

Table of Contents

Preface and Conference Organization

Chapter 1: Measurement Science, Methods and Techniques of Measurements

A Method of Test Point Optimization Selection for Analog Circuits Z.Q. Li, X.F. Wang, S.N. Zhang and J.M. Liu	3
Analysis of Resistivity Characteristics of Sediments in Northwestern of South Yellow Sea Z.J. Ding, B.H. Liu, W. Gao and X.M. Meng	8
Analysis of the Formation Mechanism of Crack Network in Shale by CT Q.H. Sun, J.G. Deng, Z. Chen, Y.M. Xu, H.L. Yang and H.L. Liu	12
Bearing Replacement Monitoring Technology of Rail Transit Bridge in Beijing R.J. Li, R.L. Shan, S.H. Bai, X.J. Wu and J.F. Han	19
Bending Curvature Measurement Based on Fiber Optic Technology and its Applications in High Voltage Switch Y.S. Sun, J.Y. Zhong, Z. Wang, W.T. Zhang and H.T. Di	26
Characterization of a Magnetic Field Probe for Electromagnetic Interference Current Measurement F. Li, W.X. Fang, L. Lei, Y. Liu and C.L. Shi	30
Displacement Measurement of Supporting Structure in Foundation Pit by White Light Digital Image Analysis in Frequency Domain J.J. Li, S.Z. Yang and Y.F. Li	36
Internet System of Cognitive Diagnosis Measurement for Mixed Scoring S-P Chart and its Applications Y.H. Lin and J.M. Yih	40
Laser On-Line Thickness Measurement Technology Based on Judgment and Wavelet De-Noising Q.Q. Xu, G. Chen, X.F. Zhu, A.C. Xu and H. Yang	45
Laser Wave-Front Measuring Based on Quadri-Wave Lateral Shearing Interferometry J. Ren, X.J. Luo, A.L. Xia and Y. Zhang	50
Measurement Method of Phase Characteristics for High Frequency Pulse Tube Cryocooler S.S. Li	55
Novel Methods for Void Fraction Measurements by Means of Single-Beam Gamma-Densitometry J.J. Li, C.Q. Yan and X.C. Li	59
Studies on the Optical Measuring System for Grape Stem Diameter M.J. Wang and J. Zhou	65
Study of Optical Coherence Theory in Measurement S. Kang and G.Y. Luo	71
Study on Random-Fuzzy Variables Method for ADC Measurement Uncertainty Evaluation W. Jiang and Q. Zhang	76
The AC Multi-Harmonic Magnetic Susceptibility Measurement Setup at the LNF-INFN S.H. Wang, A. Marcelli, D.D. Gioacchino and Z.Y. Wu	82
The Analysis of Solar Storms' Influence on GPS Measurement Errors L.Y. Cao and G.W. Lan	90
The Calculation Method of Particles Diameter of Three Typical Bulk Materials Based on Experimental Study Z.Q. Liu, G. Li and Z.Y. Bai	96
The Displacement Measurement of Ground Wind Loads for Launch Vehicle T. Wang, Z.H. Huang, H. Zhang and B. Zheng	100
The Relations between UT1 Precision and Radio Source Sky-Coverage J.N. Gao, Z.B. Zhang and S.Z. Wang	106

The Research of GPS Elevation Fitting Considering the Influence of Covariance Function L.L. Liu, T.X. Zhang, M. Zhou, L. He and L.K. Huang	114
Enabling Standardization in Shear Bond Strength Tests for Orthodontic Adhesives on Natural Teeth by Using an Innovative Grip Accessory for the Testing Machine A.S. Mesaros, G. Furtos, M.F. Mesaros and M.E. Badea	121
Knock Detection and Evaluation of Kerosene Piston Engine P.Z. Zhang, J.G. Mao, H.Q. Wang, X. Liang, S.F. Wang and T.T. Wei	126
Correction of the Popular Bias Test Method Recommended by ISO/TS16949 for Manufacturing Industries S.Y.F. Yang	131
The Oxygen Concentration Measurement of an Aircraft Fuel Tank Inerting System Y. Cai and G.P. Lin	137
Multi-Agent Fault Diagnosis Methods Based on Information Fusion P.L. Lv and G.S. Chen	141
Simulation Research of Charged Particle Discrimination Methods J.T. Zhu, G.F. Liu, J. Yang and L. Zhang	146

Chapter 2: Signal Acquisition and Data Processing Techniques

A Method for Weak Multi-Frequency Signal Feature Extraction Based on Chaotic Duffing Oscillator H.Z. Lu, Z.H. Lai and T.H. Wu	155
A Realization of Large Capacity, High-Speed Data Acquisition and Storage System M. Xie, F.H. Zhao and G.P. Tang	162
An Algorithm of Improving Least-Square Method on Tracing Accuracy of Bistatic Sonar System Y. Sun and J.W. Zhao	168
Analysis of Energy Loss-Gain Error in Discrete Fourier Transform Y.L. Liu, F. Han, Z. Liu and M.C. Zhai	172
Analysis of the Impact on Doppler Frequency Shift of the Signal Caused by Receiver's High Dynamic Environment X.J. Du, W.B. Zhang and S.B. Wang	176
Analysis of Tracking Performance about DS/FH TT&C Based on Ambiguity Function S. Liang, Y.Y. Wei, G.F. Pan, Y. Xie and J. Xue	180
Balanced Biorthogonal Multiwavelet with Symmetric/Antisymmetric Filter Banks Q.Y. Zou and Q. Cao	185
Comments on Errors of DFT Spectrum F. Han, Y.L. Liu, Z. Liu and H.D. Zeng	189
Design and Implementation of a High-Speed LVDS Data Acquisition System Based on Virtex-5 FPGA Q. Wu, G. Wang and X.W. Li	193
Detection of Earth's Free Oscillations Stimulated by the Mw8.3 Okhotsk Sea Earthquake in 2013 Based on Observational Data of Water-Tube Tiltmeters in Shaanxi Province X.Y. Shao, Y.C. Wang and X.C. Xing	198
Development of Data Acquisition and Control System with High Speed and Long Distance L.H. Zhao, X.F. He, L.J. Luo and X.W. Yan	203
Investigation on Spectral Aliasing Error Resulted from Truncating Signals Incoherently H. Zhang, F. Han, X.Y. Bao and H.Y. Mao	208
Method for Active Radar Seeker to Suppress Convolution Modulation Smart Jamming S.S. Jin, C.Y. Wang, X. Li, X.F. Zhang and Y.X. Sun	212
Multicomponent Signal Detection and Parameter Estimation Algorithm of Synchronization Nyquist Folding Receiver R. Li and D.R. Chen	218
Rapid Power Quality Detection Based on Generalized HS-Transform G.Q. Liu and L.N. Wu	223
Semiparametric Regression Analysis on the AB Data with Zero-Point Drift Y. Tian and J. Luo	227

