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Tsinghua Univ.
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Transmission and Vehicle AVL Technical Center (Shanghai) Co., Ltd.
Beijing Institute of Technology
Beijing Institute of Technology
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Jiangsu Univ.
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Jiangsu Univ.
Jiangsu Univ.
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Wei Zhang
Weijun Yun
Yanning Guo
Yueyong Gu
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Shanghai Minhang District High-Tech Industrialization Promotion Center.
Harbin Inst. of Tech.
Harbin Inst. of Tech.
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Xiaodong Liu
Yong Liu
Dalian Maritime Univ.
Dalian Maritime Univ.
Dalian Maritime Univ.
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Jiamin Yang

Yunting Liu

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Qiaozhang Hong

Southern Power Grid Energy Development Research Inst.

Yubin Lai

Southern Power Grid Energy Development Research Inst.

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Shenyang Ligong Univ.

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Shenyang Ligong Univ.

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Liang Chen

Shenyang Ligong Univ.

Yue Li

Shenyang Ligong Univ.

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Shenyang Ligong Univ.

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Yunting Liu

Shenyang Ligong Univ.

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Liang Chen

Shenyang Ligong Univ.

Ting Guo

Shenyang Ligong Univ.

Yunting Liu

Shenyang Ligong Univ.

Jiaming Yang

Shenyang Ligong Univ.

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Overview of Face Attribute Generation

Liang Chen

Shenyang Ligong Univ.
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<td>Northeast Univ. Science and tech. group</td>
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<td>Yuhang Liu</td>
<td>Liaoning Univ. of Engineering and Tech.</td>
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<td>Research on Fault Diagnosis System of Crusher Based on BP Neural Network</td>
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<td>Nonlinear circuit fault diagnosis based on simplified estimation of generalized frequency response function</td>
<td>Jiajia Zhang</td>
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<td>Coordinated Operation Strategy for Islanding Protection and Low Voltage Ride-through of Grid-connected Photovoltaic System Based on Harmonic Characteristics</td>
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<td>Adaptive Fault Detection and Estimation for a Class of Nonlinear Multi-Agent Systems With Sensor Faults</td>
<td>Jianliang Chen</td>
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<td>The Study of Detection for Longitudinal Rip of Coal Conveyor Belt Based on MATLAB</td>
<td>Xiaodan Ren</td>
<td>Inner Mongolia Tech.I College of Mechatronics and Electrics</td>
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<td>Ping Wen</td>
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**CCDC 2020**

*SunA03*

**Room03**

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<td>Hybrid systems and discrete event systems (II)</td>
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<td>H- consensus of discrete time multi-agent system with communication delay and external disturbance</td>
<td>Yampaing Guo</td>
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**Sunday, 24 May, 2020**

- **SunA03**
  - Hybrid systems and discrete event systems (II)
  - Chair: Chensong Li
  - Inner Mongolia Univ. for Nationalities
  - Co-Chair: Jinming Luo
  - Shenyang Inst. of Engineering

- **SunA03-1**
  - H- consensus of discrete time multi-agent system with communication delay and external disturbance
  - Yampaing Guo
  - Hebei Univ. of Science and Tech.
  - Yun Tian
  - Hebei Univ. of Science and Tech.
  - Yude Ji
  - Hebei Univ. of Science and Tech.

- **SunA03-2**
  - Room03
Dynamic consensus of switched linear multi-agent systems
Hongwei Jia
Shenyang Univ.
8:40-9:00
SunA03-3

Yong Zhou
Hubei Minzu Univ.
Shouwen Li
Hubei Minzu Univ.
9:00-9:20
SunA03-4

Feedback vector L2-gain for switched non-linear systems
Hai Guo
Inner Mongolia Univ. for Nationalities
Chensong Li
Inner Mongolia Univ. for Nationalities
Jun Fu
Northeastern Univ.
Hongbo Pang
Liaoning Univ. of Tech.
9:20-9:40
SunA03-5

H∞ control for a class of switched fuzzy systems via output feedback
Yudong Jiang
Nanjing Univ. of Aeronautics and Astronautics
Jiming Luo
Shenyang Inst. of Engineering
Jing Gao
Shenyang Inst. of Engineering
Hong Zhu
Shenyang Inst. of Engineering
9:40-10:00
SunA03-6

Event-Triggering Control for a Class of Genetic Network Systems
Zhigian Liu
Jiangnan Univ.
Xuyang Lou
Jiangnan Univ.

New Energy Control and Smart Energy(I)
Chair: Bowen Zhou
Northeastern Univ.
8:00-9:00
SunA04-1

Analysis and Research on performance parameters of contactless power supply system of medium speed maglev
Chenglong Jiang
National Univ. of Defense Technology
Chunhui Dai
Harbin Institute of Technology
Biao Yang
National Univ. of Defense Technology
Zhiquiang Long
National Univ. of Defense Technology
8:20-8:40
SunA04-2

Application of HIMVO-SVM in short-term load forecasting
Jinjing Zhang
Anhui Univ.
Qian Zhang
Anhui Univ.
Guoli Li
Anhui Univ.
Yuan Ma
Anhui Univ.
Can Wang
State Grid Anhui Electric Power Co., Ltd.
8:40-9:00
SunA04-3

Evaluation on Arrear Electricity Charges Based on Multi-attribute Group Decision Making Considering User Payment and Abnormal Electricity Consumption
Bo Hu
State Grid Liaoning Electric Power Supply Co. Ltd
Wanjian Gu
State Grid Anhui Electric Power Supply Company
Yukun Jin
State Grid Anhui Electric Power Supply Company
Rui Wang
Northeastern Univ.
Chuxing Song
Northeastern Univ.
Bowen Zhou
Northeastern Univ.
9:00-9:20
SunA04-4

Multiagent Reinforcement Learning With Learning Automata for Microgrid Energy Management and Decision Optimization
Xiaohan Fang
Northeastern Univ. at Qinhuangdao
Jinkuan Wang
Northeastern Univ. at Qinhuangdao
Chunhui Yin
Northeastern Univ. at Qinhuangdao
Yinghua Han
Northeastern Univ. at Qinhuangdao
Qiang Zhao
Northeastern Univ. at Qinhuangdao
9:20-9:40
SunA04-5

Optimal Scheduling of Multi-energy Hub System Based on Differential QPSO Algorithm
Zhen-hua Wei
State Nuclear Electric Power Planning Design & Research Institute
Ya-feng Zheng
State Nuclear Electric Power Planning Design & Research Institute
Yu-feng Gao
State Nuclear Electric Power Planning Design & Research Institute
Jing Xu
State Nuclear Electric Power Planning Design
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### Technical Programmes

#### A Heading Control Strategy Based On Neural Network PID Controller
- Qiu, Junhong Li, Zhihui Zhang, Zeng, Guoshan Zhang, Zheng, Yuqing
- Chair: Huaiyin Normal Univ.
- Tu: 8:20-8:40

#### Design of Model Reference Adaptive Controller for Active Guidance System of High Speed Maglev Train
- Bowen Li, Xiaolong Li, Zhong Long
- National Univ. of Defense Tech.
- Tu: 9:00-9:20

#### One-parameter Direct Robust Adaptive Train Tracking Control Based on Radial Basis Function Neural Network
- Weidong Li, Yiran Zhang, Yang Liu
- Dalian Jiaotong Univ.
- Tu: 9:20-9:40

#### Medical Image Enhancement Base on Fractional Differential Approach
- Liwei Deng, Jingming Qi, Xuyin Cheng, Jie Hu
- Harbin Univ. of Science and Tech.
- Tu: 9:40-10:00

#### An Optimal Sparseness Algorithm for LSSVM Based on Global Representative Indicator and PSO
- Dong Xie, Bo Tong, Shironing Zhang, Guoshan Zhang, Tingyuan Uniu.
- Wuhun Univ.
- Tu: 10:00-10:20

#### Data-driven control and optimization
- Chair: Guoshan Zhang, Taiyuan Uniu.
- Tu: 10:20-10:40

#### An Optimal Sparseness Algorithm for LSSVM Based on Global Representative Indicator and PSO
- Dong Xie, Bo Tong, Shironing Zhang, Guoshan Zhang, Tingyuan Uniu.
- Wuhun Univ.
- Tu: 10:00-10:20

#### Unsupervised Feature Transfer for Batch Process Based on Geodesic Flow Kernel
- Zeming Zhang, Fang Wang, Yogong Pang, Guowei Yan, Taiyuan Uniu.
- Tu: 10:40-11:00

#### Data-driven Two Degrees of Freedom Controller Design for MIMO System via VRFT Approach
- Yuqing Zheng, Guoshan Zhang, Tianjin Uniu.
- Tu: 11:00-11:20

#### Identification and estimation (I)
- Chair: Shaoxue Jing, Taiyuan Tao
- Co-Chair: Nanyang Inst. of Tech.
- Tu: 8:00-8:20

#### A high confidence correlation filter tacker based on multi-feature adaptive weighting
- Hao Zhang, Runsheng Wang, Zhengyu Bai, Nanyang Inst. of Tech.
- Tu: 9:00-9:20

#### Fast Matching for Consecutive Frames of UAV Video
- Xin Yin, Delong Yang, Dongyin Lin, Xiatai Peng, Xiamen Univ.
- Tu: 9:00-9:20

#### Research on Conversion Measurement Method of Hidden Features in Automatic Docking System
- Wenyu Feng, Haizhi Inst. of Tech.
- Tu: 9:00-9:20

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#### Identification of a Deterministic Wiener System Based on Input Prediction Error
- Jingxue Shao, Huaiyin Normal Univ.
- Tu: 9:00-9:20

#### A Parameter and Time Delays Estimation Algorithm for MISO FIR-ARMA Systems
- Taiyuan Tao, Nanyang Inst. of Tech.
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#### A Novel Approach to Optimal Input Signal Design for Data Driven Approach
- Liwei Deng, Jinming Qi, Xuyin Cheng, Jie Hu
- Harbin Univ. of Science and Tech.
- Tu: 9:00-9:20

#### Estimation of total heat exchange factor based on adaptive kernel density estimation theory
- Xiaochuan Luo, Mingwei Jiang, Lu Yu, Northeast Univ.
- Tu: 9:00-9:20

#### Algorithm of Identification for Water Parameters of Linear Water Waves
- Yuying Jian, Hailing Pei, Chengzhong Xu, Univ. Claude Bernard-Lyon 1
- Tu: 9:00-9:20

#### A Multi-Object Grasping Detection Based on the Improvement of YOLOv3 Algorithm
- Kun Du, Shenyang Inst. of Automation
- Northeast Univ.
- Tu: 9:00-9:20

#### Sensor Fault Detection Based on Weighted Stochastic Gradient Identification Algorithms
- Yu-Yao Wu, Harbin Inst. of Tech. (Shenzhen)
- Tu: 9:00-9:20

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#### Data Filtering Based Maximum Likelihood Gradient Method for Multivariable Nonlinear Systems
- Feiyan Chen, Xi'an Jiaotong Liverpool Univ.
- Tu: 9:00-9:20

#### A high confidence correlation filter tacker based on multi-feature adaptive weighting
- Hao Zhang, Runsheng Wang, Zhengyu Bai, Nanyang Inst. of Tech.
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#### Fast Matching for Consecutive Frames of UAV Video
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Yaqiong Jia
Nanjing University of Posts & Telecommunications

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Chair: Chaoqiang Zhang
CO-Chair: Xinkai Chen
Shibaura Institute of Technology
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Univ. of Shanghai for Science and Technology
Yu Li
Univ. of Shanghai for Science and Technology

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Deli Xuan
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<td>Ying Su</td>
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<td>Jianyu Wang</td>
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<td>Northeast Electric Power Univ.</td>
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<td>Shuhiua Han</td>
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28 Two-stage supply chain optimization with consumers’ environmental awareness under cap-and-trade regulation
Xintong Zhang Sichuan Univ.
Zhimiao Tao Sichuan Univ.

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58 Coordinating supply chains with a risk-averse retailer and a call option contract
Han Zhao Tsinghua Univ.
ShiQi Song Tsinghua Univ.
Yu Liao Tsinghua Univ.
Wei Liu Wuhan Donghu Univ.

11:00-11:20 SunB12-3

144 Modeling and Optimization of a Drayage Problem with Foldable and Standard Containers
Chao Huang Northeastern Univ.
Ruiyou Zhang Northeastern Univ.

11:20-11:40 SunB12-4

290 Research on Inventory Model of Non-instantaneous Deteriorating Items under Shortage Conditions
Zheng Jiming Changqing Univ. of Posts and Telecommunication
Zhu Hongyu Changqing Univ. of Posts and Telecommunication

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363 Dynamic Trip Pricing Considering Car Rebalances for Station-based Carsharing Services
Ruiyou Zhang Northeastern Univ.
Haiyu Kan Northeastern Univ.

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422 Multiple depots vehicle routing and scheduling optimization with inventory transfer
Linlin Chen Xiamen Univ.
Chaokan Du Xiamen Univ.
Shuhua Han Xiamen Univ.

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SunBIS-01

91 The optimal synchronizability of WS small-world saturated network
Xinbiao Lu Hohai Univ.
Chen Huang Hohai Univ.
Chyi Zhang Hohai Univ.

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665 Lag group consensus for multi-agent systems with hybrid control
LiQiong Zhang Tianjin University of Technology and Education
Weixun Li Tianjin University of Technology and Education
Jia Liu Tianjin University of Technology and Education

SunBIS-03

672 Exploration on Reform of Modern Control Theory under the Background of First-class Undergraduate Major Construction
Tao Liu Qilu University of Tech (Shandong Academy of Sciences)

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692 Modeling and Simulation the Influence of Passengers Distribution in the Bus on Boarding Time
Keyu Xu Qingdao University of Science and Tech.
Jing Zhang Qingdao University of Science and Tech.
Tao Wang Qingdao University of Science and Tech.
Shubin Li Shandong Police College

SunBIS-05

1014 Analysis of the Effect of Berths on Passenger Boarding Time Using Cellular Automaton Model
Keyu Xu Qingdao University of Science and Tech.
Tao Wang Qingdao University of Science and Tech.
Jing Zhang Qingdao University of Science and Tech.
JiaZhen Cui Qingdao University of Science and Tech.
Haining Sun Qingdao University of Science and Tech.

SunBIS-06

1151 Topology Identification and Inner Desynchronization of Hindmarsh-Rose Neural Networks
Yan Li Huazhong University of Science and Tech.
Hui Liu Huazhong University of Science and Tech.
Zengyang Li Central China Normal Univ.

200 SunBIS-07

1174 Observer-based memory state feedback control for switched fuzzy systems
Le Zhang Shenyang Univ.
Yue Wang Shenyang Univ.
Hong Yang Shenyang Univ.

225 Pinning Synchronization of Duplex Neural Networks with Undirected Couplings
Hui Liu Huazhong University of Science and Tech.
Jia Li Huazhong University of Science and Tech.

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1261 Stochastic stability of Hopfield neural networks disturbed by more general noises
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Yin Shenyang Normal Univ.
Zhen Heng Shenyang Normal Univ.

345 Reliable H Control of Static Output Feedback against Sensor Failure
Qianyu Ye Shenyang Normal Univ.
Bo Yao Shenyang Normal Univ.
Quansheng Wu Chaoyang teachers college
Fuzhong Wang Shenyang Institute of Engineering

477 Research on Moving Target Tracking System Based on FPGA
Aiyun Yan Northeastern Univ.
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Yi Beibei Sun State Grid Jilin Electric Power Company Limited
Wang Yi State Grid Jilin Comprehensive Energy Service Company Limited

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Guangyong Chen Fuzhou Univ.
Min Gan Fuzhou Univ.

