	779
	Xiamen University of Technology Design of High cost performance Airborne Particle Detection Circuit	779

5733	Inverse Design of Dual-resonant Absorption Photonic Structure based on Deep Learning Baiping Li, Kehao Feng, Fengyu Gao Xi'an University of Science and Technology; Fuqing Branch of Fujian Normal University"	781	
5734	Posture Recognition Based on the Improved Optical Diffractive Neural Network <i>Hongyi Zhang, Shan Shui, Yuwen Wu, Qiang Yang, Yijun Cai</i> Xiamen University of Technology	783	
	Special session 20: Recent Progress on Artisitic Antennas and Hidden Antennas		
PID	Paper Information	First Page	
5440	A Chinese Character-Shaped Patch Antenna Array: Zhong-Guo-Meng Jingkai Yuan, Aiqi Cui, K.L. Chung, Yansheng Li Qingdao University of Tech	786	
5569	High-Performance Chinese character-shaped Patch Antenna for 5G Mobile Communications <i>Xiaocong Tang, Wei Zhang, Zhao Yao, Fukai Shan, Zhang Lijian</i> Qingdao University	789	
5605	A High-Gain and Broadband Dipole Antenna Optimized by Partially Reflective Metasurface <i>Chenqi Li, Yu Zheng, Zhongsen Sun, Zhao Yao, Lu Liu, Tian Liu</i> Qingdao University	792	
5623	Absorbing Structure Design of Planar Spiral Antenna for Improving Multipath Effect Ruilin Li, Zhongsen Sun, Wenpeng Zhao, Tian Liu, Zhao Yao, Zongtao Chi Qingdao University	795	
5625	Investigation into Mutual Coupling Between Artistic Chinese-Character-Shaped Patch Antennas <i>Aiqi Cui, Kwok L. Chung, Liangying Li, Botao Feng</i> Qingdao University of Technology	799	
5706	A New H-plane T-junction Waveguide Power Divider Covering the Full W-band <i>Lijian Zhang, Tian Liu</i> Xi'an Polytechnic University XI'AN, China	803	
5745	Characteristic Mode Design of Chanel-Logo Shaped Antenna Wen Li, Kwok L Chung, Yingsong Li Harbin Engineering University	806	
5752	A Novel Miniature Conical Conformal Beidou antenna for High-shock Projectile Applications <i>Meijun Qu, Chengxiang Xu, Siyang Sun</i>	809	
5627	Analysis of a Trembling Hand Game on Parallel Machines Zhiyan Cheng, Pei Zhao, Sheng Zhou, Peng Gao	813	