2024 6th International Conference on Electronic Engineering and Informatics (EEI 2024)

Chongqing, China 28-30 June 2024

Pages 1-612



IEEE Catalog Number: ISBN:

CFP24V81-POD 979-8-3503-5360-0

Copyright © 2024 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:
 CFP24V81-POD

 ISBN (Print-On-Demand):
 979-8-3503-5360-0

 ISBN (Online):
 979-8-3503-5359-4

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

Xiong Peng, Dingxin He, Junfeng Ge, Zhiwei Liu	1
A Three-stage Impulsive Delay Synchronization	_
Shixiang Zhu, Hao Luo, Yuming Feng, Babatunde Oluwaseun Onasanya	7
Optimal Secure Control for Cyber Physical Systems Against Joint Sensor and Actuator Attacks	17
Xiao-Meng Li, Jinyan Li, Zhijian Cheng	
Adaptive Nonsingular Terminal SMO for Chattering Suppression in Sensorless SPMSM Drives	21
Kun Cao, Shihong Ding, Jinlin Sun, Lu Liu	
Implementation and Application of Solvers for Simulation and Execution of Control Algorithms in NCSLab	28
Jiuzheng Su, Zhongcheng Lei, Wenshan Hu, Guo-Ping Liu	
Event-Triggered Switched Observers for Networked Distributed Multi-Agent Systems via Cloud Computing	32
Chen Zhang, Hongru Ren, Hui Ma, Qi Zhou	
Study on hierarchical equalization topology circuit of lithium-ion battery pack based on Buck-Boost	37
Shukun Gao, Zefu Tan, Zhengyang Zhou, Boyu Xiang	
Impact of Crosstalk and Loss on the Training Process of Integrated Photonic Neural Networks	43
Jing Pang, Ye Su, Yiyuan Xie	
High contrast ratio 4-to-2 plasmonic encoder Utilizing cascaded ring resonators	48
Yan Chen, Yiyuan Xie, Junxiong Chai, Yichen Ye	40
Interference Range-Doppler Image Detection by Stacking Classifier Design for Over-the- Horizon Radar	52
Jiawen Zhao, Tianjian Zhang, Tianao Gao, Zhongtao Luo	
A novel Correntropy-Based estimation algorithm for Multi-Sensor systems under hybrid Cyber-attacks using Multi-Dimension-Student's-t-Kernel	58
Guoqing Wang, Zhaolei Zhu, Lei Ma, Chunyu Yang	
Data-driven load frequency control for Multi-regional power systems under power market Yiming Zeng, Yanling Yin, Xuan Li, Xuhui Bu	63
Variational Bayesian-based PHD Filter with Adaptive Detection Probability	
Yichen Lu, Bing Ye	67
Grey Wolf Optimizer for UAV Path Planning Based on Differential Evolution Mutation Strategy	72
Feiyang Lv, Likui Wang	
A 20-Gb/s Low Power Inductorless TIA Design in 0.18μm CMOS Zhiwei Zeng, Weilin Xu, Peisi Mo, Haiou Li	78

Microwave Schottky Diode Electro-Thermal Model Peikai Zhu, Lei Xia	83
A Non-associative Learning Emotional Progressive Circuit Based on Forgetting Memristor Haoyang Qiu, Ke Li, Ling Chen, Rui Gao	87
An Orthogonal X- Junction Detector Based on Local Periodicity	95
Liquan Luo, Hequan Sun, Ruoli Shao, Guang Yu	93
Energy Functionals and Variational Principle in Electromagnetic Modal Analysis—Part I: Diagonalizing Input Power Operator Method Revisited Ren-Zun Lian	100
Adaptive Fuzzy Fault-Tolerant Control for Robotic Arm with Sensor faults Xiaobing Han, Zhiyao Ma	112
A Ship Vibration Monitoring System Based on Optical Fiber Sensing	
Yuxuan Yang, Jialin Wang, Ziyi Yang, Yixin Kang	117
A Solid State Pulse Power Supply Design Adopting Active Capacitor Converter for Low Voltage and High Power Pulse Loads	122
Mingkun Yang, Gang Wang, Yizhong Wang	
Characterization of the trap evolution of GaN High-Electron-Mobility Transistors under off- state stress	130
Qian Wen, Xiang Zheng, Yamin Zhang, Shiwei Feng	
Energy Functionals and Variational Principle in Electromagnetic Modal Analysis—Part II: Input Power Operators Free of Dependent Variables	135
Ren-Zun Lian	
Energy Functionals and Variational Principle in Electromagnetic Modal Analysis—Part III: An Expose on the CMs of PEC Entire/Sub-Structures	148
Ren-Zun Lian	
Energy Functionals and Variational Principle in Electromagnetic Modal Analysis—Part IV: CMs of Magneto-Dielectric Entire/Sub-Structures	158
Ren-Zun Lian	
Detection of Winding Deformation based on the Vibration Phase Difference between Multiple Sensors of Transformers	169
Jiafeng Zhao, Jing Zheng, Yao Yuan, Ning Wang	
Research on Resource Optimization of Distributed Photovoltaic Energy Storage Systems	176
Zhonglin Hu, Biwen Luo, Zhuyang Cao, Qianqian Shi, Zhudong Cao	
A Double Loop Based Low Dropout Linear Regulator Design	182
Zizheng Dong, Zhongyuan Ge, Yingtao Li	102
Photovoltaic Energy Stored Quasi-Z-Source Inverter Multi-Scenario Parameter Optimization	187
Wanting Xi, Yanwei Chen, Zhiyong Li, Xiaoliang Zhang	
Repeater jamming delay updating method under error influence Yubo Jiang, Huan He, Guangxue Wang, Yi Leng	194

Efficient Clustering Routing Algorithm for Wireless Sensor Networks Based on Collaborative Optimization	199
Chenlong Ma, Xiaoming Ling, Yanshan Liu, Zhen Zhang	-,,
Research on Fault Diagnosis Method of Rotating Machinery Based on Deep Learning	202
Xu Hou, Shubin Wang	203
Nested Miller Compensation with Ping-Pong structure amplifier Shichao Wei, Yan Jiang	209
A tunable frequency relaxation oscillator for DC-DC switching power supply applications Chenhui Qian, Zhiqiang Xiao, Shaoqing Huang	213
Stochastic Optimal Power Flow in Transmission Grid with Renewable Energy Based on Steady-state Security Region	218
Bokang Hu, Tiankai Yang, Yongliang Liang, Chao Wang	
Feedback Oscillation Circuits for High-Frequency Surface Acoustic Wave Device Hao Fu, Zhangliang Xu	222
Motor bearing fault diagnosis based on improved MobilenetV2 Ying Zhang, Pingshu Ge, Tao Zhang, Yang Wang	226
Comparative Analysis on Three Methods of Quartz Crystal Resonator Frequency Testing Xiaoyan Xu, Jennifer C. Dela Cruz	232
Fault Diagnosis of Rolling Bearings Based on SSAE and Domain Adversarial Meixia Jia, Xue Ge, Xinjian Xu, Tianmei Hao	236
Flexible, Breathable and Sweatproof Piezoelectric Sensors based on Additive Manufacturing Zhiqiang Yang, Zilong Guo, Weixia Lan, Yuanyuan Liu	241
Simulation of vibration characteristics of saturated reactor under fault conditions of converter station	245
Yanke Zhang, Wei Liu, Qinghong Zhou, Guowei Zhou Enabling Digital Twin Using MEMS and Sensor Technology with Historic Data From Data Fusion to Knowledge Fusion	251
Haiyan Sally Xie, Owen Shi, Sai Ram Gandla, Mangolika Bhattacharya Research on Autonomous Inspection Path of Unmanned Aerial Vehicles Based on Shuffled Frog Leaping Algorithm	255
Zhuolei Chen, Weihao Zhang, Zhezhou Li, Wenbin Wu, Bojian Chen, Tengfei Han	
A dual-loop charge pump phase-locked loop based on 130nm CMOS process with output frequency range of 0.5GHz~2GHz	261
Yiming Xing, Jiaxun Song, Juan Lei, Minhua Ren	
Intensive Electromagnetic Target Association based on Multi-dimensional Characteristics Fuzzy Weighted Algorithm	267
Ye Du, Qilun Yang, Xuying Zhang, Yuan Zuo	
Motor PCB Defect Detection Algorithm Based on Improved YOLOv7-tiny Liang Hua	272

