

Table of Content

Saturday, June 19, 2021

Session SaO I: 14:00-17:20

Address: Meeting Room2(黄浦厅)

Session SaO I-A: 14:00-15:30

Observer-Based Fuzzy Adaptive Command Filtering Finite-Time Control of Stochastic Nonlinear Systems

Libin Wang, Huanqing Wang, Peter Xiaoping Liu.....1

Finite-time prescribed performance adaptive fuzzy control for nonlinear systems with unknown virtual control coefficients

Tianyue Zhou, Shuang Liu, Cungen Liu7

A Multi-Robot Coverage Path Planning Method Based On Genetic Algorithm

Wenhao Li, Tao Zhao, Songyi Dian13

A Novel Reinforcement Learning Control for a class of Strict-feedback Discrete-time Systems via Multi-Gradient Recursive

Weiwei Bai, Tieshan Li, Yue Long.....19

Adaptive Neural Network Asymptotic Tracking for Nonstrict-Feedback Switched Nonlinear Systems

Yongchao Liu, Qidan Zhu25

Robust fault tolerant control for a quadrotor using integral sliding mode control

Liyang-Hao, Yibo Zhao, Wei Yue.....31

Argumentation Graph Based Web Service Fault Diagnosis

Hui Li, Yong Liu, Jianli Zhang.....36

Improved Quadratic Convex Technique to Stability Analysis of Continuous-Time Delayed Systems

Yantao Wang, Xinyu Zhang, Xin Yang, Xian Zhang, Xin Wang.....42

Path Planning of Ship Collision Avoidance Based on Stochastic Schemata Exploiter

Xianghui Zhang, Yi Zuo, Yiliang Li, Tieshan Li, C.L.Philip Chen.....47

Session SaO I-B: 15:50-17:20

L_∞ tracking control for T-S fuzzy systems with external disturbance

Shaoyi Li, Zhiying Zhu54

An LSTM based Malicious Traffic Attack Detection in Industrial Internet

Congqi Shen, Geyang Xiao, Shaofeng Yao, Boyang Zhou, Zhongxia Pan, Hong Zhang.....60

A mimicry defense based algorithm diversification dynamic scheduling mechanism

Lei Xue, Geyang Xiao, Tao Zou, Ruyun Zhang, Xingming Zhang66

Optimal design of hybrid renewable energy system considering equipment performance and annual cost

Yongxin Hu, Zhen Zhu, Geyang Xiao, Boyang Zhou, Tao Zou, Ruyun Zhang.....71

Defect Detection in High-Speed Railway Overhead Contact System: Importance, Challenges, and Methods

Liyi Yao, Jianhui Qiu, Shaobing Gao, Xinyu Du, Zichen Gu, Haoran Song.....76

Coordinated Energy Management Scheme for Ship-Harbour Energy System Based on Economic Optimal Scheduling

Yuxin Zhang, Qihe Shan, Fei Teng, Tieshan Li.....81

Power Management Method for Clean Energy Ships Based on Supply Capacity Constraints	
Jing Song, Qihe Shan, Tieshan Li, Fei Teng.....	87
Research on the number of groups for multi-consensus based on certain topology structure	
Pu Zhang, Qihe Shan, Yuzhou Lu, Tieshan Li.....	93
Adaptive Containment Control for Unmanned Surface Vessels	
Yuhao Mao, Qihe Shan, Tieshan Li, Shun Yang, Qihang Yi	99
Value Iteration Algorithm for Nonlinear Continuous-time Nonzero-Sum Games	
Geyang Xiao, Ruyun Zhang, Tao Zou, Shunbin Li, Boyang Zhou, Congqi Shen.....	105

Saturday, June 19, 2021

Session SaO II: 14:00-17:20

Address: Meeting Room3(青浦厅)

Session SaO II-A: 14:00-15:30

Robust finite time semipassivity and stabilization of uncertain switched nonlinear systems

