2008 7th World Congress on Intelligent Control and Automation

Chongqing, China
25-27 June 2008

Pages 1-409

IEEE

IEEE Catalog Number: CFP08496-PRT
ISBN 13: 978-1-4244-2113-8

Table of Contents

Oral Sessions

WP1OE-A1: Fuzzy Control I

Intelligent Control for AMT Based on Driver's Intention and ANFIS Decision-Making 1
Guang Yao Zhao, Xiting Wang, Cuiyun Peng

Analysis and Design for Uncertain Discrete fuzzy System Based on Piecewise Fuzzy Lyapunov Approach 7
Yun Zhu, Zhicheng Ji

Relaxed Stability Conditions and Systematic Design of T-S Fuzzy Control Systems 13
Ning Wang, Xian Yao Meng

T-S Fuzzy Modeling and Control for a Class of Chaotic (Hyperchaotic) Systems with Uncertain Parameters 19
Yan Zhao, Huaguang Zhang, Derong Liu

A Novel Fuzzy Logic Controller for Indirect Vector Control Induction Motor Drive 24
Liyong Yang, Yinghong Li, Yaai Chen, Zhengxi Li

Adaptive Fuzzy Control Used in DFIG VSCF Wind Power Generator System 29
Qichang Duan, Fengxia Hao, Shicheng Feng

WP1OE-A2: Neural Network I

LQG Predicted Controller Based on RBF Neural Network 33
Yongfeng Du, Yanhui Liu, Hui Li

Improved Adaptive Dynamic Surface Control for A Class of Strict-Feedback Nonlinear Systems 39
Tianping Zhang, Caiying Zhou, Sen Hua, Qikun Shen

An ANN-Based Multi-dimension Predictor and Its Application in Marine Engine Room 44
Tianzhen Wang, Tianhao Tang, Chunhong Wen

A Novel One-Pass Neural Network Approach for Activities Recognition in Intelligent Environments 50
Hui Li, Qingfan Zhang, Peiyong Duan

A Study of Fault Detection and System Reconfiguration for UAV Navigation System Based on RBF Neural Network 55
Dongli Yuan

Appraisal on the Third Party Logistics Enterprises' Core Competence 59
Xiangyang Ren, Rijia Ding, Libo Liu, Qingkui Cao

WP1OE-A3: Expert Control I

Multi-objective H2/L2 Performance Controller Synthesis for LPV systems 65
Wei Xie

Integration of PD and Support Vector Machine for Semiglobal Tracking Control of Robot Manipulators 71
Chunhong Zheng, Yuxing Su

Decoupling Controller Design for Passive Force Control System Based on Backstepping Control 77
Biao Zhang, Jian Cao, Keding Zhao, Geqiang Li

Switching-model Cooperative Control for Two Intersections Applying Q-learning 82
Jie Zhang, Xiaohua Zhao, Quan Yu, Zhenlong Li

Decision Support System for Risk Investment Based on SPA and Extension 86
Yuchao Bai

An Approach on T-S Fuzzy Model and Control of Buck-boost Converter 91
Yuanlong Li, Zhicheng Ji

WP1OE-A4: Evolution Computation I

Short term Electricity Load Forecasting Based on SAPSO-ANN Algorithm 97
Jingmin Wang, Yamin Zhou

A Multi-swarm PSO and its Application in Operational Optimization of Ethylene Cracking Furnace 103
Zhiqiang Geng, Qunxiong Zhu

Fault-tolerant On-board Evolutionary Platform for Adaptive Allocation of Hardware and Software Tasks 107
Peng Liu, Guojun Dai, Tingting Fu

Research on Particle Swarm Optimization in Location Assignment Optimization 111
Yueting Chen, Fang He

Efficient MOEAs with an Adaptive Sampling Technique in Searching Robust Optimal Solutions 117
Biao Luo, Jinhua Zheng

WP1OE-A5: Machine LearningI

A Kernel-Based Bayesian Classifier for Fault Detection and Classification 124
Chunmei Yu, Quan Pan, Yongmei Cheng, Hongcai Zhang

A Novel Features Partition Algorithm Based on Mutual Independence in Semi-Supervised Categorization 129
Huanling Tang

Requirements Engineering Knowledge Share and Retrieve Based on Situations Similarity 135
Shuhang Guo, Yuqing Lan, Maozhong Jin, Jing Gao, Zongda Ma

Time series mining technique based on varying series and rough set approach 141
Yong Wang

Data Driven for Feature Selection Based on Fusion with Soft Computing 146
Haixiang Guo, Kejun Zhu, Jie Hu, Ting Liu, Jingjing Zhou

An Improved k-means Algorithm for Clustering Using Entropy Weighting Measures 149
Taoying Li, Yan Chen

WP1OE-A6: Data Mining I

A New Algorithm for Mining Frequent Closed Itemsets from Data Streams 154
Xialing Yang, Guojun Mao, Xindong Wu

Identifying Named Entities in Biomedical Text Based on Stacked Generalization 160
Haochang Wang, Tiejun Zhao

An Optimal Locality Preserving Indexing Algorithm for Text Mining 165
Jianwen Tao, Guanghua Cheng, Xinrong Lv, Jieyu Zhao

Knowledge Management in the Industry Based on the Use of Data-Mining Techniques 171
Mao He, Juan Chen

A Web Reasoning Approach Based on Interval-valued 177
Yunfei Yin, Zhi Zhong, Faliang Huang

The Realization of Distributed Sampling Association Rule Mining Algorithm in Tourism 183
Junping Du

WP1OE-B1: Nonlinear System I

Modeling and Robust Stability Criterion of Uncertain Networked Control Systems with Time-Varying Delays 188
Huaicheng Yan, Max, Q.H. Meng, Xinhan Huang

Fuzzy Evaluation on Collision Risk 193
Dongbin Li, Xiaohao Xu, Xiong Li

Decentralized PDC Controller with Sliding Mode Control 198
Xiangjie Liu, Junqing Ao, Lixia Niu

A Formal Modeling and Verification Approach for Real-Time System 204
Fei Yan, Tao Tang

Improvement of Background Value and its Application in Non-equidistance GM(1,1) Modeling 209
Changyi Zhang, Wenzhan Dai

Improved Delay-Dependent Stability Criteria for Neural Networks with Time-Varying Delay 213
Jianjiang Yu, Tao Li, Changyin Sun

WP1OE-D3: Image Processing I

Background Subtraction for Surveillance Systems Using an Iterative Uniform Operator 218
Xiaoming Yao, Qingquan Qian

2D Invariant Object Recognition Using Log-Polar Transform 223
Yuan F. Zheng, Rittavee Matungka, Robert Ewing

A New Elastic Image Registration Method Based on Free-form Deformation 229
Hongying Zhang, Yigang Sun, Lixin Wei

Ulcer Recognition in Capsule Endoscopy Images by Texture Features 234
Baopu Li, Max, Q.H. Meng

An AOI Algorithm for PCB Based on Feature Extraction 240
Fupei Wu, Xianmin Zhang, Yongcong Kuan, Zhenzhen He

Analyzing Contrast Enhancement and Watershed Segmentation Using Quantitative Information Measuring 248
Zhengmao Ye, Habib Mohamadian, Yongmao Ye

WP1OE-D4: Fault Identification I

Sensor Fault Diagnosis for Underwater Robots 254
Jianguo Wang, Gongxing Wu, Lei Wan

Online batch process monitoring based on multi-model ICA-PCA method 260
Zhiqiang Ge, Zhihuan Song

A State-Delay System Approach to Fault Detection for Networked Control Systems 265
Liwei Ma, Zuohua Tian, Songjiao Shi

Application of Hidden Semi-Markov Models Based on Wavelet Correlation Feature Scale Entropy in Equipment Degradation State Recognition 269
Qinghu Zeng, Jing Qiu, Guanjun Liu

Fault Detection and Diagnosis of Singular Stochastic Distribution Systems 274
Jian Li, Jinglin Zhou, Donghua Zhou

Online non-contact fault detection of LED chips 280
Lian Li, Jing Wen, Ping Li, Yumei Wen, Fei Yin

WP1OE-S1: Special Session I : Recent Progress in Time-Delay Systems

A Delay Decomposition Approach to Stability and H∞ Control of Linear Time-Delay Systems --- Part I: Stability 284
Qinglong Han

A Delay Decomposition Approach to Stability and H∞ Control of Linear Time-Delay Systems --- Part II: H∞ Control 289
Qinglong Han

Stability of Differential-Difference Equations with Norm-Bounded Uncertainty 295
Yi Liu, Hongfei Li, Keqin Gu

Recent results on robust control of time-delay systems 301
Qingchang Zhong

An Eigenvalue Perturbation Stability Analysis Approach with Applications to Time-Delay and Polynomially Dependent Systems 307
Jie Chen, Peilin Fu, Silviu Iulian Niculescu

New Delay-Range-Dependent Stability Condition for Linear Systems 313
Shaoshuai Mou, Huijun Gao, Tongwen Chen

WP1OE-S2: Special Session II : Advanced Control Theory and Applications

Improved Robust Energy-to-Peak Filtering Design for Discrete-Time Switched Polytopic Linear Systems with Time-Varying Delay 317
Jianbin Qiu, Gang Feng, Jie Yang

Decentralized Control Strategies for Connectivity Guaranteed Tracking of Multi-Agent Systems 323
Qin Li, Zhongping Jiang

Analysis and Design of Switched Linear Systems in the Presence of Actuator Saturation and L-∞ Disturbances 329
Liang Lv, Zongli Lin, Haijun Fang

Peak Covariance Stability of Kalman Filter with Bounded Markovian Packet Losses 335
Nan Xiao, Lihua Xie

Explicit Construction of H-∞ Control Law for a Class of Nonminimum Phase Nonlinear Multivariable Systems 341
Weiyao Lan, Ben M. Chen, Frank Lewis

Global Disturbance Rejection of the Uncertain Duffing's System 347
Lu Liu, Jie Huang

WP1OE-S3: Special Session III : Advanced Mechatronics System Design

A new index for the performance evaluation of parallel manipulators: a study on planar parallel manipulators 353
Xinjun Liu, Chao Wu, Jinsong Wang

A Novel 3-D Locomotion Biomimetic Robot Fish with Multiple Sensors 358
Xiang Dong, Zhiqiang Cao, Shuo Wang, Chao Zhou, Min Tan

A Practical Survey on the Flight Control System of Small-Scale Unmanned Helicopter 364
Xiaodong Wang, Xiaoguang Zhao

Design of a 3-DOF PKM Module for Large Aircraft Component Machining 370
Yonggang Li, Tian Huang, Haitao Liu, Xueman Zhao, Yimin Song, D.G. Chetwynd

An Integrated Structure/Control Design of Mechatronics Systems 376
Yunjiang Lou, Wei Gong, Jinbo Shi, Guanfeng Liu, Zexiang Li

WP1OE-S4: Special Session IV : Adaptive and Nonlinear Control

Robust Adaptive Controller Design for a Class of Nonlinear Systems Preceded by Generalized Prandtl-Ishlinskii Hysteresis Representation 382
Ying Feng, Henry Hong, Xinkai Chen, Chunyi Su

Hysteresis Compensation in GMA Actuators Using Duhem Model 388
Xingsong Wang, Xiangjiang Wang, Yan Mao

Reduced-Order Observer, Homogeneous Domination, and Global Stabilization of Genuinely Nonlinear Systems by Nonsmooth Output Feedback 394
Hao Lei, Wei Lin

Structure Synthesis for forging Manipulators 400
Feng Gao, Faguo Yu, Qiaoshuo Shi

WP1OE-S5: Special Session V : Holonic Multi-Agent Systems and Holonic

Identifying and Specifying holons in Manufacturing Systems 404
Adriana Giret, Vicente Botti

A multi-agent system framework for manufacturing planning and control 410
Tak Nam Wong, Chun Wai Leung, Hon Ping Tang

Agent-Based Modeling and Simulation of Complex Distributed Systems 416
Huaglory Tianfield, Jiang Tian

Re-configurable Industrial Automation 422
Huaglory Tianfield, Feng Qian

WP1OE-S6: Special Session VI : High-Speed and High-Precision Motion Control

Kinematic Parameters Calibration of Redundant Planar 2-DOF Parallel Manipulator With a New Error Function 426
Chunshi Feng, Shuang Cong, Yaoxin Zhang, Zexiang Li, Shilong Jiang

A real-time cubic parametric curve interpolations for CNC systems 432
Jiangang Li, Lei Zhou, Tinghua Zhang, Zexiang Li

Fast response controller for high acceleration motion stages 438
Jianhua Wu, Han Ding

Residual Vibration Reduction for a Flexible Positioning System Using Input Shaping Technique 443
Jinbo Wu, Guohua Xu, Zhouping Yin

Decoupling control algorithm of a 3-DOFs magnetic suspension system based on current optimization 449
Xuesong Mei, Jiaji Zhang, Dongsheng Zhang

Modeling and Control of Hi-performance Motion System 455
Qiang Liu, Chang Qi, Songmei Yuan, Gang Ou

WP1OE-S7: Special Session VII : Advanced Robot Control

Dynamic Modeling and Active Vibration Control of a 3-PRR Flexible Parallel Manipulator with PZT transducers 461
Xuping Zhang

A Synchronization Control Strategy for Multiple Robot Systems Using Shape Regulation Technology 467
Can Wang, Dong Sun

A decentralized control for mobile sensor network effective coverage 473
Hua Wang, Yi Guo

Adaptive Visual Servoing Using Angle and Distance 479
Hesheng Wang, Yunhui Liu, Zhongli Wang

Passivity Control of Underactuated Snake-Like Robots 485
Jinjun Shan

The method to get fuzzy rules based on AFS Structure 491
Xu Yuan, Lidong Zhai, Xiaodong Cao

WP1OE-S8: Special Session VIII : Mobility MANET and Information Dissemination

Multi-service Traffic Models of Heterogeneous Wireless Communication Networks 495
Debin Zou, Xing Zhang, Wenbo Wang

An Improved Water Filling Algorithm over Time Varying Fading Channel 499
Shenyuan Yang, Jie Yang, Na Wei

MMSE Simplification Algorithm in Time-Domain for OFDM Channel Estimation 504
Shenyuan Yang, Jie Yang, Na Wei

WP1OE-S9: Special Session IX : Advances and Applications of Algebraic Approach to System Analysis and Design

On the application of parameter identifiability to the security of chaotic synchronization 508
Xiyin Liang, Jiangfeng Zhang, Xiaohua Xia

Simultaneous upper triangularization and the stability of linear discrete multidimensional systems 513
Jiangfeng Zhang

Minimal-Inversion and Its Application for Discrete-time Systems 519
Yufan Zheng

Master Slave Tracking for Nonlinear Systems with Time Delays 525
Claude Moog, Araceli Garate-Garcia

Realization of discrete-time nonlinear input-output equations: polynomial approach 529
Ulle Kotta, Maris Tonso

WP1OE-S10: Special Session X : Advance in Industrial Robot

Robot Localization Using an Uncalibrated PSD Servoing Approach 535
George Zhang, Yantao Shen, Ning Xi, Xiongzi Li, Yong Liu, Thomas A. Fuhlbrigge

Toward Robotizing Powertrain Assembly 541
Dave Gravel, Frank Maslar, George Zhang, Srinii Nidamarthi, Heping Chen, Tom Fuhlbrigge

On-pendant Robotic Assembly Parameter Optimization 547
George Zhang, Arnold Bell, Hui Zhang, Jianmin He, Jianjun Wang, Carlos Martinez

Robotic Machining from Programming to Process Control 553
Hui Zhang, Zengxi Pan

Compliant Motion Control for Robust Robotic Surface Finishing 559
Wyatt S. Newman, David J. Buckmaster, Steven D. Somes

Research of Key Technologies on 3D Simulation System of Industrial Robot 565
Wenxiang Zhang, Zou Fengshan, Qu Daokui, Xu Fang

WP1OE-W1: Awards Candidates I

A LS-SVM Modeling Approach for Nonlinear Distributed Parameter Processes 569
Chenkun Qi, Hanxiong Li

Region Covariance Based Probabilistic Tracking 575
Hanqing Hu, Jianzhao Qin, Yaping Lin, Yangsheng Xu

A Novel Model-Based Method for Odometry Calculation of All-Terrain Mobile Robots 581
Xiaokang Song, Yuechao Wang

PS2O: A Multi-Swarm Optimizer for Discrete Optimization 587
Hanning Chen, Yunlong Zhu, Kunyuan Hu, Tao Ku

WP2OC-A4: Evolution Computation II

A Simple Particle Swarm Optimization Combined with Chaotic Search 593
Chunxia Fan, Guoping Jiang

Formalization Description of Artificial Immune Algorithms Based on Intelligent Computation Framework 599
Qi Kang, Xiaoqing Lin, Yong Yan, Lei Wang, Qidi Wu

Particle Swarm Optimization based RBF Neural Networks Learning Algorithm 605
Qi Kang, Jing An, Dongsheng Yang, Lei Wang, Qidi Wu

Formalization Description of Genetic Algorithms Based on Intelligent Computation Framework 611
Lei Wang, Hongyan Lu, Xiaoqing Lin, Qi Kang, Qidi Wu

Formalization Description of Estimation of Distribution Algorithms Based on Intelligent Computation Framework 617
Lei Wang, Yong Yan, Xiaoqing Lin, Qi Kang, Qidi Wu

The Analysis of Particle Swarm Optimization Algorithm Convergence 623
Zhigang Lian, Fan Zhu, Zailin Guan, Xinyu Shao

WP2OC-A6: Data Mining II

A Hybrid Strategy to Protein Name Recognition 627
Haochang Wang, Tiejun Zhao

A Unified Expanding Method for Content-ignorant Web Page Clustering 633
Chen Chen

An Information Retrieval Model By Combination of Semantic With Keyword Based on Multi-Agent 639
Mingying You, Yicai Li, Jun Peng

Modeling for Landing Process of a Helicopter with Rotator Self-rotating based on Support Vector Machine 645
Shuzhou Wang, Ye San, Yunchang Zhang

Granular Computing-based Binary Discernibility Matrix Attribute Reduction Algorithm 650
Jun Xie, Xinying Xu, Xinhong Lu, Keming Xie

Application of Image Recognition System in Flotation Process 655
Jing Zhu, Yukun Wang

WP2OC-B5: System Identification and Modeling I

Pinch Detection Algorithm Based on Sliding Mode Estimator for Automotive Power Window 660
Linhui Zhao, Zhiyuan Liu

Optimized Selection of Modeling Samples in Milk Component Concentration Ultrasonic Detection 665
Suan Sun, Changsheng Ai, Gouping Li, Yuzhen Ma

Hybrid Intelligent Parameter identification of the Laminar Cooling Process for Hot Strip 669
Jinxiang Pian, Tianyou Chai, Minghao Tan

Remodeling of Fuzzy PID Controller Based on BP Neural Network 675
Debiao Wang, Taifu Li, Bingxiang Zhong

Robust Local PCR and Its Application in NIR Spectral Quantitative Analysis 681
Liankui Dai, Xinyu Zhang

Research on Structure of Product Family Model for Customers 686
Xiaoming Wei, Xiaobing Liu

WP2OC-B6: Industrial Automation I

Harmonic Analysis of Electromagnetic Casting System 691
Qunming Li, Yonghong Wu, Hua Deng, Daheng Mao

Research of Wireless PROFIBUS System Based on DS-UWB Technology 697
Jun Wang, Weiru Chen, Lijun Zhu

Application of Adaptive Generic Model Control Based on Input Equivalent Disturbance to Electro-Hydraulic Servo Control Systems 701
Yongbin Dai, Weidong Yang, Qinghua Liang, Shaofu Wang, Ming Zhang

Predictive Control for Air Fuel Ratio Based on Adaptive Expand Particle Swarm Optimization 705
Zhixiang Hou, Yihu Wu

Improvement and Application of Automatic Gauge Control System in Hot Strip Rolling Mills 710
Shubin Tan, Jianchang Liu

Estimation of measurement error variances/covariance in data reconciliation 714
Shengxi Wu, Xia Zhao, Xingsheng Gu, Xiaoming Xu, Guanghua Li

WP2OE-A1: Fuzzy Control II

Automatic Route Tracking of Smartcar Based on Fuzzy Control 719
Guiyou Chen, Zhenhua Li, Ping Yang

Stabilization of Takagi-Sugeno Model via Non-parallel Distributed Compensation Law 724
Baocang Ding, Biao Huang

Design of an Adaptive Fuzzy Logic Controller for Traffic Signals 730
Yan Li, Huimin Li, Xiaoping Fan

A Novel Fuzzy Controller Design Based-on PID Gains for HVAC Systems 736
Hongli Lv, Peiyong Duan, Lei Jia

Adaptive Fuzzy Fault-tolerant Voting Mechanism based on EKF 740
Jinxue Sui, Zhen Hua, Li Yang, Yuxin Tian, Yan Zhang

A Multi-phase Fuzzy Controller for Urban Intersections and ITS Implementation by BP Neural Network 745
Lunhui Xu, Yingxia Duan, Yanguo Huang, Cang Chen

WP2OE-A2: Neural Network II

Reinforcement Learning Method for Continuous State Space Based on Dynamic Neural Network 750
Wei Sun, Xuesong Wang, Yuhu Cheng

Performance Assessment Based on BP Neural Networks in knowledge-based companies 755
Li Zhang, Lu Wang, Yezhuang Tian

Research of a New Type Intelligent Controller and its Application 760
Xiaohua Gai, Shujun Liu, Nanlun Zhang

Identification and control of boiler combustion system based on neural networks and ant colony optimization algorithm 765
Qiang Xu, Jia Yang, Yanqiu Yang

Predictive Modeling Based on Proportional Integral Derivative Neural Networks and Quantum Computation 769
Dongxiang Nan, Yunsheng Zhang

An Improved Sensorless DSVM-DTC of Induction Motor Based MRAFC 775
Mei E Sui, Kairu Zhang, Junqing Yang

WP2OE-A3: Expert Control II

Image Recognize Based on Hierarchical SVC 781
Fuquan Tu, Kuisheng Chen

A PID-IMP Type Iterative Learning Controller 785
Qi Zhao, Jinxue Xu, Xiangdong Wang

A Prediction Model Based on Neural Network and Fuzzy Markov Chain 790
Jia Liu, Shunxiang Li, Shusheng Jia

Temperature Uniformity Control of a Furnace System with Multiple Parallel Passes Using Fuzzy Difference Control Technique 794
Xingxuan Wang

Fuzzy Target Based Soft Decision for Mobile Vehicle in Dynamic Environment 800
Yougen Chen, Seiji Yasunobu

Key Variable Identification Using Nonlinear Variable Weighting 806
Zhijun Jiang, Xiaobin He, Yupu Yang

WP2OE-A5: Machine Learning II

A Fuzzy Neural Network Precipitation Model Established by Blurring the Rough Set Factors 810
Long Jin, Xvming Shi, Ying Huang

Online Ranking Algorithm based on Perceptron with Margins 814
Weijian Ni, Yalou Huang

The Behavior Selection of Artificial Life based on Evaluation-Tradeoff Structure 820
Guifang Shao, Xiaochuan Zhang, Zushu Li, Zhi Tan

An Artificial Immune Cell Model Based C-Means Clustering Algorithm 825
Lei Wang, Huan Ji

TCM-RF:Hedging the predictions of Random Forest 830
Huazhen Wang, Fan Yang, Wujie Wu, Chengde Lin

Bit Vector Rules Presentation based Fast Inference Algorithm 836
Qingdong Li, Bo Yang, Zhang Ren

WP2OE-B1: Nonlinear System II

New Results on Connecting the Lorenz and Chen Systems 840
Dequan Li, Lili Cui, Zhixiang Yin

Robust Stability and L2-gain Analysis for Uncertain Discrete-Time Switched Systems with Time-Delay 845
Liguo Zhang, Hongfeng Li, Yangzhou Chen

New Synchronization Criteria of Complex Dynamical Networks 851
Lifu Wang, Liang Wu, Yuanwei Jing, Zhi Kong

PID eigenstructure assignment in second-order dynamic systems: a parametric method 856
Guosheng Wang, Qiang Lv, Guangren Duan

H Observers for one-sided Lipschitz nonlinear systems 860
Zhixin Tai, Xing-Cheng Wang

Linguistic Web: Bridging between Text Information Sources and Semantic Web 864
Jingmin Hao, Lejian Liao

WP2OE-B2: Nonlinear Control I

Delay-dependent robust stability for uncertain neutral type singular systems with time delays 870
Huijiao Wang, Lin Xue

Adaptive stabilization of uncertain nonholonomic systems by output feedback 876
Xiuyun Zheng, Yuqiang Wu

Finite Time Tracking Control of Induction Motor Based on TSM Controller 882
Yuqiang Wu, Li Zhang, Lijun Gao

Adaptive Fuzzy Control for A Class of Nonlinear Time-Varying Delay Systems 887
Tianping Zhang, Qin Wang, Hui Wen, Yuequan Yang

Equivalent Approaches to Equations of Traditional Transfer Alignment and Rapid Transfer Alignment 892
Kai Chen, Gang Zhao, Zhongjie Meng, Jie Yan, Hao Lu

Adaptive Synchronization of Totally Different and Uncertain Hyper-Chaotic Systems 896
Tiegang Gao, Qiaolun Gu

WP2OE-B3: Large-Scale System

Stabilization of Large-scale Lurie Systems Based on Comparison Principle 900
Zhifei Zhang, Qingcheng Fang

Approximately Optimal Tracking Controller Design for Nonlinear Interconnected Large-Scale Systems with Time-Delays 905
Liang Sun, Hongwei Gao

Decentralized control in the discrete-time systems with interconnected delays 911
Xin Gao

Delay-dependent robust stability analysis for neutral systems with discrete and distributed delays 916
Chen Peng, Yuchu Tian, Dong Yue, Jing Guo

A New PD Type Iterative Learning Control In Active Control for Vibration 922
Xiaohong Hao, Lei Zhang, Hengjie Li

A Clonal Selection Algorithm Based Optimal Iterative Learning Control Algorithm 927
Hengjie Li, Xiaohong Hao, Lei Zhang

WP2OE-B4: Fuzzy and Robust Control

Adaptive Robust Dynamic Balance and Motion Controls of Mobile Wheeled Inverted Pendulums 933
Zhijun Li, Yongxin Zhu, Tingting Mo

Feedback Controller Design for T-S Fuzzy Control Systems Based on Lyapunov Approach 939
Zhaona Chen, Qinming Wang, Yuanwei Jing, Hongwei Wang

Robust Engine Speed Control Based on Nonlinear Takagi-Sugeno Fuzzy Systems with Time- 945
Song Pan, Minxiang Wei, Guozhu Zhao

QFT Robust Control of Hydraulic Driven Stewart Platform Using Dynamics Real-time Compensation 950
Jianlin Tang, Lipeng Yuan, Keding Zhao

An LMI approach to Robust Guaranteed Cost Fault-tolerant Control for a Class of Uncertain Parameter Systems 955
Li Wang, Hongbo Shi

Construction of Six Sigma Tolerance Design Model Based on Dual Response Surface Methodology 960
Zhihong Zhang, Zhen He

WP2OE-C1: Robotics and Intelligent Robot I

Motion Control of a Spherical Mobile Robot by Feedback Linearization 965
Daliang Liu, Hanxu Sun, Qingxuan Jia, Liangqing Wang

Design of Robotic Excavator Arm Control Utilizing Proportional-Integral-Plus 971
Jun Gu

Vision/Force Based Robot Manipulator Servo Control for Uncertain Plane Surface Tracking 977
Liankui Qiu, Haitao Zhang, Wei Gao, Yunjian Ge

Multimode Discrete Control for Wheeled Mobile Robots 983
Xiyong Zou, Ziyin Li

A Battery State of Charge Estimation Method Using Sliding Mode Observer 989
Fei Zhang, Guangjun Liu, Lijin Fang

Research on workspace of manipulator with complicated constranits 995
Liquan Wang, Jianrong Wu, Dedong Tang

WP2OE-C2: Robotics and Intelligent Robot II

Dynamics and Optimization of a 2-Dof Parallel Robot with Flexible Links 1000
Haihong Li, Zhiyong Yang, Tian Huang, Jiangping Mei

Output Feedback Trackers for Nonholonomic Chained-Form Systems 1004
Kecai Cao, Xiang Gao

Path Planning of Robot in Three-dimensional Grid Environment based on Genetic Algorithms 1010
Hua Zhang, Manlu Liu, Ran Liu, Tianlian Hu

Dynamic Task Allocation Method Based on Immune System for Cooperative Robots 1015
Yunyuan Gao, Zhizeng Luo

Uncalibrated Eye-in-hand Visual Servoing Using Adaptive Recursive Least Squares 1021
Miao Hao, Zengqi Sun

A Learning Dynamics Model for Robot 1027
Nan Luan

WP2OE-C3: Complex System I

A Genetic Algorithm based Time-Frequency Approach to a Movement Prediction Task 1032
Xiu Zhang, Xingyu Wang

Tracking control for multi-agent consensus with an active leader and directed topology 1037
Zhengquan Yang, Zhongxin Liu, Zengqiang Chen, Zhuzhi Yuan

The Method Engineering Process for Multi-agent System Development 1042
Xiao Xue, Xueyan Zhang, Zhifeng Zeng

The Construction and Existence of the Optimum Solution for The Optimal Control problem of Multi-model Hybrid System 1048
Shunxiang Li, Jia Liu

Parameterization Theory of Balanced Truncation Method for Any Evenly Distributed RC Interconnect Circuits 1054
Shengguo Wang, Ben Wang

Emerging Collective Behaviors of Animal Groups 1060
Jinhu Lu, Jing Liu, Iain D. Couzin, Simon A. Levin

WP2OE-C4: Decision Support System

An Intelligent Decision Support System to Ship Anti-Collision in Multi-Ship Encounter 1066
Yongqiang Zhuo, Tianhao Tang

PSO Algorithm for Hot-milling Batch Planning Problem 1072
Tao Zhang, Lei Wang, Yuejie Zhang, Xiaoxuan Chu

Grey Judgment Matrix and Its Consistency 1077
Chaoqing Yuan, Lixiang Feng, Sifeng Liu

Electricity Consumption Prediction Model Based on Fuzzy Clustering and Rough Set 1081
Xin Wang, Xiaoli Wang

Integration and Optimization of LCA and LCC to Eco-balance for Mechanical Product Design 1085
Chao Deng, Zhaohui Li, Xinyu Shao, Chaoyong Zhang

The Establishment of Tourism Holiday Flow Prediction Model 1091
Junping Du, Wang Ruijie, Tu Xu-yan

WP2OE-D1: Multi-Sensor Fusion I

Decentralized H-∞ Fusion Filter Design in Multi-sensor Fusion System 1096
Qinghua Li, Weihai Zhang, Hongjun Wang

Distributed Ship Relative Positioning Algorithm in the MITS 1102
Quanbo Ge, Fuchun Sun, Chenglin Wen

On-line Predication of Underwater Welding Penetration Depth Based on Multi-sensor Data Fusion 1108
Weimin Zhang, Guorong Wang, Yonghua Shi, Biliang Zhong

Application of Wavelet Neural Network and Multi-sensor data fusion technique in intelligent sensor 1114
Jianfang Shi, Hongbiao Tang, Haiyan Gong

Information fusion-based Frequency Estimation of Multi-section Equal-length Signals with Known Frequency-shift 1118
Liangbing Liu, Yaqing Tu

Generation of delayed chaotic neuron with an axisymmetric activation function 1123
Lidan Wang, Shukai Duan, Xiaofan Yang

WP2OE-D3: Image Processing II

Subdivision Wavelet with Stochastic Coefficients 1127
Limei Zhang, Zhongxuan Luo

Modified Fuzzy Multi-thresholding Algorithm for Segmentation of MRI 1131
Yong Yang

An Optimized Hierarchical Classifier for Pedestrian Detection 1137
Yanwu Xu, Xianbin Cao, Hong Qiao

Unconstrained Handwritten Character Recognition Based on WEDF and Multilayer Neural 1143
Minhua Li, Chunheng Wang, Ruwei Dai

Fingertip Detection and Tracking Using 2D and 3D Information 1149
Hongwei Ying, Jiatao Song, Xiaobo Ren, Wei Wang

Skull recognition based on Embedded Hidden Markov models 1153
Yanfang Zhang, Saicong Xu, Nongliang Sun

WP2OE-D4: Fault Identification II

Architecture of Real-time Dynamic Stability Monitoring and Control System in Northwest Grid Based on Universal Platform 1159
Qinghai Li, Xiaohong Guan, Guowei Wu

Automated Fault Detection in Nonlinear Systems Using an OLA method combined with TAF-MFNN 1165
Jing Zhou, Xinhan Huang, Jing Liu, Min Wang

Robust Fault Diagnosis for Linear Time Invariant Uncertain Systems 1170
Jingjing Li, Kemin Zhou, Zhang Ren

A New Surface Inspection Method of TWBS Based on Active Laser-triangulation 1174
Lei Zhang, Yuanyuan Zou, Shiyi Gao

Principal Component Analysis on Multi-rate Sampling System 1180
Xiang Gao, Lina Bai

Genetic Programming Based Fuzzy Mapping Function Model for Fault Diagnosis of Power Transformers 1184
Zheng Zhang, Kangling Fang, Weihua Huang

WP2OE-W2: Awards Candidates II

A Generalization of the Nonlinear Small-Gain Theorem for Large-Scale Complex Systems 1188
Zhongping Jiang, Yuan Wang

Structural Design of Composite Nonlinear Feedback Control for Nonminimum Phase Linear Systems with Input Saturation 1194
Weiyao Lan

Stabilizability and Robustness of Switched Linear Systems: An Aggregation Approach 1200
Zhendong Sun

Optimizing Operation Control System for the Blending Process in Alumina Production 1206
Rui Bai, Tianyou Chai, Enjie Ma

Fault Diagnosis for Hybrid Dynamic Systems with Imperfect Model Based on Particle Filters 1212
Zhuohua Duan, Tengfang Long, Zixing Cai

TP1OC-A1: Fuzzy Control III

Application of Real-time FC Based on Geometrical Meaning of Mamdani Reasoning in Air-cushioned Headbox Control System 1218
Jiade Yan, Haipeng Pan

Fuzzy Control System Design and Stability Analysis for Ship Lift Feedback Fin Stabilizer 1223
Ning Wang, Xian Yao Meng, Qingyang Xu

Fuzzy Predictive Control System of Cryolite Ratio for Prebake Aluminum Production Cells 1229
Shuiping Zeng, Jinhong Li

FUZZY-PI Algorithm for Manned Module Thermal Control 1234
Liping Pang, Hongquan Qu

