2019 IEEE 2nd International Conference on Electronic Information and Communication Technology (ICEICT 2019)

Harbin, China 20 – 22 January 2019



IEEE Catalog Number: CFP19F64-POD ISBN:

978-1-5386-9299-8

Copyright © 2019 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:
 CFP19F64-POD

 ISBN (Print-On-Demand):
 978-1-5386-9299-8

 ISBN (Online):
 978-1-5386-9298-1

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
3844	A Modified Power Control Algorithm for Coordinating CLI in Massive MIMO System Mingshi Hao, Hui Zhao, Longhao Zhang Beijing University of Posts and Telecommunications	1
3855	The Study on the Encryption Technology of Black Core Network Jingjing Liao, Xiyu Zhong, Hanping Li Wuhan Maritime Communication Research Institute	6
3856	The Simulation Testing Design of Amphibious Formation Communication Network Hanping Li, Jingjing Liao, Xiyu Zhong Wuhan Maritime Communication Research Institute	10
3860	MPPSK Demodulation Based on Neural Network under Impulsive Noise Qiuyue Tan, Ling Zhao Beihang University	15
3885	Weighted Heterogeneous Networks with the Same Weight Sequence Changming Xing, Lin Yang*, Yigong Zhang, Qianqian Wang Shandong University of Finance and Economics	20
3906	Frequency-hopping Signal Radio Sorting Based on Stacked Auto-encoder Subtle Feature Extraction Ping Sui, Ying Guo, Hongguang Li, Shaobo Wang, Xin Yang Information and Navigation College, Air Force Engineering University	24
3913	Wireless Information and Power Transfer Protocol with Three Nodes in Wireless Body Area Networks Tingting Wang, Fengye Hu, Zhuang Ling Jilin University	29
3916	An Online Network Traffic Classification Method Based on Deep Learning Qing Liao, Tianqi Li, Wei Zhang Beijing University of Posts and Telecommunications	34
3919	An Adaptive Data Redundancy Strategy in Cloud Storage Yue Wang, Jun Wang, Menglin Wang, Junjie Liu Department of Communication and Information Engineering Nanjing University of Posts and Telecommunications Nanjing, Jiangsu 210003, China	40
3931	A Novel Mobile Agent Based Energy Efficient Data Gather Algorithm for Wireless Sensor Networks Gu Xiujian, Wang Jin, Zeng Daojian, Chen Wencheng, Jung Yeon Woong, Kim Jeong-Uk Yangzhou University	46
3936	Frequency Hopping Synchronization Method and Simulation in VHF Channel <i>Qi Wang, Haocheng Ding, Miao Zhong</i> Wuhan Maritime Communication Research Institute	51
3937	Distributed Resource Allocation for Heterogeneous MANETs with MIMO Links Qiaoyu Wang, Haixia Cui South China Normal University	55
3938	Formation Method of Aeronautic Swarm Hybrid Multi-Layer Coalition Mengyuan Zhu, Na LV, Kefan Chen Air Force Engineering University	61
3951	A Novel Wireless Information and Energy Transfer Protocol in Wireless Body Area Network with Two-way Relay Hongzhi Wang, Tengjiao Hao, Yanlin Liu, Zhi Mao Changchun University of Technology	68

	Secrecy and Efficiency in Overlay Cognitive Full-duplex Wireless Networks	
3963	Li Mu, Huang Yuzhen, Li Mianquan, Ke Mingxing, Shang Xiaohui, Qu Xiaofei,	73
0,00	Li Kechao	
	The Army Engineering University of PLA Efficient Genetic-based Detection Algorithm For Large-Scale MIMO Systems	
	Ya Wang, Zheng Wang, Feng Shen, Qingjiang Shi	
3964	State Key Laboratory of Complex Electromagnetic Environment Effects on	79
	Electronics and Information System	
	Low Complexity DSSS Acquisition Method of LEO Satellite Communication ASIC	
3966	Changhong Wang, Fei Gao	84
	Beijing Institute of Technology	
	Improved Cooperative Spectrum Sensing Scheme Using Truncated SPRT in Internet	
4009	of Things	89
4009	Shihao Gao, Ningbo Zhang, Guixia Kang	89
	Beijing University of Posts and Telecommunications	
	Towards Commercially Applicable Indoor Positioning on Smartphones through	
4010	Geomagnetic Sensing	94
	Zhe Ji, Yifan Song, Xi He, Wei Jiang, Zhengjie Duan, Junfeng Yuan	
	Hangzhou XYZ10 Tech. Co., Ltd.	
	A Novel Data Fusion Method For Indoor Navigation Using IMU Aided UWB	
4015	Hailin Cao, Junpeng Liu, Chenzhuo Zhu, Li Jing, Tao Chen, Tao Wang 1 State Key Laboratory of Vehicle NVH and Safety Technology, Chongqing 401120,	100
	China 2 College of Communication, Chongqing University, Chongqing 400044, China	
	Wireless Wearable Respirator for Accurate Measurement of Breathing Parameters	
40.4=	Bingjin Xiang, Yu Xu, Meng Zhou, Yanlang Zheng, Luxi Zhan,	40-
4017	Junqiang Fan, Dan Zhou, Jun Liu	106
	Wenzhou University	
	A Method of System Timing in TDMA Systems for LEO Satellites	
4021	Jinfei Zhu, Jian Cheng, Yuyang Tian, Yaxin Wang, Jinghui Chang	113
	Army Engineering University of PLA	
	Robust Power Manegemant for Cooperation in Jammed Wireless Localization	
4026	Systems W. G. G. W. L. W. L. W. L. G. W. L. W. L. G. W. L. W	118
	Mingxing Ke, Shiwei Tian, Xiaofei Qu, Mu Li, Xiaohui Shang, Kechao Li Army Engineering University of PLA	
	Dry Surface Monitoring System for Noodles Based On ZigBee and Android	
4033	Hengjun Zhu, Guanglong Zhou	123
4033	Qiqihar University	123
	Physical Layer Security in HARQ-Assisted Non-Orthogonal Multiple Access	
4024	Networks	
4034	Zhongwu Xiang, Weiwei Yang, Yueming Cai, Yi Song, Meng Wang	127
	Army Engineering University of PLA	
	A Flexible and Lightweight Laser Wireless Access Network Design for Space	
4050	Vehicle	133
4020	Weiqiang Xia, Huijuan Zhai, Yang Liu, Ruiming Zhang, Youping Liao	100
	Beijing Institute of Aerospace Systems Engineering	
4052	Secured Cloud Storage Scheme based on Blockchain	125
4053	N'taya Matissi SOUKOUDE, Jianli Li Harbin Engineering University	137
	Real-time Route Re-planning based on Modified Particle Swarm Optimization	
	Algorithm	
4058	Shaoqing Zhang ,Mingwei Lv, Chen Yang,	143
	AVIC Shen Yang Aircraft Design & Research Institute	
	Real-time 3D Route Planning based on Modified Rapidly Exploring Random-tree	
4059	Algorithm	1.45
4037	Shaoqing Zhang,, Mingwei Lv, Chen Yang	147
	College of Electronic and Information Engineering, Shen Yang Aerospace University	