Hongbo Pang, Shiwen Guan, Shuo Liu.....109

Event-Triggered Finite-Time Control of IT2 T-S Fuzzy Interconnected Nonlinear Systems with Time-Delays

Wenting Song, Shaocheng Tong.....115

Fixed-Time Adaptive Neural Tracking Control for Robot Manipulator with Output Error Constraints

Haiqi Huang, Chenguang Yang, Shilu Dai.....120

Fuzzy Based Finite-time Sliding Mode Control for A Chemical Industrial Process Jiae Yang, Yujia Wang, Tong Wang and Yu Liu.....	126
Improved Switching Stabilization of Discrete-Time Takagi-Sugeno Systems via An Enhanced Gain-scheduling Mechanism Aimin Gong, Hongyu Lu, Xiangpeng Xie.....	132
Finite-time adaptive fuzzy control of output constrained permanent magnet synchronous motors Lusong Ding, Wei Wang, Yang Yu.....	138
Event-Triggered Adaptive Fuzzy Asymptotic Tracking Control for Single Link Robot Manipulator with Prescribed Performance Xiaoyan Hu, Yuanxin Li	144
Adaptive Finite-time Stabilization of High-order Stochastic Nonlinear Systems with Unknown Control Direction Bo Kang, Yongming Li	150
Particle filtering based on biome intelligence algorithm Yinuo Wang, Shujuan Liu, Jingyuan Zhou, Tengxuan Sun	156
Nonsingular Terminal Sliding Mode Attitude Tracking Control for Rigid Spacecraft with Input Saturation Yingqian Gao, Ming Chen, Yanlong Zhang.....	162
Session SaO II-B: 15:50-17:20	
Optimization method of central lighting arrangement in the middle section of tunnel Yuhang Gong, Jilie Zhang, Shubo Li.....	168

Event-Based Consensus Control to Multi-Agent System By Using Model Free Adaptive Control

Haifeng Li, Ye Tian, Hengyu Liu, Yidong Zhu, Xinyu Zhang, Kejian Shi.....174

Data-driven current sharing and voltage regulation for DC microgrid with unknown voltage loss

Rui Shi, Aiqing Wang, Tao Dong.....179

Group Consensus of Second-order Multi-agent Systems via Intermittent Sampled Control

Zhong Li, Yan Xie, Qi Han, Ao Zhang, Sheng Tian185

Existence of solutions for neural networks with impulsive mechanisms involving general linear boundary conditions

Hao Deng, Chuandong Li.....190

Existence of solutions for neural networks involving boundary-value condition

Yinuo Wang, Chuandong Li.....195

Adaptive single neural network control for a class of stochastic nonlinear time-delay system with unknown dead-zone

Zifu Li.....200

Adaptive Neural Dynamic Surface Tracking Control for Intelligent Ship Autopilot with Output Constraint

Jiawei Ma, Huangqing Wang, Yanlong Zhang, Siwen Liu.....206

Sunday, June 20, 2021

Session SaO III: 8:30-12:00

Address: Meeting Room3(青浦厅)

Session SaO III-A: 8:30-10:30

Control of Ski Robot Based on Deep Reinforcement Learning Zegui Wu, Junting Ye, Xinran Wang, Fusheng Li	211
Neural network-based reliable H^∞ filtering in finite frequency domain for nonlinear Markov jump system Qidong Liu, Panfeng Xu, Lina Li.....	216
Research on 3D Digital Design and Application of Overhead Line Based on GIM Technology Wei Han, Ying-Ying Liang, Ye-Xun Tian.....	222
Design and Research of Transformer Fault Diagnosis Method Based on Data-driven Shoupeng Wang, Jingzhong Yuan, Fang Fang, Yajuan Liu, Yu Jiang, Libin, Zhang.....	228
Composite Disturbance-observer-based Control and MPC for Discrete-Time T-S Fuzzy Semi-Markovian Jump Systems Shaohua Li, Yaming Zhang, Zhe Sun, Xiuming Yao.....	234
SDN-based Industrial Internet Security Gateway Yan Song, Wenjing Luo, Jian Li, Panfeng Xu, Jianwei Wei.....	238
A Global Path Planning Approach based on Improved A* Algorithm for Intelligent Vessel Navigating Meifang Liu, Junsheng Ren	244
Observer-based reconstruction for smart grid cyber attack detection Jian Li, Hongliang Li, Qingyu Su.....	249
Composite Disturbance Observer-Based Backstepping Tracking for Unmanned Surface Vessel	

