

Table of Contents

Preface

Chapter 1: Design and Researches in Area of Vehicle and General Mechanical Engineering

Design and Motion Simulation Analysis on Automobile Constant Velocity Universal Joints Driving Shaft	
F.L. Huang, L.J. Wang, Y.Q. Lin and Y. Zhao	3
Effect of Boron-Nitrogen Containing Modified Soybean Oil Lubricating Additive on Friction and Wear Behavior of Steel-Steel and Steel-Aluminum Alloy Systems	
J.H. Fang, B.S. Chen, J. Wang and J. Wu	8
Main Drive Vehicle of Two-Stage Driving Axle Design	
H. Hu and Y.M. Yan	12
Light Bus Drive Axle Design	
H. Hu and Y.M. Yan	17
Research Status and Prospect on Dynamics of Tank Automotive	
S. Li, L.M. Song, X.J. Liu, Y.Y. Sun and X.L. Liu	23
The Optimization for Aircraft Carrier Main Dimensions	
Y.J. Wang, S. Huang, X.Y. Fang and G. Wang	27
Performance Analysis of the New Helicopter-Lift Device	
Y.M. Yang, Q.Y. Yang, J.B. Yao and Y.K. Li	31
The Calculation Model and Correction Method of Identifying Deflexion of Oil Tank	
D.B. Liu and W.B. Liu	35
Structural Analysis and Optimization Design of Motor Hanging Seat Structural Based on Pro/ENGINEER	
S.X. Gao, S.G. Zhao and L.F. Zhao	39
Influence for Brake Torque of Hydraulic Retarder with Shape of Circulation Circle	
Y.X. Chu and J.H. Lv	43
TH6213 CNC Boring and Milling Machine Spindle System Thermal Equilibrium Analysis	
H.J. Liu, Z.L. Chen and Y.X. Xu	47
Prediction on Vehicle Crash Acceleration Based on Circle of Constant Acceleration Method	
Z.X. Liu, Y. Zhang and M.J. Wei	51
Analysis of Kinematics and Throughput of the Shotcrete Machine	
K.L. Feng, G. Zhang, F. Wang and B. Wang	55
Force Analysis of Petticoat Valve of Shotcrete Machine Based on Fluent	
K.L. Feng, F. Wang, G. Zhang and J. Li	60
The Vibration Characteristics Analysis of Miter Gate Based on ANSYS Workbench and Vibration Test	
X.Z. Zhao, R.F. Wang, J. Wang and M.Y. Zhao	64
Comparative Study on External Flow Simulation of Passenger Car with Complex Underbody and Flat Underbody	
X. Yan, X. Qiao, Z.M. Zhao, J. Ye, L. Liao, X.J. Hu and J.Y. Wang	69
Acoustic Parts in Vehicle Sound Transmission Loss Test Method Research	
X.F. Wang and J. Shi	73
The Powertrain in Vehicle Sound Power Test Method Research	
X.F. Wang and J. Shi	77
Modeling and Analysis of High-Speed Journal Bearing Based on Thermal Hydrodynamic Lubrication Theory	
S.S. Li, Y.X. Lu, M.L. Dong, J. Shao and F. Yu	82
Parametric Design of Grid Plate Type Peanut Picking Machine	
J.M. Hou, D.X. Yang, Y.T. Qu and L.X. Gao	87
Finite Element Analysis of Model SZX20×2 Low Temperature Twin-Screw Oil Press	
J.J. Wang and Y.L. Zhang	91

Structural Finite Element Analysis on Side Wall Pouring Formwork Trolley for Subway Station	
Y.F. Ma, Z.T. He and Q. Zhao	95
Influence and Analysis of Temperature Rise to Principal Spindle's Rotating Error Test	
K. Liu, J.F. Lin, Y.W. Wang and T.J. Zhu	101
Modal Analysis of Linear Guide Way Junction Surface	
S.L. Ren, T.Y. Cheng and Y. Dai	105
Analysis on Tow-Phase Flow of WJ-4FB Explosion-Proof Scraper Waste Gas Treatment Tank Based on CFD	
W. Zhang, W.M. Zhang and M.M. Guo	109
The Application of the Polynomial Regression Method in High-Speed Train Seat's Curve Design	
Y.P. Guo, G.Q. Song and F.Y. Song	113
Study on the Utilization of Regenerative Braking Energy for High-Speed Railways	
G.Y. Zhang and Q.Z. Li	117
Design of a New Unlock Mechanism for Fuel Tank Catapult	
Q.J. Wu, H.Q. Tang and Y.Y. Yuan	124
Frequency Reliability Analysis of Diamond Circular Saw Blade	
Z. Yuan, Z.F. Qin, R.Y. Cao and L.L. Song	128
The Parametric Design for Hydraulic Cylinder Based on SolidWorks	
H.Y. Wang, G.H. Han, X.M. Jiang and H. Wang	132
Statics and Modal Analysis for Large Vibrating Screen	
W.F. He and A.M. Xian	136
Analysis and Simulation on Automobile Airbag Compression Test	
Y. Gao and X.H. Zeng	140
High-Voltage Converter Technology Applied in Coal Mining Ventilator	
H.Q. Wang and M.Z. Zhang	144
Research in Evaluating Armored Vehicle Engine Using Condition Based on Similar System Theory	
H.Q. Zhang, C.L. Chen, J.Y. Liu and Y.Q. Zhang	148
Kinematic Analysis and Virtual Design of the Cutter of Seedling Vegetable Harvester	
Y. Guo, Z.Q. Li and S.B. Tian	152
Design and Kinematic Analysis of Reciprocating Cutters	
Y. Guo and Z.Q. Li	156
A Hole-Punching System for the Pot-Seedling Hole-Punching Machine	
Y. Guo, Z.Q. Li and J.C. Shi	160
The Algorithm Research on Adaptive Tooth Height Modeling Modification Based on PRO-E	
T.L. Li, Y. He and R.B. Ge	164
The Dynamic Reliability Analysis of Cryogenic Valve Based on Man-Machine-Environment System Theory	
Y.T. Qin, H. Zhang, W.Q. Cao and Z.B. Li	169
Finite Element Analysis for Assembly Fixtures Based on ANSYS	
W. Cao, G.L. Zheng, J.L. Xu and Y. Qiu	173
Electric Scissor Aerial Work Platform Solenoid Valve Research	
G.J. Pan	177
Strength Checking and Finite Element Analysis to Hoisting Pads for Launching on Horizontal Slipway	
Y.N. Huang, D.L. Liu, F.S. Sun, Y. Wang and D. Lu	181
Technical Research for Undocking Scheme on the Horizontal Slipway for Towing the 15,000 Ton Launching Weight Bulk-Carrier	
Y.N. Huang, D.L. Liu, F.S. Sun, Y. Wang and M.X. Gao	186
In the Wind Tunnel Simulation Defroster Control Study	
Q.Y. Yang, J.B. Yao, Y.M. Yang and X.W. Liu	191
Analysis of Damping Components of Roll Resistant Specific Hydraulically Interconnected Suspension System	
Y.L. Wang, B.J. Zhang and N. Zhang	195

Brake Distance Calculation of CRH	201
X. Peng, Y.Y. Zhou, Q.Y. Li and X.Q. He	
Research on Optimization of Water Jet Propulsion	205
C.T. Wang, F.L. Kan, L.G. Zhao and W. Wei	
Mathematical Modeling and Robust Control for Beam Reheating Furnace	209
L.Y. Hu and L.Y. Hu	
Predictions of Dynamic Damping Coefficients of Basic Finner Based on CFD	215
Z.L. Zhao, H.B. Wang, Y. Tao and Y.J. Wang	
Application of LED Light Source in the Flow Imaging	219
J.B. Yao, Y.M. Yang, Q.Y. Yang, X.J. Liu and D. Jin	
The Effect of the Positive and the Negative Initial Values on Benard Fluid	223
A.Q. Dai, C.X. Jia, X.Y. Chen, J. Chen and B. Luo	
Effect of Ship's Motion on Wave-Generated Magnetic Field in Marine Magnetic Survey	228
X.L. Zhu, C.H. Xiao and Z.N. Yao	
Modeling and Simulation of Turning Characteristic of Batoid	232
C. Tang, S.J. Shi and W.S. Chen	
The Analysis of Traffic Flow Model	237
X.W. Wei	
Design of the Secure System and Research of the Hydromechanics Based on the Small Marine Equipment	241
Z.Y. Wu, S. Zhang, T. Gao, J. Qi and W. Zhang	
Research on Continuous Reconnaissance Capability of UAV Formation in Multi-Target Situation	246
Q.W. Huang, X.B. Li, Q. Li and Y.F. Zhu	

Chapter 2: Mechatronics, Automation and Control

A Real-Time Traffic Lights Scheduling Strategy	253
B.B. Zhou	
The Study of Control Strategy of Multi-Microgrid Based on AC Bus	257
J.H. Shi, R.J. Zhu, G.L. Zeng and J. Yu	
Design and Realization of the Air Heater Temperature Control	262
S.W. Du and X. Liu	
Research and Implementation of Electric Control System	266
Y. Li, W.Q. Zhang, H.Q. Yang and H. Liu	
A Model Predictive Controller of Spacecraft Formation Tracking Based on the Hill Equation	270
Y.K. Wang, C. Zhang and Y.H. Zhao	
The Design of Computer Integrated Control System for Electron Beam Welder	274
H.M. Ye and X.F. Liu	
Design of Spacecraft Controller Based on Adaptive Fuzzy Sliding Mode Variable Structure	278
J. Huo and J.S. Cui	
Research on the Stability of the Position Servo Motor Control System Based on DSP	282
J.J. Zhang	
Improvement of a Dynamic ID-Based Remote User Authentication Scheme for Multi-Server Environment Using Smart Card	286
Z.Z. Wang, J.K. Ding, Z.P. Jin and H. Zhang	
A Novel Control Strategy of PWM Rectifier	290
W. Wang and X.C. Shi	
Design and Simulation of Temperature Control System in Intermittent Reaction Kettles Based on Intelligent Fuzzy Control	294
X.W. Li	
Control and Simulation of Spacecraft's Attitude Control Based on Quaternions	298
X.M. Song and Y. Chen	
Study of PI Adaptive Non-Linear Control Strategy Based on CCM/DCM Fast Identification for DC/DC Converter	302
X.X. Fan, Z. Xie, F. Xiao and R.T. Wang	

The Control System Design of AC Servo PMSM Based on an EMCU X.W. Wang, Z.H. Deng, X. Yun, L. Zhang and Y. Zhang	309
Agent-Based Distributed Formation Tracking Adaptive Collaborative Control Simulation System Y.H. Zhao, Y.K. Wang and C. Zhang	313
The Design for Tension Control System of FOG Coil Winding P. Zhang, R.F. Yang and X.L. Zhang	317
Position Tracking System of Filling Machine Based on Compound Control Strategy Z.Q. Wei and D. Jin	321
New Applications of the Wireless Meter Reading System-Wireless Automatic Routing X.Q. Li, J. Liu, C. Guo and S.J. Gao	325
The Design and Control of the Humanoid Walking Robot Z.F. Bao, P. Zang and J.P. Wang	328
An Improved Nonlinear Flight Controller Design Using Active Disturbances Rejection Control Method Z.Q. Fan, L. Liu and X. Sun	332
Design of Control System of Construction Elevator Based on PLC C.Q. Wei and X.Q. Gao	337
A System of Computer Real Time Optimization Control for Refining Industry J. Chen	342
The UAV Autonomous Aerial Refueling Controller Based on Predictor Auto Disturbances Rejection Method X. Sun and X.G. Zhang	347
Simulation and Analysis of Impact Factor on Fuzzy PID Controller X.J. Lu, J.P. Li and P.F. Li	353
A System of Computer Optimization Control for Catalytic Cracking J. Chen	360
Design of the Double Loop Control Grid-Connected Filter Based on Virtual Resistance G.X. Jia and J.K. Feng	365
PSO Based Self-Tuning PID Pitch Control for Wind Power Generation System H. Zhou, B. Qin, R. Li, H.J. Xu, M.F. Cao and X. Wang	370
Simulation Study of Permanent Magnet Synchronous Motors Energy Feedback Control System W. Wei, P. Xue and B. Zhang	374
Research on Switching Control of Brushless Permanent Magnet Motor for EMA for Aerospace Y.J. Lv, F. Li and Z.L. Li	379
The Design of a LED Illumination Control System Based on ARM, Infrared Technology and ZigBee M.L. Yu, Y.J. Bi and L.G. Meng	384
Discussion and Research on Stochastic Stability Based on Network Control System F.L. Liu	388
Robust H_∞ Control for Uncertain Discrete Networked Control Systems L. Chen and B.D. Qu	393
Research the Intelligent Injection Wells Monolayer Segment Control Strategy S.J. Zhang	398
Process Control Strategy for Oilfield Piezoelectric Control Layered Production Allocation X. Tao	403
Design and Implementation of Automatic Car Driving Control System Based on FPGA Q. Huang, J. Yang, Z.P. Zhao and F.S. Tao	408
Fuzzy-PID Control and its Stability Analysis of Large Time-Delay Nonlinear Systems Y.C. Zhao and J. Liu	413
Modeling and Control of Complex Nonlinear Systems Based on TS Model Y.C. Zhao and J. Liu	417
The Application of Neural Network in Computer Control J. Liu, Y.C. Zhao, X.H. Shi and S.J. Liu	421
Research and Analysis about Static Synchronous Compensator Control Y.J. Ma and Y. Li	425

Research and Application of Improved Support Vector Machine in Temperature Control of Heat Treatment Furnace	
J. Li, X.J. Wang and S. Liu	430
Fuzzy Adaptive Control of a Chinese Medicine Sugar Precipitation Process	
Q.W. Li and O.J. Duan	435
Sliding Adaptive Control of a Chinese Medicine Sugar Precipitation Process	
H.J. Duan and L. Zhao	441
Study on Control Scheme of Reheating Furnace of Steel Rolling Optimization	
J. Sun, M. Feng and X. Li	446
Research on the Automotive Hybrid Control System Applications	
X.Q. Zhang	450
Control System of Smart Home Based on Cloud Computing	
H.L. Guo and S.Y. Kong	455
Design of the Flight Control System for a Small-Scale Helicopter	
Y.H. Du and J.C. Fang	459
Mechanical and Electrical Control System Design Based on Adaptive Control Theory	
Y. Li	463
The Instantaneous Optimal Control Strategy of Parallel Hybrid Loader	
X.H. Zeng, G. Bai, J.X. Wang and Z.P. Zhou	467
Study on Fuzzy PID Control of Amplitude Modulation Atomic Force Microscopy	
H.M. Yao and S.R. Jiang	472
A Simulation of an Electrical Servo Drive Based on Optimal Control	
X.Q. Yang and K.F. Zou	476
CMAC-Based Backstepping Sliding Mode Control of PMSM	
H.R. Li and Z.B. Jiang	480
The Sliding Mode Control for Traction Control System Based on Variable Optimal Slip Ratio	
J. Zhao, J. Zhang and B. Zhu	485
RBF Neural Network in the Application of Synthetic Tower Temperature Decoupling Control Research	
Z. Zhang, L.J. Hao and B. Ma	491
Research on CNC System of Line Contact Machining	
J. Han, L.Q. Lei and X.F. Liu	495
Acceleration Control for a Plug-in Series Hybrid Electric Vehicle	
Z.Y. Chen, Y. Yang, G.Y. Zhao and X.J. Li	499
Active Engine Vibration Isolation Using Robust Control	
G.C. Sun, C.H. Zhang and H. Xin	504
The Analysis of Smart Car Guided by Electromagnetism	
W.Z. Li	508
ABS Control Strategy for Electric Vehicles Driven by Four Wheel Motors	
J.Y. Li, L.J. Yang, S.Y. Yang and Y. Liu	512
A Study of the Starting Control Strategy of the Mini-Car with Magnetic Powder Clutch	
X.G. Wu and C. Hu	516
The Research on Electronic Smart Clutch Operating System	
G.Q. Ruan, J.C. Liu and W.C. Cheng	520
Seamless Integration of CAM/CNC Based on STEP-NC	
K.R. Jiang and M.L. Feng	524
Based on Single Neuron PID Control of Vehicle Active Suspension System	
X.F. Liu and X.H. Xie	528
A Novel Vehicle Ranging Method Based on Self-Calibration Principle	
Z.W. Xu and G.L. Zheng	532
Adaptive Sliding-Mode Observer Scheme for Sensorless Control of Low-Speed IPMSM Drive	
F. Xiao, L. Yuan and M.L. Chen	536
Architecture Design and Implementation of Real-Time Tracking System for Vehicular Terminal	
H. Chen	541

