

Table of Contents

Preface, Committees and Sponsors

Chapter 1: Advanced Materials Engineering and Technology

Research on Biological Properties of PEEK Based Composites Y.S. Pan, J. Wang and C.L. Pan	3
A Compact Hybrid Sound Absorber Using Flexible Micro-Perforated Panel and Piezoelectric Actuator W.G. Zheng, Y.F. Lei, Q.B. Huang and C.B. Li	8
Flame Stability of Methane/Air Mixture in a Heat-Recirculating-Type Mesoscale Channel with a Bluff-Body Z. Cheng, W.J. Wang, W.Q. Shen, A.W. Fan and W. Liu	12
Formability Studies of Friction Stir Processed Mg AZ31 Alloy in Plane-Strain Stretch Forming G.R.N. Tagore, G. Venkateswarlu and M.J. Davidson	16
Determination of Onset of Yield due to Material Properties in a Heat Generating Two-Layered Compound Cylinder A. Ozturk and M. Gulgec	22
Optimizing the Drilling Process of Multi-Layer Materials Using Vibration Analysis A. Vintilescu, J. Jallageas, J.Y. K'Nevez and M. Chérif	28
Effect of Tool Wear on Quality of Carbon Fiber Reinforced Polymer Laminate during Edge Trimming H. Hamedanianpour and J.F. Chatelain	34
Structure and Performance of Ti/TiN/PbO₂ Electrodes with Plasma-Sprayed TiN Interlayer A. Huang, J.X. Zhang, X.W. Wu and Y. Wang	40
Research of Ti/NanotubeTiO₂/Sb-SnO₂ Eelectorde and its Electrochemical Performance Y. Wang, J.X. Zhang, A. Huang and X.W. Wu	43
Development of Materials Characterization Procedure for Composite Aircraft H.S. Lee, S.A. Lee and J.U. Choi	46
Effect of Particles Alignment Anisotropy on the Fatigue Behaviors of Extruded Al₂O₃/2124 Aluminum Alloy Composites M.M. Emará	50
Mechanical Properties of Concrete with Compound Mineral Admixtures Y.F. Li, Z.F. Xu and L.L. Wang	55
Shrinkage Cracking Ring Tests of Concrete with Compound Mineral Admixtures Y.F. Li, Q.X. Wang and H.X. Guo	59
Study on the Strength Design of Cold Deformation Strengthening Material T.S. Zhang and Q.F. Ma	63
Workability and Mechanical Properties of Concret with Different Admixtures Y.F. Li, M.X. Han and L. Xu	67
Early Age Cracking Characteristic of Concrete with Compound Admixtures Y.F. Li, D.S. Zhang and L. Xu	71
A Research on the Performance of Grey Chassis Organic Coating on Vehicle Equipment A.T. Xu, B. Luo, F. Zhang, T.R. Zhang and Y. Wang	75
A Research on the Protective Performance of Green Organic Composite Coating on Vehicle Equipment A.T. Xu, B. Luo, F. Zhang, F. Jin and Y.Y. Liu	79
Properties of Alumina Green Parts via Selective Laser Sintering Combined with Cold Isostatic Pressing K. Liu, C.H. Li, W.T. He and Y.S. Shi	83
Minimization of Total Processing Time in Semiconductor Photolithography Process Y.J. Park and H.R. Hwang	88
Process Practice of Refining for Free Cutting Austenite Stainless Steel Y.M. Wang, X.C. Wang and L.M. Wen	94

Analysis of Effects of High Temperature on Asphalt Binder P.C. Cao, Z.Y. Guo, Y.S. Yang and Z.C. Xue	97
Screening for the Strain Galactomyces sp. Producing Bioflocculant by UV Mutagenesis Y.X. Wan, L. Shi, L.P. Wu and P.J. Tang	102
Synthesis and SEM Analysis of Ketoprofen-Hydroxipropil-β-Cyclodextrin Microparticles for Medical Applications as Drug-Release System with a High Bioavailability M.S. Cretan, C. Munteanu, E. Gafitanu, A.C. Barbinta and C. Stamate	106
Model Research of Supercritical CO₂ Extraction Tilling Onion Essential Oil Based on Differential Mass Conservation Equation and BP Neural Network X.M. Lin, L.S. Zhang and Y. Tian	111
Numerical Simulation of High Frequency Vibration Recovery Enhancement Technology in Low-Permeability Reservoirs L. Xiao and G. Xiao	114
Study of Multiple Quantum Beats in Atomic Wavepackets C.J. Zhu, B. Xue, X.J. Zhai and J.F. He	119
A Damage Model for Prediction of the Open-Hole Strength of Glare Laminates Z.Z. Cao, J.F. Zhang, Y. Wan and Y.G. Xie	123
Recovery of Copper from Flotation Tailings by Leaching D. Liu, S.M. Wen, Y.J. Xian, H.Y. Shen, J.S. Deng and D.D. Wu	128

Chapter 2: General Mechanical Engineering

Comparison between some Simulation Methods Regarding the Thermal Stress on Disc Brake C. Spulber and S. Voloaca	135
Intricacy of the Transit Manifold Concept Paid-off by Computational Accuracy R.D. Rugescu, A. Bogoi and R. Cirligeanu	142
Modeling and Numerical Investigations for Launching a Free-Flight Models Using Light-Gas Propulsion Technology X. Lu, Y.H. Zhou and Y.G. Yu	148
A Study of Vertical Vibration Transmissibility by the Human Body M. Picu	152
Research on User Classification Based on Usability Tests of General-Purpose Emergency Maintenance Vehicle User Models N. Liu, L.M. Wu and H.X. Shi	158
Numerical Simulation of a Straight-Bladed Vertical-Axis Water Turbine Operating in a 2 m/s Current M.R. Castelli and E. Benini	162
Topology Optimization of the Transmission Shift Fork Z.S. Liu, X.H. Zhang and X.Q. Gao	167
Nonlinear Aeroelastic Behavior of Slender Wings Considering a Static Stall Model Based on Wagner Function D. Badiei, M.H. Sadr and S. Shams	172
Numerical Simulation of Electrohydrodynamic (EHD) Atomization in the Cone-Jet Mode A. Najjaran, R. Ebrahimi, M. Rahmanpoor and A. Najjaran	180
Diagnosis and Predictive Maintenance of Machinery and Equipment, by Measuring Vibration D.F. Niculescu, A. Ghionea and A. Olaru	186
Trajectory Planning for the Moving Boundary in Three Dimensional DEM Simulations G.M. Hu, L. Hu, Y. Zhang and Z.Q. Fang	192
Optimal Design of LCD Module under Random Vibration H. Wang, X. Zhou and X.P. Xia	196
Numerical Simulation for Inert Gas Stimulated by Explosion of Solid Propellant Emitting Visible Light J. Guo, Y.S. Xie, J. Fang, C. Zheng and L.F. Xie	200
Motion Simulation of a Boat Shaped Grass Burying Rotary Tilling Blade Roller by Pro/E Z.D. Li, G.Z. Zhang, Z. Yong, Y.S. Lu, J.B. Zhai and L. Yi	204