4064	Multi-Access MEC Systems Xiaotong Yang, Xueyong Yu, Anqi Rao Nanjing University of Posts and Telecommunications	151
4074	A Design of Microwave LC-Resonator-Based Biosensor with Double Sensentive Region for Healthy-IoT Applications Tian Qiang, Cong Wang, Adhikari Kishor Kumar, Qun Wu, Guo-Hui Yang Harbin Institute of Technology	156
	Topic 2: Signal Processing (SP) and Information Technology	
PID	Paper Information	First Page
3845	Localization of Coherent Signals Based on Toeplitz Matrix Reconstruction in Spatially Colored Nosie Ying-Ming Wang, Shuai Liu, Ming Jin Harbin Institute of Technology, Weihai	160
3852	ICI Suppression of Underwater Acoustic OFDM Signal Transmission by Differential Multichannel Detection Xuefei Ma, Bo Wang, Yang Li, Pengpeng Hu, Tingting Wang, Guan Wang College of Underwater Acoustic Engineering Harbin Engineering University	164
3861	Multi-scale Principle Manifold Learning Noise Reduction Method for Telemetry Vibration Signal Xue Liu, Ao Sun, Hongzhou Xu, Long Wei PLA 91550	168
3862	Telemetry Vibration Signal Analysis and Fault Detection based on Multi-scale Permutation Entropy Hongzhou Xu, Xue Liu, Suting Qiu PLA 91550	173
3864	Statistical Approximation Properties of Stancu Type λ-Bernstein Operators <i>Peng-Hui Wang, Qing-Bo Cai</i> Quanzhou Normal University	178
3874	A Research on Design of Campus Printing Service System Di Lu, Guoxin Mao, Xi Wang, Tan Wei Hohai University	183
3881	Anomaly Detection of Vibration Signals based on Wavelet Modulus Maximal Multifractal Analysis Zhiguo ZHANG, Xue LIU, Hongping WANG 91550 troops	187
3883	A single-input Narrow-band Interference Suppression and Smoothing Algorithm Based on LMS Filter Jidong Wang, Junwei Peng, Xuemei Xu, Xingyuan You, Sichao Liu Wuhan Maritime Communication Research Institute	192
3898	ISAR High Resolution Imaging Based on Fast Sparse Bayesian Learning Xiaoxiu ZHU, Wenhua HU, Chaoxuan SHANG, Baofeng GUO, Dongfang XUE Army Engineering University Shijiazhuang Campus	199
3903	An Improved µ-law Proportionate NLMS Algorithm for Estimating Block-Sparse Systems Zhan Jin, Xiuling Ding, Zhengxiong Jiang, Yingsong Li Harbin Engineering University	205
3908	A Hybrid EMD-Based Signal Denosing Method for Gyrowheel System Hui Zhao, Yuyu Zhao, Xin Huo, Yu Yao Harbin Institute of Technology	210
3909	Source Recovery of Underdetermined Blind Source Separation Based on Modified Shortest Path Algorithm Chuanchuan Wang, Yonghu Zeng, Liandong Wang CEMEE	215