Key Technologies Research of Hubless Rim-driven Thurster for Deep-sea Vehicles based on Mutidisciplinary Design	276
Dewei Li, Zhongjun Ding, Chuanhong Bai, Zizhong Zheng	
Research on the Characteristics of Radio Wave Propagation in the Diverse Terrains Analysis and Application Based on the ITU-R P.1546 Model	282
Lei Chen, Simin Ma, Dong Liu, Weidong Ma	
A 3-6GHz Fast Locking ADPLL Based on Charge-Steering-Sampling Technique	287
Hanqi Zhang, Siqi Hu, Xiaofan Xu, Wei Wang, Min Shi, Hao Zhang	207
Time-Optimal Trajectory Planning for Robotic Arm Based on Improved Harris Hawk Optimization Algorithm	292
Yu Gu, Honghao Chen, Tangju Yuan, WenBin Gong, Yutao Jiang, Hongbing Li	
CoBiTex-FTM: Multi-Head Attention and Full-Token Masking for Chinese Aircraft Maintenance Manuals NER	300
Jianhang Shang, Guoliang Liu, Guohui Tian	
Extended Observer-Based Fault-Tolerant Attitude Control of Hypersonic Reentry Vehicle Considering Actuator and Sensor Faults	307
Yuan Zhang, Weixin Han	
Demand Response-oriented Optimization of Energy Consumption for Multi-type Central Air Conditioners	313
Qingrong Zheng, Meng Yu, Zhuofan Tang, Bei Qi, Jianli Zhao, Dong Wang	
Photovoltaic power prediction method based on Optuna-Transformer model in power fluctuation scenario	319
Yangjue Huang, Yuhao Wang, Kaicheng Shen, Yuanzhe Zhu, Jinfeng Wang, Hong Lv, Zhongcheng Lei	317
Wood Surface Defect Detection Using Improved Deep Learning Algorithm: FRCE-YOLO	324
Yuqi Guo, Wenming Cao	324
A Novel Accelerated Projection Neurodynamic Model for Convex Optimization Problem Constrained by Set and Linear-equality	329
Huiyan Zhang, Junrong Zhang, Xin Han	
Vital Sign Detection for Relaxed State of Human Body Based on 4D Point Cloud Imaging	335
Weiwei Guo, Yuanyue Guo, Zheng Jiang	
SR-Mamba: Data-Driven EV Charging Load-Altering Attack Detection and Localization Using Selective State based Model	340
Yi Li, Umara Hanif	
Resnet-A: Multi Standard Classification Prediction of Colon Cancer CT Images Based on an Improved Resnet152 Model	347
Ziwei Qin, Xuhui Song, Zongjin Yang, Zhenhao Chen, Deqing Huang, Na Qin	
Online Test-Time Adaptation for Electronic Nose Drift Compensation	351
Zhifang Liang, Dongming Chen, Liu Yang	551
PID3D: 3D Object Detection with Object Proposal Instance Discrimination	356
Kaifeng Jian, Huilin Yin	330

E ² F ² : End-to-End Feature-Free network for Lithium-ion battery state of health prediction Ziyue Huang, Lujuan Dang, Lei Xing	362
Predictor-Based Control of Stochastic Systems with Input Delay under Deception Attacks Peiyang Lin, Feiqi Deng, Xueyan Zhao	367
Novel approach to hydraulic support pressure prediction by EMD-Transformer Aimen Malik, Qian Wei, Yi Yang	371
Real-Time Urban Rainfall-runoff prediction using Recurrent Neural Network Yuan Tian, Wenlong Fu, Ruonan Cui, Zhenyu Ao, Xiaonan Wang, Yajing Dong	381
Advancements in Power Grid Monitoring: UAV-Enhanced Transformer Neural Networks for Knife-Switch Status Detection	385
Fan Yang, Jiayang Lai, Yingyi Yang, Lan Wu, Huansen Hong, Hengjie Jia	
A Fast Obstacle Detection Method Using a Dual 3D LiDAR Penggang Li, Guoliang Liu, Liujuan Zhu, Dongxuan Li, Shanmei Wang, Guohui Tian	393
Research on Legal Judgment Prediction with Multi-task Learning and Causal Logic Yunfen Cheng, Chengyuan Chen, Yuqi Wang	399
A Step-type Obstacle Detection Method based on 3D Point Cloud Map Fanghong You, Pengcheng Wang, Rui Zhou, Yihan Zhang, Jian Zhang, Tao Zhao	403
Multi-channel Attention Mechanism Hot Spot Detection Algorithm Based on YOLOv5 XiangZhe Xin, Ming Li, Qingkai Lang, Qiong Wu	409
Small defect detection model of oil pipeline based on improved Swin Transformer Xianming Lang, Kaixin Yuan, Jiangtao Cao	414
A hybrid statistical test and cross-check method for detecting Block Withholding attack of Blockchain	418
Zhiyong Li, Chunyan Li, Xiang Wei, Jianhong Sun Enhancing Steady-State Visual Evoked Potential Brain-Computer Interface Performance with Pyramid Squeeze Attention A Deep Learning Approach Junjie Liu, Jun Xie, Huanqing Zhang, Hanlin Yang, Hu Wang, Bo Hu	424
Traffic Speed Forecasting using GCN and BiGRU Yue Wu, Yingjun Chen, Wei Yao	429
Research on Activity Diagram Testing method based on UML Testing Profile Zhijing Xu, Fengli Sun, Wei Zhang	434
Transfer Learning using deep ELM with mixture generalized maximum correntropy criterion for SOH estimation of Li-ion battery	440
Jiahui Dai, Wentao Ma, Panfei Cai, Peng Guo	
Anomaly Detection in Multidimensional Spacecraft Telemetry via an Integrated K-means, VAE and SVDD Model	445
Guorui Yan, Qining Wang, Zijie Liu, Chenguang Su, Ruochen Gao	
Electricity Load Forecasting Based on Patch Channel-mixing Transformer Model Jiwei Xing, Xinying Xu, Chao Liu, Dongmei Hu	450

Research on the Prediction Model of PCB Etch Factor Based on DE-BP Neural Network	455
Yan Wang, Wei Huang, Zhiqiang Zeng, Wenqing Long, Yumei Duan, Fan Yang, Yinghong Xie	733
Analysis of Clinical Intelligent Diagnosis and Treatment of Hemorrhagic Stroke	460
Lele Wang, Tangju Yuan	400
Method for Wheat Ear Detection Based on CSR-DETR	464
Zhengshuai Zhao, Wei Feng, Xiaobing Zou, Qiang Li	404
Research on SYN Flood Malicious Traffic Detection Method Based on FPGA-SOC HarmonyOS	4.60
Guoqing Wang, Pingfei Cui, Zhe Yu, Mengxiao Wang	468
Detection of Peanut Rhizobia Based on Improved YOLOv7	
Jinyu Xu	474
Research on Photovoltaic Power Prediction Method based on LSTM-KAN	
Shuoqi Gong, Wenbo Chen, Xuedong Jing, Chun Wang	479
An Improved SSD Deep Network-Based Algorithm for Eye State Detection	
Weikun Dai, Jianbin Xiong, Qi Wang, Xiangjun Dong	483
Research on OCR Detection Technology for Beer Bottle Cap Inkjet Coding in Industrial Scenes Based on Deep Learning	488
Yudie Liu, Liang Zhang	
Wellington-YOLOv5I: An Aerial Insulator Defect Detection Based on YOLOv5 and Multi- scale Fusion	493
Quanyi Guo, Jingyu Hu, Hengda Zhu, Chong Chen	
Electromagnetic Environment Control at Medical Equipment Detection Site	497
Miao Liu, Ziming Liu, Feng He	471
A multiplayer perceptron algorithm based on global electrical heterogeneity and cardiodynamicsgram for non-invasive detection of coronary microvascular dysfunction	504
Xiaoye Zhao, Yinglan Gong, Jucheng Zhang, Haipeng Liu, Tianhai Huang, Jun Jiang, Ling Xia, Jiandong Mao	304
Research on Soil Moisture Prediction Model for Astragalus Plantation Based on Improved African Vulture Algorithm and Back Propagation Neural Network Algorithm	510
Xiaodong Zhang, Yuwei Cao, Li Jiang, Shubin Wang	
FTN Detection Algorithm Based on Iterative Residual ISI Estimation and Correction	516
Zhiwen Li, Qiang Chen, Hui Xie	
Ship Fuel Consumption Prediction Model Based on LSTM	520
Menghao Shi, Tiankai Yang, Yongliang Liang, Chao Wang	320
Research on temperature and thermal stress of SiC MOSFETs based on finite element method	524
Chuo Mei, Yumei Zhu, Yushu Lai, Linsheng Liu	
3D Weighths: Leveraging LKA-Embedded SimAM for Enhanced MobileViT in Rice Diseases Detection	531
Qiang Li, Huaqian Yang, Xiaobing Zou, Zhengshuai Zhao	