Current Research into Optimal Methods of Controller of Under-actuated System Pendubot 1237
Yang Yu, Bin Ge, Xiaolu Su

T-S norm Fuzzy Neural Network Controller for Underwater Vehicles based on Hybrid Learning Algorithm 1241
Bingjie Guo, Yuru Xu, Lei Wan, Xibin Li

TP1OC-A3: Expert Control III

Hierarchical Freeway Control Based on the Composition of PID Controller and CMAC 1247
Xinrong Liang, Yanxiu Wei

A New Method for Solving Multi-airports Ground-holding Problem 1252
Lili Wang, Zhaoning Zhang

Application of SVM in Fault Diagnosis of Power Electronics Rectifier 1256
Rongjie Wang, Haifeng Zhou

Support Vector Machine Based Fault Diagnosis for an Unmanned Tandem Helicopter 1261
Shiqian Liu, Zenggang Wang, Hongbin Jin, Shiqiang Hu

Design Method of Direct Adaptive Fuzzy Sliding Mode Tracking Control and Application 1266
Xiaoyu Zhang, Yumin Pan

A Study on the Scheduling Problem of Goods Pictures in an Online Store 1271
Lihua Zhang, Dingwei Wang

TP1OC-A4: Evolution Computing and Others

A Sequence Encryption Producing System Based on Particle Dynamical Evolutionary Algorithm 1275
Kangshun Li, Yang Xie, Wensheng Zhang, Feng Wang

New Continuous Ant Colony Algorithm 1280
Wei Gao

A Load Balancing Method for Heterogeneous Multiprocessor Based on Genetic Immunity Clone Algorithm 1285
Ximei Gou, Wanneng Shu

Application of Model based on Artificial Immune RBF Neural Network to Predict Silicon Content in Hot metal 1290
Jia Yang, Qiang Xu, Changxiu Cao, Jianghong Ren

A Genetic Algorithm Based on Multi-bee Population Evolutionary for Numerical Optimization 1294
Xueyan Lu, Yongquan Zhou

Speech Emotion Recognition Based on Fuzzy Least Squares Support Vector Machines 1299
Shiqing Zhang

TP1OC-B1: Nonlinear System III

Empirical Research on Financial Distress Prediction of Listed Corporations with Sport Vector Machines Model 1303
Yiping Liu, Dongfang Qiu

Exponential Stability of Nonlinear Ito Differential Systems with Markovian Switching 1309
Hongliang Liu, Guangren Duan

The model of grey periodic incidence and their rehabilitation 1313
Zhigeng Fang, Hongxing Shi, Sifeng Liu, Hongyun Du

Linear Programming Model With Uni-polar City For Different Levels Allocation of Productivity of Science And Technology Based On The Perfect Mechanism 1319
Hongxing Shi, Sifeng Liu, Zhigeng Fang, Aiqing Ruan

The General Elementary Dependent Function based on the Side Distance 1325
Qiaoxing Li, Sifeng Liu

An Essential Characteristic of Function Transformation to Reduce the Class Ratio Dispersion and Its Application 1329
Yong Wei

TP1OC-B2: Nonlinear Control II

Stable Robustness Analysis for Temperature Control System of State Feedback Merging PID Regulators 1334
Zhongxu Han, Huanpao Huang, Hui Wan, Zhi Zhang, Ying Sun

Design and Study of Robust Sliding-mode Observers for Dynamical System with Unknown Inputs Distribute 1340
Jin Zhao, Zhongyu Shen, Xingsheng Gu

Controlling Inverted Pendulum based on Neural Network and Particle Filter 1345
Liang Sun, Shuiqing Wang

Controller Design of Networked Control Systems With Multiple-Packet Transmision 1349
Chengxiang Xie, Jingyun Cao, Weili Hu

Delay-Dependent Robust Decentralized H-∞ Control for Interconnected Systems 1353
Weiying Liu, Ning Chen, Weihua Gui

Controller Design of a Class of Space Flexible Structure Based on Controlled Lagrangian 1359
Haiyi Wan, Wei Huo

TP1OC-D1: Multi-Sensor Fusion II

Distributed Fusion Estimators for Multi-Sensor Time-Delay Systems with Correlated Noise 1363
Nan Lv, Shuli Sun

Federated Adaptive Kalman Filtering and Its Application 1369
Long Zhao

Signal Processing Method of Correlation Detection for Ranging System Based on Combined Modulation 1373
Xinhong Hao, Yupeng Bai, Zhanzhong Cui

Research of Soft Switching in Digital Control H-Bridge ZVZCS Converters 1378
Bin Wang, Xingqiao Liu, Guangju Chen

Study of Time-delay State Feedback Predictive Control Based on Time-delay T-S Fuzzy Model Inference 1384
Shubin Wang, Pinhui Hu, Yanyun Wang

Delay-dependent H-∞ control of linear descriptor systems 1390
Lei Liu, Guoshan Zhang, Wenjuan Li, Zhiqiang Zuo

TP1OE-A2: Neural Network III

Robust adaptive trajectory linearization control for a class of uncertain nonlinear systems 1396
Liang Zhu, Zhongliang Jing, Shiqiang Hu

The Neural Networks Augmented Active Wing Load Control System 1401
Cheng Xu, Changqing Wang

A new approach for fault tolerance/disturbance rejection control 1405
Wei Wang, Tahir Hameed, Kefeng Li, Zhang Ren

Neural Learning Control with Disturbance 1409
Guopeng Zhou, Cong Wang, Min Zhao

Research of Synchronous Control of Flying-type Welder 1415
Xinxue Sun, Yongsheng Liang, Jianming Liang, Ning Lu, Yongling Fu

Multi-model Switching Integrated Control for a Class of Nonlinear Systems 1421
Chengshan Qian, Qingxian Wu, Changsheng Jiang, Jie Wen, Li Zhou

TP1OE-A5: Machine Learning III

A Novel Generalized Framework for Access Control Based on the Immune Mechanism 1427
Lei Wang, Caiyan Yin, Han Dong

Multiple Temporal Pattern Detection And Predictability Analysis of Complex Time-Evolving 1433
Xin Feng, Odilon Senyana

Influence of Encoding Scheme on Protein Secondary Structure Prediction 1439
Dongsheng Zou, Zhongshi He, Jingyuan He, Xiaofeng Huang

Unknown Non-self Detection & Robustness of Distributed Artificial Immune System with Normal Model 1444
Tao Gong

Intrusion Detection Based on the Short Sequence Model 1449
Guojun Mao, Xindong Wu, Jing Zhang

Knowledge Representations Based on Extension Rules 1455
Chunyan Yang, Wen Cai

TP1OE-A6: MAS

A fast convergence computerized adaptive testing system based on multi-agent system 1460
Yan Cheng, Weisheng Xu

Multi-agent Based Distributed Cold Roll Forming System Model 1466
Lidong Ma, Cai Liu, Guochang Li, Zhijuan Meng

Consensus Problem of Multiple Inertial Agents with Fixed and Switching Topologies 1470
Yang Liu, Yingmin Jia, Junping Du, Fashan Yu

Active Mechanism of Deceit Detection for Multi-Agent Based Interaction 1476
Hexin Lv, Hang Guo, Ji Gao

Hybrid Elevator Group Control System Based on Immune Particle Swarm Hybrid Optimization Algorithm with Full Digital Keypads 1482
Xiaolan Lin, Fei Luo, Yuge Xu, Hui Juan Li

Improved Basic Inference Models of Fuzzy Petri Nets 1488
Jie Yuan, Haibo Shi, Chang Liu, Wenli Shang

TP1OE-B3: Control Theory and Application I

Research on High Performance Direct Torque Control System Based on DSP 1494
Junzhu Wan, Jiefan Cui, Hemin Wang, Chengyuan Wang, Gang Mu

Application of a Novel Nonlinear Controller for Attitude Stabilization Control System 1498
Ying Hao, Zhenfan Tan, Hongbo Wang

Phase Control Technique of Distributed Vibrator Array System 1503
Tao Jiang, Jun Lin

Robust Cascade Control System Design for Central Air-conditioning System 1506
Jiangjiang Wang, Youyin Jing, Chunfa Zhang

Application of Improved PID Dynamic Matrix Control Algorithm in EPA 1512
Wei Guo, Shaojie Yao

TP1OE-B4: Predictive Control

Robust Nonlinear Predictive Control with Modeling Uncertainties and Unknown Disturbances for Single-Link Flexible Joint Robot 1516
Adel Merabet, Jason Gu

Nonlinear Constrained Predictive Control of Dissolved Oxygen in Bio-reactor 1522
Zhe Xu, Shouqi Cao, Hak Kyeong Kim, Sang Bong Kim

Attitude Control of Missile Via Fliess Expansion and Model Predictive Control 1527
Yupeng Qiao, Baoqing Yang, Daizhan Cheng

Study on State Feedback Predictive Control for a Class of Nonlinear Systems 1533
Shubin Wang, Yanyun Wang, Pinhui Hu

Analysis of Bionic Olfactory Neural Networks Based on Small-World Networks View 1537
Jin Zhang, Guang Li, J. Freeman Walter

Industrial Intelligent Control System Based on Embedded Web 1540
Jie Xiang, Zhi Yang, Xiaochuan Huang

TP1OE-B5: System Identification and Modeling II

Step Response Identification for a Magnetic Bearing System Based on Frequency-Sampling Filter Model 1544
Jianming Huang, Liuping Wang

Identification of Varieties of Cashmere by Vis/NIR Spectroscopy Technology Based on PCA-SVM 1548
Guifang Wu, Yong He

On-line Modeling of Air Temperature System in a Naturally Ventilated Greenhouse 1553
Linlin Qin, Gang Wu, Jun Wang, Wei Chen

A Subspace/KL based modeling method for nonlinear distribution parameters systems 1558
Xinjiang Lu, Hanxiong Li, Chenkun Qi

Multi-scale linear programming support vector regression for ethylene distillation modeling 1564
Yanfang Yu, Feng Qian

Dynamic Evaluation and Control of Ecological Footprint of Zhejiang Based on the Grey Prediction Mode 1569
Qi Wang

TP1OE-B6: Industrial Automation II

A Novel Boost-PFC Converter with Fast Voltage Regulator 1574
Wenjin Dai, Ming Li

Design Method of An Automatic Machine Set for TCM Manufacture 1579
Bao Qiang Wang, Ping Ran

Multi-resolution Wavelet Method for Roll Eccentricity Compensation in Strip Rolling Mills 1584
Zhiming Chen, Fei Luo, Yuge Xu, Shaohua Zhao

High Dynamic Performance Speed Control Strategy of High Density IPMSM for HEV Application 1588
Yu Ning, Youmin Gong

Filtering Delay Jitter in Timestamp Stream for Clock's Drift Compensation System 1594
Yujuan Quan, Guixiong Liu, Bo Liu

Automotive Engine Idle Speed Control Based on Mixed Logical Dynamical System 1598
Shu Li, Jihang Cheng, Yanfeng Cong, Xingwen Dong

TP1OE-C1: Robotics and Intelligent Robot III

A Neural Network and Linear Feedback Based Trajectory Control Method for Robot Manipulators 1603
Zhaohui Jiang, Shiliang Nie, Taiki Ishita

Set-Point Stabilization of Nonholonomic Mobile Robot Based on Optimizing Bezier Curve 1609
Guochen Niu, Lili Liu, Hao Chen, Qingji Gao

Modeling and Control of a Stewart Platform Based Six-Axis Hybrid Vibration Isolation System 1613
Peng Han, Tao Wang, Daihua Wang

An approach for Elderly Daily Behavior Habits Extraction for Service Robot Using Position Information 1619
Xianshan Li, Lingfu Kong, Fengda Zhao

Inspection Planning Control of Laser Guided Measurement Robot 1624
Wanli Liu, Xinghua Qu, Jianfei Ouyang, Yonggang Yan

Particle Filtering for Range-Based Localization in Wireless Sensor Networks 1629
Yangming Li, Wanming Chen, Shuai Li, Max O. H., Huawei Liang

TP1OE-C2: Robotics and Intelligent Robot IV

Abnormality Detection and Robust Perception Model for Laser Range Finder 1635
Zhuohua Duan, Zixing Cai, Jinxia Yu

Reconstructing Indoor Environmental 3D Model Using Laser Range Scanners and Omnidirectional Camera 1640
Xiaofeng Lian, Zaiwen Liu, Xiaoyi Wang, Lihua Dou

A Robust Object Recognition Method for Soccer Robots 1645
Huimin Lu, Zhiqiang Zheng, Fei Liu, Xiangke Wang

Monocular Vision Simultaneous Localization and Mapping using SURF 1651
Zhanyu Zhang, Yalou Huang, Chao Li, Yewei Kang

Camera Modeling and Distortion Calibration for Mobile Robot Vision 1657
Gang Peng, Xinhan Huang, Jian Gao, Cheng Li

Identify the Motion-Actuator States of Two Wheeled Robot with DFDCMS 1663
Niu Wang, Zushu Li, Yonglong Li, Ya Pan, Heng Wang

TP1OE-C3: Complex System II

A Multi-body Model for the Simulation of Rider and Mountain Bike Coupled System 1669
Yan Bu, Zhongxia Xiang, Tian Huang

Stabilization of a Class of Switched Nonlinear Systems with Average Dwell Time 1673
Zhengrong Xiang, Weiming Xiang

Introducing Web Services in HLA-Based Simulation Application 1677
Hengye Zhu, Guangyao Li, Liping Zheng

A New Method to Exponential Stability of the Cohen-Grossberg Model 1683
Shengzhong Xiao

Optimization of Fed-batch Fermentation Process Based on Structured Model 1687
Dapeng Zhang, Aiguo Wu, Zhiling Lin

Multi-Agent-Based Bio-Network Simulation Platform for Systems Biology 1691
Lihong Ren, Yongsheng Ding, Shuang-Yu Lin

TP1OE-C4: Soft-Measurement Technique I

Decision Method of Cooperative Measurement for IP mode Measuring & Controlling System Based on Synergetics 1697
Xiao Bin Hong, Guixiong Liu, Tie Qun Chen

Potential of Digital Holography in Sprays measurement 1702
Yan Yang, Bo-Seon Kang

Concentration Measurement of Two-Phase Flow by Means of FastICA and LS-SVM 1708
Zhenrui Peng, Xijuan Yang, Wenzhe Qi

A Novel Evaluation Method of Timing Error for Parallel ADC 1712
Huiqing Pan, Shulin Tian

Wavelet Solution of Multi-path Effect on GPS Precise Positioning 1716
Xijun Zhu, Jinyun Guo

Design of Sliding Mode Observer for Uncertain Nonlinear Systems 1720
Jing He, Changfan Zhang, Qiu Jing, Luo Cheng

TP1OE-D2: Sensor Network I

A Key Predistribution Scheme with Matrix Decomposition for Secure Wireless Sensor Networks 1724
Hangyang Dai, Hongbing Xu

An Energy-efficient Routing Protocol for Wireless Sensor Networks 1728
Xin Liu, Quanyu Wang, Xuliang Jin

Redundant Cluster-head based Routing in Wireless Sensor Networks 1734
Guanghui Li, Dongqin Feng

Connectivity Probability Based on Star Type Deployment Strategy for Wireless Sensor Networks 1738
Weitao Xu, Xiaohong Hao, Cunlu Dang

Effective Antenna Selection in MIMO Systems Under Spatial Correlated Fading 1743
Zhibin Xie, Jinkuan Wang, Yun Wang, Jing Gao

A Method Improving Accuracy of Self-Localization in Wireless Sensor Networks 1748
Fuping Hu, Shu Wang, Kezhong Liu

TP1OE-D3: Image Processing III

Accurate Localization of Circular Mark Based on Interpolation Algorithm and Modified Hough Transform 1752
Qianqian Wang, Nongliang Sun, Maoyong Cao, Anqing Chen, Di Fan

Microcalcification Clusters Detection with Tensor Subspace Learning and Twin SVMs 1758
Xinsheng Zhang, Xinbo Gao, Ying Wang

Explosives Detection Method Based on Improved Algebraic Reconstruction Technique 1764
Hongying Zhang, Yigang Sun, Lixin Wei

Large-Scale Terrain Rendering Using Strip Masks of Terrain Blocks 1768
Xingquan Cai, Jinhong Li, Zhitong Su

Optimized Design of Top-Hat Filter Based on algorithms of Support Vector Machine 1773
Yunhe Liu, Xi-Cai Si, Shu-hong Jiao

Segmentation of Medical Images with Canny Operator and GVF Snake Model 1777
Jinyong Cheng, Ruojuan Xue, Wenpeng Lu, Ruixiang Jia

TP1OE-D4: Fault Identification III

Application of Order Bi-cepstrum to Gearbox Fault Detection 1781
Hui Li, Shufeng Ai

Source Separation method of Machine Faults Based on Post-Nonlinear Blind Source Separation 1786
Zhinong Li, Yudong Zeng, Tao Fan, Yaping Lv, Jinge Ren

Research on Intelligent Diagnosis Mechanism facing on Complicated System 1790
Shouqi Cao, Yanling Han, Xiaohua Yuan

Fault Diagnosis Approach Based on Probabilistic Neural Network and Wavelet Analysis 1796
Qing Yang, Lei Gu, Dazhi Wang, Dongsheng Wu

Monitoring and fault diagnosing system design for power transformer based on temperature field model and DGA featur extraction 1800
Hongsheng Hu, Suxiang Qian, Jian Cao

H-∞ Fault Estimation and Accommodation for LTI Systems 1806
Maiying Zhong, Yunxia Liu, Zeyun Huo

TP2OC-A2: Neural Network IV

Event-based Control Technology for the Optimization of Subway Train's Operation 1810
Fei Lu, Mumin Song

Optimal Control of the Fermentation Process Based on Improved Differential Evolutionary Algorithm 1814
Shouping Guan, Yanrui Zhang, Xiaojiao Li

Application of ART-2 Network in the Recognition of Kiln Operating Condition 1819
Yongliang Li, Zhugang Yuan, Xiaohong Wang, Daisheng Bai

Research on Adaptive Inverse Control for Piezoceramic Based on SDRNN Hysteresis Inverse Model 1825
Xuanju Dang, Hao Chen

Study on Double Motor Synchronous System of Neural Network Control 1829
Chong Chen, Xingqiao Liu, Xiuwen Liang, Feng Ji

Motion Planning for Lunar Rover Based on Behavior Decision Field Q-Learning 1834
Haining Pan, Ye Yuan, Hehua Ju, Pingyuan Cui

TP2OC-B3: Control Theory and Application II

Integrated LPV Control for Underactuated Ship Linear Track Keeping and Main Diesel Engine 1840
Yu Liu, Chen Guo, Shichun Yuan

Hybrid Modeling and Optimal Control of Wet Flue Gas Desulphurization Process 1846
Yuntao Shi, Dehui Sun, Zhijun Li, Dongjie Gao

B-Spline Neural-Network-Based Variable Structure Control for Electrohydraulic Servo Systems with Uncertainties 1852
Suolin Daun, Ling Zou, Zhenghua Ma

Dynamic Hybrid Automatic Voltage Control of the Power System 1858
Wei Hu, Fei Xu, Kaiyuan Hou, Shengwei Mei

Experimental Study on Sliding Mode Variable Structure Vibration Control for Piezoelectric Cantilever Plate 1864
Zhicheng Qiu, Chunde Ye, Jingjun Wei

Study on GPS Attitude Determination Technology Based on QPSO Algorithm 1869
Kewen Xia, Xinying Zhang, Jinyong Gao, Ling Zhang

TP2OC-C3: Complex System III

Resources, Costs and Epidemic Thresholds in Scale-Free Social Networks 1874
Chungyuan Huang, Chuentsai Sun, Chiaying Cheng, Yushiuan Tsai

The Study of Epidemic Spreading in a Mobile Multi-Agent System 1880
Lang Cao, Guifang Cao, Xiang Li

Protein Secondary Structures Prediction Using Data Fusion Approach 1885
Yenwei Chu, Chinsheng Yu, Huifuang Ng

Smart car control system based on EMG signal 1891
Jin Feng, Xingyu Wang, Xiu Zhang

Modeling and Simulation of the Evolution Process for Industrial Clusters based on CAS 1895
Danrong Li, Jianchao Zeng

Robust Impulsive Synchronization of Uncertain Delayed Dynamical Networks 1901
Jin Zhou, Lan Xiang, Shuiming Cai

TP2OC-D1: Intelligent Sensor I

Research on Damage Location of GFRP Composites Based on Morlet Wavelet Analysis 1907
Junfang Ni, Yu Yu

Research on Effect of Frequency Band Energy Leakage to Wavelet Denoising 1912
Xin Wang

A Double Filtering Algorithm Based on Wavelet and Application in De-noising of Gearbox Fault Signal 1917
Yanhui Dong, Shuhong Chen, Wenli Shang

A New Modal Decomposition Algorithm Based on PSO and Spectrum Segmentation 1921
Qingwei Ye, Tongqing Wang, Junyong Ye

Improve Template Parameter Estimation for Pseudo-Periodic Signal Processing and Application 1927
Shaoqiang Liu, Linna Wu, Xiaoping Fan, Lilin Wang, Shenxi Huang

Extraction of Elbow Joint Intention from surface EMG Signals in Horizontal Plane 1931
Quanjun Song, Yunjian Ge

TP2OC-D4: Fault Identification IV

Early Fault Classification Identification and Fault Self-recovery on Aero-engine 1935
Zhongsheng Wang, Hongkai Jiang, Yiyan Xu

Pipeline Damage and Leak Sound Recognition Based on HMM 1940
Changsheng Ai, Xuan Sun, Honghua Zhao, Rujian Ma, Xeren Dong

A New Negative Selection Algorithm and its Application in the Fault Diagnosis of the Pump-jack 1945
Weijian Ren, Qiong Wang

Intelligent Fault Diagnosis Research for Permanent Magnet Linear Synchronous Motor 1951
Fuzhong Wang, Shiying Yuan

A Discernibility Matrix Primitive Based Rule Extraction Method for Wear Pattern Recognition of Diesel Engine from Incomplete Data 1956
Wentao Huang, Weijie Wang, Qingxin Meng

Research on Dimension Tree Network and its Application in Jing-Hu Line Safety Monitoring 1961
Guoqiang Cai, Limin Jia, Chunhuang Liu, Yangdong Ye

TP2OE-A1: Bionic Control I

Permeability Prediction Model for Imperial Smelting Furnace based on Improved Case-based Reasoning 1967
Chunhua Yang, Hongqiu Zhu, Weihua Gui

Rapid Control Prototyping Development of Intelligent Control System of Vehicle Semi-active Suspension 1971
Xiaomin Dong, Miao Yu, Changrong Liao, Weimin Chen, Zushu Li

Attitude Control for Rapid Robot with Human Simulated Intelligent Control Theory 1976
Miao Yu, Xiaomin Dong, Changrong Liao, Weimin Chen, Zushu Li

Estimating the Tire-road Friction for Tire Pressure Monitoring Using the result of a Nonlinear Observer 1982
Jiapeng Han, Yongli Sun, Chen Meng

A Swarm Intelligence Optimization for Particle Filter 1986
Xiaolong Liang, Jinfu Feng, Qian Li, Taorong Lu, Bingjie Li

Genetic Algorithm Neural Network Model Based On Coke Oven Gas Collectors Pressure 1992
Ruiping Bai, Hongxing Li

TP2OE-A3: Genetic Algorithm I

Synchronization Enhancement of a Scale-free Highly Clustered Network 1996
Jianjun Niu, Zhidong Deng

Some Practical Aspects on Incremental Training of RBF Network for Robot Behavior Learning 2001
Jun Li, Tom Duckett

Helicopter Trim Research Based on Hybrid Genetic Algorithm 2007
Jiyang Dai, Guohui Wu, Yinhua Wu, Guomin Zhu

Optimize Neural Network Controller Design Using Genetic Algorithm 2012
Xiaohua Yu, Ariel Kopel

An Improved Genetic Algorithm for the Extended Capacitated Arc Routing Problem 2017
Mengshuang Xia, Zhengyu Zhu, Yong Yang, Xiaohua Li, Xin Deng, Zhihua Xie

IT Project Risk Assessment with GCPSO-Based artificial neural network 2023
Lei Wen

TP2OE-A4: Rough Set

A New Ant Colony Optimization Approach for the Orienteering Problem 2027
Liangjun Ke, Zuren Feng

Neural Network Ensemble Based on Rough Sets Reduction and Selective Strategy 2033
Yaonan Wang, Dongbo Zhang, Huixian Wang

Uncertainty Measure Based on Generalized Rough Sets Covering 2039
Zhi Kong, Liang Wu, Liqun Gao, Lifu Wang, Honggang Xia

Study on Condition Attributes and Decision Attribute Based on Rough Sets Theory 2044
Zhi Kong, Haoli Luan, Liqun Gao, Lifu Wang, Zhiguang Lu

Research on Missing Value Estimation in Data Mining 2048
Dengchao Feng, Zhe Wang, Jianfang Shi, Jose Miguel Costa Dias Pereira

Research on Float Representation Niche Genetic Algorithm 2053
Mingyi Cui

TP2OE-A5: Machine Learning IV

Error Restricted Piecewise Linear Representation of Time Series Based on Special Points 2059
Pengtao Jia, Huacan He, Tao Sun

Genetic K-modes based DNA Splice Site Adjacent sequence Feature Analysis 2065
Quanwei Zhang, Qinke Peng, Hequan Sun, Kankan Li

Adaptive Spherical Gaussian Kernel for fast Relevance Vector Machine Regression 2071
Jin Yuan, Tao Yu, Kesheng Wang, Xuemei Liu

Semi-Supervised Chinese Compound Word Extraction Based on HMM 2077
Hui He, Bo Chen, Jun Guo

Product Platform Design and Architecture Programming Oriented to Knowledge Engineering 2082
Wenyan Zhao, Huangao Zhang, Runhua Tan, Zhen He

Fuzzy Selection for Education resources Based on Similarity Degree Evaluation Algorithm 2088
Kun Xiao, Shihong Chen, Ying Hu

TP2OE-A6: Expert Systems

An estimation method that can embody the strategic purpose of game players 2094
Wei Zhou, Lanzhen Ren, Jingyi Zhou

A Semantic Extension Model Used in Vegetable Supply Chain Domain Concepts Acquisition 2098
Jun Yue, Wandong Sun, Daoliang Li, Zetian Fu

Topology Discovery Service Research in Grid Environments 2104
Fu Chen, Jiahai Yang, Yang Yang

Study on Electronic Commerce Recommendation System by CBR and AIS 2110
Chun Guang Chang, Yunlong Zhu, Haifeng Guo, Xiaoming Zhou

A Life-cycle-oriented agent-based Negotiation Framework for Supply Chain Management 2115
Xin Ye, Fang Fang

An Expert System for Fish Disease Tele-Diagnosis Based on 3I Fuzzy Reasoning Mechanism 2121
Hongchun Yuan, Lulu Xie, Ming Chen, Qi He, Ying Chen

TP2OE-B1: Grid Computing

An Improved Algorithm for Fast Correlation Attack on Stream Ciphers 2126
Wanzhi Chen

Social Network-Based Trust Computing in P2P Environments 2130
Fengming Liu, Yongsheng Ding

Stability Analysis of FAST TCP Based on Lyapunov Function 2136
Fuzhe Zhao, Jianzhong Zhou, Ning Lu, Meng Zhang

An Intrusion Detection Method Based on KICA and SVM 2141
Yuancheng Li, Zhongqiang Wang, Yinglong Ma

A probabilistic analysis on fault tolerance of E-3DMesh networks based on Partitioning Strategies 2145
Jie Xiao, Jinzhong Li, Jia Rong Liang

An Algorithm of Enhancing RED Fairness 2149
Xiaoping Yang, Hong Chen, Pingping Xiao

TP2OE-B2: Nonlinear Control III

Robust Regulation of Nonholonomic Mobile Robots with Visual Servoing 2153
Chaoli Wang, Qinwu Liao, Yingchun Mei

Robust H∞ Control of Discrete-Time Singular T-S Fuzzy Systems 2159
Cuihong Wang, Tianmin Huang, Jianbin Qiu

Output Regulation of the Ball and Plate System with a Nonlinear Velocity Observer 2164
Hongrui Wang, Yantao Tian, Ce Ding, Qing Gu, Feng Guo

Fuzzy Logic Based Gain-Scheduled Techniques 2170
Dongming Ge, Xian Lin Huang

Robust Decentralized H-∞ Control for Multi-Channel Discrete-Time Systems 2176
Ning Chen, Weihua Gui

Sliding mode decoupling fashion purposed for fault tolerant control system & new design scenario to implemented 2181
Youssef Rafi, Hui Peng, Felix MoraCamino

TP2OE-B4: Adaptive and H-∞ Control

Adaptive Feedback Control Based Artificial Pancreas 2186
Shanshan Li, Gang Tao

Modeling and Multivariable Adaptive Control of Aircraft with Synthetic Jet Actuators 2192
Yu Liu, Dipankar Deb, Gang Tao

FAT Based Adaptive Controller Design for Pressure-Sensor Free Pneumatic Servo Systems 2200
Anchyau Huang, Yichang Tsai

H-∞ Control of Bullwhip Effects in Closed-loop Supply Chain Networks with Two Chains Cooperation 2206
Haifeng Guo, Yunlong Zhu, Chun Guang Chang, Xiaoming Zhou

Robust H-∞ Filtering for Nonlinear Stochastic State-Delayed Systems 2212
Weihai Zhang, Gang Feng, Qinghua Li

Improved KIII Model and Its Application 2218
Jin Zhang, Xiao Liu, Rui Li, Zheng Ma, Guo Li

TP2OE-B5: System Identification and Modeling III

A Novel Modeling of Nonlinear Plants with Hysteresis Described by Non-symmetric Play Operator 2221
Changan Jiang, Mingcong Deng, Akira Inoue

Modeling of Wave Energy Absorption Based on BP Neural Network for Underwater Vehicles 2225
Ying Zhang, Chengdong Wu, Zaili Dong

Research on Comparison of Credit Risk Evaluation Models Based on SOM and LVQ Neural Network 2230
Le Lei, Yao Xiao

A New Method to Discriminate Tea Categories 2236
Xiaojing Chen, Di Wu, Yong He, Yang Hai-qing

A muti-SVMs design for Cancer diagnosis using DNA microarray data 2241
Jinglin Yang, Yongli Xu, Hanxiong Li

Multi-model Information Fusion Kalman Smoother for Time-varying Systems 2247
Xiaojun Sun, Zili Deng

TP2OE-B6: Industrial Automation III

Print Quality Detection of Cigarette Wrapper Based on Image Processing and BP Network 2253
Zhengwei Zhu, Yuying Guo

A Optimization Method Based on Ordinal Genetic Algorithm under the Framework of Nested Partitions Method 2259
Lijun Yan, Junhu Wei, Zongbin Li, Xuan Du

Optimal Control of Buck Converter by State Feedback Linearization 2265
Dingxin Shuai, Yunxiang Xie, Xiaogang Wang

Predictive Fuzzy Control for a Mobile Welding Robot Seam Tracking 2271
Yanfeng Gao, Hua Zhang, Zhiwei Mao, Junfei Peng

Pitch-control for Large-scale Wind Turbines Based on Feed forward Fuzzy-PI 2277
Feng Gao, Daping Xu, Yuegang Lv

A Friendly and Human-based Teleoperation System for Humanoid Robot Using Joystick 2283
Yuepin Lu, Qiang Huang, Min Li, Xiaoyu Jiang, Muhammadusman Keerio

TP2OE-C1: Robotics and Intelligent Robot V

Modeling and Analysis of an Enhanced Compliant Parallel Mechanism for High Accuracy Micro Motion 2289
Dan Zhang, Kayla Viegas, Zhen Gao, Yunjian Ge

Wheel/leg Robot for Public Safety Protection Identification & Detection 2295
Xilun Ding, Alberto Rovetta, Zhiying Wang, Yuwen Xie

Optimal Measurement Configurations for Robot Calibration based on Modified Simulated Annealing Algorithm 2300
Dongshu Wang, Qi Liu

Research on the real time obstacle avoidance control technology of biologically inspired hexapod robot 2306
Xiaochuan Zhao, Qingsheng Luo, Baoling Han

Dynamics Simulation of Remotely Operated Vehicle-Fiber Optic Micro Cable System 2311
Qiang Li, Hongli Xu, Qifeng Zhang, Xiaohui Wang, Zhigang Li

Control System Design and Flight Testing for a Miniature Unmanned Helicopter 2315
Zhou Fang, Jiande Wu, Ping Li

TP2OE-C2: Robotics and Intelligent Robot VI

A Family of 3-PRPaR Spatial Translational Parallel Robots 2320
Zhongfei Wang, Yan Pan, Shiming Ji, Yuehua Wan

A Family of Spatial Translational Parallel Robots 2326
Zhongfei Wang, Yan Pan, Shiming Ji, Jianhui Sun, Yuchua Wan

Optimal Design of a Linear Delta Robot for the Prescribed Regular-shaped Dexterous Workspace 2333
Shiming Ji, Guan Wang, Zhongfei Wang, Yuchua Wan, Qiaoling Yuan

Fault-tolerant Mating Process of Electric Connectors in Robotic Wiring Harness Assembly Systems 2339
Jian Huang, Pei Di, Toshio Fukuda, Takayuki Matsuno

3D Terrain Model Approach by an Industrial Robot 2345
Lei Sun, Jingtai Liu, Xinwei Chen, Liu Zheng, Niu Xuejuan

LSRII Feature Based Particle Filter Localization for Mobile Robot 2350
Fengda Zhao, Lingfu Kong, Xianshan Li

TP2OE-C4: Soft-Measurement Technique II

Generalized Extended Kalman Filter for Prediction of Chaotic Time-Series with Intermettent Failures Bernoulli Noise 2355
Xuedong Wu, Jin Huang, Zhihuan Song

Online Chaotic Time-Series Prediction with the Derivative-Free Extended Kalman Filter 2360
Xuedong Wu, Zhihuan Song

In-Plane Micro-Motion Measurement with High Accuracy Based on Computer Microvision 2365
Qinghua Lu, Yanbin Fan, Xianmin Zhang

A New Camera Calibration Based on Vanishing Point 2371
Jin Sun, Hongbin Gu, Xiaolin Qin, Jiping Zheng

Research on three-phase inverter control method with full-decoupling 2377
Xiangdong Lai, Yunping Zou, Jianzhou Quan, Yanping Zhong

Research on Ultra-Low Speed Control of PMSM in Servo System 2381
Yucheng Bai, Xiaoqi Tang, Jihong Chen, Fangyu Peng