	Interleaved Matched Filtering Method Suitable for ASIC Design	
3910	Yue Zhao, Xuanhao Ni	221
	Beijing Institute of Technology	
	Multiple Measurement Vector Sparsity Adaptive Algorithm Realize the	
3921	non-orthogonal Waveform Separation of MIMO Sparse Linear Array	226
0,21	Qiao Chen, Ningning Tong, Yibei Dong, Lei Bao, Shuai Chen, Lixun Han	220
	Air Force Engineering University	
	Research on Anti-reverberation Method Based on Local Wave Vector	
3929	Rongrong Han, Xinyi Sun	231
	Harbin University	
	Multi-MWC Cooperative Spectrum Sensing Al-gorithm based on Clustering	
3935	Junwei Peng, Xingyuan You, Shanshan Mao	237
	Wuhan Maritime Communication Research Institute	
	A Secure Received Signal Strength based Indoor Localization Algorithm Using	
	OS-ELM and Clustering Analysis Technique	
3944	Peibin Lu, Yanhua Cao, Jun Yan	242
	College of Communication Information Engineering, Nanjing University of Posts	
	Telecommunications, Nanjing China	
	Research on Polarization-Based Secure Satellite Communications via	
3957	DL-MPWFRFT	247
	Haobo Wang, Xinyu Da, Zhangkai Luo, Hang Hu, Lei Ni, Yu Pan	
	Air Force Engineering University	
	A Robust Adaptive Beamforming with Diagonal Loading and Steering Vector	
3961	Estimation Michael B. Marala W. Vina Wana Liiina	253
	Michael.P Masele, Wu Xing, Wang Lijiao	
	Harbin Engineering University An Improved Adaptive Correction Algorithm For Non-uniform Illumination	
	Panoramic Image	
3962	Pengfei Han, Dianwei Wang, Xu Yang, Ying Liu, Daxiang Li, Zhijie Xu, Jing Wang	258
3902	Center for Image and Information Processing, Xi`an University of Posts	430
	Telecommunications	
3987	Telecommunications Robust Adaptive Beamforming in Conditions of Sparse Corruption Array Element	263
3987	Telecommunications Robust Adaptive Beamforming in Conditions of Sparse Corruption Array Element Qichao Ge, Yongshun Zhang, Yizhe Wang, Zhihui Li, Yiduo Guo	263
3987	Telecommunications Robust Adaptive Beamforming in Conditions of Sparse Corruption Array Element <i>Qichao Ge, Yongshun Zhang, Yizhe Wang, Zhihui Li, Yiduo Guo</i> Graduate College Air Force Engineering University	263
	Telecommunications Robust Adaptive Beamforming in Conditions of Sparse Corruption Array Element Qichao Ge, Yongshun Zhang, Yizhe Wang, Zhihui Li, Yiduo Guo Graduate College Air Force Engineering University Multiple Children Identification and Tracking for the Childcare Assisting System	
3987	Telecommunications Robust Adaptive Beamforming in Conditions of Sparse Corruption Array Element Qichao Ge, Yongshun Zhang, Yizhe Wang, Zhihui Li, Yiduo Guo Graduate College Air Force Engineering University Multiple Children Identification and Tracking for the Childcare Assisting System Bin Zhang, Nakamura Tomoaki, Nagai Takayuki, Omori Takashi, Kaneko Masahide,	263
	Telecommunications Robust Adaptive Beamforming in Conditions of Sparse Corruption Array Element Qichao Ge, Yongshun Zhang, Yizhe Wang, Zhihui Li, Yiduo Guo Graduate College Air Force Engineering University Multiple Children Identification and Tracking for the Childcare Assisting System Bin Zhang, Nakamura Tomoaki, Nagai Takayuki, Omori Takashi, Kaneko Masahide, Haibin Xia, Ushiogi Rena, Oka Natsuki, Hunok Lim	
	Telecommunications Robust Adaptive Beamforming in Conditions of Sparse Corruption Array Element Qichao Ge, Yongshun Zhang, Yizhe Wang, Zhihui Li, Yiduo Guo Graduate College Air Force Engineering University Multiple Children Identification and Tracking for the Childcare Assisting System Bin Zhang, Nakamura Tomoaki, Nagai Takayuki, Omori Takashi, Kaneko Masahide, Haibin Xia, Ushiogi Rena, Oka Natsuki, Hunok Lim Kanagawa University	
3989	Telecommunications Robust Adaptive Beamforming in Conditions of Sparse Corruption Array Element Qichao Ge, Yongshun Zhang, Yizhe Wang, Zhihui Li, Yiduo Guo Graduate College Air Force Engineering University Multiple Children Identification and Tracking for the Childcare Assisting System Bin Zhang, Nakamura Tomoaki, Nagai Takayuki, Omori Takashi, Kaneko Masahide, Haibin Xia, Ushiogi Rena, Oka Natsuki, Hunok Lim	268
	Telecommunications Robust Adaptive Beamforming in Conditions of Sparse Corruption Array Element Qichao Ge, Yongshun Zhang, Yizhe Wang, Zhihui Li, Yiduo Guo Graduate College Air Force Engineering University Multiple Children Identification and Tracking for the Childcare Assisting System Bin Zhang, Nakamura Tomoaki, Nagai Takayuki, Omori Takashi, Kaneko Masahide, Haibin Xia, Ushiogi Rena, Oka Natsuki, Hunok Lim Kanagawa University The Effect of Ship-borne X-band Radar Vertical Motion on Significant Wave Height	
3989	Telecommunications Robust Adaptive Beamforming in Conditions of Sparse Corruption Array Element <i>Qichao Ge, Yongshun Zhang, Yizhe Wang, Zhihui Li, Yiduo Guo</i> Graduate College Air Force Engineering University Multiple Children Identification and Tracking for the Childcare Assisting System <i>Bin Zhang, Nakamura Tomoaki, Nagai Takayuki, Omori Takashi, Kaneko Masahide, Haibin Xia, Ushiogi Rena, Oka Natsuki, Hunok Lim</i> Kanagawa University The Effect of Ship-borne X-band Radar Vertical Motion on Significant Wave Height Estimation	268
3989	Telecommunications Robust Adaptive Beamforming in Conditions of Sparse Corruption Array Element Qichao Ge, Yongshun Zhang, Yizhe Wang, Zhihui Li, Yiduo Guo Graduate College Air Force Engineering University Multiple Children Identification and Tracking for the Childcare Assisting System Bin Zhang, Nakamura Tomoaki, Nagai Takayuki, Omori Takashi, Kaneko Masahide, Haibin Xia, Ushiogi Rena, Oka Natsuki, Hunok Lim Kanagawa University The Effect of Ship-borne X-band Radar Vertical Motion on Significant Wave Height Estimation Junhao Xie, Meiwei Li, Guowei Yao, Kun Xi	268
3989	Telecommunications Robust Adaptive Beamforming in Conditions of Sparse Corruption Array Element Qichao Ge, Yongshun Zhang, Yizhe Wang, Zhihui Li, Yiduo Guo Graduate College Air Force Engineering University Multiple Children Identification and Tracking for the Childcare Assisting System Bin Zhang, Nakamura Tomoaki, Nagai Takayuki, Omori Takashi, Kaneko Masahide, Haibin Xia, Ushiogi Rena, Oka Natsuki, Hunok Lim Kanagawa University The Effect of Ship-borne X-band Radar Vertical Motion on Significant Wave Height Estimation Junhao Xie, Meiwei Li, Guowei Yao, Kun Xi Harbin Institute of Technology	268
3989	Telecommunications Robust Adaptive Beamforming in Conditions of Sparse Corruption Array Element Qichao Ge, Yongshun Zhang, Yizhe Wang, Zhihui Li, Yiduo Guo Graduate College Air Force Engineering University Multiple Children Identification and Tracking for the Childcare Assisting System Bin Zhang, Nakamura Tomoaki, Nagai Takayuki, Omori Takashi, Kaneko Masahide, Haibin Xia, Ushiogi Rena, Oka Natsuki, Hunok Lim Kanagawa University The Effect of Ship-borne X-band Radar Vertical Motion on Significant Wave Height Estimation Junhao Xie, Meiwei Li, Guowei Yao, Kun Xi Harbin Institute of Technology Quickly Sample and Reconstruct for Low-level Wind Shear Data Measured by	268
3989	Telecommunications Robust Adaptive Beamforming in Conditions of Sparse Corruption Array Element Qichao Ge, Yongshun Zhang, Yizhe Wang, Zhihui Li, Yiduo Guo Graduate College Air Force Engineering University Multiple Children Identification and Tracking for the Childcare Assisting System Bin Zhang, Nakamura Tomoaki, Nagai Takayuki, Omori Takashi, Kaneko Masahide, Haibin Xia, Ushiogi Rena, Oka Natsuki, Hunok Lim Kanagawa University The Effect of Ship-borne X-band Radar Vertical Motion on Significant Wave Height Estimation Junhao Xie, Meiwei Li, Guowei Yao, Kun Xi Harbin Institute of Technology Quickly Sample and Reconstruct for Low-level Wind Shear Data Measured by Coherent Lidar Yuechao Ma, Sining Li, Wei Lu Harbin Institute of Technology	268
3989	Telecommunications Robust Adaptive Beamforming in Conditions of Sparse Corruption Array Element <i>Qichao Ge, Yongshun Zhang, Yizhe Wang, Zhihui Li, Yiduo Guo</i> Graduate College Air Force Engineering University Multiple Children Identification and Tracking for the Childcare Assisting System <i>Bin Zhang, Nakamura Tomoaki, Nagai Takayuki, Omori Takashi, Kaneko Masahide, Haibin Xia, Ushiogi Rena, Oka Natsuki, Hunok Lim</i> Kanagawa University The Effect of Ship-borne X-band Radar Vertical Motion on Significant Wave Height Estimation <i>Junhao Xie, Meiwei Li, Guowei Yao, Kun Xi</i> Harbin Institute of Technology Quickly Sample and Reconstruct for Low-level Wind Shear Data Measured by Coherent Lidar <i>Yuechao Ma, Sining Li, Wei Lu</i> Harbin Institute of Technology Optimum Design and Software Implemetation For RS(255,223) Decoder	268
3989	Telecommunications Robust Adaptive Beamforming in Conditions of Sparse Corruption Array Element <i>Qichao Ge, Yongshun Zhang, Yizhe Wang, Zhihui Li, Yiduo Guo</i> Graduate College Air Force Engineering University Multiple Children Identification and Tracking for the Childcare Assisting System <i>Bin Zhang, Nakamura Tomoaki, Nagai Takayuki, Omori Takashi, Kaneko Masahide, Haibin Xia, Ushiogi Rena, Oka Natsuki, Hunok Lim</i> Kanagawa University The Effect of Ship-borne X-band Radar Vertical Motion on Significant Wave Height Estimation <i>Junhao Xie, Meiwei Li, Guowei Yao, Kun Xi</i> Harbin Institute of Technology Quickly Sample and Reconstruct for Low-level Wind Shear Data Measured by Coherent Lidar <i>Yuechao Ma, Sining Li, Wei Lu</i> Harbin Institute of Technology Optimum Design and Software Implemetation For RS(255,223) Decoder <i>Chao Li, Bin Zhao, Zongpu Yuan, Liqiang Zhang, Xing Sheng, Shilei Dong</i>	268
3989 4016 4019	Telecommunications Robust Adaptive Beamforming in Conditions of Sparse Corruption Array Element <i>Qichao Ge, Yongshun Zhang, Yizhe Wang, Zhihui Li, Yiduo Guo</i> Graduate College Air Force Engineering University Multiple Children Identification and Tracking for the Childcare Assisting System <i>Bin Zhang, Nakamura Tomoaki, Nagai Takayuki, Omori Takashi, Kaneko Masahide, Haibin Xia, Ushiogi Rena, Oka Natsuki, Hunok Lim</i> Kanagawa University The Effect of Ship-borne X-band Radar Vertical Motion on Significant Wave Height Estimation <i>Junhao Xie, Meiwei Li, Guowei Yao, Kun Xi</i> Harbin Institute of Technology Quickly Sample and Reconstruct for Low-level Wind Shear Data Measured by Coherent Lidar <i>Yuechao Ma, Sining Li, Wei Lu</i> Harbin Institute of Technology Optimum Design and Software Implementation For RS(255,223) Decoder <i>Chao Li, Bin Zhao, Zongpu Yuan, Liqiang Zhang, Xing Sheng, Shilei Dong</i> Luoyang electronic equipment center	268 274 278
3989 4016 4019 4027	Telecommunications Robust Adaptive Beamforming in Conditions of Sparse Corruption Array Element Qichao Ge, Yongshun Zhang, Yizhe Wang, Zhihui Li, Yiduo Guo Graduate College Air Force Engineering University Multiple Children Identification and Tracking for the Childcare Assisting System Bin Zhang, Nakamura Tomoaki, Nagai Takayuki, Omori Takashi, Kaneko Masahide, Haibin Xia, Ushiogi Rena, Oka Natsuki, Hunok Lim Kanagawa University The Effect of Ship-borne X-band Radar Vertical Motion on Significant Wave Height Estimation Junhao Xie, Meiwei Li, Guowei Yao, Kun Xi Harbin Institute of Technology Quickly Sample and Reconstruct for Low-level Wind Shear Data Measured by Coherent Lidar Yuechao Ma, Sining Li, Wei Lu Harbin Institute of Technology Optimum Design and Software Implementation For RS(255,223) Decoder Chao Li, Bin Zhao, Zongpu Yuan, Liqiang Zhang, Xing Sheng, Shilei Dong Luoyang electronic equipment center 3-D Motion Parameter Estimation via Multi-static SAR	268 274 278 283
3989 4016 4019	Telecommunications Robust Adaptive Beamforming in Conditions of Sparse Corruption Array Element <i>Qichao Ge, Yongshun Zhang, Yizhe Wang, Zhihui Li, Yiduo Guo</i> Graduate College Air Force Engineering University Multiple Children Identification and Tracking for the Childcare Assisting System <i>Bin Zhang, Nakamura Tomoaki, Nagai Takayuki, Omori Takashi, Kaneko Masahide, Haibin Xia, Ushiogi Rena, Oka Natsuki, Hunok Lim</i> Kanagawa University The Effect of Ship-borne X-band Radar Vertical Motion on Significant Wave Height Estimation <i>Junhao Xie, Meiwei Li, Guowei Yao, Kun Xi</i> Harbin Institute of Technology Quickly Sample and Reconstruct for Low-level Wind Shear Data Measured by Coherent Lidar <i>Yuechao Ma, Sining Li, Wei Lu</i> Harbin Institute of Technology Optimum Design and Software Implementation For RS(255,223) Decoder <i>Chao Li, Bin Zhao, Zongpu Yuan, Liqiang Zhang, Xing Sheng, Shilei Dong</i> Luoyang electronic equipment center	268 274 278