SAR Image Aircraft Target Detection Based on Multi-auxiliary Head Supervision Network Wenjun Zhou, Guoqing Xu	536
Pig Behavior Detection Model Based on Improved RT-DETR Linyue Shi, Hong Ying, Peng Yang, Chen Yang	541
Research on Radar Clutter Simulation and Background Adaptive Clutter Map Detection Technique	546
Qichao Cui, Chao Ji, Yuanhong Yu, Jiaqi Zhao Spatiotemporal-Aware Heterogeneous Graph Attention Network for Information Diffusion Prediction	552
Zixin Xu	
STYOLOv8: Research on traffic signal light detection method based on SwinTransformer Xude Zhang, Changzhen Zhang, Xiaoping Wu, Houbing Tang	557
Passenger Waiting Time Prediction Based on Density Spatiotemporal Clustering and Time Series Feature Processing	562
Ruixi Huang, Dawen Xia, Jian Geng, Wenyong Zhang, Yang Hu, Yantao Li, Huaqing Li	
Exploring the Application and Effectiveness of Current Large Models in Power Inspection Xian Qu, Yingyi Yang, Jiayang Lai, Zhi Xiong, Xiaoming Mai	574
Time Series Modeling for Heart Rate Prediction: From ARIMA to Transformers	
Haowei Ni, Shuchen Meng, Xieming Geng, Panfeng Li, Zhuoying Li, Xupeng Chen, Xiaotong Wang, Shiyao Zhang	584
Real-time Detection and Recognition of Railway Traffic Signals	~ 00
Yongbin Wang	590
Multi-criteria ontimization for photovoltaic power forecasting based on CNN-RiGRU	
Multi-criteria optimization for photovoltaic power forecasting based on CNN-BiGRU Wenshuai Lin, Peitao Gao, Zilong Zhang, Chun Shan	595
Wenshuai Lin, Peitao Gao, Zilong Zhang, Chun Shan Observer-based dynamic event-triggered control for discrete-time slow sampling singularly perturbed systems with external disturbance	595 600
Wenshuai Lin, Peitao Gao, Zilong Zhang, Chun Shan Observer-based dynamic event-triggered control for discrete-time slow sampling singularly perturbed systems with external disturbance Yue Hu, Chenxiao Cai	
Wenshuai Lin, Peitao Gao, Zilong Zhang, Chun Shan Observer-based dynamic event-triggered control for discrete-time slow sampling singularly perturbed systems with external disturbance	
Wenshuai Lin, Peitao Gao, Zilong Zhang, Chun Shan Observer-based dynamic event-triggered control for discrete-time slow sampling singularly perturbed systems with external disturbance Yue Hu, Chenxiao Cai Finite-Iteration Learning Control for Nonlinear Systems with Parameter Uncertainties	600
Wenshuai Lin, Peitao Gao, Zilong Zhang, Chun Shan Observer-based dynamic event-triggered control for discrete-time slow sampling singularly perturbed systems with external disturbance Yue Hu, Chenxiao Cai Finite-Iteration Learning Control for Nonlinear Systems with Parameter Uncertainties Zihan Li, Dong Shen Exponential Stability Conditions for Load Frequency Control With Multiple Delays Under	600 607
Wenshuai Lin, Peitao Gao, Zilong Zhang, Chun Shan Observer-based dynamic event-triggered control for discrete-time slow sampling singularly perturbed systems with external disturbance Yue Hu, Chenxiao Cai Finite-Iteration Learning Control for Nonlinear Systems with Parameter Uncertainties Zihan Li, Dong Shen Exponential Stability Conditions for Load Frequency Control With Multiple Delays Under Aperiodic Sampling Mingyin Tang, Mengkai Zhu, Tianjiao Liu, Guoliang Chen, Jianwei Xia Parametric Dynamic Distributed Tracking Control of Continuous-Time Linear Multi-Agent Systems with Specified Convergence Speed	600 607
Wenshuai Lin, Peitao Gao, Zilong Zhang, Chun Shan Observer-based dynamic event-triggered control for discrete-time slow sampling singularly perturbed systems with external disturbance Yue Hu, Chenxiao Cai Finite-Iteration Learning Control for Nonlinear Systems with Parameter Uncertainties Zihan Li, Dong Shen Exponential Stability Conditions for Load Frequency Control With Multiple Delays Under Aperiodic Sampling Mingyin Tang, Mengkai Zhu, Tianjiao Liu, Guoliang Chen, Jianwei Xia Parametric Dynamic Distributed Tracking Control of Continuous-Time Linear Multi-Agent Systems with Specified Convergence Speed Jie Gao, Tao Feng, Fei Yan, Kezhou Wang	600 607 613
Wenshuai Lin, Peitao Gao, Zilong Zhang, Chun Shan Observer-based dynamic event-triggered control for discrete-time slow sampling singularly perturbed systems with external disturbance Yue Hu, Chenxiao Cai Finite-Iteration Learning Control for Nonlinear Systems with Parameter Uncertainties Zihan Li, Dong Shen Exponential Stability Conditions for Load Frequency Control With Multiple Delays Under Aperiodic Sampling Mingyin Tang, Mengkai Zhu, Tianjiao Liu, Guoliang Chen, Jianwei Xia Parametric Dynamic Distributed Tracking Control of Continuous-Time Linear Multi-Agent Systems with Specified Convergence Speed	600 607 613
Wenshuai Lin, Peitao Gao, Zilong Zhang, Chun Shan Observer-based dynamic event-triggered control for discrete-time slow sampling singularly perturbed systems with external disturbance Yue Hu, Chenxiao Cai Finite-Iteration Learning Control for Nonlinear Systems with Parameter Uncertainties Zihan Li, Dong Shen Exponential Stability Conditions for Load Frequency Control With Multiple Delays Under Aperiodic Sampling Mingyin Tang, Mengkai Zhu, Tianjiao Liu, Guoliang Chen, Jianwei Xia Parametric Dynamic Distributed Tracking Control of Continuous-Time Linear Multi-Agent Systems with Specified Convergence Speed Jie Gao, Tao Feng, Fei Yan, Kezhou Wang Event-Triggered Optimal Control for Human in the Loop Multi-Agent Systems under FDI Attacks Yuanyuan Xu, Hongjing Liang, Tieshan Li, Yue Long, Qidong Liu, Zongsheng Huang	600 607 613
Wenshuai Lin, Peitao Gao, Zilong Zhang, Chun Shan Observer-based dynamic event-triggered control for discrete-time slow sampling singularly perturbed systems with external disturbance Yue Hu, Chenxiao Cai Finite-Iteration Learning Control for Nonlinear Systems with Parameter Uncertainties Zihan Li, Dong Shen Exponential Stability Conditions for Load Frequency Control With Multiple Delays Under Aperiodic Sampling Mingyin Tang, Mengkai Zhu, Tianjiao Liu, Guoliang Chen, Jianwei Xia Parametric Dynamic Distributed Tracking Control of Continuous-Time Linear Multi-Agent Systems with Specified Convergence Speed Jie Gao, Tao Feng, Fei Yan, Kezhou Wang Event-Triggered Optimal Control for Human in the Loop Multi-Agent Systems under FDI Attacks	600 607 613

