

# Table of Contents

## Preface

## Chapter 1: Materials Science and Engineering

|                                                                                                                                                                                         |    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| <b>The Influence of Nitrogen on the Chlorophyll Fluorescence Parameters of Lettuce</b><br>J. Sun, C.H. Song, X.H. Xiao, X.M. Jin and J.H. Ni                                            | 3  |
| <b>Research on Influence Factors for Loosing Performance of Cotton Loosing Machine for Long Fiber PP Cotton</b><br>Y.Y. Han, Z.G. Li and F.J. Cui                                       | 8  |
| <b>Study of Nano-Mechanical Characterization of Minimum Chip Formation Using Atomic Force Microscopy</b><br>F.F. Zhao                                                                   | 12 |
| <b>Four Flavonoid Glycosides from the Pulps of <i>Elaeagnus angustifolia</i> and their Antioxidant Activities</b><br>Y. Wang, T. Guo, J.Y. Li, S.Z. Zhou, P. Zhao and M.T. Fan          | 16 |
| <b>Preparation of Ni-Mn-Zn Ferrite Films on CeO<sub>2</sub>/YSZ-Buffered Si Substrate</b><br>Y.Q. Yang, L. Zheng, H. Zheng and X.F. Yan                                                 | 21 |
| <b>Reliability-Based Balanced Condition for Strengthened RC Beams</b><br>C.X. Li, Z.S. Ding, S.L. Yan and J.M. Chen                                                                     | 25 |
| <b>Effect of Cuing Conditions on the Microstructural Characteristics of Complex Binders</b><br>X. Li, J.J. Yan and H.Q. Yang                                                            | 29 |
| <b>The Development and Application of Object-Oriented Finite Element Analysis System for Sheet Metal Forming</b><br>G.J. Li, S. Yuan and X.D. Xu                                        | 33 |
| <b>Application and Research Development of Steel-Concrete Composite Bridge</b><br>Z.X. Li, Y.W. Dai and R.L. Hu                                                                         | 37 |
| <b>Experimental Study on Mineral Processing of Carlin-Type Gold Deposits in Guizhou</b><br>W.H. Pang, Q.J. Liu and P. Ding                                                              | 41 |
| <b>The Resin Radial Flow Numerical Simulation in Dual-Scale Porous Fibre Media at Constant Pressure</b><br>X.J. Chen, S.J. Guo, W.Y. Yan and S.L. Yan                                   | 44 |
| <b>The Application of Composite Materials in Coal Mine Production</b><br>Y.Q. Wang, P.F. Zhang and J.Z. Li                                                                              | 49 |
| <b>Study on the Strength Properties of PPTA Paper with Response Surface Methodology</b><br>A.M. Tang, S. Zhao and C.F. Jia                                                              | 54 |
| <b>Study on Electroless Nickel Plating Process and Property of Aluminum Alloy</b><br>X. Chang and X.B. Zhang                                                                            | 60 |
| <b>Random Dynamic Analysis of a Crack in a Functionally Graded Materials Layer for Plane Problem Using Shear Stress</b><br>H.Z. Zhang, J.L. Zhang, J.Z. Zhang and Z.G. Zhou             | 64 |
| <b>The Present Situation and Progress of Zinc Oxide Flotation</b><br>S.M. Cao, X.L. Zhang and S.Q. Zeng                                                                                 | 68 |
| <b>Investigation on the Austenizing Transformation Process in Continuously Heated X65 Microalloyed Pipeline Steels</b><br>D.T. Zhang, Z.X. Qiao, J. Huo, Y.C. Liu, H.J. Li and Z.S. Yan | 72 |
| <b>Desulfurization Study of an Iron Mine in Yunnan</b><br>P. Ding, Q.J. Liu and W.H. Pang                                                                                               | 76 |
| <b>Study on Properties of Cupriferous and Boracic Iron Based Sintered Composites</b><br>M.H. Jiao, B.C. Wan, B.W. Su, S.B. Ma and Y.G. Yin                                              | 80 |
| <b>Electrochemical Characteristics of Al-Based Coating on Magnesium Alloy Fabricated by Supersonic Particles Deposition</b><br>X.M. Wang, S. Zhu, Q. Chang and G.F. Han                 | 85 |
| <b>Study on Mechanical Properties of Cu-Bi Bearing Materials</b><br>Y.G. Yin, Y.Y. Li, G.T. Zhang, L.G. Yin and X.N. Jiao                                                               | 89 |

|                                                                                                                                                                                                                                           |     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| <b>Performance of Precipitates in the Stress Aging Treatment of 7075 Al Alloy</b><br>W. Guo, M. Yang, H. Li and J.W. Zhang                                                                                                                | 93  |
| <b>The Infrared Spectrum Analysis and Antioxidation of Glycosaminoglycan from <i>Patinopecten yessoensis</i> Waste</b><br>Q.M. Cui, G.J. Li, Y. Zhao and C.Y. Yuan                                                                        | 97  |
| <b>Analysis of Temperature Characteristics of an AlGaAs/GaAs/Ge Triple-Junction Solar Cell by IS</b><br>Y.Q. Zhang, W.J. Cao and A.M. Liu                                                                                                 | 101 |
| <b>Modeling of Random Fatigue Crack Propagation</b><br>X.L. Zou                                                                                                                                                                           | 105 |
| <b>Experiment and Theoretical Study on Thermal Transport Process in Nano-Sized Copper Film</b><br>F.D. Zeng, Y.P. Han, J.X. Wang and S.Z. Wang                                                                                            | 108 |
| <b>Research on Stability of E-Glass Fiber/Epoxy Composite Material Tube</b><br>Y.L. Peng, L. Li, M.X. Xu and Q. Sun                                                                                                                       | 112 |
| <b>Effect of K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> Concentration on Army Green Ceramic Layer Formed of 2A12 Alloy by Micro-Arc Oxidation</b><br>X.C. Shi, J.Y. Xu, C. Gao, G. Wang and Y.Q. Zhou                                       | 117 |
| <b>Application of Self-Compacting Concrete (SCC) in the Execution of Reservoir of Water</b><br>M.B. Galzerano, L.T. Bressan, R.C. Cecche Lintz, L.C.L. Jaquiê Ribeiro, M.S.G. Pires, A.E.P.G.A. Jacintho and L.A. Gachet-Barbosa          | 121 |
| <b>Effect of Fabrication Parameters on Localized Surface Plasmon Resonance Property of Gold Nanorod</b><br>G.G. Zheng, L.H. Xu and M. Lai                                                                                                 | 124 |
| <b>Research Development on the Preparation of NiFe Magnetic Nanoparticles</b><br>Y. Liu, Y.X. Chi, X.Y. Li, S.A. Wang and S. Lin                                                                                                          | 128 |
| <b>Study of Friction and Wear Properties of C-Cu Composites Reinforced with Carbon Fiber Cloth</b><br>C. Li, D.G. Zhu and Q.Y. Huang                                                                                                      | 132 |
| <b>The Research of Negative Ion Test Method for Fabric</b><br>Y.S. Sun, B. Qiu and Q.S. Li                                                                                                                                                | 138 |
| <b>Sliding Wear Resistance of Tempered T15m High Speed Steel</b><br>Q.Y. Huang, D.G. Zhu, C. Li and P.Q. Sun                                                                                                                              | 141 |
| <b>A Study on Spectral Characteristics of Hematoporphyrin Monomethylether and Hematoporphyrin in Different Solvents</b><br>M.T. Zhao and X.F. Yang                                                                                        | 146 |
| <b>Highly Transparent Superhydrophobic Surfaces from Silica Aerogel by Sol-Gel Method</b><br>T.T. Zhang, J. Huang, R.Z. Zhang, P.Y. Mao and P. Fang                                                                                       | 150 |
| <b><math>\mu_{\text{MAX}}</math> Enhanced 190% of a Strained NMOS Based on SiGe Virtual Substrate</b><br>Z.H. Tang, K.Z. Tan, W. Cui and B. Wang                                                                                          | 154 |
| <b>The Improvement of Bead Wire Coating for Lorry Tyre</b><br>C.J. Liu, J. Ma and J. Chen                                                                                                                                                 | 158 |
| <b>Study on the Performance of the New High-Strength Steel-Encased Concrete Composite Beam (SCCB)</b><br>Q.Y. Shi, C. Liu, L.L. Cao and Z. Wang                                                                                           | 161 |
| <b>Improved Preisach-DOK Modeling on the Henkel Plot of a Longitudinal Barium Ferrite</b><br>Z. Jing, X. Fang and H. Ning                                                                                                                 | 166 |
| <b>Optimization of the Culture Medium for <i>Rhodospirillum rubrum</i> S1 with an Artificial Neural Network Model and GA</b><br>Y. Pan, W.J. Wang, H.J. Tian, S.H. Li and Z. Zhu                                                          | 172 |
| <b>LD Longitudinally Pumped Nd:YAG 946nm Lasers Optimization Analysis</b><br>J.Q. Li, J.Y. Shi, C.L. Qiu, W. Quan and S.M. He                                                                                                             | 176 |
| <b>Optimizing the Conditions for Polysaccharides Ultrasonic-Assisted Extraction in Mycelium of <i>Paecilomyces Tenuipes</i> Pt196 Using Statistical Approach</b><br>L.N. Du, W.T. Bu, W.L. Pan, C. Shao, J.H. Lu, Q.F. Meng and L.R. Teng | 180 |
| <b>Based on ABQUS of Concrete Structure Nonlinear Finite Element Analysis</b><br>L. Jian                                                                                                                                                  | 186 |
| <b>Response Analysis of SRC Column Subjected to Blast Loading</b><br>J.K. Tan, J.Y. Pan and H. Yang                                                                                                                                       | 190 |

|                                                                                                                                                                    |     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| <b>Numerical Analysis of a Pre-Stressed Bridge under Static Loads Based on ABAQUS</b><br>Q. Zhou, J.G. Hou and X.C. Zhang                                          | 194 |
| <b>Numerical Simulation Study of the Influence of Ceiling Materials to Roof Radiation Heat Exchange</b><br>S.T. Hu, F. Qi, T. Xie, X.X. Wang, G. Wang and G.D. Liu | 198 |

## **Chapter 2: Mechatronics, Control, Testing, Measurement, Instrumentation, Detection and Monitoring Technologies**

|                                                                                                                                                                                              |     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| <b>An 8-bit 5-Gsample/s Time-Interleaved Analog-to-Digital Converter Used for Optical Communication</b><br>Y.H. Gao, Y.L. Wang, G.B. Chen, Z.P. Zhang, C. Zhu, L. Zhang, R.K. Ye and R.B. Hu | 205 |
| <b>Location-Based Medium Access Control Protocol for Data Intensive Wireless Sensor Networks</b><br>G.Y. Yang, X. Guan and Y.F. Li                                                           | 209 |
| <b>The Control of the Modified Meter of Flight Equipments</b><br>H.Y. Song, L. Chen, X.Q. Li and P.T. Ni                                                                                     | 214 |
| <b>Designation of Monitoring System with Multi-Touch Based on Configuration Software and Windows Presentation Foundation</b><br>C. Xi, T. Chao and L. Lu                                     | 218 |
| <b>Localizing Multiple Odor Sources Using Virtual Physics Based Robots</b><br>Y.L. Zhang and X.P. Ma                                                                                         | 223 |
| <b>Comparing Plume-Tracing Algorithms in Obstructed Multi-Source Environments</b><br>Y.L. Zhang and X.P. Ma                                                                                  | 228 |
| <b>The Optimized Design of the Welding Gripper for the Body Pre-Assembly</b><br>L. Liu, D.R. Qiu and J.G. Lin                                                                                | 233 |
| <b>Research on the Application of 3G Robotic Welding Guns to the Welding of Body-in-White Based on Delmia</b><br>L. Liu, H.C. Dai and J.G. Lin                                               | 237 |
| <b>Study and Design of Feedrate Scheme in CNC Interpolation</b><br>H. Zhu, J.N. Liu, A.K. Yang and M.L. Wang                                                                                 | 241 |
| <b>The Comparative Analysis of SVC and STATCOM on Subsynchronous Oscillation Mitigation</b><br>J. Zhang, X.N. Xiao, B.F. Gao and C. Luo                                                      | 245 |
| <b>A Modeling Method for HVDC Control on RTDS Simulation</b><br>Y.Q. Zhang, R.L. Xu, J.Y. Zhong, X. Hou and L.J. Qian                                                                        | 250 |
| <b>The Analysis for Semi-Active Control Application in the MSCSS Subjected to Seismic Excitation</b><br>H. Wu, X.A. Zhang and T. Cai                                                         | 254 |
| <b>Research on Concrete Hydraulic Crushing Based on Five-Plunger Pump</b><br>Y.M. Qi, Z.M. Wang, S.P. Deng, Z.X. Meng and C.G. Wang                                                          | 257 |
| <b>Design of Control and Monitor System of Foam Cement Mixing Device Based on PLC and MCGS</b><br>C.G. Wang, Q.H. Sun, Z.M. Wang and Y.J. Qi                                                 | 261 |
| <b>A New Method of Chaotic Detection for Weak Sinusoidal Signal Frequency</b><br>F.L. Zeng, Y.Y. Hu, X.J. Geng and S.G. Zhang                                                                | 265 |
| <b>The Neural Network Control Algorithm Research of Straight Pull Single Crystal Furnace</b><br>M.Y. Li, H. Meng, J. Zhao, Z.T. Xue and Y. Zhang                                             | 271 |
| <b>A Group of Stable Features Suitable for the Traffic Classification</b><br>K. Liu                                                                                                          | 275 |
| <b>TTCN-3 in Conformance Testing of RRC Connection Reestablishment</b><br>N. Zhang and Y. Liu                                                                                                | 280 |
| <b>Position Servo Control of the Transverse Flux Machine Based on an Armature Current RMS and Initial Phase Control Method</b><br>J. Xie, S.M. Wang, Y.X. Wu and Z.H. Sha                    | 284 |
| <b>Remote Monitoring System for Water Quality in River Based on WSN</b><br>B. Shi, D. Zhao, Z.H. Ma and L. Zou                                                                               | 288 |

|                                                                                                                                                    |     |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| <b>The Control Strategy of Establishing the Voltage of DC Side in MMC</b><br>M. Ma, G. Peng, J.W. Hao, J.J. Lu, C. Yuan and X.N. Xiao              | 292 |
| <b>Control of DFIG Based on Per-Unit System on RTDS</b><br>Y.L. Hu, Y. Wang, D.X. Sun, T. Ding and L.J. Qian                                       | 298 |
| <b>A Control System of the Transferring Robot in Car Assembly Line</b><br>S.T. Zhu, J.M. Liu and H.M. Liu                                          | 303 |
| <b>Research on Road Coasting Test of Hybrid Electric Vehicle</b><br>T.T. Li, K.J. Qin, J.H. Gao and C.L. Zhang                                     | 307 |
| <b>Related Parameters Analysis in Vehicle Side Pole Impact</b><br>H.T. Zhu, L. Liu, Q. Chen and Z.D. Zhang                                         | 311 |
| <b>Automatic Supervisory Control System of Quenching Temperature in Steel Mill</b><br>J.X. Zhang, Z.G. Di and C.R. Jia                             | 318 |
| <b>Calculation Error's Correction of Three-Component Geomagnetic Field's Marine Survey</b><br>X.L. Zhu, C.H. Xiao and Z.N. Yao                     | 323 |
| <b>Velocity Control of Unmanned Helicopter Based on Fuzzy-PID</b><br>X.X. Chen, Y. Liu, X.W. Hu, Y. Qian and J.H. Wang                             | 327 |
| <b>The Key Management Scheme For the WMSN-Based Post-Disaster Road Monitoring System</b><br>X.L. Sun, X.G. Sun, S.S. Li, F.M. Chen and Q.G. Yang   | 332 |
| <b>Medium Access Control Layer Design and Simulation for 802.16 System</b><br>Y. Cheng, H.W. Zhao, Y.C. Li and S.H. Pei                            | 338 |
| <b>Wavelet Robust Filtering of Out-Trajectory Data</b><br>L.J. Meng and H.B. Liu                                                                   | 344 |
| <b>The Application of Fuzzy Control in Computer Control</b><br>Y.C. Zhao and J. Liu                                                                | 349 |
| <b>Accuracy Analysis of Positioning Method for Fusion GPS Pseudo-Range and Continuous Wave Radar</b><br>H.J. Zhang and C. Wei                      | 354 |
| <b>On the Contrast and Research of Maximum Power Point Tracking Control in the Microgrids PV System</b><br>B. Hu and Z.L. Piao                     | 361 |
| <b>The Software Design of Intelligent Diagnosis System for Partial Discharge Fault of GIS</b><br>J.W. Shen, W.M. Su, X.R. Lv and X.X. Huang        | 365 |
| <b>The Research on the Visual Obstacle-Avoidance Optimization in Robots Control</b><br>H.B. Tian                                                   | 372 |
| <b>Online Monitoring System of the Mine Main Fan</b><br>H.W. Zhang                                                                                 | 376 |
| <b>Study and Simulation of the Model of Stability Measurement for Integrated Semiconductor Equipment</b><br>F. Xue and H.F. Wang                   | 380 |
| <b>Blue Monitor: A PEEM-Based Online Battery Monitoring and Maintenance Platform</b><br>C. Ren, K.G. Chang, C.H. Li and J. Bao                     | 384 |
| <b>Access Control Based on Trust Policy in Open Grid Environment</b><br>L.T. Gao and Z.Y. Wang                                                     | 390 |
| <b>The Design of Infusion Monitoring System Based on STM32 Microcontroller</b><br>Z.H. Xu, W.Z. Li and Y.J. Xiao                                   | 395 |
| <b>The Impact Point Detecting System for Photo-Electricity Targets</b><br>Z.H. Xu, W.Z. Li and Y.J. Xiao                                           | 399 |
| <b>Research of Sliding Mode Control in Electro-Optical Tracking System</b><br>Z.P. Guo, C.M. Xie and Y.J. Xiao                                     | 403 |
| <b>Experimental Study of the Performance Test for the Infusion Monitoring System</b><br>Z.H. Xu, W.Z. Li and Y.J. Xiao                             | 407 |
| <b>Embedded PWM DC Motor Control Cystem Based on ARM</b><br>C.M. Teng                                                                              | 411 |
| <b>Development and Application on the Optimization Control System of the Gas Collector Pressure in Coke Oven</b><br>X.J. He, Z.R. Gao and J. Zhang | 415 |

|                                                                                                                                                                                       |     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| <b>LMI Enhanced Observer Design for Lipschitz Nonlinear Systems</b><br>F. Qiao, Q. Ma, F. Zhang and H.M. Zhao                                                                         | 420 |
| <b>Design on Fuzzy Neural Network PID Control System of Diesel Engine</b><br>Z.C. Zhou and R. Chen                                                                                    | 425 |
| <b>Research on Direct Torque Control of Doubly-Fed Generator Based on DSP Technology</b><br>Z.C. Ma and Y. Zhang                                                                      | 430 |
| <b>The Design of Electromagnetic Heating Furnace Based on Bridge Type Inverter</b><br>L.Z. Jiang                                                                                      | 435 |
| <b>Remote Video Surveillance System Based on Direct Show and Image Compression</b><br>S.F. Gong, L.G. Wu and Y.J. Wang                                                                | 439 |
| <b>The Research of the AC Servo Control System for Shroud Removal Based on PMAC</b><br>X.X. Xie and Y. Liu                                                                            | 443 |
| <b>The Remote Monitoring Platform Based on GSM/WCDMA</b><br>Y. Liu, G.H. Lou and Y.J. Niu                                                                                             | 447 |
| <b>Supervisory Control of Silicon Steel Plant Dust Removal System Based on Configuration Technology</b><br>L.J. Yang                                                                  | 452 |
| <b>Traffic Signal Control and Simulation of Single Intersection Based on Fuzzy Control</b><br>H.X. Xiao and Y.F. Zhu                                                                  | 458 |
| <b>Test Method for Energy-Efficiency on Servers</b><br>C.R. Ge, X. Fang and Q. Tan                                                                                                    | 463 |
| <b>Research on the Application of Wavelet Analysis in Fault Detection</b><br>W.X. Zhang, H. Guo, Y. Wang and Y. Liu                                                                   | 468 |
| <b>Simulation and Analysis of PMSM Based on Space Vector Control Strategy</b><br>G. Zhao and N. Zhang                                                                                 | 472 |
| <b>Comparison of the Application of 3G and COFDM in UHV Transmission Lines Inspection</b><br>J. Li, Y. Lu, B. Qi and X.J. Liu                                                         | 477 |
| <b>Research of Node Energy Consumption Based on Dynamic Power Management in Wireless Greenhouse Control System</b><br>Y.X. Song, J.L. Ma and X.J. Zhang                               | 482 |
| <b>Design and Implementation on Auto Test Set of an Airborne Radar</b><br>F.L. Jin, Y.P. Li and H.R. Wang                                                                             | 489 |
| <b>Support Vector Clustering for Outlier Detection</b><br>H.L. Wang, W.B. Li and B.Y. Sun                                                                                             | 493 |
| <b>Complete Coverage Path Planning and Obstacle Avoidance Strategy of the Robot</b><br>J.H. Wu, T.D. Qin, J. Chen, H.P. Si, K.Y. Lin, Q. Zhou and C.B. Zhang                          | 497 |
| <b>An Evacuation Decision Making Model for Firefighters in Ad Hoc Robot Network</b><br>D.M. Li, J. Zou, K.K. Yue, H.Y. Guan and J.C. Wang                                             | 504 |
| <b>Vision Control System of Pipe Welding Robot</b><br>L.F. Tang and C.J. Wang                                                                                                         | 509 |
| <b>Based on Neural Network PID Controller Design and Simulation</b><br>H. Xu, J.G. Lai, Z.H. Yu and J.Y. Liu                                                                          | 514 |
| <b>The Design of Strapdown Inertial AHRS Based on MEMS</b><br>Q.H. Wang, D. Li, L. Chang and W.Z. Wang                                                                                | 518 |
| <b>Design of Intelligent Access Control System Based on UWB Location Algorithm</b><br>X. Meng and Y. Zhao                                                                             | 523 |
| <b>Study on Application of Monitoring the Melt Flow Balance of Injection Molding Process by Using Cavity Pressure Monitoring Technology</b><br>J.W. Chen and L. Yang                  | 528 |
| <b>A Comprehensive Test Compression Scheme Based on Precomputed Test Sets</b><br>Z.J. Tian and F.Y. Zhao                                                                              | 533 |
| <b>The Algorithm of Measuring in Close-Range Photogrammetry Based on Grid</b><br>W.L. Xu, Z. Liu and H.Y. Nie                                                                         | 542 |
| <b>The Design of Intelligent Voltage Monitoring System Terminal</b><br>L. Chen, X. Wang and J.S. Li                                                                                   | 546 |
| <b>The Study of Electrode Size on Sensitive Field Effect of Electromagnetic Flow Meter in the Measuring Fluids Containing Non-Conductive Body</b><br>Y.M. Wang, L.F. Kong and Y.W. Li | 551 |