TP2OE-D2: Sensor Network II

Two Average Weighted Measurement Fusion Kalman Filtering Algorithms in Sensor Networks 2387
Chenjian Ran, Zili Deng

Close-Form Direction Finding for Multiple Scattered Sources Based On Uniform Circular Arrays with Trimmed Vector Sensor 2392
Jun Tao, Huibin Xu, Jianwu Tao

Indoor Intrusion Detection Using an Intelligent Sensor Network 2396
Hongpeng Wang, Jingtai Liu, Lei Sun, Jiangchuan Wu

Energy-aware Task Scheduling Automation Framework in Large Scale Temperature Sensor Network 2402
Bin Xu, Hua Hu

Blind Equalization in Underwater Acoustic Communication by Recurrent Neural Network with Bias Unit 2407
Ying Xiao, Yuhua Dong, Zhenxing Li

Distributed State Estimation Based on Quantized Observations in a Bandwidth Constrained Sensor Network 2411
Bocheng Hu, Li Chai, Peng Jiang

TP2OE-D3: Image Processing IV

Multi-view Ear Recognition Based on B-Spline Pose Manifold Construction 2416
Zhiyuan Zhang, Heng Liu

Stroke Detection and Reconstruction of Characters Pressed on Metal Label 2422
Jianmei Li, Changhou Lu, Guoping Li

Hyper-parameters Optimization and Validation of Brain Image Regression 2427
Wei Lin, Pengtao Jia, Huacan He

Real-time 3D pointing gesture recognition for natural HCI 2433
Yepeng Guan, Mingen Zheng

Image Fusion Algorithm Based On Orientation Information Motivated Pulse Coupled Neural Networks 2437
Xiaobo Qu, Changwei Hu, Jingwen Yan

Transient Modeling and Analysis of Transformer Windings under VFTO 2442
Ping Zhang, Youhua Wang, Xinpeng Nie, Weili Yan, Haijiao Zhang

FA1OC-A2: Neural Network V

Application of Neural Network Trained by Chaos Particle Swarm Optimization to Prediction of Silicon Content in Hot Metal 2446
Xianlun Tang, Jianghong Ren, Ling Zhuang, Changxiu Cao

Motor efficiency control of CNC machine based on neural network model reference adaptive system 2450
Jinliang Shi, Fei Liu, Dong Xie, Dijian Xu, Qunwei Yu

Intellingent Fault Diagnosis Based on FNN 2454
Jibin Chang

Study on Lateral Jet Ignition Strategy for Blend-control Missile Based on Fuzzy Neural Network 2460
Zenghui Xie, Zhanchen Liu, Jian Wang, Xianwei Zeng

Application Research of PID Neutral Network Control for Traction Drive Inverter 2464
Xinglai Ge, Xiaoyun Feng

Virtual Simulation Framework of Intelligent Autonomous Control for Hypersonic Vehicle 2469
Xiong Luo, Zengqi Sun, Huaiyu Wang

FA1OC-A5: Machine Learning V

Using Support Vector Machine to Predict Consumers' Repurchase Behavior 2474
Lan Xu, Qing'An Cui, Nan Cui

Bayesian Network-Based Detection And Prediction of Outliers in Subspace 2479
Lihua Zhou, Weiyi Liu, Hongmei Chen, Lizhen Wang, Jilong Chen, Xiaodong Yang

On the Study of moving Objects Detection and Pattern Recognition using LS-SVM 2486
Guangying Ge, Cunwei Tian, Minghong Wang

Word Sense Disambiguation Based on Method Probiability Model Improved by Information Gain 2491
Dongmei Fan, Zhimao Lu, Rubo Zhang, Xueyao Li

A Personality Model of Virtual Characters 2497
Zhen Liu

Intelligent Facial Expression Recognition System R&C-FER 2501
Yongqiu Tu, Shaofa Li, Minqin Wang

FA1OC-A6: Web Intelligence I

Study of the Agent Quantum Control Model in Hot Metal Desulphurization Process Based on Rough Set and GA-RBF Nerve Network 2507
Yong Zhang, Yukun Wang, Liang Chang

Ant Colony Intelligence Based Solution for Grid Services Selection 2512
Xiao Zheng

Real-Time Risk Management Based on Time Series Analysis 2518
Yong Zhang, Xiaobin Tan, Hongsheng Xi, Xin Zhao

A Spatiotemporal Chaos-based Secure Image Transmission Scheme by Using Spread-Spectrum over the Internet 2524
Jun Peng, Shangzhu Jin, Mingying You, Zhiming Yang, Xiaofeng Liao

Trust-based Authorization Model on Interval-valued Fuzzy Sets Theory 2530
Zhengfang Fu

Robust H Control of Network Control System with Random Time-delay 2536
Xijin Guo, Haigang Li, Qian Zhang, Qinying Zhang

FA1OC-B5: System Identification and Modeling IV

Identification Research on Improved PID Neural Network and Its Application 2542
Yongjun Shen, Xingsheng Gu, Qiong Bao

Study on MRAS Speed Identification Based on High-Frequency Signal Injection 2548
Xiaona Ma, Yingshun Li, Yuequan Jiang

Study on System Identification Based on Kernel Function KPCA-SVR 2554
Huihui Xiao, Taifu Li, Shengli Ji, Shan Li, Yingying Su

Study on Hammerstein Models of Sparse Nonlinear Identification with LS-SVM 2559
Huaqi Zhao, Jun Cao, Yaqiu Liu

Modeling and Simulation for a 3D Overhead Crane 2564
Bojun Ma, Yongchun Fang, Xuebo Zhang, Xiaolin Wang

FA1OC-B6: Industrial Automation IV

Research on Symmetrical Output Control Strategies for Three-phase High power Sine wave Inverter 2570
Xiangdong Lai, Yunping Zou, Yanping Zhong, Shenghua Wu, Dan Chen

On the Balance Model of Power Demand/Supply for Large-scale Power Consuming Corporation 2576
Yunlong Gao, Feng Gao, Xiaohong Guan, Qiaozhu Zhai, Dianmin Zhou, Chuan Zhang

Analogism-based Self-adaptive Supply Restoration of Medium-voltage Distribution Networks 2583
Jianzhong Wu

The Research on GM(1,1) Based on Simple Gaussian Function Transformation 2589
Le Liu, Hongguo Wang, Baowei Wang

The Research on the Relation between Magnetic Leakage Signal Character and Defect Character 2595
Lijian Yang, Guoguang Zhang, Songwei Gao

Based on. NET Platform for Digital Multimeter Automatic Testing System Design 2599
Xiaolu Su, Qinzhi Sun, Hongjian Wei, Yang Yu, Shaolin Liu

FA1OC-C2: Robotics and Intelligent Robot VIII

A modified Artificial Potential Field Algorithm for Mobile Robot Path Planning 2603
Ningning Qi, Bojun Ma, Xianen Liu, Zhenxin Zhang, Dongchun Ren

Kinematics Modeling and Analysis for Threewheel Omnidirectional Mobile Robot 2608
Xiaodong Ren, Zuren Feng, Hong Chang, Ruofeng Mu

The Gesture Signal Filtering of Self-balancing Robot 2614
Xiaogang Ruan, Haijiang Di, Jiang Liu

Study on ADRC-Based Intelligent Vehicle Lateral Locomotion Control 2619
Jiuhong Ruan, Fuguang Yang, Rui Song, Yibin Li

Model and Application of Swarm-Robot Systems Based on Distance-Optimization Correspondence 2625
Wangbao Xu, Xuebo Chen, Guoqiong Zhang

Research Progress on Soil Water Monitor and its Intelligent Model 2631
Heng Wang, Yuqing Huang, Shishun Tao, Jia Yang

FA1OC-C3: Computer Intelligent Manufacturing System

Study and Realization of three-stand Profiled Bar Hot Continuous Rolling Control System 2637
Hongjun Zhou, Kangling Fang, Haiwen Song

Improved Immune Genetic Algorithm For JSP 2642
Quanyong Ju, Jianying Zhu

Research on Manufacturing Information Fusion based on CEIF-vDNC 2648
Guorong Chen, Ping Yan, Jinliang Shi, Jun Peng, Juli Deng

Research & Application on Information Bus for MES 2654
Shengxi Wu, Xia Zhao, Xingsheng Gu, Xiaoming Xu, Guanghua Li

Design of Logistics Data Collection System Based on RFID&ZigBee Technology 2660
Lianbo Ma, Lei Zhang, Kunyuan Hu, Weixing Su, Ben Niu

Research and Application of RFID Technology in Production Line Data Collection 2664
Junhuai Li, Hailing Liu, Jun Peng, Jing Zhang

FA1OC-C4: Virtual Instrument/Field Bus

Research On Soft Sensor Model Based On Kernel Function Principal Component Analysis for Gas Outburst Prediction 2668
Bingxiang Zhong, Taifu Li, Jinliang Shi, Debiao Wang, Yingying Su

Reflection Spectral Imaging Technology and Its Application in Detection of Foreign Materials 2673
Dongyao Jia, Zhongsheng Hou, Ze Liu

Soft Sensor Based on Least Square Support Vector Machine with Limited Memory for Crystal Particle Size Prediction in PTA Purification Process 2678
Ruilan Liu, Yang Xu

An Improved Model and Algorithm Correction for Spotting 2682
Dongming Chen, Zhiliang Zhu

Error Analysis and Compensation for Load Cells Based Glue Mixing & Dosing Precise System Micro-D 2687
Yaqiu Liu, Huaqi Zhao, Jun Cao, Xiaopeng Zhang

A division ratio - variable delay method for VCO FM nonlinearity correction 2692
Liangbing Liu, Yaqing Tu, Baosong Xu

FA1OC-D2: Sensor Network III

Blind Detection of QPSK Signals using Hopfield Neural Network 2696
Zhiyong Zhang, Yun Zhang

Error Analyzing for RSSI-based Localization in Wireless Sensor Networks 2701
Wanming Chen, Tao Mei, Lei Sun, Yumei Liu, Yangming Li, Shuai Li, Huawei Liang, Max, Q.-H. Meng

Application of an Adaptive Extended Kalman Filter in SINS/GPS Integrated Navigation System 2707
Meng Bai, Xiaoguang Zhao, Zengguang Hou, Zhiqiang Cao

Multiple Bits Distributed Moving Horizon State Estimation for Wireless Sensor Networks 2713
Ji'An Luo, Li Chai, Peng Jiang

Stabilization of Cluster in Wireless Sensor and Actor Network 2718
Zhihong Guan, Chunxi Yang, Li Ding, Jian Huang

Rapid Prototyping of a Piezoelectric Six-Axis Accelerometer 2723
Gang Yuan, Daihua Wang, Xianghong Hou, Yan Zhao

FA1OC-D3: Image Processing V

A New Image Authentication Based on Reversible Watermarking Algorithm 2727
Qiaolun Gu, Tiegang Gao

Vehicle Queue Detection Based on Morphological Edge 2732
Zhe Liu, Yangzhou Chen, Zhenlong Li

Feature Selection Based on IB Theory 2737
Yangdong Ye, Hongcan Yan, Hongxing Lu

Computer-aided Design and Experiment Research of New Type Permanent Magnet Synchronous Motor 2743
Haoming Zhang, Yukun Sun, Yinghai Wang

Dynamic Weights Feedback Scheduling ofResource-Constrained Real-Time Control Systems 2747
Feng Li, Hongxing Wei, Tianmiao Wang, Jingmeng Liu

Adaptive S-curve Acceleration/Deceleration Control Method 2752
Kuijing Zheng, Li Cheng

FA1OC-D4: Fault Identification V

Zoom Envelope Method Based on the Real Modulation and Its Application in the Fault Diagnosis 2757
Xianjiang Shi, Junshan Si, Junpeng Shao

Multiplicative Faults Detection and Reconstruction in Linear Dynamic Systems Using Robust Sliding Mode Observers 2761
Zhongyu Shen, Jin Zhao, Xingsheng Gu

Complex Fault Tree Analysis Based on BDD Route-based Rules 2766
Lin Zhu, Jie Chen

Online Diagnosis of Brick Interior Fault Based on Spectrum Analysis and Multi-Principal Component Model 2771
Zijuan Wang, Mingxing Jia, Qingyu Meng

General Power Transmission Line On-Line Monitoring Software System Based on Wireless Public Network 2777
Xun Gui, Lan Yao, Zhigang Liu, Qingquan Qian

Monitoring Technology Research of Tool Wear Condition Based on Machine Vision 2783
Pengyang Li, Yan Li, Mingshun Yang, Jianming Zheng, Qilong Yuan

FA1OE-A1: Bionic Control II

Research of Synthesis Tuning Algorithm of Active-Disturbance-Rejection Controller 2788
Qiang Ma, Daping Xu, Yuntao Shi

A Preference-Based Non-dominated Sorting Genetic Algorithm on Dynamic Economic Dispatch 2794
Xiuqin Shang, Jiangang Lu, Youxian Sun

Intelligent Control for Operation of Iron Ore Magnetic Separating Process 2798
Jinxin Liu, Jinli Liu, Jinliang Ding, Tianyou Chai

An Intelligent MIMO Control and Its Application to Two-wheeled Vehicle for Driving Support 2804
Genta Inoue, Seiji Yasunobu

The Structure of HSIC System and Its Application on Arbitrary Switch Control of Double Pendulum 2810
Yuanhong Dan, Zushu Li

Closed-loop Optimal Fuzzy Reasoning and Its Application in Model Helicopters 2816
Lei Zhang, Kun Zhang

FA1OE-A3: Genetic Algorithm II

UCSMssp: Ubiquitous Computing Service Model Based on SPKI/SDSI and P2P 2822
Daoqing Sun, Fang Pu, Qiying Cao

Particle swarm optimization with normal cloud mutation 2828
Xiaolan Wu, Bo Cheng, Jianbo Cao, Binggang Cao

Improved Particle Swarm Optimization Algorithm and its Application in Coordinated Air Combat Missile-Target Assignment 2833
Peng Teng, Hui Gang Lv, Jun Hunag, Liang Sun

The Combinatorial Optimization by Genetic Algorithm and Neural Network for Energy Storage System in Solar Energy Electric Vehicle 2838
Shiqiong Zhou, Longyun Kang, Guifang Guo, Yanning Zhang, Binggang Cao

Discrete-time Robust Fault Detection Observer Design: a Genetic Algorithm Approach 2843
Xuewu Dai, Guangyuan Liu, Zhengji Long

Optimizing the Performance of Chip Shooter Machine Based on Improved Genetic Algorithm 2849
Xuan Du, Zongbin Li, Xinqin Gao, Lijun Yan

FA1OE-A4: Intelligent Transportion I

Incremental Multistep Q-learning for Adaptive Traffic Signal Control Based on Delay Minimization Strategy 2854
Shoufeng Lu, Ximin Liu, Shiqiang Dai

Neuro-Adaptive Control Method for Antilock Braking Systems 2859
Ran Zhang, Liguo Weng, Wenchuan Cai, David Song

Feature Selection to Traffic Flow Forecasting 2864
Zhanquan Sun, Jing Shan Pan

Real-time Traffic Flow Forecasting Model and Parameter Selection based on E-SVR 2870
Fan Wang, Guozhen Tan, Chao Deng, Zhu Tian

Research on Realizing Speech-Operated On-Board Traveler Information System 2876
Zhaosheng Yang, Jian Wang

Robustness in Railway Transportation Scheduling 2880
Miguel A. Salido, Federico Barber, Laura Ingolotti

FA1OE-B1: Nonlinear Control IV

An Output Feedback Control Design via Nonlinear Separation Principle 2886
Chengkang Xie

Delay-dependent asymptotic stability of cellular neural networks with time varying delay 2890
Jianhua Zhang, Xueli Wu, Huiguang Li, Xinping Guan

Globally Exponential Synchronization of Hyperchaotic Systems 2894
Xuezhen Liu, Yuxia Li, Dandan Zhao

Stabilizing Unstable Equilibrium Point of Hyperchaotic Lorenz System 2900
Xuezhen Liu, Yuxia Li, Yongchao Cao

Stable Flocking Motion of Multi-agent Formation in 3-dimensional Space 2906
Yongguang Yu, Hanxiong Li

Delay-Dependent Robust H∞ Stability and Stabilization for Uncertain Singular System 2911
Wuneng Zhou, Yuhua Xu, Maoqiao Ye

FA1OE-B2: Nonlinear Control V

H-∞ filtering for stochastic time-delay systems 2917
Yumei Li, Xinping Guan, Dan Peng, Jianhua Zhang

An Off-line Formulation of Min-max MPC for Nonlinear Systems via Multiple LPV Embeddings 2923
Min Zhao, Shaoyuan Li

On Robust Stabilization of Delayed Impulsive Systems Subject to Parametric Uncertainties 2929
Wei Xing Zheng, W.H. Chen

Route Control for Freeway Networks via Nonlinear Optimization Approach 2935
Jinsong Xie, Bingquan Fan, Hongcheng Gan, Jin Yang

Observer-Based Robust H∞ Control of Uncertain Singular Systems with Time-Varying Delay 2940
Lin Li, Yingmin Jia, Junping Du, Shiying Yuan

Gain Margins of Model Reference Adaptive Control Systems 2946
Qian Sang, Gang Tao

FA1OE-B3: Sliding Mode Control

Hybrid Variable Structure Control of Flexible Spacecraft under Input Saturation 2952
Qinglei Hu, Honge Ren, Jun Cao

Adaptive Integral Variable Structure Attitude Controller Design and Application to Flexible Spacecraft 2958
Qinglei Hu, Liping Sun, Jun Hua

Adaptive Motion Control Based on Fourier Series and Sliding Mode Control 2964
Jing Che

Pitch Control of Variable Speed Wind Turbines Based on Adaptive Fuzzy Sliding Mode 2970
Lingfeng Xu, Xiyun Yang, Xinran Liu, Daping Xu

A framework for disturbance attenuation on SISO stable/unstable systems 2976
Ramon Vilanova, Orlando Arrieta, Pedro Balaguer, Pere Ponsa

Kinematic Analysis and Motion Planning of a Biped Robot with 7-DOF and Double Spherical Hip Joint 2982
Guangri Li, Qiang Huang, Yanping Tang, Guodong Li, Min Li

FA1OE-B4: Parameter Estimation

Prediction Model of End-point Phosphorous in Converter Based on Cluster Analysis and Gray Theory 2988
Zhaoyi Lai, Xie Zhi, Meng Hongji

Adaptive Modified Newton algorithm for multiple frequencies estimation 2992
Jian Yang, Hongsheng Xi, Feng Yang

A Novel Parameter Estimation Method Based on PSO-SQP Optimization 2996
Dali Zhao, Xiaoguang Li, Qibing Jin

Particle Filtering Approach to Parameter Estimate and Temperature Prediction of Satellite 3001
Liping Pang, Hongquan Qu

Automobile Classification Based on GVF-Snake Model & Inertia Ellipse Principle 3005
Tianmin Deng, Yong Yu, Baichuan Lu

Fault Detection of Nonlinear Dynamic Processes Using Dynamic Kernel Principal Component Analysis 3009
Ting Wang, Yingwei Zhang, Xiagang Wang, Hong Zhou

FA1OE-C1: Robotics and Intelligent Robot VII

Monocular SLAM Using Vertical Straight Lines With Inverse-Depth Representation 3015
Chao Li, Yalou Huang, Yewei Kang, Jing Yuan

Collision Obstacle in Dynamic Environment Based Heuristic Using Sonar and Optical Flow 3021
Sheng Fu, Yuxian Gai, Ting Yao, Huiying Liu, LuFang Gao

A Distributed and Optimal Algorithm to Coordinate the Motion of Multiple Mobile Robots 3027
Jianying Zheng, Haibin Yu, Wei Liang, Peng Zeng

An Artificial Immune System Based Multi-Agent model and its Application to Robot Cooperation Problem 3033
Mamady 1 Dioubate, Guanzheng Tan, Mohamed Lamine Toure

An Improved Distance Measurement Method for Four-Legged Robots Based on the Colour 3040
Qijun Chen, Feng Tan, Pengyung Woo

A HiFi Simulator for Robot Soccer 3045
Guofeng Tong, Hongsheng He, Zhenzhou Shao

FA1OE-D1: Intelligent Sensor II

Instantaneous Frequency Estimation Based on Empirical Mode Decomposition 3049
Hongying Hu, Jing Kang, Lina Guan

Time delay estimation method for leak location of buried water distribution pipes 3052
Jing Wen, Yumei Wen, Ping Li

Leak Acoustic Detection in Water Distribution Pipelines 3057
Jin Yang, Yumei Wen, Ping Li

Development of Laser Stripe Sensor for Automatic Seam Tracking in Robotic Tailored Blank Welding 3062
Yuanyuan Zou, Mingyang Zhao, Lei Zhang, Chunying Jiang

Research of battery capacity fiber on-line intelligent testing technology based on SVM 3067
Mingfu Zhao, Yan Chen, Binbin Luo, Nianbing Zhong, Renlong Xing

Gaussian Sum Particle Filtering Based on RBF Neural Networks 3071
Guochuang Fan, Yaping Dai, Hongyan Wang

FA2OC-A1: Bionic Control III

Solution of Pursuit/Evasion Differential Games Using Genetic Algorithms 3077
Zhen Li, Xinjie Yu

Intelligent Optimum Design of the Working Mechanism of Loader 3081
Roingyi Zhang, Jianjia Qi, Yu Cai

Urban Arterial Road Green-wave Control Based on Genetic Algorithm 3087
Xiaohong Li, Guozhen Tan, Chao Chen

Strategy and Implementing of Humanoid Intelligent Control 3093
Honghui Zhu, Wenbo Pi, Dingfang Chen

Traffic Trunk Roads Coordination Control Based on Multi-Agent 3098
Liying Gao, Yangzhou Chen, Zhenlong Li

Intelligent Motion Platform for Mobile Robot 3104
Jong C Wang, Hui Teng Cheng, Ping Han Tsai, Jr Yuan Wang, Rich Fong

FA2OC-A2: Neural Network VI

Research on the improvement for RBF neural networks based on cloud theory 3110
Lingfang Sun, Shouguo Wang, Ce Xu, Dong Ren, Jian Zhang

Predictive Methods of Generalized Quantum Neural Networks and Its Application 3114
Dongxiang Nan, Yunsheng Zhang

Neural Networks Iterative Learning Control: A Terminal Sliding Mode Approach 3119
Gaofeng Hua, Mingxuan Sun

Hardware-in-the-loop Simulation for Engine Idle Speed Control Based on ANFIS 3125
Yunpeng Cao, Wanqing Teng, Huijie Zhang

Research of Motor Fault Diagnosis Based on the Improved Genetic Algorithm and BP Network 3131
Qin Huang, Haisong Yan, Nan Li

Study on soft-switched inversion topology of Contactless Power Transfer System 3136
Zhihui Wang, Yue Sun, Yugang Su, Xin Dai, Chunsen Tang

FA2OC-A3: Genetic Algorithm III

Random Subspace PCA Based Intrusion Detection Classifier Ensemble 3140
Hongmei Zhang, Xingyu Wang

Optimization of Firepower Allocation for Antiaircraft System Based on Immune Genetic Algorithm 3145
Chen Chen, Jie Chen, Juan Zhang, Gaopeng Wang

The Application of Uniform Design in Parameter Establishment of Particle Swarm Optimization 3150
Shanhe Jiang, Yusheng Chen, Julang Jiang, Qishen Wang

An Improved Multi-Population Immune Genetic Algorithm 3155
Hongxia Zhu, Jiong Shen, Guojun Miao

A Multiagent Artificial Fish Swarm Algorithm 3161
Lianguo Wang, Yi Hong

The effect of solution structure on the performance of Non-derivative Optimization Algorithm 3167
Guangyou Yang, Xuwu Su, Daode Zhang

FA2OC-B4: System Modeling and Information Fusion

Distributed Parameter Dynamic Control Model 31m Vertical Quench Furnace 3171
Xuan Zhou, Shouyi Yu, Dongshen Zhu, Liequan Liang

Dynamic Support Vector Machine Regression Based on Recurrent Strategy 3177
Jing Wang, Yinghua Huang, Qibing Jin

Simulation Study and Mathematical-Physical Analysis on a Model of Boiler-Turbine-Generator Unit 3182
Zhongxu Han, Dan Li, Chuanxin Zhou

Information Fusion Reduced-Order Kalman Filters for Descriptor Systems with Delayed Measurements 3188
Jing Ma, Shuli Sun, Nan Lv

Distributed Fusion Filtering for Discrete-Time Stochastic Linear Systems with Unknown Inputs 3193
Jinhua Bai, Shuli Sun

Designing and Realization on Surface Syntactic Analysis Based on Rule and Statistical Approach 3198
Chengmin Wang, Jun Peng, Xuping Feng, Yi Xiang, Mingying You, Liang Lei

FA2OC-C1: Robotics and Intelligent Robot IX

A Geometric Method of Swarm Robot Formation Controls 3202
Tianyun Huang, Xuebo Chen

Decentralized Control in Alignment Motion of Mobile Robots Network 3207
Guansheng Xing, Jianxun Zhang, Hao Ju

Obstacle Avoidance of Underactuated Robots Based on Virtual Spring-Damper Model 3213
Qingbo Liu, Yueqing Yu, Zihong Xu, Liying Su

A SDM Design Algorithm Based on the Gird Map 3218
Yibin Li, Caihong Li, Fuguang Yang, Fengyu Zhou

Research and Development of an Automatic Violin Player 3224
Hsinghisn Huang

Study on kinematical Modeling, Control and Experiment of a Differential Waist Mechanism 3230
Yanjie Li, Zhenwei Wu, Hua Zhong

FA2OC-C2: Robotics and Intelligent Robot X

A Multi-Mode Biomimetic Amphibious Robot 3236
Qinghai Yang, Junzhi Yu, Min Tan, Weibing Wang

Dynamic Analyses of a Parallel Planer 3242
Hongjun Liu, Bin Liu, Changlong Ye, Chunying Jiang

Development of Novel Roboticized Rock Abrasion Tool 3247
Bin Li, Jinguo Liu, Yuechao Wang, Shugen Ma, Haili Gong, Guowei Zhang

Motion Control of Micro Wall-Climbing Robot on Unsmoothed Wall 3252
Yong Jiang, Hongguang Wang, Lijin Fang

Research and Realization on Multi-Robot Parking Mission Strategy 3258
Lingli Yu, Zixing Cai, Zhi Li, Pingan Gao

The Biomimetic Research on New-style Hexapod Robot's Locomotion Planning 3264
Baoling Han, Lin Huang, Qingsheng Luo, Jia Xu

FA2OE-A4: Intelligent Transportion II

An evolutionary particle swarm algorithm for multi-objective optimisation 3269
Minyou Chen, Chuansheng Wu, Peter Fleming

A Novel Dynamic Service Architecture for RFID and WSNs Applications 3275
Tao Ku, Yunlong Zhu, Kunyuan Hu, Hanning Chen

Research of Control Method Based on ANN for 3-DOF Twin Rotor MIMO System 3279
Xiucheng Dong, Xiaoxiao Zhao, Mei Shu

Research and Simulation of human-simulated intelligent controller for time-varying processes with long time-delay 3284
Xiaoli Cao, Siyuan Gan, Daifang He

Research on the Fully Automated Separation Machine for Blood Components Separation 3288
Yufeng Yao, Bo Huang, Hui He

Immunology-inspired Swarm Coordination with Application to Multiple Combat UGV Systems 3293
Liguo Weng, Wenchuan Cai, Ran Zhang, M. Bikdash, David Song

FA2OE-A5: Network Control I

Uniformly Stability of Bidirectional Associative Memory Neural Networks with Impulsive 3299
Chaolong Zhang, Fengjian Yang, Jianfu Yang, Dongqing Wu

Geographical-Based Multihop Clustering Algorithm for Distributed Wireless Sensor Network 3304
Xiaohong Hao, Yi Kang, Yinghui Wang

A Model Identification Scheme for Networked Control System 3310
Dajun Du, Minrui Fei, Qiang Zhu

Studies on the Fuzzy PID Control Method for Networked Control Systems with Random Delays 3316
Wenjuan Zhang, Yufen Deng, Lianming Wang, Hongwei Zhang

A Real-time and Energy Aware QoS Routing Protocol for Multimedia Wireless Sensor Networks 3321
Lan Yao, Wenjing Wen, Fuxiang Gao

A Novel Approach to Network Vulnerabilities Quantitative Evaluation Based on Mamdani-Style Fuzzy Logic 3327
Qiang Ma, Xiaobin Tan, Deguang Kong, Hongsheng Xi

FA2OE-A6: Web Intelligence II

Target Tracking Using WSN Based on MultiAgent Coordination Method 3331
Dongmei Yan, Jinkuan Wang, Deying Gu

An Adaptive Network Policy Management Framework Based on Classical Conditioning 3336
Suping Liu, Yongsheng Ding

Collaborative Hybrid Classifier Learning With Ant Colony Optimization in Wireless Multimedia Sensor Networks 3341
Sheng Wang, Xue Wang, Liang Ding, Daowei Bi, Zheng You

Question Answering System Based on Ontology 3347
Qinglin Guo

Short-Term Load Forecasting: Similar Day-based Wavelet Neural Networks 3353
Ying Chen, Peter Luh, Stephen Rourke

Method for Network Anomaly Detection Based on Bayesian Statistical Model with Time Slicing 3359
Tao Liu, Ailing Qi, Yuanbin Hou, Xintan Chang

FA2OE-B1: Nonlinear Control VI

Optimal Information Fusion Kalman Filtering for Discrete-time Systems with Time-delay Sensors 3363
Jie Yan, Xiao Lu, Haixia Wang, Maoyong Cao

Adaptive Fuzzy H∞ Stabilization for a Class of Nonlinear Time-delay Systems 3368
Shanqiang Li, Dongyan Chen

Aggregation based robust model predictive controller for systems with bounded disturbance 3374
Dewei Li, Yugeng Xi

The Application of Fractional Order PID Controller to Position Servomechanism 3380
Chunna Zhao, Xiangde Zhang

Information Evolutions in the Linear Stochastic Control Systems 3384
Tongyuan Huang, Badong Chen

Robust Model Predictive Control via Dynamic Output Feedback 3388
Baocang Ding, Lihua Xie

FA2OE-B2: Nonlinear Control VII

Practical Control of Stochastic Markovian Jump Systems with Time-delays 3394
Ping Zhao

Relaxed Nonquadratic Stabilization and H∞ Performance Conditions for Discrete Fuzzy System 3401
Juntao Pan, Renming Wang, Dong Tian

Design of a New Incremental Sliding Mode Controller 3407
Yinxing Hao, Jianqiang Yi, Dongbin Zhao, Dianwei Qian

Simultaneous Stabilization for A Collection of Nonlinear Systems With Uncertain Parameter 3413
Xiushan Cai

Nonlinear PID Control of Three-Phase Pulse Width Modulation Rectifier 3417
Liang Ma, Fei Lin, Xiaojie You, Trillion Q. Zheng

A Neural Network Based Adaptive Control design approach for a Class of Uncertain Nonlinear Systems with Unknown Time Delay 3423
Dan Wang, Weiyao Lan, Siyuan Wang, Song Meng

FA2OE-B3: Motion and Nonlinear Control

Active Disturbance Rejection Control of Toggle-Motor Coupling Servomechanism System 3429
Zhe Zuo, Donghai Li, Yaping Dai, Chuanfeng Wang, Yali Xue, Yuejin Song

Adaptive Compensation for Friction and Force Ripple in Ship-borne Gun Servo System 3434
Wenjing Zhang, Fang Qinghai

Fractional-Order PID Control and Optimization for Vehicle Active Steering 3439
Jie Zhang, Yunqing Zhang

Global Asymptotic Saturated Output Feedback Control of Robot Manipulators 3445
Yuxing Su, Vicente Parra-Vega

Sensorless Speed Estimation of PMSM Using a Hybrid Method 3451
Yu Liu, Jie Liu, Li Dai, Chunming Yu

A New Wafer Prealigner Based on Multi-sensor Fusion 3455
Chunxia Huang, Qixin Cao, Fu Zhuang

FA2OE-B5: Info. Fusion and Processing

Prediction of turning points for chaotic time series using ensemble ANN model 3459
Xiuquan Li, Zhidong Deng

Distributed Descriptor Wiener State Fuser 3465
Chenjian Ran, Lixin Yang, Zili Deng

Self-tuning Measurement Fusion Filter and Its Convergence Analysis 3470
Yuan Gao, Zili Deng

Soft-sensor for alkaline solution concentration of evaporation process 3476
Yonggang Wang, Jinliang Ding, Tianyou Chai

Steady States and Critical Behavior of Epidemic Spreading on Complex Networks 3481
Shujuan Peng, Yuanxiang Li, Bojin Zheng

A Novel Mobile Collaboration User Group Forming Model 3487
Weihong Wang, Yuhui Cao, Zheng Qin

FA2OE-B6: Management Information System I

A New Method to Derive Interval Weights From An Interval Comparison Matrix 3491
Cuiping Wei, Qicheng Huang, Yuzhong Zhang

A Method of Capturing the Public Mood Levels in Emergency Based on Internet Comments 3496
Tao Xu, Qinke Peng, Chengwei Li

Scatter Degree-Based Case Retrieval Method for CBR in Project Cost Assessment 3500
Chun Guang Chang, Yan Dong, Yachen Liu, Bo Gao

An Evolutionary Game Analysis on Stability of the Cooperation Relationship in Virtual Enterprises 3505
Shengli Chen, Yan Li, Huiqiu Wu, Xiaohua Yang

Reverse Logistics Alliance and its Consolidation Algorithm 3511
Qiong Liu, Chaoyong Zhang

Commerce Search Engine Evaluation Based on Fuzzy Analytical Hierarchy Process 3517
Tianbiao Yu, Jinhuan Chi, Jianrong Wang, Wanshan Wang

FA2OE-C3: Intelligence Scheduling System

Flexible Scheduling Approach for Resource-Constrained Project Scheduling Problems 3522
Shixin Liu, Oya Tukel, Walter Rom

Ant colony intelligence in agent coordination for dynamic manufacturing scheduling 3527
Wei Xiang, Hp Lee

The Intelligent Traffic Control Based on Synergetic Method 3533
Weizhi Wang, Binghan Liu

A Formulation and Solution Algorithm for Multiple User Classes Dynamic Traffic Assignment 3537
Zhengwu Wang, Zhongxiang Huang, Dayong Luo

Data Mining-Based Engineering Project Grading Technique 3542
Chun Guang Chang, Xiao Yu Song, Bo Gao, Fanwen Kong

Segmental Selection Path Planning Method for Mobile Sensor Network 3547
Ren C. Luo, Ogst Chen, Yi-Huei, Jhu, Jung-Ting Huang