Linjian Yang, Xin Hu, Xinjiang Wei, Ying Zhou.....254

Integral Backstepping Based ADRC for Path Following of Underactuated Surface Vessel
Junyu Chen, Yue Long, Tieshan Li, Weiwei Bai.....260

Self-triggered tracking control of underactuated surface vessels with stochastic noise
Yingjie Deng, Dingxuan Zhao and Tao Liu.....266

Session SaO III-B: 10:50-12:00

A Weight-adaptive Algorithm of Multi Feature Fusion based on Kernel Correlation
Filtering for Target Tracking
Chiyuan Ma, Yi Zuo, C.L.Philip Chen, Tieshan Li.....274

BLS-based Automatic Identification Framework for Tympanic Membrane Perforation
Ruofei Man, Qihe Shan, Pengxiang Li, Yi Zuo, Tieshan Li.....280

Broad Learning System-based Automatic Speed Tracking Control of Marine Surface
Vessel
Ruixiang Yang, Ruofei Man, Yi Zuo, Qihe Shan, Tieshan Li.....286

A novel ship trajectory simplification algorithm considering the course over ground
Tianyu YangZhou, Zhengjiang Liu, Xin Wang292

Application of PSO-LSTM for Forecasting of Ship Traffic Flow
Haoxuan Zhou, Yi Zuo, Tieshan Li, Shanshan Li.....298

Classification of Ship Navigation Behavior in Inland Crossing Channels
Ziyi Huang, Yi Zuo, Tieshan Li, Haocheng Wang303

A Systemic Method of Traffic Flow Velocity Prediction in Narrow Waterways Using
AIS Data

Xiaoyu Bai, Yi Zuo, Tieshan Li, Haocheng Wang.....308

Modeling and Prediction of Ship Trajectory in Inland River Crossing Channels Based on GRU Neural Network

Junhao Jiang, Yi Zuo, Tieshan Li , He Ma.....313

Ship detection in navigation based on broad learning system

Hui Su, Yi Zuo, Tieshan Li.....318

A Review of Internet of things on sea

Shiyu Ma, Ruixiang Yang, Yi Zuo, Yang Xiao, Tieshan Li.....323

Sunday, June 20, 2021

Session SuP: 8:30-11:50

Address: 2st Floor

Session SuP-I: 8:30-10:30

A Novel Marine Gear Fault Diagnosis Method Based on VMD and MDE,

Xiaolong Zhou, Gang Liu, Xianliang Liu and Weidong Zhang.....329

Model-free Algorithm for the Optimal Design of Multi-control with Hierarchical and Saturating Constraints

Xiaohong Cui, Jiayu Chen and Yang Cui.....335

Multiple Input Regulation Design for a Class of Linear Systems with Single Output

Qin Mao, Xinyue Cao, Ling Zhao and Hongjiu Yang.....341

Trajectory Tracking of Tracked Underwater Dredging Robot Based on Adaptive Neural Network

Gaoyang Guo, Zhongyu Ding, Qiang Zhang, Yan Zhang, Yancai Hu and Zewen Tao.....347