|                                                                                                                                                                |     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| <b>Multi Point Temperature Measurement System Based on DS18B20</b><br>Z.J. Liu                                                                                 | 556 |
| <b>The Measurement of Cutting-Force during Compensating the Errors of NC Process</b><br>D.X. Zheng                                                             | 560 |
| <b>Research on the Simulation Model for Longitudinal Control Channel of FCS Based on PC</b><br>Q. Li, W. Yang and Z.X. Huang                                   | 564 |
| <b>Design of Dual-PWM VVVF System Based on ARM</b><br>J.W. Liang, L. Liang and S.R. Han                                                                        | 569 |
| <b>The Research of Gas Sealing Performance Inspection Module of Electronic Sphygmomanometer Based on STC12C5A</b><br>X.Z. Li and X.H. Feng                     | 574 |
| <b>The Application Research of Remote Monitoring System Based on GPRS Technology</b><br>S.J. Lv, H.R. Wu, Z.Y. Liao and R. Zhao                                | 579 |
| <b>Design of an Intelligent Lighting and Monitoring System of Teaching Building Based on LabVIEW</b><br>Q.R. Lu, J. Zhu and Q.L. Tang                          | 584 |
| <b>A Time Series Analysis and Forecasting Model in Dam Safety Monitoring</b><br>R.L. Hou, H. Gao and H. Li                                                     | 589 |
| <b>Evaluating the Significance of Acquisition Parameters of Vehicle Remote Monitoring System</b><br>F.J. Meng, Y. Shen and Y.Y. Chen                           | 594 |
| <b>Design and Realization of an Online Power Quality Monitoring System Based on DSP and GPRS</b><br>D. Li and Y. Zhou                                          | 598 |
| <b>Design of Mine Gas Monitoring System Based on Wireless Sensor Network</b><br>L.L. Gao                                                                       | 603 |
| <b>Research and Design of Centralized Micro Soccer Robot's Decision-Making System</b><br>C.Q. Wu and Y.F. Wu                                                   | 607 |
| <b>Control of Circulating Current for Direct-Parallel Connected PWM Inverters</b><br>C.X. Wen and K.K. Fang                                                    | 612 |
| <b>A Novel Frame Layer Rate Control Algorithm for H.264</b><br>X.H. Li, Y.H. Zhu, Y. Wang and Y.M. Shi                                                         | 618 |
| <b>Indirect Adaptive Fuzzy <math>H^\infty</math></b><br>S. Xu, Z.Q. Wang, Y.R. Chen, B.T. Liu and L.Y. Xu                                                      | 622 |
| <b>Direct Torque Control of Interior Permanent Magnet Synchronous Motors Based on Position Sensorless Control</b><br>Z.J. Meng, R. Chen and Y.J. An            | 627 |
| <b>The Traffic Prediction and Control Based on Rough Set Theory</b><br>A.L. Fan                                                                                | 632 |
| <b>Signal Processing and Design of Nodes in WSN Agricultural Monitoring System</b><br>X. Qian, D. Wang and X.X. Zhu                                            | 636 |
| <b>The Research on Substation Monitoring System Based on Multi-Sensor Network</b><br>Y.Q. Li, T. Li and X.Y. Sun                                               | 641 |
| <b>Discussion on Issues Electrode Line Monitoring</b><br>H.Y. Zhen, F.L. Li and Y.S. Wang                                                                      | 646 |
| <b>The New Method of Solar Power Generation Using Spin Angle and Elevation Angle Program Control with LabVIEW</b><br>Q.R. Lu, L. Wang, Q.L. Tang and Y.J. Yang | 650 |
| <b>GPS Antenna Used in Tracking and Identifying Cargo</b><br>Y. Li and C.Y. Zou                                                                                | 655 |
| <b>Blind Signal Detection for Uniform Rectangular Array via Compressive Sensing Trilinear Model</b><br>X.F. Zhang, H.X. Yu, J.F. Li and D. Ben                 | 660 |
| <b>Testability Modeling and Prediction Method with Unreliable Test</b><br>J. Luo, Q.B. Deng and C. Zhang                                                       | 665 |
| <b>Robot Visual Servo Based on Particle Swarm Optimized ADRC</b><br>X.L. Liu and L.P. Xiong                                                                    | 669 |

|                                                                                                                                                            |     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| <b>Application of Controller with Complex Zeros in the Photoelectric Tracking System</b><br>J.M. Kuang and S. Zhang                                        | 673 |
| <b>The Measurement of 3D Object Shape Based on Fourier Transform Profilometry</b><br>H. Dong                                                               | 678 |
| <b>Design of Mobile Video Monitoring System Based on Android</b><br>H. Zeng, X. Chen and Y.H. Fu                                                           | 682 |
| <b>Research on Empty Bottle Image Inspecting System Based on Machine Vision</b><br>H.J. Sun                                                                | 686 |
| <b>Design of Wireless Sensor Nodes in Intelligent Management System for Scenic Spot</b><br>Y.G. Lin and S.Y. Long                                          | 690 |
| <b>The Method and Implementation of C3I Network Devices Monitoring</b><br>W.B. Cao, G.S. Chen, G. Niu, Y.J. Zhang and W.Y. Bai                             | 696 |
| <b>The Research of Flexible Testing System</b><br>G. Niu, G.S. Chen, W.B. Cao, Y.J. Zhang and W.Y. Bai                                                     | 701 |
| <b>Research on the Optimal Design of Soccer Robot Based on the Mechanical Analysis</b><br>S.H. Yang, X.X. Chen, Z.B. Gao and L.F. Huang                    | 705 |
| <b>The Research of Workflow Access Control Methods Based on Spring Acegi</b><br>X. Yin and H.B. Zheng                                                      | 710 |
| <b>Fuzzy Comprehensive Evaluation of Human Performance Management</b><br>H.C. Zhang, Y.F. Yang, F. Li and L.N. Shi                                         | 715 |
| <b>Refractory Ingredients Batching System Design Based on Fuzzy Control</b><br>J. Zhang and X.J. He                                                        | 720 |
| <b>Evanescent Fiber Sensor for Determining Water Content in Polar Organic Solvents</b><br>Y.P. Wang, F.B. Xiong and W.Z. Zhu                               | 724 |
| <b>The Research of the Fabric Automatic Friction Ion Detection Device</b><br>B. Qiu, Q.S. Li and S.L. Zhang                                                | 728 |
| <b>A Novel Distributed Optical Fiber Sensing System Based on Parallel Computing</b><br>L.D. Lu, Y. Liang, B.L. Li and J.H. Guo                             | 731 |
| <b>Predictive Control Algorithm in the Application of Computer Control</b><br>J. Liu and Y.C. Zhao                                                         | 736 |
| <b>The Dynamic Modelling and Simulation of Spatial Multibody Systems with Prismatic Joint Based on Vector Bond Graph</b><br>Z.S. Wang, Y.Y. Tao and S. Liu | 740 |
| <b>Microwave Directional Wireless Power Transmission for Wireless Sensor Networks</b><br>D.R. Wu, H.J. Wu and X.L. Zhu                                     | 746 |
| <b>Research on the Wireless Sensor Network Data Fusion Technology</b><br>Y.Q. Fan, Y. Ding, M.L. Liu and X. Zhang                                          | 751 |
| <b>Design of Distributed Pulse Data Acquisition System</b><br>S.G. Wu and J.X. Chen                                                                        | 756 |
| <b>Predistortion Technology Used for TWTA</b><br>Y.F. Wang, D.F. Zhou, Y. Zhang, Y. Sun and J.Y. Xu                                                        | 760 |
| <b>Process Planning and Simulation Validate of Welding Line for BIW Based on DELMIA</b><br>J.G. Lin, D.C. Shi and L. Liu                                   | 764 |
| <b>Modeling and Simulation of Voltage Frequency Ratio Control System for Asynchronous Motor</b><br>J. Rong, Y.J. Ding, X. Chen, L. Wan and Y.M. Li         | 768 |
| <b>Recursive Backstepping Nonlinear Control and Sliding Mode Control of a Novel Hyperchaotic Finance System</b><br>P. Hu, G.L. Cai, L. Yao and X.L. Fang   | 775 |
| <b>A Novel Temperature Compensated Amplifier</b><br>C.P. Liu, J.G. Shi, G.Q. Wang and Z.R. He                                                              | 781 |

### **Chapter 3: Communication, Computer Engineering and Information Technologies**

|                                                                                                                                                          |     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| <b>Research on the Association Relationship of Information Industry Based on Structural Decomposition Analysis</b><br>X.F. Zhang and H. Cheng            | 787 |
| <b>The Research and Application of Network Security Technology in the University Network</b><br>L. Jia                                                   | 791 |
| <b>The Research of CAS in the Enterprise Information Resource Integration</b><br>Z.H. Zhang and D.S. Xue                                                 | 796 |
| <b>Study on Resource Construction and Management of Multimedia Network Teaching</b><br>J.H. Zhang, D.P. Wang, L. Wang and X. Guo                         | 800 |
| <b>Security Early Warning Assessment Program of Hazardous Sources Based on Early Warning Information Processing Model</b><br>L. Jia                      | 804 |
| <b>Research on a Comprehensive Evaluating Model of E-Commerce Website Design Based on AHP</b><br>X.N. Zhu and F.P. Wu                                    | 810 |
| <b>A Multiprocessor RTOS Design of uC/OS</b><br>R. Wang and Z.H. Li                                                                                      | 814 |
| <b>Distributed File Information Management System Based on Hadoop</b><br>J.X. Sun, Y. Chen, T.Y. Li, R.Y. Wang and P.H. Li                               | 820 |
| <b>Design of Framework for Campus Network Transition from IPv4 to IPv6</b><br>H.M. Ye and M.R. Li                                                        | 824 |
| <b>Performance Analysis of Improving ZigBee Wireless Network Using AODV Mesh Routing Model</b><br>A.G. Malek, C.L. Li, Y.C. Liu, Y.P. Liu and A.M. Wleed | 828 |
| <b>Model of Improving Searching Precision For Interactive Users with Searching Requirements</b><br>T. Chong, Y.L. Shao and J.J. Wang                     | 833 |
| <b>A Quasi IBE Identity Authentication Scheme in a Cloud Computing Environment</b><br>S.C. Guo, Y. Liu and J. Ling                                       | 837 |
| <b>Study and Realization of SNOW 3G in LTE System</b><br>X.W. Li and F. Liu                                                                              | 841 |
| <b>Research and Implementation of Uplink Synchronization in TD-LTE</b><br>D.M. Zhang, S. Yao and X.W. Li                                                 | 846 |
| <b>DTN Routing Mechanism Based on Area Dipartition</b><br>Y. Yang, L.S. Han, R. Yan, X.P. Kong and W.C. Xu                                               | 851 |
| <b>Security Research Based on the RBAC of Ship Parallel Collaborative Database</b><br>Z.H. Chi and Y.D. Liu                                              | 855 |
| <b>Production Information System of Automobile Assembly Line Based on PLC Remote I/O</b><br>S.T. Zhu, J.M. Liu and Y.X. QIN                              | 858 |
| <b>An Improved SVD-LMMSE Channel Estimation Algorithm of LTE System</b><br>Y. Zhou, H.C. Dong and X.W. Li                                                | 862 |
| <b>The Research and Design of Trusted Cloud Computing Platform Based on Group Theory</b><br>Y. Yang and X.H. Shao                                        | 867 |
| <b>Cloud Service Model Based on University English Reading Database</b><br>Z.C. Dun                                                                      | 872 |
| <b>On Competitive Strategy for Group Purchase Websites in China</b><br>B.Y. He and B. Huang                                                              | 877 |
| <b>Applied Research of the Decision Tree Method in Personalized Distance Education System</b><br>J.W. Wang, X. Wang, L.B. Zhao, Y.H. Wang and H.J. Li    | 881 |
| <b>SR-Tree: An Index Structure of Sensor Management System for Spatial Approximate Query</b><br>X. Tong, Y. Liu, Z. Shi, P. Zeng and H.B. Yu             | 885 |
| <b>A Whole Rate-Distortion Optimize Pronounce Based on Wireless Sensor Network</b><br>Q.S. Yu, J. Zhang and J.X. Peng                                    | 890 |
| <b>Design of College Teacher Workload Management System Based on ASP.NET</b><br>D.S. Zhou and B. Hu                                                      | 895 |
| <b>Big Data Storage Method in Wireless Communication Environment</b><br>Y. Liang                                                                         | 899 |

|                                                                                                                                                                                  |      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>Big Image Data Management on Portable Equipment</b><br>Y. Liang                                                                                                               | 905  |
| <b>Online Examination System for Microsoft Office Software Operations</b><br>L.L. Li and L.X. Sun                                                                                | 911  |
| <b>Mobile Big Data Query Based on Double R-Tree and Double Indexing</b><br>Y. Liang                                                                                              | 916  |
| <b>On Applications of Cell Phone Two-Dimensional Code in China</b><br>M.D. Chen, L.L. Liu and B. Huang                                                                           | 922  |
| <b>The Design and Implementation of Cloud Service Based Customized Mobile Device Application System</b><br>T. Zhu and Z. Gao                                                     | 927  |
| <b>Keyword Aggregate Query Based on Query Template</b><br>B. Zhu, F. Yuan and Y. Wang                                                                                            | 932  |
| <b>A Middleware for Metadata Management Oriented Distributed Data Sharing</b><br>J.F. An, F.M. Lu, H. Duan and Q.T. Zeng                                                         | 940  |
| <b>Traffic Accident Reconstruction Technology Research</b><br>X.L. Yang, P. Li, T. Lv and X.H. Liao                                                                              | 946  |
| <b>Light Illumination Information Extraction Method of High Dynamic Range Image</b><br>X. Leng and J.H. Yang                                                                     | 952  |
| <b>Large-Scale Wire-Speed Multicast Switching Structure Based on Multipath Self-Routing Switching Structure and Implemented on FPGA</b><br>K. Cui, H. Li, Z.P. Zhu and F.X. Chen | 956  |
| <b>Research on Centrosymmetric Graph Based on DAM6416P</b><br>C.S. Yang and G.J. Liu                                                                                             | 962  |
| <b>A Research of the Vertical Differentiation of Digital Content Products Basing on Numerical Simulation Analysis</b><br>Z.B. Zhang, L.Y. Hu and B. Wang                         | 967  |
| <b>Design and Implementation of an SVG Editor for Power System</b><br>K.H. Wu, B.H. Cheng, J.S. Wu and Y. Yuan                                                                   | 972  |
| <b>A Backward Compatible Multichannel Audio Compression Method</b><br>X.F. Gao, G. Yang, J. Wang, X. Xie and J.M. Kuang                                                          | 977  |
| <b>Study on Shell Sort of Logistics Unified Information System Based on Internet of Things</b><br>X.Z. Lin                                                                       | 982  |
| <b>Research and Application on Information Resources Planning for University</b><br>H. Lin, Y.J. Sun and B.H. Wang                                                               | 988  |
| <b>Research and Application on Technical Implementation Architecture in University Informatization Planning</b><br>H. Lin, Y.J. Sun and B.H. Wang                                | 993  |
| <b>The Application of Network Anomaly Mining Technology in Campus Network Information Security</b><br>W. Bin, Z.C. Zhao and Y.C. Jiang                                           | 998  |
| <b>A Validity Study on the Electronic Commerce Mode and Informatization Construction in the Perspective of Value Chain</b><br>H.Q. Shao, W. Bin and Y.C. Jiang                   | 1003 |
| <b>Research and Application on Optimization of Multi-Thread Download Technology for Enhanced Search Engine</b><br>Y.J. Sun, H. Lin and B.H. Wang                                 | 1008 |
| <b>Mail Filtering Algorithm Based on the Feedback Correction Probability Learning</b><br>X.Y. Zou                                                                                | 1013 |
| <b>Design and Application of the Network Distance Teaching System</b><br>B. Peng, X.Q. Hong and J.X. Peng                                                                        | 1017 |
| <b>Research and Implementation of Key RFID Technology in Poultry Products Traceability System</b><br>X.J. Niu, Y. Qu and H. Li                                                   | 1021 |
| <b>The Design and Implement of the Safety Production Management &amp; Quality Trace System for Poultry</b><br>X.J. Niu, Y.E. Duan and H. Li                                      | 1026 |

|                                                                                                                                                                                   |      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>Research on a Sensor Network Communication Optimization Algorithm</b><br>Y.J. Shi and L.N. Yu                                                                                  | 1031 |
| <b>Study of Distributed Personalized Search Engine</b><br>H. Zhang, Y.H. Ma, W.J. Ma and Z.X. Bao                                                                                 | 1035 |
| <b>3D Visual Simulation on Nanchang Hangkong University</b><br>X.N. Cheng, K. Sun and X.F. Zhang                                                                                  | 1040 |
| <b>An OA-Based Integrated Information Management System Building for Marine Monitoring Business Processes</b><br>D.Y. Jiang, T. Zhan and L. Qu                                    | 1045 |
| <b>Research on Eliminating the Influence of Cloud Shadow of TM Image</b><br>L. Chen, Y.F. Zhou and H.L. Ma                                                                        | 1050 |
| <b>Research on DEM Modification and Production of Three-Dimensional Images in the Intersection Region of Seawater and Land</b><br>L. Chen, Y.F. Zhou and J.F. Liu                 | 1054 |
| <b>Heterogeneous Architecture for Ad Hoc Networks</b><br>X.B. Wang                                                                                                                | 1059 |
| <b>Research in Serial Port Communication Mechanism Based on Android Mobile</b><br>Z.R. Lei, X.L. Long and W.X. Liu                                                                | 1063 |
| <b>Cross-Layer Design to Solve Cooperation Problem in Ad Hoc Network</b><br>L. Li, W. Liu, H.Y. Chen and G.Z. Zhou                                                                | 1067 |
| <b>Clarification Question Generation for Speech Recognition Error Recovery Using Monolingual SMT</b><br>D. Yu                                                                     | 1072 |
| <b>Research on Management Information System for Construction Market Based on XMLHttp+XML Database Synchronization</b><br>Z.J. Feng, J.C. Liu, L.M. Wang, H.L. Zhang and P. Zhang | 1078 |
| <b>Design and Development of the Architecture Market Management Information System</b><br>Z.J. Feng, J.C. Liu, L.M. Wang, C.L. Yan and P. Zhang                                   | 1084 |
| <b>Research and Development of Web-Based News Releasing System</b><br>Q.F. Zhao and Y.F. Li                                                                                       | 1088 |
| <b>A Development Strategy of M-Commerce against Mobile Internet</b><br>M.Y. Shen, C.Y. Liu and B. Huang                                                                           | 1092 |
| <b>Study of Data Security Based on Cloud Computing</b><br>H.H. Wang                                                                                                               | 1097 |
| <b>On Heterogeneous Database Integration under the Scope of Web Service and Java</b><br>F.X. Meng, X.M. Wen and J.H. Li                                                           | 1101 |
| <b>Design and Implementation of Encryption Scheme in Web-Based Examination System</b><br>Y.F. Li                                                                                  | 1106 |
| <b>Research and Development of Online Examination System</b><br>Q.F. Zhao and Y.F. Li                                                                                             | 1110 |
| <b>The Design and Realization of Library MIS Based on MVC</b><br>J.H. Li, F.X. Meng and X.M. Wen                                                                                  | 1114 |
| <b>Electricity, Heat and Gas Marketing Information System Based on SOA Architecture</b><br>Z.G. Li, D.Q. Zhu, Q. Qi, Z.T. Fu and J.Y. He                                          | 1119 |
| <b>Cluster Trisecting Based Data Aggregation Scheme for Wireless Sensor Networks</b><br>J.H. Guo and D.L. Chen                                                                    | 1126 |
| <b>Design and Implementation of Cold Rolling Database System in Web Data-Access System</b><br>W. Teng and G.M. Wang                                                               | 1131 |
| <b>Optimization for Web-Based Online Document Management</b><br>W.Z. Cheng, Y. Yang, L. Zhang and L. Li                                                                           | 1135 |
| <b>The Realization of Math Score Query on the Wireless Internet</b><br>G. Yang                                                                                                    | 1141 |
| <b>Web-Based Development Environment and its Application</b><br>F. Pan and J. Han                                                                                                 | 1146 |
| <b>Analysis on Status of Two-Dimensional Code Development &amp; Prospects Prediction</b><br>X.H. Lu, M.L. Yu and B. Huang                                                         | 1152 |