FA2OE-C4: Digital Sensor

A Random Set Method for Circuit Tolerance Analysis 3554
Xiaobin Xu, Chenglin Wen

Performance of Nonuniform Sampled Signal with MUSIC Algorithm 3560
An Li, Shu Wang

A Rogust Audio Water Marking Algorithm Against DA/AD Conversions and Desynchronization 3564
Shoujie You, Sen Bai, Weiwei Cao

Research on the Order and Specific Component of the Output Signals of Independent Component Analysis 3569
Zhenbing Zhao, Qiang Gao, Liyan Huang

A New Adaptive Lifting Scheme and Its Applying to Fault Current Denoising 3572
Wei Hu, Jingtao Hu

Application of Fuzzy Federal Kalman Filtering in the Airport Automatic Docking Guidance System 3576
Dandan Hu, Qingji Gao, Guangdong Han

FA2OE-D1: Intelligent Sensor III

The Research of Movement Control and Security Detection on Tiered Mobile Network 3581
Yali Peng, Jiangang Deng, Li Qiong Xiong, Min Yu

Research and Integration of Marine Embedded AIS Information Terminal 3586
Jianping Xing, Shiping Lou, Dejing Zhang, Xiling Luo, Jun Zhang

Echo Cancellation of FXO Line Card Expansion 3590
Youhong Lu, Guodong Shi, Youlian Zhu, Weige Tao

Electrical Impedance Microchip Using Microelectrodes 3595
Ying Wu, Yi Xiang, Junjie Bai, Zhaoying Zhou, Ying Yang

Parallel Interference Cancellation MIMO Decision Feedback Equalization Based on Recursive Least Square Algorithm 3599
Yun Wang, Jinkuan Wang, Zhibin Xie

Increasing the Number of Series FBG Sensors in WDM Network Using a genetic algorithm 3604
Pingchuan Li, Xuezeng Zhao

FA2OE-D2: Machine Vision I

Moving Object Detecting and Tracking Method Based on Color Image 3608
Hongkui Liu, Jun Zhou

Background Modeling Based on Region Segmentation 3613
Zhihua Li, Xiang Tian, Yaowu Chen

A Method for Fast Fall Detection 3619
Bin Huang, Guohui Tian, Xiaolei Li

Recognition of the Part of Growth of Flue-Cured Tobacco Leaves Based on Support Vector Machine 3624
Liqun Han

The Image Segmentation Algorithm Based on 2-D Maximum Entropy 3628
Binghan Liu, Mingshan Guo, Weizhi Wang

Adaptive Wiener Filter Based on Fast Lifting Wavelet Transform for Image Enhancement 3633
Wenbing Fan, Zheng Ge, Yao Wang

FA2OE-D3: Signal Reconstruction

Selection of the Number of Principal Components Based on Fault Signal-to-Noise Ratio 3637
Xiaochu Tang, Yuan Li

Working Condition Recognition of Screw Compressor Using Wavelets Theory 3643
Qunfeng Niu, Li Wang

Parameter Correction Based Fault Diagnosis for Chemical Pipeline Leakage 3648
Wende Tian, Suli Sun

Deterministic Learning and Fault Diagnosis for Nonlinear Oscillation System 3654
Tianrui Chen, Cong Wang

A Change Management Framework: Managing the Error Variations in Multi-stage Machining Processes 3660
Pingyu Jiang, Daoyu Liu, Feng Jia

MTBF-Oriented Prediction Model for Airborne Equipment Reliability Based on SOM 3664
Jingjie Chen, Jiusheng Chen, Xiaoyu Zhang

FA2OE-D4: MEMS

Study of Force-Driven Pneumatic Joystick 3669
Yoshito Tanaka, Isao Yokomichi, Junko Ishii, Yaobao Yin, Toshiaki Makino

Study on Human-Machine Interface Based on Mouth Open/Close Motions 3673
Nobuaki Nakazawa, Fumitoshi Satoh, Kou Yamada

Design and Analysis of a Passive Pulling Type of Xylophone-playing Robot 3679
Tingjun Wang, Youlian Song

Co-simulation of Rigid-flexible Coupling System for Turn-milling center 3683
Lida Zhu, Liang Tang, Cong Su, Junming Hou, Wanshan Wang

Dual-Beam Structured Light Vision System for 3D Coordinates measurement 3687
Shiyi Gao, Lei Zhang, Yuanyuan Zou, Mingyang Zhao

Study on Location System of Underwater Robot Based on LMS Adaptive Algorithm 3692
Qingmei Yang, Jianmin Sun

FP1OC-A2: Granular Computation

Study on Dynamic Attribute Reduction Based on Improved PSO Algorithm 3696
Ling Zhang, Kewen Xia, Pinghui Wu, Xinying Zhang

Solution of Cannonball Dispersion Evenness Based on Estimation of Distribution Algorithm 3702
Gaopeng Wang, Lihua Dou, Juan Zhang, Chen Chen

Rough set theory and its application in the intelligent systems 3706
Wei Pan, Jinhui Yi, Ye San

Hybrid Simplex-Genetic Algorithm for Global Numerical Optimization 3712
Guiqiang Chen, Zushu Li, Linjian Tang, Qing Liu

Co-scheduling model and algorithm of the three gorges-gezhou dam based on GA. 3717
Xiaoping Wang, Huan Qi, Henghui Xiao, Xiaopan Zhang

Optimum Design of Network Structures Based on Hybrid Intelligence of Ant Colonies 3722
Fengli Huang, Wei Zhang, Jinghong Xu, Yongjian Lou

FP1OC-A4: Software Automation

Freeway on-Ramp Metering Using Fuzzy Immune PID Controller 3727
Xinrong Liang, Yanxiu Wei

Study on Evacuation Model and Algorithm for Emergency Evacuation 3732
Yueming Chen, Deyun Xiao

Research on Fuzzy Control Washout Algorithm of Locomotive Driving Simulator 3737
Xiaoliang Wang, Li Li, Weihua Zhang

Particle Swarm Optimization Based Sky Luminance Model Recognition Algorithm 3742
Hui Xiao, Yi Zhang, Yong Yan, Jinguang Wang

Research on Intelligent type of Hydraulic impactor's control system 3748
Guoping Yang

Supervised ART2 Network with the features of the developmental process of human cognition 3754
Zhong Chen, Rui Liu, Li He

FP1OC-A6: Others

Study on Automatic Detection and Recognition Algorithms for Vehicles and License Plates Using LS-SVM 3760
Guangying Ge, Xinzong Bao, Jing Ge

SVM-based Abnormal Activity Detection for Home Care 3766
Hui Min Qian, Yaobin Mao, Zhiquan Wang

An Adaptive Image Watermarking in Wavelet-Domain by Embedding Shift-Orthogonal Finite-Length Sequences 3772
Shuhong Li, Qiaorong Zhang

On-line Signature Verification Based on Support Vector Data Description and Genetic Algorithm 3778
Ming Meng, Xugang Xi, Zhizeng Luo

Arithmetic for Wavelet Embedded Block Coding Based on Low Memory and Block Bit-Length Search 3783
Renlong Wang, Yanling Hao, Jin Xi

A Research on Extracting Human Finger Vein Pattern Characteristics 3789
Chengbo Yu, Huafeng Qin

FP1OC-B1: Nonlinear Control VIII

Sliding Mode Controller with Improved Switching Face for Underwater Vehicles 3794
Yueming Li, Yongjie Pang, Bingjie Guo, Zaibai Qin

Set Stabilization of Nonholonomic Chained Form Systems 3800
Shihua Li, Jie Yang, Xiangze Lin

Gain-Scheduled H-∞ Control of the Water Level of Steam Generator 3806
Junling Wang, Wei Yuan, Xiuchun Luan

LMI-based Hinf Control Scheme for Discrete-time Piecewise Affine Systems 3812
Yahui Gao, Zhiyuan Liu

Stochastic Optimal Control for Urban Water Supply and Demand Management Investment 3817
Kebai Li, Senfa Chen

Switching Stabilization for Ball-and-Beam System 3823
Yang Song, Minrui Fei

FP1OC-B6: Management Information System II

Study on the Dynamic Evaluation Way of Behavior Performance of Government Leader 3828
Wei Wang

Genetic Algorithm for Automatic Negotiation Based on Agent 3834
Xiaotai Niu, Su Wang

Reduction of Inconsistent Decision Systems 3839
Jianguo Tang, Fang Tang

Decision Model and Implementation of Evaluation and Selection to MRO Based on Improved AHP 3844
Jiusheng Chen, Xiaoyu Zhang, Jingjie Chen

The Construction and Application of Variable Weight Vector 3850
Zezhong Xu, Yanbin Zhuang

Block-based Two-Dimensional Scatter-Difference Discriminant Analysis and Face Recognition 3854
Caikou Chen, Li Cao, Meilin Cui, Jingyu Yang

FP1OC-C1: Robotics and Intelligent Robot XI

Vision-based Lane Detection for Mobile Robot Navigation 3858
Hao Fang, Haifeng Wang, Ze Zhang, Liying Qiu

An Approach to Active Simultaneous Localization and Mapping for Mobile Robot 3864
Jing Yuan, Yalou Huang, Tong Tao

A Visual Localization Method for Mobile Robot Based on Background Subtraction and Optical Flow Tracking 3870
Shuai Li, Yangming Li, Wanming Chen, Yajin Zhou, Max Q.H. Meng, Huawei Liang, Zhuhong You, Xiao Liu, Kai Jiang, Qinglei Guo

Mobile Robot Simultaneous Localization and Mapping Based on Particle Filtering with Fixed-lag Sampling 3875
Heng Zhang, Yanli Liu, Xiaoping Fan, Shengyue Yang

Target Recognition of Mobile Robots Based on Gray Image 3881
Xiaorong Wang, Yingkai Zhao, Jinguo Lin

Design and Locomotion Analysis of an Unit for Reconfigurable Robots 3886
Changlong Ye, Shugen Ma, Bin Li, Hongjun Liu

FP1OC-C2: Robotics and Intelligent Robot XII

Adaptive Regulation of Monocular Camera-Based Mobile Robots 3892
Xuebo Zhang, Yongchun Fang, Bojun Ma, Xi Liu

A Reactive Behavior Design for the Mobile Robot Based on QL 3898
Caihong Li, Yibin Li, Fengying Wang

Research on Optimized Partition Algorithm for Multi Robots Collaboration Coverage 3904
Hao Wu, Guohui Tian, Xiaolei Li

Monte Carlo Localization for Mobile Robot with the Improvement of Particle Filter 3910
Jinxia Yu, Yongli Tang, Zixing Cai, Zhuohua Duan

A Mission Planning System for an Autonomous Underwater Vehicle 3915
Jiangli Cao, Chaoyi Sun

A Sonar Data Based Particle Filtering Localization Method for Mobile Robot 3920
Xianen Liu, Bojun Ma, Ningning Qi, Zhenxin Zhang, Dongchun Ren

FP1OC-C3: ISS+MIS+DSS

Sequencing to Multi-runway Approach Landing Flights Based on ACS 3925
Zhaoning Zhang, Lili Wang

Applying Genetic Local Search to Solve the Flexible Job-shop Scheduling Problem 3929
Chaoyong Zhang, Qiong Liu, Fei He, Chao Deng, Xinyu Shao

The Research of Trailer Scheduling Based on the Hybrid Flow Shop Problem with Blocking 3936
Yu Zhang, Shaomei Wang

The Dynamic Control Strategy on the Sate Switching of Normal Condition- Emergency Condition in the Emergency Management System Based on Variable Structure Control 3941
Yahui Wang, Wanhua Qiu, An Chen, Yadan Zhao, Yanlong Jing

Travel Agent Instructing and Management 3947
Tao Chen, Senfa Chen, Tianxing Yao, Yuewu Song

Modes of fourth party logistics based on eco-non-profit organization and its relationship with logistics alliances 3952
Qiong Liu, Xinyu Shao, Haiping Zhu, Chaoyong Zhang

FP1OC-D2: Machine Vision II

A Digital Modulation Signals Recognition Method under the Lower SNR 3958
Xueyao Li, Bing Han, Dongmei Fan, Rubo Zhang, Guanqun Liu

Research on Virtual Assembly Model Based on Scene Graph Technology of Extensible Group Node 3963
Dong Wang, Dalei Li, Shoutong Qin, Xiaofeng Ma, Tao Yu

The Effective Operation Range Extension of Micro Manipulation System 3969
Xin Zhao, Mingzhu Sun, Yitang Li, Xin Yin, Weiguang Zhang, Guizhang Lu

Examination and Recognition of Obstacle in Vehicles Feasible Region 3974
Honghui Zhu, Bihui Zhu, Dingfang Chen

Driver Fatigue Detection System Based on Machine Vision 3979
Zhibin Zhang, Yangzhou Chen, Yuzhen Yang

Image Denoising Algorithm Based on the Median Morphological Filter 3985
Youlian Zhu, Cheng Huang, Zhihuo Xu

FP1OE-A1: Artificial Life

A Cultural Algorithm Based on Multilayer Belief Spaces and Its Application in Neural Network Fault Classifier 3990
Haiyan Huang, Mandan Liu, Xingsheng Gu

New Particle Swarm Algorithm for Job Shop Scheduling Problems 3996
Xiao Yu Song, Chun Guang Chang, Yang Cao

The research of PSO algorithms with non-linear time-decreasing inertia weight 4002
Lei Wen, Zhaocai Xi

Cultural Algorithm based on Adaptive Cauchy Mutated Particle Swarm Optimizer for High-Dimensional Function Optimization 4006
Sheng Liu

Robust Stability of Interval Neural Networks with Multiple Delays 4012
Jialing Liu, Xiaofeng Liao

An Improved Float-Coded Genetic Algorithm Based on Wavelet Denoising Mutation 4018
Mingyi Cui

FP1OE-A3: GA and Others

Parameters Modeling for a Modified Mixture of Experts 4024
Jian Jin, Guoxing Huang, Jianguo Ding, Yongtao Hu

Model and Algorithm for Integrated Charge Plan in the Steel Industry 4030
Hongyu Dong, Min Huang, Xingwei Wang, Binglin Zheng

Stability for an inertial two-neuron system with time delay 4035
Jialing Liu, Xiaofeng Liao

An Importance Sampling Method Based on Martingale with Applications to Rare Event Probability 4041
Yue Qiu, Hong Zhou, Yueqin Wu

Study of Multi-agent Area Coordination Control for Urban Traffic 4046
Feng Chen, Hao Pang

Data Mining based on Improved Neural Network and its Application in Fault Diagnosis of Steam Turbine 4051
Qinglin Guo, Qi Tang

FP1OE-A5: Network Control II

An Optimized Aggregators Selection Problem for Industrial Wireless Sensor Networks 4057
Lin Liu, Haibin Yu, Peng Zeng

Implementation of an Internet-based Remote Controller with guaranteed exponential Stabilization 4063
Wenjuan Jiang, Alexandre Seuret, Armand Toguyeni, Jeanpierre Richard

Load Balancing Control of Web-server Clusters: N-Tanks Model and a CTCT Method 4069
Xingxuan Wang, Da-Zhong Zheng

The Decision Fusion in the Wireless Network with Fading Channels 4075
Yifan Xia, Yumin Zhu, Qing'an Ren

A Cascade Mining Algorithm Based on Chinese Keywords Web Mining 4080
Xueguang Zhou, Huanguo Zhang

An Electronic Marketplaces' Pricing Model based on High-Level Belief Inference 4085
Wei Han, Ming Zhao, Youguang Chen

FP1OE-B2: Nonlinear Control IX

Design of Missile Attitude Controller Based on Backstepping Method 4091
Peng Wu, Ming Yang

A Modified Particle Filter for Nonlinear Systems with Application to Tracking Problem 4095
Li Xiang, Baoku Su

Stabilization of discrete-time switched systems 4100
Meiyan Cong, Xiaowu Mu, Jianyin Fang

Delay-Dependent Lyapunov Function Approach to Robust Stability Analysis for Switched Linear Time-Delay Systems with Polytopic Uncertainties 4103
Yijing Wang, Zhenxian Yao, Zhiqiang Zuo, Huimin Zhao, Guoshan Zhang

Minimum Dwell Time for Stability and Stabilization of Switched Linear Systems 4109
Wei Ni, Daizhan Cheng, Xiaoming Hu

Controllability of Switched Systems with Continuous-Time and Discrete-Time Subsystems 4116
Yunru Zhu, Jiang Xing, Zhihong Guan

FP1OE-B4: Optimal Control

A New Practical Algorithm for the Shortest Path Problem 4120
Pan Liu, Huaikou Miao, Guoping Yu, Ying Liang

Mixed Reduced-order H_2/H_∞ Controllers based on Improved Adaptive Genetic Algorithm 4123
Wei Pan, Sili Liu

Lyapunov Stability Analysis of Linear Time-Invariant Systems: Convex Optimization Approach 4129
Jianhong Wang, Zhenjuan Zhang, Yanbo Gao, Guoping Lu

Analysis of a Xbar chart design for quality management information system in short delivery time processes -From the activity of control chart practical applications study group of JSQC 4132
Jing Sun

Stochastic Singular Linear Quadratic Control Problem: Incomplete Information 4137
Hong Ji Ma, Weihai Zhang, Ting Hou, Xiang Yun Lin

Computer Aided Design of the Intelligent System for Monitoring the Slope Stability 4143
Zhiyi Yin, Juan Liu, Liang Zhao, Tao Li, Wenyang Liu

FP1OE-B4: Process Automation Systems

Modeling and Simulation Method of Enterprise Energy Consumption Process based on Fuzzy timed Petri Nets 4148
Fumin Ma, Jian Wang

Solving Stochastic Earliness and Tardiness Parallel Machine Scheduling using Quantum Genetic Algorithm 4154
Jin Wei Gu, Bin Jiao, Xingsheng Gu

A Coevolutionary Genetic Based Scheduling Algorithm for stochastic flexible scheduling problem 4160
Jin Wei Gu, Bin Jiao, Xingsheng Gu

An On-Line Detection System for Coal Mine Dust 4166
Xuezhen Cheng, Maoyong Cao, Michael Collier

The LQR Control and Design of Dual - wheel upright self-balance Robot 4172
Jianwei Zhao, Xiaogang Ruan

The Testing Approach of Embedded Real-Time Autocontrol Software Based on Control Objects 4178
Litian Xiao, Ming Gu, Jaguang Sun

FP1OE-B5: Electronic Commerce

A Solution Model for Service-Oriented Architecture 4184
Jianzhong Lan, Yi Liu, Yueting Chai

Design of Optimal Auction for Online Commerce 4190
Shengli Chen, Xiaohua Yang, Yunfeng Luo, Huiqiu Wu

The Solution to a Kind of Markov Chain CRM Model with a constant state keeping probability 4196
Bocheng Chen, Yingjie Li, Wenhuang Liu

Implementation of Embedded EOS Communication Terminal Based on S3C44B0X and uC/OS-II 4201
Congfu Bi, Jianping Xing, Bing Ma, Jun Zhang

Utilize a Novel Approach to Find the Relative Pattern of Patients of a Disease 4206
Xu Xu, Jie Lin, Feng Wang, Yixia Jiao

Discussion about the Strategies of Implementing a Statistics and Analysis System with Large Scale Data 4209
Jie Xi, Zhaoxia Lu, Jian Wang, Jiren Liu

FP1OE-C4: Virtual Reality

Spam Filtering System Study Based on 2v-SVM 4213
Anna Wang, Jie Wu, Weihao Fan, Yongyue Shi, Dan Li

A New Closed-Form Method for Pose Estimation from Three Z-like Lines 4217
Lijuan Qin, Yulan Hu, Yingzi Wei, Yue Zhou, Hong Wang

Genetic algorithm application in textile dynamic simulation 4222
Beibei Li, Zhihong Zhao

Multi-Agent Based Intelligent Virtual Training System 4226
Linqin Cai, Tao Mei, Yining Sun

On the Realization of Credible Combination for D-S Evidence Theory 4231
Ping Wang

Advanced GPU-Based State-Preserving Particle System 4236
Xingquan Cai, Jinhong Li, Jian Yang, Zhitong Su

FP1OE-D1: Fault-Tolerant Technique

Dynamic output feedback satisfactory fault-tolerant control with constraints of consistent indices 4241
Xiaodong Han, He Huang, Dexiao Xie, Zhiquan Wang

Actuator Fault Compensation via Multiple Model Based Adaptive Control 4246
Yuying Guo, Bin Jiang, Youmin Zhang

Application of Parameter Intervals based Fault Isolation and Identification Approach in Fault Tolerant Control System for Nonlinear Dynamic Systems 4251
Zetao Li, Dahhou Boutaieb

EMD Based Envelope Analysis for Bearing Faults Detection 4257
Yuping Zhang, Shufeng Ai

Research of Bus Protection Based on Artificial Neural Network 4261
Xiucheng Dong, Han Han, Mei Shu

Sensor Fault Detection in Variable Speed Wind Turbine System Using H--/H-∞ Method 4265
Jihong Liu, Daping Xu, Xiyun Yang

FP1OE-D3: MEMS and Control

Optimal Control Strategy of Throttle Diameters Fitted for Airplane Pressure Fueling System 4270
Ruixiang Zhou, Xinbing Su, Jianping Wang

Tracking controller design by relay method 4273
Dongjun Zhang, Zexiang Li, Jiangzhao Yang

The compensation of message dropout in the Internet-based telecontrol system 4279
Jie Huang, Pingdong Wu, Mingen Zhong, Liping Lin

Position Loop-Based Cross-Coupled Control for High-Speed Machining 4285
Jiangzhao Yang, Dongjun Zhang, Zexiang Li

Modeling and PID Control of the Hybrid-driven Mechanical Press 4291
Hui Li, Zhiqun Xue

Algorithm of Four-resonances MEMS Capacitive Switch using ADI-FDTD 4295
Wenge Yu

FP1OE-D4: Industrial Ethernet

A Method of Testing Force Sensor's Real Dynamic Characteristics 4299
Dianhuang Xie, Xunwen Zhang, Zenghui Peng

Development of a Vehicle Operational Stability Simulation System with VR-based Instruments 4303
Tiantai Guo

Design and Implementation of the Numeric Automobile Instrument 4309
Shoucheng Ding

Dynamic Soft Sensor Modeling Based on Multiple Least Squares Support Vector Machines 4315
Chuan Li, Shilong Wang, Xianming Zhang

LS-SVM Based Soft Sensoring 4320
Zhenrui Peng, Xijuan YANG, Wenzhe Qi

Implementation of Hybrid Wired and Wireless Foundation Fieldbus 4325
Zhong Tang, Haibin Yu, Hong Wang

Poster Sessions

WP1PE-A1: Fuzzy Control I

A Relaxed Stability Analysis of T-S Fuzzy System 4331
Songtao Zhang, Shujuan Wang

Robust Fuzzy Control of Uncertain Nonlinear Systems Based on Linear Matrix Inequalities 4337
Shizhen Bai, Songtao Zhang

Fuzzy Variable Structure Control for Buildings 4342
Zhijun Li, Zichen Deng, Zhiping Gu

Delay-Dependent Robust H-∞ Control for Uncertain T-S Fuzzy Systems With Time-Varying Delay 4347
Dawei Zhang, Xinghua Hao, Xinchun Jia

A Variable Universe Fuzzy Control Algorithm Based on Fuzzy Neural Network 4352
Liangfeng Li, Xiaoyun Liu, Wufan Chen

Research and Application of Hybrid Intelligent Control for Coke Oven Heating Process 4357
Gongfa Li, Jianyi Kong, Guozhang Jiang

Adaptive Fuzzy Control for a Class of Nonlinear Systems With Unknown Time-Delays 4361
Yanjun Liu, Shaocheng Tong, Yongming Li

Adaptive Fuzzy Dynamic Surface Control of Unknown Multivariable Nonlinear Systems 4365
Yongming Li, Shaocheng Tong, Yanjun Liu

Application of an Intelligent PID Control in Heating Ventilating and Air-conditioning System 4371
Jiangjiang Wang, Chunfa Zhang, Youyin Jing

WP1PE-A2: Bionic Control I

Adaptive Fault-tolerant Control Based on Artificial Immune Principle 4377
Zaiying Wang, Yuanbin Hou

Application of Multi-task Design Method Based on Linux for PET Real-Time Control 4382
Yongfu Wang, Hong Zhao, Jiren Liu, Tianyou Chai

Research and Simulation of a High-performance Algorithm for Subway Train Control 4387
Huichao Li, Miao Zhai, Xiaoyun Feng

Application Analysis of Several Stochastic Optimal Algorithms in Adaptive Optics System Control 4391
Huizhen Yang, Dongmei Cai, Xinyang Li, Wenhan Jiang

Tuning multi_parameters of PID with integral function divided by improved GA and its simulation 4397
Fuguang Yang, Yibin Li, Jiuhong Ruan, Fengyu Zhou

Research on Fuzzy Adaptive PI Decoupling Control for Three Phase Reversible Converters 4401
Lili Qu, Bo Zhang

Study on Attitude Stabilization Coordinate Control of Strap-Down Mine-Hunting Sonar Array 4406
Yanchun Du, Yibin Li

Research on Automatic Boom-type Roadheader Profiling 4411
Daobin Wang, Yi Chai, Rui Ling, Liang Li

Grain Classification using Hierarchical Clustering and Self-Adaptive Neural Network 4415
Xiao Chen, Tao Chen, Yi Xun, Wei Li, Yuzhi Tan

WP1PE-A3: Evolution Computing. I

Application of neural network in Dose Calculation of Radiotherapy 4419
Yanmei Liu, Zhen Chen, Yibo Li, Dingyu Xue, Xinhe Xu

An Improved Neural Network Prediction Model for Load Demand in Day-ahead Electricity Market 4425
Bo Yang, Yuanzhang Sun

A novel criterion for global asymptotic stability of cellular neural networks with time delays 4430
Xinyuan Liang, Wei Tan, Zhengxia Wang, Degang Yang

Short- Term Load Forecasting Method Based on Structural Neural Network 4434
Yun Lu

The Geometric Relationship Between Core Vector Machine and Support Vector Machine 4439
Liang Chang

Differential Evolution Based Particle Swarm Optimizer for Neural Network Learning 4444
Dongfang Ning, Weiguo Zhang, Bin Li

A Adaptive Map Matching Algorithm Based on Fuzzy-Neural-Network for Vehicle Navigation System 4448
Haibin Su, Jianming Chen, Junhong Xu

A Simulated Annealing Algorithm Based on Bottleneck Jobs for the Open Shop Scheduling Problem 4453
Rui Zhang, Cheng Wu

Forecasting the Retail Sales of China's Catering Industry Using Support Vector Machines 4458
Xiangsheng Xie, Jiajun Ding, Gang Hu

WP1PE-A4: Granular-Computation

Multi-component LFM Radar Emitter Signal Detection Based on LWD 4463
Zhibin Yu, Weidong Jin, Gexiang Zhang

An Approach to WLS-SVM Based on QPSO Algorithm in Anomaly Detection 4468
Rui Wu, Chang Su, Kewen Xia, Yi Wu

An Improved Particle Swarm Optimizer with Behavior-distance Models and Its Application in Soft-sensor 4473
Hui Wang, Feng Qian

Improved PSO-based Multi-Objective Optimization using Inertia Weight and Acceleration Coefficients Dynamic Changing, Crowding and Mutation 4479
Hui Wang, Feng Qian

An Ecology-based Model for Efficient Distributed Search in P2P Networks 4485
Youhua Zhang, Li Sa, Yang Li, Yi Yue, Lijun Zhu

Multiobjective Evolutionary Algorithm Based on the Pareto Archive and Individual Migration 4489
Rongbin Qi, Wenli Du, Zhenlei Wang, Feng Qian

Research on the Application of PSO Algorithm in Non-linear Camera Calibration 4495
Dechao Wang, Yaqing Tu, Tienan Zhang

Adaptive Genetic Algorithms for the Job-Shop Scheduling Problems 4501
Gui Yang, Jin Han, Yujun Lu, Renwang Li

Assessment of China City Environment Effectiveness Based on Rough Sets and SVM 4506
Jianna Zhao, Zhao Xu

WP1PE-A5: Machine Learning

A Novel Least Squares Support Vector Machine Kernel for Approximation 4510
Xiangyang Mu, Weixin Gao, Nan Tang, Yatong Zhou

Water Demand Prediction Based on RBF Neural Network 4514
Yimin Wang, Jue Zhang

A Clustering algorithm based on Delaunay triangulation 4517
Xi Peng, Ying Xia

A Model to Predict Property of Additives Modified Carbon Material High Temperature Binder with RBF Neural Networks 4522
Zhen Yang, Xingsheng Gu, Xiaoyi Liang, Wenming Qiao, Rui Zhang, Licheng Ling

Ponder-Reinforcement Cooperative Algorithm for Multi-Agent Foraging Task Based on Evolutionary Stable Equilibrium 4527
Yuehai Wang, Jie Liu

The Study of Analog Evolvable Chebyshev Transconductance Filters 4531
Yao Li, Xuehua Zhang, Li Zhu, Wenfu Song, Shuang Qiao

Towards capturing fine phonetic location in speech using recurrence dynamic feature 4537
Xu Wang, Fangfang Jiang, Dan Yang

Extracting and Organizing Acronyms based on Ranking 4542
Weijian Ni, Yalou Huang

Opinion Mining: A Study on Semantic Orientation Analysis for Online Document 4548
Lei Yu, Jia Ma, Fuji Ren, Seiji Tsuchiya

WP1PE-A6: Network Intelligence

Wavelet Chaotic Neural Network with Nonlinear Self-feedback and Its Application to Traveling Salesman Problem 4553
Ming Sun, Lin Zhao, Yao Qun Xu, Chao Yan

A Bio-inspired Multi-tissues growing algorithm for IDS Based on Danger Theory and Data fields 4557
Haidong Fu, Xue Li

An Improvement of Dynamic ID-Based Remote User Authentication Scheme with Smart Cards 4562
Zhengxian Gao, Yaqing Tu

Quantum-Inspired Immune Evolutionary Algorithm based Parameter Optimization for Mixtures of Kernels and Its Application to Supervised Anomaly IDSs 4568
Chun Yang, Haidong Yang, Feiqi Deng

The Development of Ontology-based Intelligent Retrieval Algorithm and Prototype System of Mechanical Products 4574
Yanwei Zhao, Bin Guan, Jingling Zhang, Yuankun Gui, Jian Hu

Intelligentized Networked Manufacturing Technique and Process Modeling 4580
Liang Tang, Lida Zhu, Junming Hou, Tianbiao Yu, Wanshan Wang

A watermarking method combined with Radon transform and 2D-wavelet transform 4586
Yuancheng Li, Xiaolei Wang

The Research of LVDT Nonlinearity Data Compensation based on RBF Neural Network 4591
Zhongxun Wang, Zhonghua Duan

An ant routing algorithm for wireless mesh network 4595
Daru Pan, Bingbing Xing

WP1PE-B2: Nonlinear Control I

Criteria for Chaos Synchronization of A Class of Lurie Systems 4600
Wei Wang, Bingji Xu

Feedback Control for Parabolic Distributed Parameter Systems with Time-Delay 4604
Hailong Xing, Wenjie Zhao

Fault-tolerant Control Research on Networked Control Systems with Asynchronous sampled Period 4610
Zhihong Huo, Yuan Zheng, Limin Zhang

Robust Synchronization of a Class of Uncertain Chaotic Neural Networks 4614
Li Sheng, Huizhong Yang

The Firepower Distribution Model of Heterogeneous Forces Warfare 4619
Pingang Xu

Reliable H∞ Control for Linear Systems 4623
Fuzhong Wang, Bo Yao

Solutions to the Positive Real Control Problem for Linear Systems via Reduced-order Observer 4628
Bin Zhou, Guangren Duan

Output Feedback Adaptive Maneuvering for a Class of MIMO Nonlinear Systems 4633
Ying Zhou, Qiang Zang, Yuqiang Wu

Design of Hinf Robust Control for Single-Phase Shunt Active Power Filters 4639
Suxia Jiang, Chunwen Li, Guangzhao Cui, Lingzhi Cao

WP1PE-B3: Nonlinear Control II

Velocity Consensus Problem Along a Smooth Curve in Networked Multi-Agent Systems 4643
Jiandong Zhu

Delay-dependent stability criteria for uncertain neutral systems with time-varying delay 4647
Chaoyong Jin, Deyin Chen

Synchronization of fractional hyperchaotic L\u system via unidirectional coupling method 4653
Jie Liu, Xinjie Li

Synchronization between Different Fractional order Chaotic Systems 4659
Ping Zhou, Xuefeng Cheng

Non-fragile dissipative fuzzy control for nonlinear discrete-time systems via T-S model 4663
Huajun Ran, Wu Wang, Qiongbin Lin, Fuwen Yang

Backstepping Control for a Class of Nonlinear Differential-Algebraic Equations Subsystems with Application to Power Systems 4668
Qiang Zang, Xianzhong Dai, Kaifeng Zhang

Application of Networked Packet Dropout Compensation Scheme in Three Tank System 4674
Yanli Yang, Hexin Zhang, Hong Chen

An Approximate Optimal Tracking Control Algorithm of Nonlinear Systems for Sinusoidal Disturbances Rejection 4680
Dexin Gao, Wenwu Zhang

l_2-l_∞ Control For Discrete Stochastic Fuzzy Systems with Time-delay 4685
Jianwei Xia, Yun Zou, Tao Li

WP1PE-B4: H-∞, Optimal and Sliding Model Control

PID Controller Design Based on H-∞ control for Multivariable Processes 4689
Zhiqi Hu, Yang Xu, Yujun He, Wen Tan

A Novel Chaos Control Scheme with Optimality 4693
Linhua Zhang, Zhichun Yang

Analysis and Design of H-∞ Robust Disturbance Observer Based on LMI 4697
Guozhu Zhang, Jie Chen, Zhiping Li

Composite Disturbance-Observer-Based Control and H infinte Control for Complex Systems 4702
Xinjiang Wei, Huifeng Zhang, Ning Yan, Lei Guo

Delay-Dependent Robust H-∞ Control for Uncertain Stochastic Systems with State Delay and Parameter Uncertainties 4707
Hongqian Lu, Wuneng Zhou, Lei Jiang, Minghao Li

A Method of Hybrid Intelligent Optimal setting Control for Flotation Process 4713
Zengxian Geng, Tianyou Chai, Heng Yue

A new multi-model internal model control scheme based on neural network 4719
Zhicheng Zhao, Zhiyuan Liu, Xinyu Wen, Jinggang Zhang

Adaptive Neuro Sliding Mode Control of Uncertain Nonlinear System with Dead zone Input 4723
Zibin Xu, Jian Ruan, Jianqin Min