4039	Identification of Engine Foreign Object Impact Based on Acoustic Emission And Radical Basis Function Neural Network Yan Wang, Yang Zhang, Guoan Yang, Ruiqi Zhang College of Mechanical and Electrical Engineering, Beijing University of Chemical Technology	291
4048	A Camera Placement Method Based On Genetic Algorithm For Shipborne Video Surveillance System Xuefeng Yang, Yingjun Zhang, Wen Liu Chongqing Jiaotong University	297
4051	Verification and Recognition of Fractal Characteristics of Communication Modulation Signals Li Jingchao, Ying Yulong, Lin Yun Shanghai Dianji University	304
4056	Application of Variogram in Quantitative Characterization of Channel Sand Body Spatial Distribution Jianyang Chen, Lufeng Zhan, Shi Shi PetroChina Research Institute of Petroleum Exploration Development	310
4060	A Feature-based Method for Shipboard Video Stabilization Wen Liu, Yingjun Zhang, Xuefeng Yang China Transport Telecommunications Information Center National Engineering Laboratory of Transport Safety and Emergency Informatics	315
	Topic 3: Antennas, Propagation, and Scattering	
PID	Paper Information	First Page
3839	Hybrid Metamaterial Absorber based on the Combination of Plasmonic Structure and Magentic Absorber Shen Yang, Zhang Jieqiu, Wang Jiafu, Qu Shaobo	323
3859	Department of Basic Science, Air Force Engineering University Measurements of Beidou Antenna for Iridium Communication Tingting Lyu, Min Zhang, Farnaz Mahmoudi ShikhSarmast, Hao Zhang	326
3859	Department of Basic Science, Air Force Engineering University Measurements of Beidou Antenna for Iridium Communication	326
	Department of Basic Science, Air Force Engineering University Measurements of Beidou Antenna for Iridium Communication Tingting Lyu, Min Zhang, Farnaz Mahmoudi ShikhSarmast, Hao Zhang Ocean University of China A Low-Profile, Gain-Enhancement, Compact Lens for UHF Archimedean Spiral Antenna Man Luo, Xiangyuan Sang, Wei Ge, Zhao Zhang, Zhenghui Peng, Juan Chen	
3868	Department of Basic Science, Air Force Engineering University Measurements of Beidou Antenna for Iridium Communication Tingting Lyu, Min Zhang, Farnaz Mahmoudi ShikhSarmast, Hao Zhang Ocean University of China A Low-Profile, Gain-Enhancement, Compact Lens for UHF Archimedean Spiral Antenna Man Luo, Xiangyuan Sang, Wei Ge, Zhao Zhang, Zhenghui Peng, Juan Chen School of Mechatronics Engineering, North University of China Phase Difference Correcting for Terahertz Wave Horn Antenna Based on HFSS Bo He, Shizhong Li, Yang Chen	330
3868	Department of Basic Science, Air Force Engineering University Measurements of Beidou Antenna for Iridium Communication Tingting Lyu, Min Zhang, Farnaz Mahmoudi ShikhSarmast, Hao Zhang Ocean University of China A Low-Profile, Gain-Enhancement, Compact Lens for UHF Archimedean Spiral Antenna Man Luo, Xiangyuan Sang, Wei Ge, Zhao Zhang, Zhenghui Peng, Juan Chen School of Mechatronics Engineering, North University of China Phase Difference Correcting for Terahertz Wave Horn Antenna Based on HFSS Bo He, Shizhong Li, Yang Chen School of Mechatronics Engineering, North University of China Turn-Table Platform Stirring in Reverberation Chambers for OTA applications Quan Li, Sun Cong, An Zhang, Xiaoming Chen	330
3868 3890 3907	Department of Basic Science, Air Force Engineering University Measurements of Beidou Antenna for Iridium Communication Tingting Lyu, Min Zhang, Farnaz Mahmoudi ShikhSarmast, Hao Zhang Ocean University of China A Low-Profile, Gain-Enhancement, Compact Lens for UHF Archimedean Spiral Antenna Man Luo, Xiangyuan Sang, Wei Ge, Zhao Zhang, Zhenghui Peng, Juan Chen School of Mechatronics Engineering, North University of China Phase Difference Correcting for Terahertz Wave Horn Antenna Based on HFSS Bo He, Shizhong Li, Yang Chen School of Mechatronics Engineering, North University of China Turn-Table Platform Stirring in Reverberation Chambers for OTA applications Quan Li, Sun Cong, An Zhang, Xiaoming Chen Northwestern Polytechnical University Research on Millimeter Wave Phased Array Antenna for 5G Communication Jihao Li, Zhenfeng Yang, Yibing Li, Xiaohang Sun, Ji Lv, Wei Zhong Nanjing Heng Dian Electronics Co. Ltd The Simulation Analysis of Airborne Antenna Siting Based on the Measured Pattern Guihao BAO, Zhiyong CAI, Xiuhua ZHENG, Lei SHI, Hongzhi ZHANG, Hongyun LIANG	330 333 337
3868 3890 3907 3914	Department of Basic Science, Air Force Engineering University Measurements of Beidou Antenna for Iridium Communication Tingting Lyu, Min Zhang, Farnaz Mahmoudi ShikhSarmast, Hao Zhang Ocean University of China A Low-Profile, Gain-Enhancement, Compact Lens for UHF Archimedean Spiral Antenna Man Luo, Xiangyuan Sang, Wei Ge, Zhao Zhang, Zhenghui Peng, Juan Chen School of Mechatronics Engineering, North University of China Phase Difference Correcting for Terahertz Wave Horn Antenna Based on HFSS Bo He, Shizhong Li, Yang Chen School of Mechatronics Engineering, North University of China Turn-Table Platform Stirring in Reverberation Chambers for OTA applications Quan Li, Sun Cong, An Zhang, Xiaoming Chen Northwestern Polytechnical University Research on Millimeter Wave Phased Array Antenna for 5G Communication Jihao Li, Zhenfeng Yang, Yibing Li, Xiaohang Sun, Ji Lv, Wei Zhong Nanjing Heng Dian Electronics Co. Ltd The Simulation Analysis of Airborne Antenna Siting Based on the Measured Pattern Guihao BAO, Zhiyong CAI, Xiuhua ZHENG, Lei SHI, Hongzhi ZHANG,	330 333 337 340