358 The filtering based parameter estimation for two-input single-output bilinear-in-parameter systems
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Yan Ji Qingdao Univ. of Science and Tech.

966 Identification and application of data-driven superheated steam temperature system
Jiang Weng Fujian Huaian Electric Power Engineering
Yinsong Wang North China Electric Power Univ.
Tianshu Sun North China Electric Power Univ.
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1366 An Interacting-Multiple-Model Method for Tracking a Hypersonic Glide Target
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Hongbo Zhang National Univ. of Defense Tech.
Shang Wu Science and Tech. on Complex Aviati
Guojian Tang National Univ. of Defense Tech.
Weimin Bao China Aerospace Science and Tech. Corporation

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Junhong Li Nantong Univ.
Juping Gu Nantong Univ.
Li Dong Nantong Univ.
Li Huang Nantong Univ.

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Shaobo Shen Southeast Univ.
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Gang Lv Hefei Univ.

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230 Sliding mode disturbance observer-based the port-controlled Hamiltonian control for a four-tank liquid level system subject to external disturbances
Xiangxiang Meng Qingdao Univ.
Haisheng Yu Qingdao Univ.
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Herong Wu Qingdao Univ.

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795 The Approximation of the Train Resistance Based on Improved PSO-RBF
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Zhiyu Wang Dalian Jiaotong Univ.

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834 Active Disturbance Rejection Trajectory Tracking Control of Manipulator Based on Neural Network
Mengxin Cong Qingdao Univ. of Science and Tech.
Tong Zhao Qingdao Univ. of Science and Tech.

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779 Observer-based output feedback containment control of a class of nonlinear multi-agent systems via adaptive neural control method
Tingru Lu Heilongjiang Univ.
Jianting Liu Heilongjiang Univ.
Xinxiong Yang Heilongjiang Univ.
Xin Wang Heilongjiang Univ.

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298 An intelligent model with chaos and causality
Jiezhou Yu Zhejiang Univ.
Jun Meng Zhejiang Univ.
Changkai Sun Dalian Univ. of Tech.

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794 Sliding Mode Adaptive Robust Control for High-Speed Trains Based on Improved Approach Rate
Tong Zhang Dalian Jiaotong Univ.
Zhiyu Wang Dalian Jiaotong Univ.

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947 Neural-network-based average tracking for nonlinear multi-agent systems with switching topologies
Shangjun Zhang Heilongjiang Univ.
Jianting Liu Heilongjiang Univ.
Dai Gao Harbin Inst. of Tech.
Xin Wang Heilongjiang Univ.

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Haiyue Li, Xi'an Satellite Control Center
Yu Ren, Xi'an Satellite Control Center

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Lihan Sun, Harbin Inst. of Tech.
Jie Ma, Harbin Inst. of Tech.
Baoding Yang, Harbin Inst. of Tech.

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Lingfei Dou, Qiqing Univ. of Science and Tech.
Hanzhe Zhao, Qiqing Univ. of Science and Tech.
Boning Wang, Qiqing Univ. of Science and Tech.
Hongliang Xi, Qiqing Univ. of Science and Tech.
Wenlong Yao, Qiqing Univ. of Science and Tech.

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Runde Zhang, National Univ. of Defense Tech.
Weitai Cai, National Univ. of Defense Tech.
Leping Yang, National Univ. of Defense Tech.

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Hui Fang, Shanghai Aerospace Control Tech. Inst.
Hewen Xiao, Harbin Inst. of Tech.
Yueyong Lv, Harbin Inst. of Tech.
Yanning Guo, Harbin Inst. of Tech.

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Xinyu Wang, Beijing Inst. of Astronautical Systems Engineering
Guohua Wang, Beijing Inst. of Astronautical Systems Engineering
Yi Chen, Beijing Inst. of Astronautical Systems Engineering
Yongfeng Xie, Beijing Inst. of Astronautical Systems Engineering

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Intelligent control, computation and optimization (I)
Chair: Qiulong Zhang, Guangdong Univ. of Intelligent Manufacturing
CO-Chair: Xiaoxiao Li, Guangdong Univ. of Intelligent Manufacturing

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13:40:15:40
A New Effective Parallel Plane Segmentation Method for Point Cloud Based on Dimension Reduction Correction
Junkai Zhang, Shanghai Jiao Tong Univ.
Junluo Guo, Shanghai Jiao Tong Univ.
Yubin Miao, Shanghai Jiao Tong Univ.

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Intelligent control, computation and optimization (II)
Chair: Qiulong Zhang, Guangdong Univ. of Intelligent Manufacturing

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Room04
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Smart Manufacturing and Industrial Intelligence(I)
Chair: Yinghua Yang, Northeastern Univ.

Technical Programmes CCDC 2020
A novel method for design services matching under uncertain preferences in Cloud Manufacturing

13:50-14:10

Yaping Dai
Beijing Institute of Technology

Zapeng Song
Northeastern Univ.

Yuming Ding
Tianjin Univ. of Tech.

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Room06

Generative Adversarial Network for Image Deblurring Using Content
Constraint Loss

Yaping Dai
Beijing Institute of Technology

Jinru Hongjian
Beijing Institute of Technology

SunC06

Sensor networks and Internet of things (II)

Chair: Yuming Ding
Tianjin Univ. of Tech.

Yuming Ding
Tianjin Univ. of Tech.

SunC06-1

Architecture and challenges for low-altitude security system

Yan Yang
Nanjing Univ. of Aeronautics and Astronautics

Chen Shuai
Nanjing Univ. of Aeronautics and Astronautics

SunC06-2

Link Prediction Algorithm for BLE Mesh Network in Health
Monitoring System

Rui Li
Wuhan Univ. of Science and Tech.

Xiaohui Li
Wuhan Univ. of Science and Tech.

SunC06-3

A kind of demand response approach for PHEVs charging in smart
grid

Shanshan Liu
Wuhan Univ. of Science and Tech.

Yuming Ding
Tianjin Univ. of Tech.

SunC06-4

The Coverage Optimization Method for Underwater Sensor Network
Based on VF-PSO Algorithm

Yujiao Sun
Qilu Univ. of Tech.

Yifan Hu
Shandong Province Key Laboratory of Marine Monitoring Equipment

Lu Chen
Qilu Univ. of Tech.

SunC06-5

Guaranteed Cost Robust CI Fusion Kalman Estimators for Systems
with Uncertain-Variances multiplicative and Colored Measurements
Noises

Chunshang Yang
Guilin Univ. of Aerospace Technology

Xiaoli Qin
Heilongjiang College of Business and Tech.

Bin Lv
Shandong Province Key Laboratory of Marine Monitoring Equipment

SunC06-6

Room06

Chair: Yuming Ding
Tianjin Univ. of Tech.

Yuming Ding
Tianjin Univ. of Tech.

SunC06-7

Architecture and challenges for low-altitude security system

Yan Yang
Nanjing Univ. of Aeronautics and Astronautics

Chen Shuai
Nanjing Univ. of Aeronautics and Astronautics

SunC06-8

Link Prediction Algorithm for BLE Mesh Network in Health
Monitoring System

Rui Li
Wuhan Univ. of Science and Tech.

Xiaohui Li
Wuhan Univ. of Science and Tech.

SunC06-9

A kind of demand response approach for PHEVs charging in smart
grid

Shanshan Liu
Wuhan Univ. of Science and Tech.

Yuming Ding
Tianjin Univ. of Tech.

SunC06-10

The Coverage Optimization Method for Underwater Sensor Network
Based on VF-PSO Algorithm

Yujiao Sun
Qilu Univ. of Tech.

Yifan Hu
Shandong Province Key Laboratory of Marine Monitoring Equipment

Lu Chen
Qilu Univ. of Tech.

SunC06-11

Guaranteed Cost Robust CI Fusion Kalman Estimators for Systems
with Uncertain-Variances multiplicative and Colored Measurements
Noises

Chunshang Yang
Guilin Univ. of Aerospace Technology

Xiaoli Qin
Heilongjiang College of Business and Tech.

Bin Lv
Shandong Province Key Laboratory of Marine Monitoring Equipment

SunC06-12

Room06

Chair: Yuming Ding
Tianjin Univ. of Tech.

Yuming Ding
Tianjin Univ. of Tech.

SunC06-13

Architecture and challenges for low-altitude security system

Yan Yang
Nanjing Univ. of Aeronautics and Astronautics

Chen Shuai
Nanjing Univ. of Aeronautics and Astronautics

SunC06-14

Link Prediction Algorithm for BLE Mesh Network in Health
Monitoring System

Rui Li
Wuhan Univ. of Science and Tech.

Xiaohui Li
Wuhan Univ. of Science and Tech.

SunC06-15

A kind of demand response approach for PHEVs charging in smart
grid

Shanshan Liu
Wuhan Univ. of Science and Tech.

Yuming Ding
Tianjin Univ. of Tech.

SunC06-16

The Coverage Optimization Method for Underwater Sensor Network
Based on VF-PSO Algorithm

Yujiao Sun
Qilu Univ. of Tech.

Yifan Hu
Shandong Province Key Laboratory of Marine Monitoring Equipment

Lu Chen
Qilu Univ. of Tech.

SunC06-17

Guaranteed Cost Robust CI Fusion Kalman Estimators for Systems
with Uncertain-Variances multiplicative and Colored Measurements
Noises

Chunshang Yang
Guilin Univ. of Aerospace Technology

Xiaoli Qin
Heilongjiang College of Business and Tech.

Bin Lv
Shandong Province Key Laboratory of Marine Monitoring Equipment
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<td>Geng Jie</td>
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<td>Xiuhua Liu</td>
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<td>Lu Chen</td>
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<td>Bio-inspired control of lower limb exoskeleton using a central pattern generator</td>
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<td>Min Zhao</td>
<td>Room08</td>
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<td>Chunjing Zhou</td>
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<td>Gao Dong, Beijing Univ. of Chemical Tech. and Jia Yao, Beijing Univ. of Chemical Tech.</td>
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<td>Du Dangbo, Rocket Force Univ. of Engineering and Li Hong, Rocket Force Univ. of Engineering</td>
<td>Zhang Jian-Xun, Rocket Force Univ. of Engineering and Li Xue-Sheng, Rocket Force Univ. of Engineering</td>
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<tr>
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<td>Zhang Yan, Civil Aviation Univ. of China and Guo Runxia, Civil Aviation Univ. of China</td>
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<td>Zhao Jinyao, Huazhong Univ. of science and tech. and Tao Zhimin, Huazhong Univ. of science and tech.</td>
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<td>18:30-19:00</td>
<td>SunC11</td>
<td>Fault Feature Extraction of Flexible Thin-walled Bearings Based on VMD and MOMEDA</td>
<td>Guo Hao, South China Univ. of Tech. and Li Weichang, South China Univ. of Tech.</td>
<td>Zhao Xuezheng, South China Univ. of Tech. and Han Hao, South China Univ. of Tech.</td>
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<td>19:00-19:30</td>
<td>SunC12</td>
<td>Identification and estimation (III)</td>
<td>Chair: Wengiang Guo, Queen Mary Univ. of London and CO-Chair: Ling Xu, Wuxi Vocational Inst. of Commerce</td>
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<td>19:30-20:00</td>
<td>SunC12</td>
<td>Soft Measuring Method of Dioxin Emission Concentration for MSWI Process Based on RF and GSBT</td>
<td>Xian Heng, Beijing Univ. of Tech. and Tang Xian, Beijing Key Laboratory of Computational Intelligence and Intelligent System</td>
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<td>20:00-20:30</td>
<td>SunC12</td>
<td>Varying Balancing Transfer Learning for BN Parameter Estimation</td>
<td>Guo Wengiang, Shannxi Univ. of Science and Tech. and Guo Zhiqiao, Shannxi Univ. of Science and Tech.</td>
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<td>20:30-21:00</td>
<td>SunC12</td>
<td>Convenient parameter estimation approaches for process control systems with time-delay via step responses</td>
<td>Xu Ling, Wuxi Vocational Inst. of Commerce and Ding Feng, Wuxi Vocational Inst. of Commerce</td>
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<td>21:00-21:30</td>
<td>SunC12</td>
<td>Research on Energy-saving Regulation Model of Climate Compensation for Central Heating Station Based on Artificial Neural Network</td>
<td>Zhan Jian, Urumqi Meteorological Bureau and Zhang Qiang, Urumqi Meteorological Bureau</td>
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<td>21:30-22:00</td>
<td>SunC12</td>
<td>Research on the Kinematic Parameter Calibration Method of Industrial Robot Based on LM and PF Algorithms</td>
<td>Deng Xin, Harbin Inst. of Tech. and Ge Lianzheng, Harbin Inst. of Tech.</td>
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<td>22:15-23:00</td>
<td>SunC12</td>
<td>Supply chain and logistics management (II)</td>
<td>Chair: Min Huang, Northeastern Univ. and CO-Chair: Qing Wang, Northeastern Univ.</td>
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<td>23:00-23:30</td>
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<td>Research on the Supply Chain Encroachment Strategy of High Quality Manufacturer</td>
<td>Xian Xu, Nanjing Univ. of Science &amp; Tech. and Yi Lan, Nanjing Univ. of Science &amp; Tech.</td>
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<td>HUANG Fu</td>
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<td>Analysis and design for 3D printing control system based on cement component</td>
<td>Rukun Li</td>
<td>Qilu University.</td>
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<td>Renren Wang</td>
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<td>698</td>
<td>Research on Channel Strategy of Supply Chain Based on Product Quality Improvement and Experience</td>
<td>Huanming Song</td>
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<td>Multi-period Reliable Network Design of Fourth Party Logistics base on Krill Herd Algorithm</td>
<td>Jia Li</td>
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<td>596</td>
<td>Adaptive Actuator Fault Estimation of Stochastic Systems with Output Measurement Error</td>
<td>Kaiyu Hu</td>
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<td>753</td>
<td>Finite-time H∞ Filtering for A Class of Discrete-Time Hidden Markov Jump Systems with Conic-Type Nonlinearities</td>
<td>Xiaoxiao Lu</td>
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<td>H∞ Model Reduction of Spatially Interconnected Systems with Finite Frequency Specifications</td>
<td>Xiaokai Zhai</td>
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<td>Stability of ODE-PDE hybrid sampled data system</td>
<td>Getnet Twedros</td>
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<td>State estimation for parabolic PDE system with moving boundary utilizing mobile sensor networks with missing measurements</td>
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<td>Image restoration method based on GAN and multi-scale feature fusion</td>
<td>Xing Jin</td>
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<td><strong>Research on Intelligent Concentrator Based on Edge Computing Technology</strong></td>
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<td><strong>Research on Indoor Positioning Technology Based on UWB</strong></td>
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<td><strong>Archives Room Management System Based on Visible Light Communication</strong></td>
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<td><strong>The Development of Artificial Intelligence Education Resources under the Background of the Internet of Things</strong></td>
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<td><strong>The Coverage Holes Detecting and Healing Based on the Improved Harmony Search Algorithm in Wireless Sensor Network</strong></td>
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<td><strong>Research of Collaborative Search and Rescue System for Photovoltaic Mobile Robot Based on Edge Computing Framework</strong></td>
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<td><strong>Research and Analysis of Robust Decoupling Control of Hydraulic Looper System</strong></td>
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<td><strong>The state estimation for discrete-time delayed standard neural networks model</strong></td>
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<td><strong>Robust electromagnetic levitation control based on mixed sensitivity</strong></td>
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<td><strong>High Speed Train Tracking Control Based on Global Terminal Sliding Mode Method</strong></td>
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<td><strong>Greenhouse Microclimate Control Optimization Based on Improved NSGA-II Algorithm</strong></td>
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<td><strong>Design of Automatic Feeding Control System in Tank Area Based on WinCC Configuration Software</strong></td>
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<td><strong>Research on statistical process control method for multi-variety and small batch</strong></td>
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<td>Huaming Song</td>
<td>Nanjing Univ. of Science and Tech.</td>
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<td>Rui Xu</td>
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<td><strong>Research on Modeling of Wind Speed-Power Curve for Wind Farm</strong></td>
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<td>Xu Huiyan</td>
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<td>Chang Yuqing</td>
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<td>Wang Shu</td>
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<td>Yao Yuan</td>
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<td><strong>Improved Model Predictive Control for Grid-connected Inverter</strong></td>
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<td>Pengcheng Ma</td>
<td>CNPC Chuangqing Drilling Engineering Co. Ltd</td>
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<td><strong>Model Predictive Control of Current with Fixed Switching Frequency on VEINNA Rectifier</strong></td>
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<td><strong>Research on Prediction Model and Method of Power Output of Photovoltaic Power Plant Based on Neural Network and Markov Chain</strong></td>
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<td>aowei Liu</td>
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<td>Daqi Zhu</td>
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<td><strong>Decoupling control of temperature and pressure based on expected dynamic method</strong></td>
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<td>Wanzhe Luo</td>
<td>Chain Electric Construction Group Changchun</td>
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1179
Application of Neural Network Predictive Control in Cement Combined Grinding
Xin Zhang
Univ. of Jinan
Zhiqiang Yuan
Univ. of Jinan
Hangke Cui
Univ. of Jinan
Peng Luo
Univ. of Jinan

SunCIS-34
1282
Automatic Coil Delivery for Uncoupling Machine Based on Image Processing
Gang Zheng
Xi’an Univ. of Tech. Automation and Information Engineering
Zewen Wang
Xi’an Univ. of Tech. Automation and Information Engineering
Shiyu Liu
Xi’an Univ. of Tech. Automation and Information Engineering

SunCIS-35
1135
SOC Prediction of Power Battery Based on SVM
Qiyan Yan
Northeastern Univ.