Simulation Research on Shielding Effect of the Computer Box against Strong Electromagnetic Pulses B. Cao and C.L. Liu	210
Nonlinear Normal Modes of a Continuous Cantilever Beam with Nonlinear Energy Sink Absorber Y. Chen and Y. Xu	214
About the Bending Calculus for Circular Tapping Plates, Embedded at the Interior Circumference, with Uniform Load at all the Crown by Transfer-Matrix Method M. Suci	218
Multi-Objective Robust Design of Loader Transmission Based on Genetic Algorithm J.B. Wang and J.S. Yin	223
On Dynamics Analysis of a Novel Three-Dimensional Autonomous Chaotic System W.H. Jia	228
Research on the Optimization of Engine Operation Condition Based on Intelligent Automobile F.S. Sheng and X.R. Shi	233
Running Time Optimization Study Based on Genetic Algorithm of Coke Oven Mechanical K.W. Pang	238
Reversing Gear Failure Analysis of Mini-Car Variator Base on ANSYS Software X.F. Zhang and W.X. Luo	242
Kinematics and Dynamics Simulation of a New Type Direct-Drive NC Turret Tool Post Y.X. Dai, T.R. Zhang, X.W. Zhang and T.B. Yu	247
Love Wave in an Isotropic Half-Space with a Graded Layer L.G. Zhang, H. Zhu, H.B. Xie and J. Wang	252
Study on the Dynamic Behavior of the Ball Passage Vibrations Associated with a Linear Rolling Bearing T. Chen, Q.B. Huang, S.D. Li and W.G. Zheng	256
Contrasting the Parasitic Torque on a Drag-Driven VAWT through a Variable-Blade Rotor Architecture M.R. Castelli and E. Benini	260

Chapter 3: Design Technology and Engineering

Design and Improvement on a Stress Loading Device for Ligament Tissue Engineering X.D. Wu and X. Wang	267
A High-Frequency High-Voltage Excitation Melting Ice Power Design Y.S. Zhou, L. Zeng, P.Y. Chen and Z. Pan	271
Preliminary Design and Adiabatic Analysis of a 3kW Free Piston Stirling Engine C. Duan, S.M. Shu, G.Z. Ding and J.W. Yan	277
CAD Designing for Stamped Tooth Wheels G. Dinev, M. Yancheva and V. Stancheva	283
Evaluation of CAD Model Manipulation in Desktop and Multimodal Immersive Interface F. Gîrbacia	289
Structure Fault Diagnosis of Tower Crane Based on Wavelet Packet Analysis and Support Vector Machines S.C. Wang, R.S. Shen, S.J. Song and Y. Tian	294
Tools for Automated Design of Intermittent Mechanisms with Radial Parallel Cams P. Dostrašil and P. Jirásko	299
CAD Analysis Applied to Self-Centering Compliant Grippers S. Ganatsios, A. Spanu, O. Dontu, D. Besnea and G.I. Gheorghe	305
Aerodynamics Performances of Tunnel Jet Fan and its Passage Components Design D.L. Pan and K. Chen	310
The well-Posedness of a Two-Unit Standby Redundant Electronic Equipment System X. Qiao, Y. Wang, D. Ma and Z. Liu	315
Fuzzy Robust Design of Cycloid Pin Wheel Reducer Based on Genetic Algorithms J.B. Wang, J.S. Yin and C. Yu	319

Chapter 4: Applied Thermodynamics, Heat Transfer, Energy Conversion

Performance Comparison between Series-Connected and Parallel-Connected Thermoelectric Generator Systems Y.T. Wang, W. Liu, A.W. Fan and P. Li	327
Analysis of Thermal Shock and Stress with Infrared Optical Domes Y.T. Gao, S. Liu and Y. Xu	332
The Research on Creep Deformation and Thermal Stress of Cast Copper Staves L. Shi and F.J. Cao	336
Enthalpy Calculation of Flue Gas from Pressurized Oxy-Coal Combustion Based on Real Gases J.L. Dong, W.P. Yan and C.H. Zhang	340
Calculation and Analysis on Condensation Heat Transfer for Pressurized Oxy-Coal Combustion Flue Gas J.L. Dong, W.P. Yan and X.H. He	346
Improved the Performance of Focusing Deep Hyperthermia Inductive Heating for Breast Cancer Treatment by Using Ferro-Fluid with Magnetic Shielding System T. Thanaset, S. Samran and T. Chanchai	353
Research Regarding the Ultrasonic Examination by Thermal Metalspraying Deposits on OL50 Parts S.C. Botez, G.M. Dumitru, A.D. Rujinski and B. Dumitru	359
Optimizing the Process of Steel Slab Reheating in Pusher Type Reheat Furnace Prior to Hot Working H.T. Abuluwefa	364
The Un Destructive Examination by Active Pulse Thermography of the Layers Deposited by Thermal Spraying V.C. Dina, G.M. Dumitru and C. Dumitrascu	371
Analysis of Water Cooled Permanent Magnet Traction Motors Using 3D Fluent and Thermal Field P. Chen, Q.P. Shen, X.Y. Han, R.Y. Tang and K.Y. Xin	375
Analysis of Solar Energy-Water Source Heat Pump Hot Water System's Optimization Strategy J. Lv, X.H. Ma, S.A. Zhen and Y. Zhang	379
Uncover the Mystical Veil of Perpetual Motion Machines Y.H. Shyu	384
Convective Condensation of Oxy-Coal Combustion Flue Gas of Laminar Flow in a Vertical Pipe J.L. Dong, W.P. Yan and C.H. Zhang	389
Testing and Analysis for the Centralized Solar Hot Water System Comprehensive Benefit J. Lv, S. Zhen, S.Y. Hu, X.H. Ma, X. Tang and Y. Zhang	398

Chapter 5: Electrical Engineering and Electric Machines

Strong Lines Emitted from Positive Column of Narrow Bore T2 Low-Pressure Ar-Hg Discharges Q.Y. Han and S.D. Zhang	405
254 nm Radiant Efficiency of High Output Low Pressure Mercury Discharge Lamps with Neon-Argon Buffer Gas H.J. Zhang, Q.Y. Han and S.D. Zhang	409
Research on the Dimming Characteristics of Short Arc Ultra-High Pressure Mercury Lamps for Projection Applications S.J. Shi, Q.Y. Han and S.D. Zhang	413
Design of Thyristor Valve Assembly in on-Load Automatic Capacity Regulating Distribution Transformer Z. Meng and Z.L. Piao	417