4013	Transient Response Analysis of Monopole Antenna Mounted on Conductive Plane Varying Different Positions Chuanbao DU, Congguang Mao, Feng QIN, Zheng LIU Northwest Institute of Nuclear Technology	358
4022	Research on Differences of Prediction Models Related to Land Mobile Communication Chao Li, Xianzhi Zhang, Yi Liu Luoyang electronic equipment center	362
4023	Analysis of Influence of Single-edge Occlusion on the Median Value of Propagation Attenuation in Ultrashort Wave Band <i>Xianzhi Zhang, Chao Li, Yi Liu</i> Luoyang electronic equipment center	367
4043	Research on a Method for Effectively Improving the Bandwidth of Dipole Antennas Yu Mao, Tao Zhang, Yan Wang, Lin Wang Shenyang Aircraft Design and Research Institute, AVIC	371
4045	Ku Band Dual-Polarized Microstrip Array Antenna with Wide-Band and Low Side-Lobe Wenjie Zhang, Hongpeng Sun, Guodong Song, Tao Zhang, yan wang, Zhuo Liu Shenyang Aircraft Design and Research Institute	374
4062	A Quadrilaterial Monopole Printed Antenna with Wide Band Fed by Coplanar Waveguide Han Wen, LiZhong Song, Li Wang School of Information Science and Engineering Harbin Institute of Technology at Weihai	378
4063	A Dual-Polarized Printed Mono-pole Antenna with Simple Structure for Diversity Application <i>Qian Wang, Cheng Ze</i> The Shandong Institute of Aerospace Electronics Technology	383
4066	Low Sidelobe Holographically Modulated Reactance Surface Antenna Yihua Zhu, Kuang Zhang, Guohui Yang, Qun Wu Harbin Institude of Technology	388
4071	Wideband Tunable Bandstop Frequency Selective Surface Based on Liquid Crystal Lv Jianfeng, Qun Wu, Fan-Yi Meng Harbin Institute of Technology	392
4072	Design of 1-Bit Circularly Polarized Electronically Scanned Reflectarray Antenna at 100 GHz Based on Liquid Crystals Yu-Hang Liu, Fan-Yi Meng, Guo-Hui Yang, Qun Wu Harbin Institute of Technology	394
4073	Wideband Tunable Bandstop Frequency Selective Surface Based on Liquid Crystal Jianfeng Lv, Qun Wu, Fan-Yi Meng Harbin Institute of Technology	398
	Topic 4: Microwave Systems, Radar, RF	
PID	Paper Information	First Page
3843	Coupling Tunable D-band Directional Coupler for Millimeter-wave Applications Weiye Xu, Handong Xu, Fukun Liu Institute of Plasma Physics, Chinese Academy of Sciences	400
3854	Analysis of Cross-polarization Jamming for Phase Comparison Monopulse Radars Han Hui, Xu Xiong, Wang Haijun, Huanyao Dai State Key Laboratory of Complex Electromagnetic Environment Effects on Electronics and Information System	404
3866	Phase Synchronization Method for Millimeter Wave Radiometer Digital Correlator Wenqing Hu, Lin Sun, Hao Liu, Hao Lu, Xi Guo, Qiongzhi Wu School of Information and Electronics Beijing Institute of Technology	408

	Dynamically Tunable Cross Polarization Converter Based on Graphene in the	
3871	Microwave Band	413
3071	Hanxiao Ma, Juan Chen	413
	Department of Electronic and Information Engineering, Xi'an Jiaotong University	
	W Band Mini-SAR on Multi Rotor UAV Platform	
3873	Ding Manlai, Tang Li, Zhou Liangjiang, Wang Xuemei, Weng Zhilei, Qu Jiameng	416
	Institute Of Electronics Chinese Academy Of Sciences	
	High Precision Positioning and Accident Detection System for Vehicles in Traffic	
	Tunnel	
3878	Fuzhu Fang, Zhizhong Ding	419
	School of Computer Science and Information Engineering, Hefei University of	
	Technology	
2000	A Survey on the Design of Current Comparator	126
3888	Fei Yu, Lei Gao, Lixiang Li, Ke Gu, Weizheng Wang, Shuo Cai	426
	Changsha University of Science and Technology	
2007	Design of Receiver Performance Online Monitoring System in Radar BIT	422
3897	Wenhua HU, Xiaoxiu ZHU, Yongshan MA, Baofeng GUO, Dongfang XUE	432
	Army Engineering University Shijiazhuang Campus	
	Thermal Analysis and Optimization of High-Power Planar Schottky Diodes with Different Substrates	
3926	Liang Chen, Min Tang, Jun Jiang, Yang Tang, Haikun Yue, Junfa Mao	435
	Shanghai Jiao Tong University	
	Quasi-elliptic Filter with Inline Ports Using a Dual-mode SIW Resonator Loaded by	
	two GCPWs and one CSRR	
3932	Qing Liu, Dongfang Zhou, Dewei Zhang, Dalong Lv, Yi Zhang	439
	National Digital Switching System Engineering and Technological Research Center	
	The Design of Corrugated Waveguide Taper for EAST ECRH System	
3953	Jiawei Peng, Xiaojie Wang, Fukun Liu, Dajun Wu, Yunying Tang, Liyuan Zhang	442
	Institute of Plasma Physics Chinese Academy of Sciences	
	A Quasi-elliptic SIW Filter in Quadruplet Scheme Based on a New Frequency-	
3965	dependent Coupling Structure	445
3703	Yanni Ma, Yuheng Wang, Jiankang Shi, Chuan Wu	443
	Beijing Institute of Radio Measurement	
	Research on the Method of Using Single-tone Interference to Jam OFDM Signal	
3967	Jian-jian Ning, Wensheng Li, Bin Bai, Bohao Xu	448
	Luoyang Electronic Equipment Test Center of China	
	Application of Golay Complementary Code in Pipeline Detection	
3988	Yang Liu, Tian Guo, Jingxia Li, Li Liu, Hang Xu, Bingjie Wang	453
	Taiyuan University of Technology	
4004	A Two-step Impedance Measurement Method using One Port Technique with VNA	455
4004	Guoping Yuan, Dan Liu, Liang Zhao, Shengli Liang, Mingfei Yang	457
	The 41st Institute of China Electronics Technology Group Corporation	
	Compact Bandpass Filter With Good Selectivity And Wide Stopband Using	
4037	Embedded SIRs	461
	Ju-An Wang, Daotong Li, Ying Liu, Haowei Wu, Tao Wang, Lisheng Yang Chongqing University	
	Reciprocal Invisibility Cloak with Having Different Semi-axis	
4041	Xuan Yanglu, Xu Xinhe, Gan Yuehong, Li Zhen, Zhong Haibo	465
4041	Nanchang Hangkong University	403
	A Design of Compact Wideband Bandpass Filter with Controllable Center	
	Frequency Using Different Rectangular Arrays	
4075	Tian Qiang, Cong Wang, Adhikari Kishor Kumar, Qun Wu, Guo-Hui Yang	469
	Harbin Institute of Technology	