Research and Realization of Permanent Magnet Synchronous Motor Control Based on Model for Electric Vehicle Z.Y. Huang, Z.L. Xian, J.J. Li and Y.G. You	545
The Research of Magnetic Levitation System Based on Fuzzy Sliding-Mode Control R.R. Song and Z.L. Chen	550
Computing Invariants for Hybrid Systems B. Wu and X.G. Zou	556
Study on Structural Optimization and Servo Control for All-Electric CNC Broaching Machine G.J. Chen, J. Ni, T.T. Liu, M. Xu and L.G. Lin	562
Accuracy of Four Parallel Manipulator S.K. Han, H. Li and X. Dong	567
Electric Servo Loading System Applied to Flight Simulator L. Hong	572
A New Evolved Acceleration Reentry Guidance for Reusable Launch Vehicles S.H. Wang, L.F. Pan, X.X. Liu and B. Zhang	576
Research on Driving Simulator in early Warning System of Vehicle Rear-End Collisions J.M. Yan	581
Research on the Coupling Relationship of Cognitive Scheme between Ba Culture and ESP Driving Safety System S.Y. Zhang and C.Y. Wang	586
Motion Planning of a Nonholonomic Mobile Manipulator for Moving Object Grasping N.J. Chen, F.Z. Song, H.H. Zhao and Y.J. Li	591
An Autonomous Underwater Vehicle for Competition H. Tian, B. Hu, C.Y. Liu, G.C. Xie and H.M. Luo	595
Research on TTR and Roll Stability Control of Heavy Vehicle H.Y. Zheng and Y.C. Chen	601
Design and Control Strategy of a 4WD Hybrid Electric Vehicle with a Two-Speed Transmission Z.Y. Chen, X.J. Li and B. Jiao	605
Design and Implementation of Point Light Source Tracking System P.C. Dong, H.K. Xu and S. Lin	609
Research on Sensing Detection Technology in the Automotive Electronic Program Design L. Luo	613
Fuzzy Control Based on the Monitoring of Residual Oxygen of Furnace Flue Gas in Industry J. Sun, M. Feng and C.C. Zhao	618
Machining Monitoring and Database System Based on PLC and Kingview M.M. Tang, M. Yang, C.Q. Wei and X.R. Tang	622
Monitoring Software of the Nano-Positioning Control System Y. Zhou, Y.Q. Su, J.X. Pian and X.X. Yao	627
A Temperature and Humidity Control System of Storehouse Environment Based on Virtual Instrument J.H. Liu and X.J. Shao	631
Design and Application of the Indoor Environment Monitoring & Control System at Tianjin First Central Hospital C. Chen	635
Non-Fragile Guaranteed Cost Control for a Class of Uncertain Time-Delay Switched Singular Systems Y.S. Luo, M. Xu, S.L. Zhang, T. Li and C.F. Liu	639
Research on Analog Simulation of Automobile ABS Based on Unigraphis Software J.L. Zheng	648
Design and Implementation of Intelligent Card of Jet Loom G.S. Zhang, J. Zhu and W.H. Chen	652
Virtual Experiment Platform for Laminar Cooling Process J.X. Pian, Z. Wang, M.J. Liu and J.J. Li	656
A New Round Innovation of C-GIS K. Qian, G.H. Han, D.L. Yuan and H.J. Dong	660

Application of DE Algorithm over Control of Grid-Connected PV Inverter G. Zhao and X.L. Huang	664
The Design of Coal Gas Purification System of Ore Smelting Electric Arc Furnace Base on Micro-Differential Pressure Control X.H. Lu and B. Zhang	668
Simulation and Optimal Control of AMT Starting-up Process L.N. Ren, N.N. Tang, H.Q. Yue and B.Z. Gao	672
Research on the Delay Suspension System Based on Different Learning Rules R.R. Song and Z.L. Chen	676
Trajectory Generation for Inner V-Shaped Surface Y. Chen, W.Z. Chen, K. Chen, J.Y. Shao and W.M. Zhang	681
Exact Linearization Algorithm of Tight Coupling Nonlinear System Based on Differential Manifold H.M. Qian, Z.D. Fu, L. Chen and X.L. Ning	686
Influence Factors Analysis of SAR-GMTI System Performance W.G. Qiong, L.J. Wen and W. Yang	692
Band-Stop Filter Algorithm Research Based on Nano-Displacement Positioning System Y. Zhou, X.X. Yao, J.X. Pian and Y.Q. Su	697
A Pilot Translational Motion Perception Model L.L. Song	701
Cooperation-Based Explicit Distributed Model Predictive Control G.Q. Zhong and Z.Y. Liu	707
On Iterative Adaptive Dynamic Programming C.Q. Cui, Y.Q. Wang, C.Y. Yang and B.S. Yang	712
Design and Implementation of Logistics Intelligent Management and Control Systems for Steel Enterprises G.Q. Guo, X.J. Su and X. Liu	716
The Research of Anti-Collision Slot Algorithm of RFID on Robotics H. Luan, J. Sun and L. Liu	722
Research on Job Shop Scheduling Technique in Small-Scale Machine Production S.L. Zhang and S.H. Liu	726
The Design and Implement of the System of the Airport Luggage's Automatic Matching by Using the RFID Technology Q. Yu and Q.Z. Chen	730
A Tangential Tracing Control Algorithm for NC Glass Cutter Machine H.L. Shi, Z.G. Huang, C.R. Zhang, H.H. Wang and A.Q. Wang	735
Research on the Anti-Interference Tactics of Substation Automation Equipment X.J. Gu, Y. Liu and Y. Lin	739
The Smart Transporting Water Design of Moblile Robot Based on KINETIS K10 K. Zong, Y.R. Chen and F. Wang	743

Chapter 3: Measurement and Instrumentation, Monitoring and Detection Technologies, Fault Diagnosis

Research on the Detection of Parallel Arc Faults Based on the Characteristic Analysis in Time Domain Y. Wu and Z.X. Song	749
Entropy-Based City Tunnel Real-Time Traffic Incident Detection Clustering Algorithm X.F. Li, W.W. Gao and X.M. Wang	753
Design and Implementation of Wireless Channel Test System of UAV L. Jun, L.W. Jun, Y. Fei, S.S. Xi and P.D. Hui	757
Design and Realization of CNG Intelligent Monitoring System Z.H. Wang and G.F. Yu	761
Research on the Bearing Fault of PSM Induction Based on the Rigid-Flexible Coupling & Virtual Prototyping W. Chen, Q.X. Jia, H.X. Sun and S.C. Nian	765

A New System of High-Precision Absolute Laser Interferometer Distance Measurement C.Y. Zhang and B. Li	769
Wavelet Based Measurement on Photoplethysmography by Smartphone Imaging B. Ju, Y.T. Qian and H.J. Ye	773
Fast Collision Detection and Deformation of Soft Tissue in Virtual Surgery L.L. Shi, Z.Y. Yan and Z.J. Du	778
Fault Detection System of Automobile Engine Based on Correlation Dimension Feature Extraction X.H. Zeng and L.H. Yin	782
Research and Design of Traffic Flow Monitoring System Based on Internet of Things J. Feng	786
Real-Time Bus Video Monitoring System Based on 3G Network M. Feng, J. Sun and Y.Y. Zhang	790
Remote Real-Time ECG Monitoring System Based on 3G Network Y.Y. Zhang, J. Sun and C.C. Zhao	794
Research of Ultrasonic Thickness Measurement Method Based on the Pulse Reflection Type M. An, J. Sun and Y.Y. Zhang	798
Research on VMC0656e's Stability of Accuracy Test Technology J.F. Lin, K. Liu and S. Zhou	802
Nonlinear Rectification for Capacitance Method Measuring the Moisture of Green Sand Based on Functional Link Neural Network D.Q. Shi, G.L. Gao, J.W. Dong and L.H. Wang	806
Design of General Agricultural Wireless Monitoring System Based on ZigBee Q.G. Yao and Y.L. Liu	811
Reconfiguration of Remote Cooperative Fault Diagnosis System Based on IETM Z.C. Xu, H.B. Sun and K.K. Hu	815
The Application of PSD in Vibration Measurment Y.T. Zhu, T. Wang and F. Yin	820
Intelligent Diagnosis and Calculation of Electrical Insulation Fault for Smart Power Grid Y. Liu, J. Wang, Z.J. Zhang and N. Liu	824
Analog Circuit Fault Diagnosis Based on LVQ Neural Network S.G. Zhou, G.J. Li, Z.F. Luo and Y. Zheng	828
Development of Online Oil Control Valve Detection System Y.T. Zhu, H. Wu and Z. Liu	833
Parachute Swing Angle Measurement in Wind Tunnel Test Based on Stereo Vision System J. Song, J. Ma and M. Jiang	837
Selective SVM Ensemble Base on Clustering Analysis Apply for Analog Circuit Fault Diagnosis with Small Samples J.Z. Song, C.Y. Guo and H.S. Liu	841
The Detecting System of Powder Chamber Volume with Artillery Stowage's Software Design N. Song, Y. Yu, J. Li and Y.K. Tang	846
The Parameters Measurement of the Network Performance X. Li	850
Blind Detection with Deterministic Arrange and Scale to Underwater Acoustic Source W. Zhao and B.A. Hao	854
Lifting Capacity Detection System of Tower Crane Based on LabVIEW L.Z. Cao and M. Zheng	860
A Particle Filter Update Algorithm Based on out of Sequence Measurement X.M. Gong	866
RFID/GPS/GPRS-Based Logistics Monitoring and Management System Y. Zhang	871
The Networked Test System of the Bent and Tensile Strain Based on Virtual Instrument N. Lu	875
An Data Correction Method for Hydrological Monitoring Based on Improved BP Neural Network J.H. Zhang, X. Wang, Y. Gu, L.Z. Xu and T.H. Fan	879

Design of Remote Vibration Monitoring System Based on Wireless Technology H. He, Y. Zheng, J.W. Li and Y. Wang	884
Design and Implementation of Multi-Directional Solar Irradiance Measurement System Based on DSP D.J. Li and Z. Hu	889
Fault Diagnosis of Rolling Bearing Based on the PSO-SVM of the Mixed-Feature J. Ma, J.D. Wu, Y.G. Fan, X.D. Wang and Z.K. Shao	895
Welding Defect Classification of Ultrasonic Detection Based on PCA and KNN A.L. Qi, J.F. Wang, F. Wang, U. Idachaba and G. Akanmu	902
Application of Capacitance Sensor for Displacement Measurement in High Temperature Environment Y. Zhang and X.Y. Liu	907
Calibration of a Multi-Beam LIDAR by Using Linear Instrumental Error Model Z. Zhu and J.L. Liu	911
Design and Implementation of the Mining Monitoring System Based on Wi-Fi Y.L. Zheng, H. Lin, K.K. Yu and X.L. Su	915
The Method for Real-Time Length Measurement of Fiber Winding C.X. Guo and R.F. Yang	919
Application of Computer Control in the Angular Distortion Measurement System M.H. Zhang and Y.Y. Zhang	923
Development of the Real-Time Measuring System Based on Video Image M.H. Zhang and Y.Y. Zhang	927
Development of the Serial Communication for the Measurement System of Ships Keel-Line M.H. Zhang and Y.Y. Zhang	931
Architecture and Function Modeling Research on Fusion Diagnosis of Reciprocating Engineering Fault L.Y. Wang, L. Li and Y.L. Li	934
Color Composite of Digital Radiography Image and Region Growing Defect Detection K. Tian and J.R. Shi	938
Study on Measurement System Analysis and its Application in the Data Analysis of LSS W.M. Ye, W.Y. Liu, X. Chen, F. Han, J.F. Zhu and P. Dai	943
Application of the CEMS on Fault Diagnosis for Rotary Machine Q. Huang, J. Li and H.W. Le	947
Monitoring System of Gate Control TWT Radar Transmitter L.J. Wang and C.J. Liu	951
A Testing Method for the Luminance Difference of Stereoscopic Television D.Y. Wu, J.D. Cao and Y. Jin	955
The Research of Parallel Plate Capacitor Measurement Circuit Z.H. Xiao	959
A Method to Improve the Measurement Precision of the Traffic Radar X.J. Wu	963
A New Feature Based on the Fluctuation Analysis to Detect Low Observable Target within Sea Clutter K. Sun, G. Jin, C.Y. Wang and X.H. Zhu	967
A Method for Monitoring the Variations in the Upper Airway of Individual OSAHS Patients by Observing Two Acoustic Feature Tracks K. Qian, Y.Z. Fang and H.J. Xu	971
Fault Diagnosis of Aircraft Engine Based on Order Analysis H. Tian, L.M. Shang, Y.F. Jia and Y.J. Li	975
Analog Circuit Fault Diagnosis Based on Levenberg-Marquardt Learning Algorithm H. Guo, B.R. Han and G.F. Zhang	979
Analog Circuit Fault Diagnosis Based on Particle Swarm Optimization Algorithm and Adaptive Learning Rate Algorithm B.R. Han, S. Chen and H.Y. Wu	983
Comprehensive Evaluation Model Based on Synthetic Importance Measure X.J. Ji, Z. Zhang and F.C. Li	987
Operating System for the Dynamic Belt Measurement J.H. Wu, Q. Zhou, H.P. Si, J. Chen, K.Y. Lin and C.B. Zhang	991

Precise Attitude Determination of Ship Based on Star Sensor B. Liu, F. Chen, T.S. Zhang, D. Zhong, L. Yang and Y.X. Mao	995
Fault Diagnosis Technology of Equipment System H. Hu and Y.M. Yan	1003
An Improved Multi-Scale Morphological Undecimated Wavelet Method and its Application in Rolling Bearing Fault Feature Extraction Q.H. Chen, H.R. Li and B.H. Xu	1009
Analysis of Over-Voltage Failure in the Computer Room S.G. Niu, L. Wang and M.C. Wang	1014
Research and Design of Wireless Video Monitoring X.L. Wu, Y.Z. Li, Y. Zhang, B. Wang and T. Ma	1018
Design of the Monitoring System for Endless-Rope Continuous Winch X.T. Zeng	1023
The Demodulating Principle of Autocorrelation-Envelope and its Application to Gearbox Diagnosis Z.D. Bi, Y. Chen, Z.Z. Peng and Y. Zhang	1029
A Parallel PDA Algorithm for Closely-Spaced Targets Tracking in Clutter A.Q. Zhang, J.S. Yao and H.Q. Chen	1035
Methods of Phasor Algorithm Applied on Substation Short-Circuit Impedance Calculation Analysis Y. Teng, Y. Li and Y. Li	1039
Algorithm Study of Edge Location and Feature Measurement of Building Surface Crack Images L. Cui, Q. Zhu and J.K. Zhang	1045
Research on a Quantitative Packing Weighing System of Sticky Foods Z.F. Li and Z.L. Xu	1050
Algorithm and Simulation of the Feature Extraction for Rotating Machinery Signal in Fault Status J. Qi and X.L. Fu	1055
Evaluation of Visual Fatigue Caused by 3D Display L.L. Wang, Y. Tu, L. Shen, Y.G. He and W. Zhang	1059
A Fiber-Optic Velocimeter Using Heterodyne Technique L.L. Zhao, J. Liu, D.C. Chen, J. Li and S. Xu	1064
Global Observability Analysis IMU/Camera Integration Q. Fang and X.S. Huang	1069
The Application of Fuzzy Data Processing Technology in the Network Failure Mining L.T. Li	1073
A Vague Sets Based Approach of Multi-Sensor Information Fusion for Urban Ambient Air Quality Monitoring J.G. Li, X.H. Su, H.W. Xuan and S.L. Zhao	1077
A Study on Key Technology of Automatic Inspection Equipment of Electrode Defects of Li-Ion Power Battery L. Han, Y.M. Liu and F. Xiao	1081
Research on Agricultural Products Quality Control Based on Computer Vision Information Technology H.G. Zheng	1085

Chapter 4: Computation Methods and Algorithms for Modeling, Simulation and Optimization, Data Mining and Data Processing

Research on Localization Principle and Method for Multistation Range-only Target Tracking System L. Wang and Z. Liu	1091
Adaptive Resource Allocation Algorithm for OFDMA System Based on Ant Colony Algorithm B. Pu	1096
Inertia Simulation for Aircraft Braking Hardware-in-the-Loop Simulation F.Y. Li, B. Li and Z.X. Jiao	1101

On-Demand Routing Algorithm Base on Energy Balancing in MANET H. Chen and Y.F. Ju	1105
Modeling and Simulation about TSP Based on Simulated Annealing Algorithm J.Z. Zhi, G.B. Yu, S.J. Deng, Z.L. Chen and W.Y. Bai	1109
Research on the Prediction of Protein Functional Sites Based on the Dimension Reduction Algorithm T. Wang, Y.X. Pang, Y.P. Wu and Y. Du	1113
Mobile Robot Navigation Using ARTQL Algorithm with Novelty Driven Mechanism Q.X. Hu and X.Y. Qu	1117
Simulating Liquid Dynamics by a Particle-Based Method L. Zou	1121
Information Fusion Algorithm for Electromechanical Equipment Based on DS Evidence Theory Y.H. Zhang, J. Xu and K. Du	1125
The Application of Statistic Inference in the SMS Package Model M.C. Chen and T. Zhou	1129
Research on the Web Mining Algorithm Application in Tourism E-Commerce X.S. Zhao and K.F. Ji	1133
A Method for Computing Flight Track in Simulation and Reconstruction H.B. Sun, M.Z. Zhong and L.L. Yu	1137
The Best Perturbation Method for the Parameter Inversion of Two-Dimension Convection-Diffusion Equation X.G. Liu	1143
The Principle and Implementation of Novel FRC Algorithm Y. Xie, R.B. Xu, Y.S. Zuo and J.G. Wu	1147
Remaining Useful Life Prediction Model Based on Gradient Feature Stochastic Filtering L. Sun, G. Li and G. Li	1151
Transient Source Two-Dimensional Source Item Inverse Problem Research and Accuracy Impact Analysis Based on the Differential Evolution Algorithm in the Wide/Shallow Watercourse R. Huang and L.X. Han	1156
A Study on Airborne Munition Trajectory Simulation Ontology	1161
Adaptive Genetic Algorithm for Multilayer RBF Network and its Application on Real Function Approximation Y.H. Wang and K. Zhang	1166
Research on Route Planning of Cruise Missile Based on Improved Particle Swarm Optimization Algorithm X.X. Ma, T. Li and L. Qing	1170
An Improved Iris Localization Algorithm Based on Curve Fitting Y. Huang and X.P. Zeng	1176
Multi-UCAV Task Allocation Based on SMAA in Uncertain Information Environment X. Chen, X.M. Wei and Y.X. Hu	1180
An ELM Based Barcode Localization Algorithm C.C. Wang, Y.T. Li and Y.D. Yang	1185
A Video Image Segmentation Technology Based on Adaptive Thresholding Algorithm H.J. Zhao	1189
Comparison of Tikhonov Regularization and Adaptive Regularization for III-Posed Problems W. Dong and T. Sun	1193
Reliability Model Choice Based on AHP and Entropy Weight-TOPSIS G.X. Shen, S.G. Sun, Y.Z. Zhang, S. Meng, X.Y. Qi and L. Luan	1197
A Queuing Model for IEEE 802.11 DCF Performance Analysis X. Chen, Y.B. Xu and L. Ma	1202
Risk Evaluation of CCIT Model in Ant Colony Housing Supply Based on AHP-Grey Clustering Method Y.C. Liu and J.X. Xu	1210
A Novel Disruption Operator in Particle Swarm Optimization G.Y. Ding, H. Liu and X.Q. He	1216