Application of BAM Network in Fault Diagnosis of Oil-Immerseed Transformer Z.J. Wang and Y.C. Liang	424
Design and Analysis of the Novel Plate Modal Motor S.C. Mou, L.H. Yang and J.S. Huang	431
Analysis of Water Friction Loss and Calculation of Rotor 3D Temperature Field for Wet Submersible Motor X.H. Bao and H.J. Sheng	437
Analysis on Harmonic Characteristics of Electric Vehicle High-Frequency Charger Y.S. Zhou, Z. Pan, L. Zeng and Y.F. Liu	441
Research on a New Fault Phase Selector of Protective Relay for Double Circuit Lines on same Tower Z.Q. Yuan, X.T. Yu and Y.M. Liu	446
Transmission Scheme of MIMO Two-Way Relaying Systems Based on Symmetric Channel J.H. Fan	452
Utilization of a DC Brushless Hub Motor as an Alternator in Drive Train of Fuel Efficient Series Hybrid Urban Class Vehicle S.H. Ali, H. Akhtar, M. Abdullah, M.F. Mutahir and M. Atif	456
Experimental Research on Factors Influencing Positioning Precision of Linear Electrohydraulic Servo Systems C. Cristescu, P. Drumea, C. Dumitrescu, I. Llie and I. Dutu	461
An Experimental Method to Determine Circumferential Chamfered Position for a Langevin-Type Stator R.X. Wang, L. Jin, Z.K. Xu and M.Q. Hu	467
Experimental Study of the Wheel Drive EV with External Rotor Switched Reluctance Motor L.X. Gao and D.S. Sun	472
The Finite Element Analysis of the Large-Scale Converter Transformer Valve Side of the Electric Field L.S. Zeng and Z. Wu	476
Research Regarding the Dynamic Behavior of Linear Hydraulic Servo-Systems P. Drumea, C. Cristescu, C. Dumitrescu, I. Dutu and I. Ilie	480
Conducted EMI Noise Prediction in DC Converter System for Electric Vehicle Application Z.Y. An, Q.D. Wang and Y.L. Zheng	486
The Transmission Characteristics of Lord Mode and Analysis on Section Dimension Design in Rectangle Wave Guide Y.Q. Shao and Y.B. Zhang	490
Study on 3-Phase PWM Rectifier Controlled by Direct Power X. Gong, D.C. Liu, F.F. Dong and B. Wang	494
Study Temperature and Humidity Influence on High-Power IGBT B.Y. Luo, Y.M. Mo, W.L. Zhang and S.N. Liu	499
The Comparison and Analysis on Harmonic Suppression of EV Charging Station Y.T. Sun, Y. Sun, X.L. Du, H. Yuan, C. Qi and Z.Z. Liu	503
Influence of Repetitive PI-P Control on Performance of Inverters Wireless Parallel System J.C. Wei, Y. Liu, Y. Miao and Q. Shi	508
A New High Frequency Transformer PV Grid-Connected Inverter Y. Geng, L. Gong and Y.B. Chen	515
Harmonic Loss Calculation of Three-Phase Transformer Based on J-A Model L. Liu, Q.L. Li, H.J. Liu, X. Cui and L. Zou	519
Analysis Remnant Life of Power Transformer Based on Health Index Y.W. Huang, B. Song, R.X. Yuan and H.J. Liu	525
Simulation on Before-Arc Process of Large Current Breaking in Vacuum Circuit Breaker J. Li, Y.D. Cao, X.M. Liu and Q.T. Yu	529
Simulation for the Control Strategy of Three-Phase Boost-Half-Bridge (BHB) DC-DC Converter with Series Voltage Doubler Rectifiers through Three-Phase High Frequency Transformer A.M. Soomro, S.F. Khahro and X.Z. Liao	533
The Simulative Research of Three-Phase PV Grid-Connected Control System Based on SVPWM Inverter Q.M. Cheng, X.Q. Hu, K. Wu and Y.F. Bai	538

Modeling of Conducted EMI in Electric Vehicle Motor Drive System Y.M. Yang, H.M. Peng and Q.D. Wang	543
The Equivalent Model of the Harness Network at High Frequency in Automobile Y.L. Zheng, S.L. Zheng, Q.D. Wang, X.X. Yan and X. Li	547
A Mathematical Model for Close Coil Current Signal Analysis Y.H. Zheng	552
Power Connector Behavior Used in Automotive Applications R.E. Abdi, E. Carvou, N. Benjemâa and E.M. Zindine	556

Chapter 6: Power System and Energy Engineering: Its Applications

Grounding Failure Detection Based on ELM Information Fusion in Distribution Power Systems Y.S. Zhou, Y.F. Liu, X. Jun and Z. Pan	565
A Modified on-Line Rolling Generation Dispatch Model for Accommodating Large-Scale Wind Power Y. Cheng, H.X. Li, J.W. Liu, Y.Z. Xu, G.Q. Sun and Z.N. Wei	569
Application of Wide-Area Automatic Switchover System Based on EMS S.Y. Dai, F. Pan and F. Liu	573
Analysis on Storage Power Saving Technology and its Extension Influencing Factors X.B. Wang, X.H. Zhu and Y.J. Wang	577
The Influence on Lightning Invasion Waves from UHV Substation Bus Arresters Y.S. Zhou, J. Xiang, J.W. Zheng and L. Zeng	582
Island Configuration for Service Restoration of the Smart Distribution System X.D. Wang and W. Liang	586
Study on Reasons of the Falling of the Overhead Line Based on Fault Tree Analysis F.X. Wei, Y. Song, X.X. Ma and Y. Qian	590
A Direct Method for Searching Power System Second Order Resonance Point D.Q. Lin, X.D. Yuan, Q. Li and Y. Fang	594
Transmission Network Status Monitoring Overview H.Y. Ling, L.M. Wang and X.Y. Zhao	599
The Analysis of Particle Swarm Optimization Used for Distribution Network Fault Location G. Feng, J. Zhou, D.L. Liu, K.L. Fan, Z.L. Zhang and M.Y. Guo	604
Study on Propagation Characteristics of EM Wave of PD in Cable Accessories Q. Shi, F. Wang, T.T. Fu and Y. Miao	610
The Development of Modular Electrical Fittings for Transmission Lines in Intelligent Distribution Network J.Y. Huang, C. Zhang, M.C. He, S. Yang and H.J. Zhao	615
The Application of Risk Analysis Based on the Gray Relational Analysis in Power Engineering Comprehensive Evaluation T.T. Ma, C.B. Li and L.N. Ren	619
Fault Analysis of Distribution Network which Contains Distributed Generation M.J. Chen, C.Z. Xuan and X.K. Lian	624
The Impact of Electric Vehicle Charging Stations on Power Flow Calculation and Grid Loss Y.T. Sun, H.D. Zhang, Z.H. Li, J.X. Li, C. Qi and Z.Z. Liu	628
Incentive and Punishment Mechanism Based Method Study of Power Quality Dynamic Comprehensive Evaluation J.J. Yuan, S. Ouyang and J.L. Jiang	632
Communication and Cyber Security Analysis of Advanced Metering Infrastructure of Smart Grid Z.W. Li, L. Cheng, H.L. Zhang and W.M. Tong	637
Fault Line Selection in Distribution Networks Based on Parameter Identification in Frequency Domain J.L. Suonan and Z.P. Li	643
Research on Selective Maintenance System for the Marine Power System in Life Cycle X.W. Xu, S.D. Fan, H.H. Zhu and S.H. He	647
Voltage Track Prediction Based on WAMS Q. Miao, F. Yan and Y.N. Liu	652