	Special Session Title 1: Recent Development on Radar Signal Processing	
PID	Paper Information	First Page
3846	LPI Performance Optimization for Integrated Multi-static Radar and Communication System Shi Chenguang, Wang Fei, Zhou Jianjiang, Salous Sana NUAA	N/A
3887	A Novel 3D Imaging Method for Region of Interest with Airborne MIMO-SAR <i>Kai-ming Li, Wang-yang Li, Xiao-yu Qu, Ying Luo, Qun Zhang</i> Institute of Information Navigation, Air Force Engineering University	478
3896	Research Status and Prospect of InSAR Performance Evaluation Methods Yuxin Hou, Haifeng Huang, Daoxiang An, Zhimin Zhou National University of Defense Technology	486
3899	Micro-Doppler Feature Extraction method of Rotating Target Based on Shipborne Radar Fu-fei Gu, Yun-chao Zhang, Min-hui Fu, Zhi-min Chen China Satellite Maritime Tracking and Control Department	491
3918	Time-Varying Bistatic Radar Coincidence Imaging for Rotating Targets Rui Li, Ying Luo, Qun Zhang, Binbin Li Information and Navigation College, AFEU	495
3920	A Fast Circular Convolution Imaging Algorithm for FMCW CSAR Depeng Song, Binbing Li, Yi Qu, Yijun Chen College of Information Engineering, Engineering University of PAP	499
3934	Three-dimensional Interferometric Imaging of Space Rotating Targets in Low-resolution Radar based on Multiple Measurement Vectors Model <i>Ting Liang, Yijun Chen, Hao Lou</i> Institute of Information and Navigation, AFEU	503
3956	Design of MIMO Radar Orthogonal Polyphase Code Based on Improved Artificial Bee Algorithm Leizhen Xie, Kaiming Li, Wangyang Li, Qun Zhang, Ying Liang, Yongzhao Lin Air Force Engineering University	507
3959	Probabilistic Weighted Extreme Learning Machine for Robust Modeling Chuang Zhou, YongLe Lv, Jie Wu Nanjing Research Institute Of Electronics Technology	512
3972	Redundancy Generation and Elimination Method for Range Estimation in Stepped Frequency Radar <i>Qiushi Chen, Xin Zhang, Yingning Dong, Jiazhi Zhang, Qiang Yang</i> Harbin Institute of Technology	517
3975	A New Roust Blind Beamformer Against Array Errors Under Intensive Interferences Bin Gao, Zhengyuan Liu Nanjing University of Aeronautics and Astronautics	523
3976	Robust Beamforming with Magnitude Response Constraints Using Alternating Minimization Linglan Gao, Bin Gao Shanghai Aircraft Design and Research Institute	528
3990	Space-time Joint Anti-jamming Research Based on Pseudo-covariance Matrix Chong Yan, Yong-shun Zhang, Zhihui Li, Qichao Ge, Shuai Pan Air and Missile Defense College Air Force Engineering University	533
3991	FPGA Based Short-Range Targets Detection System with FMCW Radar Jing Zhang, Lin Tang, Chao Feng, Xi Chen, Liangqing Lv, Jingwei Yang Shanghai Radio Equipment Research Institute	538
4006	Radar Moving Target Detection via Improved Sparse Fourier Transform Xiaohan Yu, Yong Huang, Lin Zhang, Xiaolong Chen, Jian Guan Naval Aviation University	543

4007	Fast and Refined Radar Processing For Maneuvering Target via Two-stage Integration Detection Xiaolong Chen, Xiaohan Yu, Hao Ding, Xue Yonghua, Jian Guan Naval Aviation University	547
4008	Joint Angle And Array Gain-phase Error Estimation For Bistatic MIMO Radar With Unknown Colored Noise Hongru Song, Yuehao Guo, Xianpeng Wang, Haojing Zhang, Dandan Meng Beijing Institute of Aerospace	552
4014	Classification of Space Targets with Micro-motion Based on Deep CNN Yizhe Wang, Cunqian Feng, Yongshun Zhang, Qichao Ge Air Force Engineering University	557
4055	MIMO Radar and MIMO Communication Spectrum Sharing with Interference Mitigation Junhui Qian, Ran Liu, Yulong Huang, Yu Luo, Yangfan Huang, Fengchun Tian Chongqing University	562
	Special Session Title 2: Artificial Intelligence and Applications	
PID	Paper Information	First Page
3849	Application Research of Spatial Integrated Data Mining Technology on Land Intelligent Grading Sijia Ma, Jihong Ouyang College of Computer Science and Technology, Jilin University	568
3851	Light-Weight Recurrent Deep Learning Algorithm for Non-Intrusive Load Monitoring Mohammad Mobasher-Kashani, Jiaming Li, Suhuai Luo The University of Newcastle	572
3876	Deep Learning-based Automatic Modulation Recognition Algorithm in Internet of Things Yu Wang, Guan Gui, Hao Huang, Jie Wang, Yue Yin, Tian Zhou, Yu Zhao, Sheng Hong, Xiaomei Zhu Nanjing University of Posts and Telecommunications	576
3904	Research on Health Big Data Preprocessing Technology Based on AHSMM and Bacterial Foraging Algorithm Zhen Liu, Xu Liang, Ming Huang Dalian Jiaotong University	580
3924	An Original Bionic Algorithm: Interdependent Balance Algorithm Haiqiang Hao, Yabo Luo Wuhan University of Technology	584
3928	Gaze Estimation Based on Neural Network Mingyuan Luo, Xi Liu, Wei Huang School of Information Engineering, Nanchang University	590
3940	Crop Weed Identification System Based on Convolutional Neural Network Fengjuan Miao, Siqi Zheng, Bairui Tao Qiqihar University	595
3948	A Received Signal Strength Based Indoor Localization Algorithm Using ELM Technique and Ridge Regression Zhiyue Feng, Yanhua Cao, Jun Yan College of Telecommunications & Information Engineering, Nanjing University of Posts and Telecommunications	599
3970	Laryngeal Tumor Detection in Endoscopic Images Based on Convolutional Neural Network <i>Qian Cen, Zhanpeng Pan, Yang Li, Huijun Ding</i> Shenzhen University, China	604

3996	A novel Aeroengine Fault Prediction Method based on Fuzzy Decision Tree <i>Tao You, Yubo Li, Qing Gu, Zhixue Chen, Lu Li, Chenglie Du</i> Computer Science and Technology, Northwestern Polytechnical University	N/A
3997	Pose-based Gait Cycle Detection Qing Shen, Chang Tian, Lin Du Army Engineering University	615
3998	Research Survey and Application on Ground Holding Policy Yongjie Yan, Yan Zhang, Jing Tian State Key Laboratory of Air Traffic Management System and Technology, The 28th Research Institute of China Electronics Technology Group Corporation	619
4001	Model of Sentiment Analysis with Deep Learning in Social Network Environment Wanda Putra, Jin Jie Huang Harbin University of Science and Technology	625
4018	Deformable Part Model-Based Vehicle Detection for UAV Vision System Boquan Li, Jianguo Sun, Jiaheng Wu, Duo Liu, Zining Yan Institure of Information Engnineering, Chinese Academy of Science	631
4042	Offline Handwritten New Tai Lue Characters Recognition Using CNN-SVM Yongqiang Wang, Pengfei Yu, Chao Li Yunnan University	636
4049	Cascaded Scheme for Sport Event Classification based on Object Level Motion Trajectory Liguo Lu, Jian Xiong, Wengang Cao, Quan Chen, Jie Yang, Guan Gui Nanjing University of Posts and Telecommunications	640
4054	Word Sense Disambiguation Based on Semantic Knowledge Rui-Yan Liang, Chun-Xiang Zhang, Huan-Xi Wang, Chun-Yi Luo, Tian-Yi Lei, Ming-Zhe Li School of Software and Microelectronics Harbin University of Science and	645
	Technology	
4067	A Method to Solve the Unreachable Zone of Mid-range Air-to-Air Missile Hanghang YOU, Qisong HAN, Minjian YU, Huiming JI, Zelong YE, Xiaoqiang ZHANG Air Traffic Control and Navigation College Air Force Engineering University	649
	A Method to Solve the Unreachable Zone of Mid-range Air-to-Air Missile Hanghang YOU, Qisong HAN, Minjian YU, Huiming JI, Zelong YE, Xiaoqiang ZHANG	
	A Method to Solve the Unreachable Zone of Mid-range Air-to-Air Missile Hanghang YOU, Qisong HAN, Minjian YU, Huiming JI, Zelong YE, Xiaoqiang ZHANG Air Traffic Control and Navigation College Air Force Engineering University	
Speci	A Method to Solve the Unreachable Zone of Mid-range Air-to-Air Missile Hanghang YOU, Qisong HAN, Minjian YU, Huiming JI, Zelong YE, Xiaoqiang ZHANG Air Traffic Control and Navigation College Air Force Engineering University al Session Title 3: Metamaterial and Reconfigurable Techniques in Advanced Ante	nna Designs
Special PID	A Method to Solve the Unreachable Zone of Mid-range Air-to-Air Missile Hanghang YOU, Qisong HAN, Minjian YU, Huiming JI, Zelong YE, Xiaoqiang ZHANG Air Traffic Control and Navigation College Air Force Engineering University al Session Title 3: Metamaterial and Reconfigurable Techniques in Advanced Ante Paper Information Dual-Band RCS Reduction Metamaterials Based on Combining Structures Xinmin Fu, Jiafu Wang, Ya Fan, He Wang, Yongzhi Li, Yuxiang Jia, Jibao Yu, Chao Wang	enna Designs First Page
Special PID 3880	A Method to Solve the Unreachable Zone of Mid-range Air-to-Air Missile Hanghang YOU, Qisong HAN, Minjian YU, Huiming JI, Zelong YE, Xiaoqiang ZHANG Air Traffic Control and Navigation College Air Force Engineering University al Session Title 3: Metamaterial and Reconfigurable Techniques in Advanced Ante Paper Information Dual-Band RCS Reduction Metamaterials Based on Combining Structures Xinmin Fu, Jiafu Wang, Ya Fan, He Wang, Yongzhi Li, Yuxiang Jia, Jibao Yu, Chao Wang Department of Basic Science, Air Force Engineering University Design of Ultrathin Five-band Polarization Insensitive Metamaterial Absorbers Aixia Wang, Shaobo Qu, Huili Dai, Gaiping Zhang, Wenjie Wang, Mingbao Yan	First Page 655
Speci. PID 3880 3949	A Method to Solve the Unreachable Zone of Mid-range Air-to-Air Missile Hanghang YOU, Qisong HAN, Minjian YU, Huiming JI, Zelong YE, Xiaoqiang ZHANG Air Traffic Control and Navigation College Air Force Engineering University al Session Title 3: Metamaterial and Reconfigurable Techniques in Advanced Ante Paper Information Dual-Band RCS Reduction Metamaterials Based on Combining Structures Xinmin Fu, Jiafu Wang, Ya Fan, He Wang, Yongzhi Li, Yuxiang Jia, Jibao Yu, Chao Wang Department of Basic Science, Air Force Engineering University Design of Ultrathin Five-band Polarization Insensitive Metamaterial Absorbers Aixia Wang, Shaobo Qu, Huili Dai, Gaiping Zhang, Wenjie Wang, Mingbao Yan Air Force Engineering University A Novel Frequency Selective Surface Radome with Circular Polarization Selection Yangyang Zhang, Jianxing Li, Gantao Peng, Xiangyuan Sang, Juan Chen, Anxue Zhang	First Page 655