Application of Fuzzy Sliding Mode Controller in Permanent Magnet Synchronous Motor 4727
Chuandong Ding, Jun Wang, Qi Wen, Hongmei Xiao

WP1PE-B5: System Identification and Modeling

An Edge Driven Model for Complex Networks: A Unified Framework 4731
Zengqiang Chen, Fei Chen, Zhongxin Liu, Linying Xiang, Zhuzhi Yuan

A Novel Fuzzy Neural Network Approximator with Exponential Fast Terminal Sliding Mode 4736
Ming He, Yunfeng Liu, Guangbin Liu, Huafeng Liu

A Globally Optimized State-space Model Identification Method 4741
Lixian Liu, Bingxin Han, Jinbo Li, Xinling Li

The Study on Modeling and Control of Double Carbonylation Reaction Process 4745
Shi Zhang, Feng Ding, Nan Jiang

Mechanical Model and Analysis of Ionic Polymer Metal Composites Biomimetic Actuators 4751
Xuan Lun Wang, Il-Kwon Oh, Tai-Hong Cheng

An Iterative Identification and Control Design Method Based on v-gap Metric 4757
Liqian Dou, Qun Zong, Wenjing Liu

Time-delay Identification for Linear Multi-Input Multi-Output System 4762
Yahui Wang, Yadan Zhao, Xuejun Hao, Peixin Cheng

Torque based spark ignition Engine and powertrain modeling 4767
Zhihu Wu, Run Pei

A New Modeling Method of Component Interaction Behavior 4773
Jing Gao, Yuqing Lan, Shuhang Guo, Maozhong Jin, Tong Zhao

WP1PE-B6: Industrial Automation I

The Coordinated Control of Excitation and ASVG of SMIB System Based on Hamiltonian Principle 4779
Zhengxian Xie, Zhishan Liang, Huaguang Zhang

Residual Voltages Analysis in Reclosing Process for Induction Machine 4785
Aiyuan Wang, Zhihao Ling, Wenbo Liu

Torsional Vibration Suppression of Drive System Based on DMC Method 4789
Peiming Shi, Bin Liu, Dongxiao Hou

Pulp&Paper Consistency Control System Based on Expert Control Algorithm 4793
Zhongjun Xiao, Mengxiao Wang, Cunrong Wang

Experiment and Study of Electric Loading simulator for linear rudder 4798
Kang Chen, Yong Huang, Jiahua Wang, Jie Yan

An Intelligent Networked Motion Control System based on Agent 4803
Jun Kang, Guanzhong Dai, Xiwei Zhou

A Novel Control System for Induction Motor Based on Stator Current Vector Orientation Model 4809
Jiaquan Lin, Jun Pi, Fei Chunguo

Application of Information Fusion Based on RBF Neural Networks and Fuzzy Control to Ball Mill Pulverizing System 4813
Gangquan Si, Hui Cao, Yanbin Zhang, Lixin Jia

WP1PE-C2: Robotics and Intelligent Robot I

Robust H∞ intelligent tracking control for robot manipulators 4819
Yi Zuo, Yaonan Wang, Lihong Huang

Robust H∞ decentralized intelligent control with new learning algorithm for robot manipulators 4825
Yaonan Wang, Yi Zuo, Lihong Huang

Trajectory Planning for Robot Manipulators Based on State Space 4831
Wenlong Xie, Jianbo Su

Design of Petri Net-based Control System for Dual-wheel-driving Mobile Robot 4837
Bo You, Dongjie Li, Jiangyan Qiu

Adaptive Neural Network Control of Coordinated Motion of Dual-Arm Space Robot System with Uncertain Parameters 4842
Yishen Guo, Li Chen

An Improved Potential Field Method for Mobile Robot Path Planning in Dynamic Environments 4847
Lu Yin, Yixin Yin

Study of Intelligent Cooperation System of Road Construction Machinery Groups Based on Multi-Agent 4853
Ping Duan, Chengjun Ding, Chunyan Gao, Minglu Zhang

Intelligent Control of Robotic Elbow Joint based on RBF Neural network 4859
Junsong Wang, Shengli Lu, Chao Xie

WP1PC-C3: Robotics and Intelligent Robot II

The LQR Control and Design of Dual-wheel Upright Self-balance Robot 4864
Jianwei Zhao, Xiaogang Ruan

Research on Influence of Joint Reactions on Stability of Quadruped Machine Walking in Trot Gait 4870
Dongqing He, Yancong Liu, Peisun Ma

Dynamical Response Analysis of Incautious Water entry of UUV Based on Exact Body Shape Approach 4876
Yonghu Wang, Xiuhua Shi, Peng Wang

Research and Latest Development of Ping-Pong Robot Player 4881
Zhengtao Zhang, De Xu, Junzhi Yu

Hand-eye Calibration of Measurement Robot Based on Multi-population Particle Swarm Optimization 4887
Aiguo Li, Zi Ma, Ying Hu, Na Lin

The Wheel End Closure Optimization of Two-wheeled Lunar Rover 4891
Jicheng Liu, Zongquan Deng, Haibo Gao

WP1PE-C4: Intelligent Management

The Design of Agile Infrastructure for Manufacturing System in Garment industry 4895
Jinlong Su, Zhonghui Ouyang, Yimin Chen

Manufacturing Grid's Enterprise Qualification Authentication System and Method 4901
Haiyang Sun, Tao Yu, Lilan Liu, Mingyu Cui

Task Allocation and Evaluation Model for Holonic Manufacturing System Based on Multi-agent System(MAS) 4906
Fuqing Zhao, Qiuyu Zhang, Lianxiang Wang

Research on the Purchasing Portfolio Approach for Steel Industry 4911
Xiaobing Liu, Jia Xu

The Selection for Leading Industry of Resource-based City in Daqing Basing on the Grey Relation System 4917
Yukun Ren, Yan Lou, Lu Cheng Huang

Customized Product Design Scheme Selection Model with a Focus on Integration of Environmental Attributes 4925
Zhenyu Gu, Fei Liu, Huajun Cao

An IT Governance Framework of ERP System Implementation for Chinese Enterprises 4929
Zhuang Chen, Taige Wang

Single-machine Group Scheduling Problems with Deterioration Considerations and Learning Effects 4933
Yang Yan, Dazhi Wang, Dingwei Wang, Hongfeng Wang

A Monkey-King Algorithm for Supply Chain Network Design under Uncertainty 4937
Yuansheng Huang, Zilong Qiu, Qingchao Liu

WP1PE-D2: Soft-measurement Technique I

DSR Method for Identifying the Quality Model of Foundational Software Platform 4941
Yuqing Lan, Tong Zhao, Jing Gao, Shuhang Guo, Hui Zhao

Acoustic Travel-time Measurement in Acoustic Temperature Field Monitoring 4947
Hua Yan, Zhen Peng, Kexin Cui, Liang Zhang

Indirect Measurement of Dynamometer Card of Pumping Unit 4952
Shirong Zhang, Yuling Tang

Application Research of Electrical Parameter Fast Measurement Technology in Double Power Automatic Switch System 4956
Xinjian Xiang

Analysis of void fraction of Gas-liquid Two-phase Flow on the Hilbert-Huang Transform 4960
Bin Sun, Yongjun Zheng, Tiejun Liu

Underground Coal Dust Real-Time Measurement Based on Cluster Analysis and Pattern Recognition 4964
Fengying Ma

Selection of Optimum Test Points set for Analog Faults Dictionary Techniques 4970
Chenglin Yang, Shulin Tian, Bing Long

Torsional Vibration Measuring Model of Spanless Points of Drive System 4976
Bin Liu, Peiming Shi, Shuang Liu, Dongying Han

An improved method for harmonic detecting 4981
Yong Wu, Jinglei Guo

WP1PE-D3: Multi-Sensor Fusion I

Modified Wavelet Transformation Algorithms and Its Application in Multi-Sensor Data Fusion 4986
Suyi Liu, Shuqing Wang

Multisensor Information Fusion Steady-state White Noise Deconvolution Estimators 4990
Xiaojun Sun, Shigang Wang, Zili Deng

Calibration Model of the Output Characteristic for Sensor nodes Based on CMAC Neural Network 4995
Jie Zhang, Bo Jing, Yong Sun

A New Method for Extracting Fuzzy Evidence from Fuzzy Information Based on the Random Set Theory 4999
Chenglin Wen, Zhiliang Li, Xiaobin Xu

Transfer Alignment for Harmonization of Airborne Sensors 5004
Changyue Sun, Zhenglong Deng

Offline outlier identification for dynamic measurements in underwater geomagnetism navigation 5009
Yi Lin, Lei Yan, Yuefeng Liu, Qingxi Tong

A Spanning Tree Algorithm for Data Aggregation in Wireless Sensor Networks 5014
Jie Shao, Ye Ning

Survey on robot multi-sensor information fusion technology 5019
Xiaochuan Zhao, Qingsheng Luo, Baoling Han

The Methods of BSS Used for Extraction of FECG 5024
Lihua Liu, Xiaozhi Liu

WP1PE-D4: Virtual Reality

Evaluation of GMM-based Features for SVM Speaker Verification 5027
Minghui Liu, Zhongwei Huang

A New Parametric Method for Modeling 3D Structure of Plant 5031
Weilong Ding, Zhijun Cheng, Yuping Zhang

A New Intra Prediction Mode Decision Algorithm In H.264 5035
Jiwei Yuan, Hui Guo

Flame Stability Recognition of High TemperatureAir Combustion according to the Combusion Index based on Texture and Structure Analysis 5040
Zengshou Dong, Yun Wang, Dongfeng Zhuo, Meiling Li

A mountain means clustering algorithm 5045
Junnian Wang, Jianxun Liu, Lanxia Liu

Machine-Vision Detection for Rail-Steel's Surface Flaws Based on Quantum Neural Network 5050
Xue Wang, Yike Tang, Ping Chen

Segmenting Video Shots Using 2D Entropy Model 5056
Songhao Zhu, Yuncai Liu

Study of Occlusions Problem in Stereo Vision 5062
Xiaoyong Lin, Yu Liu, Wenzhan Dai

Visual Navigation of Intelligent Vehicle Based on Optimization Path 5068
Chaoqiang Sheng, Jiao Chen, Zhaoli Xie, Yingjie Bai, Zongyu Yang

WP1PE-D5: Machine Vision

Optimization and Implementation of the localization and control algorithms in robot arm with visual feedback 5073
Kezhi Li, Shuang Cong, Junnan Wang

Night-time Pedestrian Detection by Visual-Infrared Video Fusion 5079
Yuxi Chen, Chongzhao Han

Augmented reality for planar scene via affine transform based natural features tracking 5085
Chunhua Zhao, Zhiqiang Yu, Qihua Tian, Dalin Zhu

The Application of Camera Calibration Methods Based on Structured-Light Measurement 5090
Xiuxia Feng, Maoyong Cao, Haixia Wang, Michael Collier

Optimal Selection of EEG Electrodes via DPSO Algorithm 5095
Jing Jin, Xingyu Wang, Jianhua Zhang

An Accurate Reconstruction Model using structured light of 3-D Computer Vision 5100
Haihua Cui, Ning Dai, Wenhe Liao, Xiaosheng Cheng

An Occlusion Tolerent Method for Multi-object Tracking 5105
Hong Lu, Shumin Fei, Jianyong Zheng, Tao Zhang

An Improved Mean Shift Algorithm for Moving Object Tracking 5111
Xiaoping Chen, Shengsheng Yu, Zhilong Ma

Effective Segmentation for Move Objects in Video 5115
Surong Yan

WP1PE-D6: Signal Reconstruction

Robust Reliable Control for Time-delay Systems with Uncertainty 5121
Fuqiang You, Fuli Wang, Shouping Guan

Fault Diagnosis for Power Circuits Based on SVM within the Bayesian Framework 5125
Binyuan Ye, Zhiyong Luo, Wenfeng Zhang, Changhao Piao

Rotational Speed Oscillation Characteristic and Decomposition Algorithm of Torsional Vibration 5130
Bin Liu, Jinshui Jiang, Peiming Shi

Dynamic Process Monitoring Method Based on Recursive Generalized Eigenvalue Decomposition Using Temporal Covariance Matrix 5134
Xiang Gao, Fei Liu

An Integrated Data Compression Scheme Using Process Monitoring and Lifting Wavelet 5138
Rui Zhou, Wen Bao

Reconstruction Mechanism Based on Distributed Intelligent Agents for Network Management 5143
Hang Li, Lei Meng

A Scheme of Telemetering and Preventing Electric Larceny System Based on GPRS Communication System 5148
Guilin Zheng, Hongyan Zong, Zhifu Zhang

Wireless Monitoring and Analysing System of Dissolved Gases in the Transformer Oil 5152
Jian Cao, Suxiang Qian, Hongsheng Hu, Shixi Yang

The Study of Transformer Fault Diagnosis Based On Means Kernel Clustering And SVM Multi-Class Object Simplified Structure 5158
Xiaoyun Sun, Jianpeng Bian, Donghui Liu, Zhenquan Li

WP1PE-D7: Award Session

A Multi-camera Approach to Tracking and Localization of People with Coexisting Robots 5162
Kun Qian, Xudong Ma, Xianzhong Dai, Chunhua Hu

Path Planning Based on Constrained Delaunay Triangulation 5168
Hongyang Yan, Huifang Wang, Yangzhou Chen, Guiping Dai

An Efficient Navigation Strategy for Mobile Robots with Uncertainty Estimation 5174
Yang Liu, Jing Dong, Fengchi Sun

Spectrum Vector Quantization 5180
Ping Ling, Dajin Gao, Xiangyang You, Xiangsheng Rong, Ming Xu

A Particle Filtering Algorithm for Tracking Moving Target under Clutter 5186
Guocheng Liu, Yongji Wang

WP2PE-A1: Fuzzy Control II

Observer-Based Robust Stabilization of Nonlinear Multiple Time-Delay Large-Scale Systems Via Decentralized Fuzzy Control 5192
Yanjun Liu, Qingling Zhang, Shou Tong

Adaptive Fuzzy Sliding Mode Control for Missile Electro-hydraulic Servo Mechanism 5197
Juntuan Zhang, Yunfeng Liu, Guangliang Zhu, Defu Cheng

Hierarchical Fuzzy Logic Traffic Controller for Urban Signalized Intersections 5203
Zuyuan Yang, Xiyue Huang, Changhai Du, Mingxia Tang, Fangxun Yang

Piecewise Fuzzy Control for Uncertain Nonlinear System 5208
Zhikang Liu, Yan Wang, Zhicheng Ji

Study of Extended Interval-valued Fuzzy Set and Application to Group Decision Consensus 5214
Hongmei Ju

An Approach to Fuzzy State Tracking Control for Chaotic Synchronization in Secure Communication 5217
Yifang Weng

Fuzzy Rules Mining and Fuzzy Modeling Based on Sample Data 5223
Yongfu Wang, Hong Zhao, Jiren Liu, Tianyou Chai

Fuzzy Logic Based Auto-modulation of Parameters PI Control for Active power filter 5228
Yu Chen, Qionglin Li, Bo Fu

WP2PE-A2: Neural Network I

Research on MISO Fuzzy Neural Network and its Application 5233
Honggui Han, Junfei Qiao, Xiaogang Ruan

Intelligent control of UAV with neuron-fuzzy approach under hierarchical architecture 5238
Gang Shi, Shuxing Yang

Gas Turbine Fault Diagnosis Based on ART2 neural network 5244
Qingyang Xu, Xian Yao Meng, Ning Wang

An adaptive Backstepping Design for Longitudinal Flight Path Control 5249
Xu Mu, Weiguo Zhang, Wei Zhang

System Analysis and Intelligent SNC Control of a Prey-Predator Bioreactor 5252
Chyitsong Chen, Shih Tien Peng, Yao Chen Chuang

Detection of Small Current Grounding Fault Line Based on Wavelet and Neural Networks 5258
Zhigang Zhang, Aihua Li, Yanhong Liu, Yi Shen

Indirect Vector Control Scheme for Linear Induction Motors Using Single Neuron PI Controllers with and without the End Effects 5263
Jia Zhao, Zhongping Yang, Jianqiang Liu, Trillion Q. Zheng

Risk Assessment in Electrical Power Network Planning Project Based on Principal Component Analysis and Support Vector Machine 5268
Wei Sun, Yue Ma

Self-similarity Measurement Based on Experimental data 5272
Hongfei Liu, Hongyan Sheng, Zibing Zhang, Jianchao Gan

WP2PE-A3: Evolution Computing II

A Modified Differential Evolution Algorithm for Feed Rate Optimization of Fed-batch Fermentation 5276
Dapeng Niu, Fuli Wang, Dakuo He, Mingxing Jia, Lifeng Feng

Research on the Methods of Improving the Training Speed of LMBP Algorithm 5281
Wen Shang Xu, Qing Ming Yu, Zhenbo Yu, Yanliang Sun, Tianwen Dong

An Enhanced Parallel Backpropagation Learning Algorithm for Multilayer Perceptrons 5287
Ting Li, Min Wu

A Heuristic Method for Selecting and Scheduling Observations of Satellites with Limited Agility 5292
Pei Wang, Yuejin Tan

Mind Evolutionary Algorithms Based on Knowledge 5298
Gaowei Yan, Gang Xie, Zehua Chen, Keming Xie

New Penalty Function with Differential Evolution for Constrained Optimization 5304
Changshou Deng, Changyong Liang, Bingyan Zhao, Anyuan Deng

An improved theta-PSO algorithm with crossover and mutation 5308
Weimin Zhong, Jianliang Xing, Feng Qian

The Inertia Weight Self-Adapting In PSO 5313
Chen Dong, Gaofeng Wang, Zhenyi Chen

New Global Stability Criteria of Neural Networks with Time Delays 5317
Degang Yang, Chunyan Hu, Zhengxia Wang, Xinyuan Liang

WP2PC-A4: Rough Set

A Method of the Knowledge Acquisition Using Rough Set Knowledge Reduction Algorithm Based on PSO 5321
Lin Xu, Wei Dong, Jianhui Wang, Shusheng Gu

Rules Extracting of Weather Data Based on Rough Set Theory 5327
Yancong Zhou, Ruizhong Wang, Xiaochen Sun, Ying Zhao

A Dynamic Sharing Scheme-based Multimodal Niche Genetic Algorithm 5333
Qing Lu, Changyong Liang, Enqiao Zhang

Research on Runoff Forecast Model Based on Phase Space Reconstruction 5339
Jingbo Li, Zengchuan Dong, Dezhi Wang, Shaohua Li

An Improved Particle Swarm Optimization Algorithm with Opposition Mutation 5344
Zhisheng Chen, Yonggang Li

The Simulation Research for OSPF Network Routing Based on Granular Computing of Quotient Space 5348
Yang Li

Modified Particle Swarm Optimization Based on Optimum-Selecting by Probability and Explosive Searching 5354
Xuexing Ming, Jing Qian, Jianguo Wang, Zhenzhong Lv

Nonlinear Robust Modeling Base on Least Trimmed Squares Regression 5360
Xin Bao, Liankui Dai

Network Reconfiguration of the Shipboard Power System Based on Logistic Function Particle Swarm Optimization 5366
Jianmei Xiao, Junjun Li, Xihuai Wang

WP2PC-A5: Data Mining

Research of Auto-Constructed Implementation technology For Information Extraction Patterns 5371
Azgli Wulam, Dezheng Zhang, Huansheng Zhang, Xiaoli Li, Xixuan Chen

A Way of Chinese Question Analysis and Its' Implement 5376
Chaotao Liu, Zushu Li

Application of Optimizing the Parameters of SVM Using Genetic Simulated Annealing Algorithm 5381
Longhan Cao, Shanquan Zhou, Rui Li, Fan Wu, Tao Liu

An Approach based on Coverage for Determining Case Feature Weights and Its Application 5386
Yalin Wang, Jun Shu, Chunhua Yang, Weihua Gui

Fast Mining Maximal Frequent Itemsets Based On Sorted FP-Tree 5391
Junrui Yang, Yunkai Guo, Nanyan Liu

The research of RNA secondary structure prediction based on Extended NSSEL labels 5396
Jingyuan He, Zhongshi He, Dongsheng Zou

Benefit Evaluating of Pumped Storage Station Based on Rough Set and Support Vector Machine 5401
Wei Sun, Xing Zhang

Research on Parameters of Reinforcement Learning on Multi-agent System 5406
Guang Sheng Han, Hongwei Zhang, Guoyu Zuo

Multi-Agent Coordination Method Based on Fuzzy Q-Learning 5411
Jun Peng, Miao Liu, Min Wu, Xiaoyong Zhang

WP2PE-A6: Grid Computing

Dynamic Rate Handoff Algorithm Based on LBS Information 5417
Tingrui Pei, Dezhi Guo, Jianglian Cao, Youzhi Zhang

Application of an Improved Hungarian Algorithm in Semantic WEB Service Discovery 5422
Ning Zhou

Algorithm and Simulation of Network Setup and Topology Discovery based on Circle-distributed 2-hops WSN 5428
Jianyong Li, Yanqiu Yang, Meihua Liu

The Analysis on Grid Workflow's Deadlock by Petri Nets 5432
Baoyi Wang, Shaomin Zhang, Qiaoli Xue

Ontological Modeling of Web Service Interaction Protocols 5438
Zhi Fang, Lejian Liao

Research on an Extended OCSP Protocol for Grid 5444
Shaomin Zhang, Baoyi Wang

The Design and Realization of an Improved Chaotic Encryption System 5449
Xin Yang, Hanmin Huang, Xiyue Huang

Stability of Networked Control Systems Based on Hidden Markov Models 5453
Yuan Ge, Qigong Chen, Ming Jiang, Zhenan Liu

H∞ Control of Networked Control System with Long Time delay 5457
Qingfeng Wang, Hong Chen

WP2PE-B2: Nonlinear Control III

Output feedback Control Networked Control Systems based on Singular Controlled Plant 5463
Zhanzhi Qiu, Qingling Zhang, Guangyu Li

Suborbital Vehicle Re-entry Dynamic Inversion Controller Design and Control Allocation Research 5467
Kefeng Li, Tahir Hameed, Zhang Ren, Qingzhen Zhang

A Model Following Control System for Nonlinear Systems Descriptor Using Stable Assignment of Invariant Zeros 5472
Lihua Zhao, Shigenori Okubo, Jianguo Wang

Stability Analysis of Decentralized Networked Control Systems 5477
Junyu Wei

New Results on Absolute Stability of Lur'e Systems with Time-varying Delay 5483
Yonggang Chen, Yunrui Guo, Weiping Bi

Robust reliable control for uncertain switched nonlinear systems with time delay 5487
Zhengrong Xiang, Ronghao Wang

H∞ Measurement-feedback Control for Systems with Input and Measurement Delays 5492
Hongxia Wang, Huanshui Zhang

Existence of optimal control for the stochastic age-dependent Population equation 5498
Qimin Zhang, Xiining Li

Infinite Horizon Generalized Predictive Control in Delta-Domain 5503
Chuankun Yi, Xiaohua Liu

WP2PE-B3: Nonlinear Control IV

Robust Adaptive Control of Nonlinear Output Feedback Systems with Unmodeled Dynamics 5508
Gang Chen

Robust Model Predictive Control for Linear Systems with Constraints 5514
Xuelian Zhang, Lisheng Hu, Guangyi Cao

Guaranteed Cost Output Feedback Control design of Discrete-time Uncertain Fuzzy System 5520
Zhong Yang, Yupu Yang, Wei Li

The Estimation and Existence Conditions of the Solution for the Perturbed Continuous Time Algebraic Lyapunov Equation 5526
Dongyan Chen, Haiyun Bi

Intelligent control research to combustion-supporting air flux in supercharged boiler 5530
Qidan Zhu, Jingqiao Zhang, Zhang Yu

Robust Energy-to-Peak Estimation for Continuous-time Polytopic Uncertain Time-delay Systems 5535
Lingling Lv, Guangren Duan, Aiguo Wu

Optimal Regulators Design for Nonlinear Discrete-time Systems with Input Delays 5540
Haihong Wang, Nai Ping Hu, Baolin Zhang

Robust Adptive Control for Uncertain Nonlinear Nonminimum Phase System 5545
Liangui Chen, Guangliang Wu, Weidong Yang, Binhu Yang

Stability of nonlinear stochastic systems with uncertain time delays 5550
Jingjing Li, Weihai Zhang, Yuhui Mu

WP2PE-B4: Predictive, Robust, Fuzzy

Adaptive Predictive Control of Double-triangle Boom Based on An Inhomogeneous Model 5554
Jinzhou Li, Lizheng Li

Robust Exponential Stabilization for Uncertain Stochastic Lurie Systems with Delays 5559
Yun Chen, Anke Xue, Renquan Lu, Xiaodong Zhao

A Descriptor System Approach to Stabilization of Fuzzy Systems with State and Input delays 5564
Baoyong Zhang, Shengyuan Xu, Yongmin Li, Ze Li

Research on the Intelligent Control Strategy Based on FNNC and GAS for Hydraulic Turbine Generating Units 5569
Shuqing Wang, Hui Liu, Zipeng Zhang, Suyi Liu

Design of Robust Homing Missile Guidance Laws Based on Guaranteed Cost Control 5574
Hongmei Zhang, Guoshan Zhang, Zhiqiang Zuo

State Observer and Robust Control for Uncertain Systems with Time-varying State Delay 5580
Tao Zhang, Yanqiu Cui

Generalized Predictive Control based on Toeplitz equation 5585
Ying Xu, Bin Liu, Kangling Fang

Predictive Functional Control on Kautz with Genetic Optimization 5589
Mingzhu Xu, Shenshan Li, Zhiping Xu

Generalized Predictive Control Based on Input Design 5594
Hong Cui, Zhonghua Pang, Zongbao Pang

WP2PE-B5: System Modeling, Parameter

Parameter Estimation in Naphtha Pyrolysis Based on Chaos Quantum Particle Swarm Optimization Algorithm 5600
Honggang Wang, Jingxin Feng, Feng Qian

Parameter estimation via artificial data generation with the "two-stage" approach 5605
Simone Garatti, Sergio Bittanti

Distributed SVMs based soft sensor and its application for high pressure dissolving 5611
Yonggang Li, Weihua Gui, Chunhua Yang, Zhisheng Chen

A Sensorless Speed Control Strategy for a Low-Cost Full-Closed-Loop Servo Driver System 5616
Nanhu Chen, Zexiang Li

RBF network based surface shape modeling of stressed-lap in optical polishing process 5622
Yongjian Wan, Minyou Chen, Fan Wu, Bin Fan, Mingyu Wang, Xiaoju Zhang, Kaigui Xie

Optimal Portfolio Management in a Vasicek Framework with Minimum Performance Constraints 5627
Shuping Wan

Time series AR model identification with missing observation data 5632
Jie Ding, Xiaoming Chen, Feng Ding

Stochastic Programming Approach for Portfolio Selection with Risk Control of WCVaR 5637
Jianwei Gao, Nianyi Bian

AM-ESG Estimation Algorithms for a Class of Systems with Colored Noises 5643
Feng Ding, Dongqing Wang, Li Xie, Jie Ding

WP2PE-B6: Industrial Automation II

Short-Term Load Forecasting Based on Improved Gene Expression Programming 5647
Jinliang Yin, Limin Huo, Lirui Guo, Jie Hu

Left-Inversion Soft-Sensing Method for a Class of Nonlinear DAE Sub-Systems 5651
Kaifeng Zhang, Xianzhong Dai, Ga Zhang, Chao Ma

Optimal Control and Discrete Time-delay Model of Car Following 5657
Deng Pan, Yingping Zheng

Product Family Architecture Evolution Based on Technology Evolution Theory of TRIZ 5662
Xinsheng Xu, Lican Gao, Shuiliang Fang

Research on Product Variant Design with Uncertainty Information 5667
Xinsheng Xu, Linyun Fu, Shuiliang Fang

A Novel Non-linear Model Predictive Controller Based on Minimal Resource Allocation Network and Its Application in CSTR PH Process 5672
Haichuan Lou, Wenzhan Dai

The Analysis of the Key Performances of ControlNet 5677
Fanjin Sun, Xinxiang Pan, Yancheng Liu

The Analysis of Stability of Networked control Systems Based on Industrial Switched Ethernet 5682
Fanjin Sun, Xinxiang Pan, Yancheng Liu, Yang Chen

Power Line Communication De-noising based on Chaotic Parameter Modulation and Wavelet Transform 5687
Ju Wang, Shaosheng Fan

WP2PE-C2: Robotics and Intelligent Robot III

Optimal Ant Colony Algorithm based Multi-Robot Task Allocation and Processing Sequence Scheduling 5693
Taixiong Zheng, Liangyi Yang

Hybrid control architecture in Bio-mimetic Robot 5699
Linxiang Yang, Jiguang Yue, Xiaoyun Zhang

An Application of the Improved Hybrid Fuzzy PID Control System 5704
Changlong Lin, Xisheng Feng, Peiliang Gong, Zhong Jin

Cooperation Model Design Based on Object-oriented Petri Net for Multiple Heterogeneous UUVs System 5710
Zhenzhen Xu, Xisheng Feng, Yiping Li

Adaptive Genetic Algorithm for Occupancy Grid Maps Merging 5716
Xin Ma

Integrating Camera Calibration and Hand-Eye Calibration into Robot Vision 5721
Zijian Zhao, Yuncai Liu

Study on Robot Perception System of Multi-sensors Information Fusion Based on Fuzzy Neural Network 5728
Lanshen Guo, Fang Wang, Minglu Zhang, Lixin Sun

Monocular Robot Navigation Using Invariant Natural Features 5733
Juncheng Liu, Miaoxin Wang, Jun Zhang

WP2PC-C3: Robotics and Intelligent Robot IV

Evolutionary Fuzzy Navigation for Security Robots 5739
Hao Ju, Jianxun Zhang, Xiaoxu Pei, Guansheng Xing

Path planning for Tractor-trailer Mobile Robot System Based on Equivalent Size 5744
Zuojun Liu, Qian Lu, Peng Yang, Lingling Chen

Research on Mobile Robote Behavior Fusion Based on Layered Structure 5750
Yulan Hu, Zhifeng Weng

Preview Path based Real-Time Fuzzy Navigation Algorithm for Mobile Robot 5754
Guoyang Li, Yingying Wu, Wei Wei

Guided Dynamic Window Approach to Collision Avoidance in Troublesome Scenarios 5759
Guoyang Li, Yingying Wu, Wei Wei

The Research on Robot Global Path Planning Based on Simulated Annealing Dissipative Ant system 5764
Xingce Wang, Mingquan Zhou, Xinyu Liu, Yachun Fan

Research of the Obstacle Avoidance Based on RBFNN for the Mobile Robot Under Dynamic Environment 5770
Caihong Li, Yibin Li, Fengying Wang

WP2PE-C4: Decision Support System I

Optimum Coordinate number of clusters and best clustering in fuzzy C- means 5776
Shiwei Yu, Kejun Zhu

Semantic based Model Management in Decision Support System 5782
Bo Zhang, Yang Xiang

An Effective Grid Clustering Algorithm Based on Least Clustering Cell and its Application 5788
Xian Ying Huang, Sen Wang

Alpha-SV Bound Based SVM Performance Estimators 5792
Jianxue Chen

A stage control method of multi-project based on DEA 5797
Wenxing Lu, Changyong Liang, Yong Ding

Risk Evaluation of Communication Network of Electric Power Using logarithm least squares and Restriction Coefficient 5801
Huisheng Gao, Jingxue Ran, Haiyang Xie, Congcong Li

Research on Optimal Products Structure Decision of Supply Chain under Demand Uncertainty 5807
Hali Pang, Yawei Zhou, Bing Hou

Application of BP Neural Network for Decision Supported System Oriented Cooperative Design 5812
Shuang Liang, Liang Tang, Jian Qiu, Tianbiao Yu, Wanshan Wang

Risk Warning Model Based on Radial Basis Function Neural Network 5817
Ping Zhao, Xiaojun Liu

WP2PE-D2: Soft-measurement Technique II

Development of research on measurement of biofilm thickness and its realized technology 5821
Binbin Luo, Mingfu Zhao, Jianghua Liu

Soft Measurement Modeling Based on High Speed and Precise Genetic Algorithm Neural Network for Sewage Treatment 5825
Meijuan Gao, Jingwen Tian, Fan Zhang, Yuping Wang

Key Performance Study of Micro-Quartz Gyro for Measurement-While-Drilling 5831
Yu Liu, Jun Liu, He Yan, Leilei Li, Yingjun Pan

Research on Information Recognition Method of Image for PDF417 Two-Dimension Bar Code 5835
Peng Zhang, Shuguang Dai, Ping'An Mu

Research of Drum Level Compensation Method Based on Data Fusion 5838
Xiaojuan Han, Lihua Tian, Junfeng Li

Point Feature Adjusting Algorithm in Digital Map Based on Multi-evaluation Factors 5842
Wenjing Tang, Yanling Hao, Yuxin Zhao

Embedded Quality Analysis Platform Based on HPI Technology 5847
Yiyong Yao, Gang Dai, Liping Zhao

Research of acoustic emission signal enhancement based on Discrete Fractional cosine 5852
Aidong Deng, Wei Gao, Yongqiang Bao, Li Zhao

Research of an Absolute Encoding Method for Non-contact Linear Displacement Measurement 5858
Xuewen Yan, Qianlai Sun

WP2PE-D3: Multi-Sensor Fusion II

A Method Research on Fire Source Localization Using Dual-Line Gas Sensor Array 5862
Donghai Xia, Shu Wang, Ming Zhu, Hui Tang

Prediction for Long Range Dependent Traffic 5866
Yong Wen, Guangxi Zhu, Changsheng Xie

Collaborative autonomous navigation in unknown environment 5872
Pingyuan Cui, Menglong Cao

A Statistical Method for Underwater Target Detection 5878
Ke Man Liu, Jing Lin Xiang

RBF neural networks Prediction on weak electrical signals in Catharanthus roseus 5883
Jinli Ding, Miao Wang, Lanzhou Wang

Data Fusion Algorithm for Uncertain Measurement in Sensor Networks 5888
Ming Cen, Chengyu Fu, Xingfa Liu

A Heuristic Routing Algorithm for Clos Network 5892
Xinming Duan, Shuqiang Liu

The neural network multi-user detection based on MMSE 5896
Yanping Li, Jisheng Peng, Huakui Wang

ZigBee Wireless Mesh Networks for Remote Monitoring System of Pumping Unit 5901
Meijuan Gao, Jin Xu, Jingwen Tian, Fan Zhang

WP2PE-D4: Image Processing I

Face Recognition Using Multi-scale PCA and Support Vector Machine 5906
Guoyun Zhang, Jing Zhang