Several Strategies to Compute the Minimum Stochastic Dominating Sets in Graphs W. Dong and S. Qiao	1221
Computer Simulation of the Subwavelength Design for Different Characteristic Equations T.Z. Fan and X.X. Zhao	1226
Research on Clustering Algorithm for Wireless Sensor Networks C.X. Feng, Z. Liu and Z.K. Liu	1231
An Algorithm Based on SIFT Matching Combined SR Saliency Detection with Frequency Segmentation for Remote Sensing Images D.P. Zhao, J.J. Wang, J.Y. Wan and T.J. Xiao	1235
Efficient Bounded Model Checking for LTL R. Wang and X.J. Fu	1239
Simulation of VAV System Control Based on Improved Bacterial Foraging Optimization Algorithm C. Li	1243
Analysis on Children Custody Decision Making Model Y. Gu and G.M. Zhang	1247
Relationship between Short Term Traffic Flow Chaos Fractal Properties and the Necessary Data for Prediction G. Yin and Y.F. Chen	1256
The New Criterion for Determining Nonsingularity of Matrices H.F. Sang, Q.C. Li and X.M. Li	1262
An Improved Recommendation Algorithm Based on Graph Model H. Chen, M.X. Gan and M.Z. Song	1266
Research on Performance Evaluation Based on Fuzzy Analysis Z.H. Zheng	1270
Analysis and Implementation of Multifactor System Estimation T.Z. Mao and A.H. Mao	1274
Analysis of in Accident Influence Factors Based on Degree of Grey Correlational Model L.M. Song, Y.Z. Men, Y.Y. Sun, J.X. Yin and X.L. Liu	1278
The Research of Intelligence Data Mining Oriented to Battlefield Situation Assessment J.X. Liu and W. Tang	1282
The Improvement of K-Medoids Clustering Algorithm under Semantic Web W.T. Ji, Q.J. Guo and S. Zhong	1286
Ontology-Based K-Means Clustering Algorithm Analysis Q.J. Guo, W.T. Ji and S. Zhong	1290
PSO Algorithm Based on Perception Range and Application in the Constrained Optimization H.X. Liu	1294
A Novel Bi-Group Particle Swarm Optimizer for Speaker Identification L.P. Xue, Y.L. Yao, H. Zhou and P. Cai	1298
Research on the Construction Window Forecast of Immersed Tunnel Based on the Decision-Making Analysis M.H. Lin, W.Q. Lü, Z.Q. Ying and L.W. Su	1302
Distinguishing Computer Graphics from Natural Images Based on Statistical Characteristics S.F. Tong, Y.H. Yang and Y.J. Xie	1306
An Adaptive Prediction Algorithm Based on Maximum Correntropy Criterion Y. Bu and W.X. Kang	1310
Multi-Response Linear Polynomial Regression Models Designs X.H. Zhang	1314
An O(n) Time Algorithm to Find Cubic Subgraph in a Halin Graph D.J. Lou and J.F. Liu	1318
Nonlinear Non-Gaussian Filtering Algorithm Based on Cubature Kalman and Particle Filter Z. Kai and G.L. Shan	1323
Network Layer Network Topology Discovery Algorithm Research J.X. Ge and W.Y. Xiao	1327

The Role of Modelling in Agile Methodologies Z.W. Sun	1333
Using GPU and OpenACC to Accelerate the Maze Optimal Routing Algorithm Y. Liu and Y. Xiao	1338
Teaching-Learning-Based Optimization Algorithm for Dealing with Real-Parameter Optimization Problems K.L. Wang, H.B. Wang, L.X. Yu, X.Y. Ma and Y.S. Xue	1342
Criteria for α-Diagonally Dominant Matrices and its Applications Q. Chen and M. Li	1346
An Improved Algorithm for Estimating the Parameters of Polynomial-Phase Signals P.F. Tang, Q.Q. Lin, B. Yuan and Z.P. Chen	1350
Study on the Influence IDs Model of the Structure and the Behavior Choice Y.N. Zhang	1354
An Environmental Personalized Tag Recommendation Model X. Wang, C. Zhang and P.Z. Zhang	1358
Research on Network Routing Optimisation Based on Improved Genetic Algorithm L.Q. Yang and X.Y. Wang	1362
Bayesian Network Structure Learning Based on Unconstrained Optimization and Genetic Algorithm X.J. Lv and R.T. Liu	1366
GMDH Network Model Based on Simulated Annealing and Genetic Algorithm X.L. Zhang and L.K. Zou	1370
Application of Ontology Engineering in Simulation Verification Y. Chen and Q. Lin	1374
Agent-Based Simulation Method of Complex System J.Z. Lai and S.L. Liao	1378
A Study of Representation of Spatiotemporal Data with Information Granules M.L. Song and Y.B. Wang	1382
Parallel Modeling and Simulation Environment for C⁴ISR System D.S. Liu and J. Guo	1386
Research of Background Modeling Algorithm Method Based on Multi-Frame Average Method in Moving Target Detection X.H. Hou and H.H. Liu	1390
Research on Background Modeling by Gaussian Mixture Model without Parameter Adjustment H.H. Liu and X.H. Hou	1394
A File System Synchronous Algorithm Combining State Transfer and Operation Transfer S.F. Zeng, L.G. Zhu, L. Zhang and Q. Li	1398
Ontology-Based CRM for Bank Customers Y.X. Yang and D.Q. Tang	1402
Improvement of Evolutionary Structural Optimization Method for 2-D Model X.M. Chen, X.D. Lai, X. Zhang, W. Song and Z. Lu	1409
An Optimization Path Planning Method Based on Evolutionary Artificial Potential Field F.L. Li	1414
A Two Factor Authentication Algorithm for Medical Registration Platform D. Liu, N. Zhang and K. Hu	1418
A Parallel Intelligence Algorithm for RNA Secondary Structure Prediction C.L. Liu, Z.Z. Ji and Y.S. Hong	1422
A Kind of Method to Parallelize AC Algorithm X. Su, Z.Z. Ji and X.Y. Lian	1426
Research of Parallel Artificial Bee Colony Algorithm Based on MPI Y.S. Hong, Z.Z. Ji and C.L. Liu	1430
On the Positive Definite Solutions of a Nonlinear Matrix Equation M.H. Wang, C.Y. Liang and S.R. Hu	1434
The Mixed-Restriction Solution and its Application in Augmented Reality Y. Feng, M.H. Wang and C.Y. Sheng	1439
An Improved Niche Genetic Algorithm M. Zhang, X. Zhang, Y.T. Zhang and J. Ming	1444

The Symmetrical Least Square Method on Zero-Crossing Linear Fitting W.L. Wu, Y. Zhang, Z.Q. Fu and L. Zhang	1448
An Effective Optimization Method Based on the Genetic Algorithm to Solve TSP X.T. Hu, J. Huang and S.X. Wu	1454
A Knowledge Rule Mining Method for the Evaluation of Library Readers Satisfaction Rate Y. Chen	1460
Improved Genetic Algorithms for Software Testing Cases Generation S.K. Yang and F.P. Zeng	1464
Partition Real Data in Decision Tree Using Statistical Criterion G.J. Shan	1469
The Application of Simulation Technology in the Inventory System Z. Li and D.S. Xue	1473
Fast Block Matching Algorithm for Ray Space Data Compression Z.P. Jin, Y.Y. Fang and M. Yu	1477
A Hierarchical Conflict Resolution Method for Multi-Robot Path Planning J. Shao, H.X. Lin and B. Song	1482
A Comparative Analysis of the Direct Clustering Algorithms Based on Different Similarity Measure of Vague Sets W. Wei and J.Y. Peng	1488
Study on an Algorithm for SAR Raw Data Compression S.C. Zeng, Y.X. Xie, Y.X. Chen and Z.D. Zhu	1495
Sensing Confidence Level-Based Cooperative Spectrum Sensing Algorithm S.D. Zhang, H.L. Wang and J.P. Mei	1499
Attribute Reduction Algorithm of Incomplete Decision Table Based on Conditional Entropy Z.Y. Xu, W. Zhang and Y.Y. Fan	1505
Multi-Agent Collaborative Research Based on an Optimization Method about Multiple Evaluation Function with Hybrid Particle Swarm with Constraints Z.J. Wang, B.F. Fang and W. Liu	1510
Classical Mathematical Analysis on Family Survival Tragedy Based on Principal Component Analysis and Matrix Vector G.L. Xing	1515
Comparison of Two Kinds of Optimization Algorithm for Load Model Parameter Identification L.J. Ding, Z.J. Zhang, Y. Liu, Q. Huang and J. Wang	1521
An Error Modified Grey Theory for Forecasting International Oil Price X.L. Yang, Q. He and F. Yang	1525
Queries for Uncertain Data on Dataspace Based on Effective Clustering Algorithm S. Zhang and S.X. Zhang	1529
MI-KNN Algorithm Based on Frequent Item Sets J.L. Mao, H.Y. Jin, M.D. Li and J. Li	1533
Design of a Fast JND Algorithm Based on Discrete Wavelet Transform and its VLSI Implementation S.H. Liu, H. Huang, Z.W. Liu and S. Zhuang	1538
An Improved Particle Swarm Optimization Y.N. Wang	1542
A Ga Algorithm Based on Niche and Discrete T. Gao, Y. Xu, T.X. Xu and S.A. Li	1546
Bearing Pressure Risk Prediction Algorithm Research and Simulation for Single Points of the Building Materials J. Wan	1550
An Improved Four Point Interpolatory Subdivision Scheme X.F. Zhang and Y.Z. Liu	1555
Research on the Data Mining System Based on B/S Framework and Algorithm H. Ding and Y.Z. Liu	1558
Analysis and Research of the Hostile Planning Process Based on the Operator D. Han, Z. Zhao and G.Y. Wang	1563
The Establishment of the Digital Elevation Model C.D. Ni, S.K. Liu and X.W. Yin	1567

Parallel Route Optimization Algorithm of Central Guidance H. Chen, H.X. Zhou and J. Meng	1571
An Improved Algorithm Based on AC-BM Algorithm S.S. Xiao, A.L. Wang and H. Feng	1576
New Fuzzy Support Vector Machine Method Based on Entropy and Ant-Colony Optimization H.G. Chen, X.X. Li and D.X. Li	1580
Simulation on 3D Computer Dynamic Cloth Simulation Process C. Shen and M.Y. Zong	1585
Simulation and Application on Data Clustering Based on an Improved FCM Algorithm X.P. Hu	1589
A Multilevel Optimal Feature Selection and Ensemble Learning for a Specific CAD System-Pulmonary Nodule Detection H.Y. Guo and D.Z. Wang	1593
Extended Probabilistic Data Association Algorithm W.L. Xu, Z. Liu and J.H. Liu	1600
The Model of Fuzzy Retrieval Based on External Index L. Deng, W.H. Han, D. Liu and Y. Xiong	1605
A Keypoints of Fingers Detection Method Based on K-Medoids Clustering and K-Vector Algorithm D. Hong and K.Y. Cai	1609
A Fingers Vector Detection Method Based on K Vector and K-Medoids Clustering Algorithm H. Duan and K.Y. Cai	1613
Continuous Entropy Estimation with Different Unsupervised Discretization Methods J. Fang, L.N. Sui and H.Y. Jian	1617
Trap^A_B: A New Position Search Algorithm in Chinese Chess Computer Game J. Fang, J. Chi and H.Y. Jian	1621
An Improved Dijkstras Algorithm Based on Search Strategy Y.Z. Huang, Q.M. Yi and M. Shi	1625
Applying Bionic Intelligent Algorithm Combined with Finite Element Method to Optimize Cable Z.P. Jiang, X.S. Wen and X.Q. Yuan	1629
Application of Wavelet Algorithm in Spectral Analysis W.P. Cui and Z. Yu	1633
Multi-Objective Distribution of Multi-Helicopters and Track Planning Z.H. Xia and W.J. Pan	1637
Research on the Improved Algorithm of Transit Signal Priority Based on Bi-Objective Optimization Model T.H. Gu and H.J. Cao	1641
Decomposition of Reflexive Differential-Difference Polynomial Systems Z.W. Gan and M. Zhou	1645
Association Rules Mining Algorithm Based on Linked List L. Zhang and J.L. Zhang	1649
Test and Analysis GPU-Accelerated in Molecular Dynamics Simulation Z. Yang, C.W. Bo, B.Q. Feng and L. Li	1652
A New Method of Optimization Design of Hydraulic Fracture Parameters in Low Porosity and Fractured Gas Reservoir X.L. Han, F.J. Zhou, C.M. Xiong, X.F. Liu and X.Y. Yang	1656
A Potential Field Model Avoiding Local Minimum in Pedestrian Simulation L. He, X.H. Li and J. Lu	1660
A Improvement for GNC Method of Nonconvex Nonsmooth Image Restoration X.G. Liu and X.B. Gao	1664
Application of Optimized Particle Swarm Algorithm on Apparel Intelligent Layout C.Y. Huang	1668
A New Prediction Method for Chaotic Time Series J. Du	1673

Maintenance and Update of Load-Balancing Clustering Algorithm of WSN for Data Gathering	
X.F. Yan, Y.K. Zhang, H.L. Tang and X.X. Wang	1677
Application of a Improved C4.5 Algorithm in Performance Analysis	
W.S. Gao, W.F. Tang and X.G. Wang	1681
A Multi-Point Source Thermal Radiation Model of Pool Fire	
J.F. Zhou	1685
GPU-Based Techniques for Vector Data Visualization on Global Scale Terrain	
B.S. Deng, T.Q. Deng and D. Xu	1689
Research on Ramanujan-FMT Modulation and the Efficient Implementation Algorithm	
L.N. Zhou, J.D. Shang and L. Yang	1693
A Clustering Method Based on K-Means Algorithm	
Y.G. Li	1697
A Frequent Item Sets Computing Algorithm Based on MapReduce	
D.W. Jin, J. Song, B. Liu and C. Zhao	1701
A New Image Segmentation Method Based on FCM and Ant Colony Algorithm	
J. Lu and R.Q. Hu	1705
A Hybrid Genetic Algorithm for Solving a Type of Scheduling Problem	
M.L. Wang	1710
CFD-Based Calculation of Regular Transverse Wave Force in the Maneuvering Mathematical Modeling Group (MMG) Model	
L.J. Yang and Y.H. Tao	1716
Dynamic-Performance-Improved Algorithm for 14 Bits 200MHz Current-Steering DAC	
L. Dai, G.Z. Xu and K.Q. Ning	1721
Research on Propagation Numerical Simulation of Blast Shock Waves in Subway Station	
Y. Hu and H.Y. Kang	1725
Model of a Traffic Circle	
Y.H. Zhang	1729
Bubbling Sort Algorithm Application Based on C Programming Language	
X.P. Xiao	1734
An Improved Ant Colony Algorithm Applied in the TSP Problem	
M.L. Wang	1738
Proactive Reliability Analysis for Electric Vehicles	
X.P. Zhong and W.W. Zeng	1742
The Research on the Embedded Vehicle Dynamics Simulation Method	
J. Zhan, J.L. Lu, L. Xu and W. Zhang	1746
Employing Generalized Cylindrical Helicoid Tube to Smoothly Blending Tubes Whose Axes are Non-Coplanar	
H. Wang and G.Z. Bai	1750
Multi-UAV Air-Combat Strategy Research Base on the Incomplete Information Dynamic Game in Uncertain Environment	
X. Chen and M.M. Zhao	1755
Three-Dimensional Digital Design for Osteotomy in the Treatment of Congenital Hemivertebra	
H.W. Ding, G.W. Yu, Q. Tu, J.J. Shen and Y.J. Wang	1760
The Research of Wide-Area Network Dynamic Voltage Stability Evaluation Based on PMU	
Y. Teng, Y. Li and Y. Li	1765
Effects of Human Gait on Air Distribution in Contagious Isolation Tent Wards	
G.F. Wei, Z. Shu and G. Tang	1770
A New Approach on Stability for Linear Systems with Interval Time-Varying Delay	
H. Li, Z.D. Xu and C. Liu	1774
Li-York Chaos of Set-Valued Discrete Dynamical Systems Based on Semi-Group Actions	
Y. Qian and P. Guan	1778
Study on Cooperative Evolution Behaviors in Spatial Public Goods Game Based on Self-Questioning Mechanism	
R.X. Feng and J. Ge	1783
Research on Voyage Path Methods in Medical Visualization	
Y.J. Peng and Y.H. Wang	1788

Dynamical Analysis of a Fractional Order Multi-Wing Hyper-Chaotic System F. Chen, L. Sheng, J. Zhang and X.B. Huang	1792
Point Cloud Segmentation Based on Moving Probability S.B. Liu and K. Feng	1796
A Sensitivity Research of Numerical Simulation about Winter Sea-Land Breeze X.L. Tang and S.Y. Cheng	1800
The Research of Optimization Algorithm of Dynamic Topology Optimization Model of Continuum Structure Based on the ICM Method Y.M. Zhang, H.L. Ye, Y.M. Li and Y.K. Sui	1804
Enlarge the Field of View of Nano CT in Synchrotron Radiation R.B. Tan, J. Fu and L.Y. Chen	1808
The Implementation of Single Precision Sin&Cos Function on FPGA Based on the CORDIC Algorithm B. Yu, Y. Guang and H. Huang	1812
Low-Power High-Modularity Architecture for 8-Point DCT Computation H. Huang, J.M. Liu, B. Wu and W.D. Wang	1816
Research on Anti-Collision of Personnel Positioning in Underground Coal Mine Based on RFID X.Y. Liu and P.L. Zhang	1820
Meanshift Tracking with Kalman Filter and Rotation-Invariant Features R.T. Lu, X.S. Huang, W.Y. Xu and L.R. Shen	1824
The Prediction of the Error Rate in the Data Transmission Based on Improved Chaotic Optimization Neural Network X.P. Liu, J.P. Xu, H. Liu and X.L. Wu	1829
Design and Implementation of Gobang Online Game Based on MFC Socket Y.M. Lin and H. Rao	1834
Research on the Preventive Measures of Sports Injury Based on Causality Diagram and Analytic Hierarchy Process Z.X. Zhou	1838
Comparison of Three Regression Methods for the Winter Wheat Biomass Estimation Using Hyperspectral Data Y.Y. Fu, J.H. Wang, G.J. Yang and H.K. Feng	1843
The Computer Virtual Reality Technology in the Application of Sports Training Y.J. Chang	1847
Research on Basketball Flight Simulation Based on the Video Data Analysis Technology Y.F. Qin and H. Zhong	1851
Application of Data Mining Technology for Charging System in Hospital L.G. Liu and C.F. Yi	1856
A Novel Relational Database Data Mining Method Based on Artificial Neural Network P.Z. Gou and Y.Z. Tang	1860
Research on Aircraft Sortie Generation Rate Using Multi-Class Closed Queueing Network M. Zheng, C. Wang, Y.J. Wang and S. Huang	1864
3D Reconstruction and Analysis Base on Shape Matching G.M. Zhu and X.F. Zhou	1868
Research on Feasibility Evaluation of Helicopter Route Based on GIS and Analytic Hierarchy Process Y. He and H. Jun	1873
MapReduce-Based Ant Colony Optimization Algorithm for Multi-Dimensional Knapsack Problem R.T. Liu and X.J. Lv	1877
Research on Real-Time Network Forensics Based on Improved Data Mining Algorithm X. Chang, S.S. Pei and N. Su	1881
Research on Learning Beliefs and Strategies of Freshmen's Vocabulary Based on Regression Analysis and Mathematical Statistics D.Z. Zhang and B. Quan	1886
Empirical Analysis of the Demand for Interpretation System of World Cultural Heritage Based on Optimized Selection Model and Mathematical Physics Equations D. Yang	1891

Chapter 5: Information Technologies, WEB and Networks Engineering, Information Security, Software Application and Development

A Verifiable Ring Signature Scheme Based on Multivariate Public-Key Cryptosystem L.L. Wang	1899
Research on Smart Grid Dispatching Operation System Based on C/S and B/S Mode M. Liu, Q. Zhang and Q.J. Zhou	1903
A Brief Talk about Fire-Fighting Equipment Management Based on Grid Technology X.H. He	1907
Implementation of Securing IPv6 Intranet Address Based on the Optimal Design Solution of Router Y. Jing	1911
Research on Application of Linkage Learning Mechanism of "Player-Learner" - Exemplified by Programming Curriculums C.L. Zhou, W.Q. Qu, P. Cheng and Y.F. Zhao	1915
A New Q-Learning Based Spectrum Access Strategy K. Zhang, O. Li, B.W. Yang and Y. Liu	1920
Running OpenFOAM in High Performance Computer Y. Wei and F. Sha	1924
A Microblog Classification Scheme Based on Partial Indexing B.R. Wang, J.B. Yuan and J.H. Yang	1927
LTE Network Parameters Optimization Based on Automatic Cell Planning Y.F. Lu, M. He and X. Gao	1931
Research on Tertiary In-Service EFL Teachers Training Mode Based on Network Technology T.E. Huang	1935
Research of the Association Rules Based on Cloud Database T.X. Zhu, X. Liu, X. Zhang and D. Zhang	1939
Research on the Attack and Defense Technologies of Wireless Sensor Networks X. Yang and W. Wang	1943
Access Control Based on File View X.Y. Mao	1947
Research on Smart Campus Based on Cloud Computing and Internet of Things X. Nie	1951
Cross-Platform User Profile Matching in Online Social Networks D. Liu and Q.Y. Wu	1955
Mining User Interests and Change Patterns in Microblog D. Liu and Q.Y. Wu	1959
The Integration and Development of NFC Technology and Mobile E-Commerce Payment Z.L. Peng and Y.L. Huang	1963
Cooperative Mechanism of Local Memory and Cache in Network Processors B. Yuan, J.D. Fan and B. Liu	1969
Reducing Read Overhead in CCN Routers via Aggregating Interest Packets J.D. Fan, H. Wu, J.Y. Lu and B. Liu	1973
ICT Competency Framework and Training Strategies S.H. Wang	1977
The Research on Mining and Metallurgy Characteristic Information System N.Q. Guo and H.Y. Zhu	1982
Situation and Countermeasure Research of Government Website Performance X.H. Zhu and J. Zhang	1986
The Application of Movie Technology and Virtual Technology in Web-Based Courseware X.N. Tian and Z.H. Wang	1991
Research on Dynamic Statistics for Spatial Data Access Laws Based on P2P S.M. Pan, H. Li and G. Tang	1995

Advances of Virtual Maintenance Technology M. Wang, H. Yang, W.R. Zhang, Y. Ma, X.F. Xue, Y.F. Sun, Y.J. Hao, X.J. Li, C.F. Lv, G. Chen and Z.B. Hou	1999
Multidimensional Analysis of U-Learning C.G. Wu, H.Y. Yu, L. Ma and Y.L. Yu	2003
Charging Station Battery Optimal Distribution Software Design Based on GUI Technique Q.S. Shi	2007
SWOT Analysis for Serviced Apartment Based on Information Technology H. Shen and Z.Z. Jiang	2011
Design of Personalized Agricultural Information Recommended Based on Data Extracted F. Yu, X.M. Wang, Q. Zhang, R.P. Luan and X. Liu	2016
Optimization Study of Expandable Net Security State Evaluation Models R. Fan and X.J. Wang	2021
Research on the Personalized Integration Scheme of Web Resource Applicable to Mobile Terminal Q.Y. Ran and J.W. Song	2025
The Globally Asymptotic Stability Analysis of the Delayed Recurrent Neural Networks Stability Criterion via LMI Technique and Nonsmooth Analysis Z.C. Li and Y. Wang	2030
Graphs as Models of Scale-Free Networks B. Yao, C. Yang, M. Yao, H.Y. Wang, X.E. Chen, X.M. Zhang and M.G. Li	2034
Design of Device Driver in VxWorks C.H. Zhang and R.M. Peng	2038
Experiments Teaching Research on Internet of Things Engineering M.W. Qin, B.L. Hou, Y.J. Liang and Y.C. Yao	2042
Visual Basic and SolidWorks Based Development of Design System for Trellis Screen Protective Device Y. Guo and C.X. Zhao	2046
Design of High Performance Cloud Storage Platform Based on Cheap PC Clusters Using MongoDB and Hadoop C. Dai, Y. Ye, T.J. Liu and J.J. Zheng	2050
Design of a Web-Based Supporting System for Home-Centered Infant early Intervention Program C.H. Liu and K.Y. Wang	2054
Design and Implementation of College English Online Courseware Based on the Method of "Goal-Directed" Interaction Design C. Guo, Q. Yao, M.Y. Shao and M. Wu	2058
Discussion about Big Data Mining Based on Hadoop Z.H. Deng, B. Fan, Y.J. Lu and Z.F. Li	2063
A Solution to Improving the Performance of VVOIP Based on C-Native Android OS H.Y. Wang, X.D. You and H. Pan	2067
System Parameterized Design of Vegetable and Fruit Solar Greenhouse in Beijing Area Y. Guo, Z.Q. Li, J.C. Shi and J. Cheng	2071
Research on Intelligent Information Retrieval Based on Semantic Web Technology S.Y. Kong and H.L. Guo	2075
Remote Control System of Multimedia Teaching Platform Based on Network Technology Z.L. Niu and J.Y. Li	2079
Design and Application of the Efficient Time-Division Multiple Address Protocol for Hybrid Server Y.B. Zhang and Y.Q. Li	2083
Research on the Digital Marketing Theory Based on Web Technology G. Chen	2087
The Study on Wireless Internet of Things (IOT) Technology in the Digitizing Oilfield Construction Y.F. Lou, Z.J. Yuan and S.J. Zhou	2091
Research on the Multimedia Music Courseware Design Based on Internet Resource J. Wang	2095

Study on Martial Arts Teaching System Reform Based on ICT Method K.X. Zhu	2099
Study on the Operation Model of Colleges Network Learning Propaganda and Public Opinion Guidance Based on the Internet C.L. Li and M.X. Zhu	2104
Experimental Research on Integration Teaching of inside and outside Aerobics Classes Based on Multimedia Technology L.Y. Du	2109
Analysis of the Multimedia Technology Influence in Basketball Game H. Liao	2114
Research and Application of Compressed Air Prediction Based on the Wavelet Neural Network L.Z. Li, L. Jiang, H. Qian and W.H. Guang	2120
The Practice and Analysis of Software Agile Development of Information System H. Wang, X.Y. Li, X.N. Wang and L. Zhang	2125
Review on Artificial Neural Network and its Application in Foundry D.Q. Shi and G.L. Gao	2129
Combined Method for E-Commerce Website Evaluation Based on Fuzzy Neural Network H. Liu, V.V. Krasnoproshin and S. Zhang	2135
Research and Development of DCS Test Software Based on the OPC Technology Q. Gao, H. Li, J.F. Li and D.Q. Zhao	2139
Reconfiguration of Distribution Network with Distributed Generation Based on Improved Ant Colony System Algorithm P. Yang, Y. Mao, Y.W. Yang and W. Tong	2143
Study on Web Service based Equipment Maintenance Support Information System J.J. Wu, Y.K. Xu, Z.J. Wan and R. Yu	2147
Resolving Unordered Issues for CMT-SCTP in Heterogeneous Wireless Network Y.P. Ni, X.S. Chen and J.B. Liu	2152
A Way to Realize Integration of Heterogeneous Wireless Networks in Smart Home Y.P. Ni, F. Miao and J.B. Liu	2157
A Synthesis Load Model with Distribution Network L.J. Ding, J. Wang and Y. Liu	2161
The Design and Realization of Packet Data Security in LTE-A X.W. Li and F. Liu	2165
Research on Load Simulator Based on CMAC Neural Network J. Tian and Y.Y. Guo	2169
The Design and Realization for Chinese Wireless Network Security Z.J. Li and W.Q. Shang	2173
Sink Mobility Based and Energy Balancing Routing Protocol Y.F. Ma and Y.L. Wang	2177
Analyses about the Virtual Learning Community Based on the Internet L. Gai	2183
A Web Load Testing Method Based on Performance Target L.L. Yu, X. Zhao, C.H. Ye and L.J. Yu	2187
The Application of Ajax in the OA System Based on .NET F.J. Chen	2192
An Analysis of the File System for Linux C.J. Wang	2195
Research on Security Policy for Linux H. Wang	2200
FC Network Clock Synchronization Error Analysis and Solution W.J. Ping and W. Jing	2204
Study on IPv6 Capabilities of Mobile Devices G. Qin, C. Chen and B.P. Yan	2209
Virtual Patching Containment Strategy of Internet Worm Modeling and Analysis Y. Yao, W. Sun, S. Li and F.X. Gao	2216
Weapons Combat Capability Evaluation Based on CAS X.H. He, Q. Wang, G.S. Chen and Q.S. Guo	2221

Hybrid Wired and Wireless Sensor Networks Interconnection Y. Ju, Y. Bai, Y.C. Zhu, R.S. Wang and Y.K. Li	2226
The Publication and Registration of Composite Services Based on Petri Net B.X. Ma, D.M. Xiang and R. Yuan	2231
A MapReduce Iteration Framework in Local Parallel and Message Synchronization T. Wang, H.L. Zhang and P. Zeng	2237
Semantic Relationships of Scientific Discourses H. Xu	2242
FlexRay Network Development Based on Network Designer and Rapid Control Prototyping J. Wu and L.L. Yao	2246
The Research on Reconstructing the Virtual Environment of E-Commerce Clothing X.H. Yu and L.T. Pan	2251
A New Group Key Agreement Protocol with Anonymity G. Yao and L. Guo	2256
Fuzzy Certificateless Identity-Based Encryption Protocol from Lattice G.Y. Zhang	2262
The Design and Application of Teaching Office Buildings with Electrical Control System Based on RF Wireless Network Technology Z.X. Wang, X.H. Cheng and Y. Liu	2267
Study on the Key Technology of Personalized Recommendation of Case-Based Reasoning F.L. Li, Y.F. Bai and J.L. Sun	2271
On Link Density and Network Synchronization in Scale-Free Network W.W. Liu and D. Wang	2276
ECoG Classification Research Based on Wavelet Variance and Probabilistic Neural Network S.Y. Yan and D.J. Guan	2280
An Improved AODV Routing Protocol for High Moving VANET Y.M. Ding, H. Qu and X. Wang	2286
Graphics Development of Fractal Tree Based on E-Learning F.C. You and H.C. Wang	2292
Analysis for HFS+ on Windows Platform and its Application in Computer Forensics J. Huang	2297
The Research which Succeed in Catching the Net Data Pack H. Zhang and L. Zhang	2302
Research and Application of Web Database Security Technology L.N. Huang	2306
Research on Key Technologies of Optimal Routing Design in Ad Hoc Networks H.F. Sun	2312
Software Reliability Assurance Technologies of Information System H. Wang and X.J. Meng	2316
The Design of IPTV STB Based on Android D.Y. Wu, J.D. Cao and Q. Wu	2321
Research on the Design Modes of Cloud Computing in Mobile Learning Systems C.J. Liu	2325
Research on the Information Interface at the Demand Side in Smart Grid W.J. Li	2329
Research on the Multi-Carrier Generation of WDM-ROF System and its Application Analysis in Smart Grid W.J. Li	2333
Application of GIS System in City Gas Pipe Network X.Q. Li, J. Liu, S.J. Gao and C. Guo	2337
Computer Network Course Evaluation Based on Moodle Platform Y.W. Xia	2340
Developing of Agricultural Product Traceability Information System Based on WebGIS X.F. Wu, D.D. Gong, D.Q. Xie and Y.T. Lei	2344
Research on Software Framework for Sport E-Government Development Platform A.B. Wang	2348

A Research for Land Use Information System Based on GIS Technology: The Program in Simao District of Pu'er City X.H. Xu, Y.H. Xu and X.Q. Zhao	2352
How to Apply E-Commerce in Furniture Enterprises W.M. Zhang and Q.M. Zhang	2356
Research and Design of School's Architecture Based on SOA Y. Yang	2359
Research on Risk Management Based on Software Project C. Wang, H.F. Hou and C.M. Xu	2363
Scalable Multimedia Archive Storage System Research S.F. Zeng, L.G. Zhu and L. Zhang	2367
Tiered Adaptive Large-Scale Storage System with High Performance L. Zhang, L.G. Zhu and S.F. Zeng	2371
HPRD: High Performance Tiered Replica Distribution in Cluster Storage System L. Zhang, L.G. Zhu and S.F. Zeng	2375
The Way to Analysis of Spatial Association J. Guo, D.S. Liu and Q. Guo	2379
Study of DDS-Based Test-Bed Architecture Q. Lin and Y. Chen	2383
Research on Space System with ACP Method H.R. Tang and Z. Li	2387
UML and CORBA-Based Laser Atmospheric Transmission Framework Design H.F. Chen and Y. Chen	2391
Progressive Transmission of Vector Curve Data over the Internet Z.Z. Cao, M.C. Li and L. Cheng	2395
The Application of Ship Parallel Collaborative Database on the PDM System Z.H. Chi and Y.D. Liu	2399
The Test Case Design of the Failure Mode Judgment Software W.H. Liu and X. Wu	2403
An Anonymous Mutual Authentication with Key Agreement Protocol for Automobile Roaming System X. Xu, P. Zhu, Z.P. Jin and H. Zhang	2407
Achieving Message Board Function Based on Storage Services of the Windows Azure Platform Y.X. Ye, J.M. Cui and J.M. Lui	2411
A Locally Exponential Synchronization Criterion for Complex Networks L.F. Wang and P. Xue	2415
A Method of Reconstructing a Virtual Gallbladder Geometric Model Based on OpenGL L.T. Yu, T. Wang, H.J. Song, Z.G. Wang and B.Y. Zhang	2419
A Buidling Information Modeling Application on Mobile Device Z.H. Huang and E.C. Ma	2423
A Game-Based Survey for Security Issues in Vehicular Ad Hoc Network T. Cheng, H. Sun, N. Cao and C. Li	2427
A Method for Incomplete Data Filling Based on Power Graph in IoT Y. Yang, X. Wen, P. Tang and F.Y. Liu	2431
Certificateless Short Signature Scheme from Bilinear Pairings S.R. Feng, J. Mo, H. Zhang and Z.P. Jin	2435
Software Structure of Embedded Test Device for High Performance Network over Coax G.H. Shi, C. Yang, X.H. Duan and Y.Q. Song	2439
Research on an Improved Precision Advertising System S.T. Shang, Y.Q. Lu, P.D. Gao and C. Qiu	2443
Cloud Computing Service Security and Access: Bridging the Gap between Providers and Customer X.H. Zhao, H. Liu, J. Yi, W. Tian, N. Luo and L. Ye	2447
Security Middleware Based on Smart Card for E-Business G.F. Zhao, Y. Li, L.P. Du and J.W. Guo	2451
Research on Business Website Development Joining Innovative Ability S.J. Gong	2455

University Network Engineering Professional Model Y.Q. Han and X. Xu	2459
The Reform for Software Engineering Majors Based on CDIO X. Chen and Y. Qiu	2464
Extracting Social Web from Moving Object Trajectories J. Dai	2468
A Modular Integrated Laboratory for Wireless Sensor Networks M.X. Li, Y. Xiong, W.C. Huang, X.C. Zhou and X.G. Wu	2472
ELIC-Based Texture Advection and Information Entropy-Based Feature Extraction for the Visualization of Surface Flow Field H.H. Wang and S.K. Li	2478
Researching about Performance of Archiving History Data Based on XML under Hadoop Y. Zhang	2482
A Novel Coffee Customization System W.Q. Shang and Y.Z. Wang	2486
Extension of Campus Network Based on Flat Network Architecture J. Huang	2490
Research on Data Security of Finance Software L.N. Wang	2494
Survey of WLAN Fingerprinting Positioning System P. Chen, Y.B. Xu, L. Chen and Z.A. Deng	2499
An Innovative Practice Study on TOPCARES-CDIO Based Talent Nurturing Framework for E-Commerce Courses J.H. Xu and H.L. Yang	2506
Research of Typical VPN Network Management Mechanisms Z.Y. Liu, P. Yang and L.X. Zhang	2510
Public Transit Vehicle Arrival Information System Based on Mobile Internet J. Pan, X.T. Dai, X.Q. Xu and Y.C. Lou	2515
Research of Existing Security Problems in E-Commerce Sites and Defense Technology J. Fan and F. Yong	2519
Power Fiber to the Home will Open a New Era of Information Y.W. Lin, C.Y. Duan and X.N. Zhang	2524
Research and Implementation of the Web E-Mail System Based on the Cloud Media Platform B.R. Li, S.X. Cao and F.Y. Gou	2529
Study on the Security of Government Portal Websites Z. Zhang and F. Yong	2534
Research on Enterprise Information Security of the ERP System C. Wang	2539
The Application of QQ Group in Modern Educational Technology Course L. Xu and W. He	2544
Research on the Software Architecture of Information Systems Based on SOA F.Q. Wang, Q. Li and Y. Liu	2548
The Application and Practice of ATLAS on ATE Y. Liu, F.Q. Wang and Q. Li	2552
The Application of Database, Component and Framework in Software Development of General ATS S.J. Deng, J.Y. Luan, L.W. Tang and G.M. Zhang	2556
Research on Security Management Plan for Enterprise Information Systems R.X. Gou and T.J. Lu	2560
Research on HW/SW Co-Verification Platform L.B. Chang, H.M. Du and J.G. Han	2564
CTW: A Software System for ChIP Data Analysis Based on Workflow Y. Huang, J.Y. Wang, B. Hu and X.M. Wei	2569
Building of Road Network Topology and the Shortest Path Analysis Based on MapX Q.G. Zhang, L.W. Zhang and X.R. Yin	2573

Cloud Hierarchical Analysis for Educational Resources of Engineering Education Accreditation in China	
N. Xiao, K.H. Hou and W.Z. Liao	2577
Cloud Computing-Core Platform to Build Future Networking Data Links	
J. Yang, J.L. Luo, F. Cheng and C. Yang	2581
The Test of Practical Network Coding	
K. Wang and Y. Pan	2585
Data Consistency Research of the Cloud Storage Environment Based on P2P Technology	
J.W. Ge, F. Yang and Y.Q. Fang	2589
Research on Multi-Dimensional Bayesian Network Classifiers Based on ICA Dimension Reduction	
X.F. Zhang, Y.L. Yang and X.J. Tang	2593
Information Reduction Model about Rough Set Theory	
F. He and H.M. Yang	2597
BP Neural Network Model in the Application of Subway Drainage Cabinet	
L.L. Liu and W. Si	2601
Identity-Based Proxy Signcryption Schemes	
J. Wu	2605
A Parallel Query Processing Technique for Keyword Search over Data Graph	
S.X. Yang, W. Tang and B.B. He	2609
Application of Natural Language Processing for Information Retrieval	
S.M. Xi	2614
Software Design of Smart Car Tracking with Camera	
B.F. Sun	2619
An Improved Block Cryptosystem Based on Iterating Delayed Chaotic Neural Networks	
X.G. Zou	2623
Comparative Study on Currently Popular Network Databases	
Q.Y. Ran and J. Zhang	2629
The Searching of Decision Tree Based on Data Mining	
Y.L. Ma	2633
Iris Recognition Based on Pulsed Coupled Neural Networks	
H.Y. Deng, D.M. Zhou, R.C. Nie, X. Li and H.M. Li	2637
Intelligent Substation Construction Program and the Whole Life-Cycle Information Platform Technology Research Based on Internet of Things	
H.L. Wang, M. Cao, D.D. Wang, X. Huang, S.Q. Zhang and P. Li	2641
Research on E-Commerce Software Framework of MVC Mode Based on .NET	
Y.J. Lin and S. Lin	2645
Research on the Optimal Design of Soccer Robot Based on the Mechanical Analysis	
X.M. Bai and F.L. Zhang	2649
Development of Driving Training Simulator of a Caterpillar Vehicle	
J.T. Zhou, H.G. Wang and L. Zhou	2653
Design and Implementation of Embedded Web Server in Industrial Control Systems	
J.M. Liu, Y.J. Zhang and L.L. Xu	2658
Research on the Model of Business English Translator Training Based on DRM Control Model	
Y. Zhan	2662
Research and Design for Landslide Monitoring Based on WIA-PA	
J.C. Xiao, P. Zeng and Q. Zhang	2667
Traffic Classification Features and its Application in DDoS Detection	
Z.Y. Xiong	2673
An Access Check System on Account of Firewall's Rule Conflicts Detection	
X.C. Zhang and Z.P. Qiu	2677
Continuous Probabilistic Reverse Skyline Monitoring over Uncertain Data Streams	
Y.T. Yang, Y.J. Wang, M. Guo and X.Y. Li	2681
Research on the Network Intrusion Detection Method Introduced with the View of Quantum Optimization	
X.J. Zhao	2687

Auto Detection of Top Part for Research Paper with a Mixed Method B. Zhang and J.Z. Yu	2691
Detection of Network Intrusion Signal in Deep Camouflage Based on Chaotic Synchronization C.T. Zhang and Y.B. Zhang	2695
Research of Role-Mapping Associate Conflict Detection Methods G.Y. Tang, H.F. Wang and L.J. Cui	2699
Traffic Measurement between Peers in BitTorrent-Like Networks H. Tang, W.K. Hu, G.F. Zhao, Y. Yan and C.C. Xing	2703
Intrusion Detection Model Based on Improved Genetic Algorithm Neural Network in Computer Integrated Process System L.K. Zou, S.K. Liu and G.F. Ma	2708
Web Form Entrance Detection and Automatic Form Filling W.Q. Shang	2712
An Energy-Efficient Attack Detection Protocol for WSN J.N. Bi and E. Xu	2716
Long Mandarin Spoken Term Detection Using Two-Stage Search Z. Zhang, J. Xu, X.Y. Wang, Q.W. Zhao and Y.H. Yan	2720
The Cooperation-Competition Model for the Hot Topics of Chinese Microblogs W.W. Wu	2724
A New Research on Intrusion Detection System Based on Artificial Immune L. Shi and Y.R. Zhang	2728
Application of Vitrtools in Virtual Campus Roaming M. Zeng	2732
Implementation and Design of Basketball Technical Action Based on B/S Framework Data Mining System Y.F. Qin and Y. Wang	2736
Study of Practical Teaching Based on "Network Protocol Simulation System" L. Leng and L. Wang	2741
Modeling of Component Arrays via Scenario Driven Approach H. Xu, H. Zou, L.H. Wei and T. Wang	2745
A Study on Distributed License Authorization System Based on Threshold Secret Sharing Y. Li, H.M. Jiang and T. Hu	2749
Fuzzy Amendments of Trust Model with Intrusion Tolerance Y.Y. Chen and W. Dai	2753
Test Paper Generating Algorithm Based on Potential Weaknesses of Knowledge Points Mined by Association Rule Y.H. Le, M. Yang and M. Wu	2757
Optimization of Object-Based Knowledge Mesh Structure Based on Time Performance H. Pan and T. Wang	2761
Massive Data Analysis Based on Hadoop Distributed Parallel Computing Framework L. Leng, L. Wang, B.L. Liang and J.D. Yu	2765
A Complete Performance Evaluation Indexes of Survivable System T. Sun, G.S. Zhao, Y. Su, H.L. Liu and J. Wang	2770
Online Self-Test System Grouping Function of Genetic Algorithm-Based Optimization L.P. Zhang and D.S. Xue	2776
Construction of Knowledge Model in Collaborative Learning System S.F. Hao, X. Zhang and B.L. Sun	2781
Based on the Characteris of Learners Personalized-Learning System Design H.Y. Chen and J. Pu	2786
Research of AODV Protocol Based on Ant Colony Algorithm J.S. Wang, Y. Zhang and X.L. Li	2790
GSA: An Integrated Analysis System for Gene Sequence Y. Huang, J.Y. Wang, B. Hu and X.M. Wei	2795
For the Triple Play Video Audit and Distribution Trust Mechanism P. Yu, Y.B. Wang, Y.M. Ke and W. Liu	2799
A Prototyping Environment for Hardware/Software Codesign of OFDM Systems X.M. Lu, W.J. Wen and H.Z. Tan	2803

Intellectual IETM System Modeling on the Basis of the Process Data Module Z.C. Xu, K.K. Hu, H.B. Sun and W.C. Zhu	2807
A Novel Biased Diversity Ranking Model for Query-Oriented Multi-Document Summarization K. Lei and Y.F. Zeng	2811
Security Threats and Countermeasures in the Internet of Things Based on RFID X. Nie	2817
Study on Semantic Model of Urban Rail Transit Emergency Plan Y.T. Du and L.L. Zhong	2822
Energy Efficient Protocol Based on Orient Constraint Factor in UWASNs L. Zhang and Y.B. Zhang	2827
RFID Security Authentication Protocol Based on Hash for the Lightweight RFID Systems H. He, Q. Li and Z.H. Zhang	2831
Improved Top-k Query Processing on Uncertain Data S. Zhang and S.X. Zhang	2837
Task Scheduling Algorithm Research in Grid Computing Y. Xu	2841
Design of Integrated Control and Support Platform for Airborne Digital Image Transmission System X. Li, L.M. Chang, L.J. Zhang and Y.B. Shi	2845
Research on Distributed Database Query Optimization Based on Genetic Algorithm Y.Q. Li and C.T. Zhang	2850
A Comparative Study on Feature Selection in Chinese Text Classification Problem H. Li, P. Zou and W.H. Han	2854
A Petri Net Based Public-Key Cryptosystem H. Zhou, Z.H. Ding and H.Y. Huang	2858
Mining Frequent Items in Uncertain Dataset C.Q. Chen, J.H. Huang and Y.H. Jiang	2862
Mining Information Spreading Based on Users' Retweet Behavior in Twitter R.Z. Xia, Y. Jia, W.Q. Lin and H. Li	2866
Embedded Linux Porting Based on ARM9 Hardware Platform W. Bin, R.Y. Zhao and H.B. Ma	2871
A Granular Approach to Analyze Spatiotemporal Data M.L. Song and S.J. Wang	2876
Homogeneous Spiking Neural P Systems without Delays X.W. Peng and J.X. Liu	2880
Spectrum Analysis of the Stream Cipher D.M. Lin, X. Li and L. Zhang	2884
Multi-Resolution Meshes Deformation Based on the Offset of Sketching C.M. Sha, Y.J. Yue and X.J. Zhang	2888
Protocols for Message Authentication from a Weak Secret L. Guo and G. Yao	2892
Collection Tree Protocol Research for Reliability of Data Transmission C.F. Qiao, S.Y. Yin, L. Ling, R.J. Cheng, C.L. Xu and J. Wang	2897
Empirical Analysis on Aerobics Multimedia Teaching Based on Interactive Mode H. Zhao, Y. Fei and C. Li	2901
Building the Platform of Teacher Professional Development in Vocational College to Convert Tacit Knowledge C.X. Wang	2906
Environmental Examination of Data Mining Algorithms Based on Cloud-Computing Y.Z. Guo and T. Dai	2911
Data Mining with BP Neural Network Algorithm Based MapReduce J.M. Cui and Y.X. Ye	2915
A Grayscale Image Fragile Watermark Authentication System in Spatial-Domain X. Zhan, Y.R. Lei, L.Y. Du, H.M. Zeng and J.L. Chen	2920
A Color Image Authentication System Y.R. Lei, X. Zhan, L.Y. Du, H.M. Zeng and J.L. Chen	2925

A Routing Method Based on Wireless Sensor Network for Smart Meter Reading System Z.F. Wang, W.C. Ge, Y.N. Wang, J.L. Huang and L.G. Li	2930
--	------

Chapter 6: Power and Electric Systems, Electronics and Microelectronics, Embedded and Integrated Systems

Design of IR Converter Based on the CC2530 Chip in Zigbee S.W. Chen, C.J. Ying, Y.J. Chen and X.N. Jiang	2937
IP Core Design of 8253 Based on Quartus II H.Y. Zhang	2941
Research on the Micro-Grid Structure in Remote Area X. Zhu, S.Q. Cheng, Y. Xiang, Z.X. Yan and J.Y. Liu	2945
The Design and Implementation of Interrupt System in g-Bios Z. Feng and Z.X. Liu	2950
Burst-Type Acoustic Emission Source Localization Based on Multi-Scale and Multi-Sensors X.T. Zhang, L.W. Tang, P. Wang, X.X. Han and S.J. Deng	2954
Impact of PV and Battery Storage on the Power Supply Reliability H. Liu, L. Wang and S.Y. Wang	2958
Detection Method and Control Strategy of Active Power for Wind Farm Connected into Grid C.G. Tian, D.X. Li, L.X. Cai, T. Dong and X.J. Han	2962
Research on Stability of Voltage of AC&DC Hybrid System X.M. Liu, X.S. Niu, Y. Wang and J.L. Xiao	2967
The Influence on Reactive Voltage of Large Scale Wind Power Connected to Grid X.Y. Lv, T. Dong, Y. Yuan, D.X. Li and X.J. Han	2972
A New Power Flow Method Solving DG Integrated Distribution System Y.F. Lu, S.H. Lin, W. Zhou and H.T. Li	2977
Design of HTS Magnetically Controlled Saturable Reactor H.D. Dong	2982
Temperature Sensor Allocation Strategy and Full Thermal Reconstruction for Microprocessors X. Li and M.T. Rong	2986
Analysis Software of Power Quality and Power Regulation for Wind Farm Based on DEWETRON C.G. Tian, Y. Yuan, Z.J. Bi, L.X. Cai and X.J. Han	2990
Research on Detection Method of Power Quality for Wind Power Connected to Grid X.Y. Lv, X.F. Chang, D.X. Li and Y. Yuan	2994
A Compound Strategy to Optimize the Output Characteristics of Mid-Frequency Inverter D. Wu, Q.J. Wu and R.Z. Zhu	2999
Leading Phase Operation and Voltage Regulation of Synchronous Generators X.Y. Lv, Z.J. Bi, T. Dong, X.F. Chang and X.J. Han	3003
Ratio Study of Series Reactor in Parallel Capacitor Circuit C.G. Tian, L.X. Cai, X.F. Chang and Z.J. Bi	3008
Influence of AC System Strength on Voltage Stability of DC Receiving-End Power Grid X.M. Liu, X.S. Niu, J.L. Xiao and J. Zhang	3013
Short-Term Load Forecasting for Electric Power System Based on DB Wavelet and Regression BP Neural Networks K. Zhang and Y.H. Wang	3018
Sensor Robust Fault-Tolerant Control of Uncertain Systems with Time-Delays L.Y. Hu	3022
Solving for Currents along Dipole Antenna with a Composite Grid Method M.D. Ma, G.Z. Lu and Y.L. Guan	3027
A New Regulated Power Supply Design S.D. Wu, J.F. Yang and Z.Y. Ma	3031
Mechanisms of Forward Current and Reverse Leakage Current in GaN-Based Blue Light Emitting Diodes R. Jian, L.S. Li, D.W. Yan and X.F. Gu	3035

Research of Current Source Frequency Response Method for Monitoring Transformer Winding Deformation	3039
G.Q. Wang, Y.L. Zhu and L.P. Liu	
Application of Programmable Pre-Emphasis in LVDS Driver	3043
G.G. Wen, Q.M. Yi and M. Shi	
The Simulation Research of the Effect of Distributed Generation on Voltage of Distribution Network	3047
G.Q. Liu, L. Shao and T. Hu	
Study on Loss Reduction of Large Scale Wind Power Concentrated Integration on Power System	3051
X.D. Wu and W.Y. Liu	
Design and Realization of Battery Intelligent Charging System	3057
F.S. Wang and X.H. Sun	
The Research of Reactive Power Output of Doubly-Fed Induction Generator when Large-Scale Wind Power Integration	3061
G.Q. Liu, L. Shao and S.S. Guan	
Research on Control Method of DC Voltage Based on Power Feedforward	3065
X. Du and L. Zhu	
Study of PWM Voltage Source Rectifier Based on Predictive Current Control Strategy	3069
Q. Wen and L. Zhu	
Design of the Pixel and Row Driving Circuits Using IGZO TFT for QVGA AMOLED	3073
C.C. Yang, X. Chen, J. Zhang and C.N. Li	
A Novel SVPWM Algorithm for Three Level Inverter Based on Pan-Boolean Algebra and United Voltage Modulation	3077
Q. Zhou, J. Chen and G.L. Chen	
Research of Heat Transfer Performance on Tablet Microstructure Heat Exchanger Used for LED Lamps	3082
J. Zhuang, W. Hu, D.M. Wu, Y.J. Zhang, Z.L. Zhao and S.X. Liu	
Performance Comparison between HEV with Three Different Battery-Ultracapacitor Systems	3086
D.Y. Bi, Y.B. Yu and X.D. Qu	
Application Boundary Element Approach to Compute the Electric Field Intensity of the Thirteen-Needle Electrodes in Vacuum	3089
F.P. Liu and A.L. Wang	
Design of DVB-S2 LDPC Coder and Decoder Implemented in FPGA	3093
J.W. Sun and S.S. Yin	
A Research into Probabilistic Electricity Load Prediction Based on Demand Response Feature under Smart Grid Environment	3098
N. Lu and Y. Liu	
Design of Large Consumer Electric Quantity Settlement System	3103
F.J. Zeng, L. Ding and K.H. You	
The Stability and the Computed Speed of Application Boundary Element Numerical Method to Compute the Electric Field Intensity Generated of One Hundred and Fifty-Needle Electrodes	3107
A.L. Wang and F.P. Liu	
Study on Project of Photovoltaic Power Plant Connecting to the Grid	3111
Y.S. Shu, L.L. Ma and C. Peng	
Design of On-Chip Debug System Based on IEEE Protocol	3115
L. Li	
Study of Droop Characteristic in Advanced Co-Phase Traction Power Supply System	3118
Y. Wang, X.Q. He, Z.L. Shu, Z.X. Xu and Y.Y. Zhou	
Passivity-Based Control Strategies of Doubly Fed Induction Wind Power Generator without Speed Sensors	3124
W.J. Wu and H. Xue	
A Design of Embedded Digital Photo Frame	3129
Y. Zhang	
A Circuit for Improving DC-DC Converter Dynamic Response	3133
G.X. Jia and H. Jiang	

Design and Simulation of Numeral Soft-Switching ZVZCS-PWM Arc-Welding Power G.X. Jia and J.T. Song	3139
Analysis of the Input Harmonic Current of the Matrix Rectifier and the Design of its Input LC Filter G.X. Jia and G.Y. Gao	3145
An Application of Unified Power Quality Conditioner for Micro-Grid H.G. Yu, J.R. Wan and R. Liu	3149
New Energy Power Generation Process Output Complementary and Coordinated Control M.M. Gao, J. Hou, D.L. Zeng, X.J. Lei, J. Tang and M.S. Zhang	3155
Stochastic Assessment of Voltage Sag Considering the Time Characteristic of Protection System L.P. Chen, X.Y. Xiao, Y.T. Qiu and Q. Xiong	3160
Studies on Compound Control-Based Single-Phase Photovoltaic Inverter P. Xue, W. Wei and B. Zhang	3166
A Research on PID-Fuzzy Control Methods of the Electric Eye Holder in a Photovoltaic System C. Zhang and Y.Y. Zou	3170
Application of VFC in High Voltage Sampling System Based on CPLD L.X. Wu and T.Z. Wei	3174
Research about Dielectric Loss Detector Based on Frequency Conversion Method G.H. Hua and Z.R. Shen	3179
Analysis and Implementation of Transplantation Bootloader over UART G.H. Hua and Q.Y. Yao	3184
The Development Approach of Electronic Information System Based on SOA H. Wang and L. Cheng	3189
Integrated Digital Building Delivery System Based on BIM and VR Technology S. Wang	3193
Design a Phase Frequency Detector X.M. Lei, X.D. Xing and X.D. Ding	3198
Design of Low Power Lighting LED Driver with Multiplex Divided Constant Current Source F. Yu and Z. Jie	3204
PWM/PFM Dual-Mode Synchronous Boost DC-DC Regulator W.Y. Li and J. Zhang	3209
Design and Realization of 35kV Phase Controlled Circuit Breaker and its Electromagnetic Force Driving Actuator H.Y. Wang, D.L. Yuan, C.X. Niu and H.J. Dong	3213
Research on the Demand of Dynamic Housing and the Application of Distributed Generation Management in Micro-Smart Grid G.Q. Chen	3217
Nonlinear Compensation for Resistive Displacement Sensor Y.T. Zhu, Y.L. Zhao, J.F. Hua and Z. Liu	3222
Design of Electromagnetic Mechanism with Finite Element Method D.L. Yuan, H.Y. Wang, Z.H. Zhu and H.J. Dong	3226
Implementation of TD-LTE Downlink Channel Estimation Based on DSP D. Wang, W.W. Xu and B. Chen	3230
Day-Ahead Optimum Dispatching Model of Wind-Thermal Power System and its Application Z.K. Wei, J.F. Xu, J. Liang, Y.Z. Li and G. Zhang	3235
Investigated Solution Concentration Sensors Based on the Etched Phase Shifted Fiber Bragg Grating F.G. Su and X.Z. Sang	3239
Research on Intelligent Sensor Network Gateway Based on Embedded System C.H. He	3243
Anti-Radiation Design and Irradiation Test of Antifuse FPGA K.F. Zhang, S.F. Chen and S.Z. Xiao	3249
Reactive Power Optimization in Regional Power Grid X.H. Zhang, H. Zhang and J. Zhang	3254

Design of a Wireless Laser Pointer Based on MCU S. Dong, Z.X. Wang, X.R. Gao and J. Yao	3258
Research of Geoelectric Field Observation Interference with Different Electrode Arrangements from UHVDC Power Lines B. Tang, F. Qiao, G.Z. Ge, Z.H. Qu, Y. Huang and J.X. Zhu	3262
Improve the LVRT Ability of Wind Farm with DFIG by Combination of SVC and DVR X.L. Wang, L. Xian and C.X. Ma	3266
Research on Load Modeling Stability Control Based on AC/DC Hybrid Transmission System Y. Liu, L.J. Ding, J. Wang and Z.J. Zhang	3271
Design of a Rail-to-Rail Operational Amplifier with Low Supply Voltage and Low Power Dissipation Z.P. Jiang, R. Xu, H. Huang and C.C. Dong	3275
Design of a 6502-Compatible Microprocessor R. Xu, Z.P. Jiang, C.C. Dong and L.H. Cui	3279
Design of a Low-Voltage Low-Power CMOS Operational Amplifier L.H. Cui, R. Xu, Z.P. Jiang and C.C. Dong	3283
A Full Integrated LNA in 0.18μm SiGe BiCMOS Technology B.L. Yu, X.N. Xie and W.Y. Li	3287
Based on FPGA Design and Simulation of Function Signal Generator C.Y. Wang and J. Zhang	3292
Design and Implementation of Intelligent Digital Photo Frame Based on FPGA D.D. Han, T.C. Zhang and J. Zhang	3296
Design and Simulation of Photoelectric Detection Circuit for Microfluidics Chip M.Y. Ren, L. Tian, W. Wang, X.W. Liu and Z.G. Mao	3300
Design of a Low-Power Rail-to-Rail CMOS Operational Amplifier Y. Guang, B. Yu and H. Hai	3304
Design of Pre-Amplifiers for Photoelectric Detector M.Y. Ren, L. Tian, W. Wang, X.W. Liu and Z.G. Mao	3308
FPGA Implementation of Direct Digital Frequency Synthesizer H.J. Yang and F. Yu	3312
High Performance FPGA Implementation of Floating Point Addition H.J. Yang, F. Yu and D.D. Han	3316
A CMOS Fourth-Order 150Hz Low-Pass Filter for Sensor Applications C.C. Dong, N.N. Liu and Z.P. Jiang	3320
New Method of Single-Phase Photovoltaic Inverter Based on Energy Power Grid Control X.Y. Liu, L.L. Yao and J.B. Yang	3324
FPGA Implementation of High-Speed Memory Efficient Quasi-Cyclic LDPC Decoder J.B. Han, C. He and R. Zhen	3328
Electrical Load Management Tool Design J.R. Qin and J.C. Wang	3332
An End-to-End Traffic Estimation Algorithm via Multifractal Wavelet Model and Principal Component Analysis in Smart Grid S. Guan, Y.H. Li, L. Wang and F.B. Meng	3337
Study of FBG Sensor in the Oil Well Logging System P. Zhang	3342
A High-Performance Hardware Design for Digital Predistortion System J. Wang and Z.B. Zeng	3346
A Reliability Simulation Method for On-Board Computer L. Zheng, Y. Huang, D. Liu and W.Y. Xing	3350
Design and Realization of the Calibration Equipment for Inertial Navigation System by the Control Computer C.F. Zhao, G.D. Li, X.J. Wang, Z.L. Zhang, C.Y. Li and Q.B. Kong	3354
Research on the Problem of Priority Inversion in Embedded RTOS X.H. Cheng, J.Q. He and Q.L. Liang	3358
Comparison of Methods of Maximum Power Point Tracking of Photovoltaic Cells L. Li, Y.H. He and B. Wang	3362

Traffic Dispatch Policy in a Power-Aware Router Y. Kai and B. Liu	3366
The Application of Wind Speed Numerical Simulation in Wind Power Generation L.Y. Liu, J.J. Wu and S.L. Meng	3370
Energy Equalization Circuit with Multiple Primary Windings for Li-Ion Battery System S.X. Chen, M.Y. Gao, G.J. Ma and Z.W. He	3374
Efficient and Accurate Testing of On-Chip ADC Based on ATE S.H. Wei, L. Dai, X.B. Zhang and Y.F. Jiang	3378
Research of Underground Wireless Sensor Networks Based on CC1110 X. Li, Y. Liang and Z. Qiao	3382
Research on Thermal Resistance of Power MOSFET Based on the Structure Function X. Chao and L.X. Wang	3388
Research on Harmonic Elimination of Electric Vehicle Charging Station Based on APF G.Q. Liu, T. Hu and L.N. Wu	3392
Precise Driver-Side Equalization of Capacitive Coupling Connector D.C. Jiang, Y.S. Li and Y.Z. Qu	3396
Gaussian Mixture Model Clustering Based Optimal Location of EV Charging Stations Q.S. Shi and Y. Cao	3400
Design of Timing System Based on Electronic Design Automation Y.X. Zhu and Y.C. Zhang	3404
Research on Improving Lateral Resolution of Ultrasound Phased Array Elements by Using Sparse Matrix J.Q. Guo, B. Zheng, L. Chen, L. Wang, X.R. Gao, Z.Y. Wang and Q.K. Zhao	3409
Application of Thermal Design Method for Industrial Ethernet Switch J. Tao, P. Wu, L. Chen and C. Liu	3413
Digital Protection Test Platform Based on RTDS T. Liu, H. Yao, T. Jiang and B.D. Zhang	3417
A SSD-Aware Dynamic Stripe Method for High Reliable RAID K. Bu, W. Yi, H. Xu, Q.Y. Xie and J.B. Liu	3421
Development of Decision Support System for Protecting Distance between Power Lines and Trees G.Z. Ge, B. Tang, J.X. Zhu, Y. Huang and Z.H. Qu	3425
GPS/INS Integrated Navigation Based on Unscented Kalman Filter W.L. Xu, Z. Liu and J.H. Liu	3429
A Frequency Coordination Control Strategy for Islanded Microgrid G.Q. Liu, T. Hu and J.J. Lin	3434
Dissemination Protocol Research for Message Transmission Rapidly C.F. Qiao, S.Y. Yin, L. Ling, R.J. Cheng, C.L. Xu and J. Wang	3438
Resilient Guaranteed Cost Control for Singular Systems with Time-Varying Interval Delay Y.G. Zhang and R. Li	3442

Chapter 7: Communication, Signal and Image Processing, Data Acquisition, Identification and Recognition Technologies

Relaxation Labeling for Contour Point Matching under Affine Transformations W. Wang, Y.M. Jiang, B.L. Xiong and G.Y. Kuang	3449
Aural Spectrum Analysis for Naval Vessel Radiation Noise J. Xie	3453
Parameter Estimation of Low-Frequency Signal with Negative Frequency Contribution S.W. Tan, Z.L. Ren and J. Sun	3457
A Broadband Septum Dual Circular Polarized Antenna for Airborne Communication System X.Z. Shui, W. Wang, K. Zhou and X. Lv	3461
Design of Antipodal Vivaldi Antenna Array H.B. Tang and X.Z. Shui	3465
Semantic Color Retrieval of Color Image Based on Fuzzy Clustering X.F. Wang and J.H. Li	3469

The Application Research on Signal Processing Technology in Non-Destructive Test Technology D.J. Guan	3474
Storage and Management Approach of Raster Image in Georaster Model G.S. Li, M. Yang and J. Li	3479
The Methods of Face Recognition: A Survey X.W. Li, G.L. Chen and H.Y. Zhang	3483
Propagation Effectiveness Prediction and Simulation of VLF Communication G.M. Li, C.H. Liu and G.Y. Cai	3487
Design of Serial Communication Based on VB and Mitsubishi Protocol X.H. Sun	3493
A Time Synchronization Method Based on Variable-Length Frame Y. Zhang, G.M. Liang, R.R. Liu and D.H. Liu	3497
The Feature Description Method of Radar Signal Based on Improved Kernel Density Estimation F. Ye, J. Zhou, J. Luo and X.R. Gao	3501
Analysis of Stacked Alamouti Coding in Wireless Communication Y.P. Li and H. Yang	3505
A New Recognition Method of Radar Emitter Signal F. Ye, X. Wang, X.R. Gao and J. Luo	3509
Effect of Random Jitter on Performance of LDPC Z.J. Wang, Y.Y. Hao and H. Lian	3513
RETRACTED: Electro Optic Methods in Intra-Body Communication System J. Li, S. Zhang and Y.H. Liu	3517
HHT-Based Selection of Optimal Time-Frequency Patterns for Motor Imagery P. Gong, M.Y. Chen, L. Zhang and W.J. Jian	3522
Face Recognition Based on LBP and Extreme Learning Machine J.H. Wu, L. Han, J.T. Li, Y.X. Zhao, L.B. Tang and B.J. Zhao	3526
Speech Emotion Recognition Using Multiple Discriminant Analysis and Gaussian Mixture Model Y.Q. Bao, L. Zhao and C.W. Huang	3530
An Identification Method of Library Identifiers Based on Computer Vision L.Y. Liu	3534
The Advanced Peak Cancellation Implement Method for OFDM Signals in CM-MB Q.H. Liu and J. Wang	3538
A New Method to Analyze the Thermal Effect due to Plume Impingement on Communication Satellites C.S. Xu, Y. Li, H.X. Zhong and X.H. Gao	3542
LDA Face Recognition Standardization Version SL2 M. Liu	3546
Acquisition of the Palm Print and Research on Pretreating Simulation T.F. Cai	3551
A Low Power Wireless Sensor Network Based on ZigBee for Data Acquisition T. Li, B.H. Bai and X.J. Pi	3556
Data Acquisition and Transmission Method of the Quality Traceability for Poultry Processing X.J. Niu	3561
FCM Optimized with Differential Evolution for Image Segmentation P. Guo and N.X. Li	3566
Research on the Mining Technology of Multimedia Communication Data Flow Based on Computer Network Y.H. Cheng, L.H. Ouyang and X.Y. Liu	3570
Remote Access and Control System Based on Infrared Communication Technology X.J. Jiang	3575
Design of a Fourth-Order Sigma-Delta Modulator for Audio Application M.Y. Ren, T. Li and C.C. Dong	3580

Research and Application of FPGA-Based Polling Strategy in Ad Hoc Network Data Acquisition System	
Z.P. Zhao, Y.Y. Yu, Z. Jiang and J. Yang	3584
The Study in the Application of FFT in Vibroseis Data Harmonic Filtering	
M. Zhang, J.M. Wei, L. Xue and M.J. Xu	3589
Research of Recognition Algorithms by a Distance Feature Information Method on Digital Image	
C.T. Wang, B. Ma and K. Huang	3595
The Distortion Analysis and Restraint of Dual-Frequency Modulation Signals	
Y. Zhang, S.B. Hu and S.H. Liu	3599
The Design of Concentrator in Power Energy Information Acquisition System Based on the Internet and Zigbee	
X. Zheng, M. Liu and F.Y. Lin	3604
The Research on a New Method of Indicating Downlink Power Allocation through MAC Control Element in LTE System	
S.B. Yang and J.H. Yang	3608
The Application of Sets of Orthogonal Function to Signal Analyses	
K. Peng	3613
Locally Adaptive Wavelet Thresholding for Speech Enhancement	
K. Liu, J.Z. Cheng and L. Cheng	3618
Face Recognition with Single Sample Based on Candide-3 Reconstruction Model	
N. Deng, Y.B. Pei and Z.G. Xu	3623
Terminal Design of the Intelligent Data Acquisition System Based on USB Interface	
G.J. Wang, X.H. Cheng and Z.X. Wang	3629
Research on Application of Communication Technology in Distribution Grid	
X.H. Cheng, Z.X. Wang and Y. Liu	3633
Fusion Research of Remote Sensing Image Based on Compressive Sensing	
C. Wei, D.M. Liu, F. Wang and L.Y. Chen	3637
Design and Implementation of Signal Generator Based on DDS	
H. He, J.Z. Zhang and Z.H. Zhang	3643
Time Domain/Frequency Domain SAFT Imaging in Thin-Diameter Rod	
G.Y. Zhao and C. Lu	3648
On the Performance of Multi-Relay Cooperation over Correlated Nakagami-m Fading	
H.X. Cui and Y.C. Yu	3653
A Design of UART Serial Communication between the TMS320C6748 DSP and PC	
X. Wu, Y.S. Mei, J.Q. Yu, T.P. Yu and J.X. Li	3657
A Behavior-Based Rapid Method for P2P Traffic Identification	
J.W. Ge, M. Zhao and Y.Q. Fang	3661
Design of the High Speed Data Acquisition and Processing System Based on DSP	
P. Zhao and Z.S. Li	3667
Video Tracking of Human with Occlusion Based on MeanShift and Kalman Filter	
B.H. Yuan, D.X. Zhang, K. Fu and L.J. Zhang	3672
A Blind Source Separation Method Applied to Simultaneous Kinetic Multicomponent Determination	
G. Ling and S.X. Ren	3678
Digital Book Reading and Communication Platform for Android	
H.X. Ning and L.Y. Li	3682
Image Enhancement Method for Steel Surface Defects Based on DT-CWT	
Z.X. Chen, P. Wang and S. Xie	3686
On the Quality of Data Communication Lines of an Important Role	
L. Li	3690
Automatic Recognition of Hub Classification Based on Machine Vision	
G.W. Wang and J.P. Zhang	3694
Application of HSMM on the State Recognition for Diesel Engines	
Q. Huang, W. Cheng and S.F. Ding	3698
Traffic Image Segmentation Based on Gaussian Mixture Model with Spatial Information and Sampling	
X.N. Zhang, M. Yao, F. Zhu and J. Ni	3702

Fuzzy Enhancement Method for Color Medical Images Based on Color Space Conversion L. Hua, Z.T. Zhou, J. Yang, H. Feng, L.J. Ding and J.P. Gu	3706
Application of DWT in Intra-Frame Coding of Video Compression X.C. Jiang, G.P. Li, H.W. Zhao and G.Z. Wang	3710
The Application of Communication Management System Based on the Pattern of SOA H.F. Hou, C. Wang and B. Jiang	3714
Research on Registration Algorithm in Super-Resolution Reconstruction of Video Image H.H. Liu and X.H. Hou	3718
Research on Improved Spline Interpolation Algorithm in Super-Resolution Reconstruction of Video Image X.H. Hou and H.H. Liu	3722
Parameter Estimation of Multicomponent Cubic Phase Signals P.F. Tang, B. Yuan, Q.Q. Lin and Z.P. Chen	3726
A Real-Time Sound Data Collection and Transmitting System Based on LabVIEW P. Wang and J. Wang	3730
Improved Principal Component Analysis for Face Image Recognition J.D. Zhang, C.R. Hang, J.B. Xu and H. Chen	3734
Extracting of Five Characteristic Parameters Using in Static Gesture Recognition H. Duan and Y. Luo	3738
Research of Extracting Information about Reservoir Logging Signals Based on Chaos Characteristics C.Y. Nie, R. Li and W.L. Zhang	3742
The Image Steganography Method Based on the Nonlinear Optimization Y. Chen, R.E. Yang, M. Yuan, J. Mo and C.H. Ma	3746
Emotion Recognition Based on Chaos Characteristics of Physiological Signals C.Y. Nie, R. Li and J. Wang	3750
Source Camera Identification Based on In-and-Inter Channel Traces Y.J. Xie, Y. Bao, S.F. Tong and Y.H. Yang	3754
Design of Image Transmission System for Multi Channel Panchromatic TDICCD Camera with Large Field of View L.X. Jin, J. Li and X.P. Hao	3758
Study Speech Recognition System Based on Manifold Learning P.H. Zhang	3762
Application of Unified Communication Technology in Command Information System L. Cao, Z.H. Lv, X.L. Chen and H.S. Tan	3766
Several Color Image Enhancement Method Comparison T.T. Huang, Y. Li and Z.X. Xie	3770
A Research on a Method of Error Separation Based on Wavelet Analysis G. Yao, J.J. Zhao and J.J. Sun	3774
Contrast Enhancement and Optimization for Image with Fog W.N. Huang and Z.X. Xie	3778
A Novel Method to Enhance and Optimize Retinal Vessels Image Based on Combining Bottom Cap and Optimization Transformation Z.X. Xie, M.M. Chen, X.L. Xiong, W.N. Huang and T.T. Huang	3782
The Design and Implementation of a Video Image Acquisition System Based on VFW W.H. Wang	3787
The System Architecture for the Face Recognition Based on Mixed Mode Y.H. Yin, Q.Y. Zhu, C.J. Xu and Y.Y. Yan	3791
A New Patterns Recognition Method Based on Fuzzy Rough Sets G. Tian, X.J. Shao, J.H. Liu and Y.G. Qi	3795
Using GPTS to Relize Communication by Serial 422 Y. Liu, B. Kong and M. Yang	3799
A NEW Data Acquisition Method to CAN and 1553B Armored Vehicle Buses J.H. Liu, C. Qi and J.B. Qu	3803
The FPGA Design and Implementation of Pipeline Image Processing in the GPU System K.N. Wang and H.M. Du	3807
Error Correction Based on LDPC Codes in Wireless Optical Communication X.R. Gao, P. Wang, J.Q. Guo, J.L. Li, K. Yang and T.K. Wang	3811

A New Method of Scalable Image Compression Coding Y. Yang	3815
Clustering Research on Fractal Parameter of GIS PD UHF Signals Y.X. Yun	3818
Active Low Pass Filter Design Based on Chaos Theory J. Chang, Y.F. Feng and W.F. Li	3822
Research on Model Checking for SELinux Inter-Process Communication N. Wang, S.W. Gong and H.X. Wang	3826
Wavelet Denoising-Based Image Feature Extraction by Independent Component Analysis without Pre-Whitening X.J. Tang and X.F. Zhang	3830
Systems Errors Identification Method of Hull Deformation Data Based on Total Variation Constrained L. Yang, F. Chen, T.S. Zhang, X.Y. Li and H.Y. Zhou	3834
Ear Recognition Based on Point Feature Y. Tian and D.B. Zhang	3840
Maximum Average Correlation Height Filter Based on Pulsed Neural Network for Distorted Target Recognition X. Li, D.M. Zhou, R.C. Nie, H.Y. Deng and H.M. Li	3846
Face Recognition Using KPCA and KFDA H.M. Li, D.M. Zhou, R.C. Nie, X. Li and H.Y. Deng	3850
Research on the Optimal Design of Soccer Robot Based on the Mechanical Analysis J.W. Han and L. Hong	3854
Pedestrian Detection Based on SOM Neutral Network S.Y. Biao, G. Feng and L. Xiang	3858
Human Detection Based on SVM and Improved Histogram of Oriented Gradients L.H. Zhang	3862
A New Low Complexity Uplink Multiuser MIMO Detecting Algorithm J. Ma and D.M. Wang	3866
Vehicle Detection Method under Night Circumstance L. Guo and X.H. Shen	3870
A Gesture Trace Detection Method Using DTW D. Hong and Y. Luo	3874
An Analysis of High Precision Detection Technique for Wireless Positioning System Y.N. Xiao, Z.L. Deng, X.F. Sun and X.G. Wang	3878
Design of Low-Noise, High-Density Signal Intelligent Detection System X. Yang	3882
An Advanced Method for Human Body Detection F.X. Li, S.Y. Zhao, Z.J. Li and W.C. Zhang	3886
Multi-Layer and Adaptive Edge Detection Method Based on Multi-Scale Gabor Wavelets X.B. Dong, X.S. Huang, W.Y. Xu and L.R. Shen	3890
Fusion of Background Subtraction and Frame Difference in HSV Space for Multi-Object Detection Y.N. Wen, H.S. Li, H. Zhou, L.P. Tang and J.Q. She	3895
Ontology-Based Heterogeneous Data Integration Technology K. Li, X.M. Li, D. Liu and Y.F. Cui	3900
Detection and Reconstruction for LFM Echo Signal Based on Blind Compressed Sensing B. Fang, G.M. Huang and J. Gao	3904
Attenuation Model of Antenna Signal with Barriers in Wireless Sensor Network B. Xu, S.Z. Xu, Q. Wang and Z.H. Chen	3908
Research on RACH Signal Detection Algorithm in TD-LTE System W.P. Shi, Z.R. Wu and X.W. Li	3912
Face Detection System Based on AdaBoost Algorithm L. Shi and J.H. Lv	3917
Fatigue Detection System Based on Kalman Filtering and Dynamic Template L. Shi and Y.H. Zhang	3921

Visual Detection Technology of the Driver's State of Fatigue Based on Multi-Information Fusion L.M. Zhao and Y.M. Zou	3925
Survey and Evaluation of Coalfield Geological Exploration and Coal Resources Based on Remote Sensing Technology Q.S. He and F.G. Zeng	3930
The Design of Data Transmission Device Base Public Network J.L. Huang, Z.F. Wang, L.G. Li, Y.N. Wang and W.C. Ge	3934
Based on the Airborne SAR - ATI - GMTI System Research W.D. Zhang, N. Song and Y. Wu	3938
The Design of Concentrator Base the WIA Wireless Network J.L. Huang, Z.F. Wang, Y.N. Wang, W.C. Ge and L.G. Li	3942
Efficient Multi-Target Tracking Based on Meanshift and PNN Z.M. Wang	3946
Elastic Computing Platform Design Based on Lunar Rover Stereo Vision System Z. Wang	3950
Long Jumping Videos Processing by Surendra and CamShift Algorithms A.L. Song and K. Chen	3954
Study on Remote Sensing Faults Information Extraction in Eastern Kunlun, NW China X.H. Zhou	3958
An Anchor Selection Algorithm in Wireless Sensor Network Q. Chang, H.T. Hou, X.H. Zeng, Q. Li and W.P. Wang	3962
Model and Simulation of GPS Position Process X.M. Song and Y. Chen	3966
Research on Fast Diversity and Multiplexing Selection Algorithm for Multi-Antenna Systems N. Feng	3970
Bidirectional 2DPCA Based on L1-Norm Maximization F.J. Zhong	3974
Algorithm of Adaptive Online Blind Signal Separation Based on Matrix Separation D.H. Xu, H.G. Ma, W.P. Guo and D.D. Yang	3978
Quaternion Model of Fast Video Quality Assessment Based on Structural Similarity Normalization G. Li, A. Aizimaiti and Y. Liu	3982
The Feature Extraction and Matching Algorithm Based on the Fire Video Image Orientation Y. Lu, H.Q. Wang, F. Xu and W.G. Liu	3986
Natural Human-Computer Interaction Based on Finger Tracking R.B. Xu, Y. Xie, X. Guo, E.Z. Zhu and J.G. Wu	3990
A Novel Fusion Method Using NSCT and PCNN H. Li, F.X. Wu, C.E. Tan and G.Y. Li	3994
Variable Window Stereo Matching Based on Phase Congruency L.Y. Guo, C.Y. Sun, G.Y. Zhang and J.H. Wu	3998
CUDA-Based Parallel Prewitt Algorithm Implementation and its Application on GPR T.Y. Peng and Y. Zhao	4002
Improve of the ATDD in Cognitive Radio Wireless Network B. Pu	4007
One Method of Urban Land Covers Information Extraction D.P. Xing	4011
A Research on 3D Stereoscopic Virtual Imaging Based on Steady State Visual Evoked Potential G.X. Zhang, P.D. Wu, M.L. Huang and S. Liu	4015
Bone Repair with Compressive Sensing Based on MRI F. Zhou, Y.J. Pei, H. Wu and Z.J. Chen	4019
Research on the Chaos Synchronization of Erbium-Doped Fiber Ring Laser Y.K. Lin	4023
Initial Timing with Cooperation of Distributed Receive Antennas C.J. Qing, J.C. Wei, Z.S. He and Y.X. Tang	4027

Research on a High Effective Algorithm of PRACH Baseband Signal in TD-LTE System F.T. Chen and C.Y. Xu	4031
Feature Dimension Reduction and Graph Based Ranking Based Image Classification N. Yao, F. Qian and Z.L. Sun	4035
The Research and Implementation of RRC Layer Connection Reconfiguration in TD-LTE System Y. Liu, Q. Miao and Z.H. Qiu	4039
Intelligent Identification Based on Wavelet Packet Decomposition and Adaptive Particle Swarm Optimization SVM Q. Wang and L.J. Ren	4043
Study on Implementation Solutions and Function Specifications of Intelligent Optical Distribution Network J.Q. Wang, H.J. Fu, L. Guo and Y. Shao	4047
Facial Feature Extraction Algorithm Based on Machine Dynamic Vision B. Li, X.Q. Gu and M.H. Lu	4052
A Facial Expression Recognition Algorithm Based on Computer Vision L. Guo and J. Wang	4057
Research on the Application of ICP Algorithm in Spatial Registration of Computer-Aided Surgery Y.T. Wei	4061
Design of RF Control System Based on TD-LTE H.H. Wang, N. Lv, X.W. Li and L.C. Yu	4067
Research on Layout of Active Decoy in Antagonizing ARM Z.Q. Fan, Y.H. Ma, J. Dong, X.K. Chen and J. Meng	4071
Design and Implementation of Cell Search Time Synchronization in LTE System Based on FPGA D.M. Zhang, X. Zhu, Z.H. Qiu and C.B. Duan	4076
Remote Attendance System Based on RFID B.C. Zhong and Y.J. Shen	4080
Study and Implementation of a RFID-Based Electronic Medical Record System in Neonatal Department C.H. Liu and K.Y. Wang	4084
An Identification Method of Harmonic Source in the Power System Based on Independent Component Analysis S. Jiang, M.Y. Chen, H. Lin, Z.S. Lv and A. Fu	4088
HDMI Data Transmission System Design J. Xiong, Q.M. Yi, M. Shi and T.T. Li	4094
A New Derivation of TGR with Naked Antenna in Lossy Medium X.B. Qu, B.H. Zhou, Z. Wan, W. Shi and X.G. Xie	4098
Analysis on the Compensation for the Demodulated Phase Errors Caused by Sampling Frequency Offset in OFDM Systems Y.J. Xiong, X.F. Zang and Y. Zang	4103
Simulation Analysis on DPD Performance with DC Offset Q. Zhang and Z.B. Zeng	4108
A Method of Hand Signal Segmentation Based on YCbCr Space and Background Difference D. Hong and Y. Luo	4112
Multiple Watermarks Algorithm for Medical Image Based on Arnold Scrambling and DFT M. Sui, J.B. Li and Y.C. Duan	4116
Study on Simulation performance of OFDM-IDMA System Z.H. Wang and G.F. Yu	4120
DWT-DFT and Logistic Map Based Watermarking Algorithm for Medical Image Y.L. Liu and J.B. Li	4124
Research on Anti-Jamming Algorithm Based on Beidou Satellite Navigation System X.Z. Zheng, Y.H. Liu and C.G. Lv	4128
A New Evaluation Method of Jamming Effect on ISAR C. Rui, J.F. Pan, L.M.G. Chen and J. Zhu	4132

Image Mosaics Algorithm Combined Feature Point Matching with Transformation Parameters	
P.R. Qiu, Y. Liang and H. Rong	4136
Research on Radar System of Hardware-in-Loop Simulation	
L. Jun, Z.J. Shan, L.W. Jun, S.S. Xi and P.D. Hui	4140
An Audio Information Hide Algorithm Based on Error Correcting Code	
X.H. Zhang and X.H. Fu	4144
A Novel Image Retrieval System Based on Histogram Factorization and Contextual Similarity Learning	
S. Jayasekara, H. Dassanayake and A. Fernando	4148

Chapter 8: Information Technologies in Urban and Civil Engineering, Medicine and Biotechnology

The Application of Hydraulic Automatic Flap Gate in the Regulation Project of Duanmijian River	
Y.B. Kang, A. Rjap and K. Huang	4155
Structure Design Draft Tube of Xiaoshankou Hydropower Station	
Y.B. Kang, A. Rjap and K. Huang	4159
The Effects of Dechlorane Plus on Toxicity	
Z.Y. Wu, L. Huang, Y.L. Gao, Q.H. Guo and Y.Q. Sun	4163
Association of Polymorphism rs1333049 with Risk of Gout	
Q.Y. Wang and H.Y. Yang	4167
Fungicides Inhibition Analysis by Molecular Docking and Sensitivity Testing of <i>Penicillium italicum</i>	
J.H. Yu, T. Qi, L. Xiong, Q. Li, J.L. Wang, Y.Z. Yuan, H. Geng and D.L. Liu	4170
Key Technology on Decision Support System for Urban Water Supply Pipe Network Emergency	
W.X. Liu and Y.C. Ren	4175
Research on the Application of Visualization Computer Technology in the Design of Architectural Decoration	
J. Zhou, J. Zhou and X.L. Ma	4179
Study of the Effect of High-Pulsed Electric Field Pretreatment on Hot Air Drying Rate of Scallop Muscle	
Y.X. Bai, Y.C. Hu and Y.X. Yang	4184
Study the Effects of Electromagnetic Fields on Micrococcaceae	
G.J. Yang, X.Y. Zheng, D.S. Zhang and Y. Wang	4188
Pulmonary Embolism Vascular Segmentation in CT Angiography	
Q.X. Gao and H.A. Li	4192
Minimum Redundancy Maximum Relevance for Analysis of Proteomic Profile	
X.L. Yang and F. Wang	4197
The Research on Pain Mechanism Based on the Spectrum Analysis of EEG	
J.J. Tong, Y.Q. Kang, G.L. Zhang, J. Liu and Q. Cai	4202
The Research on Cooperation Coordination Model of Transboundary Water Pollution	
D. Sun	4207
A Wireless and Data Store Holter System	
X. Zhang and L. Wang	4212

Chapter 9: Material Science and Manufacturing Technology

Research on Aluminum Alloy Foam Sound Insulation Characteristics of New Decorative Building Materials	
Y. Yang	4219
Research on Miniature Thermoplastic Processing of Polyvinyl Alcohol Based Nanocomposites	
M.F. Xie and S. Qiang	4224

Research on Seismic Strengthening Buildings of Concrete Frame Structure B.J. Xu	4228
Research for Swing Heating Furnace Temperature Optimization System of Plate Roller-Hearth Normalizing Furnace J. Li, Q.S. Wang and H.C. Liao	4232
Piezoresistive and Mechanics Properties of Nanopolycrystalline Silicon Film Materials X.B. Lu, L.H. Cui and H. Huang	4237
Effect of Nanocalcium Oxide Addition on the Cast Microstructure of Pipeline Steel J.M. Wang, Y. Liu, L.X. Ding and C.L. He	4241
Effect of Nanometer Calcium and Magnesium Oxides Addition on the Cast Microstructure Grain Size of Pipeline Steel J.M. Wang, Y. Liu, L.X. Ding and Q.H. Ma	4245
Characterization and Preparation of Cool Wool by Sodium Hypochlorite H.Y. Zhang and X.M. Hu	4249
Optimization and Application of Finish Mills Temperature Control in Hot Strip Mill Q. Guo, B. Zhang, Z. Ling, N.K. Shentu, H. Zhang, Z.Y. He and Y. Zhang	4253
Influence of Various Tin Ion Doped Amount on the Dielectric Properties of BMNS Ceramics X.Y. Huang, M.S. Huang, C.H. Gao and Y. Zuo	4258
Asymmetrical Elementary Excitations Responsible for the Ferrimagnetism in an Antiferromagnetic Spin-1/2 Zigzag Ladder Z.L. Wang, Q. Wu and L.J. Ding	4262
Investigation of Laser Parameters Influence of Color Marking on AISI 304 Stainless Steel C.Z. Li, J.G. Li, Y.F. Zhou, H.R. Xie and Z.Q. Zhu	4268
A First-Principles Study of a New Heusler Alloy L. Feng, F. Wang, Y.X. Han, X.W. Fan and J.F. Liu	4272
A New Titanium-Based Heusler Alloy L. Feng, F. Wang, J. Gao, Y.G. Fan and X.N. Deng	4276
The Design and Implementation of Aluminum Melt Filtration System Y.B. Ben	4280
Influence of Al Composition on Donor Impurity States in Self-Formed GaAs-Al_xGa_{1-x}As Quantum Rings G.X. Wang and X.Z. Duan	4284
Semiconductor Manufacturing Math Model Based on Analytic Hierarchy Process C.J. Xiao, J.B. Huang and Y. Jin	4290
Effects of Velvet Antler Polypeptide-Collagen/Chitosan Materials on Proliferation of Osteoblast W.H. Zhu, J.J. Xu, W. Zhang, Y. Li, X.J. Lu and S.J. Lv	4295
Application of Soft Magnetic Composite Material in the Field of Electrical Machines X.B. Li, J. Zhao and Z. Chen	4299
A Study of Structure and Thermal Parameters of Biomedical Used Ni₂₀Pd₈₀ Alloy Y.J. Zhang and L.X. Li	4303
Theoretical Investigation of Product Channels in the CH₃O₂ Plus CN Reaction T.C. Xiang and H.Y. Si	4307
Research on Cladding Process of Metal Powder during Laser Additive Manufacturing K. Zhang, X.M. Zhang and X.F. Shang	4311
Laser Transmission Technology of Laser Additive Manufacturing K. Zhang, X.F. Shang and L. Wang	4315
Analysis of the Development and Application of Rigid Polyurethane Foam Material J.S. Liu	4319
Combustion Synthesis of TiB₂-TiC Ceramic S. Li, J.S. Li, F. Zhao and M.Y. Wang	4323
Numerical Simulation of the Thermal Behavior during Laser Metal Deposition Shaping Technology K. Zhang, L. Wang and X.M. Zhang	4327
Continuous Plane Method Design Conical Surface Artifacts M.H. Liang, S.Y. Wang, Z.M. Yang and Y. Wang	4332

Seagull in Wind Turbine Airfoil Blade Design Application Bionic H. Xin, C.H. Zhang, Q.G. Zhang and P. Wang	4336
Waterborne Epoxy/Alkyd Resin Insulation Coatings Modified by Siloxane J.G. Gao, X.J. Wu and C. Tian	4340
Research on Hybrid UV-Curing G-POSS/Epoxy Resin /Unsaturated Polyester Insulation Nanocomposites J.G. Gao and G.X. Hou	4344
Evaluation of the Stability and Precision of Powder Delivery during Laser Additive Manufacturing K. Zhang, L. Wang and X.F. Shang	4348
Predict the Strong Binding Ability Polypeptide of Human α-Enolase with the HLA-DRB1 * 0401 R. Jie, Q. Zhou, J.S. Wang, Y.H. Liang, T.T. Liao, J.H. Yu, D.L. Liu and H. Geng	4353
Fuel Optimal Trajectories for Low-Thrust Orbit Transfer Y. Zhou, Y. Yan, X. Huang and Z.L. Zhu	4359
A Study and Discussion on Defects Classification of Electrode Coating of Li-Ion Power Battery L. Han, W.Z. Lu, Y.M. Liu, J. Shen, Y.F. Hao and F. Xiao	4364
The Research and Practice of Heated-Wind Circulating and Shock Drying Method for Li-Ion Power Battery Electrode L. Han, W.Z. Lu, S.W. Wang, J. Shen, Y.F. Hao and F. Xiao	4368
Microstructure Evolution and Mechanical Properties of Mg-2.5Zn-0.5Y Alloy L. Zhang, Z. Liu and P.L. Mao	4372
Research of Shielding Effectiveness of Metallic Experiment Box Based on Modal Method of Moments G.S. Xia and C. Zhou	4376
Research on Scheme of the Continuous Casting Slab Internal Quality Inspection Based on BP Neural Network X. Li, J. Sun and X.F. Xie	4383
Testing Research of Physical and Mechanical Properties of Snows on Railroad Switch C.Y. Mu, B. Feng, M.G. Sui and A.M. Wang	4387
Research on the Trends of Photonic Crystal Polarization Maintaining Fibers C.Y. Zhang and T.F. Shi	4391
Analysis of the Rate Constant for Hydration Kinetics of the Cement and Ash Fly in the Solidified Residues System Based on the Measurement of $\text{Ca}(\text{OH})_2$ Q. Li, X.J. Zhou and K.W. Sun	4395
Research on the Finite Element Method of Reinforced Concrete Member in Bending Oblique Section Bearing Capacity K. Li and L.H. Zhang	4400

Chapter 10: Information Technology in Management Engineering, Logistics, Economics, Finance, Assessment

Empirical Research of Portfolio Selection under M-SAD Model P. Zhang and J.Y. Zhou	4409
Game Analysis of Photovoltaic Enterprise Competitive Strategy Based on Technology Innovation H.J. Geng and R.J. Zhang	4413
Supply Chain Financing Model: Based on China's Agricultural Products Supply Chain T.R. Wang, Q.G. Lan and Y.Z. Chu	4417
The Market Application Analysis of CAPM Model P. Zhang and X.H. Meng	4422
Guarantee Industries Credit Evaluation Research of Risk Management Perspective Y. Fang, H.J. Ren and L.X. Li	4426
A Review of Manganese Ore Beneficiation Situation and Development P. Ding, Q.J. Liu and W.H. Pang	4431
Risk Assessment on Beijing Urban Infrastructure Vulnerability Q.L. Jia, P.F. Bai and Q.Q. Duan	4434

Research on Implementation Plan of 5S Management C.J. Xu	4440
Analysis on the Importance of Preliminary Work Based on Engineering Fixity Y.T. Ma and C.J. Ma	4444
Impact of Indirect Network Effect between Two Sides on the Diffusion and Pricing of Platform C. Zhang and W.D. He	4448
Enterprise Merger of Financial Risk Management and Protection H.M. Deng	4452
Energy Consumer Demand Predict of Hebei Province in the Domain of Low-Carbon Economy — Analysis Based on Gray Model GM (1,1) J.Q. Wang and B.L. Li	4456
Service-Oriented Government Building Research Based on the Background of the “New SEZ” J.Q. Wang and B.L. Li	4461
Construction of Army Equipment Support Transformation Demonstration System Based on Integration Z.B. Zhao, H.Q. Zhang, C.L. Chen and O. Qi	4466
Risk Management Research of Financial Market Based on Dynamic Copula Model Y.X. Chai, Y.L. Xu and D. Liu	4472
A Novel Approach to Visualize Co-Authorship and Co-Contribution of Research M. Jing and X.Q. Li	4476
A Study of Forest Health Assessment Based on Fortran Program for <i>Larix principis-rupprechtii</i> Plantation in Eastern Inner Mongolia, China Y.R. Guo, B.G. Wu, Y. Liu and S. Cai	4480
The Impacts of Sports Medical Projects on the Improvement of Grassroots' Physical Fitness Y.Q. Wei and Z.F. Huang	4484
Research on the Establishment of Psychology Teaching Mode Based on IT Multidimensional Interaction S.H. Li	4488
Scope Changes Impact on Book Performance of Consolidated Financial Statements L.F. Xia	4494
Effect Evaluation of Experiment Teaching Based on Grey Evaluation Method L. Zhou	4500
Research on the Freight Station Layout M. Du, Y. Qin, Z.Y. Wang, Z.X. Zhao, H.F. Yu and H. Jiang	4506
Liquid Chemicals in Bulk Security Operations Guide S.Z. Deng and Z.X. Zhou	4511
The Efficiency Analysis of R&D Activities for Listed High Technology Enterprises in Western China Z.X. Ma, P.P. Li and R. Yi	4516
On the Existence of "Giffen Goods" again S. Yu	4521
Risk Assessment of Cascading Failure Based on Serious Failure Analysis W.W. Tu, Y. Zeng, P. Li and H. Huang	4525
One-Factor and Two-Factor Dynamic Hedging of Futures Contracts with Different Maturities for Emissions Allowances C. Kai and Z. Yu	4529
Multi-Asset Option Pricing Based on Exponential Lévy Process N. Liu, M.L. Wang and X.B. Lü	4537
Tickets Sales Policy for Two-Stage Fares Airline Considering Unidirectional Substitution of Cabin and Swapping Applications F.C. Wang, Z.X. Mo and C. Li	4541
Research on Competitive Strategies of Telecom Operators in Post-3G Era Based on Industry Chain Value Stream W. Zhong, J.M. Wang and Y. Zhang	4547
Empirical Analysis on Farmers' Mortgage Willingness to the Land Management Right and its Influencing Factors L.H. Yu, Q.G. Lan and C.W. Li	4552

Container Ship Investment Based on Real Option S.Q. Yu, B. Ji and J.H. Chen	4557
Promoting Hotel Managerial and Operational Level with New Technology Y.P. Li, Y.Q. Xie and C. Huang	4562
Coordination of the Closed Loop Supply Chain with Retailers' Competition T. Wang	4566
Research on Sustainable Development Strategies of the Agriculture Y.N. Zhao and Y.Q. Sun	4570
Empirical Research on the Development of Regional Service Industry under the Perspective of Generalized Virtual Economy Z.X. Mo, C. Li and X. Chen	4574
Pricing Strategy of Cruise Companies H.S. Tan and Y. Yang	4579
Industrial Synergy Mechanism and Operation Mode Research Based on the Retail Industry H.Q. Min and C. Xu	4583
The Effectiveness of Public Hospital Governance Model Evaluation and Analysis J.H. Yang, J. Zhao and Y.K. Zhai	4587
The Accounting Information on Construction Enterprises W. Zhu and Y.P. Cao	4590
Research on the Credit Management of Commercial Banks of Lianyungang City for the SMEs J.Y. Chen and S.P. Han	4595
Bargaining in a Push Supply Chain System under Partial Cross Ownership J.G. Chen and Q.Y. Hu	4600
Study on Inspection and Adjustment of Engineering Construction Project Schedule Plan H. Lv, L.H. Zhang and S.W. Xu	4604
Public Participatory Risk Mapping for Community-Based Urban Disaster Mitigation L. Jing, X.M. Liu and L. Gang	4609
Research on Measures to Promote Mechanical Safety W.L. Liu and H. Zhang	4614
The Strategy Cooperation Research of Enterprise under the Internet Environment H.G. Wu	4619
Mechanism and Framework of Entrepreneurial Opportunity Identification: A Cognitive Information Processing Perspective Y.K. Zhang and X.R. Zhang	4623
Study on Sustainable Development of Highway Traffic in China C.M. Zhang, M. Zhao and L.L. Zhai	4628
E-Portfolio: The Research for Similarities and Differences J. Ma	4632
The Risk Management Framework of Aero-Product Development Based on PMBOK W. Wang, J.D. Wu and D.Y. Wang	4637
An Assembly Scheduling Model for Complex Machine Product S.H. Liu, S.L. Zhang and H.B. Xu	4643
Fire Squadron Rescue Plan Management System Design S.X. Zhang	4647
The Research on Information Management System Construction of Trust Company B. Meng, D. Han and J. Zhu	4651
Design and Empirical Studies of Modern Distance Education Quality Evaluation System G.C. Lun	4654
Optimization Design for Petrochemical Data Operation Cost Management System H.Q. Shao, W. Bin and Y.H. Liu	4658
Analysis of Agricultural Products Quality Management Information System in Zhejiang H.T. Qian, X.Y. Huang, Z.Y. Bao and X.H. Ye	4663
Research and Design of University Logistics Management System Based on J2EE M.J. Wang	4667
The Design and Implementation of GIS Logistics Distribution System Considering Traffic Information X.F. Zhu, T. Liu and P.L. Qiao	4671

Research on Financial Management Method of Fixed Assets of Large Enterprise Based on Computer Information Technology W.H. Xia	4676
Analysis of the Application of Coalfield Geological Information Resources Management Based on GIS Technology Q.S. He and F.G. Zeng	4681
The Construction of Agricultural Information Service Support and Information Management System X.J. Niu and J. Xu	4686
Research of Computational Intelligence Logistics Distribution Management System Based on Internet J.H. Zhang, Z. Zhang and Z. Ge	4690
The Research of Educational Resource Management System Based on Cloud Computing G. Zhao, Q.X. Ye and L.J. Chen	4695
Patent Pledge Evaluation Model Construction Based on the AHP Y. Yu and J. Li	4700
A Probe on the SOA Solutions to the Systems of ERP, CRM and SCM in a Modern Media Group T.T. Wang and Z. Mao	4705
The Design and Implementation of Distributed Fingerprint Attendance System X.M. Gong and J.P. Cao	4712
PSO and OCCI-Based Grid Maintenance Scheduling Management and Optimization System Q. Liu, W.Y. Liu and G.H. Gao	4716
Study of Insurance Information Base on Data Mining J. Yu and Y. Yan	4720
Design on Sports Meeting Management System of University Based on .NET Framework A.B. Wang, H.T. Ma and X. Li	4724
Database Design of Merchandise Management System Based on SQL Server F.J. Zeng, H. Li and L. Ding	4728
The Evolution of Adaptive IT Capability Based on Agent-Based Simulation: From Routines Perspective B. Bai and Z.Q. Guo	4732
Supply Chain Scheduling on a Single Machine with Availability Constraint J. Fan	4736
Evaluation of Electronic Products OEM Industry Supply Chain Risk Based on Fuzzy Influence Diagram X.F. Zhou, H. Lv and S.W. Xu	4740
A Graphic Simulation System for Stored Grain Management L. Sun and Z.S. Zhu	4745
A Bayesian Network Model for Aeration Management of Stored Grain L. Sun and Z.S. Zhu	4751
USE Support Vector Machine to Research on Livestock Production Prediction in Heilongjiang Province T. Yang and L.C. Xia	4757
An Improved Distribution Network Reconfiguration Algorithm Based on Niche Discrete PSO S.H. Chen, L. Chen and Y. Chen	4762
Study on Utilizing Customer Reviews through Knowledge Integration Approach B. Ma, T.T. Yuan and C. Chen	4767
Research and Design on B2B E-Commerce Supply Chain Management System H. Tan	4771
Integrated Scheduling Optimization of Handling Operations in Container Terminal J.F. Qian, X.N. Zhu and Z.D. Liu	4775
New Logistics System with E-Commerce and Cloud Computing Technology C.L. Yang	4782
Multi-Stages Index Tracking Optimization Model with Real-World Constraints Using PSO-DE Hybrid Algorithm Y.L. Gao and L.N. Yan	4786

Construction of Library Management System Based on Neural Network Theory X.Y. Wang and Q.S. Zhang	4792
Construction of the Library Management System Based on Data Warehouse and OLAP M.L. Xu and X.Y. Li	4796
A Semantic-Driven Framework for Enterprise Integration G.Y. Jin, F.Z. Lv and Z.Q. Xiang	4800
A Mathematical Model of Foreign Trade Enterprise Consolidated Financial Statement X.F. Zhu	4804
Mean-Variance Model for Optimal Multinational Project Adjustment and Selection X.L. Su and X.X. Huang	4809
Research and Simulation of Supply Chain Disruption Based on Contract Q. Lian and S.L. Jia	4815
The Application and Research of Warehouse Information Intelligent Management Based on Cloud Computing C.L. Li and H. Shi	4823
The Loess Slope Stability Study S.Q. Xu and T. Zhao	4827

Chapter 11: Related Themes

Electron and Hole Levels in Rectangular Quantum Wires G.X. Wang and X.Z. Duan	4833
Electron in a Quantum Wire in the Presence of Parallel and Perpendicular Magnetic Fields X.Z. Duan and G.X. Wang	4837
Magnetic Field Effect on the Binding Energy of a Hydrogenic Donor Impurity in Cylindrical Quantum Ring G.X. Wang and X.Z. Duan	4841
The Quantum Melting Transitions with the Magnetic Field in Weakly Disordered Josephson Junction Arrays Z.G. Zhao, C.L. Dai and L.W. Zeng	4845
The Construction and Simulation Analysis of Three-Qubit Hxx Chain Refrigerator Based on Quantum Entangled States X.K. Huang	4849
Analysis on the Effect of Low Carbon Building on Ecological Urban Construction Y. Yang	4856
Research on the Civil Engineering and Architecture Based on Thermodynamics K. Li and S.F. Zhao	4862
Impacts of Community Sports Station on the Sports Activities of Elderly People H. Fu	4868
Research on the Optimization of Flexibility Selection of Limb Aesthetics in the Dance Movements Based on Dynamics and Geometry Morphology G.L. Yu	4872
The Ideological and Political Education Quality Assessment System Based on Multivariable Decision-Making B. Xue	4877
Preliminary Discussion on the Constructive Meaning of Fitness Project for Peasants X.C. Zhang	4881