4003	Sense Reconfigurable Circularly Polarized Microstrip Patch Antenna Design Xiong Sheng, Junwei Shi, Huimin Huo, Jianxing Li, Juan Chen, Anxue Zhang School of Electronic and Information Engineering,Xi' an Jiaotong University	671
4028	Design of a Microstrip Patch Antenna for Wireless Liquid Sensor Lin Zhu, Wei Li, Yufeng Peng, Xueyun Han Henan Normal University	674
Spe	cial Session Title 4: Electro Magnetic Compatibility (EMC)&Electro Magnetic Int (EMI)	terference
PID	Paper Information	First Page
3863	Analytical Formulation for the Quantum Radar Scattering of the Rectangular Plate Chonghua Fang, Kui Han China Ship Development and Design Centre	677
3879	Reducing Cross-talk Between Two Patch Antennas Using Integrated Electric Metamaterials Pan Yang, Jiafu Wang, Hongya Chen, Yongzhi Li, Wei Jiang, Yao Jing, Ruitao Luo, Shaobo Qu Department of Basic Science, Air Force Engineering University	682
3886	Analysis of Time- Domain Shielding Performance of Enclosure With Apertures Based on Analytic Algorithm Feng Qin, Dongyan Sun, Yifei Liu, Congguang Mao Northwest Institute of Nuclear Technology	686
3889	Modeling of Heat Source inside MOSFET Under HPEMP Based on Electro-thermal Analysis Yong Li, Haiyan Xie, Hui Yan, Jianguo Wang, Manxi Wang, Xiaofan Yang NINT	690
3947	The Uncertainty Analysis of Field-Line-Coupling for HEMP via Polynomial Chaos Zheng Liu, Dongwei Hei, Congguang Mao Northwest Institute of Nuclear Technology	693
3960	Active Electromagnetic Pulse Protection Design Method Based on TVS Diode Wenzhuo Wang, Feng Deng, Fan Ding, Jingxian Yang China Ship Development And Design Center	697
4024	Method of Waveguide Port Excitation Producing Appointed Direction Wave in FEM Calculation Chun Wang, Long Xiao, Chonghua Fang, Weijun Wu China ship design and development center	700
4044	Warplane EME Adaptability Prediction Technology Based on Multiple Physical Fields Union Yan Wang, Xuefeng Qi, Guoshuai Zhen, Wenjie Zhang, Yu Mao Shenyang Aircraft Design and Research Institute, AVIC	702
Sp	oecial Session Title 5: Mutual Coupling in Advanced Antenna Arrays and Mobile T Antennas	Terminal
PID	Paper Information	First Page
3917	Multimode Wideband MIMO Antenna with Dual-polarized Characteristic Yutao Zhang, Zhixing Chen, Jun Luo Guangdong Shenglu Communication Technology Co., Ltd	706
3971	Coupling Reduction of Antenna Array in 5G MIMO Frequency Band below 6GHz Based on Multi-feed Technology Guodong Jing, Yujia Liu, Xiaoyuan Zhao, Luyu Zhao Xidian University	710
4070	Design of 1-Bit Circularly Polarized Electronically Scanned Reflectarray Antenna at 100 GHz Based on Liquid Crystals Yu-Hang Liu, Fan-Yi Meng, Guo-Hui Yang, Qun Wu Harbin Institute of Technology	713

Special Session Title 6: Advanced Computational Methods for RF Applications		
PID	Paper Information	First Page
3847	Analysis of Leakage Field from Bounded Wave Electromagnetic Pulse Simulator Xiangqin Zhu, Wei Wu, Guowei Zhang, Libing Cai State Key Laboratory of Intense Pulsed Radiation Simulation and Effect Northwest Institute of Nuclear Technology	717
3848	Simulation of Electromagnetic Resonance of IEMP in Cylindrical Cavity Using Particle-in-Cell Method Jiannan Chen, Libing Cai, Guoxin Cheng, Zaigao Chen, Zeping Ren Northwest Institute of Nuclear Technology	720
3850	Influence of the Peaking Capacitor with Different Inner Core on the Radiating-field of a Biconical Antenna Zhiqiang Chen, Xiangqin Zhu, Wei Jia, Wei Wu, Xiaoping He, Fan Guo, Shengchang Ji Xian Jiaotong University	724
3867	Spatial Distributions of Radiation Fields in Air from an Underwater Magnetic Dipole Source Tu Xiaoyun, Zheng Kuisong, Mingyue Yang Northwestern Polytechnical University	728
3882	Design of Wideband and Flexible Implantable Antenna for Wireless Medical Application Ruipeng Liu, Hongxing Zheng, Zhiwei Song, Lu Wang, Wenjie Cui, Mengjun Wang, Erping Li Hebei University of Technology	732
3893	A Dual-Band Antenna Array with High Gain and Miniaturized Structure Can Tang, Hongxing Zheng, Mengjun Wang, Xing An, Xinyan Wang, Erping Li Hebei University of Technology	735
3941	Dual-band Bandstop Filter Based-on Graphene in the Infrared Frequency Range Yijun Cai, Yongbo Guo, Kai-Da Xu, Shikai Zuo, Haijun Lin, Rongrong Guo, Yuanguo Zhou Xiamen University of Technology	739
3945	Uplink Power Compensation of Rain Attenuation on Satellite Communication Rong Li, Jian Ning, Shuqi Wang Xian university of science and technology	742
4065	Research of Point Cloud Data Reorientation Based on Reference Point and CIP Algorithm Lifu Zhang College of Mechanical and Electrical Engineering, Heilongjiang University	744
S	pecial Session Title 7: Recent advances in adaptive signal processing and machine	earning
PID	Paper Information	First Page
3895	Wireless Signal Service Type Identification Based on Convolutional Neural Network Haomin Tian, Liang Yin, Xiaofeng Yang, Shufang Li, Haoyang Yu Beijing Laboratory of Advanced Information Networks Beijing Key Labratory of Network System Architecture and Convergence, School of Information and Communication Engineering, Beijing University of Posts and Telecommunications	748
3905	Recursive Kernel Mean p-Power Error Loss Algorithm Wentao Ma, Jinzhe Qiu Xi' an University of Technology	754

