

Instruments, Measurement, Electronics and Information Engineering

**Selected, peer reviewed papers from the 2013 International Conference on
Precision Mechanical Instruments and Measurement Technology
(ICPMIMT 2013)**

Applied Mechanics and Materials Volumes 347-350

**Shenyang, Liaoning, China
25 – 26 May 2013**

Part 1 of 5

Editors:

J. Ma

**ISBN: 978-1-62993-340-5
ISSN: 1660-9336**

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2013) by Trans Tech Publications Ltd.
All rights reserved.

Printed by Curran Associates, Inc. (2013)

For permission requests, please contact Trans Tech Publications Ltd.
at the address below.

Trans Tech Publications Ltd.
Laubisrutisr 24
CH-8712 Stafa-Zuerich
Switzerland

Fax: +41 (44) 922 10 33 Fax: +1 (603) 632-5611
e-mail: sales@ttp.net

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

Table of Contents

Preface

Chapter 1: Mechatronics, Control and Management, Measurement and Instrumentation, Monitoring Technologies

Research on a Fuzzy Choice Function in Multi-Objective Fuzzy Decision J.X. Long	3
Solution of Inverse Kinematics of a 6R Serial Robot X.G. Huang, L.L. Li and D.L. Li	7
Simulation on Networked Munitions System Control with Time Delay P. Sun, S.W. Hu and W. Wang	11
Parameters Recursive Identification of Minimum Variance Control Z.H. Dai, Y.A. Pan and J. Yao	15
Researches of Pressure Measurement Method in Vacuum Environment H.Y. Wu, T.N. Yang and X.J. Wang	19
One Kind of Data Acquisition System Used in PC104 Embedded Navigation Computer Z.H. Liu, Y.L. Mao and C.L. Song	24
A Signal Acquisition and Failure Alarm System of Combine Harvester Based on Touch Screen Technology Y.Y. Ji, J. Chen and G.J. Yang	28
Research of the Liquid Level Detection System for Integral Stereolithography System G.S. Xu, D.H. Yan, Y.N. Wang and K.L. Ju	32
Implement of Lamb Wave Using PZT Phased Arrays for Structural Health Monitoring Y.J. Sun, Y.H. Zhang and C.S. Qian	36
Technical Aspects of Spurious Emission Measurement on WCDMA Base Station Transmitter Using Spectrum Analyzer R. Zhang, P.Y. Zhang, B.S. Lu, H. Cao, F. Zhou and X.X. Zhao	40
The Simulation of Driving Wheel Slip Control Based on the Fuzzy Theory J.T. Yue, L. Tang and X.H. Tao	45
Development of High-Resolution Fiber Spectrometer for LIBS Detection L.D. Wang, Z.H. Mao, Z.M. Chen and B.H. Ma	49
Study on the Plume Characteristics of Pulsed Plasma Thruster Y. Li, R. Zhang and J.H. Zong	55
Microstructure and Optical Properties of Fluorocarbon Films Deposited by Pulsed Plasma Thruster Y. Li, R. Zhang and J.H. Zong	59
Hysteresis Observer Design of Sliding Mode Control for Piezoelectric Actuators Q. Wei, S.W. Wu, D. Zhang and L. Liu	63
Evaluation, Prediction and Control on the Earth's Health X.B. Ji	68
A Displacement Measurement System Based on Artificial Compound-Eye Imaging for 2½D Space Z.G. Xie, G.R. Tang, J. Jin and S. Di	72
Study & Manufacture RM of Industrial CT System Z.H. Jiang, X.D. Yang, D.M. Tang and Z.M. Wang	80
Design of Exhaust Temperature Test System of a Certain Type Aeroengine X.M. Li, Z.S. Feng, K. Zhang, Z.C. Cai and B. Xie	85
Investigation on Condition Monitoring of Convertor S.Y. Xu, M.Y. Chen and L. Ran	89
The Design of Sound and Light Controlled Corridor LED Lamp Based on Double Integration Detection X.L. Cui and Y.G. Jin	93

Overview on Intelligent Control Strategy of BLDC Motor Based on PID Algorithm Y.X. Zhang, Q. Qiu, Q.M. Zhao and W.G. Zheng	98
A Short-Range Millimeter-Wave Detector System S.S. Peng, F. Xu, L. Wu and J.Z. Xu	102
The Feasibility Study of Vibration Transmissibility Applied to Structure Damage Identification S. Wu, B. Wang and H.H. Zhang	107
Micro-Ohm Resistance Measure System Based on LabVIEW T. Tian, X.M. Zhao, L.N. Zeng and Y. Tao	111
Rolling Bearing Fault Diagnosis Based on Wavelet Packet and Improved BP Neural Network for Wind Turbines Z.R. Hou	117
Control Research of Three-Axis Turntable Based on Neural Network Inverse System Z.B. Hu and Y.H. Wang	121
Digital Watermarking Method against Rotation Attack Based on Angle Measurement J. Zhao	125
The Method for Estimating the Time to Failure in Accelerated Life Test Z.Z. Chen and L.T. Xu	129
Tracking Control of Complex Seam in Laser Welding Based on Visual Measurement H.Z. Zhen	133
The Noise Fault Analysis and Exclusion in Self-Propelled Transporter Hydraulic System F. Cheng, J.Y. Zhao, R. Guo and B.Y. Sun	138
High-Accuracy Locomotion Control Method for Automatic Docking between Mobile Self-Reconfigurable Microrobots D.W. Zhang, L. Mao, X.N. Tang, Z.B. Li and J.P. Chen	143
Parameter Sensitivity and Estimation of a Novel Hybrid Scheme Based on MRAS in Indirect Vector Control System T.R. Cui, L.W. Zhang and J. Liu	148
The Design of Human-Machine Interface for Rudder Control System Monitoring Platform Based on WinCC Y. Dang, H.B. Wang, T.W. Liu, S.R. Yang and Y.G. Zhao	152
Study on the Characteristics of a New Type Pneumatic Pressure Regulator J.G. Ma and X.H. Chen	157
Spring Constant Measurement of Silicon Component in Watch Movement Y. Fu, H. Xin, G.L. Ma and R.X. Du	162
Experimental Study of Capacitance Sensors to Test Seed-Flow Y.J. Sun, H.L. Jia, D.L. Ren, J.J. Yan and Y. Liu	167
Western Countries Car Low Sulphur Fuel Standard Implementation and Supervision Y. Yao, M.Y. Di, D. Di and P.J. Li	171
Hardware Circuit Design with the Motion Control System of the Traverse Robot J.H. Wu, T.D. Qin, J. Chen, K.Y. Lin, H.P. Si and C.B. Zhang	176
Continuous Hidden Markov Model Based Incipient Fault Monitoring in Filtered Analog Circuits Y.C. Ao, Y.B. Shi, W. Zhang and Y.J. Li	181
The Temperature Measurement for the 10 kA HTS Cable Z.Q. Zhu, S.T. Dai, Y.P. Teng, L.Y. Xiao, X.M. Liang, Z.C. Cao, D. Zhang and T. Ma	187
Experimental Research on the Condensation Air Blower of Overhead Automobile Air-Conditioning M.Y. Di, Y. Yao, D. Di and Y.X. Lu	191
Research on Online Measurement Method of Hole Diameter and Position Y. Gong, J.C. Zhang and H.Q. Liu	197
A Novel Multi-Dimension Force Platform Calibration Design and Error Analysis Z.Y. Mao and P. Cai	201
Fuzzy Force Compliance Control for Cleaning Processing J.J. Yuan, T.Y. Hu and Y.L. Jiang	205
Design of a Static Test System of Photoelectric Parameters for a Smart Ammunition W.F. Zhang, L. Chen and T.Q. Shan	210

Research of Application of FCE to Project Supervision Y. Liu	214
Inventory Control Strategy Analysis for Repairable Units Q.T. Han	220
Fault Feature Extraction of High-Speed Automaton Based on Motion Morphology Decomposition A.Y. Wang, H.X. Pan and H.L. Liu	224
Research of Data Mining of Vibratory Signal Based on Rough Set Theory Q.Z. Xue, G. Xue and G.K. Liu	228
FBG Sensor Technique for Dynamic Relative Displacements Measurement C.Z. Li, Y. Wen and B. Liu	233
Monitoring Point Configuration of Gearbox Based on EEMD and VPRS H.L. Liu, H.X. Pan and A.Y. Wang	237
Study of Determination of Microwave Dielectric Properties Based on Resonance Cavity Perturbation Method G.Y. Li, H.M. Gao, X.Z. Yu and Y.C. Fei	241
Single Chip Microcomputer Technology of PIC Application in the Mining Area Control System Z. Tao	248
Smart Fan Design Based on PSoC R.X. Cui, H.L. Zhao, G. Chen and C.G. Guo	252
Angle Measurement for Meter-Wave Radar Based on Mainlobe Multipath Jamming Suppression Y.J. Zhao, R.F. Li, Y.L. Wang and W.J. Liu	257
Research of Railway Telecontrol Video Monitoring System Based on the Network Communication Technology A.F. Sun	263
Implementation of Off-Line Programming for Robot Roller Hemming J.Q. Wang, L.S. Zhu, Z.H. Wang, J. Yang and D.H. Tang	268
A Method of Detecting Deformation of Aluminum Profile Modular Gripper J.Q. Wang, Z.H. Wang, L.S. Zhu, J. Yang and Z.W. Cheng	273
Study on Object Slight Displacement Measure Using Digital Image Hologram Method K. Yang, P. Li, Y.K. Tang, Y.N. Zhai and H. Zhang	278
A Fuzzy Adaptive PID Control Method for Stabilized Tracking System H.J. Hu, C. Zhang, Y. Wu and X.J. Wu	282
Angle Estimation and Self-Calibration Using ISM and ESPRIT for Bistatic MIMO Radar with Gain and Phase Uncertainties J. Gong, H. Wang, Z.L. Li and L. Wei	287
Optimized Transient Digital DC-DC Converter with Predictive Control Based on Multisampling Technique C. Wang and Z.C. Li	292
Blind Deconvolution of Atmospherically Degraded Infrared Images Using Normalized Sparsity Measure D.J. Tan and A. Zhang	297
Nonsingular Terminal Sliding Mode Control Based on Novel Reaching Law for Nonlinear Uncertain System J.C. Li, F.Q. Gao, G.L. Wang, M. Wang, W.J. Zhu and Q.C. Li	302
A Novel Method for Perception and Map Construction of Environment Information Based on Laser Range Finder W.J. Zhu, G.L. Wang, F.Q. Gao, Z.T. Qiao and J.C. Li	307
Research on the Influence of the Process Parameters upon the Quality of Roller Hemming J.Q. Wang, J. Yang, L.S. Zhu and Z.L. Niu	312
Ultrasonic Phased Array Industrial Imaging Research with Compressed Sensing X.Y. Ouyang, G.Z. Dai, R.F. Li and Q.G. Zeng	317
Research and Design of DC Brushless Motor Speed Control System Based on Single Neuron PID Control Q.H. Li and F. Hou	322
Ultrasonic Phased Array Industrial Imaging with Sub-Nyquist Sampling Rate G.Z. Dai, G.Q. Han and X.Y. Ouyang	327

An Application of Minimum Statistical Noise Estimation in the High Rate of Fire Artillery Muzzle Velocity Measurement	332
F. Ju, L. Shi, H.W. Zhang and Z.Z. Han	
Development of Test Bench of Electric Power Steering System for Electric Bus	337
R.W. Shen, X.H. Tai, J.G. Han and Z.G. He	
The Application of PHM in Environment Safety	342
Z. Tang, G. Wu, L.P. Feng, Y. Yao and Y.F. Nie	
Design and Study on the Intelligent Fault Diagnosis System of Diesel Engine	347
F.M. Li and X.H. Wang	
Multi-Temporal Remote Sensing Dynamic Monitoring and Driving Force Analysis in Yangzhou Urban Area Based on Object-Oriented Technology	352
L. Wang, X.M. Cui, D.B. Yuan, X.Q. Hong and Z.J. Shi	
Research on Assist Characteristic of Electric Power Steering System Based on Adaptive Neuro-Fuzzy Control	357
J.G. Han, R.W. Shen, X.H. Tai and Z.G. He	
The Application of Computer Technology in Project Management	362
X.F. Song, Y. Cao and X.Q. Li	
Fault Diagnosis of Engine Ignition System Based on the Optimized BP Neural Networks by Improved Particle Swarm Algorithm	366
Z.M. Duan, X.J. Yuan and Y.J. Zhou	
Airborne Oxygen-Making System Drift Oxygen Sensor Characteristics for Fault Diagnosis Strategy	371
X.Y. Luo, J.B. Cao and J.Q. Cao	
A Two-Screw Squirm Micro-Robot for Gastrointestine: Design and Experiments	376
Q. Ke, G.Z. Yan, W.J. Luo and W.W. Chen	
Novel Analysis Method Based on STFT for Muzzle Velocity Measurement of High Firing Rate Artillery	383
L. Shi, F. Ju, Y. Liu, Z.Z. Han and S.Y. Liang	
Fault Diagnosis Technology Research on Radar Equipment Based on Sensor Data Validation and Detection Fusion	387
W.H. Hu, B.F. Guo and D.F. Xue	
Simulation Study of SVPWM Control Technology for NPC Inverter	392
L. Song	
Study on the Application of Virtual Prototyping Technology to UAV Fault Diagnosis Training	396
Y.K. Jiao and X.M. Li	
The Application of Model Reference ADRC Based on PD Gain Adaptive Regulation in Quadrotor UAV	401
H.J. Wang and X.H. Qi	
Research on AS/RS Simulation Based on Flexsim	406
X.Y. Tang, L.L. Yang, J.J. Zhang, J. Shi and L.C. Chen	
Study of Measuring Velocity Based on Double-Signal System	411
Y. Song, Y.H. Ma, L. Shi, Y.W. Yin and Z.Q. Fan	
Robot Reinforcement Learning Based on LCS-GDM	416
Y.B. Ma	
Localization of the Sound Source Based on Directional Orthogonal Periodic Wavelet Basis	421
X.S. Wang and P. Li	
A New Rotor Fault Diagnosis Method Based on EEMD Sample Entropy and Grey Relation Degree	426
W.B. Zhang, Y.J. Zhou, J.X. Zhu and Y.S. Pu	
Application of EEMD Energy Distribution and Grey Incidence in Gearbox Fault Diagnosis	430
W.B. Zhang, J.X. Zhu, Y.S. Pu and Y.J. Zhou	
The Design of an Electric Bicycle Controller Based on Programmable System on Chip	434
L.Q. Zhang, Y.P. Shi, W.X. Cai, L.B. Tian and L. Yuan	
Modeling and Simulation of Impact Point Prediction Algorithm	438
Z.K. Tian, S.C. Yang, D.L. Feng and Y.Z. Yao	
Forward Prediction-Based Approach to the Out-of-Sequence Measurement Problem with Correlated Noise	443
D. Yuan, J.W. Hu, B. Ji and W. Liang	

Research on Fault Prediction Technology of Complicated Equipment S.S. Jin, K.L. Huang, G.Y. Lian and B.C. Li	448
A Finite Element Approach for Single-Link Flexible Manipulator J.Y. Shi, K.J. Ji, Y.K. Tang and K. Yang	453
Research on Software Product Development Project Management J.H. Zhang	457
Fault Diagnosis Expert System Applied on Machinery Industry J.M. Huang, M.J. Chai and R.Y. Zhang	461
Application of Artificial Intelligence in Intelligent Buildings X.N. Wang, Q. Lin and J. Chen	466
A Study of Numerically Controlled Lathe Simulation System Based on 3D Modelling Technology H.Y. Lin, Y.J. Wang and Y.G. Xie	471
Research on Access Control Method of Automatic Test System Based on Access View Y.Z. Yao, C. Meng, C. Wang, Z.K. Tian and D.L. Feng	476
Simulation Design on the Network Monitoring System of Small and Medium-Scale Hydropower Stations X. Wang, H. Zou, L. Zhang, L.Q. Kong and L. Yang	481
Control for Optimized Air-Gap Magnetic Field of Five-Phase Induction Motor through Dual-Plane Asynchronous Rotation Transformation M.Y. Yin, L. Zhang, P. Zhu and F. Guan	486
An Approach to Mutation-Based Test Data Generation F. Wang, R.N. Wu, S.F. Lee and T.H. Zheng	491
Control Law Design Based on Geometric Algebra B. Li, Q.S. Liu, D.M. Wu, Z.H. Zhang and Y.K. Zhou	496
Robot Inverse Kinematics Algorithm Based on Multi-Agent System G.Q. Chen, X.L. Wei, G. Cui and X.G. Wang	501
Least Squares Support Vector Machine for Fault Diagnosis Optimization S.Y. Liang and J.H. Lv	505
Research on the Real Time Monitor and Evaluation System of the Crews' Work Pressure C.Y. Cai, D.S. Zhang and X.S. Bo	509
Design of Vehicle Diagnostic Communication Module Based on AUTOSAR Software Architecture A.Y. Cheng, S. Shen and T. Zhao	513
Data Acquisition and Control of WiFi Wireless Network X.Z. Zhang	520
Test Method for Electronic Device on Condition of Small Sampling Z. Cheng, Z.L. Xuan, W. Wang and M.S. Hao	525
Experimental Study on the Flow and Vibration Characteristics of Dual Spool Sleeve Valve S. Tu, C. Wang, Y.L. Tang, D. Dong and Y.J. Shi	529
Performance Evaluation of Finite-Resolution IR-UWB Signal Detection Y. Ma, F. Sun, P. Li and H.R. Yin	535
Time-Varying LQG Control for Vibration of Coupled Vehicle-Bridge System G. Song	541
Design of Electric Power Steering for Forklift Based on ARM D.M. Ma	548
A Multiple Constrained QoS Routing Algorithm for the Wireless Sensor Networks Z.S. Zhou, Y. Xu, J.J. Yan, Z.W. Nie and L.Y. Li	553
Research on the Cooperation Method of Traffic Control and Route Guidance of Local Area Network W.Q. Bai and M.L. Zhang	559
Research on Dynamic Modeling of Virtual CNC System of Human Machine Interface O. Bashir and D.J. Hu	564
The Application of Fuzzy Reasoning in Cement Particle Size Soft Sensor W.L. Luan, Q.J. Meng and T. Shen	570
Applications and Prospects of Sensor in the Field of Sports J.W. Wang	575

A Fault Injection System Based on QEMU Simulator and Designed for BIT Software Testing	
Y. Li, P. Xu and H. Wan	580
Hydraulic System Modeling and Motion Control of Demotion Robots Working Equipment	
Y.W. Cen, Y.F. Jiang and H.D. Zhang	588
Linguistic Controller Design of LDS upon Cell-to-Cell Mapping	
Z.Q. Xiao	594
Research of the Harmful Gas Detection and Control System in Dairy	
S.F. Yang and Y.J. Liu	600
Research on Modeling and Simulation of Expert_PID Controlled Servo System Based on MATLAB/S-Function	
F. Kang and Y.B. Liang	604
Performance of Pulsating High-Frequency Current Injection Based Sensorless Control of PMSM	
J.M. Wang	610
A Hierarchical Fuzzy-Neural Multi-Model Applied in Nonlinear Systems Identification and Control	
F. Ye and W.M. Qi	617
A Nonlinear Predictive Controller Based on Chaos Optimization Apply to Reheated Steam Temperature	
W.H. Wu, W.P. Yan and Z.M. Guan	623
Design of Deformation Monitoring Terminal System Based on STM32	
K.H. Xu, D. Zhang, Y.H. Liu, K. Xu and Y.H. Xi	628
Electrical Parameter Detecting System of Jordan Refinner Based on Virtual Instrumentation	
S.F. Yang, P. Fu and Y. Yang	634
The Target Vehicle Movement State Estimation Method with Radar Based on Kalman Filtering Algorithm	
X. Jia, Z.L. Wu and H. Guan	638
Research on Command & Control Simulation System Architecture	
J. Liu, X.M. Zhang, T. Ge and H.T. Sun	643
The Analysis of Marine Magnetic Field Detection Influenced by the Platform Migration	
D. Wang and C. Cheng	648
Research on Intelligent Borehole-Surface Electrical Method Multi-Parameters Detection System	
Z.S. Jia, J. Lin, X.T. Li and L. Shao	652
Research on Integrated Monitoring System of High-Voltage Tower	
H.C. Huang, W. Jiang and R.J. Hu	657
A Practical Fuzzy Adaptive Control Strategy for Multi-DOF Parallel Robot	
W. Meng, Z.D. Zhou, Q. Liu and Q.S. Ai	661
Design and Implementation of Intelligent Vehicle Control System Based on Camera Sensor	
S. Deb Das, J. Yang, M.R. Chowdhury and M.C. Ah Kioon	666
A Train Hot Bearing Detection System Based on Infrared Array Sensor	
Y. Wang and Z.R. Wu	672
A Topology Control Algorithm Based on Pass Loss for Wireless Sensor Network	
N.X. Luo and J. Bao	677
Multi-Parameters Measurement Based on STM32 ARM of Dual-Excited Electromagnetic Flow Meter in Partially Filled Pipes	
J. Suo, C.Q. Qi and H.B. Zhang	682
The Design of Water Supply Automatic Control System of Ship Based on PLC	
R. Wang and W.G. Zheng	686
A New Design of Three-Legged Robot of Mechanical and Control System	
H.T. Cui, W. Yang, Q.Q. Li, Y.Q. Yu, L.Z. Ma and Y.M. Wang	690
Design of State Feedback Controller for Discrete Systems with Time-Delay	
S.T. He and Z.C. Li	695
Multipath Ring Routing in Wireless Sensor Networks	
G.M. Huang, W.J. Tao, P.S. Liu and S.Y. Liu	701

The Characteristic Parameter Estimation of Low Temperature Target Weak Signal Based on VanderPol-Duffing System	706
Y.C. Xu, D.F. Zhao and M. Lu	
The Design of an Miniature Underwater Robot for Hazardous Environment	711
B. Fang, W.S. Chou, X.Q. Guo and X. Ma	
Ontology Model for Situation Awareness of City Tunnel Traffic	715
L. Li, W.G. Wu and N. Liu	
A Probabilistic Based Redundancy Control Algorithm for Wireless Sensor Network	718
H.T. Wang, J.Z. Li, Y. Li, X.P. Zhang and H. Chen	
An On-Chip Clock Controller for Testing Fault in System on Chip	724
W. Lin and W.L. Shi	
Second-Order IIR Notch Filter Design and Implementation of Digital Signal Processing System	729
C.M. Wang and W.C. Xiao	
A Pneumatic Miniature Robotic Control System Based on Improved Single Neural Network PID Control	733
W. Li and H.M. Li	
A General Architecture for Monitoring Data Storage with OpenStack Cloud Storage and RDBMS	739
B. Hu	
Signal Recognition Basing on Optical Fiber Vibration Sensor	743
H.Y. Xu, Z. Zhang and X.W. Zhang	
Application and Research on On-Line Automatic-Monitoring Platform of Radiation Sources Based on the Data Communication Optimization	748
D.L. Yang and B. Yang	
A Research on Anti-Slip Regulation for 4WD Electric Vehicle with In-Wheel Motors	753
L. Zhou, L. Xiong and Z.P. Yu	
Active Feedback Control Used in Plasma Vertical Unstable Displacement for EAST	758
H.H. Huang, Y. Wang and H.X. Wang	
Design and Implementation of Network Devices Monitoring System Based on SNMP	763
L. Liu, W.F. Wang and Z.L. Wang	
Greenhouse Monitoring and Control System Based on Zigbee	768
J.J. Zhou, X.F. Wang, X. Wang, W. Zou and J.C. Cai	
Study on the Applications of FBG Technology in River Level Monitoring	772
D.J. Tan, B. Han, B.Y. Wang and L.L. Li	
Research on Regulator Performance Analysis and Test Method of Switching Power Supply	777
H.F. Wang, M. Li and W.Z. Luo	
A Web Based Method for Measuring Semantic Relatedness between Words	783
B. You, T.T. He and F. Li	
Automatic Gauge Control Hydraulic Cylinder State Identification Using Modified Image Based Acoustic Emission Profile	788
H. Chen, Y. Lu, H. Zhao, Y. Sun, P. Wang and J. Huang	
The Hybrid HMM for RSS-Based Localization in Wireless Sensor Networks	796
Y.H. Zang, J.S. Wang, L. Ling and P.Z. Lu	
The Research about No-Vibration Data Storage of Micro-Scale and Long-Term Ocean Turbulence Measurement	803
X. Luan, B. Xue, F.M. Sun, Q.Z. Yan and D.L. Song	
Localization of Mobile Robot Based on Least Square Method	808
J.L. Li, L.B. Long and B.F. Zhang	
Application of Orthogonal Experimental Design for the Automatic Software Testing	812
H. Wu	
An Applicable Technical Analysis Based on Accomplishment of Vehicle Troop Monitoring System	819
L. An, X.M. Ye, Y.T. Zhang and J. Tian	
Research on Web3D in Distributed Monitoring and Control Systems	824
X.L. Zhang, Y.Y. Du and X. Jiang	
Research and Application of Automated Testing Tool Based on STAF	830
Y. Shang, X.L. Zhang, Y.B. Feng and M.M. Li	

Design of Mechanical Arm for Laser Weeding Robot Z.Y. Ge, W.W. Wu, Y.J. Yu and R.Q. Zhang	834
Optimal Energy-Effective Gait for Biped Robot L.P. Yuan, L.M. Yuan and H.Y. Lu	839
A Video Bit Rate Control Algorithm Based on Weighted Estimate of Image Brightness Difference H.G. Zhu and Q. Feng	844
Network Video Transmission Quality Assurance Algorithm Based on Congestion Control H.G. Zhu and Q. Feng	849
Local Mean Decomposition Combined with SVD and Application in Telemetry Vibration Signal Processing Z.X. Li and W.X. Dai	854
Research on the Joint Detection of TD-SCDMA H.Y. Fu, Q. Wang, X.D. Jia and K. Liu	859
Application of ANN in Hydraulic Pressure Control Fault Diagnosis System X.Y. Zhang and L.L. Ding	864
Controller Design for ISG Hybrid Electric Vehicle Based on SAE J1939 Protocol Y.Z. Li and X.J. Ji	869
The Boundary Element Method of Testing Wood Moisture Content Problem in the Heterogeneous and Asymmetric Case C. Guo, Y.S. Luo, B. Ge and S.G. Liu	873
Application of Fuzzy Neural Networks on Missile Launcher Fault Prediction G.F. Cai and F.J. Hu	879
A Binocular Vision System for Underwater Target Detection J. Shen, H.Y. Sun, H.B. Wang, Z. Chen and Y. Wei	883
A Flight Evaluating System Using Flight Gear H.M. Zhang and L. Li	891
A Spare-Part Distribution Management Model for Diesel Engine Industry L.B. Kong and K.C. Yu	895
A Torque Vectoring Control System for Maneuverability Improvement of 4WD EV Y.H. Gan, L. Xiong, Y. Feng and F. Martinez	899
The Control System for Ink Keys of Press Based on DSP Controlle Z.G. Wei	904
A Robust Large Envelope Flight Controller Design Method Based on the Particle Swarm Optimization Algorithm Z.Q. Fan, L. Liu and X. Sun	908
A New Method of Detecting Network Traffic Anomalies J. Cai and W.X. Liu	912
Reliability Analysis of Pressure Meter Electronic System Based on Fault Tree J. Yan, W.H. Yan and L.P. Wang	917
Algorithms for Acoustic Source Orientation Based on Microphone Array in Robot Audition M. Wang, J.H. Chen, G.L. Wang, F.Q. Gao, J.C. Li and W.J. Zhu	922
Flow Control Strategy Research and Simulation Analysis for Liquor Blending System C.F. Qu and D.H. Li	927
Parameter Estimation of Wideband Cyclostationary Sources Based on Uni-Vector-Sensor J. Li, N. Song, S. Xu and X.N. Xu	932
The Application of Fault Injection Using Circuit Simulation in Testability Verification Y.W. Yin, C.X. Shang, Y.H. Ma and G. Li	937
Design and Experiment of Video Capsule Endoscopy Based on Sleep Mode G. Liu, G.Z. Yan, B.Q. Zhu and F. Xu	942
Semiconductor Laser Night Vision Image of Vehicle Recognition Based on Image Processing Z.X. Wang, S. Xu, L. Gao, H. Zhang and Y.N. Zhai	947
The Design and Application of the All-Digital Flight Simulation Platform J.X. Xiao, L. Deng, X.W. Shi, X.Y. Jia and Y.J. Sun	951
Wireless Sensor Network Fault Diagnosis Method of Optimization Research and Simulation Q. Li	955

Research on Timing Error Effects of UWB System in the Environment of the Internet of Things	
Y. Lu and W. Hu	960
Data Aggregation for Failure Tolerance in Wireless Sensor Network	
N. Wang and Y.P. Wu	965
Discussion about Several Questions of High-Rise Building Fire Control Electrical Design and Installation	
Y. Chen, X.N. Wang and D.J. Bao	970
The Debris Flow Disaster Faster-Than-Early Forecast System (DFS) with Multi-Sensors Integrated Wireless Sensor Networks	
R. Zhao, C.H. Li, Y.J. Tan, J. Shi, F.Q. Mu, X.F. Chen and L. Li	975
Research on Improved Extended Proportional Navigation Guidance	
D.L. Feng, S.C. Yang, Y.Z. Yao and Y.X. Liu	980
Study on the Irrigation Measurement and Prediction of Greenhouse Flowers under Water Stress Acoustic Emission Based on Neural Network	
H. Zou, X. Wang, L.L. Yang, Y.X. Yang and X.P. Zhang	985
A Proposed Hybrid Wireless Sensor Networks Deployed on the Sea	
A.G. Gao, X.L. Luo and H.J. Luo	990
Research on Automatic Magnetic Deviation Compensation of Electronic Compass for Quadrotor	
W.J. Xiao and P. Lu	995
A Localization Model Based on Irregular Quadrilateral for Wireless Sensor Networks	
F.J. Shang and H.X. Gao	1000
A Study of the Peak Boundary Method and Effect Evaluation Based on NaI(Tl) Detector for γ-Spectrum Analysis	
Y.Z. Yang, F. Fang, J.F. He and J.J. Ran	1006
High Performance Data Processing Pipeline of Chinese Solar Radio Heliograph	
F. Zhang, F. Wang, W. Wang, W. Dai, H. Deng, K.F. Ji and Y.H. Yan	1012
Research on Investment Risk Assessment of Eco-Materials Industry	
H.X. Jin, H.P. Yao and J. Yu	1018
Computer-Assisted Percutaneous Renal Access Using Intraoperative Ultrasonography	
S. Liang, X.Z. Sheng, L.M. Zhang and B. Cao	1022
Compressive Sensing-Based Angle Estimation for MIMO Radar with Multiple Snapshots	
J.F. Li, X.F. Zhang and T. Hu	1028
Compressed Sensing Trilinear Model-Based Angle Estimation for Bistatic MIMO Radar	
X.F. Zhang, J.F. Li, M. Zhou and D. Ben	1033
Design and Implementation of USB-Based Microwave Power Sensor	
H. Zhao and Z.Y. Dong	1039
Research on Kill Efficiency of Double Dogfight Weapon Fusillade in Complex Electromagnetic Environment	
H.L. Lei and Z.H. Hu	1043
The Design and Implementation of the Tracking and Monitoring System for Geroconium Based on Semi-Active RFID Technology	
X.Y. Zhong, Z.B. Li, Y.Z. Liu and Z.L. Zhu	1048
Research on Real-Time Laser Range Finding System	
F.X. Jia, J.Y. Yu, Z.L. Ding and F. Yuan	1053
Circuit Design and System Error Analysis Based on MR / GPS Combination Measuring Projectile Roll Angle	
P. Cao, X.M. Wang, F.X. Jia and Y.L. Wu	1059
C2 Model of Agent-Based Radar Network	
Z. Zhang and G.Y. Si	1063
A Novel Method for Data Calibration in Wireless Sensor Networks	
W.M. Qi and J. Xiao	1068
Literature Review of the Application of Audio Testing Software to Chinese Musicology	
L. Feng	1074
A Software Application for Smart Home Energy Management System	
J.D. Wang, J.Q. Dai, Z.Q. Sun and X.Y. Kong	1079

Analysis on Logistics Operation Mode of Fresh Vegetables H.Z. Wang	1084
The Application of a Kind of New LFM Signal in Quasi-Continuous Wave Radar Z.K. Zheng, Q. He and Z.Z. Han	1087
3D Imaging of Bistatic Inverse Synthetic Aperture Radar Based on the Factorization Method X. Wang and C.X. Shang	1091
Research on Critical Factors in Simulation of Radar Decoying System Z.Q. Fan, Y.H. Ma, J. Dong, X.K. Chen and Y. Song	1096
Study on Imaging Algorithm for Stepped-Frequency Chirp Train Waveform L. Wang, C.X. Shang, Q. He, Z.Z. Han and H.W. Ren	1101
Computation of Intercept Probability Based on Functional Simulation of Front-End Interception X.K. Chen, Z.Z. Han, J.P. Feng and Z.Q. Fan	1106
The Reverberating Chamber as Emulator of Radar Echo Propagation Environment H. Wang, Z.Z. Han, J.D. Gao and X.L. Wang	1111
The Design and Realization of Display and Control Terminal for Radar Echo Simulator H. Jiang and J. Liu	1116

Chapter 2: Materials Science and Manufacturing Engineering

Research on the Thermal Effect of Long Pulse Laser Irradiation BK7 Glass Y.Y. Sun, L. Zheng, L.M. Song, Q.R. Jia and S.B. Liu	1123
Numerical Simulation of Heat Transfer Characteristic of Aluminum Nitride (AlN) Potting Compound for the End Windings of Permanent Magnet Synchronous Machines with Experimental Verification X. Tai and T. Fan	1127
Simulation of Mechanical Properties of Aluminum Based on Micro Model H.D. Wang, X. Liu, G.X. Bian, L. Xu and S. Zhao	1132
New Development of Graphene Material and Device L.H. Song, J. Ji and G. Chen	1139
Effect of Mg on the Synthesis of TiB₂ Powder by a Self-Propagating High-Temperature Synthesis Technique S. Li, J.S. Li, F. Zhao and M.H. Ye	1144
Improvement of Zr-N Diffusion Barrier Performance in Cu Metallization by Insertion of a Thin Zr Layer Y.N. Zhai, H. Zhang, K. Yang, Z.X. Wang and L.L. Zhang	1148
Study on Influence of the Load Path on Formability of Variable Cross-Section Y-Shaped Tube Hydroforming H.Y. Zhang, L. Bai, G.J. Zhang, R. Mao and W. Liu	1153
Influences of Electromagnetic Stirring Process Parameters on SiC Particle Distribution in Steel Matrix H.Y. Zhang, L. Bai, K.Y. Ma and S.Z. Song	1158
Influence of Injection Molding Process Parameters on Sink Marks of Injection Parts Based on Moldflow L. Bai, H.Y. Zhang and W. Liu	1163
The Physical Model of Combustion Flame of a New Welding Material W.P. Chang, S.G. Du, L.T. Xu and L. Zhang	1168
The Method of Eliminating Banded Structure and the Effects of Banded Structure on the Transverse Properties in 20G Steel B. Wang, H.M. Hu and C. Zhou	1171
The Study of Discharge Light on XLPE-SIR Composite Medium Interface X.G. Chen, C.F. Zhang, L. Gu and M.Q. Cao	1176
Topology Optimization of Viscoelastic Materials Distribution of Damped Sandwich Plate Composite Z.X. Liu, H. Guan and W.G. Zhen	1182
Thickness of Magnesium Alloy Square Parts in Hydraulic Deep Drawing X.C. Mao, L.F. Yang, Y. Liu and S.Y. Li	1187

Theory and Verify of Mensurate Cl⁻ Ion by Flow Injection-Cathodic Potentiometric Stripping Analysis	1192
Y. Li, J.W. Ni, Z.J. Han and Z.Y. Li	
Preparation and Characterization of CuCl Nanorods Using CuO as the Precursor	1196
M. Yang and J.J. Xia	
Study on a New Testing Method of the Elastic Modulus and Poisson's Ratio by Using Brazilian Disk Test	1199
F. Wu and S.M. Dong	
Bearing Capacity Characteristics of Lacustrine Soft Clay Hard Shell Layer Foundation	1203
J.J. Zheng, L.J. Wu and R.H. Guo	
Key Fabrication Technology Research of Exploding Foil Initiator	1207
J.J. Lv, Q.X. Zeng, M.Y. Li and Q.X. Yu	
Feasibility Experiment Investigation on Cell Microcapsule with Digital Micro-Fluidics Technology	1211
C.B. Huang	
Structure-Based Pharmacophore Models Generation and Combinatorial Screening of ICE Inhibitors	1216
Y.L. Zhang, Y.M. Wang and Y.J. Qiao	
The Research on the Rice Bran Extruder's Body Structural Design	1221
H. Li and R.H. Hu	
The Design of Demountable Modular Milling Attachment Based on Engine Lathes	1224
C. Peng, L. Wang, Y.J. Meng and L.Y. Lan	
Machining Precision Research for Two WEDM Processes	1229
X.J. Li and Y.H. Hu	
A New Type of BOM Model and its Application	1234
Y. Wang, W.G. Wang and S. Mao	
XPS Analysis of Carbon and Oxygen in Coking Coal with Different Density Intervals	1239
C.C. Cai and M.X. Zhang	
Discussion on Optimizing Internal Supply Chain of Chinese Enterprise	1244
W.X. Yang	

Chapter 3: Power Systems, Electronics and Microelectronics, Embedded and Integrated Systems, Communication

Fiber Grating Based 64-Channel Interleavers with 25GHz Channel Spacing and Flat-Top Passbands	1251
L.Q. Huang and G. Yang	
Potential Transformer in High-Frequency and mV Voltage	1256
S.G. Sui, H.B. Gao and C.G. Liu	
Design of NIC Driver and Simple IP for Multi-Process Micro-Kernel Embedded OS on ARM	1260
B. Qu and Z.X. Yang	
Design of IPC and System Calls for Multi-Process Micro-Kernel Embedded OS on ARM	1264
B. Qu	
Design of ARM Based Tiny Multi-Process Mono-Kernel	1268
B. Qu	
Network Instrument of Harness Based on Embedded System	1272
S.L. Lu, M.L. Liu, F.Y. Gao and M. Li	
The Electric Field Analysis of the Warm Dielectric HTS Power Cable	1276
Y.P. Teng, S.T. Dai, L.Y. Xiao, D. Zhang and B.S. Cheng	
A New Method for Network Reconfiguration of the Shipboard Power System	1283
X.F. Yang and J.L. Wang	
Research on Reactive Power Optimization of Voltage Control of Power Grid	1288
Y. Gong	
The Existing Investigation and Prospect of Under-Frequency and Under-Voltage Load Shedding in Power Systems	1293
J.D. Wang, D. Jin, H.Y. Zhang, H.D. Sun and Q. He	

Design of a New Oscillating Buoy Wave Power Generation Device C.M. Duan and Y.Q. Zhu	1298
Modeling and Simulation of Tri-Pole HVDC Transmission System S.Z. Lv, J. Wen, J.L. Wen, W.Y. Yin and J. Wu	1303
S-Transform-Based Classification of Converter Faults in HVDC System by Support Vector Machines S.Z. Lv, J. Wen, S.Y. Zhou and W.J. Cao	1308
Parameter Optimization of PI Controllers in Emergency Power Support S.J. Yao, Y.N. Hu, M.X. Han, D. Na and S.Y. Ma	1313
An Integral Method to Improve PLL Performance under Unbalanced Electric Grid Conditions S.J. Yao, M.R. Bao, Y.N. Hu, M.X. Han, J.X. Hou and L. Wan	1318
Design of Dynamic Binary Circuits Based on Floating-Gate Technology X.H. Hu, G.Q. Hang, Y. Yang and X.H. You	1323
Signal Processing Circuit Design and Application for Infrared Optical System Based on FPGA X.D. Cai and Z.G. Liu	1328
Harmonic Transfer between Voltage Levels in AC Systems S.Y. Zhou, J. Wen, S.Q. Ma, J.R. Xue, H.N. Zhang, W.J. Cao, S.Z. Lv and M.X. Han	1333
Simulation Modeling for HVDC on Improving the Stability of Weak AC System S.Y. Zhou, J. Wen, W.J. Cao, S.Z. Lv, W.Y. Yin and Z. Jing	1338
Harmonic Instability at Sending End of the Exceedingly Weak HVDC System W.J. Cao, J. Wen, S.Q. Ma, J.R. Xue, H.N. Zhang, S.Y. Zhou and S.Z. Lv	1343
A Comparative Study of Ultra-Long Distance Transmission Technology Y. Gao, J. Wen, J.L. Wen, J. Wu, X.X. Liu and T.F. Gu	1348
Comparison of External Insulation Level between AC and DC Overhead Transmission Lines X.X. Liu, J. Wen, W.Y. Yin and J.L. Wen	1353
H_{∞} Control to the BUCK-Type Switching Power Supply with Small Perturbation Z.C. Li, L. Xu and B.S. Yuan	1358
Comparative Study of the Methods to Increase AC Transmission Lines Capacity T.F. Gu, J. Wen, J.L. Wen, J. Wu, X.X. Liu and Y. Gao	1363
Steady State Power Quality Assessment Based on Principal Component Projection Method J.D. Wang, X.P. Pang and H. Liu	1368
Calculation and Simulation of High-Speed Rail Connecting Ground Wire Coupled Response in Lightning Transient Y.G. Cui, B. Huang, H. Wu, G.N. Wu and X.B. Cao	1373
Design of STM32-Based Angle Information Processing System of a Guide Microscope B.Q. Cao, Y.Z. Cheng and S.Y. Sun	1378
Comprehensive Decision-Making of Power Planning Including Clean Energy and Low-Carbon Electricity Technology J.Q. Zhong, X.H. Zhang, K.K. Yan, L.Y. Ma and H.W. Hu	1383
Low-Carbon Power Structure Planning Based on Cost-Benefits Perspective X.H. Song and Y.Q. Wu	1388
Magnetization Research in Time-Domain Magnetic-Circuit Coupled Computation for DC-Biased Transformer G.W. Cai, Y.G. Wang, Y.J. Jiang and T.F. Li	1393
Influence of Wind Power Integration on Power Grid and its Strategy X.M. Liu, X.S. Niu, S.J. Jia and J. Zhang	1398
Research on Load Models Effect on Stability of Voltage of DC End Power System X.M. Liu, X.S. Niu, J. Zhang and Y. Zhu	1404
Power System Control Based on Voltage Risk Y.Z. Li and W.X. Liu	1411
Transmission Network Planning Model Considering Risk Constraint Y.Z. Li and W.X. Liu	1415
Asymptotic Performance Analysis of Two-Way Opportunistic Relaying Channels Y.H. Ouyang and X.D. Jia	1419

Performance Evaluation of Efficient MANET Routing Protocol in Smart Grid F.B. Meng, H.H. Zhao, Q.Q. Zhao and W.Z. Ma	1425
Wind Generator Model for Fault Diagnosis W. Wang, H.F. Yu, C.F. Zheng and Y.S. Zhao	1430
Impacts of UHVDC from Hami to Zhengzhou on Voltage Stability of Henan Power Grid Y.M. Hu, J.Y. Wu, F. Li and H.J. Fu	1435
Research on Impacts of FACTS on Static Voltage Stability Characteristics of AC/DC Power System F. Li and X.L. Chen	1440
Microgrid Harmonic Suppression Method Based on One Cycle Controlled Active Power Filter J.D. Wang and M.C. Qin	1445
The Static Voltage Stability Limit Calculation of AC/DC Hybrid Power System Based on Improved Continuation Power Flow Algorithm H.J. Fu, J.H. Sun, J.G. Wang and Y.Y. Hu	1450
Thermal Unit Commitment Problem with Wind Power and Energy Storage System R. Wang, Y.G. Xie, K. Xie and Y.Q. Luo	1455
The Research on Modeling to Optimization of the Site Selection for Coal-Fired Power Plants with CCS Technology J.Q. Zhong, Z.G. Lu, K.K. Yan and X.H. Zhang	1462
Optimization of Restoration Paths of Power System after Blackout W.W. Huang, G. Yao, X.Y. Qiu, N. Liu and G.T. Chen	1467
A Benefit Analysis Model for Inter-Regional Power Generation Exchange of Coal-Fired Power Plant L. Sun, Z.F. Tan, L.W. Ju, H.H. Li and C. Zhang	1473
Multifunction USB FM Radio Based on LabVIEW L. Zhu, X.B. Huo, J.Y. Wu and H.J. Wang	1477
Study on Reliability Assessment of HVDC System Considering the Impact of Station Power Using System B.R. Zhou, X.M. Jin, J.B. Chen, X.Z. Wang and Y. Zeng	1482
Modeling and Parameter Sizing of Battery/Ultra-Capacitor Hybrid Energy Storage System Used in HEV H.F. Yu, W. Wang, Y.L. Ge and Z.Q. Liu	1487
A Design of High Frequency Clock Generation Circuit Y.N. Zhai, L. Gao, Y.K. Tang, J. Li and S. Luan	1492
The Design of Concentrator in Smart Grid M.D. Bai	1497
A Calculation Method of Reactive Compensation Susceptances Based on Balance Principle X.B. Sun and D.W. Meng	1501
4.5kV SiC JBS Diodes Y.H. Tao, R.H. Huang, G. Chen, S. Bai and Y. Li	1506
Research of Influence of Negative Voltage at Capacitance of Pulse Transformer of Pulse Power Generator X.D. Yin, C.Y. Jiang, M. Lei, S.G. Xia and F. Zhou	1510
A Method for Online Reactive Power Optimization Problem in Regional Power Grid Y.H. Tang, L. Xu, H. Fan and Y.D. Yang	1515
Method of Reactive Power and Voltage Optimization Control Based on RTDS M. Li, Y.H. Tang, L. Xu, H. Fan and Y.D. Yang	1520
Application of Multi-Objective Optimization Model in Design of Photovoltaic Architecture J. Shi, J. Shi, L.L. Yang, X.Y. Tang and Y.J. Zhang	1525
Application of 1200V-8A SiC JBS Diodes in the Motor System A. Liu, G. Chen, S. Bai, R. Li and W.F. Sun	1530
High Breakdown Voltage GaN HEMT Device Fabricated on Self-Standing GaN Substrate J.J. Zhou, L. Li, H.Y. Lu, C. Kong, Y.C. Kong and T.S. Chen	1535
Study of Multi-Level Inverter Staircase Modulation Technology M.Y. Ye, L. Song and W.H. Hu	1540

Federated Particle Filter Technology Based on JIDS/SINS/GPS Integrated Navigation System	1544
Z.Y. Li, Y. Liu, P. Zhu and C. Ying	
A Design of Safety Lock Testing Instrument Based on 89S52 Singlechip and LabVIEW	1549
Y.K. Tang, K. Yang, Y.N. Zhai and H. Zhang	
The Design of Charger Based on 1T SCM	1553
A.D. Qu and Z.H. Zhang	
A New Method Used to Eliminate the DC Component of Grid-Connected Inverter	1557
Z.Y. Wang and Y.Q. Zhu	
Study on the <i>N</i>th Best Relay Selection over Nakagami-<i>m</i> Fading Channels	1561
Y.H. Ouyang and X.D. Jia	
The Application of Multisim in Electronic Technology Teaching	1566
J.Y. Shi, Y.K. Tang, J.Q. Li and X.G. Fan	
Design of Building Electric Energy Saving	1570
X.N. Wang, Y. Chen and J. Li	
Design and Implementation of IEEE 1394 Signaling Rate Converter	1575
Q. Tang and X.D. Feng	
Design of Image Acquisition and Storage System Based on SOPC	1580
J.L. Li, S.H. Cui, L.L. Chang and G.L. Wang	
The Analysis Circuit-Breaker Damage Caused by Fever	1585
X.P. Zhang, Y.X. Yang, N.H. Zhang, H. Zou and Y. Li	
Task Download Technique Research of Ethernet Parallel System Based on Multi-DSP	1589
Y.X. Yang, H. Zou and X.P. Zhang	
Research and Design of Image Acquisition System Using USB2.0 Interface	1594
J.H. Zhang	
Study of Embedded Operating System Process Scheduling	1598
J.H. Zhang	
A Novel Fault Orientation Technique of FPGA Configurable Logic Blocks Based on Improved Shift Register	1602
J.B. Zhang, J.Y. Cai and D.Y. Li	
A Design of Graph Generator of Laser Shake Mirror Based on C8051F020 Microprocessor	1607
Y.K. Tang, J.Y. Shi, N. Song and K. Yang	
Study on the Statistical Performance of Relay Cooperation Over Non-Isotropic Mobile-to-Mobile Nakagami-<i>m</i> Fading Channels	1611
X.D. Jia and Y.H. Ouyang	
Modeling and Simulation of Triangle Cantilever Piezoelectric Vibrator	1616
Y.C. Chen, M. Gao, W.B. Yu and L. Zhang	
Direct Extraction Method of InP HBT Small-Signal Model	1621
H.Y. Lu, W. Cheng, G. Chen, T.S. Chen and C. Chen	
Realization of CAN Based on Automotive Open System Architecture	1625
X.Q. Wu, L.L. Li and H.J. Chen	
Study on Transient Thermal Resistance of Microwave Pulse Power Device	1630
X.M. Ding, G. Chen and D.L. Wang	
Design of Web Based Secure Embedded System in C	1635
B. Qu and Z.X. Yang	
Simulation, Fabrication and Characterization of 4500V 4H-SiC Normally-Off VJFET	1641
R.H. Huang, G. Chen, S. Bai, R. Li, Y. Li and Y.H. Tao	
An Improved Channel Estimation Method in OFDM System	1646
S.X. Li	
Design for Realizing Arbitrary Fractional Divider Based on FPGA which Duty Cycle is up to 50%	1653
S.W. Zhang and C. Zhao	
Design of Embedded System-Based CAPTCHA in C	1658
B. Qu and Z.Z. Wu	
Fabrication of L Band 4H-SiC SIT Devices	1663
G. Chen, H. Jiang, S.C. Zhong and S. Bai	

Research on Real-Time Moving Method of Electronic Equipment Virtual Maintenance Prototyping Model	1668
D.F. Zhu, Q.X. Su and P.Y. Liu	
A Submicron InGaAs/InP Double Heterojunction Bipolar Transistor with Ft and Fmax of 280GHz	1673
Y. Zhao, W. Cheng, Y. Wang, H.C. Gao and H.Y. Lu	
Research and Design of Beamforming Device of SLC-LSCMA Algorithm Based on FPGA	1677
Q.F. Zhou, Y.Y. Yu, L. Wang and J. Yang	
An SC-FDMA Channel Estimation Algorithm Research Based on Pilot Signals	1682
J.B. Xue and S.B. Li	
OFDM Parameter Design of a Digital Broadcasting System in FM Band	1688
J.L. Li and Y.B. Yin	
A Compact Ultra-Wideband Monopole Antenna with Dual Bandstop Characteristics	1695
W. Li, J.J. Wang, Y.C. Sun and X.C. Meng	
A Secure and Energy-Efficient Rooting Protocol for WSN	1699
J.N. Bi and E. Xu	
Single Channel Signal Separation of GMSK Signals Based on MLP	1705
S.L. Wu, J.Q. Luo and H.X. Wang	
Development of Embedded Practice Platform for Control System Based on ARM	1711
Q. Liu and J.T. Wei	
Cognitive Radio as Enabling Technology for Dynamic Spectrum Access	1716
N.Q. Wei and Z.L. Chen	
A Study on Turbo Code Performance Based on AWGN Channel	1720
P. Zhu, J. Zhu and X. Liu	
Customized MMRF: Efficient Matrix Operations on SIMD Processors	1727
K. Zhang, Y.H. Wang, S.M. Chen, Z.T. Li and L. Wen	
Optimal Power Consumption Analysis of Two-Level Hierarchical Model and Non-Hierarchical Model	1732
G.L. Zhang, G.C. Liu, W.B. Chen and C. Yang	
Improvement on LEACH Protocol of Wireless Sensor Network	1738
X.W. Ma and X. Yu	
Research on Signal "Batch-Increasing" Phenomenon of Superheterodyne Reconnaissance Receiver	1743
Y.Z. Hao, H.L. Zhang, F.C. Zhang, W. Hui, Z.D. Xu and D. Wang	
Analysis of MMSE-Based Anti-Interference Performance for MIMO-UWB Systems	1748
B. Yan, J.M. Wang, D.P. Guo and S.Y. Cai	
The Analysis of Transient Grounding Resistance of Portable Horizontal Grid Earth Electrodes	1753
X.B. Qu, B.H. Zhou, N.S. Cao, Y.P. Fu and X.G. Huang	
Analysis of Microstrip Circuit by Using Finite Difference Time Domain (FDTD) Method	1758
L. Zhang, T.B. Yu, D.X. Qu and X.G. Xie	
A Novel Frequency Locked Loop Based on Stochastic Resonance	1763
W.T. Zhang, Z.Q. Li and W.M. Zhu	
Design of Unsymmetrical Doherty Power Amplifier for 460MHz LTE-Advanced Applications	1768
C.H. Ma, W.S. Pan, Y.X. Tang and C.J. Qing	
A Reliable Cooperative Spectrum Sensing Strategy for Cognitive Radios	1773
S.T. Lv, Z.Y. Dai and J. Liu	
Design of Mini Multi-Process Micro-Kernel Embedded OS on ARM	1780
B. Qu and Z.Z. Wu	
Stacked Tri-Band Circularly Polarized Microstrip Patch Antenna for CNSS Applications	1786
K. Ding, T.B. Yu, D.F. Guan and C. Peng	
AlNGaN HEMT T-Gate Optimal Design	1790
X.W. Zhang, K.J. Jia, Y.G. Wang, Z.H. Feng and Z.P. Zhao	
Design and Implementation of a Large Points FFT Acceleration Unit in Multi-Processor System Based on FPGA	1793
D.L. Zhang, X.P. Yang and Y.K. Song	

Design of ARM Based Embedded Operating System Micro Kernel B. Qu and Z.Z. Wu	1799
The Research about Remote Transmit Manage Unit which is Based on ModBus Protocol G.J. Wang	1804
Research on the Distribution Automation System Based on IEC61850 H.W. Xin and Q.L. Ding	1807
Study of Overvoltage Protection and Insulation Coordination for MMC Based HVDC Y.L. Gu, X.M. Huang, P. Qiu, W. Hua, Z.R. Zhang and Z. Xu	1812
Analysis of Low Frequency Oscillation in Power System X.R. Chu	1818
Analysis of Mobile Phone Camera Performance Estimation Method Q. Chen, B.F. Yan, J. Liao and G. An	1824
Modeling and Simulation of Full-Bridge Series Resonant Converter Based on Generalized State Space Averaging P. Wang, C. Liu and L. Guo	1828
An Improved Multistage Variable-Step MPPT Algorithm for Photovoltaic System P. Wang, Z. Zhou, M.M. Cai and J.B. Zhang	1833
Fault Analysis of AC Uninterruptible Power Supply System in Gas Pipeline Compressor Station H.L. Chen	1839
The Design and Implementation of USB Mass Storage and CCID Composite Device W. Zhang, J.N. Zhang, Y.A. Zhang and B. Lu	1842
Research on the Security Technologies of Power Grid EMS Based on SOA Z.Y. Lu, Y.J. Zhang, L. Yang, S.P. Xu and Y.Y. Chen	1846
SOC Estimation of Lithium-Ion Battery Based on Kalman Filter Algorithm D.X. Yu and Y.X. Gao	1852
Performance Analysis of Coherent Atmospheric Optical Communications with Soft-Decision Forward Error Correction J.J. Tao, J.N. Zhang, Y.G. Zhang, Y.Q. Huang, X.G. Yuan and Y.P. Li	1856
A Refined Concentric Anchor-Beacons Location Algorithm for Wireless Sensor Networks Based on Received Signal Strength Indicator K. Zhang, C. Zhang, C. He and X.H. Yin	1860
An Application of LDPC Code for Wireless Coherent-Light Commutation in Atmospheric Channel N. Hao, Y.A. Zhang, J.N. Zhang, M.L. Zhang and X.G. Yuan	1864
Study on the Physical Model and Experiments of MIMO Theory H.Y. Fu, B. Hu, X.D. Jia and H. Fang	1868
Study on the Broadcast Beam-Forming of Smart Antenna by the Method of Baseband-Amplitude-Weighting H.Y. Fu, H.G. He and X.D. Jia	1874
Application of a Novel Modulation Scheme of PS-RZ-QPSK Signal in High-Speed Optical Transmission System L. Xu, J.N. Zhang, Y.A. Zhang and M. Lin	1879
Simulation and Analysis of Transmission Performance of JTIDS J.S. Shi and M.Z. Song	1884
Fuzzy Knowledge Representation and Reasoning of the Smart Grid Based on Medium Logic and its Application J. Wang, Q. Wang, W.Q. Ma and D.H. Yao	1888
The Design and Implementation of Forecasting and Application System for Wind Power W.Q. Ma, Z.Y. Jia, Z.G. Bai and Z.X. Mu	1894
The Design and Implementation of the Surveillance and Control System for Photovoltaic Power Station J. Wang, S.T. Song, Y. Zhang and F. Gao	1899
A Predicting Method of Power Grid Transmission Line Icing Based on Decision Trees Modified Model J. Wang, W.Q. Ma, X.L. Zhao and F.F. Liang	1903
Fuzzy Comprehensive Assessment Method is Based on the Transmission Lines of the Analytic Hierarchy Process Sewage Flash Q. Wang, S.T. Song, H.M. Zhang and D.H. Yao	1907

Study on Relay System Performance of Simulation Platform Based on LTE-A Z. Zhang, H.D. Xu, Y. Gu and C.M. Li	1915
Design of a Wireless Sensor Network Node Based on STM32 Y.J. Sun, X.M. Wang, F.X. Jia and J.Y. Yu	1920
Performance Research on Anti-Noise AM Spot Jamming of PRBC-SFM Combined Fuze G.K. Li, S.T. He and Y.C. Tu	1924
Research on Power System Fault Diagnosis Based on Bayesian Networks G.F. Yang, Q.M. Xiao, H. Ouyang, J.K. Zhao, T.S. Li and J. Zhou	1930
A Data Integration Platform Research of Power Grid Whole Life Management Based on BIM G.F. Yang, H.Y. Zheng, H. Ouyang, J.K. Zhao, T.S. Li and J. Zhou	1935
Design of Terahertz-Wave Transmission Imaging System J. Pei and G. Chen	1940
Research and Improvement of Fourier Algorithm in the Microcomputer Relay Protection J. Xu and X. Yao	1945
The Design of Wind Power Converter Based on LCL Filter Z. Xie, Y. Zhang and Q.L. Shi	1949
The Study of Drive-Train System of Wind Turbines with DFIG Z. Xie, G.F. Lv and F. Teng	1953
The Invention of the Car Horn Intelligent Display System G.Q. Ruan, L. Yu, Y.Y. Yin, F.X. Yuan and J. Wang	1957
The Design and Implementaion of PTZ Control in Intelligent Video Surveillance S.D. Lv, G.H. Tang, Y.W. Xia and J.L. Xie	1961
Timing Acquisition with Cooperation of Two Distributed Receive Antennas over Flat-Fading Channels C.J. Qing, J.C. Wei, L. Xia, Y. Liu, C.H. Ma and Y.X. Tang	1965
Constructing IPv6 with Small Local Network B.Q. Wang, W.J. Zhang and X.Y. Zhou	1970
CRC Algorithm in Computer Network Communication B.M. Liu and W. Wei	1975
The Server Development Framework Based on the Completion Port J.X. Yu and G.H. Lou	1979
The Study of Server Load Scheduling Strategy J.X. Yu and G.H. Lou	1983
An Approach on Optimization of ZigBee Network Routing Algorithm H.F. Liu and P. Li	1987
A Cooperative Hybrid Caching Strategy for P2P Mobile Network M. Zhou, B. Ji, K.P. Han and H.S. Xi	1992
Robust Memory Gradient Blind Equalization Algorithm Based on Error Sign Decision F.F. Han and G.Q. Xu	1997
A Cross-Layer Design Scheme between Spectrum Decision and Routing in Cognitive Wireless Mesh Networks G.A. Zhang, Y. Yang and Y.C. Ji	2001
Campus Network Based on VRRP Redundancy and Reliability X.Q. Yin and Y.Z. Guo	2007
Design of a High Definition Video Communication System in Real-Time Network Y.F. Liu, X.R. Peng and Z. Jin	2012
A Hierarchical QoS Routing Protocol for the Wireless Sensor Networks Z.S. Zhou, Y. Xu, M. Qin, C.Y. Mao and L.Y. Li	2018
An Analysis on the Application of P2P in Network Y.M. Zhang	2023
A Cross-Layer Routing Protocol for Mobile Ad Hoc Networks Based on Minimum Interference Duration C. Gu and Q. Zhu	2028
On the Research of Adaptive Frequency Hopping in the Wireless Communication X.H. Liang and L. Cheng	2033
Research on Mobility Management Based on MIP Table in Mixed IPv4/v6 Networks Z. Xiang and Z.M. Ma	2038

One OCDMA PON System with 2D Multi-Length Two-Weight CHPCs D. Zhang, Y.H. Liu, C. Xu and Y.Q. Qi	2043
Comparative Analysis of Mobile Ad Hoc Network Routing Protocols Simulation X.Y. Wei	2049
Reliability Analysis of Structured P2P System T. Zhang, S. Wang and D. Liao	2055
Clock Compensation Strategy in Train Ethernet X.Y. Zhang, J. Peng and S. Li	2061
Multiple Constrained QoS Routing Algorithm Based on Genetic Algorithm in Overlay Network J.W. Ge, J.X. Deng and Y.Q. Fang	2067
Network Layer Network Topology Discovery Algorithm Research J.X. Ge and W.Y. Xiao	2071
Weight Set of State Estimation Based on Partition J.Y. Zang	2077
A Novel Network Survivability Analysis and Evaluation Model C.L. Wang, D.X. Wang, Q. Miao, L. Ming, L. Fang and Y.Q. Dai	2082
Self-Healing Research of ZigBee Network Based on Coordinator Node Isolated M.J. Huang and T. Wang	2089
Research on the Lifetime Estimation of Secondary Connections Using the PRP M/G/1 Queuing Network Model E.N. Maurice Junior and B. Guo	2095
Impact Analysis of Communication Network Reliability Based on Node Failure F. Zhao, N. Huang and J.X. Chen	2100
CDMA VPDN-Based Wireless Data Communication System for Mobile Pipeline Patrol F. Sun, J.Y. Song and J.X. Xu	2106
Multicast Address Allocation Based on Interest Constraints Y.X. Yu, W.Q. Han and X.X. Tian	2111
An Energy-Efficient Security Node-Based Key Management Protocol for WSN J.N. Bi and E. Xu	2117
Research on Relay Selection Based on Two-Hop Multi-Relay Networks T. Wang, H.D. Quan and P.Z. Cui	2122
Study on Cross-Layer Design Method for Wireless Self-Organizing Network H.T. Wang, H. Chen and L.H. Song	2127
Allocation of Space Network Accessing Resource Basing on Genetic Algorithm S.R. Duan, Y. Liu, H.F. Hu and L. Hu	2132
A Scheme of HARQ Resending Nodes Selection in RCC Network X.H. Li, Z.S. Li and Y.F. Wang	2137
A Design of Basis Function for Transform Domain Communication System N.Q. Wei and Z.L. Chen	2143

Chapter 4: Computational Methods and Algorithms, Applied Information Technologies

Video Watermarking Scheme against Geometrical Distortions S.S. Hu and F. Liu	2151
Neural Network Application for Netted Radar Information Processing Systems J. Hu and F.J. Hu	2156
Research on Adaptive Triangular Irregular Network for Virtual Battlefield Terrain H.H. Jiang, X.Y. Chen and W.J. Zhang	2160
Research on Symbol Synchronization Algorithm of LTE System W.J. Zhang, B.Q. Wang, X. Fang, X.Y. Zhou and W.C. Sha	2164
Data Mining Improves Pipeline Risk Assessment B.Q. Wang, X.Y. Zhou and W.J. Zhang	2168
Numerical Simulation of Flash Floods Routing Based on Improved Leap-Frog Method J.H. Zhang and C. Zhang	2173

Research on Underwater Polarization Image Segmentation Inspired by Biological Optic Nerve	2178
H.B. Wang, Y.R. Wu, J. Shen and Z. Chen	
Research the Key Technologies of the Mongolian Full-Text Retrieval Based on Lucene	2185
G.Q. Ding and M. Lin	
Identification of the D-S Evidence Conflict Based on Multi-Source Information	2191
F. Nan and Y. Li	
An Introduction to Viewpoint Selection in Volume Visualization	2197
X.L. Xu and B. He	
A Dynamic Round-Robin Packet Scheduling Algorithm	2203
Y. He, L. Gao, G.K. Liu and Y.Z. Liu	
An Algorithm of Plus-Closures of Loop-Nonnegative Matrices over Idempotent Semirings and its Applications	2208
Z.X. Wang, Y.N. Wang, B.L. Hu and Y. Liu	
Digital Watermarking Algorithm Based on Wavelet Analysis	2214
Q.S. Xu	
A Partitioning Image Retrieval Method Based on Regional Division and Polymerization	2218
Q. Li	
Study on Mobile Learning Platform Based on Wireless Communication	2223
X.Y. Huang and Q. Cao	
The Typing Test System Based on Network	2228
Y.H. Li, M.J. Yuan, J.X. Wang, L.L. Zhou and K.J. Yang	
Wavelet Image Denoising Based on the New Threshold Function	2231
H. Tang, Z.L. Liu, L. Chen and Z.Y. Chen	
The Research of Workflow Engine States	2236
Y.R. Shi and T. Hou	
Feature Extraction Algorithm Based on Sample Set Reconstruction	2241
X.Y. Jing, X.L. Ge, Y.F. Yao and F.N. Yu	
Effective Data Localization Using Consistent Hashing in Cloud Time-Series Databases	2246
J.K. Zhao, P.F. Zhu and L.H. Yang	
University Teaching Administration System Based on Active Database	2252
Y.Z. Guo	
The Experimental Teaching Based on Hybrid Cloud Management System Research	2257
D.L. Chen, L. Chen and Q.F. Ji	
Design and Implementation of Enterprise the Reimbursement Management System Based on SSH Architecture	2261
G.J. Liu and C.S. Yang	
Research of SOA-Based Data Exchange Platform	2266
Q.Z. Zhang	
Shape Control Learning Algorithm for Neural Networks	2270
D.Y. Zhang	
Construction of E-Government System Framework Based on the Information Resource Sharing	2275
Y. Lu	
A Heart Sound Segmentation Method Based on Cyclostationary Envelope	2280
T. Li, T.S. Qiu and H. Tang	
A Service-Oriented Communication Architecture of Graphics Asset Management System	2284
Z.J. Wang	
Multiple Giant Clusters in Percolation of Random Networks	2288
Y. Zhang, B.H. Guo and Z.M. Zheng	
Research on Multicast Routing Algorithm for P2P Overlay Network	2293
L.B. Chen, Q. Li and X. Feng	
Spatial-Temporal Data Model on Emergency: A Review	2298
J.H. Pan, Q. Lin and C.J. Cao	
CACOnt: A Ontology-Based Model for Context Modeling and Reasoning	2304
N. Xu, W.S. Zhang, H.D. Yang, X.G. Zhang and X. Xing	
Automatic Diagnosis for Composite Web Service in Cloud Computing	2311
Z.C. Jia, R. Chen and J.J. Xu	

Joint Data Link System Based on Cloud Computing J. Yang, X.Y. Chen, B. Jiang, J.L. Luo and W.J. Zhang	2317
The Nearest Neighbor Algorithm of Filling Missing Data Based on Cluster Analysis C. Zhang, J. Kai, H.C. Feng and T. Yang	2324
A Novel Dynamic Mind Evolutionary Algorithm for Unit Economic Dispatch Problem P.F. Zhu, L.X. Wang, Y.K. Li and Y.Y. Lai	2329
The Application of Artificial Intelligence in Ocean Development: In the View of World Expo 2010 Y. Yu and Z.X. Cheng	2335
Determine the Polarity of Domain-Specific Sentiment Words with Usage of Semantic Pattern of Sentences L.G. Yang and B. Deng	2340
Improved Nonnegative Matrix Factorization Based Feature Selection for High Dimensional Data Analysis L.C. Jiang, W.T. Tan, Z.W. Wang, F.J. Yin, B. Ge and W.D. Xiao	2344
Application of Multimedia Technology and Network-Based Environment in Oral English Teaching J. Xu and G.J. Li	2349
Analyse of the Mixed-Integer Nonlinear Programming Method for the Application in the Cellular Network S. Zong and B. Liu	2352
Studies and Applies of the Data Mining in the Mathematical Modelling H. Liu and X.G. Zhang	2360
Improved Slope One Algorithm Based on Time Weight T.Q. Jiang and W. Lu	2365
Sentiment Orientation Classification of Webpage Online Commentary Based on Intuitionistic Fuzzy Reasoning X.F. Li and D. Li	2369
A Cross-Platform and Context-Aware Middleware Application Z. Liao and J.L. Zhao	2375
Feature-Level Fusion of Dual-Band Infrared Images Based on Gradient Pyramid Decomposition X.J. Qu, F. Zhang and Y. Zhang	2380
Kalman Filter Algorithm for Adaptive Digital Predistortion X.W. Kong, J.Z. Li, W. Xia and Z.S. He	2385
Training Data Reduction and Classification Based on Greedy Kernel Principal Component Analysis and Fuzzy C-Means Algorithm X.F. Liu and C. Yang	2390
A Data Storage and Management Scheme in Cloud Storage Model Z.H. Cai, S.Y. Wang, S.Y. Long and H.T. Zhou	2395
A Computing Capability Allocation Algorithm for Cloud Computing Environment W.X. Hu, J. Zheng, X.Y. Hua and Y.Q. Yang	2400
A New Joint Algorithm Based on EMD-ICA to Reduce the Cross-Term in Wigner-Vill Distribution W. Liu, Z.L. Liu, X.X. He and H.R. Yao	2407
Difference Curvature Driven Anisotropic Diffusion for Image Denoising Using Laplacian Kernel Y.Y. Wang and Z.E. Wang	2412
Research of Modern Information Technology on Tree Growth Management Decision Making Model Y. Li, W.Q. Zhang, H. Liu, H.Q. Yang and X.N. Liu	2418
Research and Application of Poplar Growth Model W.Q. Zhang, Y. Li and Y. Liao	2422
Research of Cloud Computing Task Scheduling Algorithm Based on Improved Genetic Algorithm J.W. Ge and Y.S. Yuan	2426
Discovering Algorithmic Relationship between Programming Resources on the Web G.J. Zhu, K. Zhang and J.Y. Li	2430

A Multi-Dimensional Data Storage Using Quad-Tree and Z-Ordering F. Hou, C.H. Huang and J.Y. Lu	2436
An Improved D-S Evidence Theory Based on Genetic Algorithm to VIP Intelligent Recognition and Recommendation System X.Y. Xu, L.H. Ren and Y.S. Ding	2442
Method of Mathematical Modeling Based on PSO Algorithms G.H. Li, X. Yue, W.J. Wu and J.H. Zhao	2447
A Method of Inquiring Ontology with Semantic Templates X. Ouyang and C.Y. Shuai	2452
A Context-Aware Member Clustering Algorithm Based on Ant Colony and Genetic Optimization for P2P Mobile Social Network H.H. Cao and Y.M. Zhang	2458
Distributed Trust Management Mechanism for the Internet of Things J.P. Wang, S. Bin, Y. Yu and X.X. Niu	2463
A QoS-Aware Scheduling Algorithm Based on Service Type for LTE Downlink W.H. Fu, Q.L. Kong, W.X. Tian, C. Wang and L.L. Ma	2468
A User Selection Algorithm Based on the Combination of Block Diagonalization and SLNR Maximization W.H. Fu, C. Wang, N.A. Liu, Q.L. Kong and W.X. Tian	2474
An Approach of Web Page Information Extraction Y.H. Li, L.X. Wang, J.X. Wang, J. Yue and M.Z. Zhao	2479
The Research and Application of Heterogeneous Database Based on XML in Distance Education Y.W. Xia, Z.P. Li, S.D. Lv and G.H. Tang	2483
Protecting the Security and Privacy of the Virtual Machine through Privilege Separation C. Yu, L.X. Li, K. Wang and W.T. Yu	2488
A New Scale Free Evolving Network Model with Community Structure J. Cai and W.X. Liu	2495
A Method for Generating the Timetable of Double-Track Railway Line Y. Zhang, Y.P. Cui and W.T. Yang	2501
Design and Implementation of Distributed Crawler System for Opinion Mining Y.Q. Gao and C.L. Peng	2506
Internet of Things Key Technologies and Architectures Research in Information Processing Y.R. Shi and T. Hou	2511
Methods of Predicting the Brain Activity Based on Noun J.H. Jiang, X. Yu and Z.X. Huang	2516
Optimization of History Tree in 3DR-Tree Index Structure Z.T. Zhang	2521
Two-Dimension Nonlinear Optimization Method for Parameter Inversion of Elliptic Equation Y. Qian and X.G. Liu	2524
A Novel Fingerprint Image Preprocessing Algorithm M. Fu, J. Huang and J. Xu	2528
The Design and Implementation of Database on Library Management Information System H. Zhai, H. Shi and R. Zhai	2533
The Page Flow Implements Business Logic in Web Applications H.J. Li	2536
Optimization for Coal Heavy Haul Transportation Assembly Scheme Problem Using Genetic Algorithm X.S. Han and Z.H. Gu	2541
Active Learning Based on Diversity Maximization Y.C. Wu	2548
Reflection of the Nation Cybersecurity's Evolution A.K. Zheng, P. Song, B.X. Han and M.J. Zheng	2553
A Semantic Query Method for Deep Web H. Jiang, W.J. Liu and L.L. Lu	2559
The Petri Net Model of the Requirements and Service Composition Z.J. Chen and R.H. Ye	2564

The Design and Implementation of Florists Shop Online System Based on J2EE H. Shi, H. Zhai and R. Zhai	2571
Web Page Data Collection Based on Multithread W.T. Liu	2575
Functional Link Artificial Neural Networks Filter for Gaussian Noise Y.H. Guo and C.L. Huang	2580
Eigenvalue Decomposition Based Modified Newton Algorithm W.J. Wang, J.B. Zhu and X.J. Duan	2586
Bayesian Networks Application in Multi-State System Reliability Analysis S. Zhai and S.Z. Lin	2590
Noether Theorem of a Kind of Singular Integral Equation with Hilbert Kernel on Closed Contours L.X. Cao	2596
Adaptive Dual Conjugate Gradient Projection Algorithm for Compressed Sensing Image Reconstruction H.X. Yan and Y.J. Liu	2600
A Novel Model-Based Method for Automatic Generation of FMEA J. Zhang and G.Q. Li	2605
SEA - Based Multi-Dimensional Space Description Model of Equipment Support Capability S. Li, P. Gu, W.H. Sun and S.C. Ma	2610
An Improved Feature Selection Algorithm Based on Parzen Window and Conditional Mutual Information D.C. He, W.N. Hao, G. Chen and D.W. Jin	2614
Data Fusion and Bayes Estimation Algorithm Research Y.L. Gai and Y.P. Wang	2620
A Topic Study of Microblog Based on Specific Events Z.Y. Zhou and F. Li	2625
Research of Sign Language Synthesis Based on VRML S.C. Yu and R. Lu	2631
Volume Rendering Method for Spatial Seismic Data Based on GPU Z.X. Duan and G.H. Li	2636
A User-Friendly Building Energy Consumption Program Y.L. Jia, J.X. Jin and X.H. Zhou	2642
The Design and Implementation of Subjective Questions Automatic Scoring Algorithm in Intelligent Tutoring System Y.W. Xia, Z.P. Li, S.D. Lv and G.H. Tang	2647
A Fast Algorithm for Monostatic RCS Based on Lu Decomposition X.G. Xie, T.B. Yu, Z.P. Qian, L. Zhang and Y. Liu	2651
The Complex Blind Deflation Algorithm Based Particle Swarm Optimization with Survival of the Fittest Mechanism W. Zhao and C.P. Dong	2656
A Double Semantic Network for Intelligent Search G.G. Li, T. Feng, G.Q. Li and H. Wang	2661
Template-Based Delta Compression of Large Scale Web Pages K. Lei, G.Y. Sun and L.E. Huang	2666
The Study of Stage Assessment Scheme of Programming Courses Based on Experiment D.D. Zhao, C.L. Xie and H.Y. Song	2673
The AS' Property and Policy of MANET Structure Tourism Network Q. Yuan and Y. Wang	2677
Emotional Interaction Agents in Intelligent Tutoring Systems Y. Sun, Z.P. Li and Y.W. Xia	2682
A New Multivariate-Based Ring Signature Scheme L.L. Wang	2688
A Secured Distributed and Data Fragmentation Model for Cloud Storage L.X. Wang, L.F. Liu, S.L. Liu, D. Chen and Y.J. Chen	2693
A Genetic Algorithm-Based Quasi-Linear Regression Method and Application F.C. Li and K.N. Zhang	2700

Security Analysis of MD5 Algorithm in Password Storage M.C. Ah Kioon, Z.S. Wang and S. Deb Das	2706
Feature Selection Algorithm for Palm Bio-Impedance Spectroscopy Based on Immune Clone L.T. Lü, P. Li, Y.X. Yang and F. Tan	2712
Design and Application of a Policy-Driven Interactive Security Model R.H. Guo, Y. Zhou, Y.H. Zhang, Y.Q. Bai and J.W. Du	2717
Equipment Maintenance Support Analysis Model Based on Field-Theory W.Y. Wu, P. Gu, J. Liu and B. Liu	2721
An Improved Algorithm Based on LEACH Protocol W. Liu and L.L. Wang	2725
Compute Three-Dimensional Reconstruction of Brachial Plexus and its Surrounding Tissues by Using Chinese Visible Human (CVH) Data Anatomical Foundation for Brachial Plexus Entrapment Q. Li, B.F. Zeng, W.Q. Kong and C.Q. Zhang	2728
The Design of Social Security Information Management System W.L. Cao	2734
Application of Multimedia and Network English Teaching in Multiple Intelligence Development Z.X. Han and W. Wang	2739
Multi-Focus Image Fusion Using Curvelet Transform Y. Li	2743
Application of Using Simulated Annealing to Combine Clustering with Collaborative Filtering for Item Recommendation Z.M. Feng and Y.D. Su	2747
Edge-Magic Total Labellings of some Network Models H.Y. Wang, B. Yao, C. Yang, S.H. Yang, X.E. Chen, M. Yao and Z.X. Zhao	2752
A Method of Opinion Tendency Analyzing Based on Regular Expression Z.J. Wang	2758
Research on Iterative Method in Solving Linear Equations on the Hadoop Platform Y.D. Liu	2763
Development Scheme of Mobile Campus Information Integration Platform Based on Android H.X. Hu and M. Cui	2769
Design and Application of a Network Security Model S.P. Xu, Y.H. Zhang, Y. Zhou, Y.Q. Bai and H.P. Fu	2773
The Use of Computer-Aided Teaching Software in the Teaching of Basketball Tactics Y.J. Chang	2777
Application of Performance Motion Capture Technology in Film and Television Performance Animation M.Y. Zhang	2781
The Application of Information Visualization to English Lexicology for College English Majors X.Q. Cui	2785
The Application of Authorware to the English Teaching in the Multimedia Environment X. Tian and Y.L. Lv	2789
Resource-Sharing Construction of Area E-Government Information Based on Cloud-Computing - Taking Hebei Cangzhou as an Example L.N. Huang and B.G. Gu	2793
Reserch on Intelligent Tutoring System Model Based on Multi-AGENT in Mobile Environment J.H. Wang and Y. Yu	2799
Ontology Based Domain Resource Semantic Retrieval Model S.L. Wang and G.J. Zhang	2804
Tourism Domain Ontology Construction Method Based on Fuzzy Formal Concept Analysis Y. Liu, S.Q. Liu and P. Li	2809
The Application of Web Mining in Distance Education Platform Y.Y. Liao	2814

Research on the Security of Massive Data Storage G.H. Zhai and J. Li	2818
Applications of Modern Information Technology in the Teaching of College Curriculums W.Y. Xiao and J.X. Ge	2821
Webpage Tamper-Resistant Strategy Based on File System Filter Driver and Event-Triggered Z.Q. Wang and W.P. Wang	2827
A New Method Based on Undirected Graph and Polygon Triangulation to Prove the Four-Color Theorem G. Xue, H. Liu, S.X. Li and W. Chen	2832
Research of POS Tagging Rules Mining Algorithm S.H. Yin and G.D. Fan	2836
The Existences of Frame Wavelet Set W.S. Li and H.X. Zhao	2841
The Method of Equipment Average Replacement TimeVerification Based on Virtual Simulation X. Wu, B.Q. Wang, D. Xu and G. Mu	2846
Research on Visualization Conference Cooperative Work Platform Based on CSCW Z.F. Wu, X. Qin and X.L. Ding	2850
A Kind of Text Classification Method Based on Fuzzy Vector Space Model and Neural Networks J.H. Pan and H. Li	2856
Active Defense Security Model in the Application of Network Deception System Design J.W. Du, X. Zhang, Y. Zhou and Y.Q. Bai	2860
Model of the Equipment Selection of Material Handling System for Large Ship Y.Q. Zhang, K. Huang and W.F. Zhu	2865
3D Tree Modeling and Visualization Simulation Based on Fractal X.D. Xu, J.Q. Ye and G.F. Lv	2869
Effective Methods of Restoring Motion Blurred Images at Arbitrary Direction J.Y. Yin	2874
Research on Evaluating the Logistics Model of B2C Web Store in China H.Y. Niu, Z.Y. Ge and X.H. Yang	2877
Design and Implementation of LAN-Sensitive Information Interception and Analysis System S.F. Lin, W.F. Sun, L.N. Fan and H. Wang	2881
Some Holey Designs and Incomplete Designs for the Join Graph of and with a Pendent Edge X.S. Liu and Q. Wang	2885
Website Information Extraction Based on DOM-Model Y.F. Lou, Y.C. Zhang and Z.J. Yuan	2889
Application of Binary System to Information Table Based on Rough Set M.M. Li, Y. Shang, X.Y. Guo, J.L. Lu, Y.B. Feng and Y.Q. Duan	2894
The Strategy of Ontology-Based Semantic Replica in Cloud Storage S.Y. Wang, H.T. Zhou, J. Wang and F.F. Cao	2898
Research in Virtual Home Roaming System Based on Virtools H. Li and F. Liu	2905
Research in Wellbore Display Platform Based on Virtual Reality H. Li and J.H. Pan	2910
Subnet Broadcast Polling Algorithm of Network Management Based on SNMP M.G. Huang and Z.L. Wang	2915
A Combinative Similarity Computing Measure for Collaborative Filtering L. Guo and Q.K. Peng	2919
Fourier Transform Based GPU Acceleration J.S. Li	2926
Grade Exam Management System Design and Implementation Based on ADO.NET S.G. Cao	2930
Applying Rough Set Theory to Establish Artificial Neural Networks Model for Short Term Incidence Rate Forecasting X.Y. Zhao and L.L. Ma	2937

Challenges on Coordination for Cyber-Physical Systems M. Sun	2942
Development and Implementation of WEB-Based Online Hotel Reservation System P. Hu and D.X. Gu	2947
Construction of Odd-Variable Boolean Functions with Optimum Algebraic Immunity Z.C. Zhang, Z. Huang, J. Zhang and Q.Y. Wen	2952
Optimal Boundary SVM Incremental Learning Algorithm J. Cao, S.Y. Sun and X.S. Duan	2957
SIFT Feature Extraction Algorithm for Image in DCT Domain Z. Wu, Z. Xu, R.N. Zhang and S.M. Li	2963
Research for Model Based on Petri Nets about Maintenance and Support of Military Aviation Equipment Z. Wang, J.H. Song and X.D. Zhu	2968
The Convergence of SaaS and SOA Magnify Effect X.Y. Jin, X.H. Liu and W.D. Zhao	2973
Design and Implementation of Reconfigurable Encryption and Decryption System Based on SOPC Q.F. Zhou, Q. Huang, Y. Yuan and J. Yang	2979
Adaptive Semi-Fragile Watermarking Based on Complete Quantization and Image Contents G. Wu, D.W. Wei, G.M. Tang and J.F. Yang	2983
An Fast Refined Algorithm for Image Mosaic Y.P. Feng and W.C. Zhao	2989
A Study in the Technology Implementation of the Network Massive Information Processing Platform Y. Li and R. Liu	2993
3D Visualized Technique for Coalbed Methane Integrated Surface and Underground Drainage X.F. Du	2998
Application of a Dynamic Collaborative Learning Oriented Knowledge Model J.H. Shi and L.H. Liu	3002
A Relation Oriented System Analysis Method X.M. Zhang, Y.Q. Bai, J. Liu and Z.P. Liu	3008
A Wavelet Neural Network Forecasting Model Based on ARIMA B. Wang, W.N. Hao, G. Chen, D.C. He and B. Feng	3013
$F_m(z)=z^{-m}+c$ D.J. Yan, X.D. Wei, H.P. Zhang, N. Jiang and X.D. Liu	3019
SAR Image Classification Based on Brushlet and Self-Adaptive Ridgelet Neural Network N. Zheng and H.F. Tan	3024
A New Type of Optimization Method Based on Conjugate Directions X. Pan	3029
Study on Personalized Recommendation Technology of Digital TV Programs X.B. Wang and Q.J. Wang	3035
The Liquid and Plastic Limit Data Treated System Based on VC++ X.D. Zhang, J.Q. Li, R.Y. Shi, M. Zou, Y. Wang and H. Li	3039
In C Language How to Use Pointer to Access Two-Dimensional Array Element W.Q. Bai	3044
The Post Ability Evaluation of Maintenance Personnel Based on the G1-Topsis Algorithm N.R. Xing, X.B. Hui, J. Yang and J.Y. Du	3051
Research on CGF Behavior Modeling Based on Rule S.C. Tian, F. Sun, Z.Y. Li and L.S. Hao	3056
Research and Implementation Model Base System Platform Based on C MEX S-Function J.Q. Wan and B.M. Qiu	3060
Database Design of Three Dimensional Simulation and Optimization System for Mine Ventilation Network Y. Shen	3065
Application of Fusioncharts in Web System T. Zhang	3069

Study on the Equipment Management System Based on Internet of Things J.K. Mao and Y.F. Xu	3074
An Fuzzy Petri Net Model of Accident Evolution Process of Coal and Gas Outburst L. Ma	3079
Fuzzy Clustering for Military Decision Analysis with Remote Sensing Information J.F. Yang, Y.Z. Liu, B.J. Liu and W.L. Chen	3085
Research on a Scheme for Improving the Chord Routing Algorithm X.B. Wang and Q.J. Wang	3089
An Improved Dynamic Programming Algorithm for Bitonic TSP J. Li	3094
The Research of ARMA Model in CPI Time Series F.W. Zhang, W.G. Che, B.B. Xu and J.Z. Xu	3099
A Novel Fingerprint Matching Algorithm Based on Compatible Multi-Area Alignment D.J. Fan and L.D. Wang	3104
The Research and Application of Adaptive Learning System in Learning Programs C.M. Liu, Y.J. Sun and Y. Zhang	3109
Adaptive Learning System Designed and Learning Program Optimization Algorithm C.M. Liu, Y.J. Sun and H.Y. Li	3114
Rough Set Classification Algorithms Based on Texture Feature Y.X. Dong and F.H. Huang	3119
The Analysis of Product Design Research Based on Virtual Reality Technology W. Tian	3123
A Novel Multi-Objective Evolutionary Algorithm for Portfolio Selection L.F. Huang	3128
Research on Virtual Plant Modeling Based on Local Environment Sensitivity M.Y. Yin, L. Zhang, W. Li and Y.L. Chen	3133
Research on the Virtual Training System of an Air-Defense Equipment Based on Combined Exploration of Solidworks and OpenGL R.Y. Xie, Z.Y. Cheng, T. Yi, X.Y. Deng, Z. Xiao and H.G. Ke	3138
Enlightening Research on the Production of Boutique Open Video Classes D.L. Yang and S.Y. Liu	3143
A Medical Information Collection Middleware Mask Differences in Underlying Hardware and Third-Party Applications F. Song and Z. Cui	3148
An Optimal Energy-Efficient Path Selection Algorithm Based on Ant Colony-Genetic Optimization Scheme Y.J. Tan, C.H. Li, R. Zhao, J.Z. Du, Y.L. Yuan, F.Q. Mu and L. Li	3153
Discussion on the Intelligent Logistics Development Strategies Based on Internet of Things G.L. Jia	3158
Discussion Enterprise Information Virtualization Solutions for Business Continuity L.L. Tang	3162
Multi-Class Character Classification with Semi-Supervised Learning Based on Information Entropy X.W. Wang, Y.Y. Tang, J. Duan, L.R. Peng and Z.C. Zhang	3167
Application of "3S" Technology in Surveying and Mapping in the Glaciers on the Qinghai-Tibet Plateau B. Li, H.Y. Liu, X.W. Shi, F. Li and T.M. Yu	3172
An Algorithm of Attribute Reduct Based on Rough Set G.J. Song and G. Li	3177
Design and Implementation of IOT Heterogeneous Information Sharing Tool Based on Cloud Platform D. Liu and J.M. Sun	3182
On a Decision Making Method Based on Ideal Objective Method T.W. Luo, H.F. Tan, X.J. Wang and X.W. Bai	3186
Multiple Planar Intersects Recognition by Hough Transform Y.T. Chen, X.L. Pan, W. Yu, L. Li and Q.B. Ni	3190

Construction of Optimal Allocation System on the Edible Agricultural Products Components of the Nutrition and Health Care Based on Internet of Things M.H. Wei, L.Q. Yang, Q.L. Zhou and J.G. Zheng	3194
Based on the Basis Module Library Reuse of Oil Field Simulation Training System Development Research and Application J.S. Liang, T. Li, B. Li and H. Wang	3199
Research of Battlefield Environment Virtual Simulation H.N. Wu, Y. Liu, G. Yang and D.J. Li	3204
Multi-Robot Path Planning Based on Learning Classifier System with Policy Gradient Reinforcement Learning and Support Vector Machine (PGRL-SVM) Q.L. Song and J.B. Zhao	3208
NSCT-Based Multi-Sensor Image Fusion Algorithm H.F. Tan, W.J. Zhao, D.J. Li and T.W. Luo	3212
An Improved Algorithm of Improved Computation Efficiency on LTS Hausdorff Distance H. Wang, G.J. Li, J.H. Pan and F.H. Shang	3217
Research on the Architecture and Strategies of a Novel Software CDN L. Duo, W. Yu and Z.L. Liu	3222
Optimized Algorithm for Mining Maximum Frequent Itemsets on Association Rule N.L. Liu and L. Ma	3227
Digital Image Zero-Watermarking Algorithm Based on Improved Wavelet Moment Z.B. Zhang and C. Jia	3232
Design and Implementation of Digital Image Processing Teaching Demonstration System S.M. Zhang	3237
The Research on Modified K-Means Algorithm Based on GA&SA Z.F. Zhu, X.B. Hui, Y.Q. Cao and W.X. Lian	3242
CLUE-S Model-Based Simulation of Land Use Dynamic Variation in Yangzhou Urban L. Wang, X.M. Cui, D.B. Yuan, Y. Zhao and X.Q. Hong	3247
Analysis and Research of Problems Faced by Big Data Era L. Li	3252
Aviation Service Safety Culture on Group Behavior Based on Muti-Agent Y.Q. Cao, K.W. Li and Z.F. Zhu	3257
On the Statistical Machine Translation Studies A.L. Wang	3262
Architecture Design of Scientific Research Project Management Information System X.Q. Li, X.F. Song and B. Zhao	3267
A Kind of Improved Genetic Algorithm for Multi-Depot Vehicle Routing Problem W.X. Lian, C.S. Zhu, J.H. Hu, D.F. Zhang and D. Liu	3273
A Prediction Model Based on ISOMAP for Software Defects S.L. Shi, J. Shi and R. Wang	3278
Design and Implementation of Equipment Management System Based on the JBMP and Lightweight J2EE Y.F. Sun	3283
Research on Modeling Technology of Virtual Resources Cloud Pool for Group Enterprises Based on Ontology Y.X. Wang, Z.L. Wang and C.C. Gao	3287
The Overall Design of Digital Campus Based on Middleware L.L. Tang	3292
An Overview on Augmented Reality Based Mobile Commerce Recommendation M.J. Peng and B. Li	3297
Study of the Vibration Screening for Image Recognition of the Stored-Grain Insects H.T. Zhang, H.Y. Zhang and Y.X. Hu	3302
General Discussion on Prevention Technologies of Network Security Y. Huang, J.H. Zhu and H. Li	3307
Research on Security and Defense Technologies in the Cloud Computing H.J. Chen and X.Q. Wu	3312
Architecture and Existing Applications for Internet of Things X.J. Li and D. Wang	3317

Discussion of Principle and Application for Internet of Things X.J. Li and Y.H. Hu	3322
Implementation of a Web-Based Grid Computing Model for Transient Stability Constrained TTC Evaluation L. Shen, L.B. Shi, Y.X. Ni, L.Z. Yao and M. Bazargan	3326
A Novel Method to Improve the Accuracy of Grey Prediction Model in Economic Prediction Q.R. Wang, X.W. Chen, D.S. Luo, Y.F. Wei, L.Y. Jin and L. Liu	3331
Simulation Analysis of the Inventory Mode for Storage System Q.T. Han	3336
Student Perceptions and Satisfaction with Online and Distance Learning W.H. Liu	3340
Developing Operating Platform of the Internet of Things Based on Cloud Computing L.H. Huang and X.Q. Zhang	3343
Cloud-Based Platform Building Research of Teaching Resources Y. Luo and X.Q. Zhang	3347
Collaborative Development of E-Commerce and E-Government A. Wang and L.H. Huang	3351
The Design of Network Forensics Based on Jpcap X.Y. Zhong	3356
Internet of Things Resources Addressing the Technical Analysis and Research L.L. Yan	3360
Research and Implementation of Automatic Online Auction Using Selenium X.L. Xia and L. Chen	3364
Health Database Oriented Word Alignment for Machine Translation Based on Generalized Intersection H.L. Wu, K. Wang, Y.Y. Liu and C.J. Dong	3368
On Teaching Evaluation Information System of University Physical Education Curriculum Q. Zhou	3372
Cloud Computing Security of E-Commerce Environment X.F. Wang	3377
Pedestrian-Flow Statistics Algorithm Based on Image Processing H.M. Jian and Z.X. Wei	3381
The Design and Fulfillment of Multimedia Didactical System of Colleges and Universities Multi-Network Unification S. Nie, Y.Y. Sun and Y. Liu	3385
The Study of Shared Multimedia Didactical System S. Nie, Y.Y. Sun and Y. Liu	3388
An Optimization Algorithm for Selecting Cloud Service Partner Based on Graph Theory Y.F. Kang, G.H. Nie, D.L. Chen and Z. Wu	3391
The Application of Decision Tree Algorithm in Medical Field Based on Cloud Platform Z.Y. Liu, J.X. Peng and Y.K. Yang	3397
Research and Development of Algorithm Visualization Teaching Software on Mechanical Optimization Design L. Li, Z.Y. Wu, L.H. Wu and N.B. Liu	3403
Target Detection of Sonar Image Based on Bis-Parameter with Adaptive Windows K. Li, Z. Liu, S.L. Hu and Y. Liu	3407
An Image Registration Algorithm Based on Improved SIFT Feature Y.W. Dong, L. Wan, Z.M. Shi and M.L. Zhu	3411
Face Detection Methods Applied in ATM Automatic Identification System M.H. Zhang and Y.Y. Zhang	3416
The Application of Biometric Identification Technology in ATM System M.H. Zhang and Y.Y. Zhang	3419
Algorithm of the Workpiece's Contour in Inner Spiral Curved Surface of Spiral Stator Using Circular Blade Disc Cutter X.M. Liu and S.Q. Wang	3422
Fire Detection Technology Based on Infrared Image Processing X.J. Liu	3426

The Design of a New Multi-Dimensional Parameter Acquisition Equipment with RFID Module in Sensitive Logistics Environment D.Z. Zeng, L.M. Wu, X. Luo and F.J. Li	3431
Application of Three-Moment Equation in Rudder Stock's Force Calculation B.C. Zhang	3435
Research on Multifunctional Gas Chromatography Sample Pretreatment Apparatus R.J. Jin, C.Q. Chu, X.P. Wang, D.H. Li and X.F. Piao	3440
Principles of Interaction Design Research Based on Cognitive Characteristics D.F. Niu, S. Yang and M. Deng	3446
A Ships Parameter Identification Arithmetic Based on Improved Ant Colony Algorithm T.W. Liu, H.B. Wang, Y. Dang and S.R. Yang	3450
Research on Trend Predicting for Gap Adjustment Automatically in Offset Machine Z.Q. Gao and H.X. Sun	3456
The Rapid Design System of Stamping Process Based on KBE H.H. Huang and L.Y. Wang	3460
Simulation of Propellant Muzzle Flow Field Based on Grid Technology H. Qin, S.G. Du, J. Yan and H.G. Li	3465
A Contactless Palm Vein Recognition System Based on Principle Line SIFT W. Wu, S. Lin and H. Song	3469
Support Mechanism Design of Large Aperture Reflective Mirror for Large Temperature Variations H.L. Hu, B.J. Zuo, F.Y. Dang, M.D. Xu and Z.G. Fan	3473
Depth-First QRD-M Detection Algorithm for MIMO Systems L. Liu, J.K. Wang, X. Song, Y.H. Han and Y.H. Wang	3478
Exploration of Springback Prediction System of Sheet Metal on Refrigerator Door and its Die Design Y. Yang, D.H. Zhang, Y.Q. Li, C.P. Wang, D.P. Bai and J.B. Liu	3482
Island Hole Automatic Filling Algorithm in Triangular Meshes F.L. Bi, Y. Hu, X.Y. Chen and Y. Ma	3486
Texture Recognition Based on Invariant Analysis and Support Vector Machine J. Zhao	3490
A Trajectory Planning Algorithm for Autonomous Overtaking Maneuvers S.M. Zhang, H. Sun and Y. Wang	3494
Robust Feature Points Extraction Based on Harris and SIFT X.R. Guo, S.H. Cui and F. Dan	3500
Moving Objects Detection Algorithm Based on Three-Dimensional Gaussian Mixture Codebook Model Using XYZ Color Model J. Huang, W.D. Jin and N. Qin	3505
Attribute Control of P-Information Law and its Application C.X. Fan, Y.P. Zhang and X.Y. Sun	3510
Attribute Dependence of P-Information Law and its Application C.X. Fan, X.Y. Sun and Y.P. Zhang	3514
The Improvements of Traffic Data NN Rules Based on Hypothesis Interval S.Y. Ma, S. An and T.H. Song	3518
Dynamics Simulation of Cannon Based on RecurDyn F.F. Xiang, X.J. Chen, H.G. Sun and H.W. Lou	3523
An Improved Signal Detection Technique for OFDM System X.H. Wang and F.M. Li	3527
Image Retrieval Based on Semi-Supervised Orthogonal Discriminant Embedding C.B. Huang and L. Xiang	3532
Image Recognition Technology Based on Artificial Intelligence H.Y. Lin, Y.J. Wang and J.C. Cai	3537
An Improved Edge Detection Algorithm Based on Canny Operator D.D. Zhang and S. Zhao	3541
Deformation Analysis of Short and Medium Span Curved Beam Bridge J. Jin, X.F. Zhu and H.F. Ren	3546

The Research of Oil & Gas Energy Saving Index Prediction Based on Neural Network and Quantum-Behaved Particle Swarm Optimization	3550
J.S. Liang, H. Yang, Z.B. Yuan and H. Wang	
Research of Cloud Storage and Data Read-Write Technology	3555
H.J. Chen, T. Tan and X.Q. Wu	
A New Method of SAR Airdrome Image Edge Detection Based on Image Character	3560
D.J. Li, H.N. Wu, G.Z. Li, G. Yang, L. Cheng and X.R. Sun	
Researching of Chaotic Characteristics and Forecasting of Elman Network on the Communication Traffic	3565
Z.M. Duan, Y.J. Zhou and X.J. Yuan	
An Accurate Collision Detection Method for Cable Simulation	3571
S.F. Xie, L.Y. Ma and P.Y. Liu	
Application of Wavelet Transform in Image Processing in Aviation Engine Damage	3576
Y.F. Qin, J.B. Cao and J.Q. Cao	
Method for Extraction of Object Contour of near Space SAR Image Based on Level Set Algorithm	3581
L.L. Pang, Y.Q. Cao, W.B. Zhang and W.L. Ren	
Study on China Electronic Products Reverse Logistics Mode Selection Strategy	3586
C.L. Xie	
Direction Detecting of Blind Sidewalk Based on Image Processing Scheme	3591
J.Y. Fu, Z. Gong, X.R. Cheng, R.M. Cai and W. Wang	
FastSLAM Algorithm for Uninhabited Flying Vehicle	3596
L.P. Feng, Y.Q. Wu, S. Pan and X.B. Wang	
Fast Human Detection Using Dynamic Contour and Histograms of Oriented Gradients	3600
Z.Y. Qu, Y.X. Jin and J. Feng	
A Two-Step Optimizing Algorithm for TOA Real-Time Dynamic Localization in NLOS Environment	3604
S. Long, Z. Cui and F. Song	
Structural Improvements of Hoisting Jack Bracket Based on Finite Element Analysis	3609
N. Fang, H.L. Huang, F. Li, Y.K. Zhou and N. Huang	
Real-Time Compression and Storage of “Non-Interest” Image	3614
H. Zhang, Y.N. Zhai, Y.K. Tang, J. Liu and K. Yang	
An Effective Method to Reduce False Alarms in Video Face Detection	3619
B. Li, Y.Y. Tang, D. Wen, Z.C. Zhang and B.Y. Ding	
Camera Calibration and Improved Computation of Fundamental Matrix in Epipolar Geometry	3624
J. Duan, Y.Y. Tang, Z.C. Zhang, C.Y. Guo and C. Fang	
Sparse Representation Frontal Facial Recognition Algorithm Based on Eigenface	3629
B.Y. Ding, Y.Y. Tang, Z.C. Zhang, X.W. Wang and C. Fang	
Bridge Target Detection in SAR Images Based on Texture Feature	3634
N. Zheng, W. Zheng, Z.L. Xu and D.C. Wang	
The Close Ballistic Target Tracking Based on Extended Kalman Filter	3639
L.J. Han, S.H. Cui, S.B. Miao and W.Q. Han	
Research on Attack Source Traceback	3644
W. Xu and Q.H. Xu	
Wavelet Linear Estimation for Different Distributed Random Variables	3648
J.R. Wang and M. Wang	
Video Copy Detection Based on Fusion of Spatio-Temporal Features	3653
W. Bao, L.X. Ji, S.L. Gao, X. Li and L.X. Liu	
Predication of Gas Emission Based on Wavelet Multi-Resolution Analysis	3662
B.M. Qiao and Q. Kang	
Self-Alignment Algorithm for Strapdown Inertial Navigation System under Strong Flurry Interference	3667
Y.G. Wang and J.S. Yang	
Model Parameters Estimation for Image Motion Compensation	3672
X.Y. Zhong, X.S. Li and Y.G. Zhao	

The Research and Design of Intelligent Tutoring System in Intelligent Tutoring System Based on Campus Grid	3677
Y.W. Xia, J.L. Xie, S.D. Lv and G.H. Tang	
Study on the Intelligent Recognition Method for the Maturity Grade of Fresh Corn Ear Based on Computer Vision	3681
H.H. Wang, Y.H. Sun, Y. Lv, X.H. Tao, X.J. Wang and J.X. Yang	
An Effective Image Matching Algorithm Based on Rotation Independence	3685
X.Y. Huang and W.W. Chen	
Research on Radio Maintenance Simulation Training	3691
Z. Wang, Y.S. Tan and X.L. Huo	
Research on Property and Model Optimization of Multiclass SVM for NIDS	3696
J.H. Song, G. Zhao and J.Y. Song	
A Novel Quasi-Cyclic LDPC Codes Construction Method for High-Speed Parallel Decoding	3702
M.K. Dong, D. Wang, Y.D. Zheng, S.Z. Wu and H.G. Xiang	
Scalable Parallel Motion Estimation on Multi-GPU System	3708
D. Chen, H.Y. Su, W. Mei, L.X. Wang and C.Y. Zhang	
Research on Vulnerability Detection for Software Based on Taint Analysis	3715
B.H. Liang, B.B. Qu, S. Jiang and C.T. Ye	
The Improvement Scheme Based on SIPT	3721
J.Y. Lao and Z.L. Sun	
A Kind of ECC - KNN Classifier's Vehicle Identification Algorithm	3724
L.T. Lü, H. Gao and Y.X. Yang	
Target Classification Using PAS and Evidence Theory	3728
L. Jia, H. Yan, G.H. Li and H. Zhang	
Detecting App-DDoS Attacks Based on Marking Access and d-SVDD	3734
J.L. Li and B.Q. Wang	
Research on Operation Optimization Problem of Material Handling System for Large Ship	3740
C.P. Wen, K. Huang and W.F. Zhu	
The Application of Testbed Tbrun in Unit Test of Aviation Software	3745
Y. Li and D. Liu	
Research on the Method of Materiel Maintainability Qualitative Requirement Demonstration Based on Virtual Simulation	3750
D. Xu, B.Q. Wang and X. Wu	
A Precision Model Based on Functional Surface and its Application in Product Reverse Engineering	3754
Y. Wang and W.G. Wang	
Fast Object-based Video Detection Algorithm Based on Motion Vector Field	3759
G.Q. Lv and Z.Y. Qu	
A Novel Method of Visual Attention for Targets Detection	3764
Z. Zhang, X.N. Fan, X.W. Zhang, H.Y. Xu and M. Li	
Precision Analysis and Simulation of Locating the Single Source Based on Double-UAVs	3769
Q.J. Zhang, S.R. Xie, J. Luo, Y. Peng and Z.H. Ye	
Object Tracking by Corrected Background-Weighted Histogram Mean Shift with Sum of Gradient Mode	3774
Y. Yang, Y.X. Jia, C.Z. Rong, L.J. Wang, Y. Wang, Y. Zhu and Z.J. Yue	
Facial Expression Recognition Based on Fused Spatio-Temporal Features	3780
J.J. Yan and M.H. Xin	
Studies of High-Accuracy Stress Calculation Method in Isogeometric Structure Analysis	3786
G. He, H. Gu and Z.Y. Pan	
Infrared Moving Multi-Target Tracking Based on Particle Filter and FCM	3792
F.J. Hu and W.J. Shi	
A Fuzzy Adaptive K-SVD Dictionary Algorithm for Face Recognition	3797
X.N. Song and Z. Liu	
The Research and Application of Virtual Transformer Substation Roaming Platform Based on the OpenGVS	3804
F. Liu, H. Li and W. Tong	

A New Algorithm of Eyed Typhoon Automatic Positioning Based on Single Infrared Satellite Cloud Image G. Yin and Y.F. Chen	3809
Improved Pedestrian Detection Based on Extended Histogram of Oriented Gradients L.H. Zhang and L. Li	3815
Chaotic System Parameter Identification Based on Firefly Optimization W.M. Gao, Z.C. Zhang and Y.H. Chong	3821
Emergence of Abstaining in Glauber Opinion Dynamics B.L. Niu and W. Wei	3827
Adaptive Driving Speed Guiding to Avoid Red Traffic Lights L.S. Cai and G.B. Ning	3832
Heterogeneous Data Exchange Technology Based on XML J.H. Zhao	3837
Security Analysis of Cryptographical Module for FPGA H.T. Sun, D.Q. Xue and J. Liu	3842
Analysis and Implementation of Raptor Codes for Video Multicast G. Wei, C.J. Li and Y.D. Zhang	3845
The Convergence Mechanism and Strategies for Non-Elitist Genetic Programming H. Ni, F.M. Zeng, B. Yu and F.R. Sun	3850
A Survey on Smartphone Security D. Liu, N. Zhang and K. Hu	3861
Shot Boundary Detection Algorithm Based on Multi-Feature Fusion K. Jin, H.C. Feng, Q. Feng and C. Zhang	3866
Pixel-Level Image Fusion Based on Programmable GPU H. Li, G.F. Tang, F.X. Wu and C.E. Tan	3872
Research of Intelligent Vehicle Internet of Things Based on Anti-Worm Model Y. Qi, Q.P. Han and Y.D. Zhang	3877
Polarization Imaging Target Detection Method by Imitating Dragonfly Compound Eye LF-SF Mechanism M.X. Xu, X. Wang, X.J. Yan, G.F. Lv, S.N. Zheng and H.B. Wang	3881
Summarize of Technological Development about Integrated Simulation of Gas Turbine Equipment S.Y. Li, T.L. Li and Z.T. Wang	3885
An Unmanned Helicopter Model Identification Method Based on the Immune Particle Swarm Optimization Algorithm T.T. Yang and A.J. Li	3890
Online Modeling and Simulation Algorithms Analysis Used on Water Turbine System T.H. Chen and S.G. Li	3894
The Research of Routing Algorithm Based on Shortest Path Tree in WSNs Y.H. Liu, Z.R. Luo, K. Xu and C. Xu	3899
Flow Analysis of a Shrouded Aerosol Sampling Inlet B.Q. Wang, S. Yao, D.Q. Wang, Z.P. Bai and X.H. Wang	3903
Collaborative Optimization for the Regenerative Heating System of a Steam Turbine Unit Considering the Steam Sources of Deaerator and Feed Pump Turbine W.F. Fu, F. Li and Y.P. Yang	3907
Prototype Design of Self-Securing Portable Storage Device L.J. Zhu, W.T. Zhao, H.J. Wu, Y. Liu and Z.M. Hu	3911
Design of Campus Smart Card System W.C. Lv	3915
Researchment and Realization Based on Android Database Application Technology M. Xu, X.C. Yin and J. Rong	3919
A PDA-Based System Development and Implementation for Manufacturing Execution System X. Wang and G.R. Yan	3926
Robust Adaptive Beamforming Applied to Planar Array H.Y. Song, J. Shi, B.S. Liu, Y. Tian and J. Ye	3930
Design of Software Defined Radio Platform Resource Model Based on SCA Y.L. Yang, Y.R. Lu, Q. Cai and Y.Y. Lai	3934

Inhibition of Envelope Correction Method to EMD End Effect T.L. Ma, Z.L. Liu and Z. Zhou	3940
Inner-Cluster Data Aggregation Scheme for Wireless Sensor Networks J.H. Guo, Y.D. Luo and D.L. Chen	3945
Research on Method of Random Error Separation Based on Wavelet Transform and Frequency Bands Character X.Y. Duan and Y. Huang	3950
Simulation Research on Hydraulic Stewart Force Feedback Master-Slave System J.W. Hou, D.X. Zhao, Y. Zhao and Y.X. Cui	3954
The Research of Equipment Simulation Technology Based on TCP Y.Z. Xie and B.Y. Ye	3960
Saliency-Based Adaptive Object Extraction for Color Underwater Images H.B. Wang, X. Dong, J. Shen, X.W. Wu and Z. Chen	3964
Model of Intrusion Detection Based on the Game Theory H. Xiao and C.F. Long	3971