Research on Visual Design of Information Management System for Overhead Distribution Lines	
Y.H. Wang, W. Jiang and C.Y. Shi	656
Fault Diagnosis for Shaft System of Hydropower Unit Based on LS-SVM	
Y. Zhou, S. Tang, L.P. Pan and P.P. Li	660
Methods of Power Quality Economic Cost Analyses for End-Users	
X.C. Zhen, S. Tao, X.N. Xiao, X.Y. Zhang and Y. Liu	665
The Analysis of the Thunder and Lightning Cause about the Airport Automatic Charging Station and the Lightning Model	
G.Y. Han, B.C. Wang, J. Zhou and S. Lu	669
Simulation System Research on Live Working for 500kV Transmission Line	
L. Yang, B. Wang, X.F. Li and C. Hu	673
New-Type Hybrid Active Power Filter of Microgrid	
S.Q. Li, Y.A. Li, L.L. Zeng and Z.P. He	677
A New Fault-Positions Method Based on Interpolation for the Area of Vulnerability to Voltage Sags	
S.Y. Zhou, S. Tao, X.N. Xiao, C. Luo and X.C. Zhen	681
Application of Smart Phone in Distribution Network Inspection and Troubleshooting	
B.X. Xue, F. Zhu, L. Guo and H. Li	687
Research of Intelligent Substation Condition Monitoring Based on the Neural Network	
D.P. Chai, Q.Q. Xue, L.M. Wang and X.Y. Zhao	692

Chapter 7: Instrumentation, Measurement Technologies, Analysis and Methodology

Research on a Coal Gangue Identification Device	
G.F. Zheng, J.W. Zha, H.Z. Liu and L. Li	699
Applications in Medical Reagent Test Equipment of Semiconductor Refrigeration	
J. Liu, C.G. Xu, H.Y. Xiang, Z. Li and K. Niu	703
Optical Fiber Sensor Salt Dense On-Line Monitoring Research	
G. Liu, L.H. Wu, B.Q. Liu, H. Zhang, J.B. Zheng and H. Shen	708
Fast Interrogation Method Based on Two Superimposed Fiber Bragg Gratings	
Y.C. Ma, C.J. Wang, Y.H. Yang and J.M. Li	712
A Study of Clinic of Leukoaraiosis and Stereoscopy of Nuclear Magnetic Resonance	
J.J. Chen, X.F. Yang, Y.H. Zhao, X.Y. Jin, Y.B. Li and L.H. Huang	716
A Simple and Effective Method of Temperature Calibration to Improve the Accuracy of Thermal Conductivity Instrument	
Q.C. Nie, Q.D. Nie, H.Y. Chen, K. Zheng and Q. Han	720
The Error Analysis of a New PV Fault Diagnosis System	
Z. Cheng, Y. Xu and M.N. Dong	725
Research and Development of Large-Scale Worm Gear Pair Tester Based on Time Grating Displacement Sensor	
Y. Zheng, Y. Chen and Z.R. Chen	730
An Optimal Estimation of Aerodynamic Parameters for GPS Guided Missile	
L. Yan, C. Yang and C.B. Ding	734
Study on Calibration Test of Height Adjusting System for Automobile Headlight Based on Uniform Design Experiment	
S.D. Ma, H.B. Jiang and M. Han	738
An Electricity Parameter Measurement for Off-Grid PWM Converter	
F.Y. Chen and J. Huang	742
Research of Working State Parameter of Road Header Based on Data Recorder	
J.J. Yang, H. Jiang, R. Xi, G.H. Xue and M. Wu	747
Optimization of Active Shimming for Magnetic Resonance Imaging Magnet	
L.H. Guo, W.H. Yang, X.F. You and S.F. Wei	752
Concerted Systems for Increasing the Survivability of the Aircraft against Terrorist Threats	
M. Boşoianu, C. Cioacă, C.G. Rău and I. Cîrciu	756

Modification of the Dynamic Characteristics of the Tool Tip by Adding Mass on Tool–Tool Holder System	
S. Yang, Y.J. Chen, C. Chen and N. Li	761
Compensation Research of Engine Oil Pressure Sensor Based on MEMS	
S.B. Yang, S. Wang, Y.X. Su, F. Xu and Z.Z. Li	765
A Fault Detection Method for Attitude Sensors of Satellite	
C. Burdusel	769
The Auxiliary Equipments of the Machine-Tools. Pneumatic Systems	
D. Prodan, A. Bucuresteanu and E. Balan	774
Incremental Pneumo-Hydraulic Positioning Unit	
M. Avram, C. Bucşan, D. Duminičă and D. Besnea	778
Design on Flow Measurement Solution with Intelligent Efflux Coefficient Standard Throttling Gear	
Q.S. Duan, Q. Zhao and L.C. Wang	783
The Determination of the Oxygen Transfer Speed in Water in Non-Stationary Conditions	
N. Băran, A.S. Pătulea and I.M. Căluşaru	787
An Interface from LabVIEW to the Knock Sensor Testing System	
Q.P. Hu, Z.K. Feng, X. Xiao and R.Z. Gong	792
A Digital Readout Approach for Differential Capacitive Pressure Sensor	
X.J. Shi, C.W. Zheng, H. Li and X.L. Jiang	796
Mechanical Analysis of Fracturing String with Double Packers in Horizontal Well	
Z.M. Li, Q.B. Yue and J.B. Liu	800
The Research for Rejecting the Redundant Data during Section Splicing Large-Aperture Aspheric Optical Elements	
D.X. Zhang, Z.Z. Wang, Z.S. Wang, Y.T. Zhang, X. Li, R. Pan and Y.B. Guo	804
Experiment Study on Thermal Ignition Delay Period of Gasoline-Air Mixture	
Y.H. Ou, H.B. Qian, Y. Wu, Y. Du, D. Wang and X.S. Jiang	809
Orbital Injection Errors and Sensor Requirements for NERVA Space Launchers	
R.D. Rugescu, C.E. Constantinescu, M.A. Barbelian, A. Bogoi and C. Dumitrache	813
Direct Determination of the Metallic Elements in Wine Using Atomic Absorption Spectrometry	
N. Zhu, Z.F. Li, H. Liu, L.K. Yang and H.W. Wang	819
Treatment of Low-Strength Wastewater Using an Anaerobic Baffled Reactor at Low Temperature	
Z.L. She, X.H. Fu, J. Wu, E. Shi, L.L. Zhao and L. Guo	822
A Humidity Measurement Method Based on Comb-Shaped Sensor	
X.Z. Wang, M.M. Liu, S.T. Ding and H.W. Wang	827
Research on the Electromagnetic Compatibility of Microcomputer Protection	
M. Liu, H.W. Song and J.F. Zhao	832
Research on Mountain Landslide WSN Monitoring System for Karst Area	
Z.X. Liu, X. Wang, Y.H. Shi and M.L. Zhao	836
Reactive Postural Response in Bipodal Balance Analysis	
M.I. Baritz and D. Cotoros	842
Effect of Tensile Load for Detecting Broken Wires of Parallel Wire Cable Based on Guided Waves	
B.M. Wu, J.D. Zhang, J.D. Zhang, C.M. Zhu, X.J. Wu and J. Xu	848
Experimental Modality Analysis of Ceramic Motorized Spindle	
K. Zhang, Y.G. Cai, L.X. Zhang, S.H. Li and Y.H. Wu	852
Research Status and Development Trend of Electromagnetic Defect Detection Logging	
Z.G. Yan and L. Zhao	856
Research on the Exposure Assessment of the Cadmium Ion in Textiles	
G.Z. Huang, H.C. Bu, S.H. Sun, C. Wang and A.J. Chen	861
The Application of CCD Sensor in Fabric Defect	
G.S. Xu	866
Measuring and Analyzing the Bevel Gears with Octoid I Teething	
E. Faluvegi, C.Z. Mate, C.I. Cobliş and L. Cristea	870