Signatures Extraction of Ship Radiated Noise Based on Passive Sonar H.J. Wang, R.J. Yang and J.H. Han	233
Speech Aerodynamics Parameter Extraction Platform S.L. Lv, Y.S. Jin and X.R. Chen	238
Split Train-Induced Vibration and Seismic Wave Using Independent Component Analysis W.X. Jiang, H.Y. Yu and L.L. Xie	243
The Functional Study of Artificial Heart Valve Based on HHT B.B. Liu, K.L. Zhou, C. Ye and M.L. Zhang	249
The Training Algorithm of Fuzzy Coupled Hidden Markov Models S.P. Du, J. Wang and Y.M. Wei	254
Weak Signal Detection Method in a Stronger Noise Background J. Wang and J.M. Bai	260
Non-Uniformity Correction Algorithm Research Based on One FPGA Processor Q. Wu, H. Liu and X.W. Li	265
Harmonic Detection in Micro-Grid Based on Modified S-Transform G.Q. Liu and L.N. Wu	270
Lifting Wavelet Detection Method of Transient Power Quality Disturbance for Power System Connected with Micro Grid P. Qian, Y.J. Wang, Y.Z. Ye and J.S. Liu	274
The Equipment Maintenance Technology Research Based on Information Y.B. Zhang, J.H. Ma and D.Q. Guo	278
Objective Speech Quality Evaluation Based on Matlab J.X. Wang and S.L. Dong	284
Crustal Thickness of Chinese Mainland Inversed by GOCE Satellite Gravity Data H.J. Xu, H.R. Duan and J.Y. Zhou	288
A Regional Zenith Tropospheric Correction Model over Southern California Area L.L. Liu, M. Zhou, T.X. Zhang and L.K. Huang	292

Chapter 3: Research and Design of Measurement Instruments

A New Kind of Water-Squirting Ultrasonic Detector Y.C. Gao, X. Gao, H.J. Xu, Y.M. Wang and L.C. Zhen	299
A RLG POS Development and Application in Motion Compensation of Airborne InSAR W.J. Wang, J.L. Li, J.C. Fang and L.D. Wei	304
A Study of Composite Flow Meter Based on the Theory of Electromagnetic and Ultrasonic X.T. Zhang, Q.M. Mao, Z.G. Nie, Z.W. Huang and W.X. Shen	309
Battery Powered Electromagnetic Flow Meter with Locally Shrunk Measurement Pipe T.J. Liu and M. Zhou	315
CCD Camera Calibration Technology Based on the Translation of Coordinate Measuring Machine F.S. Huang and L. Chen	320
Cloud Particles Image Playback Design R.L. Jiao and C. Li	326
Design and Implementation of High Precision Online Thickness Gauge by Laser Displacement Sensor P. He, M. Wang, C. Liu and Y. Li	331
Design of 10.2299MHz Frequency Source Based on AD9854 G.Y. Wang, Y. Liu, X.H. Li and W.L. Wang	336
Design of Dual High Precision High Resolution Frequency Synthesizer Based on AD9854 R.S. Fan, Y. Wang, J.J. Yang and Z. Wang	340
Design of Dual High Precision Power Signal Generator Based on AD9854 R.S. Fan, Y. Wang, J.J. Yang and Z. Wang	344
Design of Rehabilitation System of Linux-Based Embedded Stroke L. Zhu and X.L. Tian	349
Development of a Novel High Voltage Cable Head Positioner for Scribing and Cutting F.Y. Zhu, Z.H. Lu, H.J. Ni and X.X. Wang	355

Development of Stimulator Based on Audio-Visual Feedback Signal D.H. Zhang, X.L. Xu and X.D. Guo	359
Gas-Liquid Two-Phase Flow Detection Techniques Based on Internal and External Tube Differential Pressure Flowmeter L.L. Pang, H.C. Dong, Y. Shi and L.D. Fang	363
Key Technologies for Ground Pressure Monitoring System H.J. Liang and B.T. Li	370
Magnetometers Correction and Magnetometers-Aided MINS Systems Based on LabWindows/CVI and MATLAB L. Wang, X.C. Li, C.J. Li and S.B. Zhang	374
Research on the Networked and Smart Interface Standards for Underground Water Monitoring Y. Shi, J.H. Feng, A.J. Yuan, L.L. Pang and G.H. Wei	380
Study on Key Parameters of Ft-IMS Based on Simulation D.F. Liu, K. Ni, X.G. Zhang and X.H. Wang	388
Study on Measuring the Resonant Frequency of Air Core Transformer on Mass Spectrometer with a Test Coil K. Ni, X. Yan, Q. Yu, Z.H. Shi, X.Q. Lu and X.H. Wang	395
A Iteration Processing Algorithm for Multi-Wavelength Pyrometer J. Xing, S.L. Cui and Y.D. Shi	401
A Novel Compensation Method for FOG Temperature Drift Based on TUKF Y. Li, B.Q. Hu, F. Zha and K.L. Li	405
Accurate Capacitance Extraction in Equivalent Capacitor Substitution Method (ECSM) for Monopole Antenna Calibration Z.F. Song and M. Xie	411
An Automated Measurement Method for High Speed Serial Data Validation G.Y. Jiao and J. Liu	416
Development of Portable Electronic Nose for VOC Detection G.L. Zhang, X.M. Zhang, J.J. Jin, P.F. Zhou and J.J. Tong	420
Performance Test and Simulation on Broadband PAA Transducer for Pipeline Detection J.J. Chen, B.B. Zou and R.T. Wang	424
Study on the Method of Establishing Standardized Testing System in Marine Sounding Sonar Y.F. Cao, W.J. Ni, Y.Y. Chen and L. Qin	428
Study on the Motor Vibration Based on LabVIEW and FFT Y.C. Liang, Y.C. Li and J.Q. Wang	433
Fault Analysis of Smart Meter Based on Metering Chip Failure Analysis X. Yang, P.H. Zhang, S. Chen, C.Y. Li, Y.T. Wang and H.Q. Li	437
An IP Based Audio Test Network for Tunnel Application B.Y. Hu, H.L. Teng, X.F. Zhang, L. Bai and K.F. Wu	441
Analysis and Application on Performance Testing System for Magnetic Latching Relay Used in Smart Meter S. Chen, P.H. Zhang, Y. Xue, F.Q. Jia, S.Y. Chen and J.J. Xu	448
Based on Adaptive Notch Filter Design of Underwater Acoustic Transponder for Seismic Exploration in Shallow Sea C.X. Lv, H. Mu and L. Li	452
Design of Fault Diagnosis Vehicle Terminal Based on ARM11 Z.S. Dong and H. Wang	457
Initial Alignment of SINS in the Measurement System of Pipeline Position Based on SUKF H. Li and P. Jin	464
A Perimeter Intrusion Detection System (PIDS) Based on Sensor Network C.X. Liu and F.Y. Xie	468
CS Optical Pumping Magnetic Sensor Spectrum Lamp Drive Circuit Design Based on PI Feedback Controller C. Tan, L. Fang and X. Bai	473
Research on the Test Methods of Electronic Voltage Transformer under Complex Field Environment H.Y. Yang	478