Multiresolution Anisotropic Wavelet Shrinkage Image Segmentation 5911
Jingfu Zhu, Fenggang Huang, Yun Yang

A Scheme for Minutiae Scoring and Its Application to Fingerprint Matching 5917
Xiaolong Zheng, Yangsheng Wang, Xuying Zhao, Zheng Wei

Color Image Segmentation in a Novel Dynamic Color Space 5922
Chunlin Jiao, Mantun Gao, Yikai Shi

A New Semi-fragile Watermarking Algorithm for Image Authentication 5928
Bo Li, Tao Xu, Shengli Ji, Hao Jin, Aiqin Zhang

Facial Expression Recognition Using Multi-Class Minimax Probability Machine 5933
Ping He, Guofeng Pan, Yatong Zhou, Hongdong Zhao

Edge Detection using Neighborhood Limited Empirical Mode Decomposition and Time-Frequency Analysis 5937
Jing Zhao, Hong Fei Lin, Zhi Hao Yang

Human Expression Recognition Based on Feature Block 2DPCA and Manhattan Distance 5941
Junhua Li, Li Peng

Video Object Segmentation Based on Multi-Feature Clustering 5946
Shuangyan Hu, Junshan Li, Xuhui Li, Baigang Huang

WP2PE-D5: Image Processing II

A Remote Sensing Image Fusion Algorithm Based on Integer Wavelet Transform 5950
Zhongni Wang, Xianchuan Yu, Libao Zhang

Automatic Spherical Panorama Generation with Two Fisheye Images 5955
Xiaoming Deng

Background Subtraction Based on Adaptive Non-parametric Model 5960
Qin Wan, Yaonan Wang

RDA for Automatic Airport Recognition on FLIR Image 5966
Wei Liu, Jinwen Tian

Gray-scale Image Edge Detection Based on Order Morphology Transformation 5970
Yanlei Xu, Jiyin Zhao, Yubin Jiao

Regularization methods for image texture classification 5976
Limin Su, Yaowei Wang

Locally Adaptive Threshold SAR Image Denoising in Complex Wavelet Packet Domain 5980
He Yan, Qun Jiang, Huaqiu Wang, Weijun Yan

Blind Watermarking Scheme Based on Neural Network 5985
Song Huang, Wei Zhang, Wei Feng, Huaqian Yang

Super-Resolution Image Reconstruction Based on MWSVR Estimation 5990
Hui Cheng, Junbo Liu

WP2PE-D6: Fault Identification I

A Novel Intelligent Fault Diagnosis Method using Entropy-based Rough Sets and Its Application 5995
Wei Tian

Pattern Recognition of Tool Wear and Failure Prediction 6000
Jing Kang, Ni Kang, Changjian Feng, Hongying Hu

Fault Diagnosis of Piston Compressor Based on Wavelet Neural Network and Genetic Algorithm 6006
Jinru Li, Yibing Liu

Lifting Wavelet Scheme and Wavelet Energy Entropy Theory for Transient Power Quality 6011
Hui Liu, Guohai Liu, Yue Shen

Research on Sensor Fault Diagnosis Method based LVQ Neural Network and Clustering Analysis 6017
Tao Xu

Petri Nets Modeling of Condenser Fault Diagnosis Based on Information Entropy 6021
Xiaojuan Han, Jihong Liu, Da Ping Xu, Junfeng Li

Residual Current Monitoring Based on DeviceNet 6027
Dawei Yue, Kui Li, Jinli Yuan, Guanying Zhang

Vision-based Automatic Tool Wear Monitoring System 6031
Yuteng Liang, Yihchih Chiou

WP2PE-D7: Embedded MEMS I

Application of On-Line Inspection Probe of Machining Center in Free Curve Inspecting 6036
Xingguang Duan

Cubic Program Structure for Multi-Device Operation and Its Application in Automatic Double-electrode SAW 6041
Chaoying Liu

Modal Analysis of a High-precision Magnetic Suspension Stage 6044
Qunming Li

Research on electro-hydraulic servo valve multi-parameter fault recognition pattern based on BP nerve network 6049
Xinyuan Chen, Yuan Guo Chen, Tao Lan

Modeling of dimensional errors in slender bar turning using artificial neural networks 6053
Bodi Cui, Rongdi Han

Research on Step Length of NC Machining Curved Surface 6057
Congda Lu, Shaofei Jiang, Zhenhong Ye, Dongmin Qian

Design of reconfigurable CNC system based on Embedded Technology 6061
Yue Xu, Limin Ma, Zexjang Li

A geometric algorithm for symmetric workpiece Localization 6065
Yi Xu, Xin Wang, Liangjun Xu, Xueyan Lin

The Fretting Characteristic of Gold Plating Product 6070
Weimin Yang

TP1PE-A1: Fuzzy Control III

Adaptive Fuzzy Tracking Control For a Class of Pure-feedback Nonlinear Systems 6074
Jianjiang Yu, Haibo Jiang, Caigen Zhou

Variable Universe Adaptive Fuzzy Sliding Mode Control Strategy for Uncertain Chaotic Systems 6079
Juntuan Zhang, Yunfeng Liu, Yali Qin, Defu Cheng

Delay-Dependent Robust Control for Uncertain Discrete Stochastic Fuzzy Systems via Relaxed LMIs 6085
Yongmin Li, Shengyuan Xu, Baoyong Zhang, Yuming Chu

A Fuzzy Sliding-Mode Kalman Filter Speed Estimators Control of Induction Motor 6090
Yuntao Yue, Yingzi Li

Research on Modeling and Control of The Single-Phase Inverter System with A Nonlinear Load 6095
Hong Yi, Jiyang Dai, Jiaju Wu

Design of Fuzzy Feed-forward Decoupling Controller based on Error 6101
Yongqiang Guo, Kangling Fang, Hongjun Zhou

Robust and Non-fragile H∞ Control for Affine Fuzzy Large-Scale Systems 6107
Xinrui Liu, Huaguang Zhang, Guowei Liu

Piecewise H2 Guaranteed Cost Control for Uncertain Discrete-time Fuzzy System 6113
Zhong Yang, Yupu Yang, Wei Li

TP1PE-A2: Neural Network II

Study on Suspension rigidity Control of Electromagnetic Suspension System Based on NN-PID 6118
Xia Yang, Xinye Li, Yan Gao, Bo Yang

Sonar Array Azimuth Control System Based on Genetic Neural Network 6123
Yanchun Du, Yibin Li

RFID Reader Anti-collision Using Chaos Neural Network Based on Annealing Strategy 6128
Jinghe Tian, Yushun Fan, Yunlong Zhu, Kunyuan Hu

Research on Multi-BP NN-based Control Model for Molten Iron Desulfurization 6133
Binbin Dan, Kuisheng Chen, Ling Xiong, Zhijun Rong, Jiangang Yi

New robust stability criteria for Markovian jump discrete-time neural networks with mode-dependent time delays 6138
Xiaodong Zhao, Li Li

A Sliding Mode Semi-active Control for Suspension Based on Neural Network 6143
Cangsu Xu, Jie Cheng, Shaomin Lou

PID Neural Network Decoupling Control for Doubly Fed Hydro-generator System 6149
Aiwen Guo, Jiandong Yang, Haiyan Bao

A New Fast Algorithm for Constructing FP_tree 6153
Zhenzhou Wang, Jiaomin Liu, Sheng Guo, Lijuan Yang

A Cross Layer Design of Fragmentaion and Prioity Scheduling in Vehicular ad hoc Networks 6157
Hongfei Liu, Hongyan Sheng, Zhaoyang Lv, Lijun Li, Chuanlong Ma

TP1PE-A3: Artificial Life

Applying Neural Network with Particle Swarm Optimization for Energy Requirement Prediction 6161
Jianxia Chang, Xiaoyuan Xu

A Modified Centre Particle Swarm Optimization Algorithm 6164
Yanduo Zhang, Yunchang Zhu

A New Motion Planning Approach For The Mobile Robot 6168
Xinying Xu, Jun Xie, Gang Xie, Keming Xie

A Real-time Effective System for Tracking Passing People Using a Single Camera 6173
Huchuan Lu, Honglian Ma, Mingxiu Zhang

Application of Improved PSO to Optimization of Gravity Dam and Sluice Gate 6178
Xinmiao Wu, Zhihong Qie, Zhijun Zhou, Hairu Zhang

Application of improved TOPSIS method based on ACO and BP algorithm 6183
Dongxiao Niu, Jialiang Lv

Continuous Attribute Discretization Based on Quantum PSO Algorithm 6187
Yao Dong, Yue Chi, Kewen Xia, Jin Shi

How to analyze a type of game problem between dissymmetrical players? 6192
Dehai Liu, Weiguo Wang

An Improved Shuffled Frog Leaping Algorithm with Cognitive Behavior 6197
Xuncai Zhang, Xuemei Hu, Guangzhao Cui, Yanfeng Wang, Ying Niu

TP1PE/C-A4: Mixed Session I

Grouping Model Application on Artificial Neural Networks for Short-term Load Forecasting 6203
Shunhua Zhang, Jingjing Lian, Zhiying Zhao, Huijun Xu, Jing Liu

A Randomized Algorithm with Constant Approximation for k-Means Based on the Least Cluster Size 6207
Shouqiang Wang, Daming Zhu, Sheng Zhang

The Learning Convergence of CMAC in Frequency Domain and a Modified Algorithm 6212
Lei Zhang, Qixin Cao

Research on Hand Grasping Strategy for Ergonomics Simulation 6217
Zhiguo Lv, Yan Li, Hangen He

About the Ability Estimation Algorithm Optimization of IRT-based Computerized Adaptive Testing System 6221
Yan Cheng, Weisheng Xu, Youling Yu

Naive Bayes Classification Based On Negative-Example-Pruning 6227
Feng Qin, Shiliu Ren, Zekai Cheng, Hui Luo

Real-time Data Superaddition Method Based on Triggers 6232
Ming Cen, Jianchun Jiang, Ruifei Hu

Study and Application of Predictive Functional Control in Networked Control System 6236
Tiankun Wang, Lihui Zhou, Han Pu, Daping Xu

Studies on A New Rapid Hybrid Acquisition System in MC-CDMA Systems 6241
Dezhou Zhang, Tongqing Wang

TP1PE-A5: MAS and Evolution Computing

A Multi-Agent System for Container Terminal Management 6247
Nannan Yan, Guangzhong Liu, Zhenhong Xi

Research of Probability Petri Nets Model for Fault Diagnosis Based on Bayesian Theorem 6253
Xilin Zhao, Jianzhong Zhou, Bo Fu, Hui Liu

Dynamic Routing Algorithm for Data Networks Based on Mobile Agents 6259
Yong Lv, Fanjun Su

An Integrated VPRS Model and Its Application in Manufacturing Process Knowledge Acquisition 6263
Haiping Zhu

Using MOEA to Evolve a Combinational Circuit on a FPGA Chip 6267
Changhao Piao, Jin Wang, Zhiyong Luo

A Cluster Number Specification-Free Algorithm in Networks Intrusion Detection 6272
Lizhong Xiao, Qingtao Wu

A New Clustering Method Suitable for Large Scale Data 6277
Yin Xu, Hong Xingyong, Zhou Wenjiang, Wang Lunwen, Zhang Ling, Tin Ying

Multi-Swarm and Multi-Best Particle Swarm Optimization Algorithm 6281
Junliang Li, Xinping Xiao

TP1PE-B1: System Theory I

New Delay-Dependent Stability and Stabilization of Delayed Systems with Sector-bounded Nonlinearity 6287
Xianbo Yan, Yijing Wang, Zhiqiang Zuo, Huimin Zhao, Guoshan Zhang

The method for technology exploration of complex system architecture-survey and new method proposed 6293
Taitian Mao, Xinliang Lin, Mingfang Liu

Rocket Assists Acoustic Jammer Counterwork Wired Guidance Torpedo Models 6301
Yue Jia, Baowei Song, Xiangtao Zhao, Jia Yue, Zhoa Xiangtao

Existence and exponential stability of periodic solutions of cellular neural networks with impulses and delays 6305
Hui Wang, Chuandong Li

The Robust Stability of Mixing Perturbation of Impulsive Control System 6309
Haiming Jing, Ning Zhao

Study on the Complex Mutual Relation between Team Members, Incentive Structure, and Market Influence: a Game Model 6314
Chaoxiao Zhang

Further improvement of delay-dependent stability for Markov jump systems with time-varying 6319
Junwei Wang, Yuesheng Luo

Robust Exponential Stability of Uncertain Neutral Systems with Time Delays and Nonlinear Perturbations 6325
Yaling Fang, Zhaodi Xu, Ning Chen

Adaptive lag generalized projective stochastic perturbation synchronization for unknown chaotic systems with different order 6330
Yang Tang, Qingying Miao, Huihuang Zhong, Xiaojing Gu, Jianan Fang

TP1PE-B2: Nonlinear Control V

Retrieval and Rejection of Unknown Sinusoidal Disturbances in Some Output Feedback Non-minimum Phase Nonlinear Uncertain Systems 6336
Ning Wang, Wenli Xu

Second-order Divided Difference Filter with Application to Ballistic Target Tracking 6342
Chunling Wu, Chongzhao Han

Aggregation of dynamical agents in network 6348
Hongwang Yu, Liyan Yang, Weiyun Pan, Yufan Zheng

Modified Internal Model control for chemical unstable processes with time-delay 6353
Juan Chen, Lu Wang, Bin Du

New Delay-dependent Robust Stability of Discrete Singular Systems with Time-varying Delay 6359
Zhaoping Du, Zhanzhi Qiu, Qingling Zhang, Lili Liu

Controllability issues for insect-like Flapping wing Micro-Air Vehicle 6365
Minglang Hu, Ruixuan Wei, Zhongzheng Shi, Lingyun Zou

The Impulsive Property of Switched Singular Systems and its Stability 6369
Yuzhong Liu

Robust fault detection for stochastic time-delay systems with sensor nonlinearities 6373
Zhisheng Chen, Yonggang Li

Nonlinear State Estimating Using Adaptive Particle Filter 6377
Jian Zhou, Fujun Pei, Lifang Zheng, Pingyuan Cui

TP1PE-B3: Nonlinear Control VI

LMI Approach to H2 Reduction Model of Switched Systems 6381
Dongmei Xie, Ning Xu, Xiaoxin Chen

Robust H-∞ State Feedback Controller Design for Networked Control System with Data Dropout 6387
Chuan Zhou, Zhengrong Xiang, Qinwei Chen

Controller Design for Variable-sampling Networked Control Systems with Dynamic Output Feedback 6391
Yan Xue, Ke Liu

Relative Attitude Determination for Fly-Around Based on UKF 6397
Yongqiang Jin, Xiangdong Liu, Chaozhen Hou

Optimal Control for a Collection System of Used Products 6402
Yancong Zhou, Jie Wei, Guohua Sun

Torque and flux direct backstepping control of induction motor 6407
Jiajun Wang, Jie He

A Fault Detection and Isolation Scheme Based on Parity Space Method for Discrete Time-Delay System 6411
Hongyu Wang, Zuohua Tian, Songjiao Shi, Zhengxin Weng

Sliding Mode H-∞ Control for Uncertain Stochastic Nonlinear Jump Systems 6415
Zhongyi Tang, Fei Liu

Improvements on Delay-Dependent Stability Criteria for Linear Delay Systems 6420
Hanyong Shao, Xuewen Shi, Huajian Wang

TP1PE-B4: Control Theory and Application I

Research on Current-sharing Control Technique for Paralleled Converters 6425
Lian Qing Zheng, Shihua Zhao, Lixin He

Research on Optimization of Wind and PV Hybrid Power Systems 6429
Mingliang Li, Cong Wang

Research and Realization of Inertial Gyrocompass System Based on INS 6433
Jianhua Cheng, Yanling Hao, Lei Wu, Liang Yan, Shuai Gan

Modeling and Performance Analysis of Flow Lines with Stochastic Failures Based on Petri Nets 6439
Chang Liu, Haibo Shi, Jie Yuan

Study on DTC-SVM of PMSM based on propeller load characteristic 6445
Dexi Shang, Yancheng Liu, Fanjin Sun, Haiyan Zhang

A New Type of Control Method for Electro-Hydraulic Servo Systems 6450
Hong Li, Shibo Xiong

The Ship Nonlinear Course System Control Based on Auto Disturbance Rejection Controller 6454
Wenwen Chen, Fengyu Zhou, Yibin Li, Rui Song

Research on Radial Basis Function NN Tuning PD Control Arithmetic of Tele-presence Bilateral Servo System 6459
Rui Tang, Zhong-Bo Wen

Manipulative Approaches of Lyapunov Function for Stochastic Systems with Time-Delay 6463
Minghao Li, Wuneng Zhou, Hongqian Lu

TP1PE-B5: System Modeling, Simulation and Prediction

Computer Simulation on Testing the Soundproof Effect of Noise-proof Board beside Road 6469
Lianqiu Liu, Li Li, Xiuqing Yang

Prediction of protein subcellular location based on grey dynamic model coefficients 6476
Xuan Xiao, Weizhong Lin

Risk Analysis of Compensating Regulation of Cascade Reservoirs on the Main Stream of Yellow River 6480
Wenjuan Yang, Qiang Huang, Yujie Lv, Yimin Wang

A Study on the Characteristics of GM(1,1) Model 6486
Tianxiang Yao, Xiaojian Kang, Sifeng Liu

An Intelligent Model of LWA using Distributed Kernel 6491
Huaqiu Wang, Xiaofeng Liao, Changxiu Cao

Joint Equilibrium Analysis for Options and Spot Gaming in Electricity Markets with Transmission Constraints 6497
Ruiqing Wang, Yuzeng Li, Shaohua Zhang

Prediction for Silicon Content in Molten Iron using unsupervised optimal fuzzy clustering 6503
Shihua Luo, Jian Huang

Modeling and Simulation of a Nonlinear System under Networks 6507
Dazhi E, Dingyu Xue, Ling Wei, Feng Pan

Hybrid Genetic Algorithm Based on Mutative Scale Chaos Optimization Dynamic Modeling Method for Accelerometer 6512
Rui Ling, Yi Chai, Nan Li

TP1PE-B6: Industrial Automation III

AC Current Sensorless Control of Three-phase Three-Wire PWM Rectifiers 6516
Jie Yu, Yupeng Tang

Research on a Hybrid System for Dynamic Reactive Power and Harmonic Compensation 6521
Hongliang Liu, Yupeng Tang

Study of Sepic AC-DC-AC Matrix Converter based on AC Chopper Priciple 6527
Jianlin Zhu, Lidan Xiang, Shasha Liu, Xiaoping Zhang

Position Control of PMSM Based on Energy-Shaping and MTPA Principle 6532
Haisheng Yu, Jun Hou, Zongwei Zou

Research of Measurement of Capacitive Current Based on DSP 6537
Hongjiang He, Zhanying Shao, Feipeng Wang, Fengjiu Wang

High Performance AC Heating System Design for Man-Made Diamond Based on SABER Simulation 6542
Jinhai Mo, Shouqi Wei, Shaojia He, Haibiao Li

A PWM Control Algorithm for Eliminating Torque Ripple Caused by Stator Magnetic Field Jump of Brushless DC Motors 6547
Cunshan Zhang, Dunxin Bian

Rough Set Neural Network Based Fault Line Detection for Neutral Non-Effectively Grounded System 6550
Qingle Pang

TP1PE-C2: Robotics and Intelligent Robot V

An Approach to Adaptive Map Building of Mobile Robots in Unknown Environment 6555
Tao Wu, Fengchi Sun, Jing Yuan

An Improved Canny Edge Detector and its Realization on FPGA 6561
Wenhao He, Kui Yuan

Large-scale Hybrid 3D Map and Line Detection with Uncertainty for Vision-based Self-localization 6565
Chuanyu Sun, Ke Wang, Yan Zhuang, Wei Wang

Object Recognition and Localization for Robot Tactile Sensor Based on Cognitive Map 6571
Bing Guo, Lan Qin, Daqiang Deng

A Fast Component Labeling and Description Algorithm for RoboCup Middle-Size League 6575
Liudong Qiu, Zushu Li

Application of Fuzzy Neural Networks in Data Fusion for Mobile Robot Wall-following 6580
Yi Zhang, Yuan Luo

Small Humanoid Robot Localization by Landmarks 6584
Chingchih Tsai, Tai Yu Wang

Walking Pattern Design and Feedback Control for Humanoid Robot 6590
Xiangyu Chen, Zexiang Li

TP1PE-C3: Process Automation Systems

Research on Design and Control of a New kind of Heat-Supply System in Dry Section of Paper Machine 6596
Yan Li, Minghui Li

The Description of Serial ATA bus_ Protocol and the Design of Serial ATA Bus Control Chip HPT183 6601
Wei Cheng, Zhenhua Tan, Xiaoxing Gao, Guiran Chang

New Type Computer System Design for Inertial Navigation System 6607
Dexin Xu, Kunpeng He, Yan Bin Gao, Jianhui Zeng

Super-resolution Time of Arrival Estimation for Indoor Geolocation based on IEEE 802.11 a/g 6612
Jing Li, Liang Pei, Maoyong Cao, Nonliang Sun

Reconfigurable Two-level Process Planning Method for Special Steel Manufacturing 6616
Xiaobing Liu, Jingping Yang, Yue Ma

Design and Implementation of Automatic Clearance Control System Based on RFID 6621
Fang Zhang, Dagui Huang, Zheng Dong, Yiping Huang

TP1PE-C4: Electronic Commerce

Architecture and Design of the parser used in the Embedded Browser based on DFA 6627
Ke Yue, Yue Ming Lei, Zongyan Ling, Xiang Du

Analysis of Supply Chain Procurement Strategy in E-Marketplace 6631
Guangshu Chang

The Deployment of Customer Requirements of E-Commerce Website 6636
Guangshu Chang

RTS: A Prototype for Rules-based Ticket Search 6642
Jufeng Yang, Guangshun Shi, Qingren Wang

Network Security Data Mining Based on Wavelet Decomposition 6646
Ming Meng

Mobile Payment in Mobile E-commerce 6650
Qinghua Zhang

Study and Application of a Multimedia Content Transformation Method Based on Model-View-Controller 2x Pattern 6655
Shaojing Fan, Zhongkun He, Yong Ping Zhang, Ling Zhang

Pricing Mechanisms and Business Modes for Third Party Platform Based B2B Online Transactions 6659
Yaohua Gao, Yueting Chai

Security Radio Data Transmission Mode based on Turbo Codes for the CBTC System 6663
Jing An, Dongsheng Yang, Qi Kang, Lei Wang, Qidi Wu

TP1PE-D2: Sensor Network I

A Comparative Performance Analysis of Data Dissemination Protocols in Wireless Sensor Networks 6669
Yong Zhang, Li Wang

A Comparative Performance Analysis of Epidemic Algorithms in Wireless Sensor Networks 6675
Yong Zhang, Li Wang

A Novel Energy Saving Algorithm based on Correlation Function in Wireless Sensor Networks 6680
Min Xiang, Weiren Shi, Changjiang Jiang, Zhiyong Luo

A Hierarchical Routing Protocol to Handle Topological Variation for Wireless Sensor Network 6686
Wei Xiao, Yaqing Tu, Hua Xu

Cluster-Based Load Balancing Multi-path Routing Protocol in Wireless Sensor Networks 6692
He Huang, Yun Xu, Yue Sun, Liusheng Huang

Distributed Connected Dominating Tree Algorithm with Multiple Objective Constraints for Wireless Sensor Network 6697
Yanjing Sun, Jiansheng Qian, Xiangping Gu, Guangzhu Chen

Node Location Estimation Scheme in Wireless Sensor Networks based on Support Vector Regression 6703
Songbin Zhou, Xiaoping Zhang, Guixiong Liu

Effects of Inertia Weight on DPSO-Based Single-hop Routing Protocol for Wireless Sensor Networks 6707
Xueyu Zou, Yang Cao

Node Self-Positioning in Wireless Sensor Networks Using Graded Estimation and Taylor-Series Algorithm 6711
Yanzhi Hu, Dawei Ma, Tian Tian

TP1PE-D3: Digital Sensor I

Sub-Band Filter Based Blind Source Separation 6715
Weidong Jiao

WSN design in high-voltage transformer substation 6720
Qiang Gao, Hongli Wang

A New Decomposition Algorithm of Vibration Signal with Multi-Wave-packets 6725
Qingwei Ye, Tongqing Wang, Junyong Ye

Digital Phase-sensitive Demodulation in Electrical Capacitance Tomography System 6730
Xuehui Zhang, Huaxiang Wang

A Low Complexity Frequency Offset Detecting Algorithm for Diversity Receiver 6734
Anding Wang, Bin Dong, Shiju Li

Research and Implementation of Digital Detection System for Closed-Loop FOG 6739
Junliang Han, Shengmin Ge, Yi Shen, Zhiqiang Bian, Hui Wang

Speaker Gender Identification Based on Combining Linear and Nonlinear Features 6745
Yingle Fan, Yi Li, Qinye Tong

Research on a New Nonlinear Discrete-time Tracking-differentiator Filtering Characteristic 6750
Yunde Xie, Zhiqiang Long, Jie Li, Kun Zhang, Kun Luo

Multilevel Coded Modulation for The Adaptive OFDM System 6756
Li Zhou, Ping Gu, Jonghua Xu

TP1PE-D4: Image Processing III

A Fast Adaptive Switching Median Filter Based on Measure-integral 6760
Yan Zhou, Quanhua Tang, Weidong Jin

Steganalysis Based on Feature Reducts of Rough Set by Using Genetic Algorithm 6764
Meng Dai, Yunxiang Liu, Jiajun Lin

Relational Graph Clustering based on Spectral Coefficient Angle 6769
Min Kong, Jin Tang, Bin Luo

A Novel Eye Localization Method Based on Spectral Residual Model 6773
Fei Yang, Jingwen Dai, Dan Liu

A New Algorithm Fusing the Fractal Interpolation and the Enhanced Lee Filter and its application to the SAR image's denoising 6778
Hengzhi Cao, Xianchuan Yu, Junlan Zhang

Road Recognition in High Resolution SAR Image Based on Genetic Algorithm 6783
Zhulin Li, Xiewei Zhang, Honglei Zhang

Extraction of the Corner of Checkerboard image 6789
Zhongshi Wang, Zhongge Wang, Xinhe Xu

Iris Recognition Based on Iris's Speckles 6793
Huaqing Liang, Zhiming Cai, Xiuxin Chen, Kai Shuang

Refined Denoising Method for SAR Image in The Complex Wavelet Domains 6798
Chenglin Wen, Guowei Gao

TP1PE-D5: Image Processing IV

Gait Recognition Based on Anatomical Knowledge 6803
Yangming Guo, Guangjian Tian

Multispectral Remote Sensing Image Classification Based on PSO-BP Considering Texture 6807
Jie Yu, Zhongshan Zhang, Jixian Zhang, Peihuang Guo, Huiling Qin

Fingerprint matching combining the adjacent feature with curvature of ridges 6811
Chongwen Wang, Gangyi Ding, Zhiwei Zheng

Method of edge detection based on Non-linear cellular Automata 6817
Yan Ha

An effective blind watermark algorithm based on DCT 6822
Liwei Chen, Mingfu Li

Facial Expression Recognition Based on PCA and NMF 6826
Lihong Zhao, Guibin Zhuang, Xinhe Xu

Face Recognition Based on Fractal Dimension 6830
Lihong Zhao, Nan Ma, Xinhe Xu

A novel 3D terrain matching algorithm based on image laser radar 6834
Junbin Gong, Hua Cheng, Jie Ma, Jinwen Tian

A Method of Image Quality Assessment Based on Region of Interest 6840
Wan Yang, Lehua Wu, Ye Fan, Zhaolian Wang

TP1PE-D6: Fault Identification II

Research on Temperature Trend Forecasting of Rolling Electric Machine Based on SVM 6844
Jiangang Yi, Hai Liu

Bispectral Analysis for Diagnosis of Gear Pitting Fault 6847
Yibing Liu, Yan Keguo, Zhou Yanbing, Xu Hong

Research on Coherent Fault Diagnosis of Aircraft Based on Probability Causal Network 6852
Cunbao Ma, Chao Zhang, Wei Zhou, Dong Song

Intelligent Fault Diagnosis of Power Transformer based on Fuzzy Logic and Rough Set Theory 6858
Xiao Xia Zheng

A Simple Method for Fault Detection of Industrial Digitial Positioners 6863
Xiaobin Huang, Feng Yu

The study of improved Fisher Ratio for Default Diagnosis of Power Transformer 6867
Donghui Liu, Yongchun Liang, Aihua Li, Jianpeng Bian, Xiaoyun Sun

Reasoning Algorithm of Multi-value Fuzzy Causality Diagram Based on Cause-effect Possibility Allocation 6871
Xinyuan Liang, Qingxi Shi, Hongchun Wang

Fault Diagnosis of Distributed Networked Control Systems with Stochastic Communication Logic 6877
Qun Zong, Wenjing Liu, Xiao He

A Decision Tree Approach for Power Transformer Insulation Fault Diagnosis 6882
Feng Zhao, Hongsheng Su

TP1PE-D7: Other I

A Novel Signal Processing Method for Coriolis Mass Flowmeter Based on Time-varying Signal Model 6887
Haitao Zhang, Yaqing Tu, Lianging Liu, Penghui Niu

Immune PI control on PMSM speed regulating system 6891
Xuepeng Liu

Application of an Improved Snake Model in Face Location Based on Skin-color 6897
Hanmin Huang, Jiang Zhen

A Low Complexity Noise Reduction Approach for Stationary Noise 6902
Pengyu Dong, Tao Lin, Ming Jun Li

Experimental Study of Tool Wear Monitoring Based on Neural Networks 6906
Hongli Gao, Mingheng Xu, Yancheng Su, Pan Fu, Qingjie Liu

On M_bus Communication Protocol For Intellectual Heat Meter in Open Control System 6911
Wei Jiang, Xinping Guan

H-∞ Control of EPC Internet of Things 6917
Yichang Liu, Zhan Feng, Xie Keming

TP2PC-A1: Fuzzy Control IV

Intelligent control of mandrill position equalization system in pipe expanding procession 6923
Jing Ni, Zhanqin Xiang

Multimode Information Collection Based on In-vehicle Network 6929
Yuguang Chen, Miao Yu, Hai Shi, Wenjie Feng, Shili Liao

Study on Self- Adapting Control Based on Immune Neural Network for a Car-engine 6933
Yuguang Chen, Xin Li, Wei Qian, Shili Liao

Multi-agent Fuzzy Signal Control with Bus Priority 6937
Xiangjie Kong, Guojiang Shen, Weiming Xu, Guoan Pan, Youxian Sun

Application of Adaptive Fuzzy Sliding Mode Control in Arc Furnace 6943
Jichao Li, Ping Guan, Xiaohe Liu

Improved PSO-based S Curve controller for Motion control of Underwater Vehicle 6949
Xudong Tang, Yongjie Pang, Wentian Chang, Ye Li

Backstepping a pproach for realizing chua chaos systems Lag-synchronization control 6955
Dong Xiao Wang

A BPGAD Neural Network Algorithm and Its Efficiency Analysis 6958
Yuanping Ni

Research about dynamics characteristic of chaos neuron 6963
Jianmin Zhang

TP2PE-A2: Neural Network III

Improved Multivariable Nonlinear System Control Based on Differential Predictive Cost Function 6968
Yan Zhang, Lina Li, Peng Yang, Yongfu Li, Pinjie Liu

Research on Optimization of Speed Identification Based on ACO-BP Neural Network and Application 6973
Chengzhi Cao, Yifan Wang, Lichao Jia, Yang Liu

A Three-dimensional Proportional Guidance Law Based on RBF Neural Network 6978
Wenjin Gu, Hongchao Zhao, Ruchuan Zhang

Study on New Neural Network Adaptive Control of Industrial Manipulators Based on Desired Compensation 6983
Yanli Fu, Shijing Li, Yunshi Xiao

Nonlinear Time Series Forecasting with Dynamic RBF Neural Networks 6988
Dongqing Zhang, Xuanxi Ning, Xueni Liu, Yubing Han

Robust Adaptive Neural Control for Strict-Feedback Nonlinear Systems 6994
Li Zhou, Changsheng Jiang, Chengshan Qian, Yanli Du

Application of Wavelets and Neural Networks to Detect Weak Signal 7000
Wei Zhang, Linlin Ge

Global Positioning of Off-Road Vehicles by Sensor Fusion for Precision Agriculture 7005
Lin Hu, Zhengqi Gu, Jing Huang, Yali Tang, Wei Huang

The Research of the Bayes Decision-making Model in Fire Alarm System Based on Normal Distribution 7011
Liming Wang, Shao Ying, Yan Xiaoling, Shan Yong

TP2PE-A3: Genetic Algorithm I

A Competition Model Based on Natural Tree Growth for Finding All Zeros of a Polynomial 7017
Gaiwen Guo, Bing Zhao, Qingmin Lai, Kama Huang

Credit Evaluation for Mobile Customers Using Artificial Immune Algorithms 7021
Zongchang Yang, Hong Kuang

Reliability-based Topology Optimization of Continuous Structures 7026
Gaofei Ouyang, Xianmin Zhang, Yongcong Kuan

Research on Genetic Algorithm Theory and Its Application on Missile Fire Allocation 7032
Jie Feng, Ning Jiang, Jitang Wang, Jun Wang

A Hybrid Algorithm Based on BPSO and Immune Mechanism for PMU Optimization Placement 7036
Chunhua Peng, Xuesong Xu

Main Steam Pressure Control System Based On Two-cell Immune Mechanism in Power Plant 7041
Daogang Peng, Hao Zhang, Li Yang, Longhu Xu

Image Segmentation Based on Two-dimensional Histogram and the Geese Particle Swarm Optimization Algorithm 7045
Ali Fu, Xiujuan Lei

Research on the Application of Improved Hybrid Genetic Algorithm in the Vehicle Routing Problem 7049
Chunyu Ren

FMS Schedule Based on Hybrid Swarm Optimization 7054
Dongyun Wang, Huiqin Liu

TP2PE-A4: Intelligent Building

Intelligent Transportation System Based on ARM 7060
Bo Li, Aiqin Zhang, Hao Jin, Shengli Ji, Tao Xu

A Novel Algorithm Parametric Calibration of Speed-Density Relationships in Mesoscopic Traffic Simulator 7064
Zhu Jiang, Minhua Zhao, Yongxuan Huang

Traffic Objects Auto-Recognition Research based-on MAS Technology
Dong Yin, Feng Zhang, Peng Chen, Rong Zhang 7070

Application of Human-simulating Intelligent Control in heating the Super-high Pressure Kettle 7074
Cuiling Liu, Xiaorong Sun, Jianming Chen