A Research on the Application of Kohonen Neural Network to the Corrosion and Testing of Vehicle Equipment A.T. Xu, B. Luo, F. Zhang, F. Jin and T.R. Zhang	875
Detection of Flicker Caused by Interharmonics Based on the Voltage Envelope Mean FFT Z.H. Ren and B.L. Wang	879
Development of High-Speed Transmission Error Dynamic Detection System Based on NIOS-II and USB Y. Zheng, Y. Chen and G. Zhu	883

Chapter 8: Electronics and Integrated Circuits, Embedded Technology and Applications

Investigation of Engine Based Electromagnetic Interference for Electric Vehicular Communications Systems G.W. Hsu, K.Y. Liao, K.W. Yen, J.T. Chen, G.F. Hung and C.P. Li	889
Fault Localization of Analog Circuit with Small Sample Using SVM and AIS Methods X.X. Wu and C.Y. Guo	893
The Design of Temperature Measuring System Based on ARM J.G. Sang, G.L. Yu, Y.N. Wang and J. Zhang	899
The Design of 13.56MHz RFID Reader Antenna H.F. Zhang and Y. Tong	903
Accelerate Demodulation of Quadrature Amplitude Modulation Using GPU X.P. Gao, S.Y. Wang and H. Wan	907
Geothermal Parameters Test System Based on ARM S3C2440 B. Peng, J.M. Xu and S.Q. Zou	912
A Dynamic Power Management Mechanism for Embedded System with Micro-Kernel Operating System J. Chen and Y.Y. Ke	916
Multi-Channel Data Acquisition and CAN Communication System Based on Single-Chip Microcomputer J.P. Wang and G.T. Jiao	922
PC104 Interface Recommended for High Speed Data Acquisition Systems D. Purcaru, C. Gordan, R. Reiz and A. Purcaru	926
Design of a Kind of Combined Antenna with Wide Band for Passive Radar Application L.Z. Song, X. Li and B.X. Cao	930
A Novel Optimization Approach Based on Scratchpad Memory for Mobile LBS R.X. Hu, W. Hu, Z.Y. Zuo, M. Wang, J. Xu and Y.K. Lv	935
Design of Network Power Meter Based on Modbus TCP Y.F. Yan, S.F. Zhang, Y.H. Zhang, F.G. Zuo and F.D. Li	939
Design of the Pulse Triggered by Three-Phase Controlled Rectifier Circuit R. Li	944

Chapter 9: Mechatronics and Robotics

Design of Flexible Wing with Embedded Piezoelectric Actuator Y.H. Zhou, Y.T. Ju and C.S. Zhou	951
A New Mechanical Moving Device Based on the Polarization Navigation Method C.G. Li, J.T. Teng, X.C. Liu, Y.F. Sun and P. Wei	956
Power Split Strategy of Plug-in Series Hybrid Electric Bus Based on Fuzzy Control W.W. Wang, C. Lin, K. Ma and J.Y. Chen	961
Modeling and Simulation of a Small-Scale Mining Road Headers Constant Power System Y.X. Li, D.C. Song, G. Liu, H.G. Geng and L.F. Gong	966
Assisted Optimization of the Servo Driving by Using Virtual Labview Instrumentation and the Elementary Transfer Functions and Neural Network Methods A. Olaru, S. Olaru and A. Oprean	970

Mathematical Model for Studying the Evolution of Multi-Role Unmanned Aerial Vehicle in Turbulent Atmosphere C. Mihailescu and I. Farcasan	984
First Flight Experiment with the NERVA-1 Inertial Platform C.E. Constantinescu, R.D. Rugescu, S. Ciochina and R.C. Cacoveanu	990
Modelling and Control of a Star-Shaped Octorotor V.G. Adir, A.M. Stoica and J.F. Whidborne	994
Simulation of Manipulator with Flexible Joint H. Wang and X.P. Xia	999
The Accurate Calculation Model of Vector Azimuth Based on DTG Z.Y. Wang, X.S. Guo, Z.F. Zhou, H.J. Xue and J. Qiao	1004
Design of Moving System for Pico-Satellite Deployer J.H. Zheng and C.J. Wu	1009
A Novel Spherical Parallel Manipulator with Circular Guide H.R. Fang, Z.H. Chen and Y.F. Fang	1014
Wireless Communication in Vehicle Intelligent Network System Y.X. Chen and Z.G. Liu	1019
A Topology Structure Control Algorithm of Wireless Sensor Network by Using Small World Model P. Song	1023
The Key Predistribution Mechanism for Wireless Sensor Networks F.M. Shi and Z.H. Hu	1028
Multipath Routing Algorithm of Wireless Sensor Networks by Using Trust Model L.Q. Chen	1032
Design and Implementation of Wireless Sensor Network Nodes Based on ANT H. Yang, C.H. Wang and Y.J. Cui	1037
Indoor Wireless Positioning Utilizing WSN and Machine Vision Z.Y. Wang, Y. Xu and Q.H. Li	1041
The Wireless Sensor Network Routing Algorithm Based on the Small World Model L.Q. Chen	1045
The Energy Consumption Analysis of Optimal Coverage for Freeway Information Monitoring in Wireless Sensor Networks H.P. Yu and M. Guo	1049
Error Correction Capability of GPS/INS Integrated Navigation System for Guided Rockets W.W. Bian, L.M. Wang, C.B. Ding and Y. Zhong	1053
RETRACTED: Deploying Robots and Online Algorithms P. Sun and T. Zhao	1058
Human Upper Limb Robotic System Experimental Analysis by Using CONTEMPLAS Motion Software C. Copilui, V. Grecu and N. Dumitru	1062
Research and Implement of a Robot Networking Method Based on Jini Techniques M. Wang	1067
Design of ANTI-Collision System for Robotics V. Poppeová, J. Uriček, V. Bulej and P. Havlas	1071
The Effect of the Toe on the Biped Robot S.M. Torklarki and M. Danesh	1076
A Finite Element Analysis in Structural Design of Wall-Troweling Robot Y.M. Han and M.J. Guo	1083

Chapter 10: Modern Control, Automation and Reverse Engineering

The Research of the Affection of Wiring on the Induction Motor Direct Torque Control Y.L. Liu, T. Jia and Z. Cheng	1089
Study of Two Synchronization Mechanisms for Power Electronic Building Blocks Distributed Digital Control Network Z. Xie, F. Xiao and C. Bi	1093