Detection Method of Optical Fiber Connector Internal Parts Based on Machine Vision B.H. Shi and Y.H. Wei	483
High-Speed Storage Technology Applying to Photoelectric Theodolite J.J. Li, Z.Y. Li, D.P.G. Yang and Q.X. Cheng	489
The Research of Recognition System for Upper Limb Posture Based on 3-Axis Accelerometer and Gyroscope X. Cai, C. Xia, Y.B. Zhang, S. Chen, X. Tao and F.G. Zhu	493
The Design and Application of Multiplex Ground Temperature Detection System of Low Power Consumption Based on CAN Bus J.M. Liu, X.Q. Yao and P.P. Liu	497

Chapter 4: Sensors Technology

A Practical Approach to Provide Security in IEEE 802.15.4 Wireless Sensor Network H. Lin	503
A Security System Design of WSN Based on Nodes Identification J.F. Jiang, J.F. Jiang and X. Zhang	508
A Semantic-Based Routing Algorithm for Hierarchical WSNs Z.P. Du and J.F. Jiang	514
A Surface Plasmon Resonance Biosensor for the Determination of Salmonella Y.R. Yan, P.H. Lei, Y. Zhang, W. Cheng and S.J. Ding	519
Analysis for Packet Dropout in State Estimation Problem over Sensor Network B.F. Wang	523
Design and Implementation of Reconnaissance Monitoring System in Battlefield X.H. Fu, J. Shen and B.G. Luo	528
Design of an Inclination Sensor with High-Resolution Based on MEMS Accelerometer Q.F. Zhou and M.L. Xu	533
Development of a Gas Flow Sensor Based on FS5 Hot-Film Probe L. Yang and J.Q. Yang	537
Electrochemical Property of Graphene Oxide/Nafion/AuNPs Nanocomposite in Electrochemical Sensor J.B. Li, Y.R. Yan, B. Shen, Y.G. Li, W. Cheng and S.J. Ding	542
Establishing Different Pairwise Keys Based-On LEACH for Securing Wireless Sensor Networks Y.L. Cui	546
Fast Gaussian Mixture Probability Hypothesis Density Filter W.H. Wu, J. Jiang, C.Y. Liu and X.H. Fan	550
Glideslope Distortion Correction Based on the Fusion of Multi-Navigation Sensors C. Xiao and J.H. Feng	557
MAP-NPS: A Novel Media Access Protocol Based on Node Pair Sequencing for Underwater Acoustic Networks S.Q. Wang, D.J. Sun and Y.W. Zhang	561
Piecewise Linear Response Based on CMV4000 Image Sensor Y.Y. Meng, X.D. Hu and D.L. Yang	568
Wireless Sensor Networks Deployment Based on Monte Carlo Method Q.W. Xin and D.Y. Fang	573
Simulation Study on Characteristics of Nonlinear Photonic Crystal W.L. Zhao and L. Zhao	577
Model Analysis of Underwater Acoustic Sensing with Hollow-Core Photonic Bandgap Fiber A. Abdallah, C.Z. Zhang and Z. Zhong	581
Application of FIR Real-Time Filtering in Fiber-Optic Current Sensor Y.Y. Li, J.T. Xu, H. Cao and X.J. Yang	590
Clustering Routing Algorithm Ant Colony Optimization-Based for Wireless Sensor Network J.Y. Zhang and D.Y. Chen	594
The Camera Lens Design of 3D Low Light Level Color Night Vision System J. Li, Z.H. Liu and C. Mei	598

Design Method of Redundant Node in Zigbee Wireless Sensor Network L.H. Sun	604
Density-Based Energy-Efficient Unequal Clustering J.M. Pan and Q.H. Shi	608

Chapter 5: Image and Video Processing

A Method for Artificial Mark Recognition in Augmented Reality System J.Z. Xie, K. Liao, J.L. Xiong and Z.H. Wang	617
A Novel Vector Map Watermarking Evaluation Based on Electronic Chart M.Z. Lai and G.Y. Zhang	622
A Short Review on Mesh Simplification Z.J. Li, Y. Zhou, T. Yun, Z. Feng and S. Zhang	628
A Simple Deformation Approach for Facial Expression Z.J. Li, X.D. Duan, C.R. Wang and S.Z. Bao	634
Edge Detection Using the Multi-Oriented Local Energy H. Zhang, S.Y. Zhang, L.J. Wang and G.Z. Wang	638
Fusion of Visual and Infrared Image Based on NSCT Z.H. Chen, D.X. Zhang, Q. Yan and J.J. Zhang	643
Human Motion Tracking and Alarm System Based on DaVinci Y.Y. Xiong, J. Yang and C. Wang	647
Image Super-Resolution via Low-Rank Representation Z. Li, L. Wang, T. Yu and B.L. Hu	652

Chapter 5: Image and Video Processing

Image Super-Resolution via Saliency Sparse Representation X.J. Zhang and B.L. Hu	659
Night Vision Image Fusion Based on Phase Information Modulation and Image Enhancement Technique J. Zhou, B. Zhai, Y.M. Han, Y.S. Qu and Y.L. Yu	663
Research of Face Recognition Methods Based on Binding Feature Extraction Y. Long, F.R. Liu and G.Q. Qiu	668
Research on Fish Morphology Image Processing and Refinement Algorithm Based on MATLAB Y.L. Zhou and W.L. Wang	672
Research on Intangible Cultural Heritage Based on Motion Capture S.X. Chen and S. Chen	676
Research on True 3D Imaging System Structure and Voxel Construction X.Y. Luo, Y.W. Cao and Y. Yang	681
Rock Classification Based on Image Processing and Neural Networks X.S. Wei, C.L. Rong, J.X. Nan, G.J. Cheng and Y. Liu	685
Study of Human Behavior Recognition Technology Based on DaVinci Processor C. Wang, J. Yang and Y.Y. Xiong	691
Subpixel Edge Detection for Segmentation of the Pulp Fiber Image H.J. Shi, K.L. Zhang and Q.H. Li	696
The Hardware Design on the System of High-Speed Image Gathering Based on FPGA and DSP Y. Tian, C.H. Hu, J.H. Lu and Q.W. Dong	701
View-Invariant Gait Recognition Based on Head and Shoulder Shape Analysis G.Z. Wang, H. Zhang, L.J. Wang and Z.J. Wang	705
Wavelet Based Variational Level Set Approach to Segmentation and Bias Correction for Medical Images J.J. Yuan and J.J. Wang	710
A Novel No-Reference Perceptual Blur Metric C.F. Li, Y.W. Ju and Q.L. Hou	716