Event-triggered adaptive command filtered asymptotic tracking control for a class of

flexible robotic manipulators	
Tingting Cheng, Ben Niu, Guangju Zhang and Zhenhua Wang	353
Based on Multiagent Systems for High-Speed Train with Input Saturation and Dead-zone	
Shubo Li and Shimeng Wei.....	360
Observer-based Event-triggered Fault-tolerant Dynamical Tracking Control for Systems	
with Unknown Faults	
Xiaoli Zhang, Hao Gao, Longwei Zuo, Yang Yi and Peng Zhou.....	365
An End-to-End Traffic Light Detection Algorithm Based on Deep Learning	
Shujia Yan, Xinbo Liu, Wu Qian and Qiang Chen.....	370
A Near-autonomous and Incremental Intrusion Detection System through Active	
Learning of Known and Unknown Attacks	
Lynda Boukela, Gongxuan Zhang, Meziane Yacoub and Samia Bouzefrane.....	374
Adaptive PID Switched Tracking Control of Robot Manipulator	
Juan Wang, Qiang Wei, Quanze Zhao and Zhi-E Lou.....	380
A Vision-based Pedestrian Comity Pre-Warning System	
Junyao Lin, Quan Luo, Yeqiang Qian, Xiao Zhang, Chunxiang Wang and Ming	
Yang.....	385
Study of Robust Visual Tracking Based on Traditional Denoising Methods and CNN	
Xin Lu and Fusheng Li.....	392
An Improved MLMS Algorithm with Prediction Error Method for Adaptive Feedback	
Cancellation	
Jiawei Liu, Quanli Liu, Wei Wang and Xiao-Lei Wang.....	397

EEG Classification with Broad Learning System and Composite Features Lincan Xu, Junwei Duan, Yujuan Quan and Zhiguo Zhou.....	402
Medical Image Character Recognition Based on Multi-scale Neural Convolutional Network Xing Xu, Wei Wang and Quanli Liu.....	408
A Superpixel-based Water Scene Segmentation Method by Sea-sky-line and Shoreline Detection Zhiguo Zhou, Shiqi Liu, Junwei Duan and Melliou Aikaterini.....	413
Study on Least Squares Identification Algorithm with Slope Parameter Search Optimization for Fuzzy Cognitive Map Xiaori Gao and Xiaodong Liu.....	419
Research on Laser Intelligent Removal Foreign Body in Ultra-long Distance Power Grid Zhiguo Zhou, Bei Zhou, Xinixin Hu and Yinying Gong.....	425
Consensus for Discrete Multi-agent Systems with Packet Dropout and Delayed Information Zhenhua Wang and Ben Niu.....	430
Single Target Tracking Algorithm Based On Adaptive Fusion Of Multi-layer Convolution Features Lian Liu, Yanchun Zhao and Fusheng Li	435
Machine Learning Distribution Model and Auxiliary Diagnosis System Based on Pathological Sections from Multiple Parts of Human Beings Yuer Yang, Yujuan Quan, Ying Liu, Shaobo Chen, Yiming Xu, Yao Wang and Kairui Liu	439

State Estimation for Discrete Time Linear Systems with Nonlinear measurements and Round-Robin Protocol
Zitian Li, Zenghong Huang, Lixin Yang, Jie Li and Hongxia Rao445

A GBDT Based Quality Prediction Method for the Resistance Spot Welding
Shichen Peng.....451

Adaptive Control for Fractional-order Memristive Time-varying Delayed Neural Networks with Fuzzy Cellular
Xueqi Yao, Shouming Zhong and Kaibo Shi456

Big Data Modeling of Product Value-added Services Based on SAMME-CART Algorithm
Zhouhao Lai, Hongru Ren, Renquan Lu and Junhao Qiu461

Time-invariant Discontinuous Feedback Stabilization of Underactuated Surface Vessel under Wave Disturbance
Weilin Luo and Fan Zhang466

A New Memory Based on Sequence to Sequence Model for Video Captioning
Jincheng Lin and ChunYang Zhang470

Session SuP-II: 10:30-11:50

Contrastive Graph Representation Learning via Maximizing Mutual Information
Yuqi Hu and Chunyang Zhang477

Contrastive Learning Framework by Maximizing Mutual Information for Visual Question Answering
Rong Lin and Chunyang Zhang.....483