Fault-Tolerant Control of High-Speed Trains with Parameter Uncertainty T. Tao and H.Z. Xu	1099
Fault Signal Adaptive Detection Research and Design with the High Noisy Environment W. Xu and Z.C. Wang	1106
PC Controlled Turning Tool T. Mikolajczyk and L. Kamieniecki	1110
On the Controlling of Spherical Ultrasonic Motor L. Ciupitu, A. Olaru and S. Toyama	1115
Recursive Adaptive Control for Solar Panel Servo System C. Xing and L. Wang	1126
Design of PLC Sequential Function Chart Based on IEC61131-3 Standard F.Y. Huang, P. Hao and R.F. Gao	1130
Design of Robust Adaptive Inverse Controller for a Hypersonic Aircraft Based on CMAC Neural Network C.C. Yao, X.M. Wang and X.C. Zhang	1135
Research on the Virtual Assembly-Disassembly and Electrical Control Process of AC Contactor Based on 3DVIA Composer W.G. Deng and H.J. Li	1140
Load Frequency Control of Hybrid Power Systems via Active Disturbance Rejection Control (ADRC) Q.L. Guo and W. Tan	1145
A Control Device for Distribution Transformer Neutral Current and Loss D. Liu, Y. Liu, K. Zhao, M.Y. Guo, H. Zhao and Z.L. Zhang	1152
Continuous Feedback Control Design for a Class of Singular High-Order Nonlinear Systems C. Sun, H.X. Sun and X.W. Diao	1157
A Remote Intelligent Control System for Split Air Conditioning System J.M. Ding, Z.Z. Li, W.B. Li, P. He and Y. He	1162
PID Parameters Tuning of Proportional Directional Valve Based on Multiple Orthogonal Experiments Method: Method and Experiments B. Jin, Y.G. Zhu and W. Li	1166
Unfragile Passive Control of Uncertain Sampling System Q.Z. Liu	1170
Research on an Electronic Control System of CNG/Diesel Dual Fuel Engine X.N. Lv, J.T. Qin, J.B. Li, B.W. Zou and F.Q. Luo	1176
The Reliability Design of Automatic Open-Parachute-Device Y.S. Wang, G.Y. Lu, B. Li and J. Yu	1180
Temperature Control System Based on Intelligent Electronic Boiler G.S. Xu	1185
The Design of Temperature Control Base on Fuzzy Control G.S. Xu	1189
The Design and Simulation of Control System for Electrical Heating G.S. Xu	1193
Temperature Control System Based on Electronic Boiler G.S. Xu	1197
Research on Temperature Control System Based on Intelligent Electronic Boiler G.S. Xu	1202
Study on PLC Interference Suppression Technique Monitoring System of the Airport Power Supply Equipment X.B. Wei, Y. Zhu, S. Lu and W. Zhang	1206
Nonlinear Control Law Design for Lateral Aircraft Dynamics at High Angles of Attack C. Ene	1210
Fault Tolerant Stabilizing Controller for a Quadrotor UAV V.G. Adir and A.M. Stoica	1215
DC Capacitor Voltage Balancing Control for Cascaded STATCOM S.Q. Li, W.X. Xu, W.Z. Li and H.Y. Zeng	1221
Sliding Variable Structure Control for Attitude of Moving-Mass Hypersonic Vehicles Y.K. Wang, Z. Zhang and J.Q. Mao	1225

Active Disturbance Rejection Control for Trajectory Tracking of Manipulator Joint with Flexibility and Friction	
M. Chu, G. Chen, F.J. Huang and Q.X. Jia	1229
A Study on Variable Frequency Control of Precooling Pump Motors	
X. Jin, C.H. Jiang and X.G. Li	1233
Asymptotic Backstepping Stabilization of SISO Nonlinear DAE Subsystems Using Artificial Neural Networks	
Q. Zang and Y. Zhou	1237
Accurate Pressure Management of Parallel Choke Manifold	
Z.X. Zhu, Y.B. Liu and Z.F. Wang	1241
Parameter Identification for Nonlinear Electro-Hydraulic Servo System Based on Multi-Particle Swarm Optimization	
H.Q. Ming, L. Luo, Z.M. Wang and Y. Jiang	1245
The Utility Model of Early Warning System for Train Operation	
S. Yi	1249
Modeling of Heat Network Heating Process	
Q. Li and M. Li	1253
A New MTSA and its Application for Model Optimization	
J. Chen and L. Zhou	1258
Pilot-Induced Oscillations Prevention Using Anti-Windup Compensation in the Presence of Time-Delay	
V. Pană	1262
Automated Visual Inspection for Medicines in Aluminum-Plastic Blister Packaging	
Y.G. Shu and L.X. Tang	1267
A Vision Detection Algorithm for LIGA Part Assembly	
J. Gao, X. Ye, Z.J. Zhang, Y.L. Tang and X. Jin	1271
LS SVM Based on DTW and Sliding Window Pruning Algorithm and its Application	
X. Sun and X.J. Gao	1276
Analysis of NMPC Algorithm Based on Reduced Precision Solution Criteria	
J.N. Wan, J.W. Zhang, Z.Q. Wang, T.J. Zhang and K.X. Wang	1282

Chapter 11: New Technology, Method and Technique in Civil Engineering

Estimating Strength of Concrete Using a Genetic Algorithm Combining Operation Tree (GAOT)	
K.T. Chen, L. Chen, Y.R. Fu and S.H. Chen	1293
Comparative Safety Analysis of Different Bollard Supporting Structures	
L. Zhang, J.X. Yu, W.L. Ma and B.J. Wang	1297
Acoustic Emission Activity Detector for Crack Location in Steel Structures	
L. Li, J. Li and X.L. Yu	1301
Increasing the Capacity of Concrete Column with Integrated Permanent Formwork Using Wood-Wool Cement Board	
N. Ahmad, Z. Ahmad, A.A. Rahman, H.A. Hamid and M.A. Aziz Fauzi	1305
Dynamic Analysis of Dam-Break Loss Based on Unascertainty Theory	
H.T. Yu	1310
Study on Stress and Strain of Anchorage Using Finite Element Method	
C.S. Chen, P. He, C.Y. Wang, X.H. Chen, L. Huang and J.F. Lei	1314
Free Vibration Analysis of Cracked Composite Beams Subjected to Coupled Bending-Torsion Loads Based on a First Order Beam Theory	
A.R. Daneshmehr, D.J. Inman and A.R. Nateghi	1318
3D vs. 2D Modeling of Concrete Gravity Dam Subjected to Mining Tremor	
J. Dulinska	1324
A Safety Evaluation Model of Large Space Building Based on AHP Algorithm	
H.Y. Sun, J. Wang and Z.N. Xiao	1329
Stability Analysis of the Scour Protection Structure for a Debarking Pipeline	
W.B. Liu, R. Liu, S.W. Yan and Z.L. Huo	1333