Pedestrian Detection and Tracking Based on Fast HOG and Time Varying System Particle Filter	
Z.J. Liang, C.X. Dong Ye, S.S. Zhang and Y. Chen	721
A High-Order Model of TV and its Augmented Lagrangian Algorithm	
L. Tan, W.B. Wei, Z.K. Pan, W.Z. Zhang and J.M. Duan	726
Object Oriented Information Classification of Remote Sensing Image Based on Segmentation and Merging	
X.L. Liu	734
A Novel Approach of Face Detection Based on Double Skin Models and AdaBoost Algorithm	
S.Y. Hou, J.M. Qie and J. Xu	740
Application of Machine Vision Technology on Cereals and Oils Separation Processing Equipment	
S. Meng, Z.K. Li and Y.B. Feng	744
Image Compression Based on Wavelet Transform	
C.L. Yan, Q.C. Deng and X. Zhang	749
Research of Caption Text Security Detection in Video Based on Semantic Orientation	
S.N. Guo and C.H. Jiang	753
Design on System of Badminton Video Base on Target Tracking	
J.Q. Liu	759
Identification of Abnormal Furnace Flame Based Image Processing	
H.L. Cai and K.L. Fang	763
Analysis and Research of Stereo Correspondence Algorithms	
Y.Y. Li, Z.H. Liu and L. Zhou	768

Chapter 6: Artificial Intelligence, Optimization Algorithms and Computational Mathematics

An Evolution Algorithm for Satellite Range Scheduling Problem with Priority Constraint	
Y.Q. Li, R.X. Wang and M.Q. Xu	775
Application of IHA on the Power Grid Task Based on Cloud Computing	
X.Y. Huang, K.L. Shi and Q.Y. Ren	781
Global Path Planning Method for USV System Based on Improved Ant Colony Algorithm	
C.H. Song	785
Hybrid Iterative Approximation Method for a Fixed Point of Nonexpansive Mapping and Equilibrium Problem	
H.X. Zhang, Y. Hao and Z. Hong	789
Introducing Genetic Algorithm as an Intelligent Optimization Technique	
A. Ashkzari and A. Azizi	793
Research of Association Rules Algorithm Based on Matrix under Cloud Computing	
Y.Q. Xiong and S.D. Zhang	798
Semi-Uniform Solution for Common Algorithmic Problem by P System in the Minimally Parallel Mode	
Y.Y. Niu and Z.G. Wang	802
The Research of Algorithm of Optimum Route Calculation in Express Traffic System Based on Time Measure	
K.K. Zhang, H.L. Meng and M.T. Ba	807
Time-Free Solution for QSAT by Using Timed Tissue P Systems	
Y.Y. Niu and Z.G. Wang	812
Research on the GPS Elevation Fitting with RBF Neural Network Model Considering Effects of Sample Data Preprocessing	
L.L. Liu, J.Y. Li, C.H. Cai and G.B. Lin	817
A Survey of Quantum Genetic Algorithm for Combinatorial Optimization Problems	
F.M. Wei, J.P. Zhang, B. Li and J. Yang	822
The Study on User Model Construction Method Based on Ontology	
J.C. Zhao, S.H. Liu, J.X. Guo and Z.F. Qiao	827
Based on Data Fusion Intelligent Traffic Information Analysis and Optimization	
Y.Z. Lu and B. Zhang	831

Product Form Modular Design Based on Genetic Algorithm X.H. Yang, Y.P. Zhu, J. Wang and Y. Kang	835
Identification the Faulty Components in Power Networks Based on Wide Area Information and RBF Neural Network Y. Fang, Z.W. Chang, H. Wu and X.F. Tang	842
Deep Boltzmann Machines Aided Design Based on Genetic Algorithms K. Liu, L.M. Zhang and Y.W. Sun	848
An Effective Community Detection Method Based on Improved Genetic Algorithm L. Wang, Y.Q. Liang, Q.J. Tian, J. Yang, C. Song and Z. Wu	852
Prediction Model Research of Overfeed Sewing Shrinkage Based on BP Neural Network T.H. Xu and H. Sun	858
Individual Civil Building Intelligent Project Design Based on the Agent X. Xu and F. Li	863
Ultra-Short-Term Wind Speed and Power Forecast Based on Dynamic Selective Neural Network Ensemble Y.H. Liu and Z. Dong	868
Application Kohonen Neural Network to MOA Fault Diagnosis H. Guo, X.F. Tang, Z.W. Chang and Y. Fang	874
The Application of SPH Numerical Simulation Method in the Solid High-Speed Collision Z.B. Yang, T.T. Yin and M.H. Pang	879
Application of BP on Hydrological Forecast Model R.J. Zhang, Z.S. Li and F.C. Zhang	883
Research on How to Apply Statistical Process Control in IT Service Management J. Gao and Z.D. Han	887

Chapter 7: Mechatronics and Robotics

Anthropomorphic Optimization of a Rope-Driven Prosthetic Finger Q.M. Li and Y.W. Li	899
Design and Kinematics Analysis of a Novel Planar Parallel Mechanism Y.B. Zhang and H.P. Wang	904
Implementation of Encoder, Foot Sensor and Walk for Imitation Control of Biped Robot Y.F. Cui, J.H. Byun and S.G. Shon	911
Modelling of Full-Actuated Autonomous Underwater Vehicle H.B. Zhang and J. Yuan	917
Research of Trajectory Tracking Algorithms for Industrial Robot C. Liu, X.R. Li and Y.Z. Li	922
Study of Posture Adjustment Strategy for a High-COG Vehicle Climbing a Slope J.L. Gong, Z.G. Lu, Z.Y. Li and Y. Tong	927
Modeling and Simulation of the Dynamical Infrared Radiation of Ballistic Missile in Boost Phase G.Z. Ding, Z.Y. Zhang, L. Wang and Z. Zhang	933
The Impact of Vertical Deflection on the Ballistic Missiles for Direction and Positioning J.Q. Wang and H.L. Wu	938
An Improved Controller Based on Chattering-Free Trajectory-Tracking Control for Underwater Profile Monitoring Vehicle H.B. Zhang and J. Yuan	944
The Performance Study of the Giant Magnetostrictive Actuator Q.J. Meng, C. Yang, X.Y. Wang and H.X. Sun	948
Design of Remote Control Aircraft Model Based on ARM C.X. Chen and Y.H. Mao	954
Direct Navigation Mode and Indirect Navigation Mode for Integrated SINS/GPS K.L. Li, B.Q. Hu, J.D. Gao and Y. Li	958
Initial Attitude Determination of Aerial Platform Based on MIMU X.J. Du, X.Y. Lan and J.Y. Zhai	964
MEMS IMU and GPS/Beidou Integration Navigation System Using Interval Kalman Filter Y. Le, X.F. He and R.Y. Xiao	970