SunCIS-36
54
Type-2 Fuzzy Adaptive Control For Uncertain Robot Manipulator System With Time-Varying Output Constraints
Yongqing Fan
Xi’an Univ. of Posts and Telecommunications
Tongtong Kang
Xi’an Univ. of Posts and Telecommunications

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57
Membership function dependent stability criterion for T-S fuzzy systems with time delay via a non-uniform delay partitioning approach
Zhang Ning
Guizhou Univ. of Engineering Science
Lei Man
Guizhou Univ. of Engineering Science

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603
A Delay-dependent Glucose Control Approach for Type-1 Diabetes via Takagi-Sugeno Fuzzy Models
Juntan Pan
North Minzu Univ.
Zigu Kang
North Minzu Univ.
Weiwel Zhang
North Minzu Univ.
Penghui Zhang
North Minzu Univ.

SunCIS-39
359
Mechanical Resonance Suppression of Servo System Based on ADRC and MAFC
Wu Bo
Wuhan Univ. of Science and Tech.
Lu Shaowu
Wuhan Univ. of Science and Tech.
Ning Bowen
Wuhan Univ. of Science and Tech.
Zhou Fengxing
Wuhan Univ. of Science and Tech.
Tang Xiaoqi
Dongguan Samsun Optical Technology Co., Ltd

SunCIS-40
613
Research on Adaptive Robust Control of Electro-hydraulic Composite Cylinder Under Complex Load Conditions
Haisheng Liu
Beijing Inst. of Tech.
Wei Shen
Beijing Inst. of Tech.

SunCIS-41
566
Fast Bipartite Consensus Control for Multi-agent Systems with Antagonistic Interactions
Hongtao Ye
Guangxi Univ. of Science and Tech.
Junzheng Guo
Guangxi Univ. of Science and Tech.
Zhongqiu Chen
Guangxi Univ. of Science and Tech.
Wenguang Luo
Guangxi Key Laboratory of Automobile Components and Vehicle Tech.
Kene Li
Guangxi Univ. of Science and Tech.

SunD02
Room02
IntelliSence and advanced sensing, detection technology(I)
Chair: Yong Zhao
Co-Chair: Xuegang Li
15:50-16:10

SunD02-1
1068
Highly-sensitive mercury ion sensor based on DNA modified micro-nano fiber
Yang Sun
Northeastern Univ.
Buian Shi
Northeastern Univ.
Naizi Zhu
Northeastern Univ.
Wanli Zheng
Northeastern Univ.
Yai Cai
Northeastern Univ.
Yan Fan
Northeastern Univ.

SunD02-2
1106
A Novel Method for Curved Scene Text Detection
Chao He
Shanghai Jiao Tong Univ.
Junguo Lu
Shanghai Jiao Tong Univ.

SunD02-3
1121
Research on Signal Sampling of Guided Wave Radar Based on Similar Equivalent Sampling
Chunhua Wang
Univ. of Jinan
Jun Wei
Univ. of Jinan
Ziqi Shi
Univ. of Jinan

SunD02-4
1034
Refractive Index and Temperature Sensing with Sagmac-Mach Zehnder Hybrid Fiber Interferometer
Xuegang Li
Northeastern Univ.
Lin V. Nguyen
The Univ. of Adelaide
Heike Etendorf-Heidepriem
The Univ. of Adelaide
Yanan Zhang
Northeastern Univ.
Stephen C. Warren-Smith
The Univ. of Adelaide

SunD02-5
17:10-17:30

SunD02-6
1189
Design of Soft Sensor for Industrial Antimony Flotation Based on Deep CNN
Huian
Central South Univ.
Cen Lihui
Central South Univ.
Xie Yongfang
Central South Univ.

SunD03
Room03
Intelligent control, computation and optimization (III)
Chair: JunSheng Sun
CO-Chair: Jingru Shen
Tianyan Univ. of Science and Tech.
15:50-17:50

SunD03-1
894
Optimization of Single Image Super-Resolution Reconstruction Algorithm Based on Residual Dense Network
Siqiao Hu
Nanjing Univ. of Science and Tech.
Jinsheng Sun
Nanjing Univ. of Science and Tech.
Qin Xu
Jilin Inst. of Tech.
Shuanghe Kong
Changshu Intelligent Manufacturing and Laser Equipment Research Inst.
16:10-16:30

SunD03-2
934
A Fairness-driven Active Queue Management Algorithm with Hash Table and Circular Buffer
Siqiao Hu
Nanjing Univ. of Science and Tech.
Jinsheng Sun
Nanjing Univ. of Science and Tech.
Qin Xu
Jilin Inst. of Tech.
Shuanghe Kong
Changshu Intelligent Manufacturing and Laser Equipment Research Inst.
16:30-16:50

SunD03-3
944
Research on Robot Tracking of Books Returning to Bookshelf Based on Particle Swarm Optimization Fuzzy PID Control
Rem Xiaolin
Nanjing Univ.
Yang Yi
Nanjing Univ.
Gao Long
Nanjing Univ.
Chen Jianbo
Nanjing Univ.
Mei Tianxiang
Nanjing Univ.
Yu Jingya
Nanjing Univ.
16:30-16:50
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<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Speaker</th>
<th>Institution</th>
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<tbody>
<tr>
<td>10:00-10:15</td>
<td>SunD01</td>
<td>A Matrix Adaptation Evolution Strategy Based on Large-scale Objective Optimization</td>
<td>Jingru Shen</td>
<td>Taiyuan Univ.</td>
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<tr>
<td>10:15-10:30</td>
<td>SunD02</td>
<td>Novelty Detection for Multimode Process Using GANs with Learning Disentangled Representation</td>
<td>Daoming Li</td>
<td>Tsinghua Univ.</td>
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<tr>
<td>10:30-10:45</td>
<td>SunD03</td>
<td>Quality prediction method for aluminum alloy ingot based on XGBoost</td>
<td>Xueling Yin</td>
<td>Anhui Univ.</td>
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<tr>
<td>10:45-10:50</td>
<td>SunD04</td>
<td>Design of Automatic Processing System Based on Industry 4.0</td>
<td>Daolin Gu</td>
<td>Anhui Univ.</td>
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<tr>
<td>11:00-11:15</td>
<td>SunD05</td>
<td>Robust control</td>
<td>Hou Ting</td>
<td>Shandong Normal Univ.</td>
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<tr>
<td>11:15-11:30</td>
<td>SunD06</td>
<td>Finite Frequency Robust H Filtering for Uncertain Spatially Interconnected Time-delay Systems With Interconnected Chains</td>
<td>Guoqiang Wang</td>
<td>Nanjing Inst. of Tech.</td>
</tr>
<tr>
<td>11:30-11:45</td>
<td>SunD07</td>
<td>A New Adaptive Sliding Mode Control for a Mismatched Second-order System</td>
<td>Xiaokai Zhai</td>
<td>Nanjing Univ. of Science and Tech.</td>
</tr>
<tr>
<td>11:45-11:50</td>
<td>SunD08</td>
<td>Smart Active Vibration Control System Using Piezoelectric Materials</td>
<td>Xiaoqin Mo</td>
<td>Sanya Univ.</td>
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</table>

**Technical Programmes CCDC 2020**

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<tr>
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<th>Speaker</th>
<th>Institution</th>
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<tr>
<td>12:30-12:45</td>
<td>SunD09</td>
<td>Research and Application on Internal Model Control Algorithm Based on Echo State Network</td>
<td>Junwu Zhou</td>
<td>Beijing Univ. of Civil Engineering and Architecture</td>
</tr>
<tr>
<td>12:45-12:50</td>
<td>SunD10</td>
<td>Environmental Pollution Prediction Method Based on A Novel Machine Learning Model</td>
<td>Jingru Shen</td>
<td>Taiyuan Univ.</td>
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<td>13:05-13:20</td>
<td>SunD12</td>
<td>Robust Control</td>
<td>Hou Ting</td>
<td>Shandong Normal Univ.</td>
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**Technical Programmes CCDC 2020**

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<tr>
<td>14:00-14:15</td>
<td>SunD15</td>
<td>A Matrix Adaptation Evolution Strategy Based on Large-scale Objective Optimization</td>
<td>Jingru Shen</td>
<td>Taiyuan Univ.</td>
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<td>14:15-14:30</td>
<td>SunD16</td>
<td>Novelty Detection for Multimode Process Using GANs with Learning Disentangled Representation</td>
<td>Daoming Li</td>
<td>Tsinghua Univ.</td>
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<tr>
<td>14:30-14:45</td>
<td>SunD17</td>
<td>Quality prediction method for aluminum alloy ingot based on XGBoost</td>
<td>Xueling Yin</td>
<td>Anhui Univ.</td>
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<tr>
<td>14:45-14:50</td>
<td>SunD18</td>
<td>Design of Automatic Processing System Based on Industry 4.0</td>
<td>Daolin Gu</td>
<td>Anhui Univ.</td>
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<td>14:50-15:05</td>
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<td>Robust control</td>
<td>Hou Ting</td>
<td>Shandong Normal Univ.</td>
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<td>15:35-15:50</td>
<td>SunD22</td>
<td>Smart Active Vibration Control System Using Piezoelectric Materials</td>
<td>Xiaoqin Mo</td>
<td>Sanya Univ.</td>
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**Reliable Event-Triggered Control for Switched Linear Systems**  
Yunjing Su, Nanjing Univ. of Science and Tech.  
Weiqun Wang, Nanjing Univ. of Science and Tech.  
Tianrui Li, Nanjing Univ. of Science and Tech.

**Finite horizon H₂/H-infinity control for nonlinear Markov jump systems**  
Lifan Kang, Shandong Univ. of Science and Tech.  
Hou Ting, Shandong Normal Univ.  
Shandong Univ. of Science and Tech.

**Multi - Mobile Robot Leader -Follower Formation Distributed Control Under Switching Topology**  
Nankai Chen, Hunan Univ.  
Yanan Wang, Hunan Univ.  
Lina Jin, Hunan Univ.

**Multi-Agent Planning Under Complex Constraints for Deep-Space Probes Group**  
Yuting Zhao, Beijing Institute of Technology  
Zhaoyu Li, Beijing Institute of Technology  
Shenying Zhu, Beijing Institute of Technology  
Zixuan Liang, Beijing Institute of Technology  
Rui Xu, Beijing Institute of Technology

### Technical Programmes - SunD07-1

**Process control and predictive control (II)**  
Chair: Dongxiang Zhang  
CO-Chair: Jianfeng Su  
Beijing Inst. of Tech.

**PID Control of Iodine Molecules Containing Gas Generator Based on Differential Evolution Algorithm**  
Lihua Wang, Beijing Inst. of Tech.  
Jianfeng Su, Beijing Inst. of Tech.  
Liuyun Chen, Beijing Inst. of Tech.  
Dongxiang Zhang, Beijing Inst. of Tech.

**Optimizing LADRC Bubble Tower Control System Based on Differential Evolution Algorithm**  
Jianfeng Su, Beijing Inst. of Tech.  
Lihua Wang, Beijing Inst. of Tech.  
Liuyun Chen, Beijing Inst. of Tech.  
Dongxiang Zhang, Beijing Inst. of Tech.

**Piston Displacement Tracking of Hydraulic Propulsion System in Horizontal Well of Coal-bed Methane Based on Sliding Mode Control**  
Zicheng Li, Henan Inst. of Tech.  
Yangwu Chen, Key Laboratory of Optical Information and Pattern Recognition, Wuhan Inst. of Tech.

### Technical Programmes - SunD07-2

**Noise-blocking based receding horizon state estimation for constrained linear systems with multi-channels**  
Fanghui Yu, Zhejiang Univ. of Tech.  
Defeng He, Zhejiang Univ. of Tech.  
Chenhui Xu, Zhejiang Univ. of Tech.

**A Soft Sensor Prediction Model for NOX Concentration based on AWLS-SVM**  
Wenjin Yan, Key Laboratory of Advanced Process Control for Light Industry (Ministry of Education)  
Fei Liu, Jiangnan Univ.

### Technical Programmes - SunD07-3

**Application of improved ADRC and Smith prediction in constant temperature control of instant water heater**  
Xiang Wang, Northeastern Univ.  
Guoliang Zhao, Northeastern Univ.  
Ke Zhang, Northeastern Univ.  
Yong Cao, Northeastern Univ.  
Jun Gong, Northeastern Univ.  
Benke Liu, Northeastern Univ.

### Technical Programmes - SunD07-4

**Effective Decoupled Planning for Continuous Multi-Agent Pickup and Delivery**  
Zhenbang Nie, Shenyang Institute of Automation  
Peng Zeng, Shenyang Institute of Automation  
Haibin Yu, Shenyang Institute of Automation

### Technical Programmes - SunD07-5

**A Simulation Study of Integrated Maneuver Trajectory Control**  
Wuxi Shi, Zhejiang Univ. of Tech.  
Fei Liu, Wuxi Inst. of Tech.
Global Robust Output Regulation for High-order Unknown Nonlinear Multi-agent Systems with Unknown Control Directions
Shaoqiong Liu
Qifu Normal Univ.
Qiande Wang
Qifu Normal Univ.
Chunling Wei
Qifu Normal Univ.
17:10-17:30
SunD11-5
Adaptive fuzzy tracking control for a class of non-affine stochastic nonlinear high-order multi-agent systems with non-lower triangular structure
Hui Wang
Qifu Normal Univ.
Qiande Wang
Qifu Normal Univ.
Chunling Wei
Qifu Normal Univ.
17:30-17:50
SunD11-6
Grid-Voltage-Sensorless Method Based Continuous Sliding Mode Control of Three-Phase Active Power Filter
Shixi Hou
Hohai Univ.
Jiangsu Key Laboratory of Power Transmission and Distribution Equipment Technology
Wen Chen
Hohai Univ.
Jiangsu Key Laboratory of Power Transmission and Distribution Equipment Technology
Yundi Chu
Hohai Univ.
Jiangsu Key Laboratory of Power Transmission and Distribution Equipment Technology
17:50-18:10
SunD11-7
Research on Emergency Material Optimization Scheduling and Importance Decision in Cluster Supply Chain
Xue Hong
Beijing Tech. and Business Univ.
Wang Yuan
Beijing Tech. and Business Univ.
Xu Ruidi
Beijing Tech. and Business Univ.
Xu Zhuoran
Beijing Tech. and Business Univ.
18:10-18:30
SunD11-8
Routing Problem with Stochastic Delay Time Under Forth Party Logistics
Shuhao Yang
Northeastern Univ.
Jin Zhu
Northeastern Univ.
Qin Wang
Northeastern Univ.
Min Huang
Northeastern Univ.
18:30-19:00
SunD11-9
Distributionally Robust Deviation Flow Refueling Location for Electric Vehicle Swapping Stations
Yuli Zhang
Beijing Inst. of Tech.
Yue Guo
Beijing Inst. of Tech.
Ningwei Zhang
Beijing Inst. of Tech.
Bingjie Zhong
Beijing Inst. of Tech.
19:00-20:00
SunD11-10
Fault Diagnosis and Predictive Maintenance (III)

Chair: Jie Fu
Beijing Jiaotong Univ.
16:50-17:10
SunD11-4
Regional Robust Output Regulation for High-order Unknown Nonlinear Multi-agent Systems with Unknown Control Directions
Shaoting Liu
Qifu Normal Univ.
Qiande Wang
Qifu Normal Univ.
Chunling Wei
Qifu Normal Univ.
17:10-17:30
SunD11-5
Adaptive fuzzy tracking control for a class of non-affine stochastic nonlinear high-order multi-agent systems with non-lower triangular structure
Hui Wang
Qifu Normal Univ.
Qiande Wang
Qifu Normal Univ.
Chunling Wei
Qifu Normal Univ.
17:30-17:50
SunD11-6
Grid-Voltage-Sensorless Method Based Continuous Sliding Mode Control of Three-Phase Active Power Filter
Shixi Hou
Hohai Univ.
Jiangsu Key Laboratory of Power Transmission and Distribution Equipment Technology
Wen Chen
Hohai Univ.
Jiangsu Key Laboratory of Power Transmission and Distribution Equipment Technology
Yundi Chu
Hohai Univ.
Jiangsu Key Laboratory of Power Transmission and Distribution Equipment Technology
17:50-18:10
SunD11-7
Research on Emergency Material Optimization Scheduling and Importance Decision in Cluster Supply Chain
Xue Hong
Beijing Tech. and Business Univ.
Wang Yuan
Beijing Tech. and Business Univ.
Xu Ruidi
Beijing Tech. and Business Univ.
Xu Zhuoran
Beijing Tech. and Business Univ.
18:10-18:30
SunD11-8
Routing Problem with Stochastic Delay Time Under Forth Party Logistics
Shuhao Yang
Northeastern Univ.
Jin Zhu
Northeastern Univ.
Qin Wang
Northeastern Univ.
Min Huang
Northeastern Univ.
18:30-19:00
SunD11-9
Distributionally Robust Deviation Flow Refueling Location for Electric Vehicle Swapping Stations
Yuli Zhang
Beijing Inst. of Tech.
Yue Guo
Beijing Inst. of Tech.
Ningwei Zhang
Beijing Inst. of Tech.
Bingjie Zhong
Beijing Inst. of Tech.
19:00-20:00
SunD11-10
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<td>SunDIS</td>
<td>Room13, 15:30-17:50</td>
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<td>SunDIS-01</td>
<td>Room13, 15:30-17:50</td>
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<td>787 A Fuzzy Self-tuning Temperature PID Control Algorithms for 3D Bio-printing Temperature Control System</td>
<td>Room13, 15:30-17:50</td>
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<td>Xiaoyan Wu, Huabei Polytechnic Univ.</td>
<td>Room13, 15:30-17:50</td>
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<td>Xinnan Wang, Huanghai Dongbei Electrical Appliance Co. Ltd.</td>
<td>Room13, 15:30-17:50</td>
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<td>Guogong He, Huazhong Univ. of Science and Tech.</td>
<td>Room13, 15:30-17:50</td>
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<td>SunDIS-02</td>
<td>Room13, 15:30-17:50</td>
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<td>Three-Dimensional Impact Time and Angle Guidance via Controlling Line-of-Sight Dynamics</td>
<td>Room13, 15:30-17:50</td>
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<td>Tuo Han, Beihang Univ.</td>
<td>Room13, 15:30-17:50</td>
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<td>Yong Xi, Shanghai Aerospace Control Tech. Inst.</td>
<td>Room13, 15:30-17:50</td>
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<td>Guangshan Chen, Shanghai Aerospace Control Tech. Inst.</td>
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<td>Qinglei Hu, Beijing Advanced Innovation Center for Big-Data Based Precision Medicine</td>
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<td>SunDIS-03</td>
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<tr>
<td>Cubic Range Shaping Guidance for Maneuvering Targets with Impact Time Constraint</td>
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<tr>
<td>Tuo Han, Beihang Univ.</td>
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<td>SunDIS-04</td>
<td>Room13, 15:30-17:50</td>
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<tr>
<td>Circle Involute-Based Path Planning and Tracking for Impact Angle Control</td>
<td>Room13, 15:30-17:50</td>
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<td>ZiQi Wang, Beihang Univ.</td>
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<td>Kewei Zhong, Shanghai Aerospace Control Tech. Inst.</td>
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<td>SunDIS-05</td>
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<td>Analysis and design for 3D printing control system based on cement componenSmooth Switching Control of Sliding Mode and Passive Control for Permanent Magnet Synchronous Motor</td>
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<td>Guangqin Yao, Qingdao Univ. of Tech.</td>
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<td>Youqiang Lv, Qingdao Univ. of Tech.</td>
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<td>Zhuhua Chen, Qingdao Univ. of Tech.</td>
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<td>SunDIS-06</td>
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<td>Position Regulation of Bridge Crane with Non-constant Disturbances</td>
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<td>Halbin Shi, Northeastern Univ.</td>
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<td>Mingchun Guo, Northeastern Univ.</td>
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<td>Yang Yu, Northeastern Univ.</td>
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<td>Yan Zheng, Northeastern Univ.</td>
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<td>SunDIS-07</td>
<td>Room13, 15:30-17:50</td>
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<tr>
<td>Nonsingular Terminal Sliding Mode Control for PMSM Servo System Based on Backlash Compensation and High-order Sliding Mode Observer</td>
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<td>Jianwei Gui, Southeast Univ.</td>
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<td>Lu Zhang, Southeast Univ.</td>
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<td>Shihua Li, Southeast Univ.</td>
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<td>Xiangyu Wang, Southeast Univ.</td>
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<td>SunDIS-08</td>
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<td>Energy Management Strategy of Hybrid Electric Vehicle with Consideration of Road Gradient</td>
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<td>Zheng Yang, Jilin Univ.</td>
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<tr>
<td>Hong Chen, Jilin Univ.</td>
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SunDIS-19
219 Fractional-Order Adaptive Fault-Tolerant Tracking Control for High Speed Trains
Xinrui Hu Beijing Jiaotong Univ.
Qi Song Beijing Jiaotong Univ.
Meng Ge Beijing Jiaotong Univ.

SunDIS-20
265 Model-Based Event-Triggered Control of a Class of Strict-Feedback Nonlinear Discrete-Time Systems
Min Wang South China Univ. of Tech.
Fenghua Du South China Univ. of Tech.
Longwang Huang South China Univ. of Tech.

SunDIS-21
374 Event-Triggered Adaptive Fault-Tolerant Control of Uncertain Linear Time-Delayed Systems With Actuator Failures
Xi Chen Univ. of Science and Tech. Liaoning.
Yan Yan Tianjin Univ.
Rui-Yan Zhang Univ. of Science and Tech. Liaoning.
Qing-Kun Yu Univ. of Science and Tech. Liaoning.
Li-Bing Wu Univ. of Science and Tech. Liaoning.

SunDIS-22
487 Adaptive dynamic surface control of nonlinear systems with dead zone
Dexin Fan Univ. of Science and Tech. Beijing.
Yixin Yin Univ. of Science and Tech. Beijing.

SunDIS-23
998 Robust Adaptive Leader-following Control of a Class of Multi-agent Systems
Hao Tang HeFei Univ. of Tech.
Yajun Wu HeFei Univ. of Tech.
Xiaozheng Jin Qiliu Univ. of Tech.

SunDIS-24
1176 The Allocation Control of Lateral Jet System of Flight Vehicle Based on Integrated Guidance and Control Model
Danxu Zhao Beijing Jiaotong Univ.
Xiangbin Liu Beijing Jiaotong Univ.
Qi Han Beijing Jiaotong Univ.
Gongping Zhang Louyang Optoelectro Tech. Development Center.

SunDIS-25
46 An ADRC-based Active Heave Compensation for Offshore Rig
Shuguang Liu Huangshan Univ.
Wuyang Chen Huangshan Univ.
Kecheng Wu Huangshan Univ.
Jia Jiang Research and development center Anhui Dorje Electric Co., Ltd.

SunDIS-26
652 Step-By-Step Coordination Control of Multiple Robot Fish Based on Discrete Integral Terminal Sliding Mode
Hufiang Kong Hefei Univ. of Tech.
Weiwu Xu Hefei Univ. of Tech.
Hai Wang Murdoch Univ.
Youhao Hu Hefei Univ. of Tech.
Mao Ye Hefei Univ. of Tech.
Kanghyun Nam Yeungnam Univ.

SunDIS-27
653 Discrete Time Fast Terminal Sliding-Mode for Steer-by-Wire Systems with Nonlinear Disturbance Observer
Hufiang Kong Hefei Univ. of Tech.
Xiangfang Liu Hefei Univ. of Tech.
Hai Wang Murdoch Univ.
Youhao Hu Hefei Univ. of Tech.
Mao Ye Hefei Univ. of Tech.
Kanghyun Nam Yeungnam Univ.

SunDIS-28
1042 Sliding Mode Variable Structure Control on Vienna Rectifier
Xiping Huang Xi'an Univ. of Tech.
Danyang Ma Xi'an Univ. of Tech.
Xi Chen Xi'an Univ. of Tech.

SunDIS-29
554 Real Time Object Tracking System Using Ultraviolet Laser
Shanbin Li South China Univ. of Tech.
Syed Waleed South China Univ. of Tech.
Muhammad Usman South China Univ. of Tech.

SunDIS-30
507 Application of Optimized Bidirectional Generative Adversarial Network in ICS Intrusion Detection
Huipeng Liu Jiangnan Univ.
Zhiping Zhou Jiangnan Univ.
Min Zhang Jiangnan Univ.

SunDIS-31
107 Nonlinear combination forecasting of measles incidence in Shenyang based on General Regression Neural Network
Enbin Yang Shenyang Jianzhu Univ.
Dongyu Yan Shenyang Jianzhu Univ.
Gicheng Xu Shenyang Jianzhu Univ.
Zhenhao Wang Shenyang Jianzhu Univ.
Shitong Liu Shenyang Jianzhu Univ.

SunDIS-32
267 Regulation of External Current Stimulation on Hindmarsh-Rose Neuronal Systems with Magnetic Flow
Meichen Yang Donghua Univ.
Fang Han Donghua Univ.

SunDIS-33
932 Photovoltaic Rate Prediction Model Based on PSO-LSSVM for Optimization and Control of Greenhouse Environment
Qingyun Yuan Shenyang Agricultural Univ.
Tan Liu Shenyang Agricultural Univ.
Yonggang Wang Shenyang Agricultural Univ.
Chunling Chen Shenyang Agricultural Univ.

SunDIS-34
21 Longitudinal Guidance Law of Vision-based Net-recovery for a Small Fixed-wing UAV
Hang Zhang Inst. of Automation Engineering.
Chen Xin Inst. of Automation Engineering.
Huxin Hao Inst. of Automation Engineering.

SunDIS-35
94 Research on Longitudinal Landing Track Control Technology of Carrier-based Aircraft
Yao Liang Nanjing Univ. of Aeronautics and Astronautics.
Xin Chen Nanjing Univ. of Aeronautics and Astronautics.
Ruizhen Xu Nanjing Univ. of Aeronautics and Astronautics.

SunDIS-36
319 Dynamic Docking Technology between AUV and Mobile Mothership
Zheping Yan Harbin Engineering Univ.
Peng Gong Harbin Engineering Univ.
Wei Zhang Harbin Engineering Univ.

SunDIS-37
350 Waypoints Trajectory Tracking Control for Nonholonomic Unmanned Surface Vehicle under Environment Disturbance
Jian Yuan Qiliu Univ. of Tech.
Hailin Liu Qiliu Univ. of Tech.
Wenxia Zhang Qindao Coll.

SunDIS-38
541 Control Method of Multi-AUV Circular Formation Combining Consensus Theory and Artificial Potential Field Method
Guoqing Xia Harbin Engineering Univ.
Yu Zhang Harbin Engineering Univ.
Ying Yang Harbin Engineering Univ.

SunDIS-39
542 Pedestrian Re-identification Model based on Joint learning Method
Shuangli Xue Xi'an Jiaotong Univ.
Hui Cao Xi'an Jiaotong Univ.
Tao Wang Xi'an Jiaotong Univ.
Xingyu Yan Xi'an Jiaotong Univ.
Zhuzhu Wang Xi'an Jiaotong Univ.

SunDIS-40
554
A Path Planning Method for Autonomous Ships Based on SVM
Shuanghui Qiao  
Kai Zheng  
Guofeng Wang  
Dalian Maritime Univ.
Dalian Maritime Univ.
Dalian Maritime Univ.

Monday, 25 May, 2020

MonA01  
08:00-10:00
Room01
Analysis and synthesis of Cyber-Physical Systems (I)
Chair: Jianxun Li  
CO-Chair: Hongbing Zeng  
Hunan University of Tech.

Global sensitivity analysis based on Inception-CNN
Shuchen Wu  
Zhian Liu  
Xianjun Li  
Shanghai Jiao tong Univ.
Shenyang Aircraft Design & Research Inst.
Shanghai Jiao tong Univ.

08:00-08:20  
MonA01-1

Secure Correct Control for Cyber-Physical Systems under Multiple Stochastic Physical Attacks
Lewei Dong  
Huiling Xu  
Nanjing University of Science and Tech.
Nanjing University of Science and Tech.

08:40-09:00  
MonA01-3

CPS-based Slurry pH Control in Wet Flue Gas Desulfurization System
Quanbo Liu  
Xiaoli Li  
Kang Wang  
Yang Li  
Beijing University of Tech.
Beijing University of Tech.
Beijing University of Tech.
Communication University of China

09:00-09:20  
MonA01-4

New stability conditions of delayed neural networks via improved Lyapunov-Krasovskii functionals
Huichao Lin  
Hongbing Zeng  
Hunan University of Tech.
Hunan University of Tech.

09:20-09:40  
MonA01-5

MPC for the Cyber-Physical System with Deception Attacks
Yuezhi Liu  
Yong Chen  
Meng Li  
Zhi Wan  
University of Electronic Science and Technology of China
University of Electronic Science and Technology of China
University of Electronic Science and Technology of China
Chongqing Chang An Industry (Group) Co.,Ltd.

MonA03  
8:00-10:00
Room03
Intelligent control, computation and optimization (IV)
Chair: Haoyu Cheng  
CO-Chair: Qingguan Cui  
Beijing University of Tech.
Yunnan Land and Resources Vocational College

Formation Tracking and Transformation of AUVs based on the Improved Particle Swarm Optimization Algorithm
Yue Li  
Daqi Zhu  
Shanghai Maritime Univ.
Shanghai Maritime Univ.

08:20-08:40  
MonA03-2

Route planning method for UAV in unknown environment based on improved SAS algorithm
Yuanjie Song  
Xiaojun Xing  
Qingbiao Xi  
Bing Yang  
Qizuan Yu  
Northwest Polytechnical Univ.
Northwest Polytechnical Univ.
Northwest Polytechnical Univ.
Northwest Polytechnical Univ.
Nanjing Univ. of Aeronautics and Astronautics

8:40-09:00  
MonA03-3

Learning Individual Features to Decompose State Space for Robotic Skill Learning
Fengyi Zhang  
Fangzhou Xiong  
Zhiyong Liu  
Univ. of Chinese Academy of Sciences (UCAS)
Univ. of Chinese Academy of Sciences (UCAS)
Univ. of Chinese Academy of Sciences (UCAS)

9:00-09:20  
MonA03-4

9:20-09:40  
MonA03-5

MonA04  
8:00-09:45
Room04
Connected Vehicle and Future Smart Transportation(II)  
(Special Session)
Chair: Yougang Bian  
Hunan Univ.

Intelligent Control for Unmanned Flight Vehicles via Deep Reinforcement Learning
Yang Li  
Kang Xiong  
Yinli Hou  
Dalian Univ.
Dalian Univ.
Dalian Univ.

8:20-8:40  
MonA04-2

Nonlinear Longitudinal Control for Vehicle Platoon Considering the Effect of Electronic Throttle Opening Angle
Yongxin Zhu  
Yinglu Hou  
Chongqing Univ. of Posts and Telecommunications
Chongqing Univ. of Posts and Telecommunications

9:00-9:20  
MonA04-3

High Definition Map Assisted Vehicle Tracking with Lane Constraint
Shenghao Su  
Mengxian Liu  
Ming Cen  
Chongqing Univ. of Posts and Telecommunications
Chongqing Univ. of Posts and Telecommunications
Chongqing Univ. of Posts and Telecommunications

9:40-10:00  
MonA04-4

MonA05  
8:00-08:20  
Room05
Fractional Calculus and Fractional-order Systems(I)  
(Special Session)
Chair: Dingyu Xue  
Northeastern Univ.

8:00-08:20  
MonA05-1
**Technical Programmes**

**CCDC 2020**

### Geometric Interpretation for Riemann-Liouville Fractional-Order Integral

- **Lu Bai**
  - Northeastern Univ.
- **Dingyu Xue**
  - Northeastern Univ.
- **Li Meng**
  - Shenyang Univ.

**08:20-08:40**

**MonA05-2**

24 Finite-time synchronization control of fractional-order memristive neural networks with time varying delays

- **Yihong Liu**
  - Huainan Normal Univ.
- **Yeguo Sun**
  - Huainan Normal Univ.

**08:40-09:00**

**MonA05-3**

40 Analytical calculation of the inverse nabla Laplace transform

- **Yiheng Wei**
  - Univ. of Science and Technology of China
- **YangQuan Chen**
  - Univ. of California
- **Yuquan Chen**
  - Univ. of Science and Technology of China
- **Yang Wang**
  - Univ. of Science and Technology of China

**09:00-09:20**

**MonA05-4**

603 Fixed Point Theorem of a Sum Operator in Set Ph;e and Applications

- **Haijiao Chen**
  - Taiyuan Univ. of Technology
- **Lingling Zhang**
  - Taiyuan Univ. of Technology

**09:20-09:40**

**MonA05-5**

514 Optimization of Fractional-order Stochastic Resonance Parameters Based On Improved Genetic Algorithm

- **Yangbaihui Wang**
  - China Jiliang Univ.
- **Yangjun Zheng**
  - China Jiliang Univ.
- **Ming Huang**
  - China Jiliang Univ.
- **Xiaofeng Hu**
  - China Jiliang Univ.

**09:40-10:00**

**MonA05-6**

446 A Novel Discrete Grey Model with Fractional Accumulating Operators and Optimal Initial Condition and Its Application

- **Yifeng Liu**
  - Northeastern Univ.
- **Feng Pan**
  - Northeastern Univ.
- **Dingyu Xue**
  - Northeastern Univ.
- **Yang Yang**
  - Bohai Univ.

**MonA06**

**Room06**

**08:00-10:00**

Process control and predictive control (I)

- **Chair**: Zhu Xiaoyan
  - Shenyang Jianzhu Univ.
- **Co-Chair**: XiFeng Guo

**08:00-08:20**

**MonA06-1**

324 Research on Tracking Improvement for Electric Vehicle during a Car-following Process

- **Sheng Zhang**
  - Shenzhen Research Inst.
- **Xiangtao Zhan**
  - Shenzhen Research Inst.

**08:20-08:40**

**MonA06-2**

335 First-principle modeling and simulation of cement rotary kiln

- **Chongjian Sun**
  - Univ. of Jinan
- **Jianyu Zhao**
  - Univ. of Jinan
- **Shi Li**
  - Univ. of Jinan
- **Ping Jiang**
  - Univ. of Jinan

**08:40-09:00**

**MonA06-3**

351 Networked predictive control of linear switched systems with average dwell time

- **Lei Zheng**
  - Nanjing Univ. of Posts and Telecommunications

**09:00-09:20**

**MonA06-4**

366 Algorithm of acid temperature setup model based on the CBR

- **Zhu Xiaoyan**
  - Shenyang Jianzhu Univ.
- **Li Songhua**
  - Shenyang Jianzhu Univ.
- **Cao Jiao-zhao**
  - Shenyang Jianzhu Univ.
- **Sun Jie**
  - Northeastern Univ.
- **Zhang Shi-bang**
  - Shenyang Jianzhu Univ.

**09:20-09:40**

**MonA06-5**

779 Improving the Ramp Rate of Thermal Power Units Based on Deep Utilization of Coal Powder in Milling Systems

- **Gaoya Kui**
  - North China Electric Power Univ.
- **Zhang Xia**
  - North China Electric Power Univ.

**09:40-10:00**

**MonA06-6**

430 Harmonic Current Adaptive Predictable Based on Variable Step Size LMS Algorithm Used in APF

- **XiFeng Guo**
  - Shenyang Jianzhu Univ.
- **Haoran Jiang**
  - Shenyang Jianzhu Univ.
- **Di Zheng**
  - Beijing Freedom Technology Co. Ltd.
- **Wenzhuo Cong**
  - Shenyang Jianzhu Univ.
- **Shiwai Jiang**
  - Shenyang Weichuang Hi-Techn Co. Ltd.

**MonA08**

**Room08**

**08:00-10:00**

Pattern recognition and intelligent machines(III)

- **Chair**: Jun Gong
  - Northeastern Univ.
- **Co-Chair**: Jian-Wei Liu

**08:20-08:40**

**MonA06-1**

**994** Emotion recognition of human body’s posture in open environment

- **Mingming Cui**
  - Inner Mongolia Univ. of Technology
- **Jiandong Fang**
  - Inner Mongolia Univ. of Technology
- **Yudong Zhao**
  - Inner Mongolia Autonomous Region

**08:40-09:00**

**MonA06-2**

**695** Research on Human Action Recognition Based on Improved Pooling Algorithm

- **Hanxu Shen**
  - Northeastern Univ.
- **Yue Li**
  - Northeastern Univ.
- **Hao Hao**
  - Northeastern Univ.
- **Qiongyang Liu**
  - Northeastern Univ.
- **Xiaonan Yang**
  - Northeastern Univ.
- **Yongquan Wei**
  - Northeastern Univ.
- **Jun Gong**
  - Northeastern Univ.

**9:00-09:20**

**MonA06-4**

**695** Human behavior recognition under occlusion based on two-stream network combined with BiLSTM

- **Chenhao Wang**
  - Northeastern Univ.
- **Yongquan Wei**
  - Northeastern Univ.
- **Jun Gong**
  - Northeastern Univ.

**9:20-09:40**

**MonA06-5**

**769** Multi-target vehicle detection and tracking based on video

- **Kun Zhang**
  - Northeastern Univ.
- **Hang Ren**
  - Northeastern Univ.
- **Yongquan Wei**
  - Northeastern Univ.
- **Jun Gong**
  - Northeastern Univ.

**9:40-10:00**

**MonA06-6**

**750** Multi-view classification via Multi-view Partially Common Feature Latent Factor Learning

- **Jian-Wei Liu**
  - China Univ. of Petroleum
- **Hao-Jie Xie**
  - China Univ. of Petroleum
- **Run-Kun Lu**
  - China Univ. of Petroleum
- **Xiong-Lin Luo**
  - China Univ. of Petroleum

**MonA09**

**Room09**

**08:00-10:00**

Intelligent control and optimization of complex industrial processes

- **Chair**: Hao Yan
  - Northeastern Univ.
- **Co-Chair**: HuaLu Zhang

**8:00-8:20**

**MonA09-1**

371 Temperature Estimation of Cement Rotary Kiln Based on Extended Kalman Filter

- **Zhaogang Li**
  - Univ. of Jinan.
- **Jianyu Zhao**
  - Univ. of Jinan.
- **Ping Jiang**
  - Univ. of Jinan.
- **Shi Li**
  - Univ. of Jinan.
Soft Sensing Model of Underflow Concentration for Thickener Process based on Data Reconciliation
Hualu Zhang Northeastern Univ.
Fuli Xu Northeastern Univ.
Yihua Zhang Northeastern Univ.
Dakuo He Northeastern Univ.
8:40-9:00  MonA09-3

Soft Sensor Modeling of Process Industrial Process with Uncertain Information
Yuqiang Chang Northeastern Univ.
Diwu Xu Chongqing Silian measurement and control tech. co.LTD.
Wanjun Feng Northeastern Univ.
Shu Wang Northeastern Univ.
Leping Zhao Northeastern Univ.
9:00-9:20  MonA09-4

Research on Efficiency Optimization of Medium and Small Power Wireless Energy Transfer
Zhitao Wang Guangxi Univ. of Science and Tech.
Wenguang Luo Guangxi Univ. of Science and Tech.
Ming Ma Guangxi Univ. of Science and Tech.
Qiang Liu Guangxi Univ. of Science and Tech.
9:20-9:40  MonA09-5

Bayesian Network-based Technical Index Estimation for Industrial Flotation Process under Incomplete Data
Hao Yan Northeastern Univ.
Jin Zhu Northeastern Univ.
Fuli Wang Northeastern Univ.
Dakuo He Northeastern Univ.
Qingkai Wang State Key Laboratory of Process Automation in Mining and Metallurgy.
9:40-10:00  MonA09-6

Design Parameters Optimization of MGT-ORC System based on Load Demand under Off-design Conditions
Hongcan Xu Southeast Univ.
Lei Pan Southeast Univ.
Jiong Shen Southeast Univ.

Fault diagnosis and predictive maintenance (IV)
8:00-10:00  MonA10

Chair: Yuemei Xu Northeastern Univ.
CO-Chair: Yijun Pan Shenyang Inst. of Automation
8:00-8:20  MonA10-1

Method of Extracting Characteristic Parameters of Medium-speed Maglev Train Levitation Controller based on Relief Algorithm
Guangyi Wang Beijing Jiaotong Univ.
Jie Xu Beijing Jiaotong Univ.
Lili Xu Beijing Jiaotong Univ.
Dong Liang Beijing Jiaotong Univ.
Yazhi Xu CRRC TANGSHAN CO., LTD.
8:20-8:40  MonA10-2

Reliability Analysis of Intelligent Substation Protection System Based on Markov Model
Lu Zhang Electric Power Research Inst.
Yutian Dong Economic Research Inst. of State Grid Xinjiang Electric Power Co., Ltd.
Dongliang Nan Electric Power Research Inst.
Yonghui Sun Hohai Univ.
Qil Zhao Electric Power Research Inst.
8:40-9:00  MonA10-3

Multi-target Defect Detection of Railway Track Based on Image Processing
Anzhong Zhang Beijing Jiaotong Univ.
Xinyu Huang Beijing Jiaotong Univ.
Minyu Jin Beijing Jiaotong Univ.
Xiukun Wei Beijing Jiaotong Univ.
9:00-9:20  MonA10-4

Adaptive fault estimation observer design for switched systems with actuator and sensor faults
Yue Yang Faculty of Automation, Huaqin Inst. of Tech.
Dongsheng Du Faculty of Automation, Huaqin Inst. of Tech.
Yu Wu Faculty of Automation, Huaqin Inst. of Tech.
Huanyu Zhao Faculty of Automation, Huaqin Inst. of Tech.
9:20-9:40  MonA10-5

Bayesian online change point detection method for process monitoring
Yujun Pan Shenyang Inst. of Automation
Zeyu Zheng Shenyang Inst. of Automation
9:40-10:00  MonA10-6

A Steamb D etection Method for Liquor Distillation in the Process of Feeding
Yuemei Xu Northeastern Univ.
Mingxing Jia Northeastern Univ.
Yifan Yang Northeastern Univ.

Theory and application of nonlinear systems (I)
8:00-10:00  Room11

Chair: Yinlong Hu Hohai Univ.
CO-Chair:Lini Wang Xinxing Univ.
8:00-8:20  MonA11-1

Structural control for a barge-type floating offshore wind turbine with a skyhook inverter configuration
Yinlong Hu Hohai Univ.
Jiarong Wang Hohai Univ.
Zhaoyan Wang Hohai Univ.
Michael Z. Q. Chen Nanjing Univ. of Science and Tech.
8:20-8:40  MonA11-2

Disturb-observer-based Tracking Control for A Flexible-Joint Robotic Manipulator with External Disturbance
Wenli Cheng Qufu Normal Univ.
Zhongcai Zhang Qufu Normal Univ.
Yuqiang Wu Qufu Normal Univ.
8:40-9:00  MonA11-3

An Improved Auto-Disturbance Rejection Control Method for Hypersonic vehicle control system
Feiwen Wang Chinese Flight Test Establishment
Xubo Liu Chinese Flight Test Establishment
Haiming Tian Chinese Flight Test Establishment
Tong Zhang Northwestern Polytechnical Univ.
9:00-9:20  MonA11-4

Inherent emotional feature extraction of neonatal cry
Jiezhou Yu Zhejiang Univ.
Jun Meng Zhejiang Univ.
Xingxian Zhao Zhejiang Univ.
9:20-9:40  MonA11-5

Sub-fixed-time stability of a class of nonlinear system
Boyuan Jiang Hohai Univ.
Zhihong Dong Hohai Univ.
Hua Chen Hohai Univ.
Shizhi Hou Hohai Univ.
9:40-10:00  MonA11-6

Symmetry and conserved quantities of Hamilton system with comfortable fractional derivatives
Lili Wang Xinxing Univ.

Knowledge engineering and data mining (I)
8:00-10:00  Room12

Chair: Jianxun Li Shanghai Jiao Tong Univ.
CO-Chair: Ming Liu Nanjing Univ. of Science and Tech.
8:00-8:20  MonA12-1

Factors influencing online car-hailing demand: A perspective of data analysis
Ying Liu Nanjing Univ. of Science and Tech.
Yurui Du Nanjing Univ. of Science and Tech.
Xifen Xu Nanjing Univ. of Science and Tech.
8:20-8:40  MonA12-2

A Research on Rebalance Algorithm for Imbalanced Data Based on Probability Graph
Gang Chen Dalian Maritime Univ.
Tengyan Li Dalian Maritime Univ.
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<td>Robust Saturated Tracking Control of an Autonomous Surface Vehicle</td>
<td>Jiale Li, Xin Yu</td>
<td>Jiangsu Univ., Jiangsu Univ.</td>
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<td>MonAIS-02</td>
<td>Research on Occupancy Maneuvering Scheme of Unmanned Underwater Vehicle</td>
<td>Kai Mao, Yongli Yang, Zhe Huang, Danyang Yang</td>
<td>Wuhan Univ. of Science and Technology, Wuhan Univ. of Science and Technology, Wuhan Univ. of Science and Technology, Wuhan Univ. of Science and Technology</td>
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<td>MonAIS-03</td>
<td>Coating Thickness Modeling and Prediction for Hot-dip Galvanized Steel Strip Based on GA-BP Neural Network</td>
<td>Kai Mao, Zhong Li, Hang Guo</td>
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<td>Development of Automatic Device for Conductor Crimping of Transmission Line</td>
<td>Yanmei Liu, Dongyu Zhang, Zhen Chen, Shihua Wen</td>
<td>Shenyang Univ. of Aeronautics and Astronautics, Shenyang Univ. of Aeronautics and Astronautics, Liaoning Power Transmission and Transformation Engineering Co., Ltd., Shenyang Univ. of Aeronautics and Astronautics</td>
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<td>MonAIS-06</td>
<td>Application of Ideal Bode Transfer Function Tuning Fractional Order PID in Pressure Difference of Vertical Mill</td>
<td>Lei Zhang, Qiang Zhang, Wei Wang</td>
<td>Univ. of Jinan, Univ. of Jinan, Department of Electrical, Tancheng branch of I niny zhonglian cement co. LTD.</td>
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<td>MonAIS-07</td>
<td>Latent Posterior Based Generative Adversarial Network for Imbalance Classification</td>
<td>Xinlin He, Meng Cai, Jianxin Li</td>
<td>Shanghai Jiao Tong Univ., Luoyang Inst. of Electro-optical Equipment, Shanghai Jiao Tong Univ.</td>
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<td>Revised DBSCAN Clustering Algorithm Based on Dual Grid</td>
<td>Qidan Liu, Xuepeng Guo, Falin Wang</td>
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<td>Clustering of banned food additives based on Word2vec</td>
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<td>Research on hybrid drive characteristics of permanent magnet toroidal motor in vehicle</td>
<td>Wei Wang, Hai Feng, Yingzhe Wang</td>
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<td>Application of Monte Carlo Tree Optimization Algorithm on Hex Chess</td>
<td>Zhongzhi Li, Huihui Li, Wei Qi</td>
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<td>The Analysis of Feedback Patient Flow as A Retrial Queueing System in Chinese Outpatient Department</td>
<td>Huabo Zhu, Xudan Liu</td>
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<td>Security Evaluation Model of Precautionary Area Based on Improved Entropy Weight TOPSIS</td>
<td>Zongyou Xue, Wenzhong Tang, Jianquan Yan</td>
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<td>Research on Equipment Procurement Supply Chain Quality Performance Evaluation Based on Improved EAHP</td>
<td>Dubo He, Dong Huang, Songsong Zhao</td>
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<td><strong>A Novel Method for Discrete Evidence Fusion Based on Dijkstra Shortest Path Algorithm</strong></td>
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<td>Bo Liu</td>
<td>Science and Tech. on Avionics Integration Laboratory, Univ. of Jinan</td>
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<td>Yang Yang</td>
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<td>Xinyang Deng</td>
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<td>Jiang Chong</td>
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<td>Jun Yang</td>
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<td>Pinglin Wang</td>
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<td>Feiye Zhang</td>
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<td>WenDing YUAN</td>
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| MonAIS-40 | |
Pan/Tilt Control Design based on Improved Augmented LQR

Command Filter Backstepping Control with Error Compensation for Flexible-Joint Manipulator

MonoAIS-41

Active Visual Servo Pan/Tilt Control Design based on Improved Augmented LQR

Research of the Anti-vibration Hammer Resetting Robot Based on Machine Vision

MonoAIS-42

Kalman Estimators for Multi-sensor System with Colored Measurement Noises

Visual Image Processing of Humanoid Go Game Robot Based on OPENCV

MonB01

Signal processing and information fusion (I)

Room01 Room02

MonB02

Space vehicle control (I)

Chair: XiaoLei Li
CO-Chair: Weibo Xia

Chair: XiWang Dong
CO-Chair: Shuangyun Xing

Chair: Shuangyun Xing

10:40-11:00

10:20-11:40

10:20-10:40

11:20-11:40

A Robust Orthogonal Matching Pursuit Based on L1, Norm

Visual Real-time Data Processing

Research on Color Algorithm of Gray Image Based on a Color Channel

Intelligent control, computation and optimization (V)

Room03

Chair: Xiangjun He
CO-Chair: Shuangzu Su

Chair: XiaoJie Gao
CO-Chair: MengCheng Du

Chair: MengCheng Du

10:20-10:40

11:20-11:40

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**Technical Programmes**

**CCDC 2020**

### MonB03-3

**Super-Resolution Reconstruction of Finger Vein Image Based on Regression Tree Model**

11:00-11:20

| Liwei Deng | Harbin Univ. of Science and Tech. |
| Jie Hu | Harbin Univ. of Science and Tech. |
| Jingjing Qi | Harbin Univ. of Science and Tech. |

### MonB03-4

**A Hybrid Algorithm for a Robust Permutation Flow Shop Scheduling Problem**

11:20-11:40

| Zhengbin Ni | Shanghai Univ. |
| Bing Wang | Shanghai Univ. |
| Bo Wu | Shanghai Univ. |

### MonB03-5

**Dynamic scheduling of intelligent Rail Guided Vehicle based on queuing theory**

11:40-12:00

| Dongyuan Yan | Shenyang Jianzhu Univ. |
| Shuangyuan Xing | Shenyang Jianzhu Univ. |
| Enbin Yang | Shenyang Jianzhu Univ. |
| Meng Wang | Shenyang Jianzhu Univ. |
| Wenbo Sun | Shenyang Jianzhu Univ. |

### MonB04

**Signal processing and information fusion (II)**

10:20-12:20

| MonB04-1 | Room04 |
| Kai Yu | Heilongjiang Univ. |
| Lizi Chen | Heilongjiang Univ. |
| Ke Wu | Heilongjiang Univ. |
| Yuan Gao | Heilongjiang Univ. |

**Quantitative Characterization of Wind Power Fluctuation**

10:40-11:00

| Zhiqiang Zhou | State Grid Zhejiang Electric Power Company |

**Infrared Small Target Detection Based on Improved DoG Filter**

11:20-11:40

| ZeZhenge Ye | Sun Yat-Sen Univ. |
| ZhiYong Zhang | Sun Yat-Sen Univ. |
| Changshen Guo | Sun Yat-Sen Univ. |

**Pressure Leak Signal Enhancement Based on Acoustic Transducer Model**

11:40-12:00

| Weiguo Lin | Beijing University of Chemical Tech. |
| XinYanWang | Beijing University of Chemical Tech. |

**Cement Raw Material Feeding Amount Filtering Method Based on Kalman Filter**

12:00-12:20

| Shizenzg Lu | University of Jinan |
| Qiang Li | University of Jinan |
| Zhaohui Ma | University of Jinan |
| Hongliang Yu | University of Jinan |

**Random Forest Algorithm-based Multi-Feature Vector Optimization for Fatigue Driving Vigilance Monitoring**

12:00-12:20

| Fengquan Guo | Tianjin University of Technology and Education |
| Chuanxiao Han | Tianjin University of Technology and Education |
| Ziyu Hu | Tianjin University of Technology and Education |
| Yaru Yang | Tianjin University of Technology and Education |
| Mihong Yang | Tianjin University of Technology and Education |
| Tinghua Guo | Tianjin University of Technology and Education |
1703 An Accelerated Simulation Assessment Approach for Mission Success Probability of Multi-State Phased Mission Systems
Yang Haojie Naval University of Engineering
Lv Jianwei Naval University of Engineering
Xu Yifan Naval University of Engineering
12:00-12:20 MonB06-6

1136 Optimal time-varying Kalman filter and predictor for the descriptor system with multiplicative noise and colored noises
Chengxiang Liu Heilongjiang Univ.
Yinfeng Dou Heilongjiang Univ.
Chenjian Ran Heilongjiang Univ.
MonB07 Motion control (I) 10:20-12:20
Chair: Yangfei Wu Northwestern Polytechnical Univ.
CO-Chair: Ke Zhang Beijing Institute of Tech.
MonB08 Pattern recognition and intelligent machines(V) 10:20-12:20
Chair: Jun Gong Northeastern Univ.
CO-Chair: Jian-Wei Liu China Univ. of Petroleum
10:20-10:40 MonB08-1

The Improvement of the Algorithm EG for the Relative Entropy Loss
Si-si Zhang China Univ. of Petroleum
Xin Zuo China Univ. of Petroleum
Jian-wei Liu China Univ. of Petroleum
10:40-11:00 MonB08-2

Multi-View Non-negative Matrix Factorization Discriminant Learning via Cross Entropy Loss
Jian-Wei Liu China Univ. of Petroleum
Yuan-Fang Wang China Univ. of Petroleum
Run-Kun Lu China Univ. of Petroleum
Xiong-Lin Luo China Univ. of Petroleum
11:20-11:40 MonB08-3

9 Self-attention Multi-view Representation Learning with Diversity-promoting Complementarity
Jian-wei Liu China Univ. of Petroleum
Xi-hao Ding China Univ. of Petroleum
Run-kun Lu China Univ. of Petroleum
Xionglin LUO China Univ. of Petroleum
11:20-11:40 MonB08-4

30 Discriminative Weighted Non-negative Sparse Low-rank Representation Classifier for Robust Face Recognition
Shun Xu Yangzhou Univ.
Wenwen Shen Yangzhou Univ.
11:40-12:00 MonB08-5

29 Deep Multi-scale Convolutional Neural Network Method for Depth Estimation from a Single Image
Zhaowei Ma National Univ. of Defense Technology
Yifeng Niu National Univ. of Defense Technology
Jia Hu National Univ. of Defense Technology
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Fei Zou Northeastern Univ.
Xiaodong Liu Northeastern Univ.
Jun Gong Northeastern Univ.
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140 Density-Based Optimal UAV Path Planning for Photovoltaic Farm Inspection in Complex Topography
Yifan Ding Zhejiang Univ.
Rui Cao Zhejiang Univ.
Fengyang Qi Zhejiang Univ.
Sining Liang Zhejiang Univ.
Qiang Yang Zhejiang Univ.
Wenjun Yan Zhejiang Univ.
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154 Aircraft Trajectory Control with Feedback Linearization for General Nonlinear Systems
Sheng Zhang State Key Laboratory of Aerodynamics China Aerodynamics Research and Development Center
Fei Liao China Aerodynamics Research and Development Center
Yangqiu Cheng China Aerodynamics Research and Development Center
Kaileng He China Aerodynamics Research and Development Center
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157 A Smooth Angle Velocity Active Return-to-Centre Control Based on Single Neuron PID Control for Electric Power Steering System
Yangfei Wu Northwestern Polytechnical Univ.
Bochuan Hou Information Security Center State Key Laboratory of Networking and Switching Tech.
Beijing University of Post and Telecommunications
Guangfei Zhou Northwestern Polytechnical Univ.
Jianhua Yang Northwestern Polytechnical Univ.
Fang Jun Northwestern Polytechnical Univ.
Yuming Zhang Northwestern Polytechnical Univ.
12:00-12:20 MonB07-6

Spatial Trajectory Tracking of a Stratospheric Airship with Constraints
Jiace Yuan Beihang Univ.
Ming Zhu Beihang Univ.
Lao Chen Informatization Office of Beihang Univ.
Wenjie Lou Beihang Univ.

11:00-11:20 MonB09 Operational Index Evaluation Based on Greedy Strategy in a Combat of Multi-Arms
10:40-11:00 MonB09-2

Design of Reusable Effectiveness Evaluation Model Framework
Shuang Zhang Harbin Inst. of Tech.
Wei Li Harbin Inst. of Tech.
Shenglin Lin Harbin Inst. of Tech.
Ming Yang Harbin Inst. of Tech.
Jiahui Tong Science and Tech. on Complex System Control and Intelligent Agent Cooperation Laboratory.

10:20-10:40 MonB09-1

Casualties Analysis in Fire Accident of Passenger Transport Station Based on FTA
Yuyue Sun State Nuclear Electric Power Planning Design & Research Institute Co., Ltd.
Ning Liu State Nuclear Electric Power Planning Design & Research Institute Co., Ltd.

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95 Casualties Analysis in Fire Accident of Passenger Transport Station Based on FTA
Yuyue Sun State Nuclear Electric Power Planning Design & Research Institute Co., Ltd.
Ning Liu State Nuclear Electric Power Planning Design & Research Institute Co., Ltd.

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Decision-making theory and method (I)
Chair: Yunfeng Shi Shandong Normal Univ.
CO-Chair: Jianbo Liu Northeastern Univ. at Qinhuangdao.
10:20-10:40 MonB09-1

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Shuang Zhang Harbin Inst. of Tech.
Wei Li Harbin Inst. of Tech.
Shenglin Lin Harbin Inst. of Tech.
Ming Yang Harbin Inst. of Tech.
Jiahui Tong Science and Tech. on Complex System Control and Intelligent Agent Cooperation Laboratory.

10:20-10:40 MonB09-1
Technical Programmes

11:20-11:40 MonB09-4 Group decision-making method based on generalized Vague N-soft sets
Yanan Chen Northeastern Univ. at Qinhuangdao.
Jianbo Liu Northeastern Univ. at Qinhuangdao.
Ziyue Chen Northeastern Univ. at Qinhuangdao.
Yanyan Zhang Northeastern Univ. at Qinhuangdao.

11:40-12:00 MonB09-5 A research on the Monte Carlo simulation based on-condition maintenance strategy for wind turbines
Xin Cao China Suntien Green Energy co., LTD.
Yanwei Jiang China Suntien Green Energy co., LTD.

12:00-12:20 MonB09-6 Exploring route choice preferences for game route guidance
Lina Han Shandong Labor Vocational and Technical Coll.
Yunfeng Shi Shandong Normal Univ.
Yi Niu Shandong Normal Univ.

MonB10 Room10 Fault diagnosis and predictive maintenance (V)
Chair: Lina Yao Zhengzhou Univ.
CO-Chair: Longzhang Huanggang Normal Univ.
Ke

10:20-10:40 MonB10-1 A Priority-based Alignment Algorithm for Pattern Mining of Multiple Alarm Sequences
Hao Xia Dalian Univ. of Tech.
Yu Duan Dalian Univ. of Tech.

10:40-11:00 MonB10-2 Fault Estimation Observer Design for a Class of Nonlinear Multi-agent Systems With Time-Delay
Yimin Liu Wuhan Univ of Science and Tech
Jing Li Wuhan Univ of Science and Tech
Sikai Peng Wuhan Univ of Science and Tech
Jianliang Chen Wuhan Univ of Science and Tech

11:00-11:20 MonB10-3 Fault Propagation of Aircraft Avionics System Based on SDG
Jiao Xue Civil Aviation Univ. of China
Zhen Zhao Civil Aviation Univ. of China

11:20-11:40 MonB10-4 A Fine-scale Industrial Process Distribution Evaluation Method with Concurrent Static and Dynamic Dissimilarity Analysis
Yi Zhao Zhejiang Univ.
Chunhui Zhao Zhejiang Univ.
Haidong Fan Zhejiang Energy Research Inst.
Qingyi Li Zhejiang Energy Research Inst.

11:40-12:00 MonB10-5 ULO Based Sensor Fault Diagnosis and Compensation for Quadrotor UAV
Laileng Zuo Zhengzhou Univ.
Lina Yao Zhengzhou Univ.
Yunfeng Kang Zhengzhou Univ.

12:00-12:20 MonB10-6 Fault Detection Method of Modular Multilevel Converter Based on Current Mean Value and SVM
Yueqin Wang Huanggang Normal Univ.
Longzhang Ke Huanggang Normal Univ.
Yi Liu Huanggang Normal Univ.

MonB11 Room11 Theory and application of nonlinear systems (III)
Chair: Han Yan Beijing Inst. of Control Engineering
CO-Chair: Xifeng Guo Shenyang Jianzhu Univ.

10:20-10:40 MonB11-1 Stability Analysis of Switching System in Space Power Supply
Ningxin Wu Tongji Univ.
Qing Wu Air Force Research Inst.
Jiahao Shi Shanghai Inst. of Space Power Supply
Xirun Wu Tongji Univ.
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10:40-11:00 MonB11-2 A Small-Gain Approach for Three-Dimensional Integrated Guidance and Control in Pursuit-Evasion Games
Han Yan Beijing Inst. of Control Engineering
Mingzhe Hou Harbin Inst. of Tech.

11:00-11:20 MonB11-3 Torque analysis of axial-flux permanent magnet couplers with skewed slots using electromagnetic-thermal semi-analytical model
Di Zheng Shenyang Jianzhu Univ.
Xifeng Guo Shenyang Jianzhu Univ.
Yanzhe Li Shenyang Jianzhu Univ.
Wenzhuo Cong Beijing Tudomany Tech.
Shiwei Jiang Shenyang Weichuang Hi-Tech Tech.

11:20-11:40 MonB11-4 Stabilization for a class of nonlinear singular switched systems
Zhiyuan Liu Nanjing Univ. of Science and Tech.
Weiqun Wang Nanjing Univ. of Science and Tech.
Tianrui Li Nanjing Univ. of Science and Tech.

12:00-12:20 MonB11-5 Application of Agent-Based Modeling and Simulation in Command and Control: A review
Zhaoliang Zhu Strategy Support Military Engineering Univ.
JianJing Shen Strategy Support Military Engineering Univ.
XiaoFeng Guo Strategy Support Military Engineering Univ.

MonB12 Room12 Knowledge engineering and data mining (II)
Chair: Guo Xie Xian Univ. of Tech.
CO-Chair: Jinyuan Shen Zhengzhou Univ.

10:20-10:40 MonB12-1 Grey correlation analysis of Average Length of Stay in general hospitals
Hongyan Li Shanghai Univ. of Engineering Science
Huizi Gong Shanghai Univ. of Engineering Science
SiJia Gu Shanghai Univ. of Engineering Science
Kedong Chen Shanghai Univ. of Engineering Science

10:40-11:00 MonB12-2 Design and application of intelligent concentrator based on Internet of things
Xiaojiang Chen Guangdong Power Grid Corporation
Daohuan Jiang Guangdong Power Grid Corporation
Ye Liu Guangdong Power Grid Corporation
Jiangyao Wu Guangdong Power Grid Corporation
Fengchuan Guo Guangdong Power Grid Corporation
Jin Li HeiLei Univ. of Tech.

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Dan Wang Xian Univ. of Tech.
Guo Xie Xian Univ. of Tech.
Wenjiang Ji Xian Univ. of Tech.
Lili Liang Xian Univ. of Tech.
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<td>Ma Yuefei, Army of 92493, Hu Yongtao, Army of 92493, Chen Feng, Army of 92493</td>
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**MonBIS-08** Research on the Identification of factors in traditional enterprise transformation and upgrading and technological innovation Base on Hidde Markov Model

Wang Yumel, Qingdao Univ. of Science and Tech. Cui Rongqin, Qingdao Univ. of Science and Tech. Gao Xinkun, Qingdao Univ. of Science and Tech. Sun Yujie, Qingdao Univ. of Science and Tech.

**MonBIS-09** Specific Knowledge Sharing Intention in Online Health Communities: Sense of Belonging as a Moderator

Yongmei Liu, Central South Univ. Wenping Zhang, Central South Univ.

**MonBIS-10** General Design of Research-oriented Rehearsal System under Data Structure

Zhaobo Zhang, Univ. of Jinan Shaochong Jing, Univ. of Jinan Jianxue Bi, Sinoma Jiangxi Electric Ceramics Co.

**MonBIS-01** Adaptive Weighted Hybrid PSOGSA Algorithm and Its Application in Power System Economic Load Dispatch Problem

Xingcheng Pu, Chongqing Univ. of Posts and Telecommunications Longlong Zhao, Chongqing Univ. of Posts and Telecommunications Chaowen Xiong, Chongqing Univ. of Posts and Telecommunications

**MonBIS-02** Invasive Weed Optimization Algorithm Based on Differential Evolution Operators to Solve Bin Packing Problem

Xue-Long Li, Univ. of Science & Tech. LiaoNing, Xue Yang, Univ. of Science & Tech. LiaoNing.

**MonBIS-03** Remote Mobile Monitoring and Fault Diagnosis System for Electric Vehicle Circular Charging Device Based on Cloud Platform

De-xin Gao, Qingdao Univ. of Science & Tech. Yi-wei Lv, Qingdao Univ. of Science & Tech. Ya-guang Sun, Qingdao Univ. of Science & Tech. Yi Wang, Qingdao Univ. of Science & Tech. Qing Yang, Qingdao Univ. of Science & Tech.

**MonBIS-04** A delay propagation algorithm for trains on a single railway line

Wentao Xu, Central South Univ. Chaoyu Tang, Central South Univ. Junfeng Ma, Central South Univ.

**MonBIS-05** Application of Simulated Annealing Neural Network in Performance Evaluation of Science and Technology Innovation Community

Shunjie Lou, Zhejiang Univ. City College Junjie Xin, Zhejiang Univ. City College Jiahui Zhu, Zhejiang Univ. City College Xuejie Wang, Zhejiang Univ. City College

**MonBIS-06** Risk Assessment and Measurement of P2P Industry

Zerui Zhang, Univ. of Jinan Shaoli Jin, Univ. of Jinan

**MonBIS-07** Evaluation of Equipment Test Data Engineering Standard System Using a Hybrid Model

Ma Yuefei, Army of 92493 Hu Yongtao, Army of 92493 Chen Feng, Army of 92493

**MonBIS-08** Research on the Identification of factors in traditional enterprise transformation and upgrading and technological innovation Base on Hidde Markov Model

Wang Yumel, Qingdao Univ. of Science and Tech. Cui Rongqin, Qingdao Univ. of Science and Tech. Gao Xinkun, Qingdao Univ. of Science and Tech. Sun Yujie, Qingdao Univ. of Science and Tech.

**MonBIS-09** Specific Knowledge Sharing Intention in Online Health Communities: Sense of Belonging as a Moderator

Yongmei Liu, Central South Univ. Wenping Zhang, Central South Univ.

**MonBIS-10** General Design of Research-oriented Rehearsal System under Data Structure

Zhaobo Zhang, Univ. of Jinan Shaochong Jing, Univ. of Jinan Jianxue Bi, Sinoma Jiangxi Electric Ceramics Co.
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Northeast Univ.

MonC01
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Chair: Xianzhong Chen
University of Science and Technology Beijing
CO-Chair: Min Feng
Shanghai Electro-Mechanical Engineering Inst.
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Shanghai Electro-Mechanical Engineering Inst.
Xin Wang
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Lingkun Chen
Ironmaking Institute, Central Research Institute of Baosteel Co., Ltd.
Qingwen Hou
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University of Science and Technology of China
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Yuping Feng
Qingdao University of Science and Tech.
Tenglei Pang
Qingdao University of Science and Tech.
Mengdi Li
Qingdao University of Science and Tech.
Yuyu Guan
Qingdao University of Science and Tech.

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The 28th Research Inst. of China Electronics Tech. Group Corporation
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China Academy of Space Tech.
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Zhen Zhang
The 28th Research Inst. of China Electronics Tech. Group Corporation
Zhaozhi Wang
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Yinlong Jia
Beihang Univ.
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China Academy of Space Tech.
Minjie Zhang
China Academy of Space Tech.
Lin Tian
China Academy of Space Tech.
Ping Wang
China Academy of Space Tech.
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Zhejiang Univ.
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National Univ. of Defense Tech.
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Maotian Zou
Huzhou Univ. of Science and Tech.
Qianwei He
Huzhou Univ. of Science and Tech.
Xiaoli Luo
Huzhou Univ. of Science and Tech.
Lei Liu
Huzhou Univ. of Science and Tech.
Yongji Wang
Huzhou Univ. of Science and Tech.
Zhongtao Cheng
Huzhou Univ. of Science and Tech.
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Heng Guang Zou
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Jiliang Song
Beijing Inst. of Tech.
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Beijing Inst. of Tech.
Lei Zhang
China Academy of Space Tech.
Yuan Huang
Beijing Inst. of Tech.

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Anhui Univ. of Tech.
CO-Chair: Zhixia Ye
Information School Yunnan Normal Univ.
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Tianqi Lu
Economic Research Inst.
Zhanjun Li
State Grid Liaoning Electric Construction Company
Zhuoran Song
State Grid Liaoning Electric Power Supply CO., LTD.
Jian Zhang
State Grid Liaoning Electric Power Supply CO., LTD.
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Changchun Univ. of Architecture and
Shoutao Li
Changchun Univ. of Architecture and Civil Engineering
Jilin Univ.
Rui Wang
Jilin Univ.
Pengpeng Sun
Jilin Univ.
Dingli Yu
Liverpool John Moores Univ.

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Chengfeng Wang
Jiangsu Univ.
Yuhan Ding
Jiangsu Univ.
Yi Li
Jiangsu Univ.

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MonC03-5
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Enwu Du
Wuhan Second Ship Design & Research Inst.
Jiannan Liu
Wuhan Second Ship Design & Research Inst.
Ying Zheng
Wuhan Second Ship Design & Research Inst.
Liang Li
Wuhan Second Ship Design & Research Inst.
Nanhang Luo
Wuhan Second Ship Design & Research Inst.

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Zhixia Ye
Information School Yunnan Normal Univ.
Lijun Yun
Information School Yunnan Normal Univ.
Yebo Wang
Information School Yunnan Normal Univ.

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Army Artillery and Air Defense Forces Academy
Room 501, building 6, No. 525, Yuetang Road

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Wei Pan
Army Artillery and Air Defense Forces Academy
Yun Jiang
Army Artillery and Air Defense Forces Academy
Huixiang Xie
Army Artillery and Air Defense Forces Academy
Yu Xia
Army Artillery and Air Defense Forces Academy

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A Methodology of Requirements Validation for Aviation System Development
Xiao Fei
Room 501, building 6, No. 525, Yuetang Road
Chen Bin
COMAC Shanghai Aircraft Design &Research Inst.
Zhao Siming
Room 501, building 6, No. 525, Yuetang Road

14:10-14:30
MonC04-3
The Observation Systems of Emplacement Reconnaissance and Verifying Radar based on Improved Chaos Genetic Algorithms
Wei Pan
Army Artillery and Air Defense Forces Academy
Yu Han
Army Artillery and Air Defense Forces Academy
Feng Huang
Army Artillery and Air Defense Forces Academy
Lichao Ding
Army Artillery and Air Defense Forces Academy

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MonC04-4
The Hospital Outpatient Process Mining Algorithm based on Improved Chaos Genetic Algorithm
Zhanghu Chai
Northern Theater Command General Hospital
Lichao Ding
Army Artillery and Air Defense Forces Academy
Shaolun Xu
Army Artillery and Air Defense Forces Academy

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MonC04-5
Adaptive PID Controller Design Method based on PSO
Honghao Zhong
Beijing Aerospace Automatic Control Inst.
Weiyang Bai
Beijing Aerospace Automatic Control Inst.
Wanwei Huang
Beijing Aerospace Automatic Control Inst.
Zongzhuang Zheng
Beijing Aerospace Automatic Control Inst.

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Solving large-scale Discrete-time Algebraic Riccati Equations by Doubling
Xing-Long Lyu
Southeast Univ.
Tiexiang Li
Southeast Univ.
Eric King-wah Chu
Monash Univ.

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13:30-13:50
Chair: Guoliang Wang
Liaoning Shihua Univ.
CO-Chair: Mingyue Cui
Yantai Univ.

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Zhonghua Wei
Shandong Univ. of Science and Tech.
Xikui Liu
Shandong Univ. of Science and Tech.

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Random adaptive trajectory tracking of bridge crane system driven by DC-motors
Mingchao Li
Yantai Univ.
Cun Yang
Yantai Univ.
Mingyue Cui
Yantai Univ.
Zhaojing Wu
Yantai Univ.

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Adaptive tracking control of stochastic nonlinear systems with unknown powers
Huijuan Li
Ludong Univ.
Wuquan Li
Ludong Univ.
Ying Liu
Ludong Univ.
Yadong Chen
Ludong Univ.

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Guoliang Wang
Liaoning Shihua Univ.
Lei Xu
Liaoning Shihua Univ.
Yadong Chen
Liaoning Shihua Univ.

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Xiaofeng Duan
Lanzhou Jiaotong Univ.
Hongsheng Su
Lanzhou Jiaotong Univ.
Dantong Wang
Lanzhou Jiaotong Univ.
Zhengrong Xiang
Nanjing University of Science and Tech.

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Chair: Shuo Li
Hangzhou Dianzhi Univ.
CO-Chair: Huaitao Shi
Shenyang Jianzhu Univ.

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Zijing Cao
Hangzhou Dianzhi Univ.
Shuo Li
Hangzhou Dianzhi Univ.
Zhengrong Xiang
Nanjing University of Science and Tech.

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Maxiao Hou
Shenyang Jianzhu Univ.
Yuhou Wu
Shenyang Jianzhu Univ.
Huaibao Shi
Shenyang Jianzhu Univ.
Xiaotian Bai
Shenyang Jianzhu Univ.
Jie Sun
Northeastern Univ.

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Finite-time stabilization for a class of uncertain continuous time systems with time-varying delay
Lusheng Yao
Nanjing University of Science and Tech.

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MonC06-4
Finite-time stabilization for a class of uncertain continuous time systems with time-varying delay
Hangzhou Dianzhi Univ.
Shenyang Jianzhu Univ.

MonC07
State Estimation for Second-order Linear Systems: A Structure-improved First-order Observer
15:30-16:00
Chair: Wei Pan
Army Artillery and Air Defense Forces Academy
Room 501, building 6, No. 525, Yuetang Road

15:30-15:50
MonC07-1
State Estimation for Second-order Linear Systems: A Structure-improved First-order Observer
Long-Wen Liu
South China University of Tech.
Wei Xie
South China University of Tech.

