Table of Contents

Preface and Committee

Chapter 1: Mechatronics

A New Coordinate Control Method for Electric Motor Regenerative Braking and ABS	
Coordinate R.G. Wang, G.K. Shi, H.T. Chen, L.T. Zhang and C. Yu	3
A Limited Interval Gradient Projection Algorithm for Inverse Kinematics W. Song and G. Hu	7
A New Hardware-in-the-Loop Test System for Electronic Control Unit of Dual-Clutch Transmission Vehicle	
R. Chen, L. Mi and W. Tan	13
A Clonal Selection Algorithm Based Optimization of Activated Sludge Process X.J. Du, X.H. Hao and P. Yu	19
A Method for Path Generation of Robot Automatic Polishing Based on Bounding Box L.L. Han, Q.W. Zhang and K. Jia	24
A New Kind of Locking Device for Centrifuge Nacelle Q. Liu, Z.G. Deng and X. Xiong	29
A Temperature Control Method about Two-Dimensional Correlation of Infrared W.G. Li, S.S. Huang, T.G. Lin and J.X. Liu	33
A Multi-Channel Data Acquisition System and its Performance Analysis Method Based on	
FPGA X.F. Zhang and H.X. Luo	37
Design of PCB Engraving Machine System Based on MCU M. Yang, H.Q. Sun, J.H. Cui and Y.P. Shi	42
A New Chaos Analysis Method: Exclusion Analysis Method and its Application: Simulation	
and Comparison P. Feng, W.J. Wang, Y. Jia, B. Sun, E.Z. Wang and G. Chen	46
A Variant of Newton Method with Eighth-Order Convergence for Solving Nonlinear Equations L. Fang	51
A Screw Dislocation Interacting with a Lip-Shaped Crack Bonded by a Strained	31
Reinforcement Layer under Remote Longitudinal Shear Load M. Yu and Y.W. Liu	56
A Circuit Model of Quantum Cascade Laser Based on a Numerical Analysis J. Yang, W. Zhou, X. Li, J. Wu and S.J. Xia	61
An Improved Ant Colony Optimization Algorithm Based on Immunization Strategy Y. Nan	66
A PSO-Based LQR Controller for Accelerator PWM Power Supply X.Q. Zeng, L. Jing, Z.E. Yao and Y.H. Guo	71
A Rapid Vote-Counting System Based on Image Understanding G. Xiao, J.J. Zhang, Y.M. Zhang, J.W. Lu and Z. Ye	76
Analysis of the Effect of Rain Attenuation to the Optical Communication M. Xia, F. He and W.H. Jiang	81
A Test Study of Wet Dual Clutch Transmission during Vehicle Launch W. Sun, Y.L. Hua and G.Q. Liu	86
A Vehicle On-Board Alcohol Detection System Based on Integrated Multi-Sensors L. Fu and J.X. Wang	91
A Wireless Head-Controlled Mouse Design Using Adaptive Unscented Kalman Filter	
Algorithm T.Y. Gao, C.T. Shen, Z.B. Gong, J.J. Rao and J. Luo	95
Analysis of the Key Technologies and Information Security of the 220kV Digital Information Substation	400
G.H. Cai, T.M. Song and Z.G. Wang	100

An Aircraft Adaptive Control Architecture Based on Nominal Controller B. Zhang and S.S. Wang	105
A New Vanishing Point Detection Algorithm for Orthogonal Directions M.L. Fu, C. Zhao and J.T. Cheng	110
A Multilevel Feature Points Detecting Method upon Point-Octree for Point-Based Models Y. Jiang, S.F. Hou and Y.N. Lu	115
An Improved Image Edge Feature Extraction Algorithm Based on Ant Colony Algorithm L. Gui	120
Analysis of Bit Loading Algorithms in OFDM System Y.Q. Yu, H. Yuan and F.Y. Fan	124
Bearing Fault Diagnosis Based on Dual-Tree Complex Wavelet Transform H. Li	128
A Visibility Design Method Based on Virtual Maintenance in Maintainability Design Y. Li, Y.X. Li and C. Lv	133
Adaptive Subdivision Surface Reconstruction for Scattered Data in Reverse Engineering Based on GPU	
Y.H. Wang and W.Y. Wu	138
3D Model Reconstruction of the Broken Aeroengine Blade Based on the Laplacian of Guassian Detection M. Gong, H. Wang and L.W. Wang	143
An Optimization Model for Aircraft Maintenance Scheduling Based on ABC Algorithm L.P. Jiang	143
Calculation of the Branching Ratio of the Process $\mu \rightarrow e \gamma$ in a Model of Electroweak-Scale	14/
Right-Handed Neutrinos J.P. Bu and B. Jia	152
A New Image Segmentation Method Based on Three-Dimensional Neural Network G.F. Lin	157
Analysis on Fatigue Damage of Metal Rubber Vibration Isolator F.L. Cao, H.B. Bai, J.C. Yang and G.Q. Ren	162
Computation and Analysis of Frost Formation on Ground Aircraft L.W. Wang and D.D. Xu	166
Analysis of Water Jet Trajectory of Auto-Targeting Fire Sprinkler System in Interior Large	
Space M. Long, G.L. Hu and Z. Li	171
Aero-Engine Condition Monitoring Based on Kalman Filter Theory Y. Gao and N. Wang	176
Application of MATLAB in Digital Signal Processing C. Liao, Y.M. Song, W.W. Yue, D.B. Zhou and D.P. Liu	182
Analysis on Automobile Engine Failure Diagnosis Based on Genetic Algorithm J. Gu	186
Application of PID Control Algorithm Based on Improved BP Neural Network to Turntable	
System Y. Feng and Q.J. Xu	191
Analysis of Hydraulic Regenerative Braking System for Electric Vehicle X.B. Ning, Y.T. Xu, Q.C. Wang and J.J. Chen	195
A Discrete Particle Swarm Optimization Approach to Optimize the Assembly Sequence of Mechanical Product Z.B. Zhang and C.Y. Huang	203
Design of Audio Signal Testing and Analysis System Based on Virtual Instrument	
N.Q. Zhou Design of Electromagnetic Heating Control System with Rotational Scanning in Plastic	208
Machinery W.G. Kong, L.R. Li and M.L. Yu	213
Aero-Engine Vibration Fault Diagnosis Based on Harmonic Wavelet T. Xu, Y. Jin and J. Xu	218
Application of Extendable Optimal Degree Method in Evaluation of the Gun Maintenance	
Process Quality F.H. Tao, S.A. Wang and X.H. Bai	223