|                                                                                                                                                                           |      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>Research and Development of Website Framework in Provincial Elaborate Course of Theoretical Mechanics</b><br>Q.X. Xu, X.X. Hu and S. Lin                               | 1158 |
| <b>Design and Implementation of Chinese Information Filtering System</b><br>X.M. Zhang                                                                                    | 1164 |
| <b>Research and Practice on Algorithm Analysis and Design Course Teaching Based on Online Judge</b><br>D.Y. Zhao and Q.X. Xu                                              | 1168 |
| <b>The Application of Workflow Management System Based on Rules and Roles</b><br>Q. Wang                                                                                  | 1175 |
| <b>A New Integrated Front Platform of Financial Self-Service Equipment Based on ESB</b><br>J. Xiao, J. Wu and J.G. Yang                                                   | 1180 |
| <b>Research on Key Security Strategies of Cloud Computing</b><br>D.Y. Zhao, Q.X. Xu and X.X. Hu                                                                           | 1185 |
| <b>Performance Evaluation of Optical Carrier Suppression Radio over Fiber System through Modulation Index Enhancement</b><br>Z.X. Liu, X.G. Chen and C. Jiang             | 1190 |
| <b>Optimal Selection of Cyclic-Prefix and Sub-Carrier for OFDM Signal in Mobile Satellite Communications Channel</b><br>B. Li, W. Zheng, S.B. Ren and J.J. Wu             | 1194 |
| <b>Design and Research on Collaborative Learning Program Based on Cloud-Services</b><br>L.N. Huang, F.H. Liu and C.L. Liu                                                 | 1199 |
| <b>Interference Modeling and Analysis for Inclined Projective Multiple Beams of GEO Satellite Communication Systems</b><br>W. Zheng, B. Li, S.B. Ren, J. Chen and J.J. Wu | 1204 |
| <b>Application of Cloud Storage in the Data Bank of Teaching Resources of Plane Design Specialty</b><br>C.J. Wang                                                         | 1210 |
| <b>A Software Protection Method Based on Computer Fingerprint and Asymmetric Encryption</b><br>H.S. Tan and Y. Yang                                                       | 1215 |
| <b>A Study on the System Architecture and Key Technologies of Telematics Based on 3G</b><br>L.F. Tang and C.J. Wang                                                       | 1220 |
| <b>Security Policy on Logistics Management Information System Based on Web</b><br>L.N. Huang and F.H. Liu                                                                 | 1225 |
| <b>Design and Implementation of Parameterized Report Builder Component</b><br>Y.C. Li                                                                                     | 1230 |
| <b>Research on Modeling and Indexing of Trajectories of Moving Objects in Road Networks</b><br>Y.L. Zheng                                                                 | 1234 |
| <b>Implementation of Mine Equipment Maintenance Management System Based on Web</b><br>L.F. Tang and C.J. Wang                                                             | 1240 |
| <b>Game Theory-Based Routing Algorithms for Wireless Multi-Hop Networks</b><br>Z. Ren, S. Peng, H.J. Lei and J.B. Li                                                      | 1244 |
| <b>Application of Ontology Technology in Agricultural Information Retrieval</b><br>J.C. Kang and J.L. Gao                                                                 | 1249 |
| <b>Research and Application of Ontology in Resource Information Model of Tree Growth Management</b><br>X.N. Liu, H.W. Song, Y. Li and J.C. Kang                           | 1254 |
| <b>An Improved Method for AMR-WB Speech Codec</b><br>C.L. Zhang, S.H. Zhao, H.Y. Xiao, J. Wang and J.M. Kuang                                                             | 1259 |
| <b>WoT Based Context-Aware Middleware Design for Integrating Real-World Object to SNS</b><br>H.L. Lu, J. Yang, C.H. Zhang and C. Cheng                                    | 1264 |
| <b>Design and Implementation of a Context-Aware Based Classroom Inquiring System</b><br>F. Liu, Z. Xu, C.C. Zhang, H.J. Lu and X.X. Li                                    | 1270 |
| <b>Data Storage Technology and its Development Based on Cloud Computing</b><br>L.N. Huang and F.H. Liu                                                                    | 1275 |
| <b>An Architecture for Unstructured Data Management</b><br>Y.H. Lin and X.L. Lin                                                                                          | 1280 |

|                                                                                                                           |      |
|---------------------------------------------------------------------------------------------------------------------------|------|
| <b>The Development and Application of Virtual System of Physiological Function Experiments Based on Networks</b>          | 1285 |
| D.L. Wang, K. Fu, H.F. Tang, X.D. Ren, Q.F. Meng and L.R. Teng                                                            |      |
| <b>Analysis of Virtual Storage Technology and its Application in the Library</b>                                          | 1289 |
| D.X. Lu, Y.X. Niu and L.Q. Zou                                                                                            |      |
| <b>Distributed Computing Design Methods for Multicore Application Programming</b>                                         | 1295 |
| Q. Yu, T. Li, Z.W. Xie, N. Zhao and Y. Lin                                                                                |      |
| <b>XML Retrieval with Results Clustering on Android</b>                                                                   | 1300 |
| P.F. Liu, Y.H. Chen, W.J. Xie and Q.Y. Hu                                                                                 |      |
| <b>WS-SIM: A Toolkit for Modeling and Simulation of Service Composition</b>                                               | 1304 |
| F. Zhang                                                                                                                  |      |
| <b>Short Text Similarity Computing Method towards Agriculture Question and Answering Systems</b>                          | 1309 |
| B.J. Sun, Z.C. Liang, Q.T. Zeng, H. Zhao, W.J. Ni and H. Duan                                                             |      |
| <b>JPEG2000 Image Compression Method Based on GPGPU</b>                                                                   | 1314 |
| W.L. Wang                                                                                                                 |      |
| <b>Research on Agile Equipment Support Supply Chain Application Framework Structure Based on Information System</b>       | 1320 |
| S.Y. Zhang and S.Z. Guo                                                                                                   |      |
| <b>The Research on Sakai Platform Application</b>                                                                         | 1325 |
| G. Zhao and H.Y. Huang                                                                                                    |      |
| <b>Research on Hall for Workshop of Meta-Synthetic Engineering for Demonstration on Weapon Equipment System of System</b> | 1329 |
| J. Guo, D.S. Liu and Q. Guo                                                                                               |      |
| <b>Research on the Method of Code Migration from JSP to ASP.NETMing</b>                                                   | 1334 |
| M. Xu, H.Q. Zhang, Q. Zhou and Z. Sheng                                                                                   |      |
| <b>A General Threshold Signature Scheme Based on Elliptic Curve</b>                                                       | 1339 |
| Y.L. Shang, X.J. Wang, Y.J. Li and Y.F. Zhang                                                                             |      |
| <b>Design and Implementation of Mongolian Wordnet Management Platform</b>                                                 | 1344 |
| Hasi and E.B. Tang                                                                                                        |      |
| <b>A Modified Fuzzy C-Means Algorithm Brain MR Images Segmentation with Bias Field Compensation</b>                       | 1349 |
| X.L. Liu, Y.T. Guo, J. Kong and J.Z. Wang                                                                                 |      |
| <b>Research on UHV Substation Construction Management System Based on Multimedia Integration</b>                          | 1356 |
| Y. Lu, G.J. Gong, J. Li, B. Qi and X.J. Liu                                                                               |      |
| <b>A Verifiable Visual Cryptography Scheme Using Neural Networks</b>                                                      | 1361 |
| Y.Q. Deng and G. Song                                                                                                     |      |
| <b>Research on Logistics Distribution Center Location Based on Improved Immune Algorithm</b>                              | 1366 |
| H. Li, X.Y. Liu, J.P. Zhang and Y.L. Yu                                                                                   |      |
| <b>Slotting Optimization Algorithm of the Stereo Warehouse</b>                                                            | 1371 |
| J.H. Wu, T.D. Qin, J. Chen, H.P. Si, K.Y. Lin, Q. Zhou and C.B. Zhang                                                     |      |
| <b>VRViewer: A Cloud-Based Virtual Reality Platform</b>                                                                   | 1377 |
| Q.Y. Huo, H.C. Zhang, H. Ma, Z. Lu and L. Bai                                                                             |      |
| <b>Background Extraction and Snow Remove Form Video</b>                                                                   | 1382 |
| Y.T. Ren, Y.C. Zhang and K. Zhu                                                                                           |      |
| <b>Efficient Data Structures for Range Selections Problem</b>                                                             | 1387 |
| X.D. Wang and J. Tian                                                                                                     |      |
| <b>Estimation Algorithm of Two-Dimensional Direction of Arrival Based on Rectangle Array of Distributed Source</b>        | 1392 |
| H. Yao and Y. Wu                                                                                                          |      |
| <b>An Improved Personalized Recommendation System Research</b>                                                            | 1398 |
| X.Y. Li and Q.S. Li                                                                                                       |      |
| <b>Dynamic Integration System for Heterogeneous Database Based on S2SH</b>                                                | 1403 |
| Z.Y. Zhang, Z.Q. Zhao and Z. Cao                                                                                          |      |
| <b>Data Extraction Method for Heterogeneous Database Based on EJB</b>                                                     | 1408 |
| Z.Y. Zhang, B.C. Sun and Z. Cao                                                                                           |      |

|                                                                                                                                                                                       |      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>System Modeling for Opportunistic Network-Coded Cooperative Multicast Transmission in Clustered Wireless Sensor Networks</b><br>Y. Zhu, J. Gao, L. Zhang and S.L. Sun              | 1413 |
| <b>Outage Probability Analysis for Opportunistic Network-Coded Cooperative Multicast Transmission in Clustered Wireless Sensor Networks</b><br>Y. Zhu, J. Gao, X.Q. Zhang and F. Wang | 1418 |
| <b>The Patient Admission Scheduling of an Ophthalmic Hospital Using Genetic Algorithm</b><br>L.M. Zhang, H.Y. Chang and R.T. Xu                                                       | 1423 |
| <b>A Comparative Study of Two Alternative Methods for the Path-Based Logit Stochastic User Equilibrium Problem</b><br>B.J. Zhou, X.H. Li and J. He                                    | 1433 |
| <b>Research on Construction of the Teaching Quality Guarantee System of Vocational Colleges Based on Digital Campus</b><br>X.H. Liu, M.Y. Yue and Y.X. Lang                           | 1437 |
| <b>Digital Campus Construction and Key Element Analysis</b><br>M.Y. Yue, X.H. Liu and Y.X. Lang                                                                                       | 1441 |
| <b>Design of Marine Radar Signal Generator</b><br>X.J. Tong, J.L. Pang, F.Q. Fu and Y.L. Yuan                                                                                         | 1446 |
| <b>Research and Improvement of the Hot Small File Storage Performance under HDFS</b><br>B. Zhang, Y.Y. Zuo and Z.C. Zhang                                                             | 1450 |
| <b>The Comparative Study on Flow Field in Sensitive Element of Fluidic Gyroscope</b><br>J. Tang, L.H. Piao, B.L. Zhang and J.B. Chen                                                  | 1455 |
| <b>Porting Java Virtual Machine in Embedded Systems Based on Qt4</b><br>J. Lin, H. Ni, H. Zhang and P. Sun                                                                            | 1459 |
| <b>The Correction Algorithm Research of Inclination Paper Currency Image</b><br>H.H. Liu and X.H. Hou                                                                                 | 1464 |
| <b>An Information Security Risk Assessment Framework for Cloud Computing</b><br>H. Chen                                                                                               | 1469 |
| <b>Advanced HFC Access Network Design for Switched Digital Video Service</b><br>J. Xu, H. Ni, H.J. Deng and L. Liu                                                                    | 1474 |
| <b>The Application of Vector Quantization Algorithm in Hyperspectral Image Compression</b><br>X.J. Zhao and Y.F. Jing                                                                 | 1479 |
| <b>The Instability of a Four-Vortex Wake System in a Water Towing Tank</b><br>Y. He, J.W. Yang and F. Bao                                                                             | 1484 |
| <b>Implementation of Ontology Extraction Oriented to Non-Normalized Database</b><br>S.C. Cui, Y. Li and Y.B. Wang                                                                     | 1489 |
| <b>Long Tube Hole Straightness Data Processing Method</b><br>Y.S. Liu                                                                                                                 | 1494 |
| <b>The Research of Power Distribution and Utilization Business Model Based on the Comprehensive Evaluation Model</b><br>X. Chen, G.J. Gong and G. Xu                                  | 1498 |
| <b>Human Resource Management Information System Based on SOA</b><br>H.F. Xu and W. Chen                                                                                               | 1502 |
| <b>Research on Encryption Method of the GML Spatial Data in Geographic Information Sharing System</b><br>G.S. Li                                                                      | 1506 |
| <b>Research on Typical Wireless Hoc Routings for Vehicular Network</b><br>Y.L. Liu, Y.R. Chen, Y. Zhou and X.J. Gao                                                                   | 1511 |
| <b>Modeling of Automobile Stamping Parts Management System Driven by Use Case</b><br>C.S. Han and Z.L. Cheng                                                                          | 1517 |
| <b>Research and Application of Cloud Computing Technology in Agricultural Information Resources Sharing Service</b><br>J. Ye, G.F. Chen and G.W. Zeng                                 | 1522 |
| <b>A New Improved Data Acquisition System for Electrical Capacitance Tomography</b><br>H. Zhang, D. Ren and L.M. Du                                                                   | 1527 |
| <b>Security Management of Movable Storage Device Based on File System</b><br>W.F. Wang and H.Y. Liu                                                                                   | 1532 |

|                                                                                                                                                        |      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>Study on Properties of Expanded Sturmian Sequences</b><br>L.H. Sun, E.L. Zhao and Y.L. Sun                                                          | 1536 |
| <b>Study on Textual Data Sources Based Real-Time ETL</b><br>W. Qi and J. Song                                                                          | 1541 |
| <b>On Computer Security in E-Commerce</b><br>W.F. Zhang and C.H. Zhai                                                                                  | 1547 |
| <b>Research on Image Color Balancing Based on Illumination Correction</b><br>W.B. Sun, H.Y. Tang, D.B. Zhang and Y. Chang                              | 1551 |
| <b>Design and Implementation of E-Government Platform Based on Web GIS and Cloud Computing</b><br>Y.Q. Feng, W.F. Zheng, P. Liu and Y.N. Jia           | 1556 |
| <b>The Exploration of Computer Assisted Language Learning and the Cultivation of Fresh Talents</b><br>C.L. Liu and J.W. Liu                            | 1561 |
| <b>NOVA:A P2P-Cloud Vod System for IPTV with Collaborative Pre-Deployment Module Based on Recommendation Scheme</b><br>J. Song, H.J. Deng and J.L. You | 1566 |
| <b>Research on 2-D Integer SDCT Algorithm</b><br>H.Y. Tang, W.B. Sun, D.B. Zhang and Y. Chang                                                          | 1571 |
| <b>A Look into Content-Based Image Search Engine System</b><br>M. Guo                                                                                  | 1576 |
| <b>Research of E-Government Security Plan System</b><br>R.Y. Chen and X.F. Fu                                                                          | 1580 |
| <b>Web Data Extraction and Integration in Domain</b><br>G. Li, Z.Y. Han, Z.X. Chen, Z.Y. Li and P. Sun                                                 | 1585 |
| <b>Web Data Extraction Based on Tag Path Clustering</b><br>G. Li, C. Chen, Z.Y. Li, Z.Y. Han and P. Sun                                                | 1590 |
| <b>Research on Consistency Verification of Semantic Business Process Model Based on SWRL</b><br>P. Tan, F. He and C.M. Yan                             | 1595 |
| <b>Comparative Study on Application of Information Visualization in Knowledge Organization</b><br>B. Shi and L.C. Zhao                                 | 1600 |
| <b>Design on the Network Model of Cloud Computing Based on P2P</b><br>H.M. Su and L. Wang                                                              | 1605 |
| <b>Research of BPMNO-Based Business Process Model in Logistics Warehousing Field</b><br>C.M. Yan, F. He and T. Zhang                                   | 1610 |
| <b>Research on Technical Support Management Information System of RFID-Based Some Certain Equipment</b><br>Q. Li, X.N. Ye and W. Yang                  | 1615 |
| <b>The Study of Coal Enterprise Ability for Technology Innovation Based on CART Decision Tree</b><br>X.J. Zhao and Y. Yang                             | 1620 |
| <b>The Mechanism of Memory Allocation and Recovery in JCVM</b><br>W.Q. Li, D.P. Li and Y.H. Mao                                                        | 1625 |
| <b>Study on the Design and Evaluation of the Logistics Information System for the Small-and Medium-Sized Enterprises</b><br>Z. Li and Y. Li            | 1630 |
| <b>Congestion Analysis on Urban Traffic Network</b><br>J.L. Wang and H.B. Lai                                                                          | 1635 |
| <b>Research on Simulation Credibility of Combat Capability</b><br>X.H. He, Y.N. Ma and Q. Wang                                                         | 1639 |
| <b>The Application of the SSHDWR+AJAX Combination Frame in the Human Resources Management System</b><br>Y.Z. Li and C.F. Ye                            | 1643 |
| <b>Multiple Factors Integration Based Text Alignment for Medical Database</b><br>H.L. Wu, Y.Y. Liu, C.J. Dong and K. Wang                              | 1648 |
| <b>An Exploration of Information Push Technologies in E-Commerce</b><br>H.L. Shen                                                                      | 1652 |

|                                                                                                          |      |
|----------------------------------------------------------------------------------------------------------|------|
| <b>Remote Information Publishing System of Embedded Electric Power Parameter Recorder Equipment</b>      |      |
| L. Chen and R. Zhong                                                                                     | 1656 |
| <b>Research on Privacy Preserving Data Mining Association Rules Protocol</b>                             |      |
| X.M. Zhu                                                                                                 | 1661 |
| <b>The Research and Realization of QOS for Video Surveillance</b>                                        |      |
| X. Yang                                                                                                  | 1665 |
| <b>The Reliability Measure of Disconnected Network Based on Surviving Edges</b>                          |      |
| H.J. Meng, Z.C. Wang and Y.J. Li                                                                         | 1669 |
| <b>A Improved Algorithm of Wavelet Image De-Noising Based on Threshold Function</b>                      |      |
| Z.X. Lin                                                                                                 | 1674 |
| <b>Research and Numerical Simulation of Heat Transfer Problems in the Industrial Production</b>          |      |
| D.M. Li, X.C. Wang, L.N. Shi and B.C. Qu                                                                 | 1679 |
| <b>A New Wavelet-Based Compressive Sensing for Image Compression</b>                                     |      |
| W. Jiang and J.J. Yang                                                                                   | 1684 |
| <b>The Advanced "Rich-Client" Method Based on DOM for the Dynamic and Configurable Web Application</b>   |      |
| X. Xia, Z.S. Li and Y.X. Fan                                                                             | 1691 |
| <b>Scientific Research Project Cost Estimating Method and System Based on Improved BP Neural Network</b> |      |
| Y.L. Wang, G.X. Wang and Y. Yan                                                                          | 1696 |
| <b>An Improved MapReduce Model for Computation-Intensive Task</b>                                        |      |
| H.L. Sun                                                                                                 | 1701 |
| <b>The Transmission of Thermal Image with UDP for Reliability Realization in LAN</b>                     |      |
| Z.G. Liu, H. Zeng and S.N. Wang                                                                          | 1706 |
| <b>Power Grid Risk Evaluation Model of Empty Mine Mined-Out Area Based on BP Neural Network</b>          |      |
| G.F. Yang, J.K. Zhao, T.S. Li and J. Zhou                                                                | 1710 |
| <b>Design and Implementation of Backup Devices Management System</b>                                     |      |
| H.B. Song, Y. Wang, K. Li, M.L. Liu and B.Z. Ma                                                          | 1715 |
| <b>Research on a Vessel Light Communication System</b>                                                   |      |
| D.J. Hu and M. Liu                                                                                       | 1720 |
| <b>Research on the Performance of Sub-Band STAP for Wideband Interference Suppression</b>                |      |
| H.K. Wei, P.B. Wang, J.X. Yin and C.L. Zhang                                                             | 1724 |
| <b>Construction Method of <math>\lambda</math>-Concept Lattice in Fuzzy Formal Context</b>               |      |
| Y.F. Yang, D.M. Li and W.J. Zhao                                                                         | 1729 |
| <b>Research and Design of UPnP Protocol in Media Sharing System</b>                                      |      |
| H. Zeng, Z.L. Yang and P. Ren                                                                            | 1734 |
| <b>Data Handling of Digital Forensics Cloud Computing</b>                                                |      |
| G. Zeng                                                                                                  | 1739 |
| <b>Research on Internet Macroscopic Topology Structure</b>                                               |      |
| S.J. Guan and H. Zhao                                                                                    | 1744 |
| <b>Implementation of Video Transcoding Client Based on FFMPEG</b>                                        |      |
| H. Zeng and Y. Fang                                                                                      | 1748 |
| <b>Application of the Hilbert_Huang Transform and Wavelet Transform in the EEG Processing</b>            |      |
| G.X. Zhang, P.D. Wu and M.L. Huang                                                                       | 1753 |
| <b>Semantic Oriented Knowledge Processing Model</b>                                                      |      |
| L. Zhang                                                                                                 | 1758 |
| <b>The Messaging Mechanism Based on Multi-Level Feedback Queue Scheduling Algorithm</b>                  |      |
| T.S. Li, J.H. Xu and H. Yu                                                                               | 1763 |
| <b>The Modeling and Rendering of the Waves</b>                                                           |      |
| M. Li                                                                                                    | 1766 |
| <b>The Modelling by Parameter Identification and Online Simulation in Refining</b>                       |      |
| J. Chen                                                                                                  | 1769 |
| <b>Research and Design of Open and Autonomous Learning System Based on HTML5</b>                         |      |
| C.F. Cao and G.S. Li                                                                                     | 1774 |

|                                                                                                                                            |      |
|--------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>Research on the Developmental Situation to Software Development Method</b><br>Y. Gao and X.Z. Feng                                      | 1779 |
| <b>Connection Function and its Posture Analysis of Risk Preference</b><br>Y.F. Yang, H.C. Zhang and L.N. Shi                               | 1784 |
| <b>Excogitation and Realization of Remote Chess Play System Based on Augmented Reality</b><br>H.B. Wang and L.N. Cui                       | 1788 |
| <b>The Wireless Application of Spread-Spectrum OFDM Technology in the Internet of Things</b><br>H.C. Liao                                  | 1793 |
| <b>The Research of Digital Sandbox System</b><br>H.B. Wang and J.F. Hou                                                                    | 1798 |
| <b>Research of Adults' M-Learning Based on Mobile Phone</b><br>Y.K. Zhang and C.M. Wei                                                     | 1803 |
| <b>Visual Simulation of Shells Exploding in Virtual Environment</b><br>G. Lin and D.W. Jiang                                               | 1809 |
| <b>The Study &amp; Application of Information System Based on Component Model and UML</b><br>Y.W. Xia                                      | 1814 |
| <b>Learning a Discriminative Isotropic Space from Labeled and Unlabeled Data</b><br>Y.D. Liu and J. Zhang                                  | 1819 |
| <b>Design and Realization of Digital Urban Planning Spatial Database</b><br>Z.Y. Yang, J.L. Yang, X.G. Cao, X.H. Li, X. Liang and C.L. Huo | 1824 |
| <b>Reorganization of Web Site Structure Using Web Logs</b><br>B. Song and S.B. Chen                                                        | 1828 |
| <b>SAR Image Segmentation Based on Bayesian Network</b><br>J.G. Zhang, Y.X. Li and P. Chen                                                 | 1835 |
| <b>Application of Cloud Computing in Walling Management</b><br>B. Li                                                                       | 1840 |
| <b>The Design of Online Examination System Based on UML &amp; Component</b><br>Y.W. Xia                                                    | 1845 |
| <b>A Multicast Routing Algorithm with Cost, Delay and Bandwidth Constraints</b><br>Y.C. Li and G.F. Kuang                                  | 1850 |
| <b>Deep Web Data Integration with near Duplicate Free</b><br>M.J. Li, L.Y. Jia, J.G. You, J.M. Ding and H.H. Zhou                          | 1855 |
| <b>The Research &amp; Application of Network Learning Platform Based on the Component Composition</b><br>Y.W. Xia                          | 1860 |
| <b>Cyber Computing: From Plant Ecology to Cyber Ecology</b><br>Z.Y. Xia and Z. Bu                                                          | 1865 |
| <b>A Graphic Expression CRC Algorithm Based on Bytes Operation</b><br>J.M. Ma, K.S. Cai and X.J. Li                                        | 1870 |
| <b>Hiding Sensitive Association Rules by Adjusting Support</b><br>H. Wang                                                                  | 1875 |
| <b>Research on IETM System for Certain Equipment</b><br>Y.H. Liu, W.L. Li and X.J. Song                                                    | 1879 |
| <b>Multi-Path Relay Selection Based on Radio and Television Business</b><br>C.Y. Zhang and Y.D. Zhao                                       | 1883 |
| <b>A Scheduler Designed for the P2P Live Streaming System</b><br>L. Kai, H. Huai, W.M. Wang and Q. Ma                                      | 1889 |
| <b>Compressed Sensing Based Blind Carrier Frequency Offset Estimation for OFDM System</b><br>G. Yang, H.X. Yu and X.F. Zhang               | 1894 |
| <b>Cross-Media Retrieval Method Based on Space Mapping</b><br>X. Xu and S.M. Xi                                                            | 1898 |
| <b>Network Teaching System Trial Based on Cloud Computing</b><br>Y.W. Xia                                                                  | 1903 |
| <b>Research on Supply Chain Cloud Knowledge Service Mode</b><br>Y.Q. Lu, C. Li and R.Y. Sun                                                | 1908 |
| <b>Analysis of Encoding Methods Contributing to the Payload of Steganography</b><br>H.J. Luo, H.C. Xu and J.H. Sun                         | 1912 |

|                                                                                                                                                                                       |      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>HChord: A Hierarchical Chord Model</b><br>L. Yan and Y.F. Li                                                                                                                       | 1916 |
| <b>Construction and Research of Cloud Platform of College Computer Room Based on Private Cloud Computing Mode</b><br>C. Feng                                                          | 1921 |
| <b>Randon and Ridgelet Transformation Applicaton in Image Digital Watermark</b><br>Y.J. Li and Y.F. Li                                                                                | 1925 |
| <b>Online Payment Security System</b><br>Y.C. Liu                                                                                                                                     | 1930 |
| <b>Design and Implementation of Management Information System Based on SSH Architecture for Departments of Colleges and Universities</b><br>H. Zhang, H.B. Li and H.J. Liu            | 1933 |
| <b>The Research on Hand Gestures Segmentation Based on Skin Color Detection Combination with Dynamic Threshold</b><br>Y.T. Wang and F.J. Shao                                         | 1938 |
| <b>Building Mobile News Aggregation Application with Yahoo Pipes</b><br>H.B. Wang and Z.H. Wang                                                                                       | 1943 |
| <b>Research of Tourist Attractions Real-Time Query System Based on Mobile GIS</b><br>J.P. Dai                                                                                         | 1948 |
| <b>Architecture and Key Technologies of Cloud Computing</b><br>L.Y. Xiao, Z. Wang, R. Wang and H.N. Wang                                                                              | 1953 |
| <b>Load Balancing Algorithm Research for Virtual Machine Resources in Cloud Environment</b><br>Y.Q. Fang, J. Zheng and J.W. Ge                                                        | 1957 |
| <b>Analysis and Research of Modulation Recognition Algorithm in Satellite Communications</b><br>R. Bin, Z. Ping, C. Ying and S. Lei                                                   | 1961 |
| <b>Research on Optimization Algorithm of Reconfigurable Logical Operation Resource Configuration</b><br>H.Y. Li and F. Gao                                                            | 1968 |
| <b>The Important Position of Computer Aided Design in Architectural Creation</b><br>H.L. Guo                                                                                          | 1973 |
| <b>Joint Subcarrier and Power Allocation for Uplink Spectrum Sharing in Cognitive OFDM Networks: A Waterfilling Based Approach</b><br>Y.H. Ma, B. Zhang, W. Zhang and M.X. Xu         | 1979 |
| <b>A Research and Implement of Data Storage and Management Method Based on the Embedded MCU Data Flash</b><br>J.H. Ma, Z.X. Wang, G. Wang, Y.Y. Liu and Y.Q. Li                       | 1984 |
| <b>The Application of WiFi Technology in IPTV STB</b><br>H. Zeng, P. Ren and Z.L. Yang                                                                                                | 1989 |
| <b>Discrimination of the Lettuce Leaf Nitrogen Level Based on the BP Neural Network and the Spectral Information</b><br>J. Sun, X.M. Jin, Z.G. Dai, M.X. Zhang, X.C. Shen and W.X. Lv | 1993 |
| <b>Development of Web-Based Experiment for Integer Programming Using Java Applet</b><br>T.J. Shi and X.S. Ma                                                                          | 1998 |
| <b>A New Complicated Report Generation Scheme Base on XML and MS Word in B/S Model</b><br>B. Li                                                                                       | 2003 |
| <b>The Research and Design of SOA-Based Systems</b><br>J.J. Wang                                                                                                                      | 2008 |
| <b>MARM: Mobile Augmented Reality Map Based on Wireless GIS</b><br>L. Kai, N. Rui, W.M. Wang and Q. Ma                                                                                | 2014 |
| <b>Design of Mobile Blended Learning System Based on Context-Aware</b><br>J. Zhang, L.W. Zhang and T.Y. Zang                                                                          | 2019 |
| <b>Analysis of Image Encryption Algorithm Based on Chaotic Signal</b><br>Y.C. Zhao and J. Liu                                                                                         | 2024 |
| <b>Application and Development of the Embedded System on Linux</b><br>J. Liu and Y.C. Zhao                                                                                            | 2030 |
| <b>CloudDICOM: A Large-Scale Online Storage and Sharing System for DICOM Images</b><br>L.J. Liu and Q.S. Huang                                                                        | 2037 |

|                                                                                                                                                                               |      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>Data Analysis and Suggestions of Supply and Marketing Cooperatives Industry in the Agricultural and Sideline Products Deep Management</b><br>S. Cao                        | 2042 |
| <b>The Building of User Model of Personalized Learning Teaching System Based on Data Mining</b><br>W.Y. Rui and H.Y. Mi                                                       | 2047 |
| <b>Concrete Shrinkage and Creep Effect Prediction Model and the Influence Factors Analysis</b><br>R.F. Duan, X.F. Huang and H. Zhang                                          | 2051 |
| <b>Research on Recompile and Rebuilding of Batch Execution Plain SQL Server 2012</b><br>A.W. Li                                                                               | 2055 |
| <b>Identification of Pesticide Residues of Lettuce Leaves Based on LVQ Neural Network</b><br>J. Sun, L. Dong, X.M. Jin, M. Fang, M.X. Zhang and W.X. Lv                       | 2059 |
| <b>Synset Construction - Extending from Concepts Association of HNC to Lexical Semantic Web</b><br>L. Feng and Y.Q. Zhang                                                     | 2064 |
| <b>On Preservation of the Endangered Languages in Information Era: A Case Study of Tujia Language</b><br>C.H. Chen and L.H. Fang                                              | 2068 |
| <b>A Speech Signal Logarithmic Spectrum Amplitude Envelope Algorithm Analysis</b><br>Y. Ma and F. Wei                                                                         | 2072 |
| <b>Design and Development of the Virtual Acupuncture Training Using WebGL</b><br>Y.L. Huang and M.Q. Zhou                                                                     | 2076 |
| <b>A Syntactic, Semantic and Cognitive Analysis of Existential Sentence Oriented to Language Information Processing - Taking "V-Construction" as an Example</b><br>W.D. Xiong | 2081 |
| <b>On the Implementation of Cross-Layer Structure for the Interactive Teaching in Information System Course</b><br>Z. Li and Y. Li                                            | 2086 |
| <b>On the Information Sharing Model for Supply Chain Based on Stackelberg Game Theory</b><br>Z. Li and Y. Li                                                                  | 2090 |
| <b>The Design &amp; Application of Instrument Circulation System Based on WIFI and QR Code</b><br>H.Y. He, Y.G. Luo and X.P. Liu                                              | 2095 |
| <b>Research in Surface-Wave Sustained Plasma Fluorescent Lamps</b><br>J. Li and K. Wang                                                                                       | 2099 |
| <b>Design and Implementation of Intelligent Web Platform for Massive DataBase</b><br>Y.L. Luo                                                                                 | 2103 |
| <b>Mine Production 3D Remote Virtual Management System Based on Internet of Things</b><br>S.A. Du, J.W. An, L.J. Wang and X.W. Zhou                                           | 2107 |
| <b>Research and Development on Centrifugal Ventilator Selection Software</b><br>T. He, Y.X. Sun and L. Wang                                                                   | 2111 |
| <b>Model-Based Design of UAV Autopilot Software</b><br>M. Zuo, Y. Liu, Y. Qian, X.W. Hu, X.C. Zhao and J.H. Wang                                                              | 2115 |
| <b>A Method of E-Service Workflow Composition Based on Linear Logic Inference Rules</b><br>S. Zhou and F.Y. Zhang                                                             | 2120 |
| <b>Enabling Zigbee Communications in Android Devices</b><br>S.Q. Hu, Y. Fu, C.D. She and H. Yao                                                                               | 2125 |
| <b>Scheduling of Periodic Tasks with Data Dependency on Multiprocessors</b><br>J.L. Wang                                                                                      | 2131 |
| <b>CQI Prediction for Shadow Fading in LTE-Compatible GEO Mobile Satellite Communications System</b><br>Y.D. Zheng, M.K. Dong, Y. Jin and J.J. Wu                             | 2137 |
| <b>Kalman/Particle Filter for Integrated Navigation System</b><br>Z. Jiao and R. Zhang                                                                                        | 2142 |
| <b>ES-TMP: Inter-Domain Egress Selection Based on Traffic Migration Prediction</b><br>D. Zhao, X.F. Hu and C.Q. Wu                                                            | 2147 |
| <b>A Retrieval Sorting Approach for Online Forums Based on Domain Topics</b><br>Y.Y. Zhang                                                                                    | 2152 |

|                                                                                                                                                             |      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>A Data Collecting and Caching Mechanism for Gateway Middleware in the Web of Things</b><br>X.C. Chang, C.H. Zhang and L. Sun                             | 2157 |
| <b>Research of Unified Authentication System Based on LDAP</b><br>J.W. Ming                                                                                 | 2163 |
| <b>A Description and Transformation Approach for Model Driven Architecture</b><br>L. Wang                                                                   | 2168 |
| <b>Non-Uniform Cluster-Based Mobile Data Collector Routing Protocol in Wireless Sensor Networks</b><br>X.L. Zhou and S. Chen                                | 2173 |
| <b>A <math>\pi</math>-Calculus-Based Complaint Model for a User-Interactive Question Answering System</b><br>Y.C. Li, H. Duan, Q.T. Zeng and F.M. Lu        | 2178 |
| <b>A Design for Water Surface Communication System of Ultra Short Base Line Positioning System</b><br>F.P. Qiu, H.J. Wan and X.W. Wang                      | 2184 |
| <b>Architecture and Modeling for Virtual Test Bed</b><br>Y. Chen and Q. Lin                                                                                 | 2188 |
| <b>Research on the Third-Order Software Phase Locked Loop for Carrier Tracking</b><br>L.Y. Zhang, H.Y. Liu and H.Y. Du                                      | 2192 |
| <b>Dynamic Evolution of Requirement Goal Deployed on Network Environment</b><br>Y. Liu and J.Z. Wu                                                          | 2197 |
| <b>Research on DB2 Performance Testing Automation</b><br>L. Zhuang, Z. Gao, H. Wu, C.X. Yang and M. Zheng                                                   | 2204 |
| <b>Design of Dual-Mode RFID Reader</b><br>Y.L. Zhang, T.T. Wang and C.B. Shang                                                                              | 2209 |
| <b>An Efficient Routing Algorithm for Opportunistic Networks Based on Network Coding</b><br>Y.K. Yao, Z.H. Liu, Z. Ren and Y.D. Wen                         | 2214 |
| <b>Runtime-Based Behavior Dynamic Analysis System for Android Malware Detection</b><br>L.X. Min and Q.H. Cao                                                | 2220 |
| <b>Design and Realization of Simulation Environment of Embedded Software and Hardware Intergration Based on GEF</b><br>B. Geng and Q.H. Cao                 | 2226 |
| <b>Application of Link Prediction in Temporal Networks</b><br>H.H. Xu and L.J. Zhang                                                                        | 2231 |
| <b>Correlation Trust Authentication Model for Peer-to-Peer Networks</b><br>W. Cheng and Z.H. Tan                                                            | 2237 |
| <b>E-Forensics Application Research in the Agricultural Industry Regulator</b><br>Z.K. Chen and Z.L. Piao                                                   | 2243 |
| <b>Model Comparison and Data Interface Program Development between BPA and PSS/E</b><br>P. Li, P. Tian, H.Z. Liu and X. Wei                                 | 2249 |
| <b>Electronic Toll Collection System Based on ZigBee_MCU</b><br>H.Z. Li, T. Yang and C.L. Xin                                                               | 2255 |
| <b>An Interactive Distribution Network Reconfiguration Method in GridLAB-D/MATLAB Environment</b><br>X.Q. Wang, Y. Zeng, H.R. Zhang, G.Y. Liu and Z.Y. Yang | 2260 |
| <b>Research of Assisted Testing Method Based on Software Testability and Pattern</b><br>F. Xie and Y.C. Wang                                                | 2265 |
| <b>A Book Positioning System Based on Wi-Fi and RFID Technology</b><br>L. Li and K.J. Wu                                                                    | 2270 |
| <b>A New Energy-Efficient On-Demand Routing Protocol for Green Wireless Mesh Networks</b><br>Y.P. Yu, Y.H. Peng, L. Guo and M. Song                         | 2275 |
| <b>Target Tracking Based Adaptive Particle Filter in Binary Wireless Sensor Networks</b><br>L.D. Su, M.Y. Zhai and Z.Y. Zhu                                 | 2281 |
| <b>An Efficient Sleeping Scheduling for Save Energy Consumption in Wireless Sensor Networks</b><br>S.G. Jia, L.P. Lu, L.D. Su, G.L. Xing and M.Y. Zhai      | 2288 |
| <b>Global Synchronization of Moving Agent Networks with Time-Varying Topological Structure</b><br>L.F. Wang, Z. Kong and X.G. Wang                          | 2294 |

|                                                                                                                                                                                           |      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>A Novel Simplified Limit-1 Polling Communication System</b><br>J. Lu, H.W. Ding, Y.F. Zhao and M. He                                                                                   | 2300 |
| <b>The Algebraic Semantics of EPDL at Activity Level and Verification</b><br>J.Z. Liu, L.X. Wang, T. Li, Q. Yu, N. Zhao and F.L. Hang                                                     | 2306 |
| <b>Algebraic Semantics-Based Verification for EPDL at Task Level</b><br>J.Z. Liu, L.X. Wang, W. Wang, X. Zhang, Y. Qian and R. Zhu                                                        | 2311 |
| <b>An Android Terminal in TelosB Wireless Sensor Networks</b><br>S.Q. Hu, X.L. Zhang, H. Yao and C.D. She                                                                                 | 2316 |
| <b>Research and Application of Rule Engine in Scheduled Outage Management</b><br>B. Wu and Z.M. Guo                                                                                       | 2321 |
| <b>Distributed Rateless Codes Based on Random Matrices</b><br>Y.L. Xiao and H.B. Jiang                                                                                                    | 2326 |
| <b>A Middleware-Based Network Architecture for the Web of Things</b><br>J. Sha and J. Yang                                                                                                | 2332 |
| <b>Self-Adapting Acquisition of Sensor Data in Mobile Environment</b><br>C. Wang, C.H. Zhang and J. Yang                                                                                  | 2339 |
| <b>The Application of Electronic Map in Wireless Positioning System</b><br>Q.H. Wang, W.Z. Wang, D. Li and L. Chang                                                                       | 2345 |
| <b>Effect of Modulation Index of Mach-Zehnder Modulator on Single Sideband Radio over Fiber System</b><br>C. Jiang, X.G. Chen and Z.X. Liu                                                | 2350 |
| <b>Branch Unit for Seafloor Observatory Network</b><br>Y.B. Feng, Z.G. Li and X.H. Wang                                                                                                   | 2354 |
| <b>Visual Simulation of Node Localization for WSN Based on Vega Prime</b><br>Q.H. Wang, L. Chang, W.Z. Wang and J. Li                                                                     | 2360 |
| <b>Feasibility Analysis of Lightweight Conversion for Pro/E 3-D Models in Third-Party Formats</b><br>Z. Wang, Z. Pi and B. Zhao                                                           | 2365 |
| <b>Study on the Agricultural Internet of Things Key Technology of the Intelligent Control of Sunlight Greenhouse Complex System</b><br>B.G. Zheng                                         | 2369 |
| <b>Evaluating Network Security Based on Attack Graph</b><br>X. Gao, X.Q. Xu and M. Wang                                                                                                   | 2374 |
| <b>Design and Implementation of the Critical Functions in IETM System</b><br>K. Li, Y. Wang, M.L. Liu, X.Z. Wei, X.X. Liu and L. Li                                                       | 2379 |
| <b>Batch Job Based Auto-Scaling System on Cloud Computing Platform</b><br>Y.Y. Guo, J. Li, X.C. Liu and W.W. Wang                                                                         | 2386 |
| <b>Study on Visualized Network Security Test Platform</b><br>H.Y. Liu and W.F. Wang                                                                                                       | 2391 |
| <b>Artificial Neural Networks Identification of Lithology-Types in Complex Carbonate from Well Logs, Block K, in Uzbekistan</b><br>Y.P. Lin, T.Z. Wu, X.F. Sheng, C.S. Wang and T.W. Zhou | 2396 |
| <b>Research on Key Technologies in Multi-Robotic Spread Spectrum Communication System</b><br>Y.H. Zhu, Q. Cai and X.L. Huang                                                              | 2401 |
| <b>Design and Implementation of Linux PCIe Driver Based on FPGA</b><br>Z.J. Yin, H. Zhang and Q. Liu                                                                                      | 2406 |
| <b>Research and Implementation of Network Fault Location System Based on Event Correlation</b><br>J. Ling, Q.P. Zhang and W.M. Huang                                                      | 2410 |
| <b>Intelligent Evaluation System of Animation Works Based on ELP</b><br>J.L. Zhao                                                                                                         | 2416 |
| <b>Development of the Data Driven 3D Standard Part Library Based on Pro/E</b><br>J. Du and Y. Cao                                                                                         | 2422 |
| <b>Analysis of Web Attack and Design of Defense System</b><br>X.J. Zhu and Y.G. Lin                                                                                                       | 2428 |
| <b>Generation Technology of Test Cases of Object-Oriented Software</b><br>J. Chen                                                                                                         | 2433 |

|                                                                                                                         |      |
|-------------------------------------------------------------------------------------------------------------------------|------|
| <b>Neural Network Pattern Recognition and its Application</b><br>H. Xu, J.G. Lai, J.Y. Liu, N. Cao and J. Zhao          | 2438 |
| <b>An Intelligent Traffic Lights Schedule Approach Using WSNs</b><br>B.B. Zhou, P. Xu, L.Y. Chen, J.J. Liu and G.Y. Dai | 2443 |
| <b>Optimization of Spectrum Sensing Period in Cognitive Radio Networks Based on GA</b><br>Y. Liu, Y. Cui and O. Li      | 2448 |
| <b>Development of 3G Smart Meter System Based on Internet of Things</b><br>J.M. Lan, C.Y. Fu and J.W. Ju                | 2452 |
| <b>System Reliability Evaluation Using Bayesian Networks</b><br>L.Y. Liu, Q. Sun and Y. Wang                            | 2457 |

## **Chapter 4: Data Processing and Applied Computational Methods and Algorithms**

|                                                                                                                                                       |      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>A Corpus-Based Study of Chunks in Applied Linguistics Research Articles</b><br>G.S. Xiao and B.X. Cheng                                            | 2465 |
| <b>Geo<sup>X</sup>/G/1/N</b><br>M. Zhang                                                                                                              | 2470 |
| <b>The Application and Research of Personalized Network Teaching Resources Database Based on Data Mining</b><br>G.Y. Wang                             | 2475 |
| <b>Sparse Recovery Using Conjugate Gradient and Orthogonal Triangular Decomposition</b><br>X.H. Peng, S.X. Chen and X.Y. Liu                          | 2479 |
| <b>Semantic Map Model and Construction of Synset</b><br>Z.S. Zhang                                                                                    | 2484 |
| <b>The Research of Wine Quality Evaluation Based on Multiple Linear Regression</b><br>H.H. Liu, W.L. Ji, P. Zhang and C.W. Yao                        | 2489 |
| <b>The Realization of MP3 Player System Based on Mediastreamer2 Framework</b><br>H.Z. Lin, K.Q. Wu and L.F. Huang                                     | 2494 |
| <b>The Application of Rank Related Coefficient</b><br>J.C. Zhao and Z.S. Hui                                                                          | 2499 |
| <b>A Number of Issues to Need Focused to Research in Developmental Process of Software Development Method</b><br>Y. Gao and X.Z. Feng                 | 2503 |
| <b>Profit and Loss Calculation Model of Data Synchronization Based on Multi-Link</b><br>X. Yu                                                         | 2508 |
| <b>The Realization of Virtual Computer Equipment Experiment Based on VRML</b><br>Q.H. Ye                                                              | 2514 |
| <b>Research on Natural Disaster Risk Assessment Index System for Power Grid</b><br>G.F. Yang, J.K. Zhao, T.S. Li and J. Zhou                          | 2518 |
| <b>QBARM: A Queue Theory-Based Adaptive Resource Usage Model</b><br>S.F. Shang, J.H. Huo and Z. Zhang                                                 | 2523 |
| <b>The Projectively Flat Conditions of One Special Class (<math>\alpha, \beta</math>)-Metrics</b><br>W.J. Zhao, Y. Yan, L.N. Shi and B.C. Qu          | 2528 |
| <b>Multi-Dimensional Comprehensive Link Stability Model in Ad Hoc Network</b><br>G.Y. Chang, H.C. Yang and H.H. Yin                                   | 2533 |
| <b>Feasibility Analysis of the Confirmation of Self-Created Goodwill</b><br>J.P. Xie                                                                  | 2538 |
| <b>Enlightenment from Australian Network Security Plan to Chinese Information Security</b><br>J.H. Cheng, R. Zhao and C. Jin                          | 2542 |
| <b>Sample Size on the Impact of Imbalance Learning</b><br>W.M. Zhi, H.P. Guo and M. Fan                                                               | 2547 |
| <b>Maximum Profit Model for Longitudinal Multi-Level Inventory Structure</b><br>Y.M. Zhou, Z.G. Wang, Y.Y. Gao, Q. Zhang, M.Z. Shi, Y. Yu and X.Y. Li | 2552 |
| <b>Fuzzy Evaluation Expert System for Undergraduate Comprehensive Quality Based on Agent</b><br>C.H. Zhou, Y.C. Wang and C.X. Chen                    | 2557 |

|                                                                                                                                                          |      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>The Construction for Generalized Mandelbrot Sets of the Frieze Group</b><br>F.Y. Wang, L.M. Du and Z.Y. Han                                           | 2562 |
| <b>Mathematic Description of the Spiral Wooden Staircase Handrail Elbow</b><br>G.L. Xia, Y. Ma, Y.C. Jiang, F. Yu and H.J. Ding                          | 2567 |
| <b>The Computer-Aided Teaching Design of Writing a Memoir</b><br>G.L. Chen                                                                               | 2573 |
| <b>The Computer-Aided College English Vocabulary Learning and Instruction</b><br>X. Zou                                                                  | 2578 |
| <b>A Deep Web Data Extraction and Application System Based on Cloud Technology</b><br>Z.Y. Han, F.Y. Wang, P. Sun and Z.Y. Li                            | 2583 |
| <b>Generalized Hamming Weights of Cyclic Codes from Algebraic Function Fields</b><br>W.B. Hu and X.H. Fang                                               | 2588 |
| <b>Analysis and Design of the JCVM Runtime Environment</b><br>Y.H. Mao and D.P. Li                                                                       | 2593 |
| <b>Research on Organization Tacit Knowledge Transferring: An Evolutionary Game Theoretic Analysis</b><br>D. Li                                           | 2597 |
| <b>Research on Multi-Attribute Decision Making with Normal Distribution Weight</b><br>X.S. Zhao, H.X. Wang and W.F. Sun                                  | 2602 |
| <b>Mining Closed Weighed Frequent Patterns from a Sliding Window over Data Stream</b><br>C.C. Ge and X.F. Fu                                             | 2606 |
| <b>Aspect-Oriented Programming and Modeling Based on UML</b><br>Y.H. Chu and J.L. Yu                                                                     | 2610 |
| <b>Convergence of the Preconditioned AOR Method for an H-Matrix</b><br>J.J. Liu                                                                          | 2615 |
| <b>The Improved Genetic Algorithms Apply on Parameter Estimation of Two Parameters Logistic Model on Item Response Theory</b><br>P.D. Du and Y.H. Chu    | 2620 |
| <b>A Research on Genetic Algorithms Based on Test Paper Composition of Item Response Theory</b><br>T. Sun and Y.H. Chu                                   | 2625 |
| <b>Comparison Results on Preconditioned AOR-Type Iterative Method for M-Matrices</b><br>T. Zhou and H.F. Cui                                             | 2629 |
| <b>Community Evolution in Dynamic Social Networks</b><br>G. Wang, Y.L. Lei, C.J. Wang and S.J. Qiao                                                      | 2634 |
| <b>Development Trend Analysis on Corn Futures Price in our Country by Multiple Regression Model</b><br>J.Y. Chen and P.Y. Xi                             | 2639 |
| <b>On the First-Order Markov Model for the PLC Fading Channel</b><br>W. Shen                                                                             | 2644 |
| <b>A Novel Data Access Scheme in Cloud Computing</b><br>X.W. Gao, Z.M. Jiang and R. Jiang                                                                | 2649 |
| <b>Software Simulation Method for Digital if GNSS Signal</b><br>X.Y. Wu, J.R. Liu, H. Gong and G. Ou                                                     | 2655 |
| <b>A New Efficient Variant of the Batch RSA Cryptosystem</b><br>M.H. Gao and H.Y. Huang                                                                  | 2660 |
| <b>Fuzzy Comprehensive Evaluation Based on Set Pair Analysis of the Rural Power Grid Planning Project</b><br>J.X. Qi, S.L. Liu and J.L. Wang             | 2663 |
| <b>Study on Post-Evaluation for the Power Transmission and Transformation Project Based on AHP-Fuzzy Comprehensive</b><br>J.X. Qi, S.L. Liu and Z.Y. Sun | 2668 |
| <b>Credibility Analysis of a Tether Net Simulation System</b><br>Q. Lin and Y. Chen                                                                      | 2673 |
| <b>The Implementation of Serial Communication CSerial the Port Class</b><br>N.N. Wen, S.F. Gong and Y.J. Wang                                            | 2678 |
| <b>The Globally Linear Embedding Algorithm</b><br>J.Y. Xia and S.B. Lian                                                                                 | 2682 |

|                                                                                                                       |      |
|-----------------------------------------------------------------------------------------------------------------------|------|
| <b>Network Modeling and Performance Analysis under Time-Varying Channel and General Arrival of M2M Services</b>       |      |
| F. Li, X.F. Chi, J.S. Zhang and X.D. Li                                                                               | 2687 |
| <b>Improvements Based on the IPSec VPN Security</b>                                                                   |      |
| Y.Q. Fan, L. Lv, M.L. Liu and F. Xie                                                                                  | 2693 |
| <b>On Transformation from the Thesaurus into Domain Ontology</b>                                                      |      |
| P. Li and Y. Li                                                                                                       | 2698 |
| <b>A Constructive Heuristic for Two-Dimensional Bin Packing</b>                                                       |      |
| B.H. Wang, J.M. Liu, Y. Yue and M. Keech                                                                              | 2705 |
| <b>Security Issues and Challenges in Event-Driven Wireless Sensor Networks</b>                                        |      |
| L.L. Liang, Q. Zou, G. Yang and L. Shi                                                                                | 2711 |
| <b>A Method on Single Source Publishing for Music in DITA</b>                                                         |      |
| X.H. Liu, Y.M. Shi, P. Liu and N. Li                                                                                  | 2717 |
| <b>Formalization of Emotions with Intensity</b>                                                                       |      |
| R. Qiao and H. He                                                                                                     | 2724 |
| <b>Modelling and Analysis of River Networks Based on Complex Networks Theory</b>                                      |      |
| X.W. Wu, L. Li and Y.G. Qu                                                                                            | 2728 |
| <b>Analysis of the Multi-Channel MAC Protocols in Wireless Networks</b>                                               |      |
| C.G. Shi, H.T. Zhao, Y. Tang and Y.F. Zhou                                                                            | 2734 |
| <b>Improved Additive Operator Splitting Algorithms for Basket Option Pricing Model</b>                                |      |
| X.Z. Yang and G.X. Zhou                                                                                               | 2739 |
| <b>A New Parallel Difference Numerical Method for the Payment of Dividend Black-Scholes Equation</b>                  |      |
| X.Z. Yang and F. Zhang                                                                                                | 2744 |
| <b>A Weight-Based Road Impedance Function Model</b>                                                                   |      |
| J. Dong and G.J. Shen                                                                                                 | 2750 |
| <b>An Efficient Difference Algorithm for Black-Scholes Equation with Payment of Dividend</b>                          |      |
| L.F. Wu and X.Z. Yang                                                                                                 | 2756 |
| <b>Object-Oriented Programming Hardware/Software HSuports and Comparison</b>                                          |      |
| J.Y. Li, Y.H. Zhang, Z.K. Li and A.S. Fong                                                                            | 2762 |
| <b>Study of Multi-Project Conflicts by IGA Based on the Improvement of Fitness Function</b>                           |      |
| Z.F. Lv and X.D. Ma                                                                                                   | 2768 |
| <b>Technological Alliance Networks Analysis under Complex Network Perspective - Case of China's TD-SCDMA Industry</b> |      |
| L. Mei                                                                                                                | 2774 |
| <b>A Distribution Communication Network Scheme Involving DERs in Power Grid</b>                                       |      |
| N.H. Yu, X.P. Zhang, X.Y. Wang, R.Z. Wu and W.X. Liu                                                                  | 2779 |
| <b>Short-Time Traffic Flow Prediction Method Based on Universal Organic Computing Architecture</b>                    |      |
| S.Z. Nie, Y.H. Zhong and M. Hu                                                                                        | 2785 |
| <b>A Research of Network Congestion Pricing Mechanism in TCP Connection Based on Utility Model</b>                    |      |
| L.Y. Hu                                                                                                               | 2790 |
| <b>Security Analysis of 3G-WLAN Fusion</b>                                                                            |      |
| D.Y. Chen                                                                                                             | 2795 |
| <b>A Genetic Algorithm for Solving Knapsack Problems Based on Adaptive Evolution in Dual Population</b>               |      |
| T.S. Yan, G.Q. Guo, H.M. Li and W. He                                                                                 | 2799 |
| <b>A Novel Incorporate Algorithm of Concept Lattice</b>                                                               |      |
| X. Gong                                                                                                               | 2803 |
| <b>Fast Root-Finding of Nonlinear Equations in Geometric Computation</b>                                              |      |
| C.C. Geng, Z. Li, T.H. Zhou and B. Yang                                                                               | 2808 |
| <b>The Identification of Neurons Research</b>                                                                         |      |
| X.J. Shang                                                                                                            | 2813 |
| <b>The Recognition and Research of Improved Probabilistic Neural Network</b>                                          |      |
| X.J. Shang                                                                                                            | 2819 |

|                                                                                                                                                                     |      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>Research and Application of Parallel Computing under Linux</b><br>X.C. Wang and Q.L. Zheng                                                                       | 2825 |
| <b>SELinux-Based Secure Server Virtualization</b><br>X.Y. Ren and Y. Yu                                                                                             | 2829 |
| <b>Supply Chain Coordination Based on Buyback Contract under the Imperfect Product Quality and Fuzzy Demand Environments</b><br>X.B. Wang and Y.H. Wang             | 2834 |
| <b>A Mathematical Formula Retrieval Method Using Structure Sub-Tree</b><br>M.J. Guan, X.D. Tian, F. Yang and S.Q. Yang                                              | 2840 |
| <b>Analysis of Impact of Smart Terminal on CDMA Network and Solution</b><br>Y. Liu and Z. Xu                                                                        | 2846 |
| <b>Infrared Image and Visible Image Fusion Based on Wavelet Transform</b><br>Z.H. Zhou and M. Tan                                                                   | 2850 |
| <b>Hopf Bifurcation Analysis of a Three-Stage-Structured Prey-Predator System with Multi-Delays</b><br>S.Y. Li and W.W. Liu                                         | 2857 |
| <b>Teaching Agent Model Construction Based on Web Cooperative Learning System</b><br>Y.L. Li, Y.H. Zhong and Z.F. Zhang                                             | 2863 |
| <b>Mechanism of Sini Decoction on Coronary Heart Disease in Molecular Level</b><br>W.Y. Tao, L.Y. Wang, G.H. Cheng, J. Liu and L.P. Tang                            | 2868 |
| <b>On the Construction of Internet Traffic Billing System</b><br>C.Y. Lei and B. Huang                                                                              | 2873 |
| <b>The SaaS Applied in Oilfield Software</b><br>L. Sun and Z. Li                                                                                                    | 2878 |
| <b>The Optimal Robust Portfolio Model Based on CDaR</b><br>X. Yu                                                                                                    | 2883 |
| <b>Virtools Based Development of Computer Experiment</b><br>Y.Q. Wei, X. Gao and J.H. Gao                                                                           | 2887 |
| <b>Improving Iterative Retinex Algorithm for Dynamic Range Compression</b><br>S.D. Pan, X.J. An, H.T. Xue and H.G. He                                               | 2892 |
| <b>Multiple Targets Operation of Reservoir Group in Flood-Season in the Yangtze River</b><br>A.Q. Li and X.C. He                                                    | 2898 |
| <b>An Interest Management in Large-Scale Analytic Simulation</b><br>M. Yang, X.Y. Zhao, Y. Zhou and Y. Cai                                                          | 2904 |
| <b>The Modified Mortality Decomposition Model and its Application in the China Longevity Risk Analysis</b><br>N. Zhang                                              | 2912 |
| <b>Unique Solution for a Fourth-Order Boundary Value Problem</b><br>Y.Z. Ding and J.F. Xu                                                                           | 2918 |
| <b>Methods in Solving the Wave Equations for a Loudspeaker</b><br>J. Zeng, H. Wang and J.Y. Dong                                                                    | 2922 |
| <b>Quantum-Behaved Particle Swarm Optimization Algorithm for Solving Nonlinear Equations</b><br>X.F. Zhang and G.F. Sui                                             | 2926 |
| <b>The Difference Supervision Theory of Engineering Registration Workers Based on Bayesian Inference</b><br>Z.J. Feng, J.C. Liu, L.M. Wang, H.L. Zhang and P. Zhang | 2932 |
| <b>Improved Newton's Method for Calculation of Power Distribution Network Theory Energy Loss</b><br>X.M. Wang and L. Zhang                                          | 2936 |
| <b>Research Computer Network Remote Education Teaching Model</b><br>B.G. Song                                                                                       | 2940 |
| <b>The Implementation of Anti-Attack AES Mathematical Model in Library Network Encryption</b><br>Y.F. Shen                                                          | 2944 |
| <b>Uniqueness of Q-Difference Polynomials of Meromorphic Functions</b><br>K.Y. Zhang                                                                                | 2948 |

|                                                                                                                                                                  |      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>The Improvement of Fruit Fly Optimization Algorithm-Using Bivariable Function as Example</b>                                                                  |      |
| F.Q. Xu and Y.T. Tao                                                                                                                                             | 2952 |
| <b>Sub-Topic Segmentation in Multi-Document</b>                                                                                                                  |      |
| X.Y. Yun and W. Teng                                                                                                                                             | 2958 |
| <b>Research on Logistics Software Design and Development Process Bases on Organizational Learning</b>                                                            |      |
| Z.W. Wang and S. Qu                                                                                                                                              | 2962 |
| <b>The Analysis on the Construction of CSCW System and Group Collaborative Mode</b>                                                                              |      |
| Z.W. Wang and Y. An                                                                                                                                              | 2966 |
| <b>Pricing Based on the Binary Tree Model under Public Infrastructure Projects</b>                                                                               |      |
| D.J. Fan                                                                                                                                                         | 2971 |
| <b>Study of Performance Equivalent Simplification Analysis and Application of Stochastic Petri Nets</b>                                                          |      |
| D.B. Qi and Q.J. Li                                                                                                                                              | 2975 |
| <b>Weight-Discounted Symmetrization in Clustering Directed Graphs</b>                                                                                            |      |
| B. He, H. Liu, X.H. Zhao and Z.F. Li                                                                                                                             | 2979 |
| <b>A Summary of Comparative Study of Software Reliability</b>                                                                                                    |      |
| C. Peng, Y.J. Meng, L.Y. Lan and L. Wang                                                                                                                         | 2988 |
| <b>Implementation of TCP/NC Protocol Simulation Based on OMNET++</b>                                                                                             |      |
| H.Y. Zhang, W.R. Yu, C.Q. Wu, M. Wang and X.P. Xu                                                                                                                | 2993 |
| <b>Improvement of KEA Based on Lexical Chain</b>                                                                                                                 |      |
| Z.F. Li, X.H. Zhao, J. Yi and B. He                                                                                                                              | 2999 |
| <b>A Framework of Evaluation Methodologies for Network Anomaly Detectors</b>                                                                                     |      |
| X. Zhao, Y.K. Qian and C.S. Wang                                                                                                                                 | 3005 |
| <b>Multiscale Event Study of Private Placement Announcement Effect</b>                                                                                           |      |
| Y.L. Zhao                                                                                                                                                        | 3011 |
| <b>The Integrated Operation of the Network Security Equipments Based on HTTP</b>                                                                                 |      |
| S.A. Liu, Y.Z. Guo and X.Q. Yin                                                                                                                                  | 3016 |
| <b>Geometric Pseudospectral Method on Lie Group with Application to 3D Pendulum</b>                                                                              |      |
| J. Li, H.L. An, X.Q. Gu and H.T. Xue                                                                                                                             | 3021 |
| <b>The Bus Line Network Efficiency Evaluation Algorithm Based on the Theory of Fuzzy and Hierarchical Analysis</b>                                               |      |
| Z.Q. Liu                                                                                                                                                         | 3030 |
| <b>A Measurement Method for College Librarian Performance Based on Neural Network</b>                                                                            |      |
| P. Wang                                                                                                                                                          | 3034 |
| <b>Strategies for the Security of Online Payments in E-Commerce</b>                                                                                              |      |
| C. Zhang, S.J. Jiang and B. Huang                                                                                                                                | 3039 |
| <b>The Implementation of Virtual Studio Laboratory Based on Web</b>                                                                                              |      |
| Y. Zhao, X.M. Liu, F. Tian and F. Tian                                                                                                                           | 3043 |
| <b>Research of Software Development Model Based on the Theory of Software Engineering</b>                                                                        |      |
| L. Wang                                                                                                                                                          | 3048 |
| <b>Hebei Electric Power Energy Structure and the Power Supply and Demand Prediction under the Low-Carbon Economy - Analysis Based on the Gray GM (1,1) Model</b> |      |
| Y.S. Hang and Q. Zhu                                                                                                                                             | 3052 |
| <b>Research on Computer Virus Prevention Strategies</b>                                                                                                          |      |
| W.J. Cao, Y.C. Liu and Y.Q. Zhang                                                                                                                                | 3057 |
| <b>Finding Influentials Based on the User's Behavior in Microblogging</b>                                                                                        |      |
| C. Wang and S.Q. Chen                                                                                                                                            | 3061 |
| <b>Study on Automatic Test Paper Generation Algorithm Based on the Maximum Flow of the Upper and Lower Bounds</b>                                                |      |
| Y. Zhang, S.H. Huang, Y. Liu, Z. Fang and D.P. Dang                                                                                                              | 3065 |
| <b>The Recursive Algorithms of Yule-Walker Equation in Generalized Stationary Prediction</b>                                                                     |      |
| E.Y. Zhang and X.F. Zhu                                                                                                                                          | 3070 |
| <b>Human Factor Analysis Model of Civil Aviation Incidents Based on Bayesian Network</b>                                                                         |      |
| M.M. Zhang, Y.Y. Wang, M. Luo and W.Z. Tang                                                                                                                      | 3074 |

|                                                                                                                                                    |      |
|----------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>Comprehensive Evaluation of the Level of Consumption Based on Principal Component Analysis and Cluster Analysis</b><br>W.W. Chen and Y.N. Zhang | 3079 |
| <b>Regular <math>(\vee q_k)</math> - Fuzzy Duo Ordered Semigroups</b><br>Q. Cheng, F.L. Yuan, Y.Q. Yin and Q.Y. Chen                               | 3084 |
| <b>A Data Localization Algorithm for Distributing Column Storage System of Big Data</b><br>J.M. Ding, Y. Jiang, Q.X. Wang, Y.L. Liu and M.J. Li    | 3089 |
| <b>Research on Calculating the Parameters of Signal Timing for TSP Based on Enumeration Method</b><br>T.H. Gu and H.J. Cao                         | 3094 |
| <b>Static Voltage Stability Margin Calculation for the Microgrid Based on Immune Algorithm</b><br>M.G. Zhang and Z. Zhang                          | 3099 |
| <b>A Tag-Based Search Algorithm for Causal Bayesian Networks</b><br>T.P. Liu, M.M. Zhang and Y.Y. Wang                                             | 3103 |
| <b>A Novel Non-Data-Aided Frequency Estimation Algorithm for M-PSK Signals</b><br>Q.H. Tian, X. Man and S. Zeng                                    | 3109 |
| <b>Accelerating IDCT Algorithm on Xeon Phi Coprocessor</b><br>J. Qi, C.Q. Yang, C. Chen, Q. Wu and T. Tang                                         | 3114 |
| <b>Two-Dimensional Fourier Transforms Parallel Algorithm Research Based on the PC Clusters</b><br>J. He and L.Y. Li                                | 3121 |
| <b>The Super-Exponential Algorithm of Blind Equalization for Time-Varying Channel Based on Basis Expansion Model</b><br>C. Wang and B. Yang        | 3125 |
| <b>WLVT: A Static Wear-Leveling Algorithm with Variable Threshold</b><br>Y.H. Yang, X.B. Xu, S.B. He, F. Zhen and Y.P. Zhang                       | 3131 |
| <b>Applications of Multi-Objective Genetic Algorithm in Optimizing Steering Performances for Submersible</b><br>Z.Y. Yang, Y.J. Pang and S.L. Ma   | 3136 |
| <b>Prediction of Surface Ship's Residual Resistance Coefficient Using Neural Networks</b><br>L.H. Song, Z.G. Zhang, X.Z. Wang and D.K. Feng        | 3141 |
| <b>Modeling and Algorithm of Signal Coverage in Deep Space Communications</b><br>X.B. Wu, X.W. Zhou, S.A. Du and Y. Yang                           | 3145 |
| <b>Estimation of Failure Rate and its Applications</b><br>M. Han                                                                                   | 3149 |
| <b>Two Cascade Fault Models in Bayesian Networks</b><br>Y. Wang, Q. Sun and L.Y. Liu                                                               | 3153 |
| <b>Image Feature Extraction of Moment of Inertia Based on Otsu Threshold Segmentation</b><br>Q. Liu, L.M. Zhao and L.J. Zhang                      | 3157 |
| <b>New Convergence of Relaxed Parallel Multisplitting Method for the <math>H</math>-Matrix</b><br>Y.L. Zhang and L.T. Zhang                        | 3162 |
| <b>Data Sanitization Based on Weaken_Sensitive_Pattern Tree</b><br>X.M. Jiang and D.S. Xue                                                         | 3167 |
| <b>A Light-Weight Design Method for Vehicle with Welded Structure Based on Surrogate Model</b><br>Y.H. Gao, Q.P. Liu and W.Z. Zhao                 | 3172 |
| <b>A Novel Unconstrained Criterion for Blind Equalization Based on the Property of Vector Norm</b><br>D.L. Wang, B. Yang, Y. Wu and X.X. Wang      | 3177 |
| <b>Study of BLAST Signal Detection Algorithm in LTE System</b><br>T. Lei, D.P. He and F.T. Chen                                                    | 3183 |
| <b>Collision Detection between Rigid Bodies Based on Adaptive Test Lines</b><br>X.D. Shao, W. Gao and H.L. Liu                                     | 3189 |
| <b>Application of Genetic Algorithm and Neural Network in Construction Cost Estimate</b><br>G.L. Feng and L. Li                                    | 3194 |
| <b>A Finding Method of Shape Theme Based on Wavelet Time Series</b><br>Q. Guo and L. Guo                                                           | 3199 |

|                                                                                                                                                       |      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>The Application of Improved Adaptive Kalman Filter in GPS Kinematic Positioning</b><br>X.M. Ma and Y.R. Chen                                       | 3204 |
| <b>C-MAS: The Cloud Mutual Authentication Scheme</b><br>Z.P. Liu, F.L. Wu, K.Y. Shang and W.L. Chai                                                   | 3209 |
| <b>Combined Enhancement Algorithm Based on Muti-Scale Analysis</b><br>W.G. Yuan and S. Wang                                                           | 3215 |
| <b>Simulation and Implementation of an Improved Inscribed Chord Interpolation Algorithm</b><br>H. Zhang and Q.R. Wang                                 | 3220 |
| <b>Variables Screening Method Based on the Algorithm of Combining Fruit Fly Optimization Algorithm and RBF Neural Network</b><br>F.Q. Xu and Y.T. Tao | 3225 |
| <b>Research and Improvement on K-Means Clustering Algorithm</b><br>X.M. Wang and J.B. Wang                                                            | 3231 |
| <b>Audio Retrieval Based on Chinese Keyword Search in Relational Databases</b><br>B.Y. Zhu, G. Liu and L. Zhu                                         | 3236 |
| <b>Unsupervised Multi-Scale Fuzzy Clustering Algorithm Application in the Evaluation of Soil Fertility</b><br>L.Y. Cao, H.L. Yu, L. Ma and G.F. Chen  | 3241 |
| <b>Denoising Analysis on UWB Communication in Mine Tunnels</b><br>H.W. Zhang                                                                          | 3246 |
| <b>Application of XML for Telemetry Data Management</b><br>Z.G. Zhang, L. Gong and H.P. Wang                                                          | 3250 |
| <b>Parallel Artificial Bee Colony Algorithm for the Traveling Salesman Problem</b><br>K. Xu, M.Y. Jiang and D.F. Yuan                                 | 3254 |
| <b>A Clustering Algorithm of E-Learners Based on Rough Set</b><br>Y.H. Wang and H.Y. Ke                                                               | 3260 |
| <b>A Novel Adaptive Match Scheme for Parallel Mesh-Decomposition in OpenFOAM</b><br>M. Wang, Y.H. Tang and H.Y. Zhang                                 | 3265 |
| <b>A Bivariate Matrix Padé-Type Method of the 2-D Filters</b><br>C.Q. Gu and R.R. Cui                                                                 | 3271 |
| <b>An Application of MATLAB in Practical Problems</b><br>H.Y. Xie and Q.X. Bi                                                                         | 3276 |
| <b>Multifocus Image Fusion Based on Multiresolution Transform and Particle Swarm Optimization</b><br>Y.S. Liu, M.Y. Jiang and C.Z. Liao               | 3281 |
| <b>Orientation-Independent Tensor Voting Analysis</b><br>S.L. Guo and X.N. Wang                                                                       | 3286 |
| <b>A Novel Optimizing Mechanism of Load Balancing in LTE Network</b><br>Y. Luan, B. Wang, Z.B. Lv and J.Q. Wang                                       | 3293 |
| <b>Algorithm of Digital Watermark Based on Wavelet</b><br>S.Y. Lai and J. Wang                                                                        | 3298 |
| <b>A Novel Digital Watermarking Algorithm for Medical Color Image</b><br>X.D. Sun                                                                     | 3303 |
| <b>Wavelet-Domain High Resolution Image Reconstruction</b><br>L.W. Dong                                                                               | 3309 |
| <b>Based on Local Structural Similarity Image Denoising Algorithm</b><br>Z.H. Zhou and W.T. Zhang                                                     | 3313 |
| <b>A New Data Classification Algorithm for Data-Intensive Computing Environments</b><br>Q.Z. Deng, L.B. Zhang, X. Qian, Y.L. Chen and F.Y. Wang       | 3318 |
| <b>A Neural Network Based on Canonical Correlation for Multicollinearity Diagnosis</b><br>J.F. Nong                                                   | 3324 |
| <b>A Principal Components Analysis Self-Organizing Neural Network Model and Computational Experiment</b><br>J.F. Nong                                 | 3330 |
| <b>A Novel Approach to Improve the Frequency Resolution Based on Sparse Representation</b><br>W.M. Gui, R.F. Liu, G.Y. Bai and X. Shao                | 3336 |
| <b>High Quality Algorithm for Chinese Short Messages Text Clustering Based on Semantic</b><br>F.X. Yang                                               | 3341 |

|                                                                                                                                           |      |
|-------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>An Improved Differential Evolution Optimization Based on P System</b><br>Y.H. Zhong and S.Z. Nie                                       | 3346 |
| <b>Formation Vector Based Shortest Path-Planning in CGF Formation</b><br>F. Jie, Z.H. Lu and B.D. Xie                                     | 3351 |
| <b>Convolutional Blind Source Separation Based on Wavelet De-Noising</b><br>H.B. Zhang and P.F. Xu                                        | 3356 |
| <b>A Direct Filling Algorithm of Isogram in Complex Boundary</b><br>L.N. Huang and G.Z. Liu                                               | 3362 |
| <b>An Air Quality Predictive Model of Licang of Qingdao City Based on BP Neural Network</b><br>R.B. Xin, Z.F. Jiang, N. Li and L.J. Hou   | 3366 |
| <b>Mix-Subdivision Dynamic Terrain Visualization Algorithm</b><br>X.H. Zhao, B.D. Xie, D.P. Wan and Q.Y. Wang                             | 3372 |
| <b>Harmony Search Algorithm Based on Cloud Theory</b><br>L.F. Wang, Z. Kong and X.G. Wang                                                 | 3378 |
| <b>The Summarize of Improved HMM Model</b><br>F.F. Shi, X.Y. Cheng and X. Chen                                                            | 3384 |
| <b>Optimizing Parameters of Fuzzy Petri Net Based on Artificial Immune Algorithm</b><br>B.M. Liu, A.Q. Qi and W. Wei                      | 3389 |
| <b>An Anti-Collision Algorithm Based on Slot Location and Tag Estimation</b><br>Y. Liu and X.Z. Xiong                                     | 3394 |
| <b>A Solving Algorithm of Fuzzy Support Vector Machines Based on Determination of Membership</b><br>H. Duan and Y.M. Hou                  | 3399 |
| <b>Genetic Optimized BP Network Method for Camera Calibration in Binocular Vision</b><br>X.C. Hu, H.L. An, H.X. Ma, H.B. Xie and H.T. Xue | 3404 |
| <b>Vision Algorithms for UAVs Aerial Refueling Using Probe-Drogue</b><br>Z.D. Xu, Y.M. Wang, Y.C. Liu and C.J. Wan                        | 3410 |
| <b>A Strategy of Constructing Heterogeneous Cost-Sensitive Decision Tree</b><br>D.R. Yuan, X.M. Huang, Q.L. Duan and H.W. Fu              | 3414 |
| <b>A Feature Weight Algorithm for Text Classification Based on Class Information</b><br>Y.F. Li                                           | 3419 |
| <b>An Location-Routing Problem with Simultaneous Pickup and Delivery in Urban-Rural Dual-Directions Logistics Network</b><br>X.F. Wang    | 3423 |
| <b>A Statistical Local Binary Fitting Model for Blood Vessel Segmentation</b><br>S.F. Zhao, M.Q. Zhou and K. Wang                         | 3430 |
| <b>A Study of Negative Association Rules Mining Algorithm Based on Multi-Database</b><br>X.S. Peng, P. Cheng and M.G. Wang                | 3435 |
| <b>A Revised Distributed Interpretation for Ontology Integration</b><br>K. Liu, L. Zhang, S.Q. Tang and X. Qin                            | 3440 |
| <b>The Design for Automatic Target Reporting System Based on Image Processing</b><br>Z.H. Xu, W.Z. Li and Y.J. Xiao                       | 3446 |
| <b>A Novel Method for Fault Diagnosis Based on PCA Enhanced by Wavelet Denoising</b><br>F. Qiao, H.M. Zhao, F. Zhang and Q. Ma            | 3450 |
| <b>Improvements on Motion Estimation Algorithms in Video Coding for H.264/AVC</b><br>X.L. Wang and L. Zhao                                | 3455 |
| <b>The Calibration of Key Parameters for Sugarcane Harvester Basecutter</b><br>H.F. Wang, Z.P. Guo, C. Fu and B. Jing                     | 3461 |
| <b>Trajectory Optimization Applied to Space Rendezvous</b><br>X.M. Song and Q. Lin                                                        | 3466 |
| <b>Research on K-Anonymity Algorithm in Privacy Protection</b><br>C. Wang, L.Z. Liu and L.J. Gao                                          | 3471 |
| <b>One-Dimensional Searching-Based Particle Swarm Optimization</b><br>W.Q. Lin, Y.F. He and X.C. Zhao                                     | 3476 |
| <b>Analysis and Improvement of User Authentication Framework for Cloud Computing</b><br>N. Chen and R. Jiang                              | 3482 |

|                                                                                                                            |      |
|----------------------------------------------------------------------------------------------------------------------------|------|
| <b>Application of Ant Colony Algorithm Based on Optimization Parameters in Equipment Material Transport</b>                | 3487 |
| X. Li, L.Y. Chen, A.Z. Liu and S. Liu                                                                                      |      |
| <b>The Research of Edge Detection in RMB Paper Currency Value Identification</b>                                           | 3492 |
| X.H. Hou and H.H. Liu                                                                                                      |      |
| <b>A Kind of Enhanced Slotted ALOHA Algorithm for Anti-Collision in RFID System</b>                                        | 3497 |
| F.W. Meng, Y. Zhao, C.H. Ma and Y.L. Yang                                                                                  |      |
| <b>RFID Localization Algorithm Based on Taylor Series Expansion</b>                                                        | 3501 |
| Y.L. Yang, J. Zhang, F.W. Meng and C.H. Ma                                                                                 |      |
| <b>Optimizing the Performance of Machine Learning Based Traffic Classification</b>                                         | 3506 |
| Q.C. Wang, L. Wang and J. Xiang                                                                                            |      |
| <b>The License Plate Image Processing Based on MATLAB</b>                                                                  | 3511 |
| W.J. Li, K.L. Tian and J. Zhang                                                                                            |      |
| <b>An Improved Skin Color Detection Algorithm Model</b>                                                                    | 3517 |
| X.F. Dong                                                                                                                  |      |
| <b>An Adaptive Channel Estimation Based on Polynomial Fitting for LTE Uplink in High Doppler Spread Scenario</b>           | 3522 |
| B.J. Liu, X. Wang, X.Z. Tan and Y. Yu                                                                                      |      |
| <b>A Novel Algorithm Based on Clustering and Access Points Selection for Indoor Fingerprint Localization</b>               | 3527 |
| X. Zhang, L. Ma, X.Z. Tan and S.Z. Guo                                                                                     |      |
| <b>Study on the Multi-Core DSP Parallel Processing of Polarization Images Registration</b>                                 | 3532 |
| Z.Y. Li and Y.P. Ai                                                                                                        |      |
| <b>A New Conjugate Gradient Projection Method and its Application</b>                                                      | 3537 |
| H.F. Cui and T. Zhou                                                                                                       |      |
| <b>An Effective Image Fusion Method Based on Nonsubsampled Contourlet Transform and Pulse Coupled Neural Network</b>       | 3542 |
| L.J. Ma and C.H. Zhao                                                                                                      |      |
| <b>Gene Prediction Based on One-Dimensional Image Segmentation</b>                                                         | 3549 |
| F.Y. Wang, Z.W. Zheng and W.H. Li                                                                                          |      |
| <b>Curriculum Schedule Arrangement Solved by an Improved Immune Optimization Algorithm</b>                                 | 3556 |
| X.F. Li, A. Shi and J.G. Luo                                                                                               |      |
| <b>A Localization Algorithm of Multi-Hop Three Dimensional AOA with Space-Based Angle Transmission and its Application</b> | 3562 |
| Q.Z. Chen, Y.F. Ni, X.H. Li, R.J. Wu, Y.J. Lei and S.J. Fang                                                               |      |
| <b>Research on Node Localization Algorithm in WSN Basing Machine Learning</b>                                              | 3568 |
| Q.Z. Chen, Y.Z. Chen, C.L. Fan, F. Yang, P. Wang and Y.J. Lei                                                              |      |
| <b>Synchronous Optimization Method for Heterogeneous Database Based on the Minimal Data Set</b>                            | 3574 |
| Z.Y. Zhang, D.G. Wang and Z. Cao                                                                                           |      |
| <b>Blind Image Separation Based on an Optimized Fast Fixed Point Algorithm</b>                                             | 3578 |
| W. Yuan and L.Y. Zhang                                                                                                     |      |
| <b>A Realization of Security Model on Unified Database Console</b>                                                         | 3584 |
| H. Wang and L.Z. Liu                                                                                                       |      |
| <b>Face Recognition Algorithm Based on Kernel Collaborative Representation</b>                                             | 3590 |
| L. Zhang and J.W. Dong                                                                                                     |      |
| <b>Kernel Methods and its Application in Wavefront Reconstruction</b>                                                      | 3596 |
| Z.Y. Tan, Y. Chen, K. She and Y. Feng                                                                                      |      |
| <b>Coarse Frequency Offset Estimation of TD-LTE Based on Spectrum Centroid</b>                                             | 3602 |
| Y.C. Fu, C.H. Zhou, Y.L. Dong and Z.Y. Shi                                                                                 |      |
| <b>Transient Signal Feature Extraction Based on Box Dimension and the Largest Lyapunov Dimension</b>                       | 3607 |
| C.D. Zhao, F.J. Yan, M.H. Gao and L.F. Huang                                                                               |      |
| <b>Control Algorithm Optimization of Electric Air Conditioning Based on ADVISOR</b>                                        | 3611 |
| J.R. Nan and Z.C. Zhou                                                                                                     |      |
| <b>A Cross-Entropy Method for Solving Passenger Flow Routing Problem</b>                                                   | 3617 |
| Y. Jiang, X.C. Zhang and T.T. Gan                                                                                          |      |