MEMS-SINS/GPS/Magnetometer Integrated Navigation System for Small Unmanned Aerial Vehicles	
C.X. Miao, J.J. Cao and Y.B. Ou	976
Weight Fusion Orbit Determination Method with Multi-Source at Injection Stage	
Y.X. Mao, J.S. Mu, X.Q. Ni, D.A. Zhong and J. Xiang	987
An Advanced Automatic Remote Meter Detection Method Based on Machine Vision	
H. Li, S.J. Liu, K. Wang and X. Liu	994
Architecture Design of Multisystem Satellite Navigation Signal Simulator Base on Software	
Z. Shu and R. Chen	1001
A Research on the Weight of Interactive Multiple Model in Maneuvering Target Tracking	
M.Y. Liu, Y. Li and X.J. Zhang	1008
Aerodynamic Parameter Identification of UAV Based on Output-Error Method	
H.F. Tu and L. Liu	1012
An Antenna Tracking Servo System Based on Particle Filtering	
R. Guo, X.H. Yin and L.Z. Xu	1016
Dynamic Simulation Control Algorithm Based on the Time Domain	
Z.W. Jiang and C.M. Gao	1020
Fuzzy PID Control for Fast-Steering Mirror System	
X.J. Bai and Y.M. Qiao	1026
Research on Adaptive PID Control for Load Simulator with Varying Load	
J. Tian and Y. Chen	1031
Research on the Real-Time Model of Aero-Engine Actuator	
H.C. Li, H.A. Zhang, X.B. Han and J.F. Fu	1036
The Study on the System Dynamics Characteristics of Automatic Variable Transmission	
Y.H. Liu, H.J. Wang, X.Y. Qiu and Y.L. Du	1041
Multiple Microprocessor Neural Network Master-Slave Control System in the Application of the Coaxial Control System	
G.Y. Mao, H.K. Liu, Y.X. Yang and F. Huang	1045
Angle Measurement of Robotic Fish Based on Kalman Filter	
Z.Y. Zhao, Z.H. Hong and Y.S. Deng	1049
Multi-Robot Fish Path Planning Based on the Modified A* Algorithm	
Q. Hong, M.X. Chen and Y.S. Deng	1054
Robotic Fish's Movement Based on Kalman Filter and PID Control	
S.Y. Su, Y.L. Jiang and O.Y. Shi	1059
Study of the Optimal Design for the Gliding Trajectory	
J.J. Wang and J.Q. Yu	1063
Study on Control Algorithm in Servo System of Servo Aimable Warhead	
S.S. Mi, X. Teng and Y. Shao	1068
Coordinate Transformation of the Quadrotor Unmanned Aerial Vehicles's Flight Path	
M. Yao and Q. Sun	1073
The Visual Path Following of Autonomous Catamaran in Oil Spilling	
S.X. Zhang, W.S. Yan, W. Chen and Z.L. Liu	1078

Chapter 8: Control and Automation of Industrial Objects

A LPV Network Control System Fault Detection Based on H_∞ Control Theory	
Z.B. Gao	1085
Application of DMC Algorithm on pH Control of WFGD System	
S.S. Guo and Z. Dong	1090
Generalized Projective Synchronization of Diverse Structures Hyperchaotic Systems with Unknown Parameters	
S.Y. Tao, D. Lin and X.H. Zeng	1095
Pole Placement for Time-Delay Systems with Low-Order Controllers a Parameter Space Approach	
D.J. Wang, Y.J. Fan and W.Q. Shi	1100
Research of the Inverted Pendulum System Based on the Linear Quadratic Optimal Control	
S.F. Qi, H.H. Liu and H.T. Tian	1104

Robust Adaptive Control of Nonlinear Systems with Uncertainties N. Liu, Y.S. Liu and Q. Yang	1108
The Environment Monitoring System of Refuge Cabin and its Simulation Based on Fuzzy-PID Algorithm H.C. Yan, L.J. Li and J.G. Huang	1113
The Framework Base on Bayesian Predictive Filtering Algorithm in VR/AR J. Zhang and W.J. Song	1122
The Overall Training Evaluation of Command and Control System J.Z. Mao, H. Zhang, Y.H. Wang and Y.B. Li	1126
Using DCS to Realize Ball Mill Fuzzy Control System Y.J. Wang	1131
Virtual Reference Feedback Corrective Control Based on the Closed-Loop H.C. Zhou and Z.P. Jiang	1135
Grinding Concentration Cascade Control Method of Ball Mill Based on the Fuzzy Control Theory J.J. Li, Y. Tian, Q.X. Cheng and G. Guo	1139
Design of Automated Catwalks Machine Control System for Offshore Drilling Platform S.F. Qi, S.P. Cheng, W.L. Wang and K. Zhang	1143
Research on Engine Control System Test Based on Airworthiness Standard L. Zhang, N. Yue, S.P. Hou and M. Bai	1147

Chapter 9: Electronics, Integrated Systems and Power Electronics

A 1553B Remote Terminal FPGA Interface Design Based on BU61580 M. Xie, Y. Zhang and G.M. Liu	1155
A Design and Implementation of Video Monitoring System at Smart Home H. Xu, C.H. Fu and Y.J. Yang	1162
Design of Remote Destruction SSD Y. Yu, X. Xu and G. Zheng	1168
Embedded Software Design of Campus Tourism Navigation Based on QT X.W. Han, Y. Zhao, B.Y. Xin and D. Wang	1173
Fault Analysis and Position of the Tree-Phase Grid-Connection Inverter M.N. Li, P. Qian, W.R. Wang and Y.Z. Ye	1177
Free Ordering System Based on Fetion X.D. You, M. Ming, X.J. Zou and Z.Y. Zhang	1182
Research and Implementation of SSD Lifespan Protection Mechanism C. Liu, N. Li and X. Xu	1186
Research on Three-Phase Calibration Method of HV Three-Phase Combined Transformer and its Implementation H.Y. Yang	1191
Simulation Research of Tapered Sidewall Trench Superjunction MOSFETs J. Liu, L. Li, Y.Y. Liu, W.Y. Gao, R. Jin and K.S. Yu	1196
The Research on Static Characteristics of 3300V/50A Planner NPT-IGBT J. Liu, H.L. Bao, J. Liu, G. Zhao, M.C. Gao, R. Jin and K.S. Yu	1201
Transient Analysis for Multi-Conductor Transmission Lines Based on FDTD Method J. Zhang, Q.P. Chen and J. Shi	1207
Proof and Application of Complex Impedance of Inductor and Capacitor S.G. Zhang and X.P. Dang	1213
Research on Multi-Mode Controller of Switching Power Supply S.L. Liu and L.L. Qi	1217
Study on Simplified Model for PV System Based on Functional Equivalence D. Guo and X.J. Liu	1221
Package Design of High Power IGBT Module for Electric Vehicle J. Liu, P. Zhang, X.Z. Liu, H.L. Bao, J.Y. Li, W.G. Liu and R.G. Han	1227
The Voltage Balance Control Strategy of the Sub-Module Capacitor in STATCOM Z.X. Wang, J. Liu, L.J. Xie, H.L. Bao, J.Y. Li and G.P. Guo	1232

Study of Snubber Circuits in the Voltage Source Converter Based on Series-Connected IGBTs	
J. Yang, J. Liu, J.L. Wen, Y.F. Qiu, H.L. Bao, T. Yao, Z.Y. Chen and Z.X. Wang	1238
Research and Application of Chain Type APF Using PI^λ Current Inner-Loop Controller in the Outer Superconducting Magnet	
P. Qian, M. Li, J. Liu, X.N. Liu and Y.Z. Ye	1243
Research on DFT of Digital Circuits Based on IEEE 1149.1 and Based on IEEE 1500	
S.J. Chen, Y.Y. Chen and X.B. Zhu	1248
Design and Simulation of High-Frequency Track Circuit for Rail Transportation Experimental System	
C.H. Hu, Y. Tian, G.R. Zhai and J. He	1253

Chapter 10: Communications Technology

A Beamforming Pilots Scheme for Massive MIMO System	
H. Zhang, D.L. Hao and X.Y. Liu	1259
A High Efficient and Robust Adaptive Coding and Modulation Algorithm for Ka Band Satellite Communications	
X.T. Zheng, J.L. Li and X.R. Wang	1263
A New Channel Assignment Algorithm in Wireless Mesh Network	
J.M. Dai, H.F. Geng and W.J. Zhang	1268
A Novel DSR-Based Protocol for Small Reconnaissance UAV Ad Hoc Network	
J. Li, X.C. Liu, Y.F. Pang and W.W. Zhu	1272
A Precoding Strategy for Massive MIMO System	
H. Zhang, D.L. Hao and X.Y. Liu	1278
A Terrestrial Digital Broadcasting and Positioning System Based on Overlap Communication	
G.C. Wu, Z.X. Yang and W.Z. Xu	1282
An Compensation Method of Polymer Arrayed Waveguide Grating	
Z.K. Qin, J. Song, T.Y. Zhao, Y.H. Wang, C.W. Wang and M.X. Song	1287
Approaches on the Calibration of Laser Diode (LD) Tester	
Z.Q. Zhan, J.W. Xia and L. Yu	1292
Fiber-Optics Data Transmission for a Gyro Stabilized Platform	
D. Han and H.X. Li	1298
Frequency Characteristics and Conversion of Microwave Photons	
L. Zhao and W.L. Zhao	1303
Research on Automatic Technology of Debugging and Assembling Optical Fiber Collimator	
X.H. Wang, Q.X. Zheng, Q. Zhao, L. Li and J.Q. Guo	1307
Research on the Design Method of the Navigation Message for GLONASS Signal Simulator	
H.J. Li, S.S. Feng and X.B. Wu	1312

Chapter 10: Communications Technology

Simulation Research of the Underground Coal Mine Wireless Signal Transmission Characteristics	
J. Wang, Y.H. Wang, A.H. Wang and C.P. Wang	1321
A Triple-Loop Tracking Method for High-Order BOC-Modulated Signals	
H.B. Wu, J.L. Liu and Y.H. Hu	1326
Complexity Evaluation Method of Electromagnetic Environment Oriented to Communication Equipment Based on Statistic Theory	
S.J. Zhang, D.L. Su, J. Wang and R. Wang	1331
Technology Research about Beamforming of Multiple-Beam Array Antenna	
G.F. Pan, S. Liang, H. Xue, G.M. Xu and X.Y. Xu	1336
VMCK Transmission System Design for SDR Applications	
L. Yang, G.X. Zheng, C. Pan and Z.P. Chai	1340
The Single Carrier MIMO System Based on Neural Network Rake Receiver	
Z.C. Jiang and Y.M. Mu	1345

Chapter 11: Computer Networks and Security

Based on Cisco 7603 Routers Achievement IPv4/IPv6 in Campus Network R. Wang, B.P. Zhang and A.M. Sun	1355
Construction of Network Teaching Platform Y.Y. Kou	1360
General Planning Informatization Research Based on Whole Life Cycle of Hydropower Station for Basin Wide Hydropower Development Company H.L. Cai, J.H. Liu and Y.S. Liu	1364
Insider Threat Detection with Behavior-Based Attestation H. Qin and J.H. Zhao	1370
Multi-Task Assignment 0-1 Programming Model and Algorithm Based on the Improved Contract Net Protocol H. Wang, D. Luo, F. Zhang and D.G. Wang	1376
Network Security Management System Based on Digital China W.J. Xu, F.Q. Xu and H.F. Lu	1384
NGI-Oriented Measure and Control System of Agriculture IOT Z. Wu, Y.F. Zhao and Y. Lu	1389
Planning of Network Communication System of Yalong River Basin Hydropower Development Co., LTD H.L. Cai, B. Gu and Z.Y. Wu	1394
Research and Application of ONVIF Protocol in IP Camera H.W. Di, C.Y. Luo and X.C. Cai	1399
Research on Content Distribution Mechanism of MP2P Networks G.Y. Zhang and Y. Liu	1403
Research on the Connectivity of Network L. Sun	1412
Analysis of Security of SCADA System Q.X. Li and L.H. Mu	1417
On Energy Consumption of Network Coding Based Reliability Transmission Mechanism P. Hu and X.Q. Song	1422
Design and Implementation of Network Events Monitoring System C.P. Wang	1430

Chapter 12: Software Development and Application

A New Method for Wax Precipitation Prediction of Waxy Oil Wells and Software Designing R.Y. Sun, C.X. Wang, Y.L. Xuan, Q.Y. Xiong, A.X. Huang, Z.H. Xia and W. Ding	1437
Are Big Classes in Java Bad? the Effect of Classes Size on Software Quality in Java T.J. Zheng and W. Zhang	1443
Design of Simulation and Deduction Software for MC Equipment Tracking Ability Based on MapX and OSG M.Z. Hu, T.S. Yi and J.L. Pan	1447
Formal Approach to Enhance the Reliability of Embedded Software System H.H. Shi and H.P. Shi	1451
Implementation of a Customizable GUI Software Platform for IC Equipment C.X. Wang, M.Z. Liu and A.D. Xu	1455
Software Design of Smart Home Terminal System B.G. Sun, Y.C. Jiang, F.Q. Yang and Z.X. Jin	1459
Study on the Key Technology of the Coastal Waterway Long-Distance Tide Extract and its Software Realization S.P. Wang, Y.F. Li, X.Y. Li and H.B. Qin	1463
The Dynamic Function Calling Path Generation Based on Instrumentation A.P. Xu, Y.M. Mu, Z.H. Zhang and H.L. Li	1469
The Analysis of Function Calling Path in Java Based on Soot M.M. Yan, Y.M. Mu, Y.J. He and A. Liu	1479

Research on Automatic Test Case Generation Framework for Java M.G. Xu, Y.M. Mu, Z.H. Zhang and A. Liu	1488
Generation of Static Function Calling Paths in C++ Based on Finite-State Machine D.F. Liu, Y.M. Mu, Y.J. He and M.T. Liu	1497