3968	Frequency-Hopping Signal Sorting Based on Deep Learning Yi Qu, Yuhao Pei, Depeng Song College of Information Engineering	759		
3978	Pneumonia Radiograph Diagnosis Utilizing Deep Learning Network Wesley O'Quinn, Rami Haddad, David Moore Georgia Southern University	763		
3999	Extended Random Fourier Features Recursive Non-quadratic Algorithm Kui Xiong, Guobing Qian, Zhengji Long, Shiyuan Wang Southwest University	768		
4002	Stochastic Stability of Networked Markovian Switching Systems via Asynchronous Controller Xinghua Liu Xian University of Technology	773		
Special Session Title 8: Metasurfaces in microwave region: theory and applications in antennas				
PID	Paper Information	First Page		
3869	A Phase-calibrated Computational Imaging Method Based on Programmable Metasurface Zhenlong Luo, Yongqiang Cheng, Kaicheng Cao, Yuliang Qin, Kang Liu National University of Defense Technology	778		
3915	A Transmittive/Absorptive Frequency Selective Surface by Cascading Multi-layer Square Loops Aiai Wang, Jieqiu Zhang, Mingbao Yan, Lin Zheng, Yongqiang Pang, Jiafu Wang, Shaobo Qu Department of Basic Science, Air Force Engineering University	781		
3923	Groundless Endfire antennas Based on Spoof Surface Plasmon Polaritons Yajuan Han, Shuhong Gong, Jiafu Wang, Yongfeng Li, Shaobo Qu, Jieqiu Zhang Xidian University	785		
3954	Broadband Coding Metasurface with Cross-Polarization Conversion Jialin Feng, Hongyu Shi, Anxue Zhang Xian Jiaotong University	789		
3973	Patch Antenna Bandwidth and Aperture Efficiency Enhancement Using Shorted Microstrip Loop and AMC JEAN DE DIEU NTAWANGAHEZA, Sun Liguo, Gerard Rushingabigwi University of Science and Technology	792		
3981	Tunable Coding Metasurface Using Continuous Graphene Layer Yujing Wu, Hongyu Shi, Anxue Zhang Xian Jiaotong University	796		
3992	Broadband Polarization-Sensitive Reflection Metamaterial Aperture in Terahertz Band Mengran Zhao, Shitao Zhu, Hongyu Shi, Huilin Huang, Juan Chen, Anxue Zhang Xian Jiaotong University	799		
4000	Characteristic Modes Analysis of Orbital Angular Momentum Antenna Hui Ding, Wei Chen, Hai Lin Central China Normal University	802		
4036	Random Radiation Metamaterial Aperture Design for Coincidence Imaging Shitao Zhu, Pan Xuehan, Zhao Mengran, Shi Hongyu, Chen Xiaoming, Zhang Anxue Xian Jiaotong University	805		
4068	High-Efficiency Broadband Polarization Rotator for W-Band Applications Yue Wang, Chunsheng Guan, Xumin Ding, Kuang Zhang, Qun Wu Department of Microwave Engineering Harbin Institute of Technology	808		
4069	Planar Lens Antenna with Enhanced Directivity Based on Miniaturized Element Frequency Selective Surface Chunsheng Guan, Xumin Ding, Kuang Zhang, Ming Jin, Qun Wu Department of Microwave Engineering Harbin Institute of Technology	811		

Special Session Title 9: Power System Information and Control			
PID	Paper Information	First Page	
3884	A Novel SVPWM Control Strategy for Dual Inverter System to Eliminate Common Mode Voltage with High Modulation Junxiong Wang, Hongchen Liu Harbin Institute of Technology	814	
3911	The Integrated Electromagnetic Transient Model of Wind Turbine Considering the Grounding Environment in Intertidal Zone Nenghong Xia, Heng Lu, Chao Qian Shanghai University of Electric Power	820	
3933	A Hybrid Short-Term Load Prediction with Input Selection for the Distribution System Gaiping Sun, Pan Cheng, Ronghui Liu School of Electric Power Engineering, Shanghai University of Electric Power	826	
3943	Improved Island Microgrid Fault Analysis by Considering the Effect of DG Control Methods Liang Ji, Haitao Zhang, Ling Mao, Jiabin Shi, Zhe Cao, Zeyu Ni, Xiaojie Tao Shanghai University of Electric Power	831	
3974	A Hierarchical Control Strategy for Electric Vehicle Coordinated Charging Ling Mao, Can Wang, Mengge MA Shanghai University of Electric Power	837	
3980	Design of Parallel Multi-Module's Current Sharing Control Method for New DC Output Synchronous Generator Zhenglei Zhang, Jinfeng Liu, Xudong Wang Ministry of Education, Engineering Research Center of Automotive Electronics Drive Control and System Integration, Harbin University of Science and Technology	841	
3986	Air Gap Magnetic Field Calculation in Eccentric Magnetic Harmonic Gear Ronghui Liu, Jing Tang, Yuejin Zhang Shanghai University	845	
4020	Evaluation Method for Integrated Energy System Considering Demand Response Shanshan Shi, Haojing Wang, Fang Chen, Ronghui Liu, Yang Li, Bo Tang State Grid Shanghai Municipal Electric Power Company	849	
4029	Partial Discharge Monitoring Method for High Voltage Equipment Based on Ultrasound Technology JIANG Yijun, WANG Liqun, REN Xinzhuo, WU Feifei, SONG Jiajia, ZHANG Jinbo Hangzhou Electric Power Equipment Manufacturing Co., Ltd.	853	
4030	A Novel Protection Scheme for DC Distribution Network with Multi-terminal PV Congbo Wang, Ke Jia, He Zhao, Zijin Li, Wei Li, Bohan Liu North China Electric Power University	857	
4057	Analysis the effect of braking force distribution strategy on energy recovery results considering the front or rear shaft drives Wei Wang, Chong Guo, Fufan Qu, Huanhuan Ma China Automotive Technology and Research Center Co., Ltd.	862	
4076	Application of Behavioral Data Acquisition Based on Mobile Moving Trace Lanxin Hu Shanghai Dian Ji University	868	
4077	Calibration of Indoor EM Location System based on Polynomial Fitting Hanyu SHAN, Lexin YU, Hongjie WANG, Yingsong LI, Bin CAO Harbin Engineering University	873	
4078	Electromagnetic Imaging and Detection Technology Based on FPGA Tianlin Gao, Mingxin Liu, Tengda Cao, Yingsong Li, Wei Xue Harbin Engineering University	877	

4079	EME Analysis on HF/UHF Antennas on Shipboard	
	Bin CAO, Hanyu SHAN, Jiahui QIN, Kaijie JIANG, Yingsong Li	881
	Marine Design Research Institute of China	
4080	Ranging Technology Based on Parallel Combined Spread Spectrum Communication	
	Technology	884
	Jiaxin Chen, Shuling Lu, Qi Wang, Beiming Li	004
	Harbin Engineering University	
4081	Study on Multi-Electrode-Based Underwater Electric Field Locations	
	Mingxin Liu, Tianlin Gao, Xiangshang Wu, Yingsong Li, Wei Xue	888
	Harbin Engineering University	
4082	Underwater Electric Field Detection Technology Based on Weakly Electric Fish	
	Bionics	892
	Shuling Lu, Jiaxin Chen, Tianyu Wang, Yingsong Li, Wei Xue	092
	Harbin Engineering University	
4083	A Method of Radar Threat Identification Based on Entropy-TOPSIS	
	Wen-Liang Zhu, Zhi-Qiang Zang, Peng-Ju Li, Li-Chao Ding	896
	Noncommissioned Officer School of The Army Artillery and Air Defense Academy	