|                                                                                                                                    |      |
|------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>Code-Switching Speech Detection Method by Combination of Language and Acoustic Information</b>                                  | 3622 |
| H.J. Zhang                                                                                                                         |      |
| <b>The Strong Convergence of a New Iterative Algorithm for Asymptotically Nonexpansive Mappings</b>                                | 3628 |
| Y.H. Wang and W.W. Sun                                                                                                             |      |
| <b>Algebraic Techniques in Linear Cryptanalysis</b>                                                                                | 3634 |
| H.R. Wei and Y.F. Zheng                                                                                                            |      |
| <b>An Evaluation Method of Combat Service Operation Performance for Surface-to-Air Missile Based on FNN</b>                        | 3640 |
| G. Li, D.P. Li, Y.Y. Zhou, L.W. Xu and J.F. He                                                                                     |      |
| <b>A New Hybrid GRASP with the Pilot Method Forthe Delay-Constrained Multicast Routing Problem</b>                                 | 3647 |
| Y. Xu, X.F. Zheng and R.F. Li                                                                                                      |      |
| <b>Imbalanced Data Detection Kernel Method in Closed Systems</b>                                                                   | 3652 |
| Y.L. Lu and J. Luo                                                                                                                 |      |
| <b>Parallel Outlier Detection in Dial-Back Fraud Calls</b>                                                                         | 3659 |
| B. Wu, F.D. Liao and D. Zhang                                                                                                      |      |
| <b>Application of Two Unknown Quantities and Three Points Interpolation in the Atmospheric Transmittance of Infrared Radiation</b> | 3665 |
| H.H. Sun, M. Li and J.S. Song                                                                                                      |      |
| <b>Retrieval Technology by Example during Product Development of Auto Parts</b>                                                    | 3669 |
| J. Chen, H. Huang, T. Wu and B. Duan                                                                                               |      |
| <b>Gear Fault Diagnosis Method of Intelligence Based on Genetic Algorithm to Optimize the BP Neural Network</b>                    | 3674 |
| J. Fang                                                                                                                            |      |
| <b>A Rescheduling Algorithm of Train-Group for Railway Emergencies and its Parallelization</b>                                     | 3680 |
| Z.F. Wang, L. Ruan and L.M. Xiao                                                                                                   |      |
| <b>The Calculation of the Magnetic Field Produced by an Arbitrary Shaped Current-Carrying Wire in its Plane</b>                    | 3687 |
| Z. Yu, C.H. Xiao, H. Wang and Y.Z. Zhou                                                                                            |      |
| <b>Improved Algorithm for Mining Maximum Frequent Patterns Based on FP-Tree</b>                                                    | 3692 |
| N.L. Liu and L. Ma                                                                                                                 |      |
| <b>A Variation Level Set Formulation Local Based C-V Model for Medical Images Segmentation</b>                                     | 3696 |
| Y. Yu, C.B. Huang and L. Li                                                                                                        |      |
| <b>Airborne SAR - ATI - GMTI Influence Factor Analysis</b>                                                                         | 3702 |
| W.D. Zhang, N. Song and J.F. Zhang                                                                                                 |      |
| <b>Adaptive HOG-LBP Based Learning for Palm Tracking</b>                                                                           | 3707 |
| J.B. Gao and Q.H. Cao                                                                                                              |      |
| <b>Multi-Objective Optimization of Quality in Laser Cutting Based on Response Surface Model</b>                                    | 3712 |
| H.J. Hao, M.L. Wang and F.Q. Hao                                                                                                   |      |
| <b>Optimized Algorithm for Mining Valid and Non-Redundant Rules</b>                                                                | 3717 |
| N.L. Liu and L. Ma                                                                                                                 |      |
| <b>Study on Predistortion Techniques and Adaptive Modulation Used in Fading Channels</b>                                           | 3723 |
| W. Liu and E. Zhang                                                                                                                |      |
| <b>Traceroute-Based Route Gathering and Repairing Mechanism of Client-Independent IP Geolocation System</b>                        | 3728 |
| Y.C. Tao, W.W. Jia, L. Shi, L. Wei and Y.J. Cao                                                                                    |      |
| <b>Application of Improved DV-Hop Localization Algorithm in Port Container Positioning</b>                                         | 3735 |
| S.Q. Chen and L.H. Zhang                                                                                                           |      |
| <b>A Blind Watermarking Algorithm Research Based on Fast DCT</b>                                                                   | 3740 |
| S.Y. Lai and J. Wang                                                                                                               |      |
| <b>Utilize Improved Particle Swarm to Predict Traffic Flow</b>                                                                     | 3744 |
| H.Y. Liu                                                                                                                           |      |
| <b>A Support State Marker Method for Detecting Discontinuities in Simulation of Dynamic Systems</b>                                | 3749 |
| Q. Yuan, D.L. Ding, G.M. Dai and G.H. Hong                                                                                         |      |

|                                                                                                                                                                                          |      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>An Energy-Efficient Routing Algorithm for Disruption Tolerant Networks</b><br>Y.K. Yao, W.X. Zheng and Z. Ren                                                                         | 3754 |
| <b>Predicting Protein Subcellular Localization Using the Algorithm of Diversity Finite Coefficient Combined with Artificial Neural Network</b><br>Z.Y. Wu and Y.H. Chen                  | 3760 |
| <b>Distributed Heterogeneous Database System Synchronization Problems in Intelligent Building</b><br>H. Pang, L.T. Gao, F.X. Meng and B. Liu                                             | 3766 |
| <b>Comparing Intuitionistic Fuzzy Set Theory Method and Canny Algorithm for Edge Detection to Tongue Diagnosis in Traditional Chinese Medicine</b><br>Y.S. Chen, Y.M. Chang and J.C. Lin | 3771 |
| <b>A Improve Robust Watermarking Algorithm for Binary Images</b><br>L. Zhang                                                                                                             | 3775 |
| <b>Predict the Tertiary Structure of Protein with Error-Correcting Output Coding and Flexible Neural Tree</b><br>Y.M. Chen and Y.H. Chen                                                 | 3781 |
| <b>A Terahertz Compressive Imaging Method Based on Single Detector of Randomly Moving Template</b><br>S.Q. Shang, M.G. Wang, W. Li and Y. Yang                                           | 3785 |
| <b>Study on System for Establishing and Sustaining Plasma Used to Antenna</b><br>L.F. Xu and H.J. Kang                                                                                   | 3789 |
| <b>The Ziegler-Nichols PID Parameters Setting Method Based on the Ideal Relay Feedback Identification and its Improvements</b><br>H.Y. Li                                                | 3794 |
| <b>Gas Emission Prediction of Coal Mine Based on Evidence Theory Combining with Neural Network</b><br>Z.M. Duan and J.T. Cheng                                                           | 3799 |
| <b>Power Transform Fault Diagnosis Based on the Adaptive Mutation Particle Swarm Optimization</b><br>Z.M. Duan and J.T. Cheng                                                            | 3804 |
| <b>Parameter Optimization Based on Genetic Algorithm in the Research of Equivalent Pruning Effect on Fuzzy Decision Tree</b><br>Y.J. Dong and T.Z. Liu                                   | 3809 |
| <b>A Performance Tool for Earth System Models Development</b><br>H. Li and Z.Z. Luan                                                                                                     | 3814 |
| <b>Research on Visual Simulation of Space Target Optical Imaging</b><br>H.Y. Liu, S.A. Liu and L.Y. Zhang                                                                                | 3821 |
| <b>Conformal and <math>G^1</math> Continuous Connection of NURBS Curves</b><br>P.S. Deng, S.P. Chen and J.C. Shen                                                                        | 3826 |
| <b>Defect Detection in Patterned Fabrics Using Wavelet Filter</b><br>Y.L. Ying and D.E. Chen                                                                                             | 3831 |
| <b>The LBP Integrating Neighbor Pixels on Face Recognition</b><br>W.S. Li and L. Chen                                                                                                    | 3835 |
| <b>A Method for Extracting Biomedical Signals with Specific Temporal Structure</b><br>Y.J. Zhao, H.N. Jiang and M.X. Qu                                                                  | 3841 |
| <b>A Method for Extracting Signals with Specific Normalized Kurtosis Range</b><br>Y.J. Zhao, M.X. Qu and H.N. Jiang                                                                      | 3845 |
| <b>Kernal Based Semi-Supervised Clustering and its Application in Leave Recognition of Bauhinia Blakeana Leaves</b><br>X.Y. Yang and F.S. Yu                                             | 3849 |
| <b>Study of Segmentation Threshold Based on Wavelet Transform</b><br>J.Y. Li and H.J. Wang                                                                                               | 3855 |
| <b>A New Compensation Method of HRRP for Ballistic Targets</b><br>X.X. Li, H.Y. Yao and W.F. Sun                                                                                         | 3860 |
| <b>A Collaborative Filtering Recommendation Algorithm Based on Bipartite Graph</b><br>D.E. Chen and Y.L. Ying                                                                            | 3865 |
| <b>Image Labeling Model Based on Conditional Random Fields</b><br>Y. Yan, W.B. Huang, Y.J. Wang and N. Li                                                                                | 3869 |

|                                                                                                                                                                       |      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>An H Infinity Approach to Synchronization of Chaotic Systems</b><br>L.M. Du, F.Y. Wang, C.C. Sun and Z.Y. Li                                                       | 3874 |
| <b>A Quick Extraction Algorithm Using Window-Scanning for Moving Vehicles</b><br>J.Z. Yang and T.S. Fan                                                               | 3879 |
| <b>Global Robust Exponential Stability of Interval Cohen-Grossberg Neural Network with Time Varying Delays</b><br>R. Zhang, J. Liu, M.X. Li and M.J. Liu              | 3884 |
| <b>Research on Image Seam-Line Removing Based on Illumination Correction</b><br>W.B. Sun, H.Y. Tang, H.T. Wang and Y. Chang                                           | 3889 |
| <b>Research on Seam-Line Detection of Mosaic Image Based on Radon Transform</b><br>W.B. Sun, H.Y. Tang, Y. Chang and D.B. Zhang                                       | 3894 |
| <b>An Overview of Collaborative Filtering Recommendation Algorithm</b><br>P. Sun, Z.Y. Li, Z.Y. Han and F.Y. Wang                                                     | 3899 |
| <b>A Framework for Template Driven Automatic Generated Platforms</b><br>S. Hu, J. Li and H. Song                                                                      | 3904 |
| <b>No-Load Voltage Waveform Optimization of Integral Number Slots Large Hydro-Generator by Increase the Number of Damper Bars per Pole</b><br>Z.G. Zhang and Z.N. Fan | 3909 |
| <b>An Improved Algorithm for Gesture Recognition</b><br>P.P. Chen, D.Y. Tan, Q.Q. Xu and Q.Z. Liang                                                                   | 3914 |
| <b>Boundary Segmentation Based on Improved GVF Snake Model</b><br>W.B. Huang, Y. Yan and Y.J. Wang                                                                    | 3920 |
| <b>Analysis Based on of Android Malicious Code Intrusion Detection</b><br>L. Liu and D.P. Li                                                                          | 3924 |
| <b>A Real-Time Scheduling Algorithm Based on Priority Table</b><br>E.F. Su, K.L. Zhang, X.S. Zhou and C. Fan                                                          | 3929 |
| <b>Study on Jamming to Sidelobe Cancellation of Phased-Array Radar</b><br>Y.Z. Hao, J.S. Jiao, F.C. Zhang, W. Hui and S.Q. Wang                                       | 3937 |
| <b>Agricultural Optimization of Cold-Chain Logistics Distribution Routing Based on PSO</b><br>W. Yang, Q. Zhang and G.D. Li                                           | 3941 |
| <b>Simple and Robust RSSI Estimation Using M-Estimator</b><br>Q.Z. Zhu, L. Yang and W. Li                                                                             | 3946 |
| <b>Research on the Algorithm of Topology Discovery Based on Switch MAC's Self-Learning</b><br>R. Huang and J.F. Wang                                                  | 3952 |
| <b>The Digital Signal Processing Algorithm Implemented on ARM Embedded System</b><br>J.X. Chen and H.J. Sun                                                           | 3958 |
| <b>Analysis of Face Detection and Feature Location Application on Intelligent Character Design Situations</b><br>H.Y. Li                                              | 3962 |
| <b>Optional Feature Vector Generation for Linear Value Function Approximation with Binary Features</b><br>B.Y. Ren, Z. Qin and F.F. Zhao                              | 3967 |
| <b>A Variable Step Size LMS Adaptive Filtering Algorithm and Simulations Based on Computational Verb Theory</b><br>L.H. Sun and B.Y. Zheng                            | 3972 |
| <b>DOA Estimation for Antenna Array with Partially-Well Sensors via Low-Rank Matrix Completion</b><br>H.X. Yu, X.F. Zhang, J.F. Li and D. Ben                         | 3977 |
| <b>A Distributed Algorithm for Skyline Query Based on Pre-Clustering</b><br>P.Q. Ruan, C.W. Xu, J.T. Huang, L.K. Qing and C.Q. Ji                                     | 3982 |
| <b>Analysis of the Computer Processing System of Remote Sensing Satellite Images</b><br>C.Y. Li, X.W. Shi, X.J. Li, H.Y. Li and L. Deng                               | 3987 |
| <b>High-Resolution Terrain Rendering Algorithm Based on Fractal Theory</b><br>B. Li, B.H. Di, R.X. Fan, S. Li and J. Yang                                             | 3992 |
| <b>An Improved Tabu Search Algorithm for a Type of Single Machine Sequencing Problem</b><br>M.L. Wang and W.B. Liu                                                    | 3997 |
| <b>Comparison and Improvement of Intelligent Optimization Algorithms</b><br>M.L. Wang                                                                                 | 4002 |

|                                                                                                                                                                               |      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>A Real-Time Face Recognition System for Android Smart Phone</b><br>G. Yang and J.N. Luo                                                                                    | 4006 |
| <b>An Anti-Collision Algorithm for Applications with Massive RFID Tags</b><br>H. Zhang and J.S. He                                                                            | 4011 |
| <b>Research on Combination Prognostic Method Based on LS-SVM</b><br>W.L. Li, Y.H. Liu and X.J. Song                                                                           | 4016 |
| <b>Research on Mean Shift Algorithm</b><br>Y.Z. Zhao, H. Wang and G.C. Yin                                                                                                    | 4021 |
| <b>Smooth Edge Feature Lines Extraction from Point Clouds of Eroded Fractured Fragments</b><br>J.B. Lin, M.Q. Zhou and Z.K. Wu                                                | 4026 |
| <b>A Root-MUSIC Algorithm for Angle Estimation in Bistatic MIMO Radar</b><br>J.W. Liu, R.Z. Cao and X.F. Zhang                                                                | 4031 |
| <b>Research on Reverse Logistics Network Optimization Based on Robust Optimization</b><br>L.M. Ju and X.B. Yue                                                                | 4036 |
| <b>SAR Image Recognition Combined Bidirectional 2DPCA with PCA</b><br>D.G. Wang, Z.L. Yang and S. Chang                                                                       | 4041 |
| <b>SAR Images Recognition Combined Bidirectional 2DPCA with KPCA</b><br>D.G. Wang, Y. Li and F.L. Jin                                                                         | 4045 |
| <b>A New Fuzzing Technique Using Niche Genetic Algorithm</b><br>X.Y. Zhu and Z.Y. Wu                                                                                          | 4050 |
| <b>The Improved MFCC Speech Feature Extraction Method and its Application</b><br>X.Y. Wang                                                                                    | 4059 |
| <b>Extraction and Classifier Design for Image Recognition of Insect Pests on Field Crops</b><br>H.T. Zhang, Y.X. Hu and H.Y. Zhang                                            | 4063 |
| <b>Context Quantization Based on the Modified K-Means Clustering</b><br>M. Chen and F.Y. Wang                                                                                 | 4068 |
| <b>A Greedy-Based Computer Algorithm for Train Stop Schedule in High-Speed Railway Network</b><br>Z.H. He, L. Nie and H.L. Fu                                                 | 4073 |
| <b>Research on a Kind of Algorithm Cell Search in TD-LTE System</b><br>F.T. Chen and C.Y. Xu                                                                                  | 4078 |
| <b>Study of the Non-Dominated Sorting Genetic Algorithm for the Optimal Structural Parameter of the Tooth-Arrangement Multi-Fingered Dextrous Hand</b><br>Z.L. Li and X.T. He | 4082 |
| <b>Fast Image Positioning Based on Mark</b><br>W.G. Zhang and C.Y. Zhang                                                                                                      | 4090 |
| <b>Fault Diagnosis of Grounding Grid Based on Genetic Algorithm and Neural Network</b><br>W. Qian, M.H. Qiu, M. Wu and X.Y. Shi                                               | 4095 |
| <b>The Research of Label Identification Method Based on Fuzzy Theory</b><br>X.Y. Bu and P. Liu                                                                                | 4100 |
| <b>Pedestrian Tracking Based on Improved Particle Filter under Complex Background</b><br>Y. Fu and X. Long                                                                    | 4103 |
| <b>Microscopic Image Segmentation of Chinese Herbal Medicine Based on Region Growing Algorithm</b><br>Q. Liu, L.J. Zhang and X.P. Liu                                         | 4110 |
| <b>Similarity of Macaque Face Images Based on PCA</b><br>J.Q. Zhang, X.Y. Li, H. Yu Xia and Z.L. Wang                                                                         | 4116 |
| <b>Dynamic Building Tracking from UAVs Based on Image Manifold Learning</b><br>P. Zhang and Y.Y. Ren                                                                          | 4121 |
| <b>Image Denoising Method Based on <math>\nu</math>-Support Vector Regression and Noise Detection</b><br>C.Y. Wang and Z.L. Gao                                               | 4126 |
| <b>Recognition of Topology Feature of Graphene by Image Processing Technique</b><br>M.F. Wang, J.L. Feng, X.P. Zou, X.L. Li, P. Li, Q.J. Liu, W.F. Shan, Y. Han and Y.P. Shen | 4133 |
| <b>Real-Time 3D Hand Gesture Detection from Depth Images</b><br>L. Song, R.M. Hu, H. Zhang, Y.L. Xiao and L.Y. Gong                                                           | 4138 |
| <b>The Passive Location of Emitter Based on Fuzzy Method</b><br>W.L. Xu, Z. Liu and H.Y. Nie                                                                                  | 4143 |

|                                                                                                    |      |
|----------------------------------------------------------------------------------------------------|------|
| <b>The SPWM Pulse Width Signal Spectrum Analysis Based on MATLAB</b><br>Z. Tao, L. Zhi and J. Long | 4147 |
|----------------------------------------------------------------------------------------------------|------|

## **Chapter 5: Power Systems and Electronics, Microelectronics and Embedded, Integrated Systems, Electric Applications**

|                                                                                                                                                               |      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>The FPGA Implementation of Pulse Wave Feature Extraction</b><br>D.J. Guan and L. Lin                                                                       | 4155 |
| <b>Research on Embedded GPS/GPRS Intelligent Building Security Technology</b><br>J.X. Di, J.G. Zhao, Y.C. Si and J.J. Fan                                     | 4161 |
| <b>The Grid-Connected Inverter of Simulation on Direct-Drive Wind Power System Based on MATLAB</b><br>X.M. Wang, W.C. Liu and W.J. Xiao                       | 4166 |
| <b>Simulation Study on Dynamic Reactive Power Compensation of Grid-Connected Wind Farms</b><br>X.M. Wang and X.X. Mu                                          | 4171 |
| <b>An Electrical Design for Crude Oil Dilution</b><br>D.L. Guan and F. Yang                                                                                   | 4175 |
| <b>An Adaptive Power Allocation for Spatial Multiplexing in MIMO Channels</b><br>S.Q. Fan, Y.D. Huang, E.Q. Xu, K. Zhang, H.Z. Zhu, H. Zhai and N. Jiang      | 4179 |
| <b>Determine and Analysis of the Power Line Failures in Circuit Bridge Theory</b><br>S.G. Niu and Y. Niu                                                      | 4184 |
| <b>Verification of Dependable Architecture Based on Prototype Verification System</b><br>L. Yuan and P. Fan                                                   | 4188 |
| <b>Short Term Load Forecasting Based on PCA and LS-SVM</b><br>R.R. Wei, Z.Z. Wei, R. Rong, Y. Wang, J.D. Jiang and H. Yu                                      | 4193 |
| <b>Design of Signaling for Multi-Process Micro-Kernel Embedded OS on ARM</b><br>B. Qu and Z.X. Yang                                                           | 4198 |
| <b>Power Supply System of Complex Based on FPGA Using LTM4601 to Design Efficient DC/DC Voltage Regulator Module</b><br>Z.D. Wang                             | 4203 |
| <b>Design of SD Card Driver and Tiny FS for Multi-Process Micro-Kernel Embedded OS on ARM</b><br>B. Qu                                                        | 4207 |
| <b>Reason Analysis and Solution of the 220kV Breaker's Malfunction in Synchronous Parallel Operation</b><br>W. Zhang, N.Y. Li and Y.Q. Dun                    | 4212 |
| <b>Study on a Craft Simulation Technology for the MEMS Thermal Element</b><br>C.Z. Mei, L.H. Piao and B.L. Zhang                                              | 4217 |
| <b>Study on Fluidic Gyroscope Linearity Compensation Method</b><br>C.Z. Mei, L.H. Piao and B.L. Zhang                                                         | 4221 |
| <b>Study on Fluidic Gyroscope Zero Temperature Compensation Method</b><br>C.Z. Mei, L.H. Piao and B.L. Zhang                                                  | 4225 |
| <b>An Energy-Efficient Approach to Hot-Plugging of Embedded Multiprocessors</b><br>J. Xia                                                                     | 4229 |
| <b>Display System of OLED Based on FPGA</b><br>Z. Zhan                                                                                                        | 4235 |
| <b>Design of MINIX FS for Multi-Process Micro-Kernel Embedded OS on ARM</b><br>B. Qu and C.W. Chen                                                            | 4240 |
| <b>Design of Primitive Shell for Multi-Process Micro-Kernel Embedded OS on ARM</b><br>B. Qu                                                                   | 4245 |
| <b>RTDS-Based Simulate Analysis of AC Filters Switch Method in HVDC Converter for Voltage Stability</b><br>X.J. Zhu, T. Chen, W. Fang, L.J. Qian and Y.Y. Wen | 4250 |
| <b>Transient Analysis of Indirectly Grounded Power System</b><br>J. Yan, L.J. Qian, J.C. Mei, X. Hou and W. Fang                                              | 4254 |

|                                                                                                                                                                |      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>The Simulation Research of Self-Excited Startup for Wind Generator Based on RTDS</b><br>Y.L. Hu, R.R. An, J.C. Mei, L.J. Qian and J. Yan                    | 4258 |
| <b>Research on Dynamic Characteristics of Large Span Transmission Tower in Icing Environment</b><br>Y. Du, L. Jiang, Y.X. Zhou, Q.R. Li, T.R. Wan and Z.J. Pan | 4262 |
| <b>Use N+ Buried Layer to Design a Low On-Resistance VDMOS</b><br>Z.H. Tang, B. Wang, J.N. Wang and K.Z. Tan                                                   | 4267 |
| <b>Compensation Effect and Simulation of Series-Parallel Hybrid Dynamic Voltage Restorer</b><br>Y. Shi and X.L. Wang                                           | 4271 |
| <b>Equivalence of Large Scale Wind Farm Based on Per-Unit System on RTDS</b><br>Y. Wang, Y.L. Hu, D.X. Sun, T. Ding and L.J. Qian                              | 4275 |
| <b>The Main Circuit Studies of Current Mode APF Based on SPWM Technology</b><br>H.Y. Zhou                                                                      | 4279 |
| <b>A Novel 2-GS/s 12-Bit DAC in SiGe HBT Technology</b><br>Y.J. Yang, R.B. Hu and J. Chen                                                                      | 4283 |
| <b>Analysis of the Dielectric Loss in the Transmission Line Based on Time Domain BLT Equation</b><br>W.J. Wang and Z.W. Xuan                                   | 4287 |
| <b>Application of the BLT Equation for Radiation Field Calculation for Double Transmission Line</b><br>H.Z. Xu and W.J. Wang                                   | 4292 |
| <b>The Application of ATCA Structure for Power Communication Switching System</b><br>H.Q. Yin, W.N. Wu, J.H. Guo and J.M. Wu                                   | 4296 |
| <b>A High Speed Open-Loop Track/Hold Circuit in CMOS Process</b><br>Z.P. Zhang, Y.L. Wang and M. Liu                                                           | 4302 |

## **Chapter 6: Manufacturing, Industry Development and Automation**

|                                                                                                                                               |      |
|-----------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>Optimization of Long Distance Natural Gas Pipeline Design Proposals Based on Multi-Objective AHM Method</b><br>F.J. Dong and X.F. Lu       | 4309 |
| <b>A New Study of Assembly Scheduling Effective Constraint Method in Assembly Planning</b><br>Y. Meng                                         | 4314 |
| <b>Study on Load Analysis of Frame for Pavement Cold Recycling Machine</b><br>J. Liu                                                          | 4318 |
| <b>Manufacture of Nuzzles Integrated with Saddle Pad</b><br>L.Z. Tian                                                                         | 4322 |
| <b>Accelerating Unpopular Channel through Federation</b><br>J. He, W. Zhou and S.P. Wang                                                      | 4326 |
| <b>Research of the Transient Temperature Field and Friction Properties on Disc Brakes</b><br>J. Zhang and C.G. Xia                            | 4331 |
| <b>Cyber Security Situation Awareness Based on Data Mining</b><br>J. Liu, X.W. Feng, J. Li and D.X. Wang                                      | 4336 |
| <b>Simulation of Electromagnetic Launch Type Tear Weapon System</b><br>M. Wang and Z.M. Liu                                                   | 4343 |
| <b>Research on Automatic Compensation for Drop in the Concrete Mixing System</b><br>A.L. Fan                                                  | 4349 |
| <b>Finite Element Analysis of Flow Distribution on Nozzle Array Fluidic Gyroscope Performance</b><br>J.B. Chen, L.H. Piao and J. Tang         | 4353 |
| <b>Research of Static and Dynamic Characteristic Simulation and Experiment for the Sliding Valve</b><br>R. Wu, Z.F. Yu, R. Yang and Y.J. Chen | 4357 |
| <b>Research on Structure Analysis of an Flexible Flywheel Based on FEA</b><br>Y.Y. Zhang, C.X. He and M.M. Zhu                                | 4363 |
| <b>Nonlinear Machine Parameter Model of a High Performance Drive System</b><br>M.L. Wu                                                        | 4367 |

|                                                                                                                                               |      |
|-----------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>A Novel Hybrid Threshold Proxy Signature Scheme</b><br>X. Yang, L. Zhang, C.M. Li and G.Q. Li                                              | 4372 |
| <b>Intelligent Setting Method of Laminar Cooling Process for Hot Rolled Strip</b><br>J. Hou, J.X. Pian, Y.L. Sun and K. Xu                    | 4377 |
| <b>Mechanism for Security Enhancement in Mobile Application Installation</b><br>P. Zhang, H.L. Sun and Z. Yan                                 | 4382 |
| <b>Calculation on Energy Saving Potential of a New Dry-Type Air-Conditioning System</b><br>X.W. Hu, Y.F. Zhang, L.L. Wei and X.H. Wu          | 4388 |
| <b>Impact of Automation to Maritime Technology</b><br>S. Ding, D.F. Han and B.S. Zhang                                                        | 4394 |
| <b>Research of Electric Power Steering System Assistance Characteristic Based on the Identification of the Road</b><br>Q. Li and C.G. Xia     | 4401 |
| <b>Gabor-LBP Features and Combined Classifiers for Music Genre Classification</b><br>H.Q. Wu and M. Zhang                                     | 4407 |
| <b>A Method for Chinese Noun Phrase Recognition Base on Word Co-Occurrence Directed Graph</b><br>X.L. Liu                                     | 4412 |
| <b>Irreversible Thermodynamic Discussions about Ferroelectric Phase Transitions</b><br>J.S. Wang                                              | 4419 |
| <b>An Interval Type-2 Fuzzy Cellular Automaton Model for Traffic Flow</b><br>J. Dong and X.M. Zhang                                           | 4423 |
| <b>The Reverse-Engineering-Based Design of Three-Dimensional CAD Parameterized Organic Morphology Mold</b><br>W. Ye and R.Y. Liang            | 4429 |
| <b>Large Size Static Pressure Box Airflow Distribution</b><br>G.D. Liu, X.X. Wang, X. Wang, F. Qi, G. Wang and S.T. Hu                        | 4433 |
| <b>Aggregation of Systematic Operational Capability of Armaments</b><br>X.H. He, Y.N. Ma and Q. Wang                                          | 4439 |
| <b>Computer Simulation Technology Application in Hydraulic System Analysis and Design</b><br>X.P. Hu and Z.P. You                             | 4444 |
| <b>Equipment Support Training System Design</b><br>H. Wang and Q. Zhang                                                                       | 4448 |
| <b>Development of Diagnostic Equipment for ECU Parts Used in Electric Vehicles</b><br>J.R. Nan, J.K. Huang and Z. Chai                        | 4454 |
| <b>Shock Resistance of a Marine Pump</b><br>C.Y. Wang, J. Wang and J.H. Zheng                                                                 | 4460 |
| <b>A Decision Support System with EDA_PR Algorithm for the Hot Rolling Scheduling</b><br>X.X. Zhang and Y.Y. Ma                               | 4466 |
| <b>Design of Interactive Intelligent Family Utilization System in Smart Grid</b><br>X.S. Liu, Y. He, F.C. Zhang, G.H. Yan and R.Z. Wu         | 4471 |
| <b>Rule-Based Data-Driven Thematic Mapping Technique</b><br>H.Y. Zeng, L.H. Wang, Z.Q. Xie and W.B. Zeng                                      | 4476 |
| <b>Application of Earthquake Resistance Analysis Technique in the Design of Constructional Engineering</b><br>C. Gan and X.S. Luo             | 4482 |
| <b>Modeling and Feature Extraction from the Noise of Underwater Vehicle Propeller Startup</b><br>X.D. Jiang, F.L. Huang, J.S. Tang and Y. Pan | 4487 |
| <b>Applied Research of Solar Water Heater Integrated with Modern Architecture</b><br>B.Y. Zhang, Y.H. Xie and S.X. Sun                        | 4492 |
| <b>Research on Modeling and Simulation of Complex Adaptive Systems Based on Multi-Agent</b><br>S.L. Liao and J.Z. Lai                         | 4497 |
| <b>Numerical Investigation on Shock-Induced Separation Structure of Supercritical Airfoil</b><br>X. Xu, D.W. Liu, D.H. Chen and Y.J. Wang     | 4502 |
| <b>Research on Warfare Simulation System of EW Aircraft Based on HLA</b><br>Y.Z. Hao, F.C. Zhang, W. Hui, S.Q. Wang and Y.J. Lu               | 4506 |
| <b>Finite Element Analysis of the Drum-Shape Cavity Fluidic Gyroscope Sensitive Mechanism</b><br>C.Z. Mei, L.H. Piao and B.L. Zhang           | 4511 |

|                                                                                                                                                                                                   |      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>Design of Microwave-Oven Hybrid Heat Treatment System Based on LabVIEW</b><br>Q.R. Lu, Q.L. Tang, L. Wang, J. Zhu and J.H. Luo                                                                 | 4515 |
| <b>Bit Selection of Carbonate Formation Based on Fuzzy Clustering Method</b><br>X.Y. Tang                                                                                                         | 4520 |
| <b>Analysis of Influencing Factors on Mine Gas Emissions Based on Grey Correlation</b><br>X.Y. Tang, L. Ke and P.Y. Wang                                                                          | 4525 |
| <b>RFID Tag Area Management Base on IOT</b><br>H. Zeng, Y.H. Fu and X. Chen                                                                                                                       | 4529 |
| <b>Study of Knowledge Reasoning in Supply Chain</b><br>Y.Q. Lu, M. Hu and C. Li                                                                                                                   | 4533 |
| <b>Design of Surface-Wave Sustained Plasma Flat Panel Lamps</b><br>K. Wang and J. Li                                                                                                              | 4537 |
| <b>Design of Polygon Prism Optical Lens for LED Street Lamps</b><br>J. Li and K. Wang                                                                                                             | 4541 |
| <b>Secondary Optical Design of LED Stage Lamps</b><br>K. Wang and J. Li                                                                                                                           | 4545 |
| <b>C-Arm X-Ray Machine Guided Blocking Treatment of Lumbar Facet Joint Osteoarthritis</b><br>L. Li, L.H. Zhang and Y. Zhou                                                                        | 4549 |
| <b>Detection of Differentially Expressed Proteins of Capsulation-Resistant and Sensitive Osteosarcoma Tissue</b><br>L.H. Zhang and L. Li                                                          | 4553 |
| <b>A Study on the Automatic Identification of the Semantic Truth-Value of "Chayidian Mei P" Construction</b><br>C.F. Lu                                                                           | 4557 |
| <b>Design of Disaster Early Warning Management System of Digital Greenhouse</b><br>M.X. Zhang, J. Sun, Z.M. Li, M.M. Huang, W.X. Lv and Z.G. Dai                                                  | 4562 |
| <b>Research of Warship Equipment Faults Diagnosis System Based on Integrated Reasoning</b><br>B.Y. Yu and H.F. Fan                                                                                | 4567 |
| <b>On the Case-Assigning Host</b><br>Y. Yang                                                                                                                                                      | 4572 |
| <b>Feature Extraction for Classification of Proteomic Profile</b><br>X.L. Yang, Q. He and F. Yang                                                                                                 | 4576 |
| <b>Health Assessment of Aircraft Based on Wavelet Neural Network</b><br>C.G. Zhao, X.P. Qi, C.M. Mi and T.F. Miao                                                                                 | 4581 |
| <b>Near Field Electromagnetic Scattering Model Studying for Coarse Sea Surface</b><br>J. Gu, K. Cai and Z.C. Liang                                                                                | 4586 |
| <b>A 3-D Calculation of Electromagnetic Field in a Multiphase Induction Motor</b><br>W.Y. Song                                                                                                    | 4591 |
| <b>Instability Analysis of Once-Through Steam Generator</b><br>S.X. Hou, J.J. Luo, J. Xu and Q.H. Zhang                                                                                           | 4596 |
| <b>Decision Models for a Car Rental Company with Two Types of Vehicles and Demand Substitution</b><br>T. Feng                                                                                     | 4600 |
| <b>Inventory Model for the Batch Processing of Defective Products in Manufacturing and Remanufacturing</b><br>C.C. Lin and C.T. Su                                                                | 4604 |
| <b>Research on Water Trajectory to a Railway Tanker Based on High Pressure Water Jet</b><br>Z.X. Meng, D.H. Miao, Z.M. Wang and Y.J. Qi                                                           | 4612 |
| <b>Study on Nonlinear Dynamics of Planetary Reducer</b><br>X.F. Han, Y. Bai, M. Li and H.G. Jia                                                                                                   | 4616 |
| <b>Sludge Drying by Virtue of the Solar Energy and Reclaimed Water Heat Pump with Double High-Temperature Heat Source</b><br>X. Xiao, X.J. Xu, T.Z. Guan, X. Zheng, X.H. Chen, G.F. Shi and L. Ma | 4621 |
| <b>Numerical Study on Aerodynamic Design of Hypersonic Vehicle Forebody</b><br>F. Wang and S.L. Gao                                                                                               | 4626 |
| <b>Diagnostic and Therapeutical Tinnitus System Based on Fuzzy Rough Set</b><br>X.M. Ma                                                                                                           | 4630 |

|                                                                                                                                                                                                                  |      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>Automatic Hexahedral Mesh of Concrete Box Girder with the Vertical Section Method</b><br>W.P. Zhao, Q.Y. Zhao, Z.Q. Lu and S.H. Yu                                                                            | 4636 |
| <b>Short-Range Detection System with Polarized Laser and Polarization Characteristics of Typical Targets</b><br>Y.Y. Yang, H.M. Chen, H.J. Chen, Y.Y. Yang and Y.F. Shao                                         | 4640 |
| <b>Modeling and Simulation of Asynchronous Motor in <sup>αβ</sup> Coordinate System Based on Matlab</b><br>Y.M. Li, Y.B. Wang, Q.F. Yan and W. Huang                                                             | 4646 |
| <b>Analysis of a Control Valve's Inner Flow Field Characteristics Based on CFD</b><br>L. Wang                                                                                                                    | 4652 |
| <b>Simulation Research of a Type of Pressure Vessel under Complex Loading Part 1 Component Load of the Numerical Analysis</b><br>Y.F. Zhang, H.X. Guo, J.C. Li, G.R. Yang, Y. Ma, W.M. Song, J. Sheng and Y. Hao | 4656 |
| <b>Simulation Research of a Type of Pressure Vessel under Complex Loading Part 2 Complex Load of the Numerical Analysis</b><br>J.C. Li, J. Sheng and Z.Y. Fu                                                     | 4662 |
| <b>Characteristics of Jurassic Source Rocks in the North Ustyurt Basin</b><br>T.W. Zhou, J.Z. Zheng, Z.W. Zhang, T.Z. Wu and J.J. Guo                                                                            | 4668 |
| <b>An Implementation of Simulation-Based Environment for Bus Fault Injection Techniques</b><br>B.B. Shi and X.P. Gao                                                                                             | 4672 |
| <b>Study of Magnetoacoustic Tomography with Injecting Current by Experiment</b><br>X. Huang, G.Q. Liu and H. Xia                                                                                                 | 4677 |
| <b>Status and Development Trends of Pu'Er Tea Industrial Mechanization and Automation</b><br>L.L. Yang, X.Y. Tang, J. Shi, W.Y. Ning and Q. Wang                                                                 | 4681 |
| <b>Study on Recognition of Black Insects on Dark Background by Computer Vision</b><br>S. Liu, Y. Yang, X.D. Zhu, H.W. Wang and S.B. Lian                                                                         | 4685 |
| <b>Finite Element Analysis of Nozzle Dimension Influence on Fluidic Gyroscope Performance</b><br>J.B. Chen, L.H. Piao and J. Tang                                                                                | 4690 |
| <b>Based on Interval-Valued Intuitionistic Fuzzy Information of Joint Operations Commander and Staff Ability Assessment</b><br>Y.C. Wang, Z.G. Ao, Y.X. Gong, Y.Y. Jiang and T.X. Zhao                           | 4694 |
| <b>Mathematical Model Studies on Dispersion of Fine Non-Spherical Particles in Enclosed Spaces</b><br>Z.B. Song, C. Ge, S.X. Zhang and X.L. Wu                                                                   | 4699 |
| <b>Cycle Properties of s-Vertex Connected Graphs</b><br>X.B. Ma, X.Y. Liu, L.L. Zhang and Q. Lv                                                                                                                  | 4703 |
| <b>Level of Repair Analysis Oriented on Integrated Materiel Support Based on BP Neural Network</b><br>Y. Shen, Z.W. Shan, J.H. Cao and F.S. Liu                                                                  | 4706 |
| <b>A Study on Grey Correlation Degree Model of Venture Capital Intrinsic Value</b><br>L.S. Yin                                                                                                                   | 4710 |
| <b>The R&amp;D Research of Digital Content Platform Analysis Based on Numerical Simulation</b><br>F.J. Zhang, J. Shang and B. Wang                                                                               | 4716 |
| <b>Contrastive Studies of Pun in Figures of Speech</b><br>Q.C. Shao, Z.Z. Wang and Z.J. Hao                                                                                                                      | 4721 |
| <b>Two Dimension Numerical Simulation of Airflow over Complex Terrains at Low Altitude</b><br>C. Tang, H.R. Hu and G.X. Hong                                                                                     | 4728 |
| <b>R&amp;D Model of Platform Technology for Digital Content Analysis Based on Numerical Simulation</b><br>F.J. Zhang, J. Shang and B. Wang                                                                       | 4735 |
| <b>Staggered-Grid Finite Difference Method for Numerical Simulation of the Formulated BISQ Model</b><br>X.M. Zhang, C.M. Fu and T.T. Guo                                                                         | 4742 |
| <b>Visual Center of Gravity and Ratio of the Split Screen</b><br>P.R. Yao                                                                                                                                        | 4747 |
| <b>The Analysis of the Key Problems about Traffic Accident Speed Identification Based on Braking Traces</b><br>Z.W. Guan, S.H. Wang, W.Q. Liang, M.F. Zheng, L. Wu, Y. Liu and Z.X. Li                           | 4752 |

**Reservoir Pressure of Coal-Bed Methane Prediction Research Based on Analysis Method by Neural Net-Work**

X.P. Jing

4758

**Research of Thermoelectric Enterprise Marketing Management Information System Integration Model**

Z.G. Li, Z.T. Fu and J.Y. He

4763