Automatic Control System of Intelligent Building Based on WebAccess 7079
Jian Liu, Xiaoqin Lian, Xiaoli Zhang, Chongchong Yu

Dispatching Approach Optimization of Elevator Group Control System with Destination Floor Guidance using Fuzzy Neural Network 7085
Jianzhe Tai, Suying Yang, Hong Tan

Ground Simulation Experiment of Acquisition & Tracking with Beacon between the Spatial Movement Platforms 7089
Haibo Huang, Weirong Jiang, Weihua Wang, Yang Cao, Tao Zuo, Ming Li

A Study on Self-reconfiguration of Software System Based on Formal Representation 7094
Chaogai Xue, Haiwang Cao

The Study of Self-organizing Clustering Neural Networks and Applications in Data Fusion 7099
Dong Qiu, Longshan Wang, Wenfeng Bai, Jiafu Wang

TP2PE-A5: Expert Systems

Aircraft Fuel System Diagnostic Fault Detection through Expert System 7104
Hao Long, Xinmin Wang

Use of Fuzzy Preference Matrix for Multi-objective Fuzzy Optimization Decision-Making Model 7108
Yu Guo, Wenlong Chen, Shouyu Chen

A case-based reasoning approach to urban intersection control 7113
Zhenlong Li, Xiaohua Zhao

Study on Product Knowledge Management for Product Development 7119
Chunli Yang, Hao Li

New global asymptotic stability criteria of Hopfield neural network with time-varying delays 7125
Zhengxia Wang, Degang Yang, Fengqing Han, Xinyuan Liang

An Enhance Binary symbolic representation for time series data mining based similarity 7130
Meiyu Sun, Jianan Fang

Constrained Principal Component Extraction Network 7135
Tao Chen, Yue Sun, Shijian Zhao

Study of the SMO Algorithm Based on Data Mining in Shot-Term Power Load Forecasting Model 7140
Dongxiao Niu, Yongli Wang

Multi-Class Wavelet SVM Classifiers Using Quantum-Inspired Evolutionary Algorithm 7146
Zhiyong Luo, Wenfeng Zhang, Yougang Zhang, Min Xiang, Changhao Piao

TP2PE-B1: System Theory II

Pricing Decision Analysis for Two Differentiated products Based on Game Theory 7151
Jing Zhao, Jie Wei, Xiaochen Sun, Bo Wen Chen

Social Welfare Maximization Auction for Electricity Markets with Elastic Demand 7157
Jiang Wu, Xiaohong Guan, Feng Gao, Guoji Sun

A Multi-objective Lead Time Control Problem Based on the Failure Rate of Multi-style of Products 7163
Zhen He, Meng Zhang

Hybrid Inference Petri Net-based Expert Coordinated Regional Control System for Chemical Process 7167
Xiaole Xin, Hongguang Li

Input-to-State Stability of Hybrid Switched Systems with Impulsive Effects 7172
Zhichun Yang, Yiguang Hong, Zhongping Jiang

Research on Complex Large Group Decision Support System Framework in Internet or Intranet Environment 7177
Xiaohong Chen, Zhiyang Chen, Xuanhua Xu

Second-Order Consensus of Multiple Agents with Coupling Delay 7181
Housheng Su, Xiaofan Wang

Researching the Relationship among Traffic Flow Three Parameters Based on Swallowtail Catastrophe Model 7187
Jian Guo, Dongjian Wu

On the Modeling and Stability Analysis of Switched Two-Machine Power Systems 7192
Liying Zhu, Yuzhen Wang

TP2PE-B2: Nonlinear Control VII

Guaranteed Cost Control for Uncertain Singular System with Markovian Jumping Parameters 7198
Hongqian Lu, Wuneng Zhou, Minghao Li

Analysis and Optimal Control of Networked Control Systems with Data Packet Loss 7204
Linbo Xie, Hongwei Feng, Yan Wang, Zhicheng Ji

Feedback Control and Pole Assignment for First Order Coupled Generalized Systems in Hilbert Space 7208
Guodong Shi, Feng Liu

Near Optimal Control for Singularly Perturbed Systems with Small Time-delay 7212
Baolin Zhang, Mingqu Fan

New delay-dependent robust stability criteria for cellular neural networks with variable delays and uncertainties via LMI approach 7217
Haixia Wu, Wei Zhang, Wei Feng, Pengcheng Wei

The Application of Low Power Dissipation and Configurable Technology on SoC Cache 7222
Yilei Wang, Li Zhong, Tao Li, Xianfeng Gao

Stabilization for a class of Piecewise Continuous-Time Switched Control Systems 7226
Guangdeng Zong, Yanwen Tian, Haibin Sun

State Feedback Stabilization of Invariant Sets of Switched systems 7230
Xiangze Lin, Shihua Li, Yanping Qian

Robust Reliable Control for Uncertain Singular Stochastic Fuzzy Systems with Time-delay 7236
Aiqing Zhang, Huajing Fang

TP2PE-B3: Nonlinear Control VIII

Stability criteria analysis for a class of multiple time-delays systems: An Integral-Equality Approach 7242
Boren Li, Bugong Xu, Xuguang Shi

Delay-dependent stability criteria for a class of linear systems with multiple time-varying delays and nonlinear perturbations 7246
Boren Li, Bugong Xu, Xuguang Shi

Feedback-based Flow Control Technology for Video Real-time Transmission 7250
Yi Wu, Jianyong Cai, Xiao Lin, Lianfeng Shen

Robust Reliable Hinf Control Based on Observer for Uncertain Systems against Sensors Failures 7255
Qingfang Teng, Duowang Fan, Qingfang Teng

Delay-Dependent Stability Analysis for Time-Delay Systems 7260
Xinge Liu, Meilan Tang

The Stability of a Class of Network Congestion Control Algorithms Based on Optimization Theorem 7264
Yanping Qian, Xunming Li, Xiangze Lin, Qi Li

A New Expression for Sculling Motion Compensation Algorithms 7270
Lei Zhang, Bo Wang

Reliable Hinf Control of Dynamic Output Feedback for Time-Varying Delayed System 7274
Qingfang Teng, Duowang Fan

Robust Fault-tolerant Control of Uncertain Discrete System with Time-delay 7280
Keyong Shao, Jinbo Song, Huizhen Zhang, Hong Zhang

TP2PC-B4: Control Theory and Application II

Feedback Stabilization of Unstable Periodic Orbits for Chaotic Passive Compass-like Biped Robot 7285
Xiangze Lin, Yongqian Ding, Mingxia Shen, Shihua Li

Active Vibration Control Design and Experiment of the Flexible Flexible Plate with Mixed Uncertainty via u-Synthesis 7291
Dongwei Li, Hongbai Bai, Junfang Hou, Shuai Tao

Path Following Control on Moving Robot for Deep Sea-Bed Mining 7297
Yong Chen, Weihua Gui, Yongfang Xie, Feng Yan

Research on Control of Longitudinal Motion of Underwater High-Speed Vehicle 7301
Tao Bai, Yao Sun, Hongwei Mo, Zengkun Qi

Multiple Sliding Mode Adaptive Control of The Closed Electro-hydraulic Proportional System 7307
Ning Chen, Hongzhao Dong

Synchronization of Uncertain Chen Chaotic Systems using Active Sliding Mode Control 7313
Shaocheng Qu, Xiaoyan Wang, Meijing Gong, Hao Qu

Applications of Generalized Sylvester Matrix Equations in the Design of Eigenstructure 7317
Zhaoquan Cai, Guosheng Wang

Integrated control of automobile steering and suspension system for disturbance suppression 7321
Xiangui Liu

Robust H∞ Optimal Tracking Control for 3-DOF Helicopter 7327
Renquan Lu, Wei Du, Weihong Zheng, Anke Xue

TP2PC-B5: System Identification, Modeling and Optimizing

Performance analysis of algorithms for Large-Scale Nonlinear Optimization 7333
Aipeng Jiang, Jingtao Huang, Zhoushu Jiang, Jian Wang, Qiang Ding, Guohui Huang

Minimum Information Loss Method based on Cross-Gramian Matrix for Model Reduction (CGMIL) 7339
Jinbao Fu, Hui Zhang, Youxian Sun, Chongliang Zhong

Application of Fuzzy Clustering Analysis in Air Traffic Models 7344
Xiong Li, Xiaohao Xu, Dongbin Li

Speed Identification about Enhanced magnetism motor with MRAS 7349
Zhifu Wang, Chengning Zhang

Research on Music Emotion Cognition Model Based on Linguistic Value Computing 7355
Bin Zhu, Tao Liu, Yongchuan Tang

A Speedy Model Parameter Optimization Algorithm of Support Vector Machines 7362
Zengzhao Chen, Chungui Liu, Yang Yang, Xiuling He, Cailin Dong

Identification Model of Aeroengine Based on Improved LS-SVM 7368
Kailong Cai

Modeling for an Entrained Flow Coal Gasifier with Partitioning Zone Approach 7374
Wenjie Zhao, Yanjun Ding, Zhibin Liu, Zhansong Wu

Application of fast parameter identification in the characteristic model of aerospace craft 7380
Chunxia Tong

TP2PC-B6: Industrial Automation IV

Closed-loop Control System of Piezoceramic Actuators with Improved Preisach Model 7385
Cunyin Hu, Xianmin Zhang

Design of the Distributed Fault Recorder Based on TCP/IP 7389
Liwei Li, Ping Ma, Xinzhen Wu

Research of Control System Platform Technology for IC Equipment 7393
Mingzhe Liu, Aidong Xu, Haibin Yu, Hong Wang

MPPT Control Algorithms for Wind Power Generation Based On Voltage Disturbance 7398
Ping Wang, Cuishuang Guo

Optimization Design of The Winding Tension in Glass Fabric Packaging Based on ANN 7403
Dehui Wu

Study on CLIPS-based Real-Time Fault Diagnosis System Used in Power Plant 7408
Dongyang Dou, Yingkai Zhao

Enhancing Transient Stability of System by Coordinated Control of Fast Valves and SVC 7413
Yihui Sun, Zhong Chen, Niang Tang

High Precision Pressure Control System of Cubic Press Based on ARM 7417
Shaojia He, Jinhai Mo, Shouqi Wei, Dao Huang

Control Technology for Power Inductor Energy Absorption and Release 7423
Jian Xun Jin, Changming Zhang, Zhuomin Li

TP2PC-C2: Robotics and Intelligent Robot VI

A New Inspection Robot System for Storage Tank 7427
Hua Wang, Xiaodiao Huang, Rongjing Hong, Chenggang Fang

Manipulability Analysis and Design of Radio Frequency Ablation Robot 7432
Qinjun Du, Xueyi Zhang

A Noval Acoustical Vision System Design for Automated Underwater Vehicles 7438
Chenchen Liu, Zhimeng Zhang, Enfang Sang

Vibrating Needle Insertion for Trajectory Optimization 7444
Dexue Bi, Lin Yang

MR Code for Indoor Robot Self-localization 7449
Rui Zheng, Kui Yuan

Research on Autonomous Negotiation Action Planning for 110kV Power Transmission Line Inspection Robo 7455
Fengyu Zhou, Yibin Li, Caihong Li, Feng Li, Changshun Wang, Wenwen Chen

Gait Design and Stable Control for a Symmetrical Four-legged Robot on Irregular Terrain 7460
Chuangfeng Huai, Yuefa Fang, Ketao Zhang

A Potential Field Method for Bottom Navigation of Autonomous Underwater Vehicles 7466
Jian Gao, Demin Xu, Ningning Zhao, Weisheng Yan

TP2PE-C3: Decision Support System II

Maximal Deviation Model for Multiple Attribute Decision Making under Uncertain Linguistic Environment 7471
Guiwu Wei, Xiaorong Wang

Multi-objective Optimization of Reverse Logistics Network Based on Improved Particle Swarm Optimization 7476
Yanchao Lu, Xiaoyan Li, Litao Liang

Multi-objective Evolutionary Algorithm Based on Correlativity and Its Application 7481
Junfeng Li, Wenzhan Dai

An Improved Genetic Algorithm-GM(1,1) for Power Load Forecasting Problem 7487
Wei Li, Zhuhua Han, Feng Li

Clustering analysis of power load forecasting based on Improved ant colony algorithm 7492
Wei Li, Zhuhua Han, Feng Li

Study on Multi-attribute Group Decision Making Under the Information of Linguistic Fuzzy 7496
Cheng Wang, Jin Peng, Ping Li

Method of Hybrid Multi-attribute Decision Making Based on Relative Entropy Weight and Projection Algorithm 7500
Congjun Rao, Jin Peng, Zhongcheng Zhang

Generalizing TOPSIS for Multi-criteria Group Decision-making with Weighted Ordinal Preferences 7505
Wu Li, Yonggang Chen, Yang Chen

Analysis and Disposal of Pathogenic Factors of Exogenous Affections Based on the ID3 Decision Tree Method 7509
Zeying Li, Bin He, Xiaoyin Chen

TP2PE-D1: Virtual Instrument

Development Method of Simulation and Test System for Vehicle Body CAN Bus Based on CANoe 7515
Fang Zhou, Shuqin Li, Xia Hou

Study of Improved BP Neural Network on Rotor Speed Identification of DTC System 7520
Chengzhi Cao, Yang Liu, Fang Wang, Yifan Wang

The Application of a New Embedded Virtual Instrument System 7524
Xiangyan Kong, Yunfei Li, Liangliang Chen, Tiantian Cheng

Design and Realization of Turntable's Kinematics Property Testing System Based on Virtual Instrument 7528
Haiwang Cao, Chaogai Xue

A Close-loop Control Approach to AFM Scanner Based on a Hysteresis Model 7532
Faquan Zhou, Xuezeng Zhao, Yueyu Wang

Design and Application of Digital Servo Controller Module Based on DSP and CPLD 7536
Wei Ji, Bo Xu, Dean Zhao

Design of a Balance Test Instrument with USB Interface 7541
Ni Kang, Xuewen Wei, Aiguo Song

The Simulation Research and Discussion on Improvement of Microwave Nondestructive Testing Imaging System 7546
Hui Xu, Yanshan Sun, Xuelei Wu, Bangyu Li, Kexin Cui, Liang Zhang

Research on the Virtual Simulation and Testing Technology of Capacitance Proximity Fuze 7552
Chengtian Song, Yuxian Bai, Keyong Wang

TP2PE-D2: Intelligent Sensor I

The Pattern Recognition of Sensor' s Static Non-linearity Based on EIPR-FLANN 7556
Chuan Sun, Tao Li, Yongji Wang, Xiangou Zhu

Research of Cable Tension Sensor with Bypass Excitation Structure Based on Magneto-elastic Effect in Cable-stayed Bridge 7560
Mingfang Wu, Dedong Tang, Minsha Cheng

Study the Gibbs phenomenon in the De-noising by wavelet 7564
Xiaohong Gu, Jinhui Cai

TP2PC-D3: Sensor Network II

Fault Locating Arithmetic for Multi-Source Network Cluster Nodes Based on Comparison 7567
Jie Zhang, Bo Jing, Yong Sun

A Calculation Method of the Distribution of Cluster Heads for Balancing Energy Consumption in Multi-hop Heterogeneous Networks 7572
Xiaochen Hao, Lipei Guo, Bin Liu

An Improved Robust Fusion Method Based on Density Estimation 7576
Yunfei Guo, Anke Xue, Yuesong Lin, Dongliang Peng

An Improved APIT Node Self-localization Algorithm in WSN 7582
Yong Zhou, Xin Ao, Shixiong Xia

Research on Adaptive Calibration of Tri-axial Magnetometer Based on ANN 7587
Xiaohong Wang

A Study on Region join Algorithms in Sensor Networks 7593
Yajun Wu, Jinbao Li, Ping Xuan, Yan Yang

The Research of Industrial Wireless Sensor Networks and Protocols Based on UWB 7599
Wen Zeng, Hong Wang

A New Channel Encoding Technology in Mobile Communication Systems 7605
Chunping Yang, Daoben Li

The Algorithm of Rapid Signal Capture and Synchronization Recognition in Wireless Communication and Its Implementation 7611
Ping Gan, Huimin Zhang

TP2PE-D4: Image Processing V

Rotary Kiln Flame Image Segmentation Based on FCM and Gabor Wavelet Based Texture Coarseness 7615
Peng Sun, Tianyou Chai, Xiaojie Zhou

Box-based Codebook Model for Real-time Objects Detection 7621
Qiu Tu, Yiping Xu, Manli Zhou

Stride Recognition in the Control Concept of Trans-femoral Prosthesis 7626
Lingling Chen, Xiaoyun Xu, Peng Yang, Xin Guo, Linan Zu

Texture feature extraction using ICA filters 7631
Baigang Huang, Junshan Li, Shuangyan Hu

A tentative study of visual attention-based salient features for image retrieval 7635
Wei Liu, Weidong Xu, Lihua Li

Gait Recognition Based on Hilbert-Huang Descriptors 7640
Qiong Cheng, Bo Fu

Improved Watershed Algorithm for Dowels Image Segmentation 7644
Yuqian Zhao, Jianxin Liu, Huifen Li, Guiyuan Li

Personal identification based on multi-modal hand-print features 7649
Hui Yan, Duo Long

An Image Restoration Method Based on Genetic Algorithm BP Neural Network 7653
Qian Xiao, Weiren Shi, Xiaodong Xian, Xinxiang Yan

TP2PC-D5: Image Processing VI

Research on Real-time Control Strategy of Intersections in ITS Based on Bus Priority 7657
Qiang Han, Zhiping Liu

Fuzzy Self-tuning PID Steering Control for Ultra Large Container Ship 7661
Zhipeng Shen, Chen Guo

Localization Algorithm of Mobile Robot Based on Single Vision and Laser Radar 7667
Xiaoning Chen, Yuqing Huang, Gang Liu, Jin Guo

Design and Realization of Digital Compass with Magnetometers 7672
Yi Chai, Wenwu Feng, Changjiang Jiang, Kai Liu

The Fusing Algorithm of Link Speed based on Floating Vehicles Equipped with GPS 7676
Xiaoyong Liao, Dihua Sun, Junyu Dong

Implementation of a Multifunction Black-box for Tower Crane Based on ARM and uCOS-II 7681
Liyan Yuan, Guiqing Zhang, Huanbing Gao

The Smart Home System Based on TCP/IP and DTMF Technology 7686
Tao Wang, Yanping Li, Huanbing Gao

Research on Complex Mechanism Product Intelligence Optimization Innovation Design Based on Multi-layered Real Number Code Genetic Algorithm 7692
Bo Hao, Lixin Wang, Kai Xi, Mingyang Jiang

TP2PE-D6: Embedded MEMS II

A Practical HW/SW Codesign Method for System-Level Embedded System 7697
Qingyang Meng, Jianzhong Qiao, Jun Liu, Benhai Zhou

Failure Analysis of the Electrostatic Parallel-plate Micro-actuator 7702
Fengli Liu, Yongping Hao

Research on Reflection of CAN Signal in Transmission Line 7707
Jinrui Nan, Wu Men

Research on Task Scheduling Method of Synthesis Parameter in uC/OS-II 7711
Benhai Zhou, Xibo Wang, Jianzhong Qiao, Jun Liu

Aggregate Production Planning Model of Production Line in Iron and Steel Enterprise Based on Genetic Algorithm 7716
Guozhang Jiang, Jianyi Kong, Gongfa Li

Research and Development of DSP Based Servo Motion Controller 7720
Jiazhong Xu, Bo You, Lei Ma

A Novel Sensorless Control Strategy of PMSM based on Slide-Mode Observer and SVPWM 7726
Liangliang Yang, Yunfei Zhou, Xin Cheng

Wind Speed Predicted by Wavelet Analysis in Input Prediction Control of Wind Turbine 7732
Yanning Zhang, Longyun Kang, Shiqiong Zhou, Binggang Cao

Slide Mode Variable Structure Control for BLDC Electric Actuator 7736
Zhiyuan Yu, Xiaoxian Yao, Zheng Liu

TP2PE-D7: Other II

Block Inverse Hough Transform Based on Boundary Trend Prediction 7742
Mingjun Wang, Yubing Miao, Chengliang Liu

Based on Particle Swarm Optimization Real-Time License Plate Recognition 7747
Yan Zhou, Qichang Duan

Retinal Image Mosaic Base on Genetic Algorithm and Automated Blood Vessel Extracting Approach 7751
Yong Yang, Shuying Huang

A New Method of Color Image Mosaic 7757
Panli He, Xiaowei Han, Tianmin Deng

Research on the Axial Responses of ECT Sensors 7762
Hua Yan, Dading Tang, Liang Zheng, Kexin Cui

Detection of Swimmers in Swimming Video Sequences 7768
Jian Wang, Yi Zhang, Ting Gao Qin

Hair-color Modeling and Head Detection 7773
Min Zhao, Dihua Sun, Hengpan He

Design and Realization of Intelligent Monitoring System Based Object Identification 7777
Xinfeng Wang, Jianguo Liu, Shengli Liu, Lu Gao

Unbiased Filtering for a Class of Neutral Delay System 7781
Huaxun Zhang, Xuejun Li

FA1PC-A1: Fuzzy Control V

The Research and Simulation on Fuzzy Direct Torque Control Algorithm for Asynchronous Machine 7786
Wei Jiang, Xiaoyun Feng, Yong Heng Liao

Application of Fuzzy PID Control System Based on Improved GA in Hydraulic Turbine Generating Units 7790
Hui Liu, Jianzhong Zhou, Shuqing Wang, Zipeng Zhang

A Fuzzy Logic Control System for Temperature Regulation in Neoprene Reactor 7795
Haiyang Xie, Qingjin Meng, Tao Shen, Xiaohong Wang

Fuzzy constraints based predictive utilization control for soft real-time systems 7799
Shixiong Fang, Qi Li

Fuzzy Control System for Hydroponics Cultivating 7804
Chaotao Liu, Zushu Li, Xiaohui Zeng

Application of Self-Tuning Fuzzy Control in Seismic Resistance of Buildings 7809
Yongbing Zhang, Yongshen Zhang, Shuangbei Li, Rong Qin

Product quality-oriented intelligent evaluation system 7814
Aijun Yan, Xuejin Gao, Pu Wang, Tianyou Chai

Decentralized Adaptive Control of a Class of Mechanical Large-Scale Nonlinear Systems Using Neural Networks 7819
Tong Zhao, Shaohua Qu

Rough Set-Neural Networks based Neural PID Control of Generator Excitation System 7825
Tengfei Zhang, Fumin Ma

FA1PE-A2: Neural Network IV

Research of the DRNN Network DTC in Electromagnetic Continuously Variable Transmission 7831
Xingfeng Fu, Yutao Luo, Sijia Zhou, Yinxian Zhang

Study on PID Neural-Network-Based Inverter Space-Vector Pulse Width Modulation Strategy 7835
Deli Jia, Bo You, Fengjing Zhang

Instantaneous Torque Control of Translational Meshing Motors Based on Neural Network 7841
Wei Wang, Shimin Wei, Qizheng Liao, Danlin Li, Qiang Xu

Fuzzy RBF Neural Network Control for Networked Control Systems Based on Modified Smith Predictor 7847
Feng Du, Qingquan Qian

Adaptive Neural Network Control for a Class of Uncertain Nonlinear Systems with Unknown Control Directions 7853
Gang Chen

Networked Control Systems Based on Generalized Predictive Control and Modified Smith 7859
Feng Du, Qingquan Qian

Dynamic Energy Management for Hybrid Electric Vehicle Based on Approximate Dynamic Programming 7864
Weimin Li, Guoqing Xu, Zhancheng Wang, Yangsheng Xu

On-Line Predictive Control Based on LS-SVM 7870
Bicheng Lei, Wanliang Wang, Zuxin Li

Design of Control Methods for a Portable PEMFC Power System 7874
Yu Ruan, Yumei Wen, Ping Li, Weidong Shen

FA1PE-A3: Genetic Algorithm II

An Efficient Ant Colony Optimization Approach to Agent Coalition Formation Problem 7879
Zhigang Ren, Zuren Feng, Xiaonian Wang

Study on Short-range Precipitation Forecasting Method Based on Genetic-Algorithm neural Network 7883
Kaiping Lin, Jianling Lin, Binlian Chen

Neural Network Based Wood Property Mapping Modeling Using Particle Swarm Optimization 7888
Jiawei Zhang, Mingbao Li, Hongyu Su, Runlong Guo

Probability Evolutionary Algorithm For Functional And Combinatorial Optimization 7893
Shuhan Shen, Yuncai Liu

GA-Based Creative Shape Design Method Integrating Surface Fitting and Generating 7898
Peng Fei Yi, Xiaopeng Wei, Tingting Zhao

An improved ant colony optimization algorithm with embedded genetic algorithm for the traveling salesman problem 7902
Fanggeng Zhao, Jinyan Dong, Sujian Li, Jiangsheng Sun

Multi-objective Optimizing with Random Variable Coefficients Based on Interactive Fuzzy Satisfying Method 7907
Deguo Yuan, Zilin Wei, Denggen Yuan, Tingjin Lu

Design and Implementation of S-shape Acceleration/Deceleration Algorithm based on Rounding Error Compensation Tactic 7912
Xuguang Shi, Bugong Xu, Wei Xie, Boren Li

A Novel Method to Train Support Vector Machines for Solving Quadratic Programming Tasks 7917
Qian Zhang, Zhanbin Che

FA1PE-A4: Software Automation

Single Neuron Self-tuning PID Control for Welding Molten Pool Depth 7922
Xiwen Liu

The Design of Temperature Control Algorithm of Changeable Structure with Three Inputs and Two Outputs of Injection Blow Forming Block Based on Fuzzy Control 7926
Qizhong Cai, Kejian Li, Wenhui Chen, Yifeng Guo

Intelligent Hybrid Temperature Control of the BSTR Based on the SIMATIC PCS7 7931
Tingjun Xie, Tingting Gong, Tao Ye, Daoping Huang

Fuzzy Control of Milling Process with Constraint of Spindle Power 7936
Hua Huang, Aiping Li, Liyun Xu

Process Optimal Control of Sheet Metal Forming Springback Based on Evolutionary Strategy 7940
Wenjuan Liu, Zhiyong Liang, Tao Huang, Yuanbin Chen, Jinping Lian

Study on Logistic Information Acquisition Technology in Steelmaking Practice Based on RFID 7946
Xuefeng Jiang, Xu Wang

Implementation of New Architecture for an Intelligent Wearable Surveillance Assistant System 7951
Lu Han, Zushu Li, Dongyi Chen

A New knowledge acquisition Method from TCM Clinical Cases based on Information Extraction 7956
Huansheng Zhang, Dezheng Zhang, Xixuan Chen

Application of Adaptive Matched Filter to ECG Signal Detection 7960
Wei Zhang, Linlin Ge

FA1PE-A5: Network Control

Stabilization of networked control systems via periodically time-varying local controller 7965
Chong Jiang, Dexin Zou, Qingling Zhang

Robust H-∞ Control of Uncertain Networked Control Systems with Dropout Compensation and Markov Jumping Parameters 7970
Jin Na Li, Qingling Zhang, Yanhong Xie

Research on Double-end Cooperative Congestion Control Mechanism of Random Delay 7976
De Hui Sun, Daqian Liu, Zhijun Li, Yuntao Shi

Synchronization-based Overlay Construction for Resilient P2P Streaming 7980
Rongtao Liao, Shengsheng Yu, Jing Yu

Stability Analysis of Networked Control Systems with Data Dropout and Transmission Delays 7986
Yuan Ge, Qigong Chen, Ming Jiang, Zhenan Liu

The Modification of AODV by Utilizing The Communication Intervals 7992
Quanxin Zhang, Xuelan Zhang, Zhendong Niu, Fusheng Jin, Yuan Tan

The Simulation of an Improved Blocking Algorithm for Next Generation Network 7997
Wenchuan Yang, Peng Wang, Yuming Deng, Fang Fang

FA1PC-B1: System Theory III

LQR Control for Secondary-regulation Hydrostatic Transmission System via Exact Linearization 8003
Xin Yang, Haichang Liu

Study on the Sliding Mode Control System for Air Gap of Electrical Maglev based on the Feedback Linearization 8008
Zhiyuan He, Wei Wei

A Remanufacturing Equilibrium Analysis of Manufacturing Enterprises Oriented to Sustainable Development 8012
Guohua Sun, Qiushuang Chen, Jie Wei, Xiaochen Sun

The Coordination Problem of Supply Chain with Differentiated New and Remanufactured Product 8018
Guohua Sun, Jie Wei, Xiaochen Sun

Study of Power Market Simulation Based on distributed Multi-Agent System 8024
Jin Qiu, Feng Gao, Jiang Wu, Xiaohong Guan, Qiaozhu Zhai

Research on global consensus problem of scalable swarm system 8030
Shiming Chen, Qixin Zhu, Huiqin Pei

FA1PC-B2: Nonlinear Control IX

A Non-linear Classifier Based on the Contraction of the Closed Convex Hull 8035
Yongqiang Liu, Zengzhao Chen, Xiuling He, Cailin Dong

Stabilization control of switched nonlinear system based on sum of square decomposition 8040
Guoyong Huang, Guoliang Ma, Daobo Wang

A New Approach to Dynamic Output Feedback Control for Descriptor Systems 8045
Bo Yao, Fuzhong Wang, Shuai Wang

Some improving approach in discrete variable structure control 8049
Yong Wang, Huang Wen-jun, Wu Li-yuan

Comprehensive Compensation Control Method of Random Delay Based on GPC 8053
Lijun Yun, Tianwei Xu, Fei Xiao, Li Li

Secure Communication Based on Tracking Control of Quantum Cellular Neural Network 8059
Sen Wang, Li Cai, Qiang Kang, Qin Li, Gang Wu

Application of Multi-mode Control Strategy in the Automotive HID Headlight Systems 8064
Bin Wang, Xi Xiao

Fault-tolerant Controller is designed for Linear Continuous Large-scale Systems with Time-delay 8069
Jinghuan Wang

Robust Decentralized Reliable H∞ Control for Nonlinear Uncertain Interconnected Systems with Time-varying Delays 8072
Ning Chen, Zhaodi Xu, Xin He, Yaling Fang

FA1PC-B3: Nonlinear Control X

Theory of Continued Fraction Interpolation and Its Application in Non-linear Regression 8078
Anzhao Cao, Zhu Xiao-Lin, Jinming Zhou, Tingting Gao

A Moving-Bank Based Intelligent control 8082
Lei Shao, Hunmin Lei, Zongbao Zhao

Model Reduction for Two-Area Power System Based on Inclusion Principle 8086
Lianzeng Ma, Xuebo Chen

Continuous Equilibrium Network Design Based on Reserve Capacity Concept with Multi-vehicle Classes 8092
Yafei Huang, Tongyang Xu

Design of Positive Real Controller for Continuous-time Descriptor Systems with Impulse 8098
Xin Jing, Qingling Zhang, Li Zheng, Qicheng Xu

H-∞ Robust Control for Uncertain Discrete Time-delay Systems with Nonlinear Perturbation 8104
Xin Jun Ma, Bugong Xu, Bo Yan, Yong Jun Cao

Large inertia-arge scale time delay system optimized control strategy 8110
Pengfei Li, Bo Yang, Minsha Cheng

Repetitive Learning Control for a Class of Nonlinearly Parameterized Uncertain Systems 8116
Yunping Sun, Junmin Li, Yuanliang Wang, Weiping Zhao

Ship Course Steering Predictive Control Based on RBF Neural Network 8122
Xu Zhang, Chen Guo, Guang Ye

FA1PC-B4: Control Method Research

Variable-sampling Networked Control Systems Based on Neural Network Prediction Control 8128
Yan Xue, Ke Liu

A New Arithmetic of Lower Conservatism Degree of Robust Stability for Linear Interval Systems 8134
Linkun Zhao, Shaosheng Fan

Non-fragile Robust Control for a Class of System with Unknown Uncertainty 8139
Qinghai Heng, Jing Lu, Qingzhu Heng, Qian Huang, Bo Li

Robust reliable H-∞ control in the presence of sensor failure 8143
Fujun Cui, Yu Cheng, Wu Wang, Fuwen Yang

Time-stamp Based State Prediction Control Approach to a Class of Networked Control Systems 8149
Hexu Sun, Tao Liang, Zhaoming Lei, Nana Nie

Mixed H2/H-∞ Control for Networked Control System with Missing Data 8154
Fenghuang Cai, Qiongbin Lin, Wu Wang, Fuwen Yang

Robust H-∞ Control for Uncertain Neutral Systems with Varying-Delay in State and Input Control 8159
Xingjian Fu, Yingchun Li, Xiao He Liu, Li Hua Liu

Some Improvements on Model Free Controller 8164
Junling Li, Shugong Zhang

Fault-tolerant control for time-delay systems via output dynamical feedback 8169
Wei Qian, Juan Liu, Youxian Sun

FA1PC-B5: System Modeling, Simulation and Sensing

Study on simulation of RBF NN identification method based on adaptive structural optimization 8174
Yunshi Xiao, Hongkai Ding, Jiguang Yue

Soft Sensor of Naphtha Dry Point Based on Adaptive Immune Clustering RBF Networks Assembly 8179
Xuhua Shi, Feng Qian

Component Content Soft-Sensor Based on SVM in Rare Earth Countercurrent Extraction Process 8184
Rongxiu Lu, Hui Yang

Process Modeling Method Based on an Improved Elman Neural Network 8188
Zhongji Qi, Mandan Liu, Honggang Wang

Modeling and Simulation of Train Tracing Control System under MABS using CPN 8193
Lei Chen, Bin Ning, Tao Tang

Electromagnetic Field Analysis and Dynamic Modeling of Force for Motor in Maglev Train 8198
Guirong Wang, Hong Xu, Jian Sun, Wei Wei

Study on Locomotion Simulation Platform of Lower Limb EMG-Prosthesis Based on OpenGL 8203
Xin Guo, Hongcai Liu, Lingling Chen, Peng Yang

The study of distributed routing algorithm in Ad hoc network 8207
Ying Dong, Yong Wang, Yongjian Yang, Fushou Jin

The Dynamic Properties Modeling of a Heat Exchanger based on Improved Elman Neural 8211
Youen Zhao, Xiuhua Ji, Hua Yan, Shoujun Zhou

FA1PE-C1: Complex System I

New Delay-dependent Synchronization Criterion for complex dynamical networks with coupling Delays 8216
Degang Yang, Chunyan Hu

Bifurcation and chaos of a shape memory alloy supporter 8222
Zhihua Huang, Changcheng Du, Yinghui Li

Research on Consensus Problem of Swarming Behavior of Scalable Intelligent System 8228
Shiming Chen, Huiqin Pei, Qixin Zhu