Analysis on Draghead Teeth of Drag Suction Hopper Dredgers Based on the Theory of Fuzzy Reliability	228
C.Q. Liu and J.F. Chen Mechanism Study on the Grading of the 5BF-3 Fruits Grading Machine	228
X.R. Zhou	233
Design and Research of Anti-Interference for Control System of Automatic MIG Welding Machine J.H. Song	238
Design of the Digital Phase Meter with GPIB Interface Based on FPGA H. He, Y.N. Qi, Z.H. Zhang and B.S. Yu	243
Design of Wireless Sensor Network Nodes of Thermal Pipeline Based on Zigbee G.W. Xu, Z.J. Zhang, H.W. Ma and L. Yang	248
Breast Tumor Recognition Based on Multiple Support Vector Machine H. Jiang, X. Chen, B.L. Liu and Y.Q. Liu	252
Ethanol-Gasoline Engine Performance Simulation and Experimental Study S.F. Liu, Z.G. Yang and W.B. Feng	257
Development of Cutting Optimization System for Garment X.Y. Wang and Z.Z. Huang	262
An Improved Simulated Annealing Algorithm Based on Genetic Algorithm S.F. Li	267
Core Characteristics of Server Virtualization and Functional Upgrading Issues S.C. Gong, S.Y. Fu and Z. Chen	272
Fuzzy-PID Control in Electro-Hydraulic Proportional Valve Control System of Snow-Melting Agent Spreading Truck J.S. Gao and Y.Q. Zou	277
Development of Special Automatic Welding Machine for Adaptor Flange of Tubular Parts and Cylindrical Parts J.H. Song	283
Long Distance Pipeline Cathodic Protection Test System Based on GSM H.L. Wang, H.L. Liu, X.J. Yang and F. Liu	288
Coercive Force Enhanced by Nanometer-Sizing of Magnetic Column and Measured by X-Ray Magnetic Circular Dichroism (XMCD) S. Hosaka, Z. bin Mohamad, T. Akahane, Y. Yin, H. Sakurai, Y. Kondo, J. Ariake, N. Honda and	
$M.$ Suzuki H_{∞} Dynamic Output Feedback Control for a Class of Discrete-Time Stochastic Systems with	292
Sector Nonlinearities and Mixed Time-Delays W.J. Ma, Y.M. Hu and X. Zhang	296
Design of Software Platform for Online BCI System A.Q. Sun, B.H. Fan and C.C. Jia	301
Envelope Analysis Based on the Combination of Morlet Wavelet and Kurtogram Y. Liang, Y. Guo, C.H. Wu and Y. Gao	305
Error Identification for 3-Axis Machine Tool Based on Laser Interferometer F.Y. Pan, M. Li and J. Yin	309
Calculation of the Branching Ratio of the Process $\mu \rightarrow 3e$ in the Hung Model J.P. Bu and B. Jia	315
Evaluation of Highway Maintenance Machinery Configuration Based on Fuzzy Comprehensive Evaluation Method P. Yang	319
Competing Effects of Band Filling and Steric Factors on Magnetic and Transport Properties of Double Perovskite Q. Zhang, H.C. Qian, J. Pei and S.J. Yuan	325
A Clonal Selection Algorithm Based Fuzzy Optimal Iterative Learning Control Algorithm H.J. Li, X.H. Hao, X.J. Du and Y.R. Jin	329
Experimentation Study of Damage Identification for Steel-Frame Structure Based on AR Model	22)
N. Zhang, Z.B. Wei and S. Wu	334
Dynamic Encryption Algorithm Based on Rijndael Z.Q. Liu and D. Han	339