Chapter 12: Manufacturing and Industrial Engineering, Management Applications

A Microscopic Study of Before-Arc Process in Metal Vapor Plasmas Proximal Cathode Region. Part I Formation of the Proximal Cathode Region J. Li, Q.T. Yu, Y.D. Cao, X.M. Liu and C. Xu	1339
A Microscopic Study of Before-Arc Process in Metal Vapor Plasma's Proximal Cathode Region. Part II the Influence of Macroscopic Parameters on the Proximal Cathode Region J. Li, Q.T. Yu, Y.D. Cao, X.M. Liu and C. Xu	1343
Experimental Study on the DPF Regeneration Based on Non-Thermal Plasma Technology Y.X. Shi, Y.X. Cai, K.H. Li, X.H. Li and Y.Y. Chen	1347
Research on the Mechanism of Tectonic Stress Field Evolution for Coal and Gas Outburst W.H. Song and H.W. Zhang	1352
Experimental Investigation on Surface/Subsurface Damage in Rotary Ultrasonic Machining of Glass BK7 Y.H. Huang, D.X. Lv, Y.J. Tang, H.X. Wang and H.J. Zhang	1357
Interface Behavior in Functionally Graded Ceramics for the Magnetic Refrigeration: Numerical Modeling M. Jabbari, J. Spangenberg and J. Hattel	1362
New Strategies for Improvement of Structural Gas Turbine Engine Parts Y. Uzunonat, S. Üzgür and M.C. Kushan	1368
Analysis on the Application of the VRF Air-Conditioning Compressor in the Field of Freezing and Cold Storage Y.G. Yang, Z. Yang and Q.B. Xu	1374
Numerical Analysis Method of Coke Pusher Ram Based on ANSYS J.X. Wang and G.Q. Zhao	1378
Determining the Position of Cutting Tool in Drilling for Analysis of Mechanical Actions E.L. Olteanu, R. Laheurte, P. Darnis and C.F. Bîșu	1382
A Novel Intelligent Turn-Milling Machine for Processing Huge Workpiece Z.H. Chen, H.R. Fang and Y.F. Fang	1387
Experimental Analysis of Hole Making in GFRP Composite Using Abrasive Water Jet Cutting Technology H.M. Ibraheem, A. Iqbal and M. Hashemipour	1392
Assessing the Potential Hazardous Incidents in a Steel Refining Plant in the Caribbean S. Reid, A. Ramoutar and C. Riverol	1399
Determination of the Real Cutting Edge Wear Contact Area on the Tool-Workpiece Interface in the Light of Cutting Forces Variations S.E. Oraby	1406
Development of Online Monitoring System to Vacuum Pressure of Vacuum Arc Extinguish Chamber C.G. Hou, S.Y. Zhang, Y.D. Cao and S.X. Liu	1412
Feasibility Analysis of a Novel Ice Slurry Producing System Y. Chen, X.S. Zhang and Y.G. Yin	1416
The Performance Analysis of Single Water Droplet Evaporative Supercooled Process for Ice Slurry Production J.H. Yan and X.S. Zhang	1422
Design on Arc Plasma Temperature Online Detecting System C.G. Hou, S.Y. Zhang, Y.D. Cao and S.X. Liu	1427
Fabric Defect Automated Detection Technology G.S. Xu	1431
Analysis on Selection of Water Ring Vacuum Pumps in the Chemical Industry H.M. Yu	1435
The Inertia Force of the Vanes in the Hydraulic Vane Pump with Advanced Hypertrochoid Curve in the Inner Surface of its Stator M. Ebrahimi and S.A. Jazayeri	1440
Optimal Operation for Source Parallel Pumping Stations X.L. Feng and B.Y. Qiu	1445

Study on the Models of Relationship between the Rebound Effect and Energy Efficiency P.P. Liu	1450
Nano-Scale Multi-Layered Coatings for Cutting Tools Generated Using Assisted Filtered Cathodic-Vacuum-Arc Deposition (AFCVAD) A.A. Vereschaka, A.S. Vereschaka, S.N. Grigoriev and D.V. Sladkov	1454
Cutting Force Model for Diamond Cutting Microstructured Surfaces H.J. Zhang, Y.H. Huang, G. Li and K. Du	1460
Cost-Efficient Composite Processing Techniques for Aerospace Applications – A Review B. Ganjeh and M.R. Hassan	1465
Contributions Regarding the Practicality of a Quantum Pair Space Thruster V. Drăgan	1471
Path Planning of Stacker for Automated Building Materials Warehouse Based on the Improved Adaptive Genetic Algorithm S. Li	1475
Industrial Water Requirement Forecast Model and Application Based on PCA-BP Neutral Network H. Xiao, J.L. Hu, G.L. Wang and B.D. Wang	1479

Chapter 13: Mathematics - in Particular, Calculus, Differential Equations, Statistics, and Linear Algebra

Improved Harmony Search Algorithm for Solving Optimization Problem with Mixed Discrete Variables S.M. Hao and L.Z. Cheng	1485
The Automatic Non-Negative Matrix Factorization of the Hierarchy Clustering Method T.Q. Li and W.S. Zhang	1489
For a Class of Discrete-Time Nonlinear System Based on Iterative HDP C.N. Song, Z. Hu and X.F. Lin	1493
Efficient Surface Integral Equation Using Travelling-Standing-Wave Vector Basis Function for Complex EM Scattering Problems P.G. Yang, Z.P. Nie, S.Q. He and T. Qing	1498
A Hash Algorithm Construction Based on Generalized Chaotic Maps X. Fang, C. Qiong and L. Fang	1502
Harmonic Analysis Method Based on Power Balance B.H. Huang, G.S. Yang, Y.F. Wei and Y. Huang	1508
The Calculation and Estimate of Interval-Valued and Fuzzy Dirichlet Series Coefficient Y. Duan and H.J. Luo	1515

Chapter 14: Signal Processing and Data Mining

A Novel Density-Based methods GEP-Cluster Algorithm for Collaborative Filtering H.G. Cai and C.A. Yuan	1521
The Location Algorithm Based on Square-Root Cubature Kalman Filter Y. Liu, J.F. Su and M.Q. Zhu	1525
The Implementation of Information Receiving and Sharing of Satellite Cloud Image under the Complex Electromagnetic Environment Z.J. Yang, M.M. Liu and T.Q. Yang	1530
Rapid Search Algorithms of Local Registering Based on Decimal Tree Z.H. Xia	1535
A New Reptile Method for Contour Tracing Based on an Extended Freeman Code and an Alterable Window Q.L. Liu, L.X. Tang, F. Yi and L.S. He	1539
Motion Model Parameters Estimation for Electronic Image Stabilization Instrument X.Y. Zhong and T.H. Ren	1543
An Improved Adaptive Unsharp Masking Image Enhancement Algorithm L. Zhu and C.Q. Zhu	1547