16:00-16:20
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Dingli Yu
Ludong Univ.
Rui Wang
Ludong Univ.
Shoutao Li
Ludong Univ.
Zhengrong Xiang
Nanjing University of Science and Tech.

16:20-16:40
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Liang Li
Shandong Univ.
Zhengrong Xiang
Nanjing University of Science and Tech.
Technical Programmes

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Fu Chen  
Shanxi Datong Univ.  
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Wang Xuefei  
Jiangnan Univ.  
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Jiangguo Guo  
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Meng Zhan  
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Jiangsu Univ. of Science and Tech.  
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Zhipei Shen  
Dalian Maritime Univ.  
Haomiao Yu  
Dalian Maritime Univ.  
Chen Guo  
Dalian Maritime Univ.  
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Zhejiang Univ.  
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Lin He
State Grid Shanghai Electric Power Company
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Huazhong Univ. of Science and Tech.

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Lin He
State Grid Shanghai Electric Power Company
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Southeast Univ.
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Southeast Univ.

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Kanghui He
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Xuming Wang
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Zicheng Li
Wuhan Inst. of Tech.
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Wuhan Inst. of Tech.
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Qingguo Du
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Di Wu
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Bibo Liu
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Jun Zhou
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Jinlan Hao
Taiyuan Univ. of Tech.
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Beijing Jiaotong Univ.

Chentang Li
Nanjing Inst. of Mechatronic Tech.
Ana Djuric
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Teng Gao
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Wen Chen
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Bo Han
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Weimin Zhang
China Univ. of Geosciences
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Yan Lu
Beihang Univ.
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Naijun Liu
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Tao Lu
Inst. of Automation Chinese Academy of Sciences
Yinghao Cai
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Rui Wang
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Shuo Wang
Inst. of Automation Chinese Academy of Sciences

Guangrong Chen
Beijing Jiaotong Univ.
Bowen Hou
Beijing Engineering and Technology Research Center of Rail Transit Line Safety and Disaster Prevention
Sheng Guo
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Junzheng Wang
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170 An Improved Multiscale Stochastic Resonance Method for Bearing Fault Diagnosis
Zhiyuan Li Anhui Univ.
Sillang Lu Anhui Univ.
Haixuan Wang Anhui Univ.
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178 Literature Review: Framework of Prognostic Health Management for Airline Predictive Maintenance
Fei Xiao Room 510, building 6, No. 525, Yuanjiang Road, Minhang District, Shanghai
Bin Chen COMAC Shanghai Aircraft Design &Research Institute
Jun Chi Room 510, building 6, No. 525, Yuanjiang Road, Minhang District, Shanghai
Shunhua Hu Room 510, building 6, No. 525, Yuanjiang Road, Minhang District, Shanghai

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Co-Chair: Jie Xu

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436 Optimal Configuration of Energy Storage Microgrid Based on Chaos Optimization Multi-Objective Genetic Algorithm
Shuhuai An Qingdao Power Supply Company of State Grid
Shandong Electric Power Company
Ming Chen Qingdao Power Supply Company of State Grid
Shandong Electric Power Company
Zhen Wei Qingdao Power Supply Company of State Grid
Shandong Electric Power Company
Faxiang Gou Shandong University of Science and Tech.

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592 An improved Fruit Fly Optimization Algorithm and its application in wet flue gas desulfurization system
Chao He Beijing University of Tech.
Xiao Li Beijing University of Tech.
Kang Wang Beijing University of Tech.
Yang Li Communication University of China (CUC)

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608 Short-term passenger flow prediction of rail transit based on VMD-LSTM neural network combination model
Dong Liang Beijing Jiaotong Univ.
Jie Xu Beijing Jiaotong Univ.
Siyao Li Beijing Jiaotong Univ.

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644 Wind Power Prediction Based On Multi-Algorithm Fusion Optimization Model
Angjian Yang Guizhou Univ.
Jinbiao Li Guizhou Univ.
Xiangping Chen Guizhou Univ.
Giliang Zhang Guizhou Univ.

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761 The Method Based On Dijkstra Of Multi-directional Ship’s Path Planning
Zhihui Cheng Wuhan University of Tech.
Huaqian Zhang Wuhan University of Tech.
Qin Zhao Wuhan University of Tech.

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782 Energy consumption optimization of central air-conditioning based on sequential least-square-programming
Jupeng Xie Wuhan University of Tech.
Huaqian Zhang Wuhan University of Tech.
Yu Shen Wuhan University of Tech.
Mengchuan Li Wuhan University of Tech.

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Chair: Pei Cheng Anhui Univ.
Co-Chair: Weihua Li Northeastern Univ.

341 Fully Distributed Adaptive Event-Triggered Leaderless Consensus Protocol for Physically Interconnected Multi-agent Systems
Weihua Li Northeastern Univ.
Huaguang Zhang State Key Laboratory of Synthesitical Automation for Process Industries (Northeastern Univ.)
Yingchun Wang Northeastern Univ.
Chong Liu Northeastern Univ.

16:10-16:30 MonD05-2
466 Robust exponential stability of uncertain discrete-time stochastic neural networks with impulses
Ting Cai Anhui Univ.
Pei Cheng Anhui Univ.
Zheng Wu Anhui Univ.

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663 Overlapping Community Detection Based On Maximal Clique and Multi-objective Ant Colony Optimization
Ping Ji Jiangnan Univ.
Shanzhan Zhue Jiangnan Univ.
Zhiping Zhou Jiangnan Univ.

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563 Exponential Synchronization of Stochastic Memristive Neural Networks with Delays Using Periodically Iterated Observation Feedback Control
Jialil Cai Shenzhen Univ.
Jianwen Feng Shenzhen Univ.
Yi Zhao Shenzhen Univ.

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713 Study on the Rumor Propagation Model with Penalty Factor
Qiangqian Huang Shenyang Univ.
Dan Wang Shenyang Univ.

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721 Distributed H State Estimation of Large-scale Power Grid Under Mixed-type Attacks
Yumita Wu Guangdong University of Tech.
Jun-yi Li Guangdong University of Tech.
Bin Zhang Guangdong University of Tech.
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472 Robust exponential stability for switched systems with interval time-varying delay
Liu Yuzhong Shenyang Normal Univ.
Yin Yujuan Liaoning Univ.

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568 Event-Triggering Cooperative Output Regulation of Singular Linear Multi-Agent Systems with Zeno-Free Triggering
Wei Wang Northeastern Univ.
Huaguang Zhang State Key Laboratory of Synthesitical Automation for Process Industries (Northeastern Univ.)
Zhenwei Liu Northeastern Univ.
Jian Zhang Northeastern Univ.

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691 An Improved Stabilization Approach for Sampled-data Systems Via Delay-partitioning-based Method
Dongdong Wang Qingdao University of Tech.
Jie Chen Qingdao University of Tech.
Xia Lv Qingdao University of Tech.

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628 The Hankel Matrix Solution to a System of Quaternion Matrix Equations
Yun Wang Guangxi University for Nationalities
Jingmin Huang Guangxi University for Nationalities
Hao Xiong Guangxi University for Nationalities
Shanshan Zhang Guangxi University for Nationalities

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697 Adaptive Event-triggered Robust Filtering over Sensor Networks with Markov Switching Topologies
Fengzeng Zhu Jiangnan Univ.
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State Feedback Decoupling Control of Web Tension, Velocity and Lateral Displacement in Unwinding System
Tao Xiong
Wuhan Institute of Tech.
Gan Zhou
Wuhan Institute of Tech.
Dangdang Zou
Wuhan Institute of Tech.
Chair: Bowen Zeng 
Harbin Engineering Univ.
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Tianjin Univ. of Tech. and Education

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Design and implementation of an unmanned boat visual target tracking system
Bowen Zeng
Harbin Engineering Univ.
Yang Song
Harbin Engineering Univ.
Chong Liu
China Shipbuilding Industry System Engineering Research Inst.
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Tianjin Univ. of Tech. and Education

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Robust H∞ Control for Vehicle Path Tracking Subject to Delay and Actuator Saturation
Changfang Chen
Shandong Computer Science Center
Shandong Provincial Key Laboratory of Computer Networks
Qilu Univ. of Tech.
Minglei Shu
Shandong Computer Science Center
Shandong Provincial Key Laboratory of Computer Networks
Qilu Univ. of Tech.
Ruixia Liu
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Shandong Provincial Key Laboratory of Computer Networks
Qilu Univ. of Tech.
Nuo Wei
Shandong Computer Science Center
Shandong Provincial Key Laboratory of Computer Networks
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Zhiquang Wang
Tianjin Univ. of Tech. and Education
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Tianjin Polytechnic Univ.

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Hongyi He
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Beijing Univ. of Chemical Tech.
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Mingxia Li
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Chinese Academy of Sciences
Northwestern Polytechnical Univ.
Wenjiang Wu
Chinese Academy of Sciences
Shenyang Golding NC Intelligence Tech. Co. Ltd
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Chinese Academy of Sciences

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Zhang Ruicheng
North China Univ. of Science and Tech.
Shang Ying
North China Univ. of Science and Tech.
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Northeastern Univ.

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Qian Hu
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Northeastern Univ.
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Northeastern Univ.
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Huaqu Univ. of Science and Tech.

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A Novel Contour Model with Local and Global Segmentation Property
Xiaosheng Yu
Northeastern Univ.
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Northeastern Univ.
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Northeastern Univ.

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Yi Cheng
Tiangong Univ.
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Tiangong Univ.

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WISDRI CCTEC Engineering Co., Ltd
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WISDRI CCTEC Engineering Co., Ltd

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Jie Li
College of Mobile Telecommunications of Chongqing University of Posts and Telecommunications
Jin Xu
College of Mobile Telecommunications of Chongqing University of Posts and Telecommunications
Xianjun Tang
College of Mobile Telecommunications of Chongqing University of Posts and Telecommunications
Yingjie Chen
College of Mobile Telecommunications of Chongqing University of Posts and Telecommunications
Qing Liu
College of Mobile Telecommunications of Chongqing University of Posts and Telecommunications

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Chair: Jiuhui Zhang
Huazhong Univ. of Science and Technology
CO-Chair: Zhe Gao
Liuzhi Univ.

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Bo Liu
Science and Tech. on Avionics Integration Laboratory
Yebi Cui
Northwestern Polytechnical Univ.
Xinyang Deng
Northwestern Polytechnical Univ.

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Jiuhui Zhang
Huazhong Univ. of Science and Technology
Zhenyuan Liu
Huazhong Univ. of Science and Technology

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Quanzian Zhang
Naval Univ. of Engineering
Bin Zeng
Naval Univ. of Engineering

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Feifei Chen
Shenyang Univ.
Xin Li
Shenyang Univ.
Wenhui Wang
Shenyang Univ.

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*Estimate the Parameter and Modelling of a Battery Energy Storage System*

Biyu Bai  
Xi’an Univ. of science and technology  
Macquarie Univ.

**MonDIS-3**

*Environment Parameter Rating Evaluation for Smart Museum Based on Improved K-Means Clustering Algorithm*

Wenqiang Guo  
Shanxi Univ. of Science & Technology  
Zixuan Huang  
Shanxi Univ. of Science & Technology  
Yongyan Hou  
Shanxi Univ. of Science & Technology  
Qinkun Xiao  
X’ian Technological University  
Jia Jia  
Shanxi Provincial Institute of Cultural Relics Protection

Lingling Mao  
Shanxi Univ. of Science & Technology

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*Research on Aerodynamic Performance of J-type Blade Vertical Axis Wind Turbine*

Lin Pan  
Wuhan Univ. of Technology  
Haodong Xiao  
Wuhan Univ. of Technology  
Yanwei Zhang  
Wuhan Univ. of Technology  
Zhaoyang Shi  
Wuhan Univ. of Technology

Shanwang Gao  
Jiangmen Shuitai Electrical Appliance Co., Ltd.  
Haodong Xiao  
Wuhan Univ. of Technology

**MonDIS-5**

*Study of Parameter Design and Aerodynamics on Bending Characteristics of VAWT Airfoil*

Lin Pan  
Wuhan Univ. of Technology  
Zhaoyang Shi  
Wuhan Univ. of Technology

Shanwang Gao  
Jiangmen Shuitai Electrical Appliance Co., Ltd.

**MonDIS-6**

*Influence of OPC Function on Transient Stability of Power System*

Yuyue Zhang  
State Grid Shandong Electric Power Company  
Yimiu Fu  
State Grid Shandong Electric Power Company  
Dong Liu  
State Grid Shandong Electric Power Company  
Ying Mu  
State Grid Shandong Electric Power Company

Jianxing Zhang  
State Grid Shandong Electric Power Company  
Donglei Sun  
State Grid Shandong Electric Power Company

**MonDIS-7**

*Economic Adaptability Analysis of Typical Integrated Energy Systems*

Zhaoyang Xu  
Nari Group Corporation/State Grid Electric Power Research Institute  
Changqing Xu  
State Grid Henan Economic Research Institute  
Chupeng Xiao  
Nari Group Corporation/State Grid Electric Power Research Institute  
Xianyu Zhou  
Northeastern Univ.

Lilin Wang  
State Grid Henan Economic Research Institute  
Yudong Lu  
State Grid Zhejiang Electric Power Company Limited Electrical Power Research Institute

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*Design and Implementation of Internal and External Network Isolation System Based on OR Code*

Bo Hu  
State grid laoning power Co. Ltd  
Chuncheng Han  
State grid anshan power supply company  
Bo Li  
State grid anshan power supply company  
Xiaoyu Zhang  
Northeastern Univ.

Daqian Wang  
Northeastern Univ.  
Bowen Zhou  
Northeastern Univ.

**MonDIS-9**

*Spatial Load Forecasting of Distribution Network Based on Artificial Intelligent Algorithm*

Yuying Shao  
State grid Shanghai electric power company  
Peng Peng  
State grid Shanghai electric power company  
Weiyang Liu  
Nanjing Kuanta Information Technology Co., Ltd.  
Lingyan Wei  
Nanjing Kuanta Information Technology Co., Ltd.

Bing Wang  
Nanjing Kuanta Information Technology Co., Ltd.

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*CNN and transfer learning based online SOH estimation for lithium-ion battery*

Yang Li  
Zhejiang Univ.  
Jili Tao  
Zhejiang Univ.

**MonDIS-11**

*Short-term load forecasting based on support vector regression considering cooling load in summer*

Li Hu  
Weifang Power Supply Company  
Lei Zhang  
Weifang Power Supply Company  
Tao Wang  
Weifang Power Supply Company  
Kai Li  
Weifang Power Supply Company

**MonDIS-12**

*Design and Simulation of 500kw Wind-solar Complementary Microgrid*

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*Design of Wake Control Strategy for Offshore Wind Farm*

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*Research on Soft-Switching Bi-directional DC/DC Converter for Hydrogen-electric Hybrid Vehicle*

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*Energy Feedback Electronic Load Based on Topology of Three-level Inverter*

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*Research on Line Loss Diagnosis and Management Method Based on Big Data Technology*

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*Independent Pitch Control Strategy and Simulation for Reducing Unbalanced Load of Wind Turbine*

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*Optimal Configuration of Energy Storage Capacity for Fast Charging Stations Oriented to Electric Taxis*

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*Optimal Allocation of Distributed Generation Against Low Voltage In Distribution Network Based on Particle Swarm Optimization Algorithm*

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