Performance Guaranteed Control for Multiagent Systems With Time-Varying State Constraints	634
Wenbin Xiao, Lan Zhou, Meiliu Li	
Synchronization of Delayed Neural Networks via Intermittent Control Involving Tow Switching Periods of Different Ratio	638
Xiaoyu Zhang, Jun Zhang, Hongfei Li	
Bipartite Synchronization of Random Delayed Complex Dynamic Network with Signed via Self-Triggered Quantized Impulsive Control	643
Can Ran, Wei Zhang, Yan Gan	
Bipartite Consensus of Leader-Following Nonlinear Multi-agent Systems: A Dynamic Event- Triggered Control Strategy	648
Jie Tan, Ming Shi, Zhaohui Chen	
Data-driven Event-triggered Resilient Control for Vehicular Platooning Systems under False Data Injection Attacks	654
Shanshan Sun, Kai Zhou, Yueming Wang, Yuanxin Li	
Intelligent Control of an Integrated Energy System: Low Carbon Modeling and Intelligent Optimization	660
Zezheng Fu, Wenting Lin, Degang Yang	
H∞ Control for Continuous-time Singular System with Cyber-attacks and Hybrid-triggered Mechanism	666
Heng Zhan, Heqian Wang, Jie Wu, Xisheng Zhan	
Adaptive Output-Feedback Control for Switched Nonlinear Systems With Input Dead-zone and Saturation	673
Lardhi Salem Thabit Salem, Jinsong Gao, Shuping He, Haijiao Yang	
Adaptive Event-Triggered Control of Stochastic Nonlinear Systems	678
Shuai Sui, Chen Ding, Yuelei Yu	070
Monitoring and Control of Excitation Structure Generator Based on Single Chip Microcontroller	682
Wei Dong, Juan Du, Qingbo Zheng, Bin Feng, Jinbo Liao, Dongzhuo Liu	
Automatic coal feeding control system based on STM32	687
Jie Chen, Binzhi Zhu, Hua Yang, Xiaojun Shi, Wei Dong, Dongzhuo Liu	067
Adaptive Fault-Tolerant Optimal Tracking Control for a Class of Nonlinear Discrete-Time Systems With Dead-Zone and Sensor Faults	692
Xin Zhang, Lihua Tan, Xin Wang	
Synchronization of Delayed Neural Networks via Self-Triggered Impulsive Control Strategy	697
Fei Chang, Chuandong Li, Yinghua Zhou	
Adaptive neural Network-based gait coordination control for bipedal modular robot Tianjiao An, Haoyu Yan, Bing Ma, Xinye Zhu, Bo Dong	702
Autonomous underwater vehicles with barrier adaptive tracking control and Unwinding- Free guarantees	708
Ziyi Su, Jian Gao, Dawei Zhao, Xiaogong Lin	
Sampled-data based robust multi-objective path-following control of autonomous vehicles Xinduan Yang, Zhixiang Weng, Kunsong Lin, Panshuo Li	717

Neural Network-Based Nonlinear Multiagent Systems Tracking Control with Dynamic Connectivity Preservation	723
Shuxing Xuan, Hongjing Liang, Lei Chen	
Adaptive containment control for nonlinear P-normal multiagent systems with sensor failures	729
Zhirui Li, Liang Cao	
Neural-Network-Based nonlinear multiagent formation obstacle avoidance controller design	722
Kexu Yan, Linchuang Zhang	733
Research on Robot Path Planning of Mountain Area based on Stochastic Nonlinear Ant Colony Algorithm	737
Xinyuan Li, Fengqing Han, Jiangxue Chen	
Adaptive event-triggered prescribed performance control for nonlinear systems with actuator failures	742
Ziran Chen, Rongjie Gao	
Output Feedback Control Under Constraint Conditions for Flapping-Wing Robot Aircraft System	746
Fei Wang, Li Tang	
Fixed-Time Fault-tolerant Control for Nonlinear Multi-Agent Systems with Sensor and Actuator Faults	751
Guowei Dong, Peitong Xu	
Predefined-Time Containment Control for Multiagent Systems under Denial-of-Service Attacks	756
Yi Wei, Yingnan Pan	
Adaptive prescribed performance optimal control for Flexible-Joint robots with random noises	760
Shiyu Xie, Wei Sun	
Development of growth control system for arbuscular mycorrhizal plants utilizing the vector fractal of Bezier curve	765
Jiaxin Shi, Zhengping Xu, Lizhong Li, Zhongzhu Chen	
Event-Triggered Synchronization Control of Delayed RDNNs via Semi Loop Functional	769
Xianhao Zheng, Jun Wang, Jia Ding, Kaibo Shi, Yiqian Tang	707
Event-based data-driven consensus control for multi-agent systems with unknown dynamics Peiyang Zhang, Tao Dong	775
Optimized the rebound drive control of the needle valve seat of the injector of the in-cylinder direct injection hydrogen engine injector	786
Shichao Pei, Yusheng Ju, Liwei Mao, Jianyang Fang	
Quadrotor Attitude Control under Active Disturbance Rejection Control Method based on Particle Swarm Optimization	794
Guanghai Yang, Shenquan Wang, Yulian Jiang, Dongyan Xue	
Global Fractional Second-order Sliding Mode Control for Underactuated Systems with Performance Constraint and Input Saturation	799
Wanglong Li, Xia Liu	

Predefined-time Fault-tolerant Control for Robotic Systems with Output Constraint Shuo Zhu, Xia Liu	805
Design of small omnidirectional Unmanned Surface Vehicle and motion control Ziqiang Yin, Jun Wu, Qiuzhu Lu, Wei Zhou	811
LQR control of two-wheeled self-balancing vehicle based on ARX model Wei Zhou, Jun Wu, Ziqiang Yin, Xi Liu	816
Adaptive Memory-event-triggered Encryption Control for Networked Control Systems under Denial-of-service Attacks	821
Maosen Zhao, Xia Liu	
Improved Real-Time Path Planning method for Ground Mobile Robots in Unstructured Environments	828
Chenghong Xu, Wenjie Qi, Wenxiang Liu, Fei Peng, Guojian Wang	020
Adaptive Fixed-Time Containment Control for Switched Systems under Average Dwell Time	025
Xin Wang, Guijiang Liu, Huaqing Li	835
A Practical Approach to Television-Assisted Control Utilizing Eye-Tracking Technology Jiayi Mi, Chang Liu, Liang Li, Ziyan Chu, Yunge Yang, Qiang Lin	840
Research on Safety Filling Control Device for Industrial Gas Cylinders Liang Li, Limei Liu, Ningwen Zhu, Juan Li, Qing Xue, Shanshan Zhang	845
Research on maintenance testing technology of information equipment based on cloud testing Qiang Gao, Minglei Zhang, Qi Sun	851
Research and Design of Descriptor-Based DMA for 10 Gigabit Ethernet Controller Deze Wu, Guodong Duan, Minhua Ren, Fengyi Liu	855
Observer-based Event-Triggered Reinforcement Learning Control for Discrete-time MASs Linmei Ma, Longwang Huang, Zilin Gao, Haotian Shi	860
Research And Testing of Clock Synchronization for 5G-TSN Industrial Control Network Shihui Duan, Xingchen Pan, Jinyu Zhu, Fangmin Xu, He Li, Yufei Han	867
Containment Control of Linear Continuous-time Invariant Multi-Agent Systems Shubo Li, Tao Feng, Jilie Zhang	875
Fixed-time Output-feedback Containment Control Based Nonlinear Filtering for Multiagent Systems	881
Xinxiao Liu, Xilin Cao, Lijie Wang	
Collision-Free Formation Finite-Time Prescribed Performance Control for Under-Actuated Unmanned Surface Vehicles	886
Wei Wang, Yang Wang, Tieshan Li	
Adaptive neural network tracking control for n-order SISO nonlinear system with input saturation	891
Peng Li, Weiwei Bai	
Adaptive Critic Learning for Optimized Tracking Control of an Unmanned Surface Vehicle with Guaranteed Performance	896
Lin Chen, Shi-Lu Dai	