Research on Surface Target Detection Algorithm Based on 3D Lidar

Zhiguo Zhou, Yiyao Li, Jiangwei Cao, Shunfan Di, Wang Zhao and Melliou Ailaterini.....	489
Bipartite Containment Control for General Linear Multiagent Systems under Denial-of Service Attacks	
Lulu Chen, Lei Shi, Yuhua Cheng and Jinliang Shao.....	495
Hiding Iris Biological Features with Encryption	
Jun Gu, Heng Zhang, Yiming Lu, Hongran Li and Jian Zhang	501
Fault-Tolerant Containment Control for Multi-UAV Systems Based on ADP	
Qi Liu, Qihe Shan and Tieshan Li	506
Intersection-based Traffic-Aware Routing with Fuzzy Q-learning for Urban VANETs,	
Yida He, Rongxi He and Cunqian Yu	511
Energy Efficiency Routing for Multi-modal Underwater Wireless Sensor Networks	
Wentao Xu, Rongxi He and Cunqian Yu	516
Resilient Autonomous Platoon Control with Consecutive Cyber-attack	
Cunming Zou and Lishu Qin	521
Finite-time Fault Diagnosis of T-S Fuzzy Systems with Uncertain Membership Functions	
Xuefei Yan, Huimin Wang, Guangpu Wu and Zhihui Zhang	527
Tube-based Model Predictive Control of Shipboard Boom Cranes with Ship Roll	
Yuchi Cao, Tieshan Li and Jun Ning	533
Event-based Output Feedback Controller Design with Varying Gains for Linear Systems	
Xiaolei Wang and Chen Wang	539

Adaptive Secure Tracking Control for Second-order Nonlinear Multi-agent Systems with Heterogeneous Unmodeled Dynamics and DoS Attacks Sufei Wang, Lianghai Sun, Jianting Lyu and Xin Wang	544
Prescribed Performance Model-Free Adaptive Control for Multiagent Systems Zhipeng Zhou, Dong Liu and Xiaona Yang.....	550
Command Filter-based Adaptive Finite-time Prescribed Performance Control for Uncertain Nonlinear Systems with Fuzzy Dead-zone Input Wen Yang, Hong Xue, Shenglin Hu and Hongjing Liang	555
Intelligent Ship Autopilot System Control Based on Generalized Fuzzy Hyperbolic Model Jiaze Chen, Qihe Shan, Tieshan Li, Yiping Meng and Xiaojian Wang	561
Intelligent Task Offloading for 6G-Enabled Maritime IoT Based on Reinforcement Learning Zhen Wang, Bin Lin, Lu Sun and Ying Wang.....	566
Maritime Multi-relay Communications based on UAV Trajectory Adjustment and Dual Q-Learning Hang Li, Cunqian Yu, Chunfang Zhang, Huadu Jiao, Bin Lin and Rongxi He	571
Deployment and Optimization of Multi-UAV-Assisted Maritime Internet of Things for Waterway Data Collection Yajing Zhang, Bin Lin, Xu Hu and Zirui Wang	577
Design of An End-to-End Autoencoder for Maritime Communication System towards Internet of Vessels Jiaye Li, Bin Lin, Nan Wu and Xiao Fu	581

Intelligent Evaluation Mechanism for Cloud-Edge-End based Next Generation Ship Simulator towards Maritime Pilot Training Linan Feng, Bin Lin, Xiaogang Jing, Qiuyu Zhao, Lin Liu and Shuai Shao	585
USV's Automatic Collision Avoidance Based on Improved Dynamic Potential Field Method Hongbo Nie, Junsheng Ren and Hang Ren	590
Accelerating variable projection algorithm by Aitken technique Min Xu, Fenggen Lin, Guangyong Chen and Min Gan	596
DDoS detection method based on Gini impurity and random forest in SDN environment Junyuan Tan, Shan Jing, Lei Guo and Bin Xiao	601
Decentralized Data Integrity Scheme for Preserving Privacy in Cloud Computing Yunusa Simpa Abdulsalam and Mustapha Hedabou.....	607