Chapter 13: Computer and Information Technologies

A Linux-Based Technical Implementation Model for Data Capturing L. Xu, S.X. Cao and B.H. Tang	1507
A Novel Combinatorial Ant Colony Optimization Algorithm with Detection Zone Rule Y.N. Bai, Y.C. Shi and X.Y. Shi	1511
A Visual Simulation Method for 2-D Complex Situation of Electromagnetic Environment M.Z. Hu, T.S. Yi and J.L. Pan	1516
Analysis of Cloud Calculation and its Realization on Computers S.C. Luo and S. Zhou	1520
Building the Informatization Integrated Service Platform for Ceramic Enterprises Based on SaaS F.B. He, Y.L. Zhang and T.J. Guo	1524
Design and Implementation of the Smart Home App Based on the Android System Y.K. Ma, Y.M. Wei, S. Zhang and W.J. Li	1528
Finding k-Dominant Skyline for Combined Dataset L.G. Dong and X.W. Cui	1534
Optimal Energy Management Strategy for Parallel Scheduling X.L. Li	1539
Recommend Strategies for E-Learning 2.0 Communities B. Wu and C.Y. Zhang	1547
Research on Automated Testing Process Model for UOF/OOXML Translator J.Q. Zheng, Y.M. Mu, Z.H. Zhang and Y.N. Zhang	1551
Semantic Clustering and Similarity Calculation for Social Tagging Systems X.L. Li	1559
Software Design of Personnel Management System in University D.M. Xiao	1565
Study on Decoration System Based on Computer Aided Design J. Liu	1569
The Multilevel Algorithm of Chinese Sentence Similarity X.Q. Zeng	1573
Research on the Key Technology of Personalized Learning for Peasant Based on Wireless Network J.C. Zhao, S.H. Liu, J.X. Guo and Z.F. Qiao	1577
Research of Information Integration Based on XML Schema Matching H.P. Gou, Y.X. Jing and Y.L. Zhu	1581
The Use of Modified Unified Theory of Acceptance and Use of Technology to Predict the Behavioural Intention Toward Website Indrawati	1586
Research and Design on Integrating RFID System in Automotive Manufacture Based on Web Service H.F. Xie, C.Y. Li, G.Q. Zhang and D.L. Su	1593
Analysis on Digital Management of the Universities Library L. Han	1597
An EEG Application Platform's Design and Development Y.Z. Wang, R.Y. Tang, S.H. Yao, G.H. Liang and J. Zhang	1601
Study on the Construction and Property Maintenance Process of Residence Project Based on BIM Technology R. Han, W. Mo and R.X. Jin	1608
System of Intelligent Library Retrieval Based on Data Mining G.C. Xu	1612

The Design of Enterprise Cooperative Platform Based on Workflow M. Qin and S.Q. Qiao	1616
EASYBUS-Bus Monitoring and Searching System S. Ma, X. Gao, B.R. Dong, Q.Q. Wang and H.Y. Sun	1621
Study of Bluetooth Printing Technology Based on Android Phone X.D. You, Z.Y. Zhang, X.J. Zou and H. Pan	1625
Energy Consumption Optimization Model for Cloud Workflow Application Scheduling Y.H. Luo and W.M. Liu	1629
Design Knowledge Retrieval Research Based on Domain Ontology M.J. Zhao and L. Wang	1634
Research on the Situation and Prospect of ICT Application in China Modern Logistics H.S.Y. Deng and C. Fang	1639

Chapter 14: Materials, Mechanical Engineering and Manufacturing

Analysis of Emissions from Selected Wood Charcoal Species Combustion V. Dirner, A. Dobeš and A. Király	1645
Application of Fuzzy Comprehensive Evaluation in Mechanical Design H.W. Chen and R.J. Wang	1649
Composition Study of Amorphous In_xAs_{1-x} Films Prepared by Radio-Frequency Sputtering Y.P. Yao and B.X. Bo	1653
Conduction Properties of SiN Films Depositing by RF Magnetron Sputtering Z.Y. Zhang, J.J. Yang and Y.H. Wu	1658
Experiment and Application Study on the Load-Bearing Properties of Shallow Arch Circular Concrete Filled Steel Tube Support J. Wang and Y.F. Gao	1662
Experimental Research on Photoresist Processing Micro-Structure of SU-8 Y.F. Bu, Z.W. Hou, Q.P. Sun and X.H. Zheng	1667
Nylon 66 / Nomex Composite Yarn Performance Analysis G.Y. Cao, D. Sheng, K. Yang, X.F. Lu and W.L. Xu	1671
Optimization of Oil Pipe Arrangement with Compensation Conditions D.P. Wei, H.Y. Zhao and T.L. Lei	1675
Optimization of Tensile Properties Based on Spin Tool Shoulder Geometry for Friction Stir Welded 6061 Aluminum Alloy M.D. Jean	1680
Stress Distribution Characteristics in Rock Surrounding Heading Face and its Relationship with Temporary Supporting Z.H. Chen	1684
Study on the Modification and Performance of Compressed Natural Gas Engine Q. Zeng	1690
The Development and Characteristics of Electromagnetic Riveting Technology C. Gong, S.L. Wang and M. Jiang	1694
Thermal Cyclic Test Safety and Effectiveness Analysis Method for Astronautic Electronic Products Based on Thermal Simulation Y.T. Su, G.C. Fu, H.T. Gu and M.S. Jia	1698
The Incipient Cavitation Number of Square-Edged Orifice Plate W.J. Wang	1702
Analysis and Improvement of Fan Blades Noise R.J. Wang and H.W. Chen	1706
Effect of Contact Interface Nonlinear Coefficient on Ultrasonic Transducer S.L. Zheng	1710
China Domestic Test and Verification Research of Snow Grip Performance of C1 Tire Based on ECE R117 R.L. Liang, Y. Feng, M.Q. Gao, Z.G. Xu and J.H. Xu	1714
Design of Variable Valve Agency for Gasoline Engine Based on AVLBOOST B. Ma, W. Dong, L. He and P. Sun	1728

Development of Auto Starter Durability Test System Based on PLC J. Li, Y.R. Li and H. Chen	1733
Irradiation System Design of Rotating Painting Ink Curing Based on UV LED R.H. Zhou and X.Y. Tian	1737
Numerical Simulation of Particle Trajectory in Electrostatic Precipitator D.F. Chen, X.D. Yang and H.Y. Xiao	1743
Propagation of 2D Electromagnetic Wave in Lossy Lorentz Media Based on Auxiliary Differential Equation of Finite-Difference Time-Domain Method B.K. Chen and F. Guo	1749
High-Speed Photogrammetry Application for Percussive Rotary Cutting Tests of Deep-Ocean Cobalt-Rich Crusts H. Zheng, S.J. Liu, H.R. Gan and N. Yang	1753
Vessel Anchor Dragging early Warning System Based on Cable Vibration Frequency Analysis Y. Wang, Z.J. Yuan and M. Xu	1757
The Study of 2+1 Dimensional KdV Equation in Non-Uniform Dusty Plasmas X.J. Zhang, J.B. Xue, D.L. Ma and L.P. Zhang	1762
Simulation Study on Seismic Response of Different Rock Structures Z.R. Feng	1766
Research on Raising Load Potentials Using MPCM Slurry Storage G.W. Zhao	1770
Measurement and Numerical Study of Characteristics of an Energy Unit Z.B. Sun	1774
Lens Design of Low Light Level Night Vision Objective Optical System Y. Chen, C.H. Hu, Y.C. Luo and P. Wang	1778