Fault-Diagnosis of Machine Assembly Based on Fuzzy ES J. Chen, K.R. Zhang and W.G. Zhu	343
Kinematic Performance Analysis of the Double Wishbone Independent Front Suspension J.Q. Jin and J.J. Li	348
Analysis on the Effect of Bend Curve Radius to Inherent Characteristics of the U-Tubes L.N. Zhang, Z.Y. Ma and M.S. Liu	355
Local Mean Decomposition Based Bearing Fault Detection H. Li	360
Cellular Competitive Decision Algorithm for Minimum Ratio Spanning Tree X.H. Xiong and A.B. Ning	365
Constant Pressure Water Supplying System with Frequency Conversion Based on PLC /HMI/VVVF X.Y. Wang	370
Application of Improved BP Network in Failure Forecasting Z.G. Li and B.W. Shi	373
Genetic Algorithm Application in Cutting Way C.H. Liu, J.X. Xiao, X.C. Wang and Y.Q. Gao	378
Data Aggregation with End-to-End Security for Wireless Sensor Networks J.H. Guo, J.Q. Wu and X.H. Wu	383
Intelligent Electronics Vehicle Monitor Based on Map Control X.H. He	387
Delay-Dependent Robust Strictly Dissipative Analysis for a Class of Singular LPV Systems with Delays	
Y.T. Wang, X. Wang, R.Z. Zhang and X.H. Zhang Multi-Objective Optimization Design for Body Hoist Mechanism of Mining Dump Truck	391
Y.T. Kang, J. Yang and W.M. Zhang Design and Realization of π4-DQPSK Modulation Circuit Based on FPGA	396
H.L. Zhu and X. Sun	402
Nonlinear Optimal Tracking Control of Valve-Controlled Asymmetrical Cylinder J. Chen, J.F. Xing and X.G. He	407
Pattern Recognition Based on New Distances between Intuitionistic Fuzzy Sets Y. Feng, D.F. Chen and H. Liu	412
Precise Study and Application of Long Distance Lead Forecast Technology in Tunnel W.D. Pan, Y.L. Luo, R.G. Gu, Z.B. Hu and F.C. Mao	417
Prediction and Analysis of Tunnel Crown Settlement Based on Grey System Theory T.F. Deng, Y. Gui and J.Y. Yan	423
Management System of Parallel Lithium Batteries Based on MCU J.K. Mao and S. Zheng	428
Movement Mechanism Analysis of Electromechanical Worm Drive X.M. Guan and L.Z. Xu	432
MWGANN Prediction Model for Electromechanical Equipment Running State X.L. Xu, Z.L. Jiang and P. Chen	437
Properties of Weighted Geometric Means Combination Forecasting Model Based on	
Absolute of Grey Incidence L.H. Sun	442
Preparation of Quartz Nano-Powder Based on GA-BP Neural Network Y.Q. Jin and H.P. Ma	447
Double-Equilateral-Triangle Array and Precision Analysis B.W. Zhang, J. Zheng and C. Xiong	452
Developing and Research on Motion Controller Based on CPLD and MCU J. Han and R.L. Chang	456
Naive Bayes Classification Algorithm Based on Optimized Training Data X.D. Zhu, J.S. Su, Q.F. Wu and H.L. Dong	460
A Novel Hierarchical Dynamic Video Summarization Representation for Video Analysis X.W. Li, Y.X. Kang and G. Zheng	465
Plane Non-Circular Curve Outline Parts' Relative Constant Motion Modelling and Error Analysis	
R. Wu, H.T. Li and Y.K. Xu	470

Design According to the Measurement & Control Platform of the AT91RM9200 Embedded System	
P.Y. He and J. Yang	475
Preceding Vehicle Visual Detection and Tracking Based on Template and Shadow Feature X.H. Zhang, Q. Liu and Y. Hou	481
Remote Improved Inspecting Gas Sensing System Based on CAN Communication J.M. Jiang, S. Bing and Z.H. Ma	486
Reliability Index Assignment and Application of Small-Caliber Ammunition J. Wang, G. Rong and D.W. Huang	490
Precision Analysis for the 3-PRS Parallel Robot S.J. Hu	495
Study on a Novel MEMS High G Acceleration Sensor P. Li, Y.B. Shi, J. Liu and S.Q. Gao	499
A New Coarsening Strategy for Multilevel Graph Partitioning L. Yao, Z.H. Wang, W. Cao and Z.Z. Li	504
Research on Electromagnetic Catapult-Oriented Permanent Magnet Linear Synchronous Motor	
J.Z. Liu, M.C. Sun, T. Chen and M.Q. Pan	509
Scheme Design and Experimental Verification of Gas Sub-Line Measurement Q.H. Zeng, Z.X. Gao, L.P. Nie and Y. Yu	514
Real-Time Implementation AMR-WB Algorithm in TMS320VC5509A DSP F.L. Li, X.Y. Zhang and X.L. Du	519
Research on Methodology of Evolutionary Computing J.F. Zhuo, X.H. Wu, G.Z. Wu and M. Yao	524
Research of Company Internal Control Evaluation Based on Space Statistical Distance Evaluation Method Z.H. Lin and S. Yang	529
Sensor Array Self-Calibration for Two-Dimensional Direction of Arrival Estimation D.W. Xiao, J.F. Cheng and Y. Liu	534
Research on Multi-Level Modeling Method for Aircraft Assembly Line X. Liu, W.H. Ye, B.S. Wei and S. Leng	538
Structural Optimization Design and Experiment Investigation of Electric-Pneumatic Converter Device Based on the Principle of Nozzle Flapper D.M. Li, X.J. Tian, Y. Jia and Y.X. Cui	543
Research on Enhanced of Mine-Underground Picture M.L. Zhao and M.X. Jiang	548
Steady-State Circular Motion Performance Experiments Research about an All Terrain Vehicle	
C.L. Yan and Y.Q. Cao	553
Research on the Adjustment Function of Controlling Differential Stage-Less Speed Variator C. Zhang, L. Li and E. Zha	558
Research on the Current Loop of PMLSM J.Z. Liu, S.H. Hao, T. Chen, M.Q. Pan and H.B. Huang	563
Sample Classification Algorithm Based on Spectral Similarity Calculation J.Q. Deng, L. Qiu, Q.H. Wu and Y. Wang	568
Study on MRAC Strategy of Suspension System Based on Magneto-Rheological Fluid Damper	
Y.Q. Gao, J.Q. Zhang, J.F. Jia and J. Yue	573
Research on Regulating of Engine Cooling Intensity with Fuzzy Control Q.G. Luo, G.Z. Ran and Z.B. Gong	578
Signal Extraction Based on an Improved EMD Method Y.L. Chen and P.L. Zhang	583
Research on Velocity Servo-Based Hybrid Position/Force Control Scheme for a Grinding Robot	
Q.W. Zhang, L.L. Han, F. Xu and K. Jia	589
Study on Novel Automatic Steel Bundling Machine Pneumatic Control System C.Q. Li and L. Gao	594

Sensor of Measuring Containing Water Ratio in Crude Oil Based on Multi-Electrode Capacitance	
X.D. Gao, Y.C. Li, Z.M. Nie and J.J. Wang	598
Simulation on Composite Backscattering from Rough Surface with Target above it W. Tian and X.C. Ren	603
Simulation Research on Networked Control System Based on NS-2 X.H. Zhang, M. Li and N. Li	608
Study of Compound Fuzzy-PID System for Engine Speed Control of PHEV H.G. Zang, Y.L. Han and Y.X. Niu	613
Study of Transfer Matrix of Rolling Bearing Including Squeeze Film Damper H.T. Tang and X.Y. Wu	618
Study of a New Wavelet Neural Network of Image Compression Simulation X.Z. Zhao and Q. Qi	623
Study on Fault Diagnosis in Analog Circuit L.J. Xu and Z.L. Kang	628
The Analysis Method of Highline Cable of Alongside Replenishment System Based on Suspended Cable Theory	633
K. Wei, L.X. Zhang and A.D. Ren Study on on-Line Fault Diagnosis of Torque and Position Sensor of EPS Based on Artificial Neural Networks	
J. Gu Study on Improvement of Chain Plate Feeding System C.Q. Li and K.Y. Hou	638 643
The Application of a New SEPIC in Photovoltaic System C.Q. Li, J.X. Yang and T.J. Gao	647
Study on the Hydraulic Relationship between Molin River and Groundwater Y.Y. Wan, F.T. Liu and G.Y. Lin	652
A Novel Dynamic Real Time Controller Based on Score Function of Intuitionistic Fuzzy Sets with Time Parameter Z.H. Zhang, J.Y. Yang, Y.P. Ye, Y. Hu and Q.S. Zhang	657
The Building of Cigarette Factory Warehousing Management System Based on Data	057
Warehouse X.Y. Dong and X.Q. Wang	664
The Constraints on the Physical Parameters in Gauge Interactions of Leptons in the Hung Model J.P. Bu and B. Jia	669
Temperature Compensation Experiment of Love Wave Sensor Y.W. Hu, J.W. Xiang and X.Y. Sun	673
The Clutch Engagement Strategy Research Based on the Multi-Condition in the Off-Road Vehicle Starting Stage	
Y.D. Yang, X.X. Zhao and X.T. Wang Test Study of the Damage-Fractured Process for Double Fractured Rock	678
G.Y. Wang, M.W. Dou and S.C. Li	683
The Application of RBF Neural Networks in Curve Fitting Z.B. Sheng and X.R. Tong	688
The Control Technology of Air-Conditioning Based RBF Adaptive Neural Network J.J. Li, H. Chen and D.Y. Liu	693
The Application of Fuzzy Comprehensive Evaluation Method to the Assessment of Ascension Brake System Reliability H.B. Qiao, A.S. Pang and H.L. Xu	698
The Full Wave Numerical Solution for Fast Wave Current Drive in Tokamak	
Y. Liu, X.Y. Gong, L. Yang, X.W. Peng and W.Y. Liu The Implementation of Distance Measurement Using Binocular Vision	706
A. Hou, Y. Geng, X. Cui, W.J. Yuan and F.G. Shi	711
The Lightning Current Measurement Based on Wavelet Transform X. Liu	716
The Modification Design of Road Traffic Information Mobile Monitoring Vehicle Y.J. Qi and Q. Wang	721

The Logistics Warehouse Management and Control Integrated System Based on Information Fusion	
J. Liu, Y.W. An and Y. Qian	726
The Measurement Method for the Stealth Performance of Large-Electric-Size Unmanned Aircraft W.S. Guo, H.Y. Liu and W. Feng	732
The Method of Selecting the Distance between Holographic Plane and Source Plane in NAH B. Tang, R.L. Li, S.X. Tang, G.P. Liu and J. Gao	737
The Research of the Gun Zone Charge Recognition Technology Based on BP Network D.S. Xu, C.Z. Jia, G.S. Liu and J.B. Zhang	742
The Research on Implementation Effect Evaluation ERP Financial Management of Electric Power Enterprise	- 4.5
M.L. Guan The Present Situation and Future Development of Electric Vehicles in China M. Wei, Y. Xie and Y. Jia	746 751
The Similarities and Differences of Speech Communication between Face-to-Face Situations and Electronic Situations Q.G. Xie and Y.H. Cao	756
The Mathematical Analysis of Underwater Vehicle Control System Z.J. Tang, J.L. Shen, Q.B. He, S.A. Wang and J. Luo	761
The Research of City Walkthrough System Based on Voice Navigation G. Zheng, P. Xu and H. Xin	766
The Inverse Research of Electrical Exploration Results L. Yao, D.D. Liu and Y. Zhao	770
The Safety Disassembling Principle of Ammunition Screw Parts and its Application R.Z. Yang, H.F. Shi, Z. Zhang and Y.F. Ma	775
The Simulation of a Cartridge Manipulator Based on Virtue Prototype R.Z. Yang, Y.G. Wang, X. Shu and H.F. Shi	779
The Motion Simulation of Humanoid Robots Based on Adams B.H. Fan, Y. Zheng, C.Z. Yuan and X. Lu	783
The Research and Design on the Electrical Control System of TG200 Bridge Machine J.Z. Liu, X.H. Zhi, L.M. Ma and S.S. Li	788
The Research and Development of a New Type of Metal Wire-Buckling Machine Y.H. Liu, W.X. Liu and G.L. Shan	793
The Study on Dual Excitation Synchronous Permanent Magnets Synchronous Machines for Electrical Vehicle B. Wang	797
The Study on Accounting Information System Application Controls and Administrative Controls	
H. Yang The Study on Mobile Robot Path Planning Based on Frog Leaping Algorithm	803
Z.R. Zhang and J.Y. Yin	808
The Study on Robot Control Using Underwater Sensor Network Y. Zhou and W.K. Huang	813
The Study of Fault Diagnosis Method Based on Chaos Characteristics F. Zhang, X.L. Pang and X.Y. Xiong	818
The Study of Opening Control Algorithm for Proportional Vales which are with Pressure Compensators	022
G.P. Liu, J.Y. Yu and R.H. Hu The Temperature Control of Electric Furnace Based on PID Genetic Algorithm	823
D. Lu, J.X. Wang and J.F. Li Theoretical Analysis of Granularity Control of Particles	828
Y.C. Deng and P.J. Chen	835
Time Domain Electromagnetic Differential Equation Methods Y.S. Xu and L. Kong	840
Three-Dimensional Dynamic Analysis of Sluice Structure X.Y. Zhang, Z. Li and L. Wang	845

Travel Time Prediction of Road Network Based on Multi-Source Data Fusion W.T. Liu	850
Two Methods to SVPWM Harmonic Analysis and the Essential Relation Y. Zhu, Z.H. Wu and G.Q. Chen	855
VHDL- Based FPGA/CPLD Design Optimization Research X.M. Pang, D.J. Yu, Y.H. Guo and C.L. Zhou	860
Vision-Based Deformation Measurement of Loaded Three-Ring Chain Y. Peng, L. Wang, X.F. Jiang, F.L. Zhang and G.X. Xiao	865
Simulation Research of the Ship Course Control System H.W. Gao	871
Structure Optimization Design and Airflow Numerical Simulation for Negative Pressure Isolated Cabin	0=6
Y.J. Zhang, F. Tian, J. Yang, Q.M. Sun, M.X. Hu, X.J. Sun and P. Li Design Based on Multi-Channel Power Acquisition and Data Teletransmission System of MSD420 Simplesting SPIL Interface and CS54C0A Communication.	876
MSP430 Simulating SPI Interface and CS5460A Communication W.H. Zhou and X.L. Chen One Kind of Flight Control System Design for Separation Section in Crusica Missile	880
One Kind of Flight Control System Design for Separation Section in Cruise Missile X.D. Yuan and S.Q. Gao Study of Sheel Control of Coan Shifting in Automatic Transmission	885
Study of Shock Control of Gear-Shifting in Automatic Transmission X. Chen, G.F. Li, L.Y. Zhang and S. Liu The Situation and Developing Programme of Embedded Systems	890
The Situation and Developing Prospects of Embedded Systems H.Y. Deng and W. Cai	895
DSP-Based Intelligent Split-Phase Self-Adaption Reactive Power Compensation Controller M.L. Lu, H.L. Wang and J.W. Shen	900
Object Tracking with Gradient Part-Based Models Y. Li, J.B. Wang, J.J. Lu, Z. Miao and P.F. Fang	905
One Electric Motor System for Steering Hydraulic Pump and Braking Air Pump in HEV BuS	
R.G. Wang, G.K. Shi, H.T. Chen, L.T. Zhang and C. Yu	910
New Types of Verifiably Encrypted Signature Schemes B.Y. Kang	914
Multi-Dimension and Structure Element Edge-Detection Based on Mathematical Morphology	
Y.B. Liang and L.H. Zhang	919
Derivation of Magnetostrictive Losses from Admittance Spectra M.L. Tao, Y. Zhuang, D.F. Chen, S.O. Ural, Q.G. Lu and K. Uchino	922
A New Algorithm for Tracking a Maneuvering Target H.W. Quan, D.L. Peng and A.K. Xue	927
Queueing Analysis of Spectrum Trading for Wireless Cognitive Radio Networks L.X. Liu, G. Hu, Z. Huang and Y.X. Peng	932
Multipurpose Detecting System for Automotive Switch Function Based on Virtual Instrument (LabVIEW) and Embedded Technology (ARM) H. He, X. Su, P.P. Yang, J.W. Li and S.H. Shi	937
Application of SVM Classifier and Fractal Feature in Circuit Fault Diagnosis J.K. Mao and X.B. Mao	942
Pressure Measurement System Design and Controlling Study on the Double-Clutch Automatic Transmission	046
G.Q. Liu, W. Sun, D.M. Chen and X.L. Guo Moving Target Detection and Segmentation Method Research in Intelligent Transportation	946
System Y. Zhang and H.Z. Sun	951
Modeling and Simulation Analysis of Motorized Spindle Vector Control L.X. Zhang and X.H. Liu	956
Mechanism Parameters Optimization of Jumping Robot Based on Dynamic Directional	
Manipulability Q. Yang, S.H. Hu and J.J. Yao	961
Preparation and Thermal Transfer of Phase Change Microcapsule on the Fabric Y.H. Lou, X.Y. Liu, X.M. Liu, L. Cao, L.X. He and W.D. Yu	969

Measurement of Axial Impact Force of Pipeline Transporting Thick Pastes X.D. Hao, C. Xin, X. Cheng and M. Wu	974
Monitoring Aero-Engine Fuel Flow Based on Neural Net Z.H. Ji and S. Jiang	979
Characterization of Magnetostrictive Losses Using Complex Parameters M.L. Tao, Y. Zhuang, D.F. Chen, S.O. Ural, Q.G. Lu and K. Uchino	985
Design of CAN Central Control Modular Based on USB X.Y. Zhang and G.L. Fan	990
Mobile Robot Dynamic Path Planning Based on Artificial Potential Field Approach P. Shi and J.N. Hua	994
Feed-Forward Compensated PD Controller and PD Robust Controller Simulation Comparison on Uncertain Single-Manipulator J.Y. Wang, T. Xu and Z.Y. Ni	999
LabVIEW-Based Parallel Optimization of Networked Virtual Test System in Multi-Core Processor Environment G.X. Cai and B.Y. Yan	1004
Modal Parameter Simulation and Model Updating for some Launch Platform C.L. Hu, L.Y. Ma, Y.J. Li and H. Li	1009
Lube Intelligent Diagnosis System Combining Bayesian and BP Network Based on IOT Technology	
T.J. Pan, L.N. Zheng and C.Q. Li Application of Simulation Technology in MCU System Development	1014
X.M. Zhao	1019
Experimental Study on Physical Properties of Fired Perforated Brick H.M. Liu, H.L. Yang, W.M. Hong and X.Y. Lu	1024
Intelligent Fault Diagnosis Method Based on Vector-Bispectrum and SVDD L.J. Li, W.P. Lei, J. Han and W.S. Hao	1029
Implementation and Analysis of the File System Based on Metadata Dynamic Hashing S. Ma, T. Cai and Y.Z. Zhan	1034
\mathbf{H}_{∞} Control for Networked Systems with Random Time Delay and Data Packet Dropout L.Z. Wu and X.H. Hao	1039
MEMS Sensor and Electrostatic Detection Technology in the Application of New Type Composite Fuze L.Q. Fang, K. Chen and H.K. Wang	1044
Experimental Investigation of Rotor Rubbing Faults G.Z. Liu, Y.Z. Chen, Y. Liu and B.C. Wen	1048
Modeling and Analyzing the Voltage-Displacement Performance of Cymbal Piezoelectric Transducers	1010
Q.Q. Gao	1053
A Feature Extraction Approach of Traffic Congestion from Video Y.F. Yang, X.F. Xian, L.L. Liao and M.Y. Zhao	1058
Implementation of an Intelligent Integrated Detection System Based on Virtual Instrument for Different Missiles	10.62
X.L. Zhang, Z.M. Yao and H.Y. Wang MFL Detection Defect Reconstruction of Pipeline Based on Conjugate Gradient Methods	1063
L.J. Yang, X. Sun and S.W. Gao	1066
Feature Extraction of Gearbox Compound Faults Based on Blind Source Separation X.W. Wang, L.S. Shi, W. Zhang and H. Li	1071
Lifetime Computational Models of Rolling Bearings in a 1.5MW Wind Turbine's Epicyclic Gearbox	
X. Tan, Y. Li and J.J. Yang Massures on the Impact Spread of Pood Accidents	1076
Measures on the Impact-Spread of Road Accidents H.X. Zhang	1081
A Multi-Role Particle Swarm Algorithm for Numerical Optimization H.Y. Quan and Z.L. Liu	1085
Hardware Design of Point for Information Exchange among Multi-Sensor Network S.H. Yan and Y.Q. He	1090

Electrical Control System Design of Automatic Piston Ring Chamfering Machine Z.Y. Liu, H.Q. Sun, S.L. Feng and M. Yang	1095
Application of Shaft Lining Monitoring System in the Deep and Thick Overburden P.L. He and D.X. Zhang	1099
Large Stroke Series Compliant Mechanism M.C. Shan, W.M. Wang, S.Y. Ma and S. Liu	1104
Design Automatic Fabric Defect Inspection System X.D. Gao, J.J. Wang, Z.M. Nie and Y.C. Li	1109
Control System Design of Braking Energy Regeneration of Miniature Electric Car Based on Super Electric Capacity L.X. Lian, L. Gao and X.M. Chen	1114
Clinical Information Research Based on Multiple Stepwise Regression Algorithm X.M. Yang, H. Dong, L.Y. Xu, F. Zhong and Y. Zhu	1119
Model of One-Dimensional Photonic Crystal and Application H.X. Cui, X.Y. Liu and W.D. Yu	1124
Analog Circuit Fault Diagnosis Using LDA and OAOSVM Approach K. Guo, Y. Zhu and Y. San	1130
Gray Correlation Analysis of Human Factors for Unsafe Events in Air Traffic Control W.Z. Tang	1135
Phase Field Study of Concurrent Nucleation and Growth in a Diffusion-Controlled Solid-State Phase Transformation G. Wang, D.C. Zeng and Z.W. Liu	1140
Fractional-Order PID Controller of a Heating-Furnace System Y.M. Wang, Y.J. Liu, R. Zhu and Y.Z. Zhang	1145
Method of Evaluating the Complexity of Geometries for Free-Form Surfaces C. Fan, J. Zhao, L. Zhang and J. Yuan	1150
Distributed Power Control for Cognitive Satellite Networks L.N. Wang and B. Wang	1156
Integrated Guidance and Control of Missile Using Subspace Stabilization Method R.S. Sun, P.Y. Liu and J.P. Shen	1161
Feature Enhancement of Wear Particle Images Based on Curvelet Transform Y.Q. Zhang, P.L. Zhang, G.D. Wang and C. Xu	1166
Method of Assembly Sequence Planning Based on Simulated Evolution Algorithm J. Zhang, Y.S. Yang and S.W. Feng	1171
Intelligent Digital Voltage Meter Design and Implement Based on AD7715 X.Z. Li, J.L. Zhang, W.S. Zou and Y.M. Kang	1176
Experimental Study of Coupling Fiber-Optic Vibration Sensor Based on Variational Theory B. Ma and H.L. Gao	1181
Construction Control Analysis of Large Span Reinforced Concrete Arch Bridge Y. Cao, Y.F. Zheng and X.C. Xi	1186
Influence of Strip Wave-Shape upon Running Deviation inside Continuous Annealing Line Y. Zhang, Q. Yang, A.R. He, X.J. Yao and D.F. Guo	1191
Development of Instrument Cluster Simulation System Based on Canoe L.J. Li, H.J. Ye and S. Gao	1198
Integral Algorithm for Generating Anti-Aliasing Circle Based on Bresenham Algorithm B.W. Fu and L.Q. Niu	1202
An Immune-Based Node Localization Algorithm for WSN N. Zhang, J.H. Zhang, J.Y. Chen and X.M. Qu	1207
Geometric Calibration of Machine Tool Based on Auto-Trilateration H.T. Wang, L.P. Wang, L.W. Guan and J. Han	1212
Communication of Double-Robot Polishing System M. Yu, J. Ji and H.P. Liu	1217
Fuzzy Comprehensive Evaluation on the Projects Risk Based Set Pair Analysis G.Y. Li	1221
Equipment Fault Diagnosis Based on Incomplete Rough Sets Theory Y.Q. Su, S. Gao and T.X. Xu	1226

A Dynamic Data Fragmentation and Distribution Strategy for Main-Memory Database Cluster	
T.V. Hung and C.H. Huang	1231
Heat Transfer Simulation and Optimization of Cooling System for Micro Wankel Engines Y.J. Gou and X.H. Zhong	1237
Design of UART with CRC Check Based on FPGA X.R. Tong and Z.B. Sheng	1241
Electronic Compass Calibration in Pedestrian Navigation System X.J. Zhang, X.S. Li and Y.B. Feng	1246
An Image Segmentation Method Using Image Enhancement and PCNN with Adaptive Parameters	1051
H. Cai, X.Y. Zhang, H.T. Dai and D.M. Zhou CNC Transformation Method for the Study	1251
X.J. Xu	1256
Ground Penetrating Radar Imaging Based on FDTD Migration Method Y. Qin and Q.F. Wang	1261
Full-Column Rank Solutions to a Nonlinear Matrix Equation Y.T. Wang, X.R. Yang and R.Z. Zhang	1265
Diagnosis of Incipient Failure of Gearbox Based on Signal Enhancement Technologies C.H. Wu, Y. Guo, Y. Liang and H.W. Zheng	1269
Design of Developing Platform for Equipment Management Based on Workflow	
Technology S.R. Wang and G.F. Dong	1273
Characteristics of Electromagnetic Waves Propagation in Corridor for High-Rise Buildings X.J. Li and J. Fan	1278
Design and Implementation of Monitoring System Based on MSP430 X. Hou and X.F. Wei	1284
Determination of the Total Ginsenosides in Ginseng Using the UV Spectrophotometer and Evaluation of the Measurement Uncertainty M. Zhang, Y.X.J. Qin, D. Chen and P. Yang	1290
Control System Design of Intelligent Water Meter J.Y. Li	1296
Design of Serial Communication Monitor System of Excavator Based on LabVIEW G.M. Si, J. Zhang, C.F. Lv and B. Pang	1301
Detecting Object by Affine Transform Using Line J. Li, H.Y. Liu and L.R. Hong	1306
Briefly Discussing on Red Clay in Highway Subgrade Filling Treatment Method H.W. Deng, Z.H. Liu and S. Li	1311
A High Resolution and Full Information Magnetic Field Measurement System X.B. Zhang, S.H. Zhou and Z.D. Wu	1315
Feedback Filter PID Control for Integrator and Time Delay Processes W. Tang and X.X. Ji	1321
Dynamic Modeling and Motion Simulation of a Movable-Winged Underwater Glider B.W. Song, W.L. Tian and Z.Y. Mao	1326
Designing and Simulation Testing of Kilowatt Switching Power Supply Transformer Z.Q. Zhao and Z. Wang	1332
An Antisubmarine Detection Method Using IR Spectrometer in Ocean Remote Sensing Z.W. Ke, R. Yu, R. Xiang, K.L. Zhang and Y. Ma	1337
Dynamic Characteristics of Linear Rolling Guide Joint Based on Contact Stiffness J.F. Li, L.P. Wang, L.W. Guan and H.F. Zhang	1342
Battlefield Acoustic Target Localization in Electronic Sentinel System G.Y. Liu, C. Zhang and T.L. Liu	1348
An Algorithm for Seeking the Minimal Cost Maximal Flow Based on Petri Net H.B. Mu and Y.B. Song	1353
Based on the Fractal Technology of Bad Data Detection Method in Power System Y.H. Li	1358

Application of Combination Forecast Model in the Medium and Long Term Power Load Forecast	
K. Zhao, L. Gan, Z. Wang and Y. Xiong	1362
Design of Programmable Ship Navigation Light Controller J.W. Hu, Y.B. Xie and X.Q. Fan	1367
An Extensional Clustering Algorithm of FCM Based on Intuitionistic Extension Index Q.F. Liu	1372
An Image Repair Method Based on Grid Extraction L.X. Liu, Q. Song and Y.F. Shen	1377
Dilemmas in Digital Forensics for Computer Equipment Security and Maintenance in Remote Ships H. Chen	1382
Backstepping Sliding Mode Control for Rocket Launcher Alternating Current Servo System	
F.H. Chen, D.W. Ma and F. Yang	1387
An Energy-Balance Based Distributed Topology Control Algorithm for Wireless Sensor Networks C.H. Wang	1392
An Improved Covering Fuzzy Rough Set Model Q.H. Wang	1397
A Method of Multi-Classifier Combination Based on Dempster-Shafer Evidence Theory and the Application in the Fault Diagnosis F. Lv, N. Du and H.L. Du	1402
A Method of Fault Detection and Diagnosis Based on Time-Frequency Analysis Y.B. Liang, L.H. Zhang and J. Li	1407
A Real-Life Mobility Patterns Based Routing Protocol in Delay Tolerant Mobile Sensor Network X.M. Wang, L. Wu and L.F. Yu	1411
A Noninvasive Sound Wave Temperature Measuring System Software Design P. Jiang, G.J. He, L. Dong and J. Xu	1416
A Novel Traffic Prediction Method Based on IMF Q. Gao, G.X. Li, X. Tian and J. Sun	1421
A Novel Variable Step Size LMS Algorithm Based on Modified Hyperbolic Tangent and Its Simulation	1 121
F.Q. Tian and R. Luo	1426
An Improved Two-Phase GAI Particle Swarm Optimization Data Clustering Algorithm Q.F. Liu	1431
Study on Technique of Tolerance Optimal Allocation Based on Adaptive Genetic Algorithm Y.T. Ai, J. Tian, F.L. Zhang, X. Zhai and S.S. Bai	1436
Study on High Frequency Hydraulic Exciter Based on Rotary Valve Control J.Z. Zhang, L.Z. Guan and K.K. Li	1441
The Security Measures of FCS in Power Plant K. Han and L.H. Yuan	1446
Simulation and Analysis on Pressure Resistance Experiments of Automotive Body G.Y. Zhao, Y.F. Zhao, C.Y. Tang and Z.Y. Du	1451
The Building of Accounting Information System Based on REA Model L.X. Liu	1456
Study on Automatic Measurement of Small Angles F.B. Li, Z.K. Li and Q. Li	1461
The Design of Transmission Line Monitoring System Based on Wireless Sensor Network X. Hou, Y.J. Kong and E.T. Hua	1465
The Study on Signals Control System of Wet Dual-Clutch Automatic Transmission Shift Process	
J. Ma, W. Sun and G.Q. Liu Optimization of Regulation Methods in District Heating Systems	1470
P.F. Jie, D.Y. Li, N. Zhu and J. Shen	1475
Analysis of "Distance-Loss" Model Influence Factors in Vehicular Ad Hoc Networks J.F. Wang, X.D. Yan and S. Nie	1481

Transformer Winding Deformation Fault Diagnose Based on FRA and Energy Feature Extraction by Wavelet Packet	
S.X. