

# **2012 10th World Congress on Intelligent Control and Automation**

**(WCICA 2012)**

**Beijing, China  
6 – 8 July 2012**

**Pages 1-856**



**IEEE Catalog Number: CFP12496-PRT  
ISBN: 978-1-4673-1397-1**

# Table of Contents

## Plenary Lectures

Cooperative Output Regulation of Multi-Agent Systems .....	Jie Huang	1
Applying Model Predictive Control in Automotive .....	Hong Chen, Shuyou Yu, Xiaohui Lu, Fang Xu, Ting Qu, Fei Wang	6
Zone Model Predictive Control of an Artificial Pancreas .....	Francis Doyle	8

## A1. Intelligent Control Theory and Applications

Study on the Structure of Human Body Simulated Controller .....	Peijin Wang	10
The Study of a New Call Admission Control Method Based on Self-similar Traffic .....	Yanpu Hu, WenFu Yang, Yong Wang, Ying Dong	15
Nonsingular Terminal Neural Network Sliding Mode Control for Multi-link Robots Based on Backstepping .....	Chuanzhong Xu, Yongchu Wang	20
Adaptive Dynamic Surface Control of Nonlinear Systems with Perturbed Uncertainties in Strict-Feedback Form .....	Tianping Zhang, Xiaocheng Shi, Yuequan Yang, Huating Gao	24
Parameter Optimization of PID Controller Based on Complex System Genetic Algorithm in Electro-hydraulic Servo Control System .....	Jue Yu, Jian Zhuang, Dehong Yu	30
The Direct Adaptive Fuzzy Robust Control for Satellite Attitude Control .....	Ping Guan, Xiao-He Liu, Wei Zhang, Li Xue	36
A Vehicle License Plate Location and Correction Method Based on the Characteristics of License Plate .....	Jun Fang	42
Routing Algorithm Based on Swarm Intelligence .....	Yong Lv, Yaodong Zhu	47
The Adaptive Fuzzy Sliding Mode Control of Hypersonic Vehicle .....	Ping Guan, Li Xue, Xiao He Liu, Sai Wang	51
Fuzzy Control Strategy Based on the Particle Swarm Optimization Algorithms .....	Shaoze Han	57
Development of a Reconfigurable Robot's Turning Method with Line Configuration .....	Jian Chang, Chengdong Wu, Hong Shang, Bin Li	61
Stable Flocking of Mobile Agents in Mixed Absolute and Relative Navigations Context with Communication .....	Zhaohui Dang	67
Adaptive fuzzy and H-inf control of robotic manipulators with uncertainties .....	Yuliang Liu, Li Yang, Hailong Duan	74
A New Indoor Location Technology Using Back Propagation Neural Network to Fit the RSSI-d Curve .....	Huiqing Zhang, Xiaowei Shi	80
Minimum Time Dynamic Optimization Using Double-layer Optimization Algorithm .....	Xuan Guo, Wenli Du, Rongbin Qi, Feng Qian	84
Dancing Behavior Modeling and Logic Control Simulation of Two-wheeled Robot Based on Stateflow .....	Jianjun Yu, Qiong Yang, Liang Sun, Guanwei Wang	89
Design of Low-cost Acquisition System for Multi-channel Analog Signal for PLC and Its Application in Temperature Control System .....	Ruonan Li, Xiuxia Du, Pingkang Li	93
Study on the Optimal Passive Creeping Control of the Snake-like Robot .....	Danfeng Zhang, Chengdong Wu, Bin Li	99

A New Method of Evolving Hardware Design Based on IIC Bus and AT24C02 .....	Kangshun Li, Yan Chen, Hezhuan Liu	104
Takagi-Sugeno Fuzzy PD Controller for a 3-DOF Stabilized Platform .....	Said Leghmizi, Sheng Liu	108
Research on Fleet Networked Air Defense Sensor Cooperative Control .....	Yifu Zhuan, Changpeng Pan, Rong Chen	113
Repetitive Adaptive Control Based on Sliding Filter Observer in Servo Turntable .....	Ming Gang Gan, Hui-xia Ma	116
Iterative Learning Control Algorithm with Self-adaptive Steps .....	Yan WANG	122
Attitude Control of 3-DOF Helicopter Based on Iterative Learning Control .....	Xining Zhang, Chenglin Liu, Fei Liu	128
Adaptive Visual Servo Control of UAV Ground-Target-Autonomous-Tracking System .....	Longsheng Chen, Yang Jiang, Changkun Wang	133
Finite-Horizon Neural Optimal Tracking Control for a Class of Nonlinear Systems with Unknown Dynamics .....	Ding Wang, Derong Liu, Hongliang Li	138
Surrogate Models for User's Evaluations base on Weighted Support Vector Machine in IGAs .....	Lei Yang, Dunwei Gong, Xiaoyan Sun, Jing Sun	144
Simulation Research on Maximum Power Point Tracking Based on Perturbation and Observation .....	Jianping Zhou	150
Non-fragile Guaranteed-cost $H_\infty$ Control for a Class of Nonlinear Sampled-data System .....	Shi-gang Wang, Yi Wu, Xue-liang Wang	154
Adaptive Proportional Guidance Law for Reentry Vehicles with Impact Angle and Terminal Velocity Constraints .....	Daocheng Xie, Zhongwei Wang	159
Diffusion Source Localization with a Water-proof Boundary .....	Fan Luan, Li Chai, Jun Yang	164
Real-Time Simulation of Hydraulic Turbine Governing System Based on ARM .....	Jiang GUO, Nian Wu, Kaikai Gu, Weimin Bai, Bing Zeng, Yajin Liu	170
Periodicity Analysis of Uncertain Neural Networks with Multiple Time-Varying Delays .....	Xuyang Lou, Qian Ye, Wei Feng, Baotong Cui	174
Fuzzy Guaranteed Cost Control Design for Uncertain Chaotic System with Polytopic Uncertainty .....	Yuyan Liu, Shiliang ZHOU, Zulong Hao	180
A New Optimal Control Method for Discrete-Time Nonlinear Systems with Approximation Error .....	Qinglai Wei, Derong Liu	185
Solar Sail Trajectory Optimization Based on Improved Imperialist Competitive Algorithm .....	Yong WANG, Min Zhu, Yiheng WEI, Yang Zhang	191
AUTO DRAVCNC PROCESSING DATA INQUIRY SYSTEM .....	Hongjun Liu, Xiyao Men	196
Indirect Adaptive Fuzzy Sliding Mode Control for Uncertain Multi-link Robots .....	Xiaojiang Mu, Li Ge	199
Adaptive Fuzzy Path Following Control for a Nonholonomic Mobile Robots .....	Wuxi Shi, Tao Sun, Yingxin Ma, Yuchan Chen	204
Study on a Sliding Mode Variable Structure Vector Control of Induction Motor Drives .....	Huan Liu, Han Cui	209
Fuzzy Control for Hyperchaotic Systems via Nonuniform Sampling Approach .....	Dedong Yang, Jinhuan Wang, Hexu Sun, Peng Yang	214
The Application of PowerGREP in Corpus Processing for Foreign Language Teaching .....	Huan Liu, Han Cui	220

Identification and Prediction of Nonlinear Multi-parameter Based on Least Squares Support Vector Machine .....	Yuan-bin Hou, Ning Li	224
Leader-follower and Communication Based Formation Control of Multi-robots .....	Zhuping Wang, Ying Mao, Guangmou Chen, Qijun Chen	229
A Modified Fruit-Fly Optimization Algorithm Aided PID Controller Designing .....	Yi Liu, Xuejie Wang, Yanjun Li	233
Complex Dynamical Behaviors Analysis of a Voltage-controlled Memristive System .....	Junwei Sun, Yi Shen, Guodong Zhang	239
Design and Simulation for Dual-Stage Actuator Systems with Multi-rate and Friction Compensation Controller .....	Dongfang Wei, Jun Yang	245
Further Understanding of the Meaning of Fuzzy Multi-stage Conditional Statements .....	Fusheng Yu, Xiao Wang	251
Hierarchical Coordination Control Method for Near Space Flight Vehicle with Aero and Direct Force Actuators .....	Tao Chao, Songyan Wang, Ming Yang	255
Multi-objective Optimization of Airport Gate Assignment Based on Ant Colony Algorithm .....	Changyou Liu, Yutao Liang	260
Research on Commutation Fluctuation Self-Adaptive Control Suppression Strategy for Brushless DC Motor .....	Weihua Wang, Haibo Huang	265
The Fuzzy Human-Simulated Intelligent Control for Hot-Rolling Strip Width .....	Jianyan Tian, Guanyu Zhang, Jin Wu, Wenting Li	270
Indirect Position Detection of SRM Based on Genetic Algorithm .....	Li Xiao, Hexu Sun	275
Intelligent Switching Control for Cement Raw Meal Calcination Process .....	Jinghui Qiao, Tian-you Chai	280
On-Ramp Local Control with Neural Network Method .....	Hao Wang, Jinxue Xu	286
Research on the Strategy Method for the Final Translation Phase of Space Autonomous Rendezvous .....	Nan Li, Zhenghua Liu, Huifeng Li, Xiaoxiao Zong	290
A Wide Range of Course-changing Control Algorithm for Marine Vessel .....	Baozhu Jia, Guichen Zhang, Jie Ma	295
Dynamic Path Optimization Method Based on Ant Colony Algorithm and Group Decision-making .....	Yanguo Huang, Qiang Luo, Lunhui Xu	300
Rotary Kiln Combustion Working Condition Recognition Based on Flame Image Texture Features and LVQ Neural Network .....	Jie-sheng Wang, Xiudong Ren	305
Integration of Fuzzy Controller with AdaptiveDynamic Programming .....	Yuanheng Zhu, Dong-bin Zhao, Haibo He	310
Learning Control of a Bioreactor System Using Kernel-based Heuristic Dynamic Programming .....	Chuanqiang Lian, Xin Xu, Lei Zuo, Zhenhua Huang	316
Kalman Filter Restraining Outliers for Short Baseline System .....	Gang Qiao, Zhuang Li, Zongxin Sun, Donghu Nie, Haiyue Cui	322
A Resource-Allocating Network Based on Local Conditions and Its Application in Prediction of Nonlinear Systems .....	Wenyuan Qi, Dazi Li, Qibing Jin	326
Autonomous Navigation Research for Mobile Robot .....	Jian Xian Cai, Ruihong Yu, Lina Cheng	331
A New Stability Condition of Neural Networks with Time-Varying Delay .....	Yun Chen, Wei Xing Zheng	336

## A2. Computational Intelligence and Applications

Architecture and Cooperation Mechanism of MAS for Information Integration Emergency-Service Oriented .....	Haixin Yu, Jie Chen, Juan Zhang	341
The Design of Video Image's Storage Converter Based on FPGA .....	Qingqian Liu, Bo Wang, Zhihui Zheng	346
A Dynamic Algorithm for Community Detection in Social Networks .....	Bing Kong, Hongmei Chen, WeiYi Liu, Lihua Zhou	350
Offensive and Defensive Strategy of Web Crawler .....	Yuanshu Jiang, Wenzhong Tang, Liyong Guo	355
Estimate Method to Solve the Time Lag of Sintering Forecast .....	Tao Zhang, Fujin Li	359
Genetic Algorithm with Three Dimensional Chromosome for Large Scale Scheduling Problems .....	Yong Ming Wang, Guang Zhou Zhao, Hong Li Yin	362
A Probabilistic Fuzzy Controller with Operant Learning for Robot Navigation .....	Yuanyuan Gao, Xiaogang Ruan, Bin Li	368
Application of Ontology Intelligence Search Engine Based on Ant Colony Algorithm .....	Ruihua Zhang, Tianqi Yang	374
Wireless Order System Based on WinCE .....	Jianan Xiao, Nana Wang	379
A New Solution to Weapon-Target Assignment Problem .....	Rui Wang, Zhengyuan Wang, Guoqing Liu, Lingxia Liu, Guohua Wang, Xinyu Zhang	384
Study on the Signal Control Problem with Pedestrians Non-complying .....	Qin Liu, Jianmin Xu	388
Data Collection Based on Mobile Agent in Wireless Sensor Networks ....	Tongying Li, Zhenchao Zhang	392
Online Route Planning for UAV Based on Model Predictive Control and Particle Swarm Optimization Algorithm .....	Zhihong Peng, Bo Li, Xiaotian Chen, Jin Ping Wu	397
Blind Signal Detection Directly Using Functional Networks .....	Xiukai Ruan, Chang Li, Han Li	402
The Hot Topics Evaluation and Key Issues in Online News About Emergency Events .....	Liping Chen, Junping Du, Katsunori Shimohara, Maoqiang Song	407
Automated Simulation of Flapper and Foil System .....	Ying Hu, Ji Hu	413
Generalized Reversibility of Cellular Automata with Boundaries .....	Kuize Zhang, Lijun Zhang	418
The Study of Intelligent Space Environment Application and Management Based on Wireless Networks .....	Ping Duan	424
Development on Gas Leak Detection and Location System Based on ZigBee .....	Ping Duan, Hui Yan, Chengjun Ding, Ximao Liu	429
The Study of Wireless Sensor Network Energy Optimization Based on the Physical of ZigBee .....	Chengjun Ding, Hui Yan, Ping Duan, Ximao Liu	433
3D DNA Self-Assembly for Maximum Clique Problem .....	Xuncaizhang, Rui Fan, Yanfeng Wang, Guangzhao Cui	438
A Novel Content Based and Social Network Aided Online Spam Short Message Filter .....	Yang Yu, Yuzhong Chen	444
A Novel Swarm Intelligence Optimization Inspired by Evolution Process of a Bacterial Colony .....	Ming Li	450
Application of Neural Network Model to Guangxi Ensemble Precipitation Prediction .....	Mengsong Nong	454
Online Self-constructing Fuzzy Neural Identification for Ship Motion Dynamics Based on MMG Model .....	Ning Wang, Xiaobing Niu, Yudong Liu	458

Hybrid Particle Swarm Algorithm with Application to Distributed Generation Planning	Haitao Wu, Fuzhen Huang	464
Evolutionary Game Analysis on Opportunistic Behavior of Purchasing Alliance with Contract Mechanism	Weiqing Xiong, Tianbao Li	468
A Memetic PSO Based KNN Regression Method for Cycle Time Prediction in a Wafer Fab	Jiacheng Ni, Fei Qiao, Li Li, Qi Di Wu	474
A Control Method of Substrate Feeding About Lysine Fermentation	Weirong Wu, Shenping Ding, Bo Wang	479
An Increasing on Knowledge of MAS Trained by Boltzmann Machine Algorithm Based Sugarscape CA Using a Synergy of Communication and Cooperation Bet Agents	Nasim Nourafza, Saeed Setayeshi	484
A Differential Evolution Algorithm with Two Speed-up Methods for NFSSP with SDSTs and RDs	Bin Qian, Puze Du, Rong Hu, Guolin Che	490
Defect Recognition of Cold Rolled Plate Shape Based on RBF-BP Neural Network	Xiaohua Li, Junjie Zhang	496
Research on Intelligent Control Methods of Iron Ore Rotary Kiln Pellets Sintering Process	Jie-sheng Wang, Xiudong Ren	501
Intelligent Test Paper Generation System Based on Slicing Processing	Fengning Ma, Yao Dong, Jin Shi, Ying Zhang	506
Non-Stationary Type-2 Fuzzy Sets	Liang Zhao	512
A Discrete Artificial Bee Colony Algorithm for the Blocking Flow Shop Scheduling Problem	Guanlong Deng, Zhe Cui, Xingsheng Gu	518
Data-Driven Learning and Control with Multiple Critic Networks	Haibo He, Zhen Ni, Dong-bin Zhao	523
Application of Fuzzy Clustering Model in Groundwater Runoff Zones Classification and Indicator Correlation Analysis	THANH NGHI DOAN, Xuefeng Yu, Zhongyuan Zhang	528
A Method of UUV Path Planning with Biased Extension in Ocean Flows	Zheping Yan, Yufei Zhao, Honghan Zhang	532
Solving the Flexible Job-shop Scheduling Problem with Quantum-inspired Algorithm	Xiuli Wu	538
Research of PSO Algorithm with Variable Constraints in Process System	Qiang Ding, Hong Chen, Chunlin Wang, Aipeng Jiang, Weiwei Lin	544
A New Approach to Solve the Mission Assignment Problem for Cooperative UCAVs Using Immune Particle Swarm Optimizations	Guodong Wang, Ming Li, Zhidong Deng, Bo Yang, Wentao Yao	549
Max-Min Ant System for Bus Transit Multi-depot Vehicle Scheduling Problem with Route Time Constraints	Xiao Ni Hao, Wen Zhou Jin, Ming Wei	555
The Optimization of Fuzzy Rules Based on Hybrid Estimation of Distribution Algorithms	Xiong Luo, Xue Bai	561
A Novel Model for Selecting Parameters of SVM with RBF Kernel	Zhi-gang Yan, Yun-jing Ding	566
The PSO-LSSVM Model for Predicting the Failure Depth of Coal Seam Floor	Zhi-gang YAN	570
An Improved Transfer Learning Algorithm for Document Categorization Based on Data Sets Reconstruction	Wei Sun, Xu Qian	575
A New Ant Colony Optimization with Global Exploring Capability and Rapid Convergence	Xiangyang Deng, Wenlong Yu, Limin Zhang	579
Estimation of Hand Force from Surface Electromyography Signals Using Artificial Neural Network	Haritha Srinivasan, Das Gupta Sauvik, Weihua Sheng, Heping Chen	584

Migration & Competition-based Particle Swarm Optimization for Parameter Estimation	Ziwu Ren, Zhenhua Wang, Lining Sun	590
An Ant Colony Algorithm for Permutation Flow Shop Problem	Ke Shang, Zuren Feng, Liangjun Ke	596
On the Definition of Type-2 Fuzzy Sets	Hong Mo, Min Zhou	601
JSAE-SICE Benchmark Problem II: Fuel Consumption Optimization of Commuter Vehicle Using Hybrid Powertrain	Yuji Yasui	606
A Regression Approach to LS-SVM and Sparse Realization Based on Fast Subset Selection	Jingjing Zhang, Kang Li, George W. Irwin, Wanqing Zhao	612

### A3. Intelligent Automation and Manufacturing

Study on Control Strategy for Vehicle Braking Force on Low Adhesive Cornering Road	Dandan Song, Tao Yang	618
Research on the Machine Tool Selection of RMS	Fengxu Zhou, Aiping Li, Liyun Xu, Nan Xie	623
Supervisor Design with Petri Nets for Asymmetrical System	Aixiang FENG, Xiong-lin LUO	628
A Novel Prototype Architecture for Equipment Tele-control and Simulation	Yong Ming Wang, Guang Zhou Zhao, Hong Li Yin	633
Integrated Optimal Algorithm for Flexible Job Shop Scheduling with Due-date Window	Juan Song	638
A Hybrid Algorithm Based on Simplex Search and Differential Evolution for Hybrid Flow-shop Scheduling	Ye Xu, Ling Wang, Shengyao Wang	643
A Compact Estimation of Distribution Algorithm for Solving Hybrid Flow-shop Scheduling Problem	Shengyao Wang, Ling Wang, Ye Xu	649
Job-shop Scheduling Optimization Design Based on an Improved GA	Zixiang Zhao, Guoshan Zhang, Zhigang Bing	654
Medium and Long-term Electric Load Forecasting Based on Chaos SVM	Deji Wang, Jie Lian, Bo Xu, Yumin Ma, Yanbo Zhang	660

### A4. Artificial Intelligence and Knowledge Engineering

Hierarchical Proportional Redistribution Principle for Uncertainty Reduction and Bba Approximation	Jean Dezert, Deqiang Han, Zhunga Liu, Jean-marc Tacnet	664
Keep the Geometries: Image Segmentation by K-MSVC with Random Region Grouping and Propagation	Yining LIN, Wei Wei, Yuanming DAI	672
Routing in Wireless Sensor Networks Using Swarm Intelligence	Yong Lv	680
An Algorithm for Sub-optimal Attribute Reduction in Decision Table Based on Neighborhood Rough Set Model	Zunren Liu, Gengfeng Wu, Zhongqing Yu	685
An Algorithm Based on Piecewise Slope Transformation Distance for Short Time Series Similarity Measure	Huimin Li, Liying Fang, Pu Wang, Jingwei Liu	691
A Hybrid Method for Short-term Load Forecasting in Power System	Xianghe Zhu, Huan Qi, Xuncheng Huang, Suqin Sun	696
Pruning-Included Weights and Structure Determination of 2-Input Neuronet Using Chebyshev Polynomials of Class 1	Yunong Zhang, YongHua Yin, Xiaotian Yu, Dongsheng Guo, Lin Xiao	700
The Research on Cross-Media Information Retrieval System Based on Food Safety Emergencies	Pengcheng Han, Junping Du, JangMyung Lee	706

Traffic Signal Timing and Phase Optimization for Intersection Based on IPSO .....	Chengjun Jin, Wei Cheng, Guiran Chang, Huiyan Jiang, HakChol Hwang	711
RNA Secondary Structure Prediction Algorithm Based on Combinatorial Optimization Algorithm and SVMs Method .....	Jingyuan He, Chao Mu, Hai-hun Huang	715
Stigmergy Agent and Swarm-Intelligence-Based Multi-agent System .....	Junhua Duan, Yi-an Zhu, Shujuan Huang	720
The Motion Planning in the Automatic Generation of Mobile Phone 3D Animation .....	Zhenzhen Qiu, Chunnian Liu	725
Plot Planning of 3D Animation Based on Semantic Web in Chinese Text .....	Junlian Nie, Chunnian Liu	732
Neural Networks Based Autonomous Learning for a Desktop Robot .....	Lizhen Dai, Xiaogang Ruan, Guanwei Wang, Jianjun Yu	739
An Improved Adaptive Harmony Search Algorithm .....	Zhi Kong, Lifu Wang, Zhaoxia Wu, Shiqing Qi, Dexuan Zou	743
Parameter Acquisition Methods for Rule-based Model of Virtual Plant Based on Optimal Algorithms .....	Weilong Ding, Lifeng Xu, Chen Hu, Yuping Zhang	748
A Study on Obstacle Avoidance for Mobile Robot Based on Fuzzy Logic Control and Adaptive Rotation .....	Sufang Wen, Lin Wang	753
Similarity Matching Algorithm for Ontology-Based Semantic Information Retrieval Model .....	Qian Gao	758
Application and Research of Multi-label Naïve Bayes Classifier .....	Feng Qin, Xianjuan Tang, Zekai Cheng	764
Research on Personality Behavior in Intelligent Virtual Environment .....	Lin Shi, Zhigang Li, Jiajie Zhang	769
Group Decision-Making Based Case Retrieval and Its Application .....	Chun-xiao Zhang, Aijun YAN, Hui Zhao, Pu Wang	773
Attribute Reduction Method Using Water-Filling Principle for Case-Based Reasoning .....	Hui Zhao, Aijun YAN, Chun-xiao Zhang, Pu Wang	779
Research on the Fuzziness of Rough Set Model Based on Compatible Relation over Double Universes .....	Zhenyu Zhan, Wenqi Liu, Mengting Shi	783
Algorithm Research for Gene-sequence-based 3D Model Reconfiguration .....	Shu-Rong NING, Shengyun Yuan, Rui Lin, Yuan Zhu	788
A Concept Architecture Model with Autonomous Coordination for Flying Formation .....	Zilin Liu, Yi Chai, Li Gao	793
Application of Self-organizing Feature Map Neural Network Based on Data Clustering .....	Xiang Hu, Yun Yang, Lihong Zhang, Tao Xiang, Chengqiu Hong, Xiaotong Zheng	797
Predictive Temporal Patterns Detection in Multivariate Dynamic Data System .....	Wenjing Zhang, Xin Feng	803
Stability Analysis of Local Swarms in an Environment with a Quadratic Profile .....	Liangshun Wang, Huajing Fang	809
Design Methods of General Fuzzy Systems as Function Approximators .....	Xiuhong Wang, Zhenguang Yang, Qian Gao, Xinjiang Wei	815
Fault Diagnosis Method of the Locomotive Brake Based on Wavelet Analysis .....	Jianbo Ding, Zhonghai Zhang, Hangfeng Cai	820
Intelligent Search Algorithm for Modern Tobacco Agriculture .....	Jie Lian, Deji Wang, Hui Xiong	823

## A5. Network Intelligence and Network Control

Fundamental Issues of Networked Decoupling Control Systems .....	Congzhi Huang, Yan Bai	827
Networked Real-time Controller Based on PC/104 .....	Bao-ran An, Guo-Ping Liu	831
Co-design-based H <sub>0</sub> inf Control for Wireless Networked Control Systems .....	Jinna LI, Dan Liu, Minghui Li, Haibin Yu	835
Distributed Output Regulation of Switching Multi-agent Systems Subject to Input Saturation .....	Xiaoli Wang, Wei Ni, Jie Yang	840
Passivity Based Synchronization of Multiple Robotic Agents with Uncertain Kinematics and Dynamics .....	Hanlei Wang	846
Kernel Based Nonlinear Regression for Internet Round Trip Time-delay Prediction .....	Yanhua Yang, Hongyi Li	852
XCP Bandwidth Compensation Algorithm Based on Sliding Mode Control in Time Vary Network .....	Fengjie Yin, Meirong Qu, Qiong Wu, Bing Wang	857
Performance Analysis for Multi-Agent Coordination with Partial Measurable States over Digital Networks .....	Tao Li, Lihua Xie	863
Distributed Containment Control of Uncertain Linear Multi-Agent Systems .....	Guanghui Wen, Zhisheng Duan, Yu Zhao, Guanrong Chen	869
Exponential Synchronization of Complex Dynamical Systems with Delay and Derivative Coupling via Impulse .....	Yakun Zhu, Xiaoyuan Luo, Shaobao Li, Xiping Guan	875
H-infinity State Estimation for Networked Systems with Markov Interval Delay .....	Yong Zhang, Zhenxing Liu, Lei Zhou	881
A Sampled-Data Based Average Consensus Protocol for Double-Integrator Multi-Agent Systems with Switching Topologies and Communication Noises .....	Long Cheng, Yunpeng Wang, Zengguang Hou, Min Tan, Zhiqiang Cao	886
Improved Delay-dependent Stability Criteria for Networked Control Systems .....	Yan Song, Jingcheng Wang	892
Simulation Research of Networked Control System Based on Ethernet and Matlab .....	Daogang Peng, Jiajun Lin, Hao Zhang, Hui LI	898
Distributed Control for Synchronization of Networked Lagrange Systems via Estimated State Feedback .....	Gang Chen, Qing Lin	903
Configurations and Modelling of Networked Feedforward-Feedback Control Systems .....	Congzhi Huang, Yan Bai	909
Consensus Control of Networked Nonlinear Systems .....	Junmin Peng, Wei Zhou, Xudong Ye	914
Web Design and Implementation for Remote Control .....	Wanmi Chen, Yucheng Chen	920
MIMO Network Control Systems with Asynchronous Sampling Based on Dividing the Time Slice .....	Weihua Fan, Xiaodu Chen, Ronghua Xie, Qingwei Chen	925
On the Lyapunov Exponent of Consensus Algorithm .....	Yao Chen, Jinhu Lu, Hairong Dong, Xinghuo Yu	931
Constrained Kalman Filtering with Observation Losses .....	Zhen Luo, Huaqing Fang	937
Information Consensus for Multi-agent Systems via Nonlinear Protocols .....	Junyong Zhai, Chunjiang Qian, Shouhuai Xu	942
Distributed Attitude Synchronization Control of Multi-Agent Systems with Time-Varying Topologies .....	Wenjun Song, Johan Thunberg, Yiguang Hong, Xiaoming Hu	946
Consensus Decision-making of Animal Groups in Motion .....	Zhi-Xin Liu	952

Distributed Attitude Synchronization Control of Multi-Agent Systems with Directed Topologies	Johan Thunberg, Wenjun Song, Xiaoming Hu	958
The Optimization Method for a Kind of Uncertain Networked Systems Based on the Stripping Principle and Optimal Control	Wei Wang	964
Intervening a Group of Mobile Agents in Three Dimension	Xuejing Li	970
Simultaneous Stabilization and Synchronization of Non-Identical Linear Multi-Agent Systems with Switching Topology	Guoqiang Hu, Lihua Xie	976
Guaranteed Cost Control for Uncertain Networked Switched Fuzzy Time-Delay Systems	Yi Liu, Lu Yao, Li-Ying Sun	982
Research and Implementation of Security System in Intelligent Residential District	Guofeng Zhang, Yan Gao, Changwu Xie	987
Uplink Dead Zone Analysis for Co-Channel Two-Tier Femtocell Network	Qiaoni Han, Xinping Guan, Kai Ma, Zhixin Liu	991
Studied on Anti-interference Based on Dynamic Surface Control	Qian Gao, Naibao He	996
Estimation of CAN Bus Reliability Based on Real-time Performance	Xi Chen, Wen Jin, Huiqun Zhang, Weijie Lv	999
Security Protection Technology of Intelligent Electricity Selling Terminal	Feng Zhai, Bing Zhao, Wei Cen	1005
Synchronization for a Class of Complex Dynamical Networks	Changbin Li, Yi He, Aiguo Wu	1010
Networked Control Systems Based on New Smith Predictor and Internal Model Control	Feng Du, Jinyu Li, Jia Ren, Yu Zhang, Hui Zhou, Cheng Guo	1014
Flow Rate Control and Resource Allocation Policy with Security Requirements in OFDMA Networks	Xingzheng Zhu, Jianting Yue, Bo Yang, Xinping Guan	1020
Stability Analysis and Control of Bifurcation in a TCP Fluid Flow Model of Wireless Networks	Feng Liu, Hua O. Wang, Zhi-Hong Guan	1026
Stabilization of Wireless Networked Control Systems with Packet Loss and Impulse Disturbance	Feng-Lin QU, Zhi-Hong Guan, Fushun Yuan, Xisheng Zhan	1031
Networked $H_\infty$ Filtering for T-S Fuzzy Systems Based on Event-Triggered Scheme	Qi Wang, Xinchun Jia, Xiaobo Chi, Dezhi He, Weiwei Ma	1037
Quantized Feedback Stabilization of a Class of Networked Control Systems with Delay and Packet Dropout	Jun Ren, Chuan Zhou, Yu Guo, Qingwei Chen	1043
Short-term Load Forecasting Based on Least Square Support Vector Machine Combined with Fuzzy Control	Rong Gao, Liyuan Zhang, Xiaohua Liu	1048
Stability and Stabilization of Singular Systems: Strict LMI Sufficient Conditions	XueFeng Zhang	1052
Self-learning Sensor Scheduling for Target Tracking in Wireless Sensor Networks Based on Adaptive Dynamic Programming	Wendong Xiao, Ruizhuo Song	1056

## B1. Systems and Control Theory and Applications

New Delay-dependent Absolute Stability for Uncertain Lur'e System with Interval Delay	Peiran Li, Zhejing Bao, Wenjun Yan	1062
Decentralized Finite-Time Stabilization of Large-Scale Interconnected Nonlinear Systems	Qin FU	1067
Quadratically Stabilizing Observer-based Controller Design for LPV Plant	Wei XIE	1073
Delay-dependent Exponential Stabilization for Nonlinear Systems with Interval Discrete and Distributed Time-varying Delays via Intermittent Control	Thongchai Botmart	1077

A Closed-loop Evaluation for Regulatory Control Structure of Multivariable System .....	Xionglin LUO, Lihong Ren, Pengfei Cao, Feng Xu	1083
The Modeling and Simulation on Sliding Mode Control Applied in the Double Inverted Pendulum System .....	Zhongjuan Li, Xinzheng Zhang, Guohai Chen, Yuguang Guo	1089
Design of Entry Trajectory Tracking Law for a Hypersonic Vehicle via Inversion Control .....	Zhiqiang Pu, Xiangmin Tan, Guoliang Fan, Jian-qiang Yi	1092
Multivariable Generalized Predictive Control Based on Receding Feedback Correction in Binary Distillation Process .....	Chaochun Li, Lili Tao, Hui Cheng, Rongbin Qi, Feng Qian	1098
Singularity Avoidance in Single Gimbal CMG Using the Theory of Potential Functions .....	Jhelum Chakravorty	1103
Optimised Robust Placement of Hard Quality Sensors for Robust Monitoring of Quality in Drinking Water Distribution Systems .....	Rafal Langowski, Mietek Brdys, Ruiyun Qi	1109
Cooling Control of Aluminum Plate with a Peltier Device Thermal Process by Using a Robust Right Coprime Factorization Approach .....	Dongyun Wang, Lei Zhang, Guotao Zhang, Kai Yang	1115
The Adaptive Fuzzy PID Control Study of Active Vibration Isolation System .....	Yan Lin, Wending Liu	1120
Nonlinear PID Synchro Control on Broaching Machine with Dual Cylinder .....	Jing Ni, Bin Shao, Guojin Chen	1124
Adaptive Hydraulic Active Suspension Control for Traversing Rough Terrain .....	Mina Shi, Xinhui Liu, Yaowu Shi	1130
Controllability and Observability of Matrix Riccati Type Differential Systems .....	Dengguo Xu	1135
Robust Non-fragile Control for Non-linear Singular Discrete Systems with Time-delay .....	Xingjian Fu, Xiao He Liu, Ming Hou, Yingchun Li	1139
Dynamics Modeling and Real-time Fault-tolerant Control of A Rotor Aerial Robot .....	Xuyang Hou, Xiaogang Ruan, Daoxiong Gong	1144
Terminal Guidance Method in Glide Attack Phase of Aerodynamic Missile .....	Zhi-kai Zhang, Qing Guo	1150
Design of Parametric Finite Time Functional Observers in Linear Time-invariant Systems .....	Guo-sheng Wang, Hong-tao Lv, Qiang Lv	1156
A Novel Variable Gain Unscented Kalman Filter and Its Application in the Integrated Navigation System .....	Limin Zhang, Zengqiang Chen, Xinghui Zhang	1160
Further Results on Delay-dependent Stability and Robust Stability of Linear System with Interval Time- varying Delay .....	Jian-an Wang, Zhi-gang Yin	1166
The Estimation of the Solutions Matrix of the Perturbed Discrete Time Algebraic Riccati Equation .....	Haiyun Bi, Dongyan Chen	1172
Comparison of Nonlinear Filtering Approach in Tightly-coupled GPS/INS Navigation System .....	Qi Nie, Xiaoying Gao	1176
Iterative Learning Control for Linear Switched Systems with Arbitrary Switched Rules .....	Xuhui Bu, Fashan Yu, Zhongsheng Hou	1182
Construction on Traction Converter System of EMU .....	Yannan Sun, Changxian Li, Xiumei Li	1188
The Analysis and Design of Diphasic Pacemaker Pulse System Based on Microcontroller .....	Longjian Xu, Houwu Zhang, Kaixue Yao	1192
Integral Sliding Mode Control of Z-source Inverter for Motor Drive System of Electric Vehicles .....	Qu Sun, Yongyu Wang	1196

Convergence Analysis for Quantized Consensus of Multi-agent Systems with Directed Topologies .....	Dequan Li, Qipeng Liu, Xiaofan Wang	1201
Design and Implementation of a Constant Selling Oil Automatic System Based on Fuzzy PID Algorithm .....	Li Wang, Zheng Zhao, Yanbo Hui, Qunfeng Niu	1207
Stability and Stabilization for Quadratic Systems with State Saturation Nonlinearities .....	Fu Chen, Shengyuan Xu	1212
Research on the Brittleness Problem of Power System with Wind Turbine Generator System Based on the Cellular Automata Theory .....	Jian Guo, Yong Yang	1218
Design and Simulation of Large Civil Aircraft's Thrust Management System .....	Yi Zheng, Xiaoyan Wang, Sen Yang, Xinmin Wang	1224
Adaptive Control for Clutch Engagement on Starting Up of Vehicle .....	Yuehong Dong, Xiaohong Jiao, Dongzhi Chen	1230
Multi-objective Optimization for a Conventional Suspension Structure .....	Yinlong Hu, Michael Z. Q. Chen	1235
Function Perturbation Impact on the Topological Structure of Boolean Networks .....	Haitao Li, Yuzhen Wang, Zhenbin Liu	1241
On Definition and Construction of Lyapunov Functions for Boolean Networks .....	Yuzhen Wang, Haitao Li	1247
Estimation of the Domain of Attraction for Asymmetric Saturated Linear Systems via Polyhedral Lyapunov Functions .....	Guanglei Zhao, Jingcheng Wang	1253
Optimize the PID Parameters Based on Improvement of Immune Algorithm .....	Jinyun Lu, Haipeng Pan	1259
Bifurcation and stability study in coupling nonlinear rotating machinery's system under the influence of time-varying stiffness .....	Shuang Liu, Yanshu Li, Minjia He, Bohua Wang, Bin Liu	1263
Robust Maneuver Control with Disturbance Attenuation for Flexible Spacecraft .....	Duan ZHOU, Yu Guo, Qingwei Chen, Weili Hu	1269
Study on the Continuous Direction Control for the Snake-like Robot .....	Danfeng Zhang, Chengdong Wu, Bin Li	1276
Stability Analysis for Continuous-time Three-dimensional Systems with State Saturation .....	Dongyan Chen, Yanhui Ding, Yujing Shi	1282
Model-Based Predictive Control for Distributed Parameter Systems Based on Local Modeling Approach .....	Mengling Wang, Yang Zhang, Hongbo Shi	1287
Exponential Stabilization of Neutral-type Neural Networks With Interval Non-differentiable and Distributed Time-varying Delays .....	Wajaree Weera, Piyapong Niamsup	1293
Cooperative Robust Output Regulation of Linear Uncertain Multi-Agent Systems .....	Youfeng Su, Jie Huang	1299
Robust Stability for Uncertain Switched Systems with Interval Time-varying Delay .....	Teerapong La-inchua, Piyapong Niamsup	1305
Flocking of Multi-Agents Based on Consensus Protocol and Pinning Control .....	Chenlong He, Zuren Feng, Zhigang Ren	1311
$H_2$ Performance Limitation of a Class of Nonlinear Non-minimum Phase Systems .....	Di Lu, Guoliang Fan, Jian-qiang Yi	1317
Augmented Dimension Algorithm Based on Sequential Detection for Maneuvering Target Tracking .....	Baogui Pan, Dongliang Peng, Genfu Shao	1323

Robust Adaptive Neural Network Control for Strict-Feedback Nonlinear Systems with Uncertainties .....	Gang SUN, Dan Wang, Zhouhua Peng, Weiyao Lan, Hao Wang, Ning Wang	1328
Performance Bound of Parallel Cascade Control System Based on Minimum Variance and Generalized Minimum Variance Benchmarking .....	Jian Wen Guo, Wenli Du, Feng Qian	1334
Delay-dependent Robust Stability for Markovian Jump Singular Systems with Disturbances .....	Wenxia Cui, Jian-an Fang, Wen-bing Zhang	1340
Finding All Controllers for Disturbance Decoupling of Boolean Control Networks .....	Meng Yang, Tianguang Chu	1344
Square Division Method for Attitude Dynamic Analysis of Modular Space Station .....	Jian Guo, Yang Guo, Peng Zhang, Yu Yao, Hui Zhao, Baoqing Yang	1350
Robust Diving Control of AUV with $L_2$ Disturbance Attenuation Method .....	Hongjian WANG, Ziyin Chen, Xinqian BIAN, Heming Jia	1356
Iterative Learning Control Based on Modified Steepest Descent Control for Output Tracking of Nonlinear Non-minimum Phase Systems .....	Janson Naiborhu, Marsianna L. Sitanggang	1361
Multiple Models Adaptive Control Based on Cluster-Optimization for a Class of Nonlinear System .....	Miao Huang, Xin WANG, Zhenlei Wang, Feng Qian	1367
Control of Discrete-Time Periodic Linear Systems with Input Saturation via Multi-Step Periodic Invariant Set .....	Bin Zhou, Dewei Li, Zongli Lin	1372
Sliding Mode Control for Robust Consensus of Linear Multi-agent Systems ....	Ni Zhao, Jiandong Zhu	1378
Missile Controlled by Aero-Fin and Divert Thrusters Using H2 Decoupling Analytical Design .....	Mantian Xue, Weidong Zhang, Xiaohong Jia, Jie Jia	1383
Synchronization for Lur'e Type Complex Dynamical Networks with Time-Varying Delay Based on Linear Feedback Controller .....	Wenyong Duan, Chenxiao Cai, Yun Zou	1389
A Robust Adaptive Control for Trajectory Tracking of Underactuated Surface Ships .....	Yang Liu, Chen GUO	1395
Static Output Feedback Pole Assignment Based on the Regional Attractors .....	Lingling Yang, Yun Zhang, Zhenfeng Chen, Qi-jie ZENG	1400
Shifted-Ectropy Based Self-Stability Analysis Method for General Thermodynamic Systems and Its Ap- plication .....	Zhe Dong	1406
Robust Formation Control of a Class of Multi-agent Systems by Output Regulation Approach .....	Weijie Sun, Yupeng Qiao, Xudong Suo	1412
Parameter Convergence Analysis in Adaptive Disturbance Rejection Problem of Rigid Spacecraft .....	Zhiyong Chen, Jie Huang	1418
LQR Control for a Self-balancing Unicycle Robot .....	Daoxiong Gong, Qi Pan, Guoyu Zuo, Wenbo Deng	1424
Modeling and Control for an In-plane Morphing Wing .....	Rongqi Shi, Jianmei Song	1430
A Fractional-order Multi-scroll Hyperchaotic Chua System and Its Synchronization .....	Huiling Xi	1436
UKF Based Robust Attitude Control for Helicopter .....	Qi Song, Jianda Han, Zhe JIANG	1442
Non-Smooth Robust Nonlinear Control for Robotic Manipulators .....	Dongya Zhao, Lihua Xie, Quan-Min Zhu	1447
Distributed Event-triggered Tracking Control of Multi-Agent Systems with Active Leader .....	Yanqiong Zhang, Yiguang Hong	1453
The Stability of Linear Discrete Time Delay Systems over a Finite Time Interval: New Results .....	Dragutin Debeljkovic, Sreten Stojanovic, Nebojsa Dimitrijevic, Dejan Popov	1459

Solving a Class of Fuzzy Relation Inequalities via Semi-tensor Product .....	Hongbiao Fan, Jun-e Feng, Lequn Zhang	1465
Observer Design for Wave Equations with van der Pol Type Boundary Conditions .....	Liangliang Li, Yu Huang, MingQing Xiao	1471
Model-Input-State Matrix of Switched Boolean Control Networks and Its Applications .....	Lequn Zhang, Jun-e Feng	1477
Global Asymptotic Stability of Uncertain Nonlinear System with Input Constraint .....	Yingjiang Zhou, Changyin Sun, Li Wang, Jingmei Zhang	1483
Multiperiodicity and Attractivity Analysis for a Class of High-order Cohen-Grossberg Neural Networks .....	Li Sheng, Ming Gao	1489
Delay-dependent Stability for Uncertain Stochastic Neural Networks with Distributed Delays .....	Ming Gao, Li Sheng	1495
Consistency of Signal Coordinate Control Models under Different Traffic Conditions .....	Kai Lu, Jiuming Liu, Shiming Wang, Shijie Liu, Jian-min Xu	1501
Robust $H_\infty$ control of linear systems with intervalnon-differentiable time-varying delays .....	Chanikan Emharuethai, Piyapong Niamsup	1507
Cutting-in Control with Smooth Switching Strategy for Doubly-fed Wind Power Generator .....	Yunqi Xiao, Yuegang Lv	1513
Fuzzy Energy-to-Peak Control for Nonlinear Markovian Jump Systems .....	Hao Shen, Jing Wang, Jianping Zhou, Handong Zhang	1518
Nonlinear Attitude Control of a 3D Rigid Pendulum Using Hierarchical Sliding Mode Techniques .....	Kui Zou, Xinsheng GE	1524
Optimal Control for Stochastic Discrete-time Systems with Multiple Input-delays .....	Hongxia Wang, Huanshui Zhang, Xuan Wang	1529
On Non-Lyapunov Stability of Linear Discrete Time Delay Systems: LMIs Approach .....	Dragutin Debeljkovic, Sreten Stojanovic, Nebojsa Dimitrijevic, Dejan Popov	1535
Output Feedback Control for High-order Stochastic Nonlinear Time-delay Systems .....	Liang Liu, Xue-Jun Xie	1541
Dynamic Output Feedback Sliding Mode Control for Magnetic Bearing System Stabilization .....	Juan Shi, Yan Yan, Shanghe Yu, Xinghuo Yu	1547
Based on the Heating Furnace Temperature Fuzzy-PID Control Method Research .....	Guimei Cui, Peng Xiao, Yani Li	1553
Design Robust Gain-Scheduling Multi-Objective Controller Based on Iterative LMI .....	Wen Qiang Li, Wenjing Cao, Tao SU, Lian LI	1558
Cascade Temperature Control for Bench-Scale Batch Reactor - An Application of Predictive Functional Control Technique .....	Yiming Song, Bin Yang, Shuang Qiu, Xiaoxun Ma	1564
Application on Non-destructive Inspection of Terahertz Wave .....	Fang Yan	1570
Consensus of Second-Order Multi-Agent Systems with Disturbance Generated by Nonlinear Exosystem .....	Xuxi Zhang, Daizhan Cheng	1574
Inverse Kinematics Solution of Deep Space Probes Mast and Windsurfing .....	Pei Song, Hehua Ju, Hui Li	1580
On the Modeling of a Nonlinear Plate and a Nonlinear Shell .....	Shun Li, Pengfei Yao	1585
Asymptotic Rejection of General Periodic Disturbances with Time-Varying Gains .....	Pengnian Chen, Huashu Qin	1591

Inverse Optimal Design of a Class of Stochastic Nonlinear Systems with Uncontrollable Linearization .....	Qiangde WANG, Chunling WEI	1597
Stability of a Multi-state Repairable System with Two Repair Distributions .....	Fu Zheng, Shuangshuang Xu	1603
Adaptive Sliding Mode Control with Nonlinear Disturbance Observer for Uncertain Nonlinear System Based on Backstepping Method .....	Jihong Qiao, Hongyan Wang, Zihao Li	1609
FFSM Trajectory Optimization via Multiphase Gauss Pseudospectral Method .....	Guang-Ren Duan, Shi Li	1615
Estimate Error Analysis of the Nonlinear Third Order Extended State Observer .....	Yuan-wen ZHANG, Le-ping YANG, Yanwei Zhu	1621
Consensus of Multi-agent Systems with Time Delay Based on Nonlinear Algorithm .....	You-ming Liang, Chenglin Liu, Fei Liu	1628
Quantum Discord Dynamics of Two Atoms under Different Quantum Feedbacks .....	Hui Wang, Zairong Xi	1634
Research on PID Control Technique for Chaotic Ship Steering Based on Dynamic Chaos Particle Swarm Optimization Algorithm .....	Qian Huang, Tianwei Li, Zhengyou Li, Yundong Hang, Shaoqing Yang	1639
On Detectability and Observability of Discrete-time Stochastic Markov Jump Systems with State- dependent Noise .....	Weihai Zhang, Cheng Tan	1644
Robust Altitude Control of an Unmanned Autonomous Helicopter Using Backstepping .....	Tushar K. Roy, Matt Garratt, H.R. Pota, H. Teimoori	1650
Nonlinear Sliding Mode Formation Control for Underactuated Surface Vessels .....	Wei Meng, Chen GUO, Yang Liu	1655
Structured Singular Value Synthesis Based Low Power Level Steam Generator Water Level Controller Design .....	Shiliang ZHOU, Yuyan Liu, Zulong Hao	1661
Design and Research of Time-Varying Delay Teleoperation .....	Yan Cui, He-Hua Ju, Ping Cao, Guocheng Dong	1666
Reliable $H_\infty$ Filtering in Low-frequency Domain for Networked Control Systems Subject to Packet Loss and Quantization .....	Heng Wang, Yue Long, Dan Ye	1670
Stabilizing the Attitude of a Flexible Spacecraft with Fast Convergence .....	Shihong Ding, Wei Xing Zheng	1676
Adaptive Dynamic Friction Compensation Control of Electrohydraulic Servo System .....	Jing Guo, Jizhi Yang	1682
Hover Flight Control of a Small Helicopter Using Robust Backstepping and PID .....	Tushar K. Roy, Matt Garratt, H.R. Pota, H. Teimoori	1688
Partial Information LQ Optimal Control of Backward Stochastic Differential Equations .....	Guangchen Wang, Zhen Wu, Jie Xiong	1694
Robust Exponential Delay-Dependent Stability Criteria for Neutral Systems with Constant Delay .....	Sudsanguan Warakorn, Thaned Rojsiraphisal	1698
Robust $H_\infty$ Control for Switched Singular Systems With Linear Fractional Uncertainties: A Strict LMI Approach .....	Jinxing Lin, Zhifeng Gao, Shaoyan Gai	1704
Robust $H_\infty$ Fuzzy Control for Nonlinear Discrete-Time Systems by Nonquadratic Lyapunov Function Approach .....	Wen-Ren Horng, Chung-Cheng Wang, Chin-Yu Chen, Xiu-Hao Yi, Chun-Hsiung Fang	1710
Robust Analysis of Different Guidance Laws of Terminal Guidance System under Model Uncertainties .....	Xingdan Wang, Yu Yao, Baoqing Yang, Jian Guo	1716

Research on Robust Control Allocation for the Advanced Configuration Aircraft .....	Jingfeng Zou, Lingyu Yang, Jing Zhang, Gongzhang Shen	1722
On Necessary and Sufficient Conditions of the Consensusability for Second-order Discrete Multi-agent Systems .....	Jiandong Zhu, Xue Sun	1727
$H_\infty$ Model Reduction for Positive 2-D Discrete Systems in Roesser Model .....	Cuihong Wang, Lin Jia	1733
Finite-Time Consensus Problem for Multiple Non-holonomic Mobile Agents .....	Jiankui Wang, Zhihui Qiu, Guoshan Zhang, Weichao Yang	1739
An Included Angle Gridding Algorithm for Multimodel Decomposition of Hammerstein Systems with Input Multiplicity .....	Jingjing Du, Xinliang Zhang, Chunyue Song	1745
Transition Graph-based Control of Quantum Eigenstates .....	Sen Kuang, Shuang Cong	1750
Distributed Tracking Control for Linear Multi-Agent Systems with a Leader of Bounded Input Using Output Information .....	Zhongkui Li, Xiangdong Liu	1756
Hypersonic Vehicle Control Based on Integral Sliding Mode Method .....	Helong Liu, Qun Zong, Bailing Tian, Jie Wang	1762
Adaptive Simultaneous Stabilization of Two Port-Controlled Hamiltonian Systems Subject to Actuator Saturation .....	Airong Wei, Yuzhen Wang, Xiaoming Hu	1767
Modeling and Control for Near-Space Vehicles with Oblique Wing .....	Jie Pang, Mei Rong, Mou Chen	1773
Nonsmooth Adaptive Control Design for Uncertain Stochastic Nonlinear Systems .....	Jian Zhang, Yungang Liu	1779
On Hierarchical Sliding Mode Control of Underactuated TORA System .....	Yuqing Bao, Junyuan Li, Jihua Xie, Bingtuan Gao	1785
Application Research of Neural Networks in Fruit and Vegetable Harvesting Robot .....	Weirong Wu, Shenping Ding, Jidong Lv	1790
Robust Altitude Control for a Small Helicopter by Considering the Ground Effect Compensation .....	Tushar K. Roy, Matt Garratt, H.R. Pota, M.K. Samal	1796
Distributed Filtering Based Consensus for the Local Strongly Coupled Systems .....	Yunze Cai, Hua O. Wang, Xiaoming Xu	1801
Guaranteed Cost Control for Polynomial Fuzzy Time-delay Systems by Sum-of-Squares Approach .....	Weihong Li, Weiqun Wang	1806
Fault Detection and Isolation for Switched Linear Systems: A Switched Lyapunov Function Approach .....	Xingang Zhao, Jian Li, Dan Ye	1812
Nonlinear Flight Control Design Using Sliding Mode Disturbance Observer-Based Constraint Backstepping .....	Chao Zhang, Zongji Chen, Chen Wei	1818
Finite-time Stabilization for a Class of Nonlinear Switched Time-delay Systems .....	Ruihua Wang, Guangdeng Zong, Linlin Hou	1826
Robust Stability Analysis of Hamiltonian Systems with Time-Varying Delays and Uncertainties .....	Weiwei Sun, Pan Wang	1832
Nonlinear Iterated Mappings Based Model and Tracking Control of Boost Converter .....	Yang Bin, Haolong Dong, Nenglian Feng	1838
The Stability Analysis of Nonlinear Time Variant System and the Application Based on Mathematical Simulation .....	Shuzheng Zhang, Fengqi Zhou, DeSheng Jiang, Hongli Lu	1844
Longitudinal Control of Intelligent Vehicle Based on Hybrid Automata Model .....	Yanrong Ge, Yangzhou Chen, Guoxiang Zhang	1848
Quantum Chaotic Communication .....	Jing Zhang, Rebing Wu, Chunwen Li, Tzyh-Jong Tarn	1854

Flux Estimation of Induction Motors Using High-order Terminal Sliding-Mode Observer .....	Yong Feng, Minghao Zhou, Hongyu Shi, Xinghuo Yu	1860
Dynamic Graph Hybrid System: a Modeling Method for Complex Networks with Application to Urban Traffic .....	Yangzhou Chen, Zhonghe He, Jianjun Shi, Xingguang Han	1864
Admissibility Conditions for Linear Singular Delta Operator Systems: Analysis and Synthesis .....	Qing-tang Mao, Xin-zhuang Dong, Wan-lu Tian	1870
The Stability Analysis of Neutral Neural Network Systems with Distributed Delays .....	Xueli Wu, Yang Li, Hui An, Yuehua Wang	1876
Distributed Estimation for Discrete Time Systems with Time-Varying Observation Delay .....	Wei Wang, Chunyan Han, Shulin Feng	1881
Distributed Collaborative Processing Based on Task Allocation for Wireless Sensor and Actuator Networks .....	Lei Mo, Bugong Xu	1887
Improved Results on Asymptotic Stability Criteria for Neutral Neural Network .....	Xueli Wu, Yang Li, Lifeng Hou, Yuehua Wang	1893
Improved Results on Exponential Stability Criteria for Neutral Neural Network .....	Zhe Zhao, Ran Zhen, Shaoqing Wei, Yuehua Wang	1899
A New Control Method and Stability Analysis of Linear System with Variable Time-delay .....	Jie Sheng, Shuang Li, Haibo Ji	1904
Globally Exponential Synchronization of 4D Four-wing Hyperchaotic Systems .....	Xuezhen Liu	1910
Active Disturbance Rejection Control for the Yaw Tracking for Unmanned Helicopter .....	Zhe JIANG	1915
A High Level Decentralized Tracking Algorithm for Three Manipulators Subject to Motion Constraints .....	Lin Wang, Johan Markdahl, Xiaoming Hu, Danica Kragic	1920
Robust Finite-Time Stochastic Stability Analysis and Control Synthesis of Uncertain Discrete-Time Markovian Jump Linear Systems .....	Zhiqiang Zuo, Hongchao Li, Yijing Wang, Yi Liu	1925
Pinning Control of General Multi-agent Systems .....	Wenwu Yu, Guanrong Chen, Jinhua Lu	1930
Simulation Study on Low Voltage Operation of DFIG During Grid Three Symmetric Short Circuit Fault .....	Ping Wang, Fujun Liang, Shengbiao Qi	1936
ADRC Controller Used in Dynamic Positioning System of a Rescue Ship .....	Zhengling Lei, Chen GUO, Yang Liu	1942
Finite-Time Stabilization for a Class of Distributed Parameter Systems .....	Qin FU	1948
Indirect Adaptive Fuzzy Controller Design for Vertical Direct-driven Servo System .....	Xing Xu, Tao Cai, Guanghui Wang, Zhishu Xu	1953
Passivity-Preserving Model Reduction for Descriptor Systems with $H_\infty$ Norm Error Bounds .....	Jing Wang	1958
On Initial Alignment of Large Azimuth Misalignment for SINS on the Static Base in Krein Space .....	JIN FENG, FEI YU, PENG-Yu ZHANG, Meikui Zou	1964
Simulation Testing Method of V/STOL Flight Control Strategy .....	Ye Tian, Yang He, Xinyuan Li, Jihong Zhu	1969
Pinning Synchronization Criterion for Impulsive Dynamical Networks .....	Wenwu Yu, Zicong Zhang	1976
Research on QFT Controller Design for LOS Stabilization System of Opto-electronic Load for UAV .....	Dexin Xu, Kunpeng HE, Yanhui Wei, Jiangpeng Zhao	1982
The Robust Adaptive Control of Arc Furnace System Based on Backstepping Method .....	Xiao-he Liu, Nan Gao	1987
Energy-based Robust Nonlinear Control of Multiple Static Var Compensators in Power System .....	Qingqing Ding, Yanhong LIU, Jianyong Li	1993

Optimal Control of Quantum Discord in a Common Environment .....	Hongting Song, Yu Pan, Wei Cui, Zairong Xi	1999
Implementation of Control Algorithm for Three-Dimensional Pursuer Convoy .....	Shulin Feng, Wei Wang, Huanshui Zhang	2005
Improved Robust $H_\infty$ Filtering for Polytopic Delta Operator Systems .....	Ying Zhang, Rui Zhang, Baopu Li, Jingsheng Liao	2011
Stability Analysis for A Class of Distributed Parameter Switched Systems with Time-varying .....	Leping Bao, Shumin Fei, Junyong Zhai	2017
High Stabilization Control of Sensorless Brushless DC Motor on High Speed ....	Haotun Lv, Zhong Wu	2022
Optimal Filtering on Continuous-time Systems with Markovian Communication Delays and Packet Dropouts .....	Chunyan Han, Wei Wang, Huanshui Zhang	2027
Robust Nonlinear Model Predictive Control Algorithm Based on Reduced Precision Solution Criteria .....	Jiaona Wan, Tiejun Zhang, Kexin Wang, Xueyi Fang, Zhijiang SHAO	2033
Chaos Phenomenon in the DC-DC Switching Converters .....	Yumei Zhang, Hong Qin, Yanhua Qu, Jianhua Wu	2039
Control Based on Variable Coefficient of a Nonlinear Broer-Kaup System .....	Yulan Ma, Lingchun Xiong, Wei Wang	2044
Parallel Rail Transit System Based on ACP Approach .....	Xisong Dong, Gang XIONG, Dong Fan, Yisheng Lv, Xubin Sun	2048
Control of a Class of Nonlinear Uncertain Systems by Combining State Observers and Parameter Estimators .....	Chaodong Huang, Lei Guo	2054
Decentralized Adaptive Control for a Class of Semi-parametric Uncertain Multi-agent Systems .....	Hongbin Ma, Yali Zhao, Mengyin Fu, Chenguang Yang	2060
Stability Control of Vehicle with Tire Blowout Using Differential Flatness Based MPC Method .....	Hongyan Guo, Fei Wang, Hong Chen, Dapeng Guo	2066
Working Process Simulation of Roll Forming Machine Based on Virtual Reality Technology .....	Dong Wang, Yuchao Cao, Tuo Zhang, Shoutong Qin	2072
An Agricultural Irrigation System Based on GIS and RFID .....	Hui Wang, Juan Li, You-gang Zhao, Zhongmin Jiang	2076
Adaptive Integral-Type Sliding Mode Control for a Class of Uncertain Nonlinear Systems .....	Li-Ying Sun	2081
Output Feedback Organically-Structured Control of Expanded Power System Based on Parameter Optimization .....	Xiaohua Li, Yanying Xu	2085
Optimal Control of Quantum Systems under Different Manipulation Conditions .....	Jiahua Wei, Weiwei Zhou, Hong-Yi Dai, Fengxing Zou, Ming Zhang	2091
Average Dwell-Time Approach to Stabilization of Networked Systems with Actuator Saturation .....	Rujuan Zhou, Xiaomei Zhang	2097
Development of Intelligent Control Systems on Disaster Prevention and Energy Saving of Underground Space .....	Yi He, Changbin Li, Aiguo Wu	2103
Research on Parameter Design of Tank Stabilizers of Ship .....	Honghan Zhang, Guolong Liang, Hongzhang Jin, Yufei Zhao, Xun Zhang	2109
Research on Trajectory Scheduling and Control Method of UUV for Terrain Survey Mission .....	Tao Chen, Zheping Yan, Guolong Liang, Yufei Zhao	2113
Output Feedback Stabilization of Polytopic-type Uncertain Discrete Systems with Interval-like Time-varying State and Input Delays .....	Xiaohua Ge, Xiefu Jiang, Qing-Long Han	2119

Parametric Stabilization of Large-Scale Nonlinear Systems .....	Ning Chen, Xiaoyu Shen, Weihua Gui	2125
A Unified Control Design for A Class of Discrete-Time Markov Jump Systems: A Game Approach .....	Ting Hou, Weihai Zhang, Hongji Ma	2130
Fractional Order QFT Controller for Nonlinear Systems .....	Li Meng, Fen Diao	2136
Optimal Control for Markov Jump Systems with Constrained Control Input .....	Yanrui Wu, Youli Wu, Yangwang Fang, Shiguo Hu	2142
Fractional-order QFT Controllers for Unstable Plants Based on Automatic Loop Shaping .....	Li Meng, Fen Diao	2148
TC on PVTOL .....	Yunfan Zhang, Donghai Li, Dazhong Lao, Yong Su, Renming Bai	2154
Based on (w,z) Parameter Attitude Stability Control of Axisymmetric 3D Pendulum .....	Wenjun Lv, Xinsheng GE	2160
Constrained Model Predictive Control for Backing-up Tractor-Trailer System .....	Yang Bin, Taehyun Shim	2165
Adaptive Control for A Class of Nonlinear Uncertain Dynamical Systems with Time-varying .....	Jie Zhang, Xingxuan Wang	2171
Attitude Quaternion Control in the Final Approach Phase of Rendezvous and Docking by Sliding Mode Control .....	Xiaoxiao Zong, Zhenghua Liu, Yan Ren, Nan Li	2177
Co-design of Static Quantized Scheduling Strategy and State Feedback Control for Networked Control Systems .....	Mingli Du, Chuan Zhou, Yifei Wu, Qingwei Chen	2182
Second Order Sliding Mode Control of Pan-tilt Joint in Modular Manipulator .....	Shirong Liu, Jianye Chen, Botao Zhang	2188
Exponential Synchronization of a Class of Chaotic Neural Network .....	Zongmin Qiao, Pei Zhang	2194
Adaptive Observer Design for a Class of MIMO Nonlinear Systems .....	Lili ZHAO, Xiuliang LI, Ping Li	2198
Design of 3-D Discrete Sliding Mode Variable Structure Guidance Law for Air Missile .....	Le Chang, Zhenghua Liu, Xiaoxiao Zong	2204
Coherent Quantum Feedback Rejection of Non-Markovian Noises .....	ShiBei Xue, Rebing Wu, Jing Zhang	2209
A New Variable Pairing Method and Its Application in Non-square Multivariable Systems .....	Li-hong Ren, Xiong-lin Luo, Yubo Liu, Feng Xu	2215
State Estimation for a Class of Nonlinear Systems with Multi-package Transmission .....	Xiaofeng Wang, Xiao He, Zidong Wang	2221
Remarks on Integral-ISS for Systems with Delays .....	Shanaz Tiwari, Yuan Wang, Zhongping Jiang	2227
Local Observer for Axial Flow Aeroengine Compressors .....	Xuejun Gao, Tingwen Huang, Jun Liu, MingQing Xiao	2233
Model Construction of Fuzzy Relation Matrices and Application in Intelligent Environmental Comfort Systems .....	Hongli Lv, Jun-e Feng, Daizhan Cheng, Congcong Liu, Peiyong Duan	2239
Global Stabilization for a Class of Integrator Chain with Bounded Control .....	Haijun Fang	2245
Kalman Filtering with Scheduled Measurements - Part I: Estimation Framework .....	Keyou You, Lihua Xie	2251
Low Order Structured Weight Optimization for $H_\infty$ Loop Shaping Design Procedure .....	Yuyan Liu, Shiliang ZHOU	2257
Multi-agent Competitive Control Systems .....	Zhenning Zhang, Daizhan Cheng	2263
Quadratic Stability of Reset Control Systems with Delays .....	Yuqian Guo, Lihua Xie	2268

Optimal Control of Finite-valued Networks .....	Daizhan Cheng, Yin Zhao, Jiangbo Liu	2274
Approximation of Boolean Networks .....	Daizhan Cheng, Yin Zhao, Jongrae Kim, Yun-Bo Zhao	2280
Quantum Multi-Channel Decoupling .....	Pei-Lan Liu, Jr-Shin Li, Tzyh-Jong Tarn	2286
Application of Extended Kalman Filter to Unmanned Helicopter Navigation .....	Fuchun Liu, Qian Zhang	2291
Support Vector Machine Generalized Predictive Control for Turboshaft Engine .....	Lingfei Xiao, Yue Zhu	2296
Data-based Predictive Control for Networked Control Systems .....	Yan Wang, Zhicheng Ji	2302
Consensus Output Regulation without State Estimation .....	Zhengtao Ding	2306
Cross-Layer Energy Efficiency Design in Wireless Sensor Networks .....	Xiufang Tang, Yan Wang	2312
PD Control for Teleoperation System with Delayed and Quantized Communication Channel .....	Xian Yang, Changchun Hua, Jing Yan, Xinping Guan	2318
Adaptive Position Tracking Control for Bilateral Teleoperation with Constant Time Delay .....	Changchun Hua, Yana Yang, Xiaoping Liu	2324
Reachability and Controllability of BCNs Avoiding States Set .....	Zhiqiang Li, Jinli Song	2329
Integrated Vehicle Dynamics Control of an In-Wheel-Motor Vehicle Optimize Vehicle Dynamics and Energy Consumption .....	Yutaka Hirano	2335
SICE Benchmark Problem of Engine Control and a Challenging Results .....	Tielong Shen, Jiangyan Zhang	2340
Disturbance-Observer-Based Dynamic Inversion Tracking Control for a Hypersonic Vehicle .....	Na Wang, Jian Yang, Lei Guo	2346
Tracking Trajectory of Heterogenous Multi-Agent Systems with Disturbance Observer Based Control .....	Hong-yong Yang, Lei Guo, Chao Han	2352
MLP-based Nonlinear Modelling for Energy Saving in Forming Section of Paper Machines .....	Jinliang Ding, Tian-you Chai, Puya Afshar, Hong Wang	2358
Energy-Balancing-Based Control Design for Power Systems ....	Yajie Sun, Zhengtao Ding, Hong Wang	2364
Neural Adaptive Back Stepping Flight Controller for a Ducted Fan UAV .....	Rajashekar Aruneshwaran, Jianliang Wang, Sundaram Suresh, T.K. Venugopalan	2370
A New Approach to Quantized Stabilization of Stochastic System with Multiplicative Noise .....	Li Wei, Huanshui Zhang	2382

## **B2. Systems Engineering and Engineering Optimization**

New Approximation Algorithms for Two-machine Flow Shop Total Completion Time Problem .....	Danyu Bai, Tao Ren, Hongmei Li	2388
Optimal Scheduling of Storage Devices for Building Energy Saving .....	Zhanbo Xu, Qing-Shan Jia, Xiaohong Guan, Jiang Wu, Dai Wang, Siyun Chen	2393
A Hybrid Genetic Algorithm/fuzzy Dynamic Programming Approach to Two-machine Flowshop Problems .....	Hong Zhang, Jun Li, Desheng Zhang	2399
Parameters Optimization and Dynamic Characteristic Analysis of Maglev Spindle Control System .....	Liang Deng, Fangzhen Song, Bo SONG	2403
Cooperative Game Theoretical Research for Aircraft Deicing Operation Scheduling .....	Zhiwei Xing, Guan Lian	2407
Mathematical Model Building and Optimization Control of Horizontal Continuous Heat Treatment Furnace .....	Lingyan Hu, Xingcheng Wang	2412

Simulation Design and Application of Attack-Defense System in the Sea Based on HLA .....	Changpeng Pan, Jie Chen, Jiangan Yan	2417
Study of an Improved Algorithm for Arterial Traffic Coordinated Control Considering the Effect of Turning-Traffic Flow .....	Shijie Liu, Xiao-He LIU, Jiuming Liu, Qiuyan Xie, Jian-min Xu	2421
Optimal Operation Strategies for Batch Distillation by Using A Fast Adaptive Simulated Annealing Algorithm .....	Lin Wang, Zhonghao Pu, Sufang Wen	2426
Hybrid Load Forecasting Method Based on Fuzzy Support Vector Machine and Linear Extrapolation .....	Xin Jiang, Xiaohua Liu, Rong Gao	2431
A Kind of Robust Controller for Uncertain Linear System LQ Tracking Problem .....	Yang Yang, Chen GUO, Zhipeng Shen, Jialu Du	2436
Optimal Sweep-based Persistent Surveillance Using Multiple Unmanned Aerial Vehicles with Level of Interest .....	Yu Yao, Peng Zhang, Hugh Liu, Fenghua He	2441
Optimal DTC Strategy of PMSM in Electric Vehicle .....	Li Zhai, Shouquan Dong, Liwei Su, Runze Gao	2447
Optimization of a 3-PRS Parallel Manipulator Based on Interval Analysis .....	Xu Zhang, Hao Fang	2452
Optimal Feedback Reentry Guidance of Hypersonic Vehicle Based on Improved Gauss Pseudospectral Method .....	Yong Sun, Guang-Ren Duan	2457
The Stability Analysis of the Machine Drive System .....	Huiduan Zhang, Furong Wang	2463
Algebraic Method to Pseudo-Boolean Function and Its Application in Pseudo-Boolean Optimization .....	Zhiqiang Li, Jinli Song, Huimin Xiao	2468
A Gradient Information Based Real Time Pricing Mechanism for Microgrid in Energy Intensive Enterprise Zhaojie Wang, Feng Gao, Qiaozhu Zhai, Jiang Wu, Xiaohong Guan, Hao Zhang, Kun Liu, Li Pan, Mingyu Dong		2473
Online Strategy for Scheduling A Hydroelectric Station .....	Hai Ru, Feng Gao, Xiaohong Guan, Fei Feng Zheng	2479
Bus Rapid Transit (BRT) Parallel System Based on ACP Approach .....	Xisong Dong, Gang XIONG, Fan Dong, Fenghua Zhu, Li Xie	2485
Analysis and Optimum Design of Loop Filter in GNSS Receiver .....	Yi Jiang, Shu-fang Zhang, Kai Zheng, Qing Hu	2491
An Evacuation Algorithm for Large Buildings .....	Xingxuan Wang, Huan Liu	2497
Studied on Anti-interference Control Based on the Disturbance Observer .....	Naibao He, Qian Gao	2503
Control Three-Phase Star-Connected Switch Three-Level Rectifier Considering Alternative Performance Indices .....	He Chen, Shaoru Zhang, Lingling Liu	2506

### B3. Advanced Control Algorithms and Applications

Study on On-ramp Control Strategy of Urban Freeway Based on Fuzzy Control .....	Shiming Wang, Jianmin Xu, Qiang Luo	2512
A Novel Model Algorithmic Controller with Fractional Order PID Structure .....	Wei Guo, Ying Song, Li Zhou, Ling Deng	2517
Nonlinear MPC for Attitude System of Miniature Satellite Using Multiple MEMS Actuators .....	Yu Jiang, Yingchun Zhang, Jing Jin	2523
On-line Squaring of Non-square Hard Constraints of Input Variable by Coordinate Alternating in Model Predictive Control .....	Xiong-lin LUO, Shubin Wang	2529
Path Planning Based Quadtree Representation for Mobile Robot Using Hybrid-Simulated Annealing and Ant Colony Optimization Algorithm .....	Qi Zhang, Jiachen Ma, Qiang Liu	2537

Intersection Analysis of Input and Output Constraints in Model Predictive Control and On-line Adjustment of Soft Constraints .....	Xiaolong ZHOU, Shubin Wang, Xiong-lin LUO	2543
Structural Properties of Multi-Agent Linear Systems with Applications to Leader-Following Consensus .....	Wei Ni, Xiaoli Wang, Jie Yang, Ping Zhao	2550
The Solution of the Fuzzy Volterra Integral Equations of the Second Kind .....	Huarong Gong	2556
New Active Queue Management Scheme Based on Statistical Analysis .....	Qin Xu, Jinsheng Sun	2562
Prediction Model of Sintering Burden Based on Information Entropy and Chaos PSO Algorithm .....	Ling Qin	2566
Sliding Mode Control with Extended State Observer for the Boiler Steam Pressure of Fuel-steam Pressure System .....	Zhiqiang CUI, Jizhen LIU, Jinkun LIU	2570
Particle-swarm Optimization Algorithm for Model Predictive Control of MIMO with Constraints .....	Shubin Wang, Shengnan Shan, Xiong-lin LUO	2576
Fuzzy Guaranteed Cost Control for a Class of Nonlinear Systems via Observer-based Output Feedback .....	Guannan He, Jing Ji	2582
Establishment and Optimization of Prediction Model for Recovery Rate of Alloying Elements .....	Xiaoke Fang, Liye Yu, Wenle Zhang, Jianhui Wang	2588
Intelligence Fusion Based Control Strategy of Purifying System for Drinking Source Water .....	Jing Wang, Jianchao Bi	2592
Sliding Mode Control Based on Particle Filter for Position Tracking System .....	Wen-zhan DAI, Li Ming HE, Aiping Yang	2597
Dynamic Optimization of Polymer Flooding for High-salinity Reservoir Based on Maximum Principle .....	Yang Lei, Shurong Li, Xiaodong Zhang, Lanlei Guo	2601
Non-fragile Robust Design for a Control System of Air Fuel Ratio ....	Qinghai Heng, Jing Lu, Yang Lu	2607
The Aircraft Flutter Model Parametric Identification Based on Frequency Domain Global Optimization Algorithm .....	Jie Yao, Jianghong Wang	2611
PID Controller Parameters Optimization for the Main Steam Temperature System Based on Immune Algorithm-Particle Swarm Optimization .....	GuiLi Yuan, Lei Zhu	2618
Discrete-time Stochastic Iterative Learning Control: A Brief Survey .....	Dong Shen, Gang XIONG	2624
Multiple Models Direct Adaptive Controller Using Dimension-By-Dimension Technology .....	Xin WANG, Yihui ZHENG, Lixue Li, Hui Yang	2630
Robust Adaptive Control for a Class of Switched Nonlinear Systems with Unmodeled Dynamics .....	Baicheng Zhu, Tianping Zhang, Yao An	2636
A RLS Run-to-Run Control Approach for Semiconductor Manufacturing Process .....	Shujie Liu, Ying Zheng, Ming Luo, Yanwei Wang	2642
Finite-time Observer for a Class of Time-varying Nonlinear Systems .....	Haibo Du, Chunjiang Qian, Shizhong Yang, Shihua Li	2647
Research on Sampling Period of Discrete Variable Structure Controller Based on the Two-wheeled Self-balanced Vehicle .....	Xiang-zhong Meng, Xin-wen Liu, Jing Li, Da-yu Li, Yongzhen SU	2653
A New Wavelet Coefficients Correlation Denoising Method Applied in Fault Detection .....	Qian Xiao	2657
Point-to-Point Trajectory Tracking with Two-Degree-of-Freedom Robust Control for a Non-minimum Phase Electro-hydraulic System .....	Rozaimi Ghazali, Yahaya Sam, Mohd Fua'ad Rahmat, Zulfatman	2661
One Nearspace Hypersonic Aircraft Dynamic Surface Adaptive Backstepping Control Design Based on Nonlinear Neumatic/ Thrust Vectoring Composite Control .....	Shaowu Dai, Jie Chen, Chao Song	2669
Model-free Subspace-based Control Scheme for Grid-Connected Voltage Source Inverters .....	Jianmin Chen, Fuwen Yang, Qing-Long Han	2674

Robust Control of Hydro Turbine Speed Governor .....	Qinghai Heng, Jing Lu, Yang Lu	2680
An Approach of Constraint Boundaries Tuning Based on Shadow Price for Two-layered Predictive Control .....	Tao Zou, Weilong Xiang, Baocang Ding, Shaoyuan Li	2685
New Algorithm for Finding Fixed Points and Cycles of Boolean Network .....	Jinghui Suo, Jitao Sun	2691
Global Asymptotic Stability of Uncertain Nonlinear System with State and Input Constraint .....	Yingjiang Zhou, Changyin Sun, Li Wang, Jingmei Zhang	2695
Predictive Control Design Subject to Multiple Missing Measurements .....	Yuanyuan Zou, Yugang Niu	2701
Trajectory Tracking Control for Mobile Robot Based on the Fuzzy Sliding Mode .....	Mujun Xie, Li-ting LI, Zhi-qian Wang	2706
$H_\infty$ Loop Shaping Based Low Order Structured Robust Controller Design .....	Shiliang ZHOU, Yuyan Liu	2710
Matrix Approach to Simulation and Bisimulation Analysis of Finite Automata .....	Xiangru Xu, Yiguang Hong, Hai Lin	2716
Data-Based Approach for the Control of a Class of Nonlinear Affine Systems .....	Zhuo Wang, Derong Liu	2722
Extended Robust Iterative Learning Control Design for Industrial Batch Processes with Uncertain Perturbations .....	Tao Liu, Cheng Shao	2728
Path Following of Underactuated UUV Based on Backstepping .....	Zheping Yan, Dongnan Chi, Heming Jia, Jiajia Zhou	2734
Feedback Linearization Robust Control of Arc Furnace Electrode Regulator System Based on dSPACE Simulation .....	Xiao-he Liu, Yuan Gao	2740
Decentralized Controller Design Based on 3-Order Active-disturbance-rejection-control .....	Lingling Tian, Donghai Li, Chun E Huang	2746
Nonlinear Robust Control with High Gain Observer for Governor of Hydro-turbine Generator Sets .....	Song Liu, Donghai Li, Chun E Huang	2752
Research on Global Motion Estimation Based on Adaptive SIFT Algorithm .....	Huiqing Zhang, Jiancheng An, Luguang Cao	2758
Optimization Target Resetting Distributed Model Predictive Control for Accelerated Cooling Process .....	Yi Zheng, Shaoyuan Li, Xiaobo Wang	2764
Active Control of Periodic Impulsive Noise in a Non-minimum Phase System Using Repetitive Control Algorithm .....	Yali Zhou, Yixin Yin, Qizhi Zhang	2770
Position Control of an Electric Clutch Actuator .....	Bin Wang, Bingzhao Gao, Hong Chen, Zhenwei Zhang, Hanqi Yue	2776
A Predictive Energy Management Strategy for Hybrid Electric Bus Based on Greedy Algorithm .....	Zheng Pan, Chunyue Song	2782
Numerical Solution to Optimal Control of Switched Systems with State-dependent Switchings .....	Qin Ji, Chunyue Song	2788
Reaching Optimal Consensus for Multi-agent Systems Based on Approximate Projection .....	Youcheng Lou, Guodong Shi, Karl Henrik Johansson, Yiguang Hong	2794
The Control Theory of Permanent Magnet Synchronous Motor Based on Anti-windup Control .....	Jingcong Ma, Yang Zheng	2801
MLD-based Predictive Control of Energy Management for Hybrid Electric Bus .....	Zhitao Kou, Chunyue Song, Zheng Pan	2806
Two-Degree-of-Freedom Control Scheme for Cascade Control Systems .....	Jinggong Zhang, Zhicheng Zhao	2812

Receding Horizon Tracking Control for Nonlinear Discrete-time Systems .....	Hai-Hong Wang, Nai-Ping Hu	2817
Hazard Detection and Avoidance for Planetary Landing Based on Lyapunov Control Method .....	Shengying Zhu, Pingyuan CUI, Haijing Hu	2822
Data-driven Model Free Adaptive Control for Block-Connected Systems .....	Yuanming Zhu, Zhongsheng Hou, Shangtai Jin	2827
Research on the Controller of Two-wheeled Self-balanced Vehicle Based on the Sensitivity Analysis .....	Xiang-zhong Meng, Yanzhao Li, Xin-wen Liu, FangMing Xie, Qiang Wang	2833
Multi-grade Resin Quality Adaptive Estimation for Gas-phase Polyethylene Process .....	Zhong Zhao, Chuan Hu, Yang Liu	2838
Energy-Shaping and Passivity-based Control of Three-Phase PWM Rectifiers .....	Haisheng Yu, Zhaobo Teng, Jinpeng Yu, Yuanqiang Zang	2844
An AQM Scheme Based on Adaptive Weight Cascaded PID Controller .....	Fei Du, Jinsheng Sun	2849
An AQM Algorithm Based on Variable Structure PID Controller .....	Fei Du, Jinsheng Sun	2855
Modified Backstepping Control for Time-Delay System of SVC .....	Rui Zhang, Li-Ying Sun, Bo-Qi Zhang	2861
Active Disturbance Rejection Control for the Gimbal Servo System of Magnetically Suspended Single Gimbal Control Momentum Gyroscope .....	Kongming Wei, Zhong Wu	2865
Recursive Identification of Parameters in the Minimum Variance Control ...	Jie Yao, Jiang-hong Wang	2870
Sliding Mode Variable Structure Control Based on Exact Linearization Mode of Nonlinear System .....	Ya-hui Wang, Zhifeng Xia, Tong Zhang	2878
Static $H_\infty$ Loop-Shaping Control for Unmanned Helicopter .....	Jie Tang, Chen Wei, Fan Yang	2882
The Predictive Control for Nonlinear Systems Based on Dynamic Approximate Hammerstein Model .....	Zhiqiang Hu, Bo Hu, Yong Liu, Shigang Wang, Siming Liu	2887
An Energy Saving, Factory-Validated Disturbance Decoupling Control Design for Extrusion Processes .....	Qing Zheng, Zhiqiang Gao	2891
On Model-free Accommodation of Actuator Nonlinearities .....	Shen Zhao, Qinling Zheng, Zhiqiang Gao	2897
Application Research on Data-based Third-order Linear Extended State Observer Filter for Hot Strip Width .....	Lijun Wang, Qing Li, Jiangyun Li, Chaonan Tong, Yixin Yin, Jie Dong	2903
Compressor Active Surge Controller Design Based on Uncertainty and Disturbance Estimator .....	Lingfei Xiao, Yue Zhu	2908
Data-based Dynamic Characteristic Modeling and Tracking Control for High-speed Train .....	Shigen Gao, Shuhu Qi, Hairong Dong, Bin Ning, Li Li	2913
Robust Flight Control System Design for an Indoor Miniature Coaxial Helicopter .....	Biao Wang, Fei Wang, Ben M. Chen, Tong Heng Lee	2918
An Exemplar Test Problem on Parameter Convergence Analysis of Temporal Difference Algorithms .....	Martin Brown, Onder Tutsoy	2925

#### B4. Modeling, Identification, and Fault diagnosis

Fault Diagnosis of Underwater Vehicle with Neural Network .....	Jianguo WANG	2931
Design of FDI System for the Nonlinear Control System .....	Jing Zhou, Xun Zhu	2935
EBE-based Parallel Finite Element Analysis of Electric Field in Aluminum Reduction Cell .....	Xianyong Zhao, Xiaofang Chen, Weihua Gui	2939

Modeling of Belt Conveyor System Based on Least Square Support Vector Machine .....	Wei Chen, Xin Li	2944
The Research on Eruption Peak Mutation Model of Lake and Reservoir Alga Bloom .....	Xiaoping Zhao, Xiaoyi Wang, Zaiwen Liu, Shuoqi Dong, Xing Zhao	2949
On Design of Fault Detection Filter for Nonlinear Markovian Jump Systems with Sensor Saturations .....	Hongli Dong, Zidong Wang, Jinling Liang, Huijun Gao	2953
Reduced-Order Fault Estimation Observer Design for Discrete-Time Systems .....	Ke Zhang, Bin Jiang, Peng Shi, Alexey Shumsky	2959
Active Fault-tolerant Control for Satellite System via Learning Unknown Input Observer .....	Qingxian Jia, Yu Guan, Yingchun Zhang, Yu Jiang, Yi Shen	2965
Research on Multi-zone VAV Air Conditioning System Modeling .....	Dong Wei, Xi Liu	2968
The Method of Multi-sources Fault Diagnosis in Gas Turbine & Compressor Unit Based on SDG and Bayes Theory .....	Yong-jie SONG, Bao-chang XU	2973
Design and Implementation of Fault Diagnosis Expert System for Missile Circuit .....	Sihai Qiu, Zengqiang Chen, Zhongxin Liu	2977
Research on Banknote Image Orientation Based on Least Square .....	Qinghong Wu, Ying Zhang, Yong Liu	2983
Fault Diagnosis for Non-Gaussian Time-delayed Stochastic Distribution Control System .....	Lina Yao, Bo Peng	2988
Dynamic Characteristics for Evaporator in Organic Rankine Cycle .....	Guolian Hou, Yanbin Li, Jianhua Zhang, Yeli Zhou	2994
An Improved Fuzzy Identification Method Based on Sigmoid Data Transfer Function .....	Fucaai Liu, Shu'en Wang, Jinmei Dou	2999
Polynomial Process Algebra .....	Bai Liu, Jinzhao Wu	3004
Data-based Fault-tolerant Control of the Semiconductor Manufacturing Process Based on K-Nearest Neighbor Nonparametric Regression .....	Ming Luo, Ying Zheng, Shujie Liu	3008
Fuzzy Systems-Based Adaptive Fault-Tolerant Dynamic Surface Control for a Class of High-order Nonlinear Systems with Actuator Fault .....	Qikun Shen, Bin Jiang, Tianping Zhang	3013
Modeling for Flying Boats in Regular Wave .....	Yinggu Zhu, Guoliang Fan, Jianqiang Yi	3019
A Green Wave Band Model Considering Variable Queue Clearance Time .....	Shi Ming Wang, Jian-min Xu, GuiGen Yang, ChangJia Chen	3025
Nonlinear System Modeling and Fault Detection Method Using Set Membership Estimation and T-S Fuzzy Model .....	Wei Chai, Junfei Qiao	3031
Input Selection for Dynamic RBF Models in Process Monitoring .....	Xueqin LIU, Kang Li, Shaoyuan Li, Minrui Fei	3037
Recursive Identification for Wiener-Hammerstein Systems Using Instrumental Variable .....	Xi Chen, Hai-Tao Fang	3043
Key Technology Research on Fault Detection and Diagnosis for Broken-wing Small Unmanned Aerial Vehicle .....	Junjie Huang, Zhen Jiang, Shuping Li, Xinli Xu, Xiaobin Shi	3049
Sample Selection and Training of Self-Organizing Map Neural Network in Multiple Models Approximation .....	Dayuan Gao, Hai Zhu, Xijing Liu, Chao Wang	3053
Roll and Pitch Model Identification for Miniature Unmanned Helicopter Based on Subspace Method .....	Meng Bai, Minhua Li	3059
Electric Load Forecasting Based on Improved LS-SVM Algorithm .....	Gang Yan, Gao-hui Tang, Ji-ming Xiong	3064

Study and Design of Digital Simulation System for Pumped Storage Hydropower Units	
..... Qijuan Chen, Tao Chen, Jiang Guo, Hongtao Zeng, Zhihui Xiao	3068
A Rough T-S Fuzzy Model	Li Wang, Xianzhong Zhou, Jie Shen 3072
Dynamic Fault Tree Analysis Based Fault Diagnosis System of Power Transformer	
..... Jiang GUO, Lei Shi, Kefei Zhang, Kaikai Gu, Weimin Bai, Bing Zeng, Yajin Liu	3077
Aging and Life Management Methods of Pressurizer Based on PDCA Cycle in Nuclear Power Station	
..... Jiang GUO, Weimin Bai, Zhihui Feng, Kaikai Gu, Bing Zeng, Yajin Liu	3082
Frequency-domain Parameter Identification of Nonlinear Generator Excitation System Based on Improved Particle Filtering Algorithm	Ruilan Liu, Wei Liu 3087
Nonlinear torsional vibration dynamics of rolling mill' s drive system under spindle angle parametric excitation	Peiming Shi, Jizhao Li, Dongwei Zhao, Bin Liu, Dongying Han 3091
Fuzzy Identification of the Steam Multivariable Temperature System Based on Improved GK Clustering Algorithm	Ruonan Li, Xiuxia Du, Pingkang Li 3096
Identification of Dynamic Parameters and Friction Coefficients for a Heavy-duty Hydraulic Manipulator	
..... Bo Li, Jun Yan, Gang Guo, Haito Wang, Meijun Zhang	3102
Quality Model for Integrated Security Monitoring and Control in Water Distribution Systems	
..... Tomasz Zubowicz, Krzysztof Arminski, Mietek Brdys	3107
Pitch-controlled Wind Turbine Synchronized Cutting-in Control and Modeling-Simulation	
..... Yunqi Xiao, Yuegang Lv	3113
Marine Vehicle Modeling and Tracking Using Wavelet Type Nets Model	
..... GARBA INOUSSA, Hui Peng	3118
Turbine Machine Fault Diagnosis Using Modified Redundant Second Generation Wavelet Packet Transform	
..... Ning Li, Rui Zhou	3126
Nonlinear Dynamic Process Monitoring Based on DLLE-SVDD	
..... Yuxin Ma, Mengling Wang, Hongbo Shi	3131
Study on Time Registration Method for Photoelectric Theodolite Data Fusion	
..... Hong Tao YANG, Hui-bin GAO	3137
Parameter Identifiability of Quantized Linear Systems	Ying Shen, Hui Zhang 3140
Multi-Agent Failure Prediction Based on Data Assimilation Theory	
..... Xun Huang, Junwei YAN, Min Liu	3146
Nonlinear Process Fault Diagnosis Based on Slow Feature Analysis	
..... Xiaogang Deng, Xue-Min Tian, Xiangyang Hu	3152
Data-driven Subspace Approach to MIMO Minimum Variance Control Performance Assessment	
..... Hua Yang, Shaoyuan Li	3157
Yaw Dynamic Model Identification for Miniature Unmanned Helicopter	Minhua Li, Meng Bai 3162
Fuzzy Clustering Based Spatiotemporal Fuzzy Logic Controller Design	
..... Xianxia Zhang, Jiajia LI, Ye Jiang, Baili Su, Chenkun Qi, Tao Zou	3167
Amplitude Envelope Analysis for Feature Extraction of Direct-Driven Wind Turbine Bearing Failure	
..... Weidong Xin, Yibing Liu, Ying He, Boxian Su	3173
Application of Over-complete ICA in Separating Turbine Vibration Sources	
..... Hongwen An, Yibing Liu, Keguo Yan, Yu Wang, Huan Yang	3177
Fault Diagnosis of Hydraulic Variable Pitch for Wind Turbine Based on Qualitative and Quantitative Analysis	Xiaojuan Han, Hao Zhang, Yueyan Chen, Xilin Zhang, Chengmin Wang 3181
Modeling and Control Simulation for Force Couple Leveling System of Hydraulic Press	
..... Chunyan Du, Guansheng Xing, Chao Jia	3186

Research of Dynamic Texture Mapping Technology Realized by Multi-software Collaboratively .....	Dong Wang, Tuo Zhang, Yuchao Cao, Dalei Li	3191
Research on the Application and Compensation for Startup Process of FOG Based on RBF Neural Network .....	Jun SHEN, Ling-juan MIAO, ZIWEI GUO	3195
Short-Term Wind Speed Prediction Based on LS-SVM .....	Xiaojuan Han, Fang Chen, Hui Cao, Xiangjun Li, Xilin Zhang	3200
Fault Diagnosis Based on Genetic Algorithm for Optimization of EBF Neural Network .....	Ya-hui Wang, Yifeng Huo	3205
Research and Application of Whole-process Virtual Simulation for Tunnel Shield System .....	Yanling Han, Shouqi Cao, Xiaoshi Wang	3208
Design of Networked Air Defense Fire Control Simulation System Based on BOM .....	Shi-jun Chen, Juan Zhang, Chen Chen	3214
Blind Identification of Multi-Rate Sampled Plants .....	Chengpu Yu, Cishen Zhang, Lihua Xie	3220
Prediction of Flooding Velocity in Packed Tower Using Least Squares Support Vector Machine .....	Changli Li, Yi Liu, Jie Yang, Zengliang Gao	3226
Using Fuzzy Theory and Information Entropy to Detect Leakage for Pipelines .....	Zhigang Chen	3232
Classifying Imbalanced Dataset Based on Minority Detection .....	Tong Liu, Yongquan Liang, Weijian Ni	3236
Model Establishment and Simulation for Finite Length Cylindrical Surface Heat and Moisture Transfer Outside the Borehole .....	Yating Zhang, Dawei Jiang, Ye Zhang	3242
Fault Tolerant Control for a Robust Nonlinear Robotics via Optimal $H_\infty$ Controller .....	Ahmad Hussain Al-Bayati, Zakwan Skaf, Hong Wang	3248
Fault Diagnosis Observer via Hybrid Fuzzy and Importance Sampling Schemes .....	Ahmad Hussain Al-Bayati, Hong Wang	3254
Model Identification for Closed-loop Multivariable Processes Based on Min-max Critical Frequency Search .....	Yunhui Luo, Hongbo Liu, Wen-Jian Cai, Lei Jia, Zhiping Jia, Ruifu Song	3260
Adaptive Generalized Function Lag Projective Synchronization and Parameter Identifica- tion of a Class of Hyperchaotic Systems with Fully Uncertain Parameters and Disturbance .....	Xiuli Chai, Xiangjun Wu, Junyan Guo	3265
Design and Mathematical Modeling of a 4-Standard-Propeller (4SP) Quadrotor .....	Swee King Phang, Chenxiao Cai, Ben M. Chen, Tong Heng Lee	3270
Stochastic Approximation Based PCA and Its Application to Identification of EIV Systems .....	Wen-Xiao Zhao, Han-Fu Chen	3276
An Adaptive Observer for Actuator and Sensor Fault Diagnosis in Linear Time-Varying Systems .....	Fei GAO, Guangwen JIANG, Zebang ZHANG, Jingyu SONG	3281
PID Fault Tolerant Control System Design with Multi-performance Indices Constraints .....	Zhimin Feng, Gang Zhang, Xiang-Lan Han	3286
Fault Diagnosis of Induction Motor Rotor Based on BP Neural Network and D-S Evidence Theory .....	Lieping Zhang, Shoufeng WANG	3292
The Bi-Ramp Type Demand and Price Discount Inventory Model for Deteriorating Items .....	Youjun Zhou	3298
Benchmark Problem for Nonlinear Identification of Automotive Engine .....	AKIRA OHATA	3305
A Data-Driven Based Adaptive Fault Diagnosis Scheme for Nonlinear Stochastic Distribution Systems via 2-step Neural Networks and Descriptor Model .....	Yumin Zhang, Yunlong Liu, Lei Guo	3311

## B5. Industrial Automation and On-line Monitoring

Study on Periodic Feeding Control for a Semi-batch Polymerization Process .....	Rongchang Zhao, Liulin Cao, Jing Wang	3316
Design and Realization of S7-200 as Modbus-RTU Master Station .....	Wenhui Si, Jianping Wei	3322
Experimental Validation of a Trajectory Planning Method with Continuous Acceleration Implemented on a DSP-Based Motion Controller	Yanhui Qiang, Fengshui Jing, Zengguang Hou, Shuping Yang, Ying Liu	3326
Development and Research on Multi-National Banknote Sorting System .....	Ying Zhang, Xuebo Chen, Jiqin Wang	3331
Key Technology of Network Monitoring and Early Warning System for Wharf Mooring .....	Zhanzhi Qiu, Lei Sun, Yongchao Liu	3336
A Dynamic Relative Gain Array Based on Model Predictive Control .....	Huirong JIANG, Minghui WEI, Feng XU, Xiong-lin LUO	3340
Power Reliable Analysis of Coalmine Emergency Monitoring System in Catastrophic Environment .....	Fengying Ma	3345
Distributed Storage and Prediction Method for Mooring Monitoring System .....	Lei Sun, Zhanzhi Qiu	3351
Application of PLC and Touch-screen in the Power Window Control System .....	Binglin Li, Quan Tao	3355
Study on the Temperature Dual Control of CSTR with Coil Cooling and Jacket Cooling and Application .....	Zaiying Wang, Ying Liu	3359
Energy Consumption Monitoring of the Steam Pipe Network Based on Affinity Propagation Clustering .....	Xiazhu You, Wenli Du, Liang Zhao, Feng Qian	3364
Cascade PID Control of Desuperheating Water System of Supercritical Power Generation Unit Once-through Boiler .....	Ronghua Du, Pengtao Zhang, Hongbin Wang, Ruijun Guo	3369
AC Electric Power Steering System Modeling with Feed-forward Fuzzy Control Algorithm .....	Jianfeng Hu, Jianming Duan	3372
Saturated Output Feedback High-Gain Control for the Water-level of U-Tube Steam Generators .....	Zhe Dong	3378
Individual Pitch Control of Large-scale Wind Turbine Based on Load Calculation .....	Feng Gao	3384
Adaptive Digitally Controlled Flyback Converter Based on Current and Phase Margin Estimation .....	Youchen Yuan, Zhiwei Shao	3389
Harmonic Compensation Rectifier with Smart Control Technology .....	Youchen Yuan	3395
Adaptive Decoupling Control Systems Based on SVM for Large Supercritical CFB Boilers Combustion System .....	La-Xun Liu, Han Liu, Hui-Long Wang	3401
Research on Control Method Combined with Load Coordinate for Dry Desulfurization of Slurry Fluidized Bed Boiler .....	Aipeng Jiang, Weiwei Lin, Qiang Ding, Jian Wang, Zhoushu Jiang, Guohui Huang	3407
Research on Combustion Control and Heat Efficiency's Online Computing of Slime Fluidized Bed Boiler .....	Aipeng Jiang, Weiwei Lin, Qiang Ding, Zhifeng Liu, Jiafeng Fan, Shao Bing	3412
A Vision-based Fault Diagnosis System for Heliostat in A Central Receiver Solar Power Plant .....	YANG SONG, Wenjun Huang, Xuemei Zhu	3417
Incremental PCA Based Online Model Updating for Multivariate Process Monitoring .....	Ranran Hou, Huangang Wang, Yingchao Xiao, Wenli Xu	3422
An Approach to Rainfall Simulator Automation and Performance Evaluation .....	Jun Cai, Pingkang Li, Peng Wang	3428
Optimization of Power Plant DCS Control Based on Data Communication .....	Junjie Fu, Zhigang Zhao, Junfeng Long, Jun Cai, Pingkang Li	3434

Sensorless Estimation and Simulation of PMSM Based on High-frequency Signal Injection	Maogang Wu, Xiaogang Xuan, Xing Chen	3438
Simulation Experiment Platform for Optimal Control of the Raw Slurry Blending Process in the Alumina Production	Wanli Guo, Rui Bai, Qunying Ren, Mingli Cui	3443
Shielding Properties Analysis of Underground Methane Sensor Based on Finite Element Simulation and Electromagnetic Measurement	Fengying Ma	3448
A Vision-based Grasping Strategy for the Mineral Sorting	Yuren Zhang, Hong Qiao, Jianhua Su, Kaiqi Huang, Toshio Fukuda	3454

### **C1. Complex Systems, Logistics, and Supply Chain**

Discarded Consensus of Multi-Agent Systems with State Constraint	Zhongxin Liu, Zengqiang Chen	3460
Adaptive Synchronization of Uncertain and Delayed Chaotic Systems with Its Circuit Realization	Xiao-zheng Jin, Weiwei Che, Dan Wang	3465
Design on Integrated Monitoring System for Main Waterway Station	Yuling Pei, Qian Wu, Xiaoyi Yang	3471
Adaptive Group Consensus of Coupled Harmonic Oscillators with Multiple Leaders	Housheng Su, Michael Z. Q. Chen, Xiaofan Wang, Najl Valeyev	3475
Effect of Complex Network Structure on Synchronizability	Dan Wang, Yanping Li, Xiao-zheng Jin	3481
Social Learning with Bounded Confidence	Qipeng Liu, Xiaofan Wang	3485
Epidemic Spreading on Complex Networks with Weighted Adaptive Strategy	Yinzuo Zhou, Jie Zhou, Xiaofan Wang	3491
The Network Structure of Optimal Synchronizability for Bounded Regions Case	Lifu Wang, Yunjing Liu, Zhaoxia Wu, Zhi Kong, Xingang Wang	3497
Synchronized Output Regulation of Heterogeneous Networked Systems via Error Feedback	Ji Xiang, Yanjun Li, Wei Wei	3503
Dynamic Configuration of Service Based Processes in Cloud Computing Using Linear Programming	Yanhua Du, Hong Li, Lifeng Ai	3509
Emergence of Flocks with Local Interactions	Ge Chen, Zhi-Xin Liu	3515
Impact of Evacuee Behavior on Evacuation Clearance Time	Yisheng Lv, Fenghua Zhu, Gang XIONG, Qingming Yao, Songhang Chen, Peijun Ye	3520
“Knowing More is Less” in Combinatorial Games	Jing Han, Huawei Han, Xin Wang	3526
Modelling Complex Software Systems via Weighted Networks	Beiyang WANG, Jinhu Lu	3533
The Site Selection of Distribution Center Based on Linear Programming Transportation Method	Xiaohui Liu	3538
Convergence of Adaptive Linear Stochastic Differential Games: Nonzero-sum Case	Yan Li, Lei Guo	3543
Sensitivity Analysis in Equilibrium Property of Photosynthetic Carbon Metabolism	Chao Xia, Jin Guo, Yanlong Zhao, Zhiwei Lin	3549
A New Safety Certification Method for High-risk Flight Testing Subjects	Dongliang Liu, Haojun Xu, Li Zhou, Binbin Pei	3555

### **C2. Robotics, Service and Medical Robotics**

Soft Tissue Deformation ANSYS Simulation of Robot-Assisted Percutaneous Surgery	Chengtao Zhao, Qingjun Zeng, Haixia Liu	3561
---	---	------

Adaptive Neural Network Control of an Aerial Work Platform's arm .....	Pengxiao Jia, En Li, Zizhe Liang, Yanhui Qiang	3567
PSO-based Parameters Optimization of Multi-Robots Formation Control in Unknown Environment .....	Qiang Liu, Jiachen Ma, Qi Zhang	3571
Mobile Robot Active Observation and Mapping Based on Factored Method .....	Jing Yuan, Yalou Huang, Fengchi Sun, Shuzi Huang, Huan Chen	3577
QP-based SMP Scheme for Robots with Pseudoinverse Method Compared and Singularities Discussed .....	Yunong Zhang, Lin Xiao	3583
Wasp Swarm Algorithm on Terrain Coverage in Obstacle Environments .....	Guo-you Zhang, Jian-chao Zeng, Song-dong Xue	3589
Control Design for Flexible Hierarchical Formation of Multiple Robots ....	Yutao Tang, Yiguang Hong	3595
A Novel Inverse Dynamics Control Strategy with Different Phases for the Quadruped Robot .....	Bin Li, Xuesong Shao, Wei Wang, Yajuan Guo, Jian-qiang Yi	3601
Formation Control for Multiple Robots in Uncertain Environments .....	Li Li, Li Yang, Bing Li	3607
Research on Teleoperation for DFFSR without Time Delay Based on Virtual Reality .....	Huazhong Li, Yongsheng Liang, Tao He, Yi Li	3611
An Energy-based Position Control and Asymptotic Stability Analysis for Manipulator Handling a Flexible Payload .....	Shuyang Liu, Zhi-qian Wang, Yanfeng Qiao, Mujun Xie, Yuanchun Li	3617
A Novel Navigation Method, Optimal for Sloped Terrain .....	Haotian Chen, Fengchi Sun, Meng Song, Shulun Li, Yalou Huang	3623
Research and Design of Multi-agent Model Structure for Embedded Robot Dog .....	Huasong Min, Lei Huang, Xun Gan	3629
Improved S-Plane Control for Underwater Vehicles .....	Jianguo WANG	3634
Research of the Robot for the Elderly Based on Star Positioning .....	Liguo Tian, Meng Li, Zhiliang Chen, Hailong Duan	3639
A Method of Map Building for Robots in Unknown Indoor Environments .....	Xuemin Sun, Shuhua Liu, Jing Xia, Xue Yang	3642
Research on Robot Motion Control Based on Local Weighted KNN-TD Reinforcement Learning .....	Fei Han, Lu Jin, Yuequan Yang, Zhiqiang Cao, Tianping Zhang	3648
A Hierarchical Iterative Closest Point Algorithm for Simultaneous Localization and Mapping of Mobile Robot .....	Qizhi Zhang, Yali Zhou	3652
Modeling and Variable Structure Control of a Vehicle Flexible Manipulator .....	Yongjun Xu, Yanfeng Qiao, Zhi-qian Wang, Keping Liu, Yuanchun Li	3657
Position and Singularity Analysis of 4-SPS/PS Parallel Manipulator .....	Jiehua Zhou, Xiafu PENG	3663
Path Planning for Mobile Robots with Leg/wheel Hybrid Locomotion System on Outdoor Terrain .....	Zhiying Wang, Xilun Ding	3669
Lateral Stabilization of a Single Wheel Robot Applying Electromagnetic Force .....	Xiaogang Ruan, Xiaoqing Zhu, Yalei Li, Ruoyan Wei	3675
Dynamic Model and Balancing Control for Two-Wheeled Self-Balancing Mobile Robot on the Slopes .....	Kui Peng, Xiaogang Ruan, Guoyu Zuo	3681
Finite-time Robust Stabilization of Dynamic Feedback Nonholonomic Mobile Robots Based on Visual Servoing with Input Saturation .....	Hua Chen, Chaoli Wang, Dongkai Zhang, Fang Yang	3686
A Real-Time Human Imitation System .....	Fan Wang, Cheng Tang, Yongsheng Ou, Yangsheng Xu	3692
Occluded Object Grasping Based on Robot Stereo Vision .....	Chuan Lin, Yen-Lun Chen, Weidong Hao, Xinyu Wu	3698

Data Acquisition and Processing of the Onboard Sensor System of a Quadrotor Unmanned Aerial Vehicle .....	Fang Guo, Bin Xian, Haotao Li, Guoping Huang, Tingting Zhao	3705
A Solution of Inverse Kinematics for 7-DOF Manipulators and Its Application .....	Qiulan Huang, Jun Wu, Rong Xiong	3711
Acquisition of the Horse Movement Trajectory and Its Reproduction in the 6-DOF Parellel Robot Horse .....	Jinzhuang Xiao, Pengfei Li, Hongrui Wang, Liling Wang	3718
Neural-Network Based AUV Path Planning in Estuary Environments .....	Shuai Li, Yi Guo	3724
A Self-localization Method Based on Omnidirectional Vision and MTi for Soccer Robots .....	Dan Xiong, Huimin Lu, Zhiqiang Zheng	3731
Modeling and Simulation of Omni-directional Lower Limbs Rehabilitation Training Robot .....	Ying Jiang, Baodong Bai, Shuoyu Wang	3737
Mechanical Design of a Slider-Crank Centered Robotic Dolphin .....	Changming Wei, Junzhi Yu	3741
Modeling and Control for UW-Car in Rough Terrain .....	Lifei Mao, Jian Huang, Feng Ding, Toshio Fukuda, Takayuki Matsuno	3747
A Decentralized Adaptive Controller Design for Lower Extremity Rehabilitation Robot .....	Wenjun Mi, Zhizheng Wu, Jinwu Qian	3753
Vision-based Unscented FastSLAM for Mobile Robot .....	Chunxin Qiu, Xiaorui Zhu, Xiaobing Zhao	3758
A Fuzzy-Model-Based Gravity Center Adjustment and Inclination Control for Stair-climbing Wheelchair ....	Dongxiao Wang, Xueshan Gao, Xingguang DUAN, Weimin Zhang, Qiang HUANG, Yun-Hui Liu	3764
A Novel Scenario of Task Planning for Multi-robot Collaboration System .....	Zhiguo Shi, Kaihang Hu, Jun Tu, Junming WEI, Zhiliang WANG	3770
Research on the Ground Control System of Quadrotor Unmanned Aerial Vehicles .....	Tingting Zhao, Bin Xian, Yungao Yang, Fang Guo, Guoping Huang	3776
Autonomic Mission Planning for Lunar Rovers in Complex Environment .....	Hongxia Xu, Hehua Ju, Baofeng Wang	3782
Orientation Coordination of Multiple Robots Based on a Nonlinear Consensus Algorithm .....	Guansheng Xing, Hexu Sun, Haiyong Chen, Ning Liu	3788
A Cognizing Topology Map Building in A Wide-Range Indoor Structural Environment .....	Hao Wu, Guohui Tian, Fengyu Zhou, Yan Li, Peng Duan	3794
The Research of Shape-shifting Robot Skid-turning with Line Configuration .....	Jian Chang, Chengdong Wu, Bin Li, Hong Shang	3800
Design and Analysis of A Light Wall-Climbing Robot .....	Zibo Ke, Yulan Zhou, Jiaguang Liu, Zhiqiang Yu	3805
Attractor Design and Prediction-based Adaption for a Robot Waltz Dancer in Physical Human-Robot Interaction .....	Hongbo Wang, Kazuhiro Kosuge	3810
Evaluation of Task Realizability for Robot Systems in Representation Space .....	Ban Wu, Jianbo Su	3816
A Novel Semi-Autonomous Throwbot for Reconnaissance Application .....	Yue Li, Qiang Huang, Junyao Gao, Liancun Zhang, Ye Tian	3822
A Game Theoretical Bandwidth Allocation Mechanism for Cloud Robotics .....	Lujia Wang, Max, Q.-H. Meng	3828
A Novel Pursuit Strategy for Fast Evader in Indoor Pursuit-Evasion Games .....	Xinyi Fan, Shanying Zhu, Rong Du, Cailian Chen, Xiping Guan	3834
The Design of a New Upper Limb Rehabilitation Robot System Based on Multi-source Data Fusion .....	Fancheng Meng, Yaping Dai, Ying Jin, Yanni Wang	3840

Stable Running on A Kneed Biped Robot with Only Hip-joint Actuation .....	Yang Yi, Zhiyun Lin, Gangfeng Yan	3846
Walking Control for Compass-like Biped Robot with Underactuated Ankle .....	Chong Tang, Gangfeng Yan, Zhiyun Lin	3852
Residual Vibration Suppression Using Off-line Learning Input Shaping Method for a Flexible Joint Robot .....	Yanhui Qiang, Fengshui Jing, Zengguang Hou, Pengxiao Jia	3858
Tracking Control for Nonholonomic Mobile Robots with Visual Servoing Feedback .....	Baolei Wang, Chaoli Wang	3864
Octree-based Spherical Hierarchical Model for Collision Detection .....	Fan Ouyang, Tie Zhang	3870
Determining the Feasible Set of Motion States in Target Tracking Using Extended Set-Membership Filter .....	Quan Qiu, Wengang Zheng, Jianda Han	3876
Planning Expected-time Optimal Paths for Target Search by Robot .....	Botao Zhang, Shirong Liu	3881
Research on Dive Plane Trajectory Tracking Control Method of AUV under Current Disturbance .....	Zheping Yan, Chao Deng, Jiajia Zhou, Yufei Zhao	3887
Automatic Violin Player .....	Hsing-Hisn Huang, W.-H. Li, Y.-J. Chen, C.-C. Wen	3892
Damping Control of Rehabilitation Robot for Upper Limbs .....	Qingling Li, Yu Song, Dongyan Wang	3898
Human-machine Interfaces Based on Electromyography and Kinectapplied to Teleoperation of a Mobile Humanoid Robot .....	Baocheng Wang, Chenguang Yang, Qing Xie	3903
The Development of an Exoskeleton Robot ForCo-Manipulation of Human Upper Limb Movement .....	WenJun Ye, Chenguang Yang, Qing Xie	3909
Bilateral Teleoperation of Force/Motion for ARobotic Manipulator with Communication Random Delays .....	Yu Kang, Zhijun Li, Dihua Zhai, Xiaoqing Cao	3915
SINS Initial Alignment Using Wavelet De-noising Method for Aircraft Navigation .....	MUHAMMAD ILYAS, Yunchun YANG, Zhang Ren	3921
Design of an Optimal Flight Control System with Integral Augmented Compensator for a Nonlinear UAV Helicopter .....	Yirui Tang, Yangmin Li	3927
Airfoil Design and Aerodynamic Force Testing for Flapping-wing Micro Air Vehicles .....	Wen Xia, Gang Su	3933
Development of Flapping-wing Micro Air Vehicle in Asia Xiaobo Tan, Weiping Zhang, Xijun Ke, Wenyuan Chen, Caijun Zou, Wu Liu, Feng Cui, Xiaosheng Wu, Hongyi Li		3939
Distributed Control for Mobile Robots Using PSD Sensors .....	Bin Ge, Xuan Zou, Gen Ichi Yasuda	3943

### C3. Integrated and Complex Automation Systems

Research and Development of Comprehensive Monitoring and Management Platform for Substation .....	Hua Wang, Gangfeng Yan	3948
Design on Logistics Management Automation System for Waterway Integrated Port .....	Chaohua Ao, Qian Wu, Xiaoyi Yang	3954
Design of Intelligent Control System for Electric Vehicle Road Train .....	Liangliang Cheng, Yong Xu	3958
Comparison of Several Communication Methods Between Host Computer and CompactRIO .....	Wanmi Chen, JinXia Su	3962
Magnetic Field Analysis of Permanent Magnet Array for Planar Motor Based on Equivalent Magnetic Charge Method .....	Rui Huang, Jian Feng	3966
Stability Analysis of a Class of Hybrid Systems .....	Fenghua He, Yu Yao, Shuqi Zhang, Peng Zhang	3971

Error Modeling and Analysis in Dynamic Wafer Handling	
.....	Hongtai Cheng, Heping Chen, Ben Mooring, Harold Stern 3977
Research and Design of Expert System for Urban Transit Train Signal System	
.....	Hui Zou, Xia Zhao, Qiong-yan Zhang, Xun Liu 3983
Distributed Containment Control of Networked Fractional-order Systems with Multiple Leaders	
.....	Xueliang Liu, Bugong Xu 3987

#### C4. Intelligent Management and Decision Making

Aided Decision-Making System of Public Transport Management for Guangzhou Asian Games	
.....	Xisong Dong, Gang XIONG, Fan Dong, Fenghua Zhu, Sheng LIU 3993
Multiple UAVs Collision Avoidance Trajectory Coordination Using Distributed Receding Horizon Optimization	
.....	Hui Peng, Menglan Huo, Yihui He, Zhizhong Liu 3999
Service Oriented Resource Configuration Estimation and Optimization in Cloud Computing—an Artificial Enterprise Method	
.....	Sheng LIU, Fenghua Zhu, Hongxia Zhao, Jian-shi YAO 4004
Convergence and Consensus Analysis of Multi-Choice Deffuant-Weisbuch Models	
.....	Jiangbo Zhang, Yiguang Hong 4010
Research on the Spatial Diffusion of Industrial Clusters Based on WH Migration Model	
.....	Munan Li, Xinxia Jiang, Xuelin Li 4016
Stock Turning Point Recognition Using Multiple Model Algorithm with Multiple Types of Features	
.....	Xiaoyu Qin, Qinke Peng 4020
Improvement and Application of the Delphi Method	
.....	Wen Ji, Jianhui Wang, Xiaoke Fang, Shusheng Gu 4026
A Study on the System Structure of Multi-UCAV Cooperation Mission Planning	
.....	Lijun Qiu, Wen Ye 4030
Design and Development of the Encoding Software in the Identification System of the Hydropower Plant	
.....	Jiang GUO, Zhihui Feng, Kaikai Gu, Weimin Bai, Bing Zeng, Yajin Liu 4035
Life Cycle Management Support System of Nuclear Power Plant Based on Economic Analysis	
.....	Jiang GUO, Kaikai Gu, Zhihui Feng, Bing Zeng, Weimin Bai, Yajin Liu 4040
Design and Development of J2EE-Based Identification System for Power Plants	
.....	Zhifang Wu, Jiang GUO, Yu Sun, Kaikai Gu, Bing Zeng, Weimin Bai 4045
Improved LS-SVM Based Classifier Design and Its Application	
.....	Peng Wang, Aijun YAN 4050
An Efficient Surrogate Optimization Method for Solving Linear Mixed-Integer Problems with Cross-Coupling Constraints	
.....	Mikhail Bragin, Peter B. Luh, Joseph Yan 4055
Multi-criteria Decision Making Approach Based on Interval Value Vague Sets	
.....	Yu Shi, Xiaodong Hu, Weiping Wang 4061
ACP Based 3D Emergency Drills System for Petrochemical Plants	
.....	Sifeng Jing, Changjian Cheng, Gang XIONG, Xiwei LIU, Xiuqin Shang, Weixing Wang 4065
Fault Recovery Based Mission Scheduling of AUV for Oceanographic Survey	
.....	Zheping Yan, Yufei Zhao, Tao Chen, Ling Jiang 4071
An Approach for Real-time Urban Traffic State Estimation by Fusing Multisource Traffic Data	
.....	Ning Zhang, Jianmin Xu, Peiqun Lin, Minjie Zhang 4077
Descending Rolling Horizon Procedure for Equipment Replacement Problem	
.....	Bing Wang, Dongpo Liu, Jing Liu 4082
Distributed Generation System Design Based on Energy Storage Converter Technology	
.....	Xiaojuan Han, Xiwang Cui, Xilin Zhang, Tao Yan, Zhanzhan Du, Chengmin Wang 4088

The Study on the Characteristics of Emergency Classification and Grading About the Electromechanical Equipment Integration Project .....	Ya-hui Wang, Xue-Jun Hao, Chaogang Wang, Nan Wang	4093
Dynamic Game Model with Strategic Element on Cooperation and Confront .....	Yeming Dai, Hongwei GAO, Guirong WANG	4098
Data-driven Artificial System of Parallel Emergency Management for Petrochemical Plant .....	Xiuqin Shang, Gang XIONG, Changjian Cheng, Xiwei LIU	4103
A PSO Algorithm Based on Group History Experience .....	Zheping Yan, Benyin Li, Chao Deng	4108
A Novel Two-subpopulation Particle Swarm Optimization .....	Zheping Yan, Chao Deng, Jiajia Zhou, Dongnan Chi	4113
Dynamic Group Method Based on Health Management Applied to Mission Tasking for Multi UAVs .....	Wei Hu, Gui Liu	4118

### **C5. Electronic Commerce and Office Automation**

Intelligence Decision Supporting Algorithms of Production Planning Based on Hopfield Network .....	Jinlong SU	4122
Service Composition Execution Optimization Based on State Transition Matrix for Cloud Computing .....	Sheng LIU, Gang XIONG, Hongxia Zhao, Xisong Dong, Jian-shi YAO	4126
The Application of RSA Digital Signature Algorithm in the Power Dispatching Work Ticket Transmission System .....	Chaohai Kang, Weijian Ren, Peiran Liu, Fengcai Huo	4132
Project Development Management System of Financial Equipment Enterprises Based on PDM .....	Wenhua Cui, Xiaobing Liu, Jie-sheng Wang	4135
CRM System Design of Financial Equipment Enterprises Based on XML .....	Wenhua Cui, Xiaobing Liu, Jie-sheng Wang	4141

### **D1. Measurement Method and Intelligent Instrumentation**

Particle Swarm Optimization Algorithm in the Quantitative Analysis of Near Infrared Spectroscopy .....	Bibo Ma, Haiyan Ji	4147
Steady-State Identification with Gross Errors for Industrial Process Units .....	Lili Tao, Chaochun Li, Xiangdong Kong, Feng Qian	4151
The Research of a Programmable and High Precision Gas Pressure Generator .....	Xuezhe Li, Yonghong Deng	4155
Research on the Orientation Method of HMD Based on Image Processing .....	Weiling Wu, Jinli Sun	4160
Development of Portable Plant Components Measurement Instrument Based on Near-infrared Spectroscopy .....	Hao Ma, Haiyan Ji	4163
High Precision Attitude Estimation Algorithm Using Three Star Trackers .....	Binglong Chen, Yunhai Geng, Xu Yang	4168
Application of Blind Sources Separation in Plant Leaves Classification .....	Ying WU, Tian-tai GUO, Jie-wei JIANG	4174
Defect Depth Automation Measurement Based on Image Processing for TOFD Parallel Scanning .....	Mingguang Shan, Shengchun Liu	4180
SIFT-feature-based Accuracy Measurement Method for Micro-operation Stage .....	Ailong Zhang, Xin Zhao, Mingzhu Sun, Guizhang Lu	4184
Parameters Estimation of BLDC Motor for Energy Storage System .....	Junfeng Wu	4190

The Discussion of Semi-structured Sample Modeling on Expanding 2.5D Method .....	Shun Yu, Tie Zhang	4195
The Design and Implementation of Metro Carriage LED Controller Software Based on Ethernet .....	Quanli Liu, Mingkun Bian, Wei Wang	4201
A Single Chip Multi-functional DDS Waveform Generator Based on FPGA with SOPC Design Flow .....	Yue Ruan, Ying Tang, Wen-ji Yao, Zhang-quan Wang, Sen Xu	4206
Pulse Monitoring System Based on Feedback Algorithm .....	Peng An, Ming Zeng	4211
Design and Implementation of a Synchronized Three-phase Electricity Acquisition Module .....	Yuling Fan, Lijun Zhang, Xiangtao Zhuan	4215
Three-Dimensional Stage Self-Calibration: A General Theory Framework .....	Yu Zhu, Chuxiong Hu, Jinchun Hu	4220
Conducted EMI Measurement and Its Suppression Measure of Elevator System .....	Xiao-Qin Wen, Zhao-Feng Zhong, Lin-Ru You	4226
Collaborative Monitoring of Underground Gas Disaster Based on Fuzzy Information Fusion .....	Fengying Ma	4230

## D2. Sensors, Sensor Networks, Sensing and Signal Processing

The Smulation and Model of Twisted Lever-arm Effect in Transfer-alignment of Stradown Inertial Navigation .....	Shuang Pan, Yutian Pan, Yuqiang Wu	4235
The Prototype IEEE 1451.4 Applied in the IOT .....	ZHI LI, Chang-ming Qin, Huo Zhang	4241
Monitoring System for Forest Fire Based on Wireless Sensor Network .....	Yingli Zhu, Lingqin Xie, Tingting Yuan	4245
A Cooperative Framework for Target Tracking in Wireless Sensor Networks .....	Xun Li, Jianwen Wang	4249
Noisy Blind Source Separation Based on Adaptive Noise Removal .....	Hui Tang, Shu Wang	4255
A Soft Sensor Method Based on Integrated PCA .....	Weiming Shao, Xue-Min Tian	4258
Coherent Integration Weak Target Detection Algorithm Based on Short Time Sliding Window .....	Yunfei Guo, Yunlong Zhang, Anke Xue	4264
Distributed Luenberger Observers for Linear Systems .....	Wei Ni, Xiaoli Wang, Jie Yang, Xiong Chun	4267
Research on Wireless Communication Based on GPRS in Greenhouse .....	Bing Shi, Dean Zhao, Zhenghua Ma, Suolin Duan	4272
A Method for Parameters Estimation of Multiple Sinusoids Signal Based on ANFs and SGA .....	Ming Li, Yaqing Tu, Dan Su	4277
Frequency Estimation of Multisection Signals with Same Frequency and Length Based on Spectrum Correlation .....	Yanlin Shen, Yaqing Tu, WEI XIAO, Dan Su	4283
A Dynamometer Design and Analysis for Measurement the Cutting Forces on Turning Based on Optical Fiber Bragg Grating Sensor .....	Mingyao Liu, Zude Zhou, Xiaoliang Tao, Yuegang Tan	4287
Persistent Awareness Coverage for Networked Mobile Sensors with Awareness Loss .....	Cheng Song, Gang Feng, Yong WANG	4291
A Robust and Optimal Search Tactic Using Multiple Looks .....	Bao Nguyen, François-Alex Bourque	4297
Design and Implementation on SOAP-Based Things Management Protocol for Internet of Things .....	Guiping Dai	4305
Application of an Adaptive Sequential Kalman Filter to SINS/GPS Navigation Data Fusion .....	Meng Bai, Minhua Li	4309

Distributed Extended Kalman Filter Based on Consensus Filter for Wireless Sensor Network .....	Hui Long, Zhihua Qu, Xiaoping Fan, Shaoqiang Liu	4315
Decentralized Sweep Algorithm of Multi-agent Systems with Adaptive Workload Assignment .....	Chao Zhai, Yiguang Hong	4320
Improved CPHD Filtering with Unknown Clutter Rate .....	Xuetao Zheng, Liping Song	4326
Reduced-rank Space-Time Adaptive Processing to Radar Measure Data .....	Xiao-Qin Wen, Shu-E Bi, Lin-Ru You	4332
Large Current Measurements Using a Fibre Optics Current Sensor .....	Li Wang, Bowen Wang, Ling Weng, Zhihua Wang, Wenmei Huang	4337
Distributed Estimation for Time-Varying Target in Noisy Environment .....	Zhenwei Zhou, Hai-Tao Fang, Yiguang Hong	4341
On Binary Switching Finite Networks .....	Tao Yu, Xingxing Zhou, Changqing Xu	4347
An Optimal Parking Space Search Model Based on Fuzzy Multiple Attribute Decision Making .....	Shouyuan Yu, Baopu LI, Qi Zhang, Max, Q.-H. Meng	4350
A New Method to Eliminate Negative Frequency Interference Based on Wavelet Transformation and Grey Correlation Theory .....	Yuwen Mao, Yaqing Tu, Huiyue Yang	4356
Study on A Real-time Optimal Multi-sensor Asynchronous Data Fusion Algorithm .....	Guoqing Qi, Yinya Li, Andong Sheng	4362
Analysis of Phase Difference Tracking Methods for Signal of Coriolis Mass Flowmeter .....	Peng Yi, Yaqing Tu, Min Xie, Ting'ao Shen	4368
A Multi-scale Analysis Approach to Selecting Signals Related with Combustion Status ....	Zulong Hao	4374
An Actuator Real-time Placement Algorithm Based on Regular Hexagonal Grid for Wireless Sensor and Actuator Networks .....	Xinhua Liu, Jing Zhan, Li Jiang, Fangmin Li	4378
A Frequency Estimation Algorithm Based on Spectrum Correlation of Multi-section Sinusoids with the Known Frequency-Ratio .....	WEI XIAO, Yaqing Tu, Dan Su, Yanlin Shen, Lei Zhang	4385
Subscriber Location in CDMA Wireless Networks .....	Zahid Ali, Qurban Memon	4390
Three-dimensional Deployment Optimization of Sensor Network Based on an Improved Particle Swarm Optimization Algorithm .....	Xiaoyan Lian, Juan Zhang, Chen Chen, Fang Deng	4395
The Research of Environmental Monitor System in Brewage House of Alcohol Factory Based on WSN .....	Kan Zhang, Weihong Wang	4401
A Wireless Data Acquisition System Designed for Greenhouse Based on ZigBee .....	Peng Li, Yunjie Wu	4405
Interacting Multiple Sensor Unscented Kalman Filter .....	Zhigang Liu, Jinkuan Wang	4409
An Improved Median Filter Algorithm Based on Light Sensor .....	Jianjun Yu, Guanwei Wang, Qiong Yang	4414
Covariance Intersection Fusion Wiener Signal Estimator for Time-delayed System .....	Yuan Gao, Zili Deng	4418
Improved Pattern Amendment Inversion Algorithm for Dust Fast Real-time Measurement .....	Fengying Ma	4423
Selection of Effective Singular Values Based on Least Squares Error Spectrum .....	Xue-jin GAO, Li Cheng, Guang-sheng LIU	4429
Auction Based Task Assignment for Pursuit-Evasion Game in Wireless Sensor Network .....	Rong Du, Cailian Chen, Bo Yang, Xinping Guan	4435
Fault-tolerant Data Aggregating Using Median Filtering in Cluster-based Homogeneous WSN .....	Shaoqiang Liu, Zongkai Tan, Xiaoping Fan, Hui Long, Yongzhou Li, Limin Liu	4441

Critical Transmission Range for Connectivity in Aeronautical Ad-hoc Networks	
.....	Jianshu Yan, Ge Song, Hua Li, Cunqing Hua, Cailian Chen, Xinping Guan 4446
Distortion Analysis for Delay Tolerant Data Collection for High-speed Wireless Sensor and Actor Networks	
.....	Yaxiong Liu, Cailian Chen, Hangchen Yu, Xinping Guan 4452
A Measurements Fusion Filter for the Multi-sensor System with Correlated Noises	
.....	Shengwei Li, Xiaoliang Feng, Yazhou Lu 4458
A New Estimate Method for Linear Constrained Systems	..... Chuanbo Wen, Yunze Cai, Xiaoming Xu 4463
The Anti-interference Analysis and Design for Mode S Reply Communication of Integrated TCAS	
.....	Yi Huang, ZhongKe Shi 4467
An Analysis of Energy Balanced Deployment Strategy for Strip-based Wireless Sensor Networks	
.....	Zhengjie Wang, Xiaoguang Zhao, Xu Qian 4472
Building an Autonomous Line Tracing Car with PID Algorithm	..... Fu-Hua Jen, Bao Trung Mai 4478
A Street Lamp Clustered-control System Based on Wireless Sensor and Actuator Networks	
.....	Xinhua Liu, Pan Hu, Fangmin Li 4484
A Comparison Study on TDOA Based Localization Algorithms for Sensor Networks	
.....	Xiaomei Qu, Lihua Xie 4490
Robust Stabilization of Networked Control Systems with Multiple-packet Transmission via Jump System Approach	..... Nan Ding, Mei Yu, Xiaodan Yuan, Jie Li, Junyan Yu 4496
Distributed Fusion Filter for Multi-rate Multi-sensor Systems with Packet Dropouts	
.....	Jing Ma, Shuli Sun 4502
Real-Time Bird Detection Based on Background Subtraction	..... Moein Shakeri, Hong Zhang 4507
Outlier Detection in Heart Rate Signal Using Activity Information	
.....	Yuanjing Yang, Lianying Ji, Jian Kang Wu 4511
Brain-Driven Micro-Biomanipulation with Sensing Feedback	..... Yudong Luo, Yantao Shen 4517

### **D3. Pattern Recognition, Image Processing, and Machine Vision**

Remarks on Outliers in Time Series of Stock Prices Based on Density	
.....	Qingjiang Zhao, Ju Gan, Wengang Che 4523
Research on Structured Light 3D Vision in the Remanufacturing System Based on Robotic Arc Welding	
.....	Ziqiang Yin, Xin Yuan, Guangjun Zhang, Huihui Zhao 4527
Will Scene Information Help Realistic Action Recognition?	..... Xian-gan Chen, Juan Liu, Haihua Liu 4532
Hardware Design of the Wireless Automatic Meter Reading System Based on GPRS	
.....	Xuebo Chen, Ying Zhang, Lipei Wang 4536
Support Vector Machine Based Aircraft Ground Icing Type Classification Forecast	
.....	Zhiwei Xing, Hui Zhang 4541
Blind Detection of Image Splicing Based on Run Length Matrix Combined Properties	
.....	Han Liu, Yun Yang, Mingqing Shang 4545
An Omni-directional vSLAM Based on Spherical Camera Model and 3D Modeling	
.....	Guofeng Tong, Zizhang Wu, Ninglong Weng, Wenbo Hou 4551
An Improved Particle Swarm Optimization Based on Wolves' Activities Circle	
.....	Bin Wei, Qinke Peng, Xiao Chen, Jing Zhao 4557
Analysis of multi-biometric encryption at feature-level fusion	..... Bo Fu, Jie Lin, Guiduo Duan 4563
A New Color Image Sharing Scheme with Natural Shadows	
.....	Pei-Ling Chiu, Kai-Hui Lee, K.-W. Peng, S.-Y. Cheng 4568

Tracking the Rotating Targets in Aerial Videos .....	Qiang Dong, Aidong Liu	4574
Fusion Algorithm of Infrared and Visible Images Based on Local Energy Using NSCT .....	Wen-zhan DAI, Libo TAN, Aiping Yang	4579
Fingerprint Orientation Reconstruction from Minutiae Points .....	Zhuang Chu, Guosen Yuan, Xiyu Zhang, Lin Han	4583
Image Fusion via Wavelet Transform Based on Local Contrast .....	Daosong Zhang, Haipeng Pan	4588
An Algorithm for Human Eye Location in Complex Background Based on Image Processing .....	Minjie Wu, Ping'an Mu, Shuguang Dai, Cai-Yan Zhang	4592
Research and Application of Image Enhancement .....	Ying Zhang, Xu Lian, Qinghong Wu, Xin Feng	4596
Adaptive Fuzzy Approach to Background Modeling Using PSO and KLMS .....	Zilong Li, Weiming Liu, Yang Zhang	4601
Optimal Motion Control for IBVS of Robot .....	Cheng Gao, Xingzhe Piao, Weiyan Tong	4608
A Particle Filter Tracking Algorithm Based on Adaptive Feature Fusion Strategy .....	Fen Xu, Lijuan Zhao	4612
Machine-Vision Based Preceding Vehicle Detection Algorithm: A Review .....	Jun-jing Zhou, JianMin Duan, Hongxiao Yu	4617
Traffic Sign Recognition Using Dual Tree-Complex Wavelet Transform and 2D Independent Component Analysis .....	Mingqin Gu, Zi-xing Cai	4623
Feature Detection and Matching for Traffic Sign Images .....	Lei-Min Li, Li LI, Ru-qiang Tong, Pei-xi Li	4628
Optical Flow Estimation with Parameterized Data Term and Warping .....	Jintao Xu, Zuren Feng, Na Lu	4633
Machine Vision Based Localization of Intelligent Vehicle .....	Fei Wang, Jianmin Duan, Banggui ZHENG	4638
Divide and Conquer Strategy for Spectral Clustering .....	Zhixian Jia	4644
UAV Image Denoising Using Adaptive Dual-Tree Discrete Wavelet Packets Based on Estimate the Dis- tributing of the Noise .....	Fang Liu, Biao Yang	4649
Compression of MR-Thermometry Images Using Reduced-Order Karhunen-Loéve Basis .....	Ran Niu, Mikhail Skliar	4655
M-Nearest Neighbor Selection for Two-Phase Test Sample Representation in Face Recognition .....	Xin Jun Ma, Ning Wu, TianCai Liang	4661
Affine Motion Segmentation from Feature Point Trajectories Using Rank Minimization ....	Min YANG	4667
A Comparative Study of Endoscopic Polyp Detection by Textural Features .....	Baopu LI, Max Q.-H. Meng, Chao Hu	4671
Classification Network of Gastric Cancer Construction Based on Genetic Algorithms and Bayesian Network .....	Jiangeng Li, Yiheng He, Qinglei Guo	4676
Fast Monotonic Blind Deconvolution Algorithm for Constrained TV Based Image Restoration .....	Haiying Liu, W.-S. Lu, Yanan Fu, Yu Cheng, Tingfang Yan, Teng Li, Max, Q.-H. Meng	4682
Recognition of Crude Drugs Based on SVM .....	Zhiyuan Ming, Jin He, Chao Huang, Yu Lei	4688
Application of Artificial Immune Algorithm in Image Segmentation Based on Immune Field .....	Xiao Yu, Dongmei Fu, Tao Yang	4691
A Simple String Matching Method for Shape Recognition .....	Wen-Yen Wu	4696
Composite Materials Evaluation by the Wavelet Transform and Fuzzy Pattern Recognition .....	Zhiqi Gao	4701

Distributional Clustering Using Nonnegative Matrix Factorization .....	Zhenfeng Zhu, Yangdong Ye	4705
Key Frames-Based Video Super-Resolution Using Adaptive Overlapped Block Motion Compensation .....	Jing Ge, Boyang Zhang, Ju Liu, Feng Wang, Feng Feng	4712
Improved Algorithm for the K-means Clustering .....	SHENG ZHANG, Shouqiang Wang	4717
Pose Detection of Partly Covered Target in the Micro-Vision System .....	Jin Su, Xinhuan Huang, Min Wang	4721
Air-Ground Vehicle Detection Using Local Feature Learning and Saliency Region Detection .....	Qinghan Xu, Lizuo JIN, Shumin Fei, Feiran Jie	4726
Local Linear Regression Classifier for Image Recognition .....	Wankou Yang, Changyin Sun, Karl Ricanek, Jianwei XIA	4732
The Motion Control of Mobile Self-Balancing Robot Base on Vision-Teleoperation .....	Xiaogang Ruan, Jun Li, Feng Xu, Naigong Yu	4737
The Recognition of EEG with CSSD and SVM .....	Mingai Li, Chanchan Lu	4741
An Indoor Quadrotor Locating and Object-Following Algorithm Using Monocular Vision .....	Xiaolong Chen, Qiang Tang, Jun Che	4747
A Perception-motivated Image Interpolation Algorithm .....	Lingling Zi, Junping Du, Meiyu Liang, JangMyung Lee	4754
Error Concealment in JPEG2000 Coded Images .....	Amjad Bou Matar, Qurban Memon	4760
Facial Expression Recognition in Video Sequences .....	Chuan Wan, Yantao Tian, Shuaishi Liu	4766
A Fast Stereo Matching Algorithm Used in Target Recognition of Mobile Robot .....	Naigong Yu, Jia Lin, Can Huang, Xiaogang Ruan	4771
Sequence Detection of Planetary Surface Craters from DEM Data .....	Zhengshi Yu, Shengying Zhu, Pingyuan CUI	4775
A Video Tracking Method Based on Niche Particle Swarm Algorithm-Particle Filter .....	Xin Li, Wenjie Chen, Zengguang Shang	4780
An Efficient Approach of 3D Ear Recognition .....	Kai Wang, Zhichun Mu, Zhijun He	4784
An Alternative Clustering Algorithm Based on IB Method .....	Yang Lei, Yangdong Ye, Zhengzheng Lou	4791
Robot Aided Object Segmentation without Prior Knowledge .....	Kun Li, Max, Q.-H. Meng, Xijun Chen	4797
Adaptive Switching Anisotropic Diffusion Model for Universal Noise Removal .....	Wei Wang, Peizhong Lu	4803
A Mixed Edge Based Text Detection Method by Applying Image Complexity Analysis .....	Minhua Li, Meng Bai	4809
A Complex Number Algorithm of Image-Hiding .....	Hongxin Wang	4815
A New Method on Solving Correlation Dimension of Chaotic Time-series .....	Meiying Qiao, Xiaoping Ma	4820
Fast Eye Localization Based on a New Haar-like Feature .....	Yefei Chen, Jianbo Su	4825
The Study on Infrared Image Mosaic Application Using Immune Memory Clonal Selection Algorithm .....	Lin Dong, Dongmei Fu, Xiao Yu, Tao Yang	4831
3D Ear Modeling Based on SFS .....	Cong Liu, Zhichun Mu, Kai Wang, Hui Zeng	4837
A Target Detection Method in Dynamic Scene Based on Harris Algorithm with Sub-block Threshold .....	Jinghua Lu, Yinghui LEI, Jie Chen, Juan Zhang	4842
Research of Fault Diagnosis Based on Matching Pursuit and Biomimetic Pattern Recognition .....	Xiaozhe Wang, Jinping Wang	4848

Robust Visual Tracking with Classifier-like Appearance Model and Entropy Particle Filter .....	Yu Song, Qingling Li, Deli Yan, Yifei Kang	4853
Abnormal Detection Based on Gait Analysis .....	Chao Wang, Xinyu Wu, NanNan Li, Yen-Lun Chen	4859
Smelting Process Smoke Detection Using Multivariate Image Analysis .....	Hongwei Zhang, Zhihuan Song	4865
An Improved Kernelized Discriminative Canonical Correlation Analysis and Its Application to Gait Recognition .....	KEJUN WANG, TAO YAN	4869
Head Detection Based on 21HT and Circle Existence Model .....	Min Zhao, Dihua Sun, Yi Tang, Hengpan He	4875
A Three Dimension Reconstruction Method on a Kind of Micro and Thin Laser Seam .....	Liwei Wang, Haiyong Chen, Hexu Sun, Guansheng Xing	4881
A Blind Watermarking Algorithm Based on Singular Value Decomposition and Quantification .....	Gang Chen, Huijie Ma, Ning Chen	4887
A Novel 3D Ear Reconstruction Method Using a Single Image .....	Chen Li, Zhichun Mu, Feng Zhang, Shuai Wang	4891
Detection of Pedestrian Crossing from Focus to Spread .....	Caifeng Wang, Fucheng Liao, Chao Ma	4897
An Imaging Method for 360-Degree Panoramic Bird-Eye View .....	Chunxuan Yu, Xiang Fang, Shuangze Tang, Mengzhou Wu	4902
Spherical Terrain Matching for SLAM in Planet Exploration .....	Haining Pan, Pingyuan CUI, Huan Wang	4907
Transmission Rate Calculating and Analysis of Gear System Based on ECT .....	Junjun Li, Shiying SHI, Houyi Liu	4912
Good Resolutions for Hough Transform .....	Chunling Tu, Karim Djouani, Barend van Wyk, Yskandar Hamam, Shengzhi Du	4916
Integrating Method Improving HT-Butterfly Based Segment Detection .....	Shengzhi Du, Chunling Tu	4921
A New Approach for Long-term Person Tracking .....	Deqian Fu, Seong Tai Jhang	4926
A New Method of Texture Synthesis Based on Gradient Structure Information Searches Along a Spiral Path .....	Yongqian Tan, Yuanyuan Pu, Wenhua Qian, Dan Xu	4931
A Simplified Minimum Enclosing Ball Based Fast Incremental Support Vector Machine (SVM) Algorithm for Person Detection and Tracking .....	Suiwu Zheng, Hong Qiao, Lihao Jia, Toshio Fukuda	4936
A New Algorithm for Estimating 3D Structure and Robot Motion Using Visual Tracking and IMU/Compass .....	Kai WANG, Yun-Hui Liu, Luyang Li	4942

#### **D4. Biomedical Engineering and Biosystems Automation**

Action Potential Initial Mechanism Control of a Minimum Model Response to Constant and Sinusoidal Stimulus .....	Huiyan Li, Jiang Wang, Qitao Jin, Bin Deng, Xile Wei, Yan-Qiu Che	4948
Bifurcation Control Design for Simplified HH Neuron Model: A Physiological Approach .....	Huiyan Li, Jiang Wang, Qitao Jin, Bin Deng, Xile Wei, Yan-Qiu Che	4953
Change Excitability of Morris-Lecar Model via Physiological Bifurcation Control .....	Huiyan Li, Jiang Wang, Qitao Jin, Bin Deng, Xile Wei, Yan-Qiu Che	4957
A Microarray Image Gridding Method Based on Image Projection Difference Sequences Analysis and Local Extrema Searching .....	Jun Liu, Yanjun Feng, Weijun Liu, Tianran Wang	4961
Mechanical Model of Wheat and Vibration Analysis .....	Qicheng Xu, Changchun Sun, Yazhen Sun	4965

Aeration Control of Activated Sludge Wastewater Treatment Process Using Optimal Control .....	Jie Wu, Jianxu Luo	4969
Automatic Sleep Stage Classification Based on ECG and EEG Features for Day Time Short Nap Evaluation .....	Shanshan Yu, Xi Chen, Bei Wang, Xing-yu Wang	4974
Optimal Control in Molecular-level Gene Manipulation .....	Juanyi Yu, Jr-Shin Li	4978
UKF-based State Feedback Control of Abnormal Neural Oscillations in Demyelination Symptom .....	Qitao Jin, Jiang Wang, Huiyan Li, Bin Deng, Xile Wei, Yan-Qiu Che, Feng Dong	4984
Multivariate Statistical Analysis Methods to Investigate Interindividual Glucose Dynamics for Subjects with Type 1 Diabetes Mellitus .....	Chunhui Zhao, Youxian Sun, Furong Gao	4989
Neuronal Network Control for Robust Entrainment to Natural Oscillations - a Case Study .....	Zhiyong Chen, Hai-Tao Zhang	4995
Synchronization Between Outputs of Neurons and Neuron Populations with Discrete Control Algorithm Basing on Least-square Method .....	Chenhui Jia, Jiang Wang, Bin Deng, Xile Wei, Yan-Qiu Che, Feng Dong	5001
Optimal Control Strategy for an Multi-regional Epidemic Model .....	Zi Sang, Zhipeng Qiu, Qingkai Kong, Yun Zou	5007
IMPROVED DEMPSTER AND SHAFER THEORY TO FUSE REGION AND EDGE BASED LEVEL SET FOR ENDOCARDIAL CONTOUR DETECTION ....	Hussin Ketout, Jason Gu, Gabrielle Horne	5013
Dynamic Feature Extraction of Epileptic EEG Using Recurrence Quantification Analysis .....	Lanlan Chen, Junzhong Zou, Jian Zhang	5019
Closed-Loop Blood Glucose Control Using Dual Subcutaneous Infusion of Insulin and Glucagon Based on Switching PID Controller .....	Xiaoteng Gao, Youqing Wang	5023
Key-frame Selection in WCE Video Based on Shot Detection .....	Yanan Fu, Haiying Liu, Yu Cheng, Tingfang Yan, Teng Li, Max, Q.-H. Meng	5030
Noise Reduction of SEMG in SVD Based on Neural Network .....	Li Zhang, Yang Li, Zhuojun Xu, Yantao Tian	5035
Hybrid Artificial Bee Colony and Particle Swarm Optimization Approach to Protein Secondary Structure Prediction .....	Mengwei LI, Haibin Duan, Dalong Shi	5040
Patient Data Tracking in a Collaborative Healthcare .....	Qurban Memon, Shakeel Khoja	5045
PID Control of Glucose Concentration in Subjects with Type 1 Diabetes Based on a Simplified Model: An in Silico Trial .....	Peng Li, Lei Yu, Liqian Guo, Jixiang Dong, Ji Hu, Qiang Fang	5051
Research on Digital Pulse Oximeter Based on Optical Frequency Converter .....	Pingqiang Ni, Canceng Zhong, Baopu LI, Jingsheng Liao, Chao Hu, Max Q.-H. Meng	5056
Solving Graph Vertex Coloring Problem with Microfluidic DNA Computer .....	Ying Niu, Xuncaizhang, Guangzhao Cui	5061
Study on Some Modeling Problems in the Process of Gene Expression with Finite State Machine .....	Rui Gao, Wensong Hu	5066
Identification of Overlapping Communities in Protein Interaction Networks Using Multi-scale Local Information Expansion .....	Huijia Li, Zhi-Ping Liu, Luonan Chen, Xiang-Sun Zhang	5071
Colored Petri Nets to Model Gene Mutation Classification .....	Jinliang Yang, Rui Gao, Max, Q.-H. Meng, Tzyh-Jong Tarn	5077
Core Module Network Construction for Breast Cancer Metastasis .....	Ruoting Yang, Bernie Daigle, Linda Petzold, Francis Doyle	5083
A New Method for Perturbation Experimental Design in Gene Regulatory Network Identification .....	Xin Wang	5090

## D5. NANO, MEMS, NEMS, and Mechatronics Systems

Realization of Quantum Hadamard Gate Based on Lyapunov Method .....	Jie Wen, Shuang Cong, Xubo Zou	5096
Design of a 5mW Capacitive Accelerometer Based on MEMS and CMOS Technology .....	Yue Ruan, Lujun Ji, Ying Tang, Wen-ji Yao, Zhang-quan Wang, Sen Xu	5102
Attitude and Altitude Instrument Based on DSP .....	Peng Xu, Baokui Li, Qingbo Geng, Qing Fei	5108
Study of Strong Tracking Augmented Unscented Kalman Filter in Integrated Navigation System. .....	Dexin Xu, Lu Wang, Guangchun Li, Tao Ma	5112
Design of Decoders Based on Memristors .....	Jing Zhou, Junjie Wu, Da Huang, Xudong Fang, Xuan Zhu	5116
An Efficient Scheme for Multi-party Quantum State Sharing via GHZ Channels .....	Min Jiang, Daoyi Dong	5122
Implicit Lyapunov Control of Multi-Control Hamiltonian Systems Based on State Distance .....	Fangfang Meng, Shuang Cong, Sen Kuang	5127
Solving Integrative Matching Model of Inventory in Continuous Casting and Hot Rolling Processes by Improved Genetic Algorithm .....	Haitao Li, Sujian Li, Di Wu	5133
The Charging and Discharging Characteristics of Memcapacitor Storage with Applications .....	Pengfei He, Lidan Wang, Shukai Duan	5139