Controllability of dynamic-algebraic Boolean control networks based on the semi-tensor product	901
Lexin Luo, Yifeng Li	
Model-based Cross-scale Reinforcement Learning Optimal Control	006
Gonghe Li, Linna Zhou, Xiaomin Liu, Chunyu Yang	906
Dynamic Analysis and Optimal Control of SIWCR Rumor Propagation Model with Rumor Countering and Whistleblowing Mechanism	911
Youjun Lu, Sen Wu, Jiayin Wei, Yanjun Liang, Li Deng	
MIMO-SAR High Precision Deformation Monitoring System with 3D Imaging Capability Yihang Shang, Huaqing Li, Yawei Shi, Huiwei Wang	922
Robust extended Kalman filter for graphical nonlinear systems with hybrid Cyber-attacks Simeng Guo, Wenling Li	927
Distributed resilient Nash equilibrium seeking for second-order MAS subject to intermittent DoS attacks	932
Tian Cheng, Jing Ma, Wenbo Xie, Xin Wang Performance Realization for Gas Turbine System: Adaptive Constraint Regulation Framework	936
Peihao Du, Weimin Zhong, Hongyi Li, Linlin Li, Xin Peng, Kaixun He A Cluster Scheduling Algorithm for Concurrent Tasks Based on Global Optimization and	
Differential Privacy	941
Quanxing Zhou, Qiuxian Li	
Prescribed-Time Clusters Flocking for Multi-Agent Systems of UAVs and USVs	949
Hanjun Shang, Zhenhuan Wang, Yingxin Tian, Qimin Hou, Jiyuan Kuang, Yabin Gao	242
Discrete-Time Stochastic Approximation Consensus Algorithms On Directed Matrix- Weighted Networks	954
Guanhao Song, Jun-e Feng, Huaibin Tang	
Decentralized Byzantine-Resilient Stochastic Optimization over Multi-Agent Systems with Arbitrary Communication Delays	958
Jinhui Hu, Xiaoyu Guo, Weihao Li, Shutong Zong	
Research on Vulnerability Detection Techniques Based on Static Analysis and Program Slice Shubin Yuan, Chenyu Liu, Jianheng Shi, Kai Zhang, Wei Pu, Xinyu Liu, Liqun Yang	965
A target assignment fusion algorithm for distributed multi-target tracking Chao Xiong, Huanzhang Lu, Moufa Hu, Fei Zhao	970
A Method for Malicious Encrypted Traffic Classification Based on Contrastive Pre-Training Wuqiang Shen, Lei Cui, Zeyuan Zhou, Yechao Wang, Ge Jin	978
High-Order Quantum Genetic Algorithm Based on Quantum Entanglement Han Qi, Shuai Gong, Abdullah Gani, Changqing Gong	983
Non-overshooting output regulation of linear systems via positive systems method Xuanjin Deng, Wei Liu	989

Input-to-State Stability of Saturated Impulsive Systems with External Disturbance	994
Yu Pan, Chuandong Li, Wenlu Liu, Zhengran Cao)) -
Spoofing Attack Detection in ADS-B Data through Frequency Enhanced Patch Attention Mechanism	999
Linfeng Zhong, Hao Yang, Lei Zhang, Qinwei Zhong, Jin Huang, Fei Hu	
Estimation of RoA for nonlinear systems based on gaussian processes Yucheng Chen, Yupeng Zhu, Hongming Zhu, Quanqi Zhang, Chengwei Wu	1004
Finite-Time stability of Time-Scale-Type nonlinear systems with time delays Guanglei Wu, Wenbing Zhang	1009
A looped-functional for stability analysis of time-delay impulsive system Lu Wang, Xujun Yang	1016
Real-time Reachable Set Estimation for Singular Systems with Distributed Time-varying Delay Based on a New Method Jiaqi Hao, Xinyue Zhang, Zhiguang Feng	1022
An improved state transition simulated annealing algorithm was used to solve CVRP Jiangxue Chen, Fengqing Han, Xinyuan Li	1027
H∞ consensus in linear multi-agent systems with event-driven approaches on directed topologies Yihang Weng, Peixiong Su, Tong Huang, Xiaohang Chen	1031
Smart Contract Vulnerability Detection Based on Machine Learning Deguang Wang, Mengtao Shan, Ning Tong	1038
Robust Kalman Filtering Based on Multivariate Geometric Skew Normal Distribution Wenxing Yan, Jialiang Wu, Jingxiang Ma, Dongyuan Lin, Qiangqiang Zhang, Shiyuan Wang	1043
Optimization Design Study of Thermal Management System for Lithiumion Batteries Shuai Yan, Xiaomin Cong, Linshuang Zhao	1049
A Secure Authentication Mechanism for WSN Nodes Based on Hybrid License Blockchain Jing Jiang, Zhanfei Ma, Jixiang Lin	1054
Study of multi-excitation source wireless energy transmission systems Yun Wang, Wei Liu, Qiye Fu	1060
Enhancing the Apriori Algorithm with BitSet Encoding and Hash Prefixes on Spark Yiran Jiang, Gang Fang	1067
Construction and Optimization of Production Line Carbon Emission Management System Based on Digital Transformation Kailiang Wang, Jinxing Zhong, Junhui Li, Zongyang Liu, Xinxiong Wu, Weibin Liu	1073
ISAR Image 3D Reconstruction Based on Improved KLT Algorithm Mingyu Ma, Yingni Hou	1077
An Road Scene semantic segmentation algorithm based on modified PIDNet Jihong Lian, Nan Zhang, Yunhong Li, Weige Xue	1082

ARM-Based Distributed Multi-Signal Acquisition System Design	1090
Fang Wu, Fanrong Meng, Chenyan Zhou, Zhizhuang Luo, Shaolong Chai, Jiandong Zhang	1090
Nodal multicomponent seismic source monitoring system based on Micro-Electro- Mechanical Systems	1098
Song Jia, Hui Yang, Zhanxiang He, Yongchao Yao, Caixia Wang	
Analysis of Congestion Propagation Characteristics on Wireless Networks with Internet Virus Propagation Model	1104
Qilu Sun, Yuan Jing, Tang Tang, Qian Li	
Design of Simulation and Evaluation System for Safety Operation in High Energy Radiation Scene Based on SysML	1110
Huai Wu, Baoran An, Weijian Huang, Xuedong Zhang, Sifeng Zeng	
A COVID-19 Recognition Algorithm based on Deep Transfer Learning	1115
Wanting Liu, Yang Li, Jian Gu, Yuhang Zhou	1113
Design and Implementation of a High-Speed Multi-Port Shared Cache Management System Based on FPGA	1120
Fengyi Liu, Yongjian Zhao, Minhua Ren, Deze Wu, Jihui Liu	
A distributed multi-channel narrowband ANC system with frequency mismatch correction	1126
Xia Zhang, Lei Luo, Wenzhao Zhu	1120
Distributed Forward-Reflected-Douglas-Rachford Algorithms for Generalized Nash Equilibrium	1131
Yong Pan, Chuandong Li, Haonan Zhang, Ziye Hou, Jiang Xiong	
Research on resume classification system based on graph neural network	1138
Zhou Dong, Hairong Hao, Binjie Liu, Yihan Liang, Birou Zhu	1130
Composition and Application of Acoustic Detection System for Human Occupied Vehicle Research Vessel	1143
Xiangxin Wang, Tongwei Zhang, Shengya Zhao, Yixu Liu, Dewei Li, Baogang Li	
Multiple Augmented Graph Contrastive Learning for Recommendation Zhongqi Yan, Wei Weng, Hua Shi, Daikun Ye	1148
Fault Set Pre-screening Method Based on Greedy Algorithm Jie He, Tiankai Yang, Yongliang Liang, Chao Wang	1153
Research on an Attack Detection Technology Based on Provenance Graph Wuqiang Shen, Zhenyue Long, Yechao Wang, Chaosheng Yao, Lei Cui, Ge Jin	1157
Unaligned Multispectral UAV Object Detection Algorithm Research Mingmei Chen, Peng Han	1164
Customised routing algorithms based on network slicing and convolutional neural networks Yuwei Cao, Xiaodong Zhang, Jiaojiao Sun, Xin Du, Shubin Wang	1169
A secure and efficient vehicle OTA software update system: design and validation Jingxuan Wang, Rui Chen, Haiou Wen, Yaxiang Chen, Qianping Hou, Wendong Duan	1176

Spike Neural Network with Delayed Propagation Characteristics and Hardware Implementation	1181
Gaoyuan Wang, Dongmei Fu	1101
Research on Mission Reliability Analysis Methods for Earth-Moon Space Measurement and Control Systems	1186
Siyu Lu, Xuemei Ma, Xiaopeng Li, Wenbao Liu	
PSA-CsiNet: A CSI feedback algorithm for massive MIMO system	1193
Han Zhang, Lizhe Liu, Shuo Yang, Yong Li, Bin Wang	1193
Research on Java Performance and Energy Efficiency Optimization Technology for ARM Server	1199
Zhiqin Huang, Xianxu Li	
Research on the Intrusion Detection Methods of Automotive Networks Based on Generative Adversarial Networks	1204
Wei Xu, Guojun Huang	
FOC brushless knob interactive farm TCP remote monitoring system	1208
Jingchao Sun, Ling Zhan, Chaotai Wang, Gao Yang	1200
SERGCN: Graph Convolutional Neural Networks with Skip-Edge Residual Connection for Node Classification Tasks	1213
Aqian Qin, Guoqing He, Huiwei Wang	
Toward understanding how the saturation effect impacts the spread of computer viruses Xianxiu Zhang, Yuming Feng, Yi Yang, Baojie Zhang	1220
Fixed-Time Stability of Dissipative Hamiltonian Differential Algebraic Systems	
=	1005
Xinggui Liu, Mei Zhao	1225
Xinggui Liu, Mei Zhao	1225 1231
Xinggui Liu, Mei Zhao A Lightweight Dense U-Shaped Network for Efficient Infrared Small Target Detection	
Xinggui Liu, Mei Zhao A Lightweight Dense U-Shaped Network for Efficient Infrared Small Target Detection Huajie Guo, Zhan Guo, Huajun Shi Research on Heap Security Mechanism Based on Block Randomization Shuaipeng Gu, Yan Zhuang, Li Gao Research on maneuvering target tracking algorithm with adaptive turning rate based on	1231 1237
Xinggui Liu, Mei Zhao A Lightweight Dense U-Shaped Network for Efficient Infrared Small Target Detection Huajie Guo, Zhan Guo, Huajun Shi Research on Heap Security Mechanism Based on Block Randomization Shuaipeng Gu, Yan Zhuang, Li Gao	1231
Xinggui Liu, Mei Zhao A Lightweight Dense U-Shaped Network for Efficient Infrared Small Target Detection Huajie Guo, Zhan Guo, Huajun Shi Research on Heap Security Mechanism Based on Block Randomization Shuaipeng Gu, Yan Zhuang, Li Gao Research on maneuvering target tracking algorithm with adaptive turning rate based on dynamics model	1231 1237
Xinggui Liu, Mei Zhao A Lightweight Dense U-Shaped Network for Efficient Infrared Small Target Detection Huajie Guo, Zhan Guo, Huajun Shi Research on Heap Security Mechanism Based on Block Randomization Shuaipeng Gu, Yan Zhuang, Li Gao Research on maneuvering target tracking algorithm with adaptive turning rate based on dynamics model Hongji Yan, Xiaobo Deng, Shizhe Bu, Ming Jiang Decentralized Online Multi-Objective Optimization for Electric Vehicle Charging Stations	1231 1237 1243
Xinggui Liu, Mei Zhao A Lightweight Dense U-Shaped Network for Efficient Infrared Small Target Detection Huajie Guo, Zhan Guo, Huajun Shi Research on Heap Security Mechanism Based on Block Randomization Shuaipeng Gu, Yan Zhuang, Li Gao Research on maneuvering target tracking algorithm with adaptive turning rate based on dynamics model Hongji Yan, Xiaobo Deng, Shizhe Bu, Ming Jiang Decentralized Online Multi-Objective Optimization for Electric Vehicle Charging Stations Operations	1231 1237 1243
A Lightweight Dense U-Shaped Network for Efficient Infrared Small Target Detection Huajie Guo, Zhan Guo, Huajun Shi Research on Heap Security Mechanism Based on Block Randomization Shuaipeng Gu, Yan Zhuang, Li Gao Research on maneuvering target tracking algorithm with adaptive turning rate based on dynamics model Hongji Yan, Xiaobo Deng, Shizhe Bu, Ming Jiang Decentralized Online Multi-Objective Optimization for Electric Vehicle Charging Stations Operations Juntao Duan, Yuanzheng Li, Jiantao Liu Robustness of Memristor-Based Design of Accurate Binary Differential Convolutional	1231 1237 1243 1250
Xinggui Liu, Mei Zhao A Lightweight Dense U-Shaped Network for Efficient Infrared Small Target Detection Huajie Guo, Zhan Guo, Huajun Shi Research on Heap Security Mechanism Based on Block Randomization Shuaipeng Gu, Yan Zhuang, Li Gao Research on maneuvering target tracking algorithm with adaptive turning rate based on dynamics model Hongji Yan, Xiaobo Deng, Shizhe Bu, Ming Jiang Decentralized Online Multi-Objective Optimization for Electric Vehicle Charging Stations Operations Juntao Duan, Yuanzheng Li, Jiantao Liu Robustness of Memristor-Based Design of Accurate Binary Differential Convolutional Neural Network for Biomedical Image Classification Binghui Ding, Ling Chen Multi-Period Day-Ahead Storage Scheduling with Uncertain Inflow	1231 1237 1243 1250
A Lightweight Dense U-Shaped Network for Efficient Infrared Small Target Detection Huajie Guo, Zhan Guo, Huajun Shi Research on Heap Security Mechanism Based on Block Randomization Shuaipeng Gu, Yan Zhuang, Li Gao Research on maneuvering target tracking algorithm with adaptive turning rate based on dynamics model Hongji Yan, Xiaobo Deng, Shizhe Bu, Ming Jiang Decentralized Online Multi-Objective Optimization for Electric Vehicle Charging Stations Operations Juntao Duan, Yuanzheng Li, Jiantao Liu Robustness of Memristor-Based Design of Accurate Binary Differential Convolutional Neural Network for Biomedical Image Classification Binghui Ding, Ling Chen	1231 1237 1243 1250
Xinggui Liu, Mei Zhao A Lightweight Dense U-Shaped Network for Efficient Infrared Small Target Detection Huajie Guo, Zhan Guo, Huajun Shi Research on Heap Security Mechanism Based on Block Randomization Shuaipeng Gu, Yan Zhuang, Li Gao Research on maneuvering target tracking algorithm with adaptive turning rate based on dynamics model Hongji Yan, Xiaobo Deng, Shizhe Bu, Ming Jiang Decentralized Online Multi-Objective Optimization for Electric Vehicle Charging Stations Operations Juntao Duan, Yuanzheng Li, Jiantao Liu Robustness of Memristor-Based Design of Accurate Binary Differential Convolutional Neural Network for Biomedical Image Classification Binghui Ding, Ling Chen Multi-Period Day-Ahead Storage Scheduling with Uncertain Inflow	1231 1237 1243 1250
A Lightweight Dense U-Shaped Network for Efficient Infrared Small Target Detection Huajie Guo, Zhan Guo, Huajun Shi Research on Heap Security Mechanism Based on Block Randomization Shuaipeng Gu, Yan Zhuang, Li Gao Research on maneuvering target tracking algorithm with adaptive turning rate based on dynamics model Hongji Yan, Xiaobo Deng, Shizhe Bu, Ming Jiang Decentralized Online Multi-Objective Optimization for Electric Vehicle Charging Stations Operations Juntao Duan, Yuanzheng Li, Jiantao Liu Robustness of Memristor-Based Design of Accurate Binary Differential Convolutional Neural Network for Biomedical Image Classification Binghui Ding, Ling Chen Multi-Period Day-Ahead Storage Scheduling with Uncertain Inflow Yusi Tang, Bo Zhou ISAR Image Super Resolution with Alternating Iterations of Restoration and Degradation	1231 1237 1243 1250 1256

Orthogonality analysis for finite game space via semi-tensor product	1273
Fanyueyang Zhang, Jin Wang, Jun-e Feng	1270
An ISAR Image Generation Method with New Azimuth based on Generative Adversarial Network	1278
Jiawei Zhang, Jinxing Guo, Tuoyuan Yi, Xiaolin Zhou, Zhen Liu	
Surgical Action Triplet Recognition by Using A Multi-task Prior-reinforced and Cross-sample Network	1283
Yunlong Li, Zijian Zhao, Renbo Li	
Resource Allocation for Hierarchical Federated Learning in Edge Networks Tangju Yuan, Lele Wang, Yu Gu, Wenbin Gong, Yutao Jiang, Liwan Chen	1290
Predefined Time Neurodynamic Approach to Mixed Variational Inequality Problems Jinlan Zheng, Ruiqi Zhou, Xingxing Ju, Xin Han, Dianwei Wang	1296
Deformable Multi-Sequence Guided Model for Cholangiocarcinoma Staging Xuhui Song, Ziwei Qin, Deqing Huang, Na Qin	1301
BIER-MNet: A BIER-Based Multicast Member Management Mechanism Zhongyuan Yang, Tao Feng, Xianming Gao, Jiaqi Lin, Pengtao Kang	1305
Authenticated Encryption For The LOL Framework Xinyue Zhang, Daoguang Mu, Wenzheng Zhang, Xinfeng Dong	1313
Quantized Low-Rank Adaptation Based Parameter-efficient Tuning for Low-resource Visual Question Answering	1318
Peng Yang, Hong Ying, Jianxin Duan, Linyue Shi, Chen Yang	
A UAV Routing Protocol based on Short-time Trajectory Prediction Linfeng Zhong, Lei Zhang, Hao Yang, Qinwei Zhong, Jin Huang, Fei Hu	1323
An Improved Method for Phase Unwrapping of GB-InSAR Haoqi Wang, Yu Liu, Xiheng Li, Hanzhi Shao	1328
Fully distributed adaptive dynamic Event-Triggered protocol for multiagent systems Meseret Debele Gurmu, Wenfeng Hu	1334
RH-SQL: refined schema and hardness prompt for Text-to-SQL Jiawen Yi, Guo Chen, Zixiang Shen	1340
GCIM based improved proportionate APA for Cluster-Sparse identifications Biao Xie, Shengwei Xie, Ji Zhao, Qiang Li	1344
Detection, tracking and redetection of moving target by UAV Lei Zhang, Xitai Na, Jingdi Yan, Fanghai Li	1349
Multi-UAV Path Planning for Multi-region Coverage by Multi-objective Genetic Method Shen Liu, Xiuxian Li, Jinwen Hu	1357
Sidelobe suppression in circular MIMO array imaging based on the partial equivalence method	1363
Yiming Dai, Xu Zhang, Zhikun Zheng, Yuanchi Wang, Zhiping Yin, Liwei Chen	

Ontology knowledge based multimodal service tasking planning	
Xiaochen Zhang, Guoliang Liu, Wei Li, Zhenhua Liu, Shanmei Wang, Jiwei Zhang, Bin Wang, Guohui Tian	1367
Event-Triggered Synchronization for Neural Networks under Asynchronous Deception Attacks	1373
Zou Yang, Jun Wang, Wenqing Zhu, Kaibo Shi, Yiqian Tang	
Online Bandit Convex Optimization with Stochastic Constraints and Delays Ming Chen, Jichi Yu, Zixiang Shen	1379
A Float Motion Classification Method of Freshwater Fishing Using Mobile Phone Video Ruiqi Yao, Dingfang Liu	1386
Medical ultrasound image denoising based on greedy two-dimensional variational mode adaptive decomposition Bochen Zhang, Yuan Wei	1390
Radio Frequency Fingerprints Identification by Convolutional Neural Network with Data Augmentation Bo Xiong, Yi Zhong, Wei Pu, Feng Zhang	1394
An Image Super-Resolution Network Using Multiple Attention Mechanisms Jinlong Huang, Tie Fu, Wei Zhu, Huifu Luo	1398
A Method for Transmitting Real Human Skeletal Points to the Virtual Reality Character Boxian Li, Xin Su, Bei Liu, Ying Zhou	1406
Binary Classification of Diabetic Foot Thermograms Based on HD-EfficientNetV2 Network Yongkang Li, Yin Pan, Yubo Li, Zhi Zeng	1411
Workflow Net Based on Colored Petri Net: A Modeling Method for MBSE Modeling Activities	1415
Xiaofei Wang, Yang Yu, Kai Liu An Emotion Recognition Scheme Based on EEG Signal and Visual Information Yaxuan Wang, Luodan Xin, Zilong Liu, Xingchen Li	1423
Efficient Low-light Image Enhancement combining Dense Residual Blocks with Mix Attention Mechanism Xianzhi Liu, Zhengrong Tong, Hao Wang	1427
Infrared and Visible Image Fusion Method Based on Multi-feature Haoran Zhu, Wenying Zhang	1431
Multi-UAV Cooperative Exploration Route Planning Based on Reinforcement Learning Zilu Wang, Lin Liu, Jiangtao Lv	1436
Low-Altitude Target Angle Estimation Based on Soft Threshold and Attention Mechanism Yuqing Wu, Ning Wang	1442
A Lightweight Multi-Channel Recognition Network Combining Signal Correlation Feature Yangyang Wang, Fei Cao, Xiaolong Wang	1447

Image Enhancement Technology Based on Strong Light Suppression and Infrared Supplementary Lighting	1458
Hanyang Li, Yaosheng Hu	
Research on text matching method based on FAQ knowledge base	1463
Ouyang Xu, Junkai Ma	
Blind Area Optimization of Multiple Interference Incident Angles Based on Improved Harris Hawks Optimization	1468
Zheyu Li, Yaxing Li, Kai Yang, Ze Wang, Jiaqi Liang, Fangmin He, Jin Meng MRI Brain Stroke Lesion Segmentation based on 3D Global Attention Convolutional Neural Networks	1473
Chaopeng Zhu, Jiancheng Sun	
Deep Learning Based Herbal Plant Recognition Li Jiang, Jiaojiao Sun, Xiaodong Zhang, Shubin Wang	1477
A Strategy for Enhancing Modal Fusion Based on LLaVA towards Military Field Ying Zhang, Peinan Shao, Yun Sang, Panpan Wang, Peng Wang, Shuoshuo Niu	1482
Two Trajectory Decoy Strategies for UAV Kaiyan Yuan, Changbiao Lei	1488
A Dual-stage Adaptive Federated Model Aggregation Method for Heterogeneous Data Chen Fang, Pengyu Zhang, Mingzhou Liao, Zhitong Zhu	1493
Research on Network Card Virtualization Technology Based on SR-IOV Jihui Liu, Guodong Duan, Xiaoli Chai, Fengyi Liu	1499
Exploring Audience Attitudes Toward AI Influencers by Textual Analysis Hao Xu	1504
A Fast Acquisition Scheme of Pseudo-noise (PN) Codes Ping Wang, Fangkai Cai, Dafeng Feng, Chuanxue Li	1508
Schematic comparison method based on tree structure Xihui Wang, Di Zhang, Min Zhou, Hua Chen	1512
A target region based non-uniform remote sensing image process method using data hiding Zhen Wei, Zheng Hui, Mindong Li, Guowei Yang	1519
Task pre allocation of kill chain based on tactical style templates Zhiyuan Zhang, Jiandong Zhang, Qiming Yang, Jiaqing Li	1524
Attack-aware Capability Assessment Method Based on Specific Semantic Search Daojuan Zhang, Qi Zhao, Yuman Wang, Shu Li, Zheng Tian, Yizhen Sun	1531
Offline Handwritten Signature Verification using Siamese Network Model Wanghui Xiao	1536
Improved PRF design method for high-speed maneuvering-platform SAR imaging Guohui Zhu, Yang Wang	1540

Personal Credit Risk Assessment Based on Swarm Intelligence and Random Forest	1545
Hanyin Zhang, Facheng Dai, Xiangguang Dai	1343
Cooperative Opponent Intention Recognition Based on Trajectory Analysis by Distributed Fractional Bayesian Inference	1551
Peng Yi, Yaqun Yang, Zixiang Lin	
Preassigned-time Partial Component Synchronization of Multi-weighted Complex Networks with Different Dimensional Nodes and Quantized Couplings	1556
Li Cao, Wanli Zhang, Wenting Lin	
Interlayer Stability Analysis of Two-Layer Networks with Pinning Impulsive by Step Function Method	1561
Tingting Huang, Shiju Yang, Hongsen He, Yuting Zhou, Zhiwei Guo	
An Epigraph Approach for Distributed Economic Dispatch in General Dynamic Directed Networks	1568
Qingguo Lv, Qixing Zhou, Keke Zhang, Zheng Wang, Huaqing Li	
An Improved SAR Image Recognition Method based on Graph Neural Network Xiaolin Zhou, Xunzhang Gao, Jiawei Zhang, Zhengnan Nie, Junjie Han	1572
An 8×1GS/s Time-Interleaved ADC Model and Background Calibration for Mismatch Siqi Hu, Wei Wang, Tianxu Wang, Min Shi, Xiaofan Xu, Hao Zhang	1577
An Improved Indoor Positioning Method by Fusing Ultra-Wideband and Millimeter Wave Radar Technologies	1582
Yujie Fan, Huaqing Li, Huiwei Wang, Yawei Shi	
Near-Field mm Wave Imaging with Circular Synthetic Aperture Radar	1587
Shaqi Yang, Huaqing Li, Yawei Shi, Huiwei Wang	1307
An acupoint location method based on Lightweight Efficient Channel Attention network	
Chengbin Wang, Zhaoshui He, Xu Wang, Bo Yang, Jing Guo, Hao Liang, Zhijie Lin, Liqiang Zhang	1592
Design of Anti-jamming Waveforms for Cognitive Radar Based on Deep Reinforcement Learning	1596
Taohan Sun, Xiaomeng Ma, Yangguang Zhao, Fengtao Xue, Meiguo Gao	
RIS-Aided Full-Duplex Wireless Powered Communication Network: Dynamic Beamforming or Static Beamforming?	1606
Zhiyang Liu, Xiaoyang Song, Yingxin Zhao, Wannan Zhao, Hong Wu	
Radar Pulse Stream Deinterleaving Based on Interpretable Spiking Neural Network	1611
Zhenghao Luo, Zhangmeng Liu	
A Near-field Measurement Method for Detecting the Rotation Direction of a High-power Microwave Helical Antenna	1617
Huaping He, Jie Chen, Qiang Zhang, Heng Zhang, Yunfei Sun	
A Wide-beam Radar Liquid Level Measurement Technology Based on MIMO Millimeter Wave Linear Array	1622
Xingyun Hua, Huaqing Li, Yawei Shi, Huiwei Wang	
Radar-based human activity recognition using residual network model with Multi-domain fusion	1627
Yifu Wu, Xiangfei Nie, Xuda Zhao, Dongyang Cao	

A frequency-selective surface operating in Ka and W bands for arbitrary polarizations Wenhao Jiang, Mankun Chen, Xianliang Han, Shanhong He	1632
DTP-Based Payload Program Design for High-Throughput Communication Satellites Sihong Chen, Jiayu Wang, Guanghui Miao, Mengchen Zhang, Jing Yang	1636
A wide-range delay lock loops for pipelined ADCs Yuting Zhai, Zhiqiang Xiao, Tao Zhang, Sisi Liang	1640
Wide-range divider chain based on CML structure Jian Shen, Junhao Yang, Yingdan Jiang, Lu Tang	1646
A Study of Stochastic Radiation Sources Based on Metasurfaces and Vortex Waves Feifei Xue, Yuanyue Guo	1650
Electromagnetic Modal Inversion—Part II: Application in Determining Antenna Miniaturization Limit Ren-Zun Lian	1655
Research of Low Probability of Intercept Ultra-Wideband Radio Fuze Kaiwei Wu, Yanbin Liang, Shijun Hao, Bin Yang, Chunhua Liu, Zhonghua Huang	1661
A Stochastic Radiation Antenna Array with Frequency Diverse and Digital Encoding for Phase Control Shilu Zhang, Feifei Xue, Yuanyue Guo	1665
Low power white balance based on channel segmentation for flexible AMOLED Chengqiang Huang, Yanjun Yang, Yinghu He	1670
Design of A Wide-band Compact Phase-locked Baseband Source Yiming Zhang, Desheng Hou, Jianwen Luo, Haoran Wu, Fengxiu Li, Zhengming Tang	1675
Online Evaluation of Communication Interference Effectiveness Based on CRITIC-AHP Wenjun Hou, Hu Jin, Chuang Peng	1681
Verification of Frequency and Time Offset Estimation Method for Chirp Signals in Mobile Satellite Communication System Chang Feng, Ning Chen, Yinqiao Li, Xueyan Li	1686
Research on Abnormal Detection for Wireless Communication Network based on Machine Learning Qiushi Zuo	1691
A WiFi Indoor Localization Method Based on Gaussian Mixture Distribution Model Muwen Jiang, Jiangnan Yuan	1695
Research on Key Technologies for Multifunction Air Defence Radars Weixin Wang	1699
Millimeter-Wave Wideband Beam-Scanning Leakage Antenna Based on Liquid Crystal Shunhu Hou, Shengliang Fang, Mengtao Wang, Shunchao Hou	1704
Distribution Networks Wireless and PLC Integrated Communication Coverage Optimization Technology Based on Improved Sparrow Search Algorithm Zhiwei Wang, Xun Li, Liyang Zhang, Peng Wang, Zhipeng Wang, Xuyang Jiao	1710

A wideband horizontally polarized omnidirectional antenna conformed on a drone	1714
Zheng Jiang, Yuanyue Guo	1/14
Analysis of the Impact of Channel Amplitude and Phase Errors on EVM in Satellite Multibeam RF Systems	1718
Jiahe Ye, Dahai Shen, Xianfeng Gong, Shenghua Zhai	
Research on Switching Nodes of Multi-layer Optical Networks Based on Quantum-classical Fusion	1723
Cong Chen	
Satellite Radar Group Target Tracking Algorithm Using TP-GLMB Filter	1728
Xuan Chen, Zhiyong Lei, Yu Li	1,20
Time Domain Broadband Electromagnetic Modeling of Dynamic Group Targets based on Shooting-and-Bouncing Ray Method	1734
Yao Deng, Peijie Feng, Ling Guan, Yunhua Tan	
Design and Processing of Integrated Signal for Co-Frequency Detection and Jamming Based on Timing Constraint	1738
Yangshun Deng, Xizhang Wei	
Design of Roadband Digital Variable Gain Amplifier	1744
Yu Zhang, Yang Yu, Yingdan Jiang, Shutong Wu, Jinghe Wei	1/44
Design and Implementation of Communication IP Core Based on CAN Bus Encryption and Authentication	1749
Zhenbin Wang, Fang Chen, Zhe Yu	
A 380 GHz Waveguide-to-suspended Microstrip Line Transition Structure Design	1754
Jing Zhang, Guojin Wang, Xiaojun Li	1734
Implementation of Multiple Signal Classification Algorithm Based on Blade Server Bangjian Zhou, Fei Xu, Qian Wang, Jianjun Ma, Linhu Zuo	1758
GNSS Signal Acquisition Based on Compressive Sensing and improved measurement matrix	
Wenjun Zhang, Jie Chen, Yincun Guo, Yongchen Zhao	1762
A Novel Representing Method of Radar Emitter PDWs Based on Non-Uniform Encoding Guoen Wang, Yan Huang, Xuebao Wang, Yongtao Tang	1766
Design and Simulation of Multi-Frequency Band Transmission Scheme Based on Radio over Fiber Communication Technology	1771
Wenyi Yang, Li Li, Bochao Kang	
Research on metamaterials of large hangars to solve the problem of multipath Interference on Localizer	1775
Bin Yuan, Fei Liang, Yuankai Li, Jiaquan Ye	
High Efficiency Nested Parallel High Compatibility 5G Polar Encoder Yvfei Zhu	1779
An improved Chan-Taylor hybrid location algorithm based on UWB Bin Shu, Chuandong Li, Huiwei Wang, Huaqing Li	1783

Analysis and Validation of Medium-Long Wave Remote Transmission Channels using Vertical Electric Antennas	1790
Yangyong Zhang, Yu Chen, Xuan Ye, Daiming Qu	
Design and Implementation of a Transmitter Front-end Module with Substrate Integrated Wave-guide filter for Ka-band Wireless Communication	1796
Shouwei Chen, Xiaoping Wu, Feng He, Qinghua Yang	
Radar Signal Modulation Recognition based on Multi-scale Self-correlation Combined with Layered Convolution-GRU Network	1801
Qilun Yang, Xuying Zhang, Ye Du, Yuan Zuo	
A Low Sidelobe Microstrip Antenna Array for 24 GHz UAV Obstacle Avoidance Radar System	1805
Yanxia Guan, Jianming Zhou	
Heart Rate Detection by Second Harmonic of Heartbeat Signal Based on UWB Radar	1810
Chengcheng Kang, Yuanyue Guo	1810
Dynamic Modeling and Control of Satellite Formation Configuration Maintenance under the Influence of Space Environment	1816
Wuyang Cheng, Jiayang Li, Feng Gao, Shijie Wang, Minzhe Sun, Yi Ji	
High Performance Vehicle Antenna for ISM Communication	1022
Fanzi Zeng, Yuxi Li, Hui Zheng, Xing Pu, Qibo Zhang	1822
A Method for Evaluating the Directionality of the HPM Helical Array Antenna at Varying Input Power Levels with Multilayer Perceptron	1826
Jie Chen, Huaping He, Qiang Zhang, Heng Zhang, Yunfei Sun	
Range-Doppler Image Interference Detection Based on Fourier-Polar Coordinate Transform for Over-the-Horizon Radar	1831
Tianjian Zhang, Jiawen Zhao, Shican Li, Zhongtao Luo	
A High-precision Analytical Solar Radiation Pressure Model for a GEO Large Antenna Satellite	1837
Shijie Wang, Minzhe Sun, Wuyang Cheng, Feng Gao, Jiayang Li, Yi Ji	
Distributed Robust Privacy Preservation ICC-based Algorithm for Economic Dispatch in Smart Grids with Communication Delay via Using Chebyshev Polynomial	1843
Aijuan Wang, Xue Ding	

Author Index