Chaotic vibration of a shape memory alloy beam subjected to an axial dynamic load 8234
Qingquan Zhang, Changcheng Du, Yinghui Li, Jin Yao

Multi-agent Coordination of Networked Mobile Agents with Hierarchical Dynamic Graph 8239
Jianxin Wu, Yiguang Hong, Guodong Shi

Collective Behavior of A Weight Swarm Model Based on Unbounded Repulsion 8245
Dan Jin, Lixin Gao

Extended Proportional Navigation Guidance Law for Anti-warship Missile Based on Lyapunov Stability 8250
Hongchao Zhao, Ruchuan Zhang, Hongyun Yu

An Improved Ranking Approach to AHP Alternatives Based on Variable Weights 8255
Chunhao Li, Yonghe Sun, Yanhui Jia, Hui Li

Exponential Stability of Reaction-diffusion Cohen-Grossberg Neural Networks with Variable Coefficients and Distributed Delays 8261
Shuping Bao

FA1PE-C2: Robotics and Intelligent Robot VII

Trajectory Planning and 3-D Image Reconstruction of an Ultrasound Guided Robot Aiming Radio Frequency Ablation Surgery 8265
Xingguang Duan, Guibin Bian, Yuanfeng Li, Honglei Shen, Qiang Huang, Yakang Dai, Min Xu

Combined Coverage Path Planning for Autonomous Cleaning Robots in Unstructured Environments 8271
Yu Liu, Xiaoyong Lin, Shiqiang Zhu

An Activity-based Architecture for Intelligent Vehicle Navigation 8277
Xiangui Liu

Application of fuzzy neural network based on T-S model for mobile robot to avoid obstacles 8282
Kunpeng He, Hua Sun, Wanjuan Cheng

Research on Path Planning Method of Multi Mobile Robot in Dynamic Environment 8286
Linan Zu, Lingling Chen, Zuojun Liu, Peng Yang

FA1PE-C3: Intelligence Scheduling System

An Orthogonal hybrid algorithm for the resource-constrained project scheduling problem 8292
Zhiyu Huang

Research on the Design Method of Business-Oriented Component-Based CRM System 8298
Jianmin He, Cheng Fu, Shanlin Yang

Improving Customer Satisfaction by the Expert System Using Artificial Neural Networks 8303
Feng Qian, Linwen Xu

Solving Complete Job Shop Scheduling Problem Using Genetic Algorithm 8307
Linping Wang, Zhenyuan Jia, Fuji Wang

Standard Deviation Method for Determining the Weights of Group Multiple Attribute Decision Making under Uncertain Linguistic Environment 8311
Yejun Xu, Zhijian Cai

A Fuzzy Evaluation Approach for Partnership Selection on the Supply Chain 8317
Xiaobin Weng, Gengui Zhou, Jian Cao

Research on Virtual Laboratory Information Management based on Metadata 8323
Ding Pan

MultiAgent-based Fractal Control Unit of AMS 8328
Yu Liu, Qi Gao

Verification of EPCs Based on the Finite State Automata and State-space 8333
Qinglei Guo, Qing Yao

FA1PC-D1: Soft-measurement Technique-3/Field Bus

Flow Pattern Identification of Gas-Liquid Flow Based on the Hybrid Model of Multi-scale Information Entropy Feature and LS-SVM 8339
Wenzhe Qi, Kanxuan Wu, Zhenrui Peng

Map Building for Forest Tree 8345
Zezhong Xu, Yanbin Zhuang, Zhongshen He

The Gas Mass Flow Measurement base on Multi-sensor Information Fusion 8349
Weiguo Zhao, Zhihuan Song, Guowei Liang, Zhenwei Huang, Yiling Liang

An Improved Holistic Schedulability Algorithm Based on CAN Bus 8353
Luyuan Liu, Xi Chen, Weijie Lv, Yiming Ding

Research and Design of Protocol Analyzer for Multifunction Vehicle Bus 8358
Zhiwu Huang, Sheng Zhou, Weihua Gui, Jianfeng Liu

A Logarithmic Amplifier Automatic Test System Base on GPIB Interface 8362
Youbing Pang, Ruoxu Wang, Wanjun Tang

Design of a Novel Automatic Lensmeter 8366
Xiaozhu Liu, Haiyang Liao

Construct Quality Index System of Foundational Software Platform Using Improved PCA Method 8370
Yuqing Lan, Tong Zhao, Shuhang Guo, Jing Gao, Hui Zhao

Design of Intelligent Electricity Meter-reading System for Students' Apartments 8376
Jianhua Liu, Meng Gao, Peng Geng, Ningning Liu, Zhiqiang Yu, Haiwei Kang

FA1PC-D2: Digital Sensor II

A Video Scan Converter Development with High Resolution 8382
Zhipeng Shen, Chen Guo, Fuliang Yin

Research on Particle Filter Based on Spherical Unscented Transformation 8388
Wenyan Guo, Chongzhao Han, Ming Lei

Multi-Scale and Nonlinear Analysis of Two Phase Flow Pattern in Measurement Channel of Concentrating Type Conductance Sensor 8393
Guibo Zheng, Ningde Jin, Xiaohui Jia, Lina Bai

Indirect Recognition and Tracking Ground Target In TV Image 8399
Dafu Pan, Bo Wang

Design of the New Multi-purpose Study State Recorder of Student for Road Sense Based on Fingerprint Identification 8404
Liwei Li, Mingting Yuan, Zhisheng Zhang

A Fragile Digital Audio Watermarking Algorithm Based on SMM 8409
Haiyan Liu, Xuefeng Zheng, Ying Wang

The Implementation of Continuous Speech Recognition System Based on LabVIEW 8414
Yuning Hua, Changqing Fan

Method of Speech Enhancement Based on Hilbert-Huang Transform 8419
Xueyao Li, Xiaojie Zou, Rubo Zhang, Guanqun Liu

Leak Detection and Position Method for Pressure Piping Using Acoustic Emission 8425
Li Ying Sun, Yi Bo Li, Tiegen Liu, Shijiu Jin, Weikui Wang

FA1PC-D3: Computer-Intelligent Manufacturing System

Analyzing and Simulating Dynamic Stability of Large Marine Power Station Systems 8430
Caiqin Sun, Chengjun Shi, Guang Ren

Research on Agile Manufacturing Execution Systems for the Auto Electronic Parts Industry 8435
Zhihui Huang, Shulin Kan, Yufeng Wei, Qiaoying Dong, Jing Yuan

Application of CIMS in Cement Enterprises 8441
Shaohong Jing, Wenqian Cao, Hongliang Yu, Baohua He

Application of UML in MES Equipment Management Subsystem 8446
Shaohong Jing, Wenqian Cao, Xiaohong Wang, Daisheng Bai

Two-Phase Flow Feature Extraction and Regime Identification in Horizontal Pipe 8451
Lifeng Zhang, Huaxiang Wang, Yongbo He, Ziqiang Cui

3D Geometric Model Region Partition Method 8456
Rui Wang, Junshan Li, Guoqing Liu, Xuhui Li

A Method for Time-Frequency Feature Extraction from Vibration Signal Based on Hilbert-Huang Transform 8460
Weidong Jiao

Generalized Nearest Neighbor Rule for Pattern Classification 8465
Bing Wang, Yong Zeng, Yupu Yang

An Improved Two-Stage Camera Calibration Method Based on Evolution Calculation 8471
Hongwei Gao, Bin Li, Chengdong Wu, Chuan Zhou

FA1PC-D4: Image Processing VII

False Matches Filtering Methods for Binocular Vision 8477
Hongwei Gao, Bin Li, Chengdong Wu, Chuan Zhou

Algorithm of Car License Plates Location Based on Multi-feature Fusion 8483
Ruili Zeng, Gang Li, Yunkui Xiao, Mengjun Wang

Automatic Measurement of the Mechanical Part Based on Binocular Stereo Vision 8487
Jin Guo, Xianyong Liu, Xiaoning Chen

A Method of Color Optical Flow Computing Method with Local and Global Models Combined 8492
Xuezhi Xiang, Chunhui Zhao, Lei Zhang

HVS-based Structural Image Quality Assessment Model 8497
Bo Yang, Liang Lei, Junling Yang

Target Tracking using Predicted CamShift 8501
Bo Yang, Hongjun Zhou, Xue Wang

Efficient K-nearest Neighbors Searching Algorithms for Unorganized Cloud Points 8506
Xia Yuan, Ling Guo, Jianyu Wang, Chunxia Zhao

Retinal Images Fusion Based on Lifting Wavelet Transform 8511
Chunhua Guo, Tongqing Wang, Junyong Ye, Liang Lei

Expression Recognition Based on EPCA and SVM 8516
Yani Zhu, Jiatao Song, Xiaobo Ren, Meng Chen

FA1PC-D5: Fault Identification III

Fault Diagnosis of Airborne Equipment Based on Grey Correlation Fault Tree Identification Method 8521
Wei Tian

The Study of Variant DGA Feature Neural Network Multilayer Diagnostic Model 8526
Qing Hu, Weigen Chen, Lin Du, Nan Li, Caixin Sun

A Study on the Comparison of Two Harmonics Detection Methods of Three-phase Four-wire System 8531
Yong Zhang, Xingong Cheng, Fengjun Zhang

Paper Breaking Prediction Control in Papermaking Process Based on Analysis of 1.5 Dimension Cepstrum 8536
Zhongjun Xiao, Mengxiao Wang

Turbo-Generator Vibration Fault Prediction Using Gray Prediction Model 8542
Guizhong Tang, Guangming Zhang, Jianming Gong, Tianpen Qiang, Guo Li

Application of Morphological Filter and Correlation Dimension in the Fault Diagnosis of Rotor System 8546
Biqiang Du, Guiji Tang, Songling Wang, Junjie Shi

The Research on the Fault Diagnosis for Boiler System Based on Fuzzy Neural Network 8552
Yawei Zhao, Qing Yang, Liang Chen

Robust fault detection for a class of networked systems with stochastic communication delays 8557
Yubin Ruan, Fuwen Yang, Wu Wang

Fault Diagnosis for Maglev System Based on Improved Principal Component Analysis 8563
Song Xue, Xiaolong Li, Zhiqiang Long

FA1PC-D6: Embedded MEMS III

High-order Sliding Mode Control for A Giant Telescope 8569
Zhiming Dong, Wangping Zhou, Junjie Bai

Study on Control of Bearingless Slice Motor 8573
Jianzhao Luo, Weiliang Yong

Relative and Absolute Hybrid Motion Control Strategy Investigation on Active Magnetic Bearings_Analysis of System Performances 8579
Fangzhen Song, Mingming Li, Chengjun Bai, Sufang Chang

H-∞ Controller Design and Simulation for Electric Load Simulator Based on Mixed Sensitivity Method 8585
Yong Huang, Jianli Wei, Kang Chen, Li Sun, Zhang Ren

Indirect Torque Control of Induction Motor Based on Two-Stage Matrix Converter 8591
Mei Su, Hongjun Xie

Multiple Fault Diagnose and Identification Based on Multi-scale Principal Component Analysis 8595
Lin Tan, Chenglin Wen

Design for Mobile Node of Sensor Networks based on Embedded Arm-linux 8601
Xingqiang Liu, Yuqing Huang, Li Xu

Research on Multi- Axis NC Based PMAC and the Following Precision on a Hobber 8606
Qiang Huang, Genbao Zhang

The vehicle Passive Keyless Entry system based on RFID 8612
Hongzhi Guo, Hong Chen, Guohuang Ji, Xin Zhou

FA2PE-A1: Bionic Control II

Agent-based Enterprise Information Architecture with a 3PLCase Study 8618
Ying Hao, Biqing Huang

An Improved Artificial Immune Algorithm for Solving Weapon-Target Assignment Problem 8622
Liang Wang, Zhiming Qiu, Hangyu Wang

Generalized Projected Synchronization of Wang and Chen Hyperchaotic Systems 8626
Baohua Gu, Liang Shan, Jun Li, Zhiquan Wang

A Heuristic Algorithm for a Vehicle Dispatching Problem with Time Window Rearrangement 8632
Qing Yu

Static Output Feedback Control of Fuzzy Impulsive Time-delay Systems 8637
Haibo Jiang, Xinlong He, Liping Zhang, Jianjiang Yu

An Improved Genetic Algorithm and Its Application 8642
Mingdong Wang, Xianlin Liu, Jilai Yu

Application of Intelligent Control Technology for the Punch 8645
Li Xu, Song Yang

Adaptive Control Based on Genetic Algorithm and Fuzzy Tuning for Unknown Systems with Time-Delay 8650
Hongxing Li, Bingzhang Luo

Prediction-Based WSN-Mediated Dynamic Obstacle Avoidance for Mobile Robot 8656
Han Xue, Xun Li, Hongxu Ma

FA2PC-A2: Neural Network V

Design of Single Neuron PID Multi-variable Controller Based on Evolving PSO 8661
Guanghui Wang, Jie Chen, Feng Pan

Inverse Kinematic Control of Free-floating Space Robot System Based on a Mutual Mapping Neural Network 8666
Dengfeng Huang, Li Chen

Neural Networks Based on Evolutional Algorithm for Personal Credit Scoring 8671
Minghui Jiang, Shuang Yin, Xuchuan Yuan

Intelligent Control for Moisture of Sinter Mixture Based on ABPM Artificial Neural Network 8676
Guo Li, Guangming Zhang, Xiang Ling, Weihua Gui, Guizhong Tang

The Application of Change Structure Fuzzy Neural Network Based on Clonal Algorithm at AGC System 8681
Lei Sun, Yan Wang

Multi-Variable Neural Network Adaptive Control for Aeroengine 8687
Kailong Cai, Kejie Yu, Boping Lv

Optimization of CFBB by Orthogonal Analysis Based on Artificial Neural Network 8693
Bo Song, Qingyin Jiang, Zhikai Cao

Simulation of Hybrid Electric Vehicle Control Strategy Based on Compensation Fuzzy Neural Network 8697
Huiyong Chen, Guangqiang Wu, Lang Luo, Wenguang Tan

Application of Elevator Group Control System Based on Genetic Algorithm Optimize BP Fuzzy Neural Network 8702
Yanqiu Wang, Jian Zhang, Yueling Zhao, Yu Wang

FA2PC-A3: Genetic Algorithm III

A New Study on Variety Discrimination of Fragrant Mushrooms Using Genetic Algorithm 8706
Haiqing Yang, Jianyuan Wu, Xiaojing Chen, Yong He

A Novel Adaptive Immune-Based Multi-modal Function Optimization Algorithm 8711
Xu Zhang, Guoshun Wang, Baoliang Li

Research on Optimization Problem of the Automated Warehouse Using an Improved Ant Colony Algorithm 8716
Meijuan Li, Xuebo Chen

Analysis the Kinematics of Particle Swarm Optimization Algorithm 8722
Hongliang Li, Chaozhen Hou, Shaosheng Zhou, Changbin Shao

Dynamic Constrained Multiobjective Optimization Im-mune Algorithm and Its Application 8727
Zhuhong Zhang, Shanlong Chen

Optimal Design of Intake System Mufflers in Engine Based on Single and Multi-objective Optimization 8733
Aipeng Jiang, Jingtao Huang, Zhoushu Jiang, Jian Wang, Qiang Ding, Guohui Huang

A Novel Small-Population Genetic Algorithm based on Adaptive Mutation and Population Entropy Sampling 8738
Junling Zhang, Changyong Liang, Qing Lu

An Improved Two Particles PSO Algorithm 8743
Ming Li, Cheng Yang, Cheng Wu Yang

A Cooperative Parallel mechanism based Multi-Particle-Swarm Optimizer 8749
Fayong Guo, Yong Zhang, Dunwei Gong, Wei Wang

FA2PC-A4: Intelligent Transportation

Hybrid Traffic Flow Model 8755
Hong Liu, Hui Wang

Mixed-traffic Signal Timing at Signalized Intersection Based on Adaptive Co-evolutionary 8760
Ming He, Hui Wang

FA2PC-A5: Grid Computing

GDCS Resource Deployment Strategy of Conflicting & Sharing 8765
Jian Yang, Xiaoli Hou, Daoping Huang

Study on Data Integration of Printing & Dyeing Enterprises and its Industry Information Share Based on Grid technique 8770
Xiaohui Zhou, Xiao Yi Yao, Anke Xue

The Algorithm Simulation Research for Network Routing Based on Granular Agent Method of Quotient Space 8774
Yang Li, Youhua Zhang, Yan Xiaoyan, Ling Zhang

New Method for Predicting GridFTP Throughput 8780
Baoyi Wang, Shaomin Zhang, Qiaoli Xue

Routing Protocol Design Based on Location in Incompletely Connected Ad-hoc Networks 8785
Chunju Li, Hong Jiang

A Grid Model Based on Tree-Shaped Resource Fusion 8790
Weiwei Lin, Deyu Qi

The application research of TNC Hyperchaos encryption in WLAN security 8797
Xiufang Wang, Yue Hu, Hongbo Bi, Li Wenchao

Internet Service Control Based on Customer Choice 8802
Bo Chen, Wedong Zhu, Yaping Zhou, Lionel Z. Li

An Automaton for Fast Multi-streams Content Inspection 8805
Kefu Xu, Deyu Qi, Jun Xiang, Zhengping Qian, Weiping Zheng

FA2PC-B1: Nonlinear Control XI

Exponential stability of solution for the Kuramoto-Sivashinsky equation 8811
Qimin Zhang

Decentralized Robust Fault-Tolerant Control for a Class Uncertain Large-Scale Interconnected Systems 8815
Shiyong Zhang, Xuebo Chan

The Compound Structure of Chaotic Liu Attractor: A Fuzzy Approach 8820
Lili Cui, Shutao Wei

Dissipative Control for Networked Nonlinear System with Random Delay 8824
Qiongbin Lin, Fenghuang Cai, Fuwen Yang, Wu Wang

Force Control Strategy and Test Research of Underwater Dexterous Hand 8829
Hua Wang, Xiaodiao Huang, Rongjing Hong, Chenggang Fang

Analysis of robust stability of time-varying parameter polynomial-dependent linear systems 8834
Yuan Mingting, Li Na, Zhao Ke-You

Variable Eigenvalues Control Systems of First and Second Order 8838
Qinnan Ji

Parameters Identification of Direct Thrust Control system Using Wavelet Transform 8842
Changjiu Li, Lijun Zhao, Yingfeng Chen, Jiefan Cui

The Research and Application of Control Method Based on Flexible ILC 8847
Zuojun Liu

FA2PC-B2: Nonlinear Control XII

Synchronization with Diverse Structure of the Josephson-Circuits-Coupled Cellular Neural 8853
Sen Wang, Qiang Kang, Li Cai

Robust H Infinite Output Feedback Control for a Class of Discrete-time Switched Systems 8858
Jiao Li, Yuzhong Liu, Feng Zhang, Weiwei Wang

The Study of Horizon Optimal Control for a Class of Affine Nonlinear System 8864
Hao Long, Sujie Song, Haoqin Su

Design of a New Intelligent Fuzzy Control System of Greenhouse Temperature 8869
Wei Xing, Haipeng Pan, Sen Xu, Xiaoyong Lin

Delay-dependent Robust H-∞ Control of A Class of Uncertain Switched Systems With Time Delay 8873
Xiaofang Zhang, Yuzhong Liu

Observers Design for a Class of Switched Interconnected Large-scale Nonlinear Systems 8878
Changchun Sun

Optimal Control Policy for Two Stage Reverse Logistics System 8882
Jie Wei, Xiaochen Sun, Guohua Sun

Nonlinear Robust Control of Buck DC Converter Systems via Smooth Sliding Mode with Backstepping Design 8888
Likui Yi, Jun Zhao

Input Constrained Discrete Time-delay System Robust H∞ Control with Invariant Set 8893
Zhihu Wu, Run Pei

FA2PE/C-B3: Mixed Session II

An Offline Parameter Identification Method of Induction Motor 8898
Jun Zheng, Yunkuan Wang, Xiaofei Qin, Xin Zhang

Observer-Based Robust H∞ Control of Uncertain Ito Stochastic Systems 8902
Yun Chen, Anke Xue, Liang Chen

The Design and Implementation of PolicyEngine In Policy-based Satellite Network Management 8907
Chengsheng Pan, Yueqiu Jiang, Yang Luo, Kun Sun

A Model for Identifying Creative Participation Program Membership 8912
Lan Xu, Qing'An Cui, Nan Cui

A Design Method for MAS that Combines the HLA and Immunity Algorithm 8917
Sha Xu, Weiren Shi

FA2PC-B4: Control Theory and Application III

Compensating Learning Control for Free-floating Space Robot System Using Genetic Algorithm 8922
Xiaoteng Tang, Li Chen

Sliding Mode Variable Structure Control of Gyro Stabilized Sighting System of Airborne Optoelectronic Pod 8926
Ying Liang, Qing Zhang, Zhenfan Tan

Flexible Predictive Control For The Main Fractionation Top Temperature of FCCU 8932
Hui Yuan, Xin Zuo

The Robust Adaptive Design of Straight-line Tracking Control 8936
Yang Liu, Chen Guo

Based on the Betterment Expert Control of the brake Cylinder Pressure Control Method 8941
Jianfeng Liu, Weihua Gui, Zhiwu Huang

Research on Modeling and Robust Adaptive Control of a Novel Permanent Magnet Spherical Stepper Motor 8946
Zheng Li, Qunjing Wang, Chaoying Liu

The Enactment of Parament into the Simulation and Research of Algorithm of Dynamic Matrix Control 8952
Yanjun Zhang, Jing Zhang, Banghua Han

Adaptive Control for BTT Missile System Based on SISO Nonaffine Model 8956
Yuqiang Jin, Xianjun Shi, Shixin Wang

FA2PC-B5: Parameter Estimation and Control

Minimax Admissible Estimate for Multivariate Linear Model under Matrix 8962
Li Tian, Zhu Xiao-Lin, Tingting Gao, Jinming Zhou

Application of PSO and QPSO Algorithm to Estimate Parameters from Kinetic Model of Glutamic Acid Batch Fermetation 8968
Kezhong Lu, Ruchuan Wang

Research on the estimation to unknown noise statistics Q and R of nonlinear time-varying system 8972
Rui Chrn, Jinyu Wei, Qingchun Zheng, Ran Bi, ChengKui Gu

Application of Support Vector Machine to Predict Precipitation 8975
Jifu Nong, Long Jin

Neural Network Water Bloom short time Forecast Based on Evidence Theory 8981
Xiaoyi Wang, Zaiwen Liu, Lifeng Cui, Xiaofeng Lian, Siying Lu

A Upper Limbs Movement Posture Model for Motor Dysfunction 8985
Ke Zhang, Yi Chai, Wenwu Feng, Daolei Weng

Immune Evolutionary Programming-Based Locomotion Control of Autonomous Mobile Robot 8990
Mamady 1 Dioubate, Guanzheng Tan

Stability of linear general structured systems 8997
Ziyang Zhang, Mu Chundi

Harmonic and Reactive Power Compensation with Artificial Neural Network Technology 9001
Wenjin Dai, Yongtao Dai

FA2PC-C1: Complex System II

Optimal Decisions for a Closed Supply Chain System 9007
Xiaochen Sun, Cansheng Wei, Jie Wei, Yongjian Li

Comprehensive transportation system's evaluation method of hierarchy TOPSIS based on fuzzy threshold 9013
Yuzhuo Qiu, Senfa Chen

Extended Bargain model and Government role for city logistics infrastructure in China Context 9019
Wei Xiao

Research on Simulation of Airport Fire Emergency Rescue Based on Swarm 9022
Yanbing Ju, Jinju Yu, Aihua Wang, Haiying Che

Decentralized Adaptive Output Tracking Robust Controller Design for A Class of Complex 9028
Wenqing Wang

Data Processing and Information Products Generation of Integrated Ocean Observing System of Taiwan Strait 9034
Xiaomin Wang, Xin Zhang, Tianhe Chi

Development of the Complexity Measure for Assembly Line Systems Using Entropy Concept 9037
Fei He, Yunqing Rao, Chaoyong Zhang, Xinyu Shao

FA2PC-C2: Robotics and Intelligent Robot VIII

Control Strategy for Insect-Like Flapping Wing Micro Air Vehicles: Attitude Control 9043
Ming Lang Hu, Ruixuan Wei, Tongwei Dai, Lingyun Zou, Tingting Li

Design of the Master-Slave Manipulators System and Research on the Bilateral Control Strategy 9049
Tiehua Chen, Dingxuan Zhao, Zhuxin Zhang

Terminal Sliding Mode Control of Coordinated Motion of Free-Floating Space Robot with Dual-Arms 9055
Li Chen, Yishen Guo

A New Method for Position Control of Planar 3-Dof Underactuated Robots 9060
Qingbo Liu, Yueqing Yu, Liying Su

Research on Configuration Transformation and Kinematics of Metamorphic Mechanism for Operating the Hatch Door 9066
Wuxiang Zhang, Xilun Ding

Swarm Robots Search when Local Sense and Interactions 9072
Songdong Xue, Jianchao Zeng

Research of Robotic Mapping Based on Weighted Least Means Square 9078
Chunming Ren, Jianxun Zhang

Location and Mapping for AUV Using a Forward-Looking Sonar 9083
Tiedong Zhang, Yongjie Pang, Dapeng Jiang, Wenjing Zeng

FA2PC-C3: Decision Support System III

Working points on-line intelligent optimization strategy for dredging slurry pipeline transportation 9089
Zhiyue Bi, Qingfeng Wang, Jianzhong Tang

A Study on SDSS-based Strom Tide-induced Flood Control Decision Support 9095
Wenting Zhang, Xingnan Zhang, Yongzhi Liu

Forecast of Stock Price Volatility Based on the Multi-Fractal Spectrum Analysis 9100
Tianqi Yang, Jianxing Deng

Review of Optimization Methods for Scheduling of Chemical Processes Based on the Time Representation 9105
Xiaohui Zhou, Chun Chen, Anke Xue, Minliang Tian

A Class of Scheduling Problem with Chains Constrains and Processing Times Constrained by a Resource 9111
Yang Yan, Hongfeng Wang, Dingwei Wang, Dazhi Wang

Improved Multi-criteria Fuzzy Decision-making Methods Based on Vague Set 9115
Weiping Wang, Qizong Wu, Daju Xu, Xiaodong Hu

Research on Methods-Fusion Decision Technology of the Key-client Evaluation for Urban-logistics Company 9120
Hongzhao Dong, Fengyu Yang, Mingfei Guo

Analyzing Overspeed Regularities of Commercial Vehicles Based on Data Mining 9126
Dihua Sun, Liang Tang, Hongwei Wu, Qiang Zhang

Study on Energy Comprehensive Optimization Model of Iron and Steel Industry 9130
Dong Qiu, Longshan Wang, Jiafu Wang, Niaona Zhang, Guoli Gao

FA2PC-D1: Industrial Ethernet

Grey Soft-sensing Modeling of Oxygen Content in Electric Power Plant Flue Gas based on ASMO Algorithm 9136
Hong Qiao, Han Pu, Dongfeng Wang

Theoretic Study of Improving the Sensitivity of Fiber Optic Gyroscope Using Slow light 9141
Ying Li, Xinglin Chen

Process Sensor for Acetylene Hydrogenation Converter and Its Application 9147
Weibing Yin, Xionglin Luo

Study on Soft-Sensing Technique based HV Standard Impulse Parameter Evaluation Analysis System 9152
Jingdi Ji, Jiang Guo, Qijuan Chen

Soft Sensor Modeling Method for Freezing Point of Diesel Fuel Based on PCA and LS-SVM 9157
Xiaohong Wang

Parsimonious Modeling for Sleep Fidget Soft Sensor Based on Kernel Methods 9162
Taifu Li, Yingying Su, Debiao Wang, Jinliang Shi

Development on Dynamic Pressure Sensor for Long Pipeline Leak Detection 9168
Shili Chen, Pengcheng Li, Likun Wang

Modeling Methodology of Sensor Human-simulated and Its Application in Sensing Area of Irregular Graphics 9172
Wenjin Hu, Wen Ye, Yingying Su, Taifu Li

Study and Calibration of Azimuth Effect in Multi-position Strap-down North Seeking System 9177
Zhiqian Wang, Jiyin Zhao, Mujun Xie, Fengduan Gao, Chengwu Shen

FA2PC-D2: Intelligent Sensor II

A New Time Domain Design Method of Cosine Modulated Filter Banks 9182
Guodong Shi, Youhong Lu, Weige Tao

Intellectual Temperature Compensation and Correction Method of Capacitor Pressure Sensor 9186
Dehui Wu

Approach of Impulse Interfere Noise Cancellation based on Blind Source Separation 9191
Li Gao, Yanjun Hu, Hongzhen Yu

Optimization of the Bluff Body in Vortex Flowmeter 9195
Juan Xing, Tao Zhang, Yue Hu

Robust Quadric Control Based on State Transformation for PMSM Position System 9199
Maogang Wu, Rongxiang Zhao, Yangbin Dong

FA2PC-D3: Image Processing VIII

An improved watermarking algorithm for content authentication based on energy relationship 9204
Wei Zhou, Yuewei Dai, Chunjie Li, Shigang Zhou

Improved Template Update Strategy for Image Alignment 9209
Hongyou Li, Tongqing Wang, Junyong Ye

Image Processing Using SETMOS-based CNN 9214
Chaowen Feng, Li Cai, Qiang Kang

An Improved Fast Codeword Search Algorithm Based on Hadamard Transform 9220
Junbin Guan, Weihua Xiong, Haipeng Pan

Basic Image Transformations based on Virtual Spiral Architecture 9226
Jian Wang, Yan Zhuang, Wei Wang

Gray-level Reducing-based Text Image Coding 9232
Bo Yang, Pengfei Li, Ling Nie

Application of the Directional Wavelet Transform in Edge Detection of Airfield Runway 9237
Zhaolian Wang, Lehua Wu, Wan Yang

A New SAR Sea Ice Image Segmentation Algorithm Based on Edge-preserving Watershed 9241
Jing Shen, Xuezhi Yang

Estimating the Fundamental Matrix using L∞ Minimization Algorithm 9247
Min Yang

FA2PC-D4: Image Processing IX

Multi-frame Image Super-resolution Restoration Based on Estimation of Discrete Point Spread Function 9250
Shenghua Xie, Qiheng Zhang

Fractional Sampling Polyphase Filter Based Conversion of Image Resolution 9255
Zhipeng Shen, Ning Zhang

Image Segmentation Algorithm Based on Hierarchal Granulation Model of Variable Precision 9260
Xiaoli Hao, Keming Xie, Enqun Li

A Novel Algorithm for Checkerboard Corner Identification and Automatic Registration 9265
Tienan Zhang, Yaqing Tu, Dechao Wang

Research on Genetic Algorithm based on Tabu Search for Landmark Image Recognition 9270
Yuqing Huang, Hong Jiang, Jia Yang

A Ridgelet and BP Neural Network Based Face Detection Method 9276
Xuebin Xu, Xinman Zhang, Deyun Zhang

A New Method of Image Noises Removal 9280
Ying Zhang, Xuebo Chen

Form Analysis and Understanding Based on Knowledge 9286
Xiuling He, Yang Yang, Zengzhao Chen, Ying Yu, Cailin Dong

Manifold Learning and Its Application in Form Processing 9292
Xiuling He, Yang Yang, Zengzhao Chen, Ying Yu, Cailin Dong

FA2PC-D5: Fault Identification IV

Fault-tolerant control for networked control systems with bounded packet dropout 9297
Dexiao Xie, He Huang, Xiaodong Han, Zhiquan Wang

Digital Circuit Fault Diagnosis Interface Technology Based on VXI 9302
Tongshun Fan, Ying Liu, Wei Su, Liming Luo

SOCS Analysis for Vibration Signal in Transmission Shaft of Vehicle 9307
Ruili Zeng, Huiliang Li, Guangtao Cheng, Yu Fu, Yunkui Xiao

The Inverse Calculation of Roughness Coefficient in Village and County Circular Pipe Network based on Stochastic Particle Swarm Optimization 9311
Zhao Zhang, Zhihong Qie, Zhijun Zhou, Xinmiao Wu, Chenfei Yan

Application of Detection Method Based on Energy Function against Faults in Motion System 9317
Jinzhuang Xiao, Hongrui Wang

Application of BP Neural Network in Fault Diagnosis of FOG SINS 9322
Lei Wu, Feng Sun, Shitong Chen

An Adaptive GALM Neural Model and Its Application for Fault Diagnoses 9327
Yuanping Ni

Research on Immune Reconstruction Application Technology for Fault Diagnosis 9333
Wei Li

The Research of Parameters Automatic selection Reduction Tikhonov Regularized SVM 9338
Yongqi Chen, Qijun Chen

FA2PE-D6: Embedded MEMS IV

Numerical Analysis of the Influence on Ultra-Thin Film Gas Lubrication Considering Surface Roughness in Hard Disk Drives 9343
Rongjun Niu, Ping Huang

Fundamentals of a Power Splitting Driving Chain for Large Wind Turbines 9347
Xiaoming Rui, Lin Li, Ximei Li

The CAM System Research of Sawing and Milling Machining Center for PVC Profile Based on Feature Technologies 9351
Hui Zhang, Fang Zhao, Chang Sheng Ai, Xiangbo Ze

Control of Electro-Hydraulic Servo System for a Material Test System Using Fuzzy Nerual Network 9356
Chunyu Zhao, Ke Gao, Xiujuan Liu, Bangchun Wen

The CNC Development of the Sawing and Milling Machining Center for Plastic Door and Window PVC Profile Based on Fanuc0 9362
Hui Zhang, Changsheng Ai, Fang Zhao, Xiangbo Ze

Design of Ultrahigh Pressure Water-jet Cutting Machine Based on Phased Intensifier 9368
Jiazhong Xu, Bo You

Design of Portable Terminal Device in Emergency System for Turnpike 9374
Haifeng Wang, Chunjie Li, Lu Wu, Minglei Shu, Jialiang Lv

The Fault-tolerant Operation of Electro-Mechanical Actuator (EMA) System with the Hybrid Redundant Structure 9379
Huifen Dong, Yuanjun Zhou, Yaozhong Zhu

Design and Analysis of AC/DC Converters with Interleaved Power Factor Correction 9385
Jong C. Wang, Honji Chen

Harmonic-wavelet Sample-entropy Extracting Weak Noise 9388
Wanqing Song, Yucheng Chen

Dual-Variables Decoupling Control System Based On Artificial Neural Network 9393
Fang Ding, Zhan Feng, Xie Keming

Robust Non-fragile Stabilization and D-Stabilization for Delta Operator Uncertain Systems 9398
Minqing Xiao, Changxiu Cao