Predicting RNA Secondary Structure Using a Improved BPSO Based on Stem Combination Y. Qi	1551
A Novel Self-Embedding Watermarking Scheme for Image Tamper Detection and Recovery J.P. Zhang, Q.F. Zhang and X.Y. Xie	1555
Misalignment Characteristic Analysis Based on Advanced Empirical Mode Decomposition H.M. Li, W. Zhao and Y. Zhang	1559
Visualization Design of Data L.G. Jiang	1564
Fast 3-D Feature Point Detector Based on Harris J.G. Lv, W.Z. Kong and D.Y. Li	1567
Research on the High-Speed Object Shadowgraph Image Processing Method Based on Adaptive Threshold Segmentation F. Wang, Z.W. Yang, D.R. Kong and Y.F. Jia	1571
Feature Extraction Algorithm for Palm Bio-Impedance Spectroscopy Based on Wavelet Transform L.T. Lü, X.J. Zhou, Y.X. Yang and F. Tan	1576
Identification of Tandem-Extrusion System's Dynamic Characteristics Based on MATLAB and State Subspace Theory Y.J. Yang, B.R. Yan, Y.D. He and C.L. Xin	1580
Wavelet Denoising of SAR Images Corrupted by Speckle Noise Using Cycle Spinning M.W. Ji, Y.L. Liu and D.X. Zhang	1584
An Image Matching Algorithm Based on SUSAN-SIFT Algorithm H.Q. Zhang and L.G. Cao	1588
A Selective Naïve Bayesian Classification Algorithm Based on Rough Set Y.E. Hu and K. Luo	1593
Quantitative Study on Impact Factors Affecting Visual Comfort of Stereo Images C. Liu, S.M. Li, Y.J. Zang and D. Zhu	1597
JPEG2000-Based Optimization Algorithm for Effective Compression Display of Remote Sensing Images L. Lu, L. Zhang and T. Zhang	1602
A New Method for Sub-Pixel TDICCD Image Registration B. He	1610
Fast Precise Positioning of Circular Mark in Automatic Optical Inspection G.J. Xiong, Y.F. Liu and R.Z. Liu	1614
Intelligent System of Brain Tumor Automation Diagnosis Based on Image Analysis and Mining P. Wu, N.J. Ruan and K. Xie	1619
The Research and Application of Association Rules Algorithm S.J. Zhang and Q.M. Wang	1623
A K-Medoids Clustering Algorithm Based on Particle Swarm Algorithm with Simulated Annealing H. Zhou and K. Luo	1628
Rough Clustering Method Based on Particle Swarm Optimization Algorithm C. Wang and K. Luo	1632
A Improved Infrared and Visible Images Matching Based on SURF D.M. Li and J.L. Zhang	1637
Ultrasonic Image De-Noising Based on New Wavelet Threshold Function Y.X. Liu, B. Han, Y. Li, B.B. Dong and Y.Y. Cao	1641
Improved Blind Equalization Algorithm and Simulation W.J. Cai	1645
A Speech Endpoint Detection Based on Empirical Mode Decomposition and Average Magnitude Difference Function W.W. Shi, W.H. Xiong, Y.Y. Chu and Y. Liu	1649
A Finger Vein Recognition Method Based on PCA-RBF Neural Network C.B. Yu, J. Tan, L. Yu and Y.L. Tian	1653

Chapter 15: Information Technologies and Networks: its Applications

Mobile Storage and Data Security Management Research W.Y. Zeng and Y.L. Zhao	1661
A Fast Handoff Emulation Platform Base on V2V L.B. Zhou	1665
Design and Analysis of CAN User Layer Communication Protocol A.N. Dai	1669
A Policy-Based Mixed Publish/Subscribe Message Exchange Pattern Used for Traffic Monitoring System Y.L. Dou, Z.Q. Li, D.F. Ma and Y.W. Zhao	1676
The Application of Network Intrusion Detection Technology in Instrument L.G. Huang, L.M. Meng and Y.H. Guo	1683
Radom Intermediate Points Based Path Planning in Unknown Environment Q.L. Xu, G.Y. Tang, H.L. Liu, S.T. Ge and X. Yang	1688
An Efficient Non-Blocking Commit Protocol W.J. Huang, L. Li, D.W. Li and K. Wei	1692
Propagation Characteristics of 2.4 GHz Wireless Channel at Different Directions and Heights in Tea Plantation Y.L. Peng, P.P. Li, J.Z. Wang, Y.G. Hu and Y.F. Lin	1697
Implementation of the DES Algorithm on EDA Box X.M. Li and L. Li	1702
Adaptive Subcarrier, Bit and Power Allocation Based on Hopfield Neural Network for Multiuser OFDM S.F. Li, M.Y. Jiang, A.M. Dong and D.F. Yuan	1706
Build a Game Dynamical System through the Optimization of the Artificial Fish Swarm Algorithm H.M. Wu, S.L. Xiao and F.Q. Chen	1712
Achieving Quick Trust Transmission in P2P Network Based on Matrix Operation H.Y. Wang, Y.F. Zhao, X.D. Meng and X.J. Ji	1717
A New Hybrid Algorithm Based on Artificial Fish Swarm Algorithm and Genetic Algorithm for VRP C.B. Wang and J. Guo	1722
Application and Study of BP Neural Network and Genetic Algorithm for Optimizational Parameters Based on MATLAB Y.H. Zhu and D.Z. Zhuang	1726
Minimization of VM Placement Change in Energy-Aware Resource Provisioning for Cloud Data Center S.Y. Jing, S. Ali and K. She	1730
Research of Prewarning Pipe-Sticking Based on Neural Network D. Zhu, G.X. Liu and Q.Z. Zhang	1734
Wireless Mesh Network Technical Security Performance Analysis D.Y. Chen	1738
An Efficient P2P Overlay Network Model Based on Clustering Q. Li, L.B. Chen and Y.K. Chen	1742
A MATLAB-Based Study on the Realization and Approximation Performance of RBF Neural Networks S. Ding and X.H. Chang	1746
Research of Data Model in Engineering Flight Simulation Platform Based on Meta-Data J.X. Liu, H. Xu and W.Q. Shen	1750
A New Method for Translating NFA into DFA Y.B. Cheng	1754
A Mapping Simulation of Code Generation for Partitioned System Y.Q. Chen, D.F. Ma, Y. Wang and X.Q. Zhao	1759
PPSim: A Cycle-Accurate Simulator for PowerPC Instruction Set X.P. Gao and P.Y. Guo	1766
A New P2P Streaming Media VOD System Based on Window Q. Li, L.B. Chen and Z.H. Wang	1770
Design and Implementation of an Active RFID System Based on Bluetooth Low Energy Y.J. Cui, C.H. Wang and C.L. Chen	1774

Shortest Path Optimization Algorithm in Intelligent Transportation System H.Y. Wang, Y. Zheng and X.J. Ji	1778
The Application of Animation Logo in Modern Visual System Y.J. Chen and J. Han	1783
3D Reconstruction of Mining Area Based on Terrestrial Laser Scanner and Calculation of Extraction H. Chen, Z. Ying, Z.F. Shao and Z.Q. Du	1787
Research of Virtual Emotional Human System Based on Artificial Life S.P. Nian, L. Chen, C.X. Hou, R.K. Gong and L. Peng	1792
Hybrid Modeling Based on Multiple Range Image N.J. Ruan, P. Wu and K. Xie	1796
Research and Implementation of Bluetooth Data Transmission Algorithm Based on Android Z.G. Zhang and M.H. Tang	1800
Implementation of CRC by Using FPGA in Data Communication L. Wang and Y.J. Wang	1805