Chapter 15: Fluid Power Transmission and Control

Design and Simulation of Aero-Engine Combination Vortex Fuel Pump J.F. Fu, H.C. Li, J. Li and S.H. Wang	1785
Development on Virtual Experimental System of Hydraulic Transmission D.D. Tang, Y. Liu, Z.W. Min, Y.Q. Zhang, C.B. Yan and T.B. Zhao	1790
Numerical Investigation of Liquid Parameters Effect on the Oscillation of Cavitation Bubble X.M. Liu, B.B. Li, W.H. Li, J. He, J. Lu and X.W. Ni	1794
Research on New Strucural Aero Fuel Centrifugal Pump Design J. Li, H.C. Li, J.F. Fu and S.H. Wang	1801

Chapter 16: Power Engineering

A Coordination Control Method of Generator Out-of-Step Protection Based on WAMS Transient Stability Prediction G.L. Huang, Y.J. Zhang, Z. Chen, P. Zhao, Q. Wang, K. Liu, X.Y. He, K. Gao, Y.T. Song, S.Y. Ma and Y. Xu	1811
Analysis and Comparison of Power Supply Schemes for well Clusters in Gas Gathering and Transmission Engineering L. Zhang and K. Yang	1816
Distributed Energy Resources' Characteristics and its Integration Modes of Active Distribution Network B. Zeng, J.Q. Wen, Y.Y. Zhang, J.H. Zhang, X. Yang and W.X. Liu	1820
Research of a New Power Quality Detection System Based on ARM Y.Q. Peng, F. Wang, J. Zhang, J. Li and D.M. Zhang	1825
Research of Visualized 3d Substation Simulation Based on Virtual Reality Technology F.J. Sun, H. Chen and H.J. Liu	1834
The Design of Digital Medium Frequency Induction Heating Power Supply Based on DSP and FPGA M.J. Sun, J.G. Song and Z.Q. Huang	1839

Vulnerability Assessment and Analysis of Active Distribution Network Structure D.C. Liu, J.H. Zhang, D. Wang, H.N. Li and B. Zeng	1843
Information Management System of Smart Substation Electrical/Optical Cables Based on RFID Technology H.Q. Cheng, P. Qian, M.C. Wu and J.S. Liu	1850

Chapter 17: Transportation

Agent-Based Modelling Simulation Case Study: Assessment of Airport Check-In and Evacuation Process by Considering Group Travel Behaviour of Air Passengers L. Cheng, V. Reddy, C. Fookes and P.K.D.V. Yarlagadda	1859
Analysis of Localizer Over-Bending at Coastal Airport C. Xiao and J.H. Feng	1865
Implement of Handling and Stability Road Test of Passenger Vehicle for ISO Standards R.Q. Guo, L. Yuan and J.Z. Xie	1869
Relationships between Road Safety and Traffic Volume Based on Fuzzy Matter-Element Model S.N. Zhang	1875
The Regional Differences Analysis of Chinese Ports FDI in Theil Index M. Tu, R. Wu and S.Q. Yu	1880
The Research of Hohhot City Integration of Urban and Rural public Transportation Operation Organization Mode C.B. Li, Y. Zhang, M. Li and X.L. Li	1885
The Research of Hohhot in the Integration of Urban and Rural Public Transport Management System C.B. Li, Y. Zhang, R.X. Guo and X.L. Li	1889
Agent-Based Application on Different Boarding Strategies S. Iyigunlu, P. Yarlagadda and C. Fookes	1893

Chapter 18: Biomaterials and Sports Mechanics

A Steroidal Saponin RCE-4 Inhibits Lipopolysaccharide-Stimulated Inflammatory Responses via Blocking PI3K/Akt-Mediated Nf-κB Activation in RAW264.7 Cells C.H. Bai, H.B. He, F. Cheng, K. Zou, J.Z. Wang, G.Y. Liu, W. Deng, Z.F. Chen, X. Chen and J.F. Chen	1901
Chemical Composition and Application as Biomaterials of Essential Oils from <i>Ledum palustre</i> of Changbai Mountain China G. Qu, B.F. Li, H.M. Zhao, F.G. Du, G.R. Sun and R.J. Wang	1907
Effect of Drying Temperature on Quality of Purple Sweet Potato Powder D. Wang, Y. Ma, X.F. Guo, Q.Y. Zheng and X.Y. Zhao	1911
Hepatoprotective Effects of Saponins from <i>Rhizoma panacis majoris</i> on Hepatic Fibrosis Induced by Carbon Tetrachloride in Rats J.H. Zhang, M.Q. Shi, H.B. He, C.H. Bai, J.Z. Wang, F. Cheng, G.Y. Liu, W. Deng, K. Zou and Z.F. Chen	1915
Kinematic Analysis on Jaeger Salto Stretched to Hang on HB of Elite Athlete on Uneven Bars D.X. Xu, J.P. Kang, X.G. Xu and J.H. Zhou	1921
Kinematic Analysis on the Clean and Jerk Action of the Chinese Elite Athlete Zhong Huang Y. Wang, S. Wang and J.H. Zhou	1925
Studies on the Kinematics of Chinese Elite Man Hammer Athlete Throwing Technology C. Jia, C.D. Li, S.Y. Ma and J.H. Zhou	1930
The Main Components Analysis of <i>Laetiporus sulphureu</i> Crude Extract and its Hepatoprotective Effect on Carbon Tetrachloride-Induced Hepatic Fibrosis in Rats W.J. Sun, H.B. He, J.Z. Wang, L. Wu, F. Cheng and Z.S. Deng	1934

Chapter 19: Engineering Education and Engineering Management

Reform and Exploration of Electronic Basic Courses Teaching H.M. Yang, F.Q. Wu, C.Y. Wu and Q. Zhao	1943
Teaching Reform on the Soil Mechanics and Foundation W.W. Li, S.T. Wu, B. Zhao, W.Q. Hu and Y. Zhang	1947
The Implementation of Quality Education through Experiment Teaching of Computer in Higher Vocational College R. Wang, A.M. Sun and B.P. Zhang	1951
The Use of Information Technology to Promote Professional Development: Studies in Teacher Education M. Bie, D.C. Liu and Y.X. Xu	1955
Construction of Practical Teaching System of E-Commerce Major in High Vocational Colleges Based on Enterprise Education S. Zhao, X.K. Shi and Y.D. Sun	1959
Dynamic Model and its Application in Economic Forecasting J.H. Yuan	1964
Load Forecasting of Charging and Swapping in Large-Scale Electric Vehicle J.C. Ye, Y.L. Li, D.L. Zhang, X.J. Zhu and J.D. Zhu	1969
Research on Level Effect-Based Electrical Load Forecast Method F.C. Li and S. Liu	1978
Antiaircraft Missile for the Group Target Shooting Performance Model and Simulation Analysis X. Jiang and P.Y. Liu	1982
Fire Spread Model for Drum-Tower District of Tianjin Based on Cellular Automaton H.P. Wang and H. Zhou	1987
Research on Amending the Energy Efficiency Provisions in the Building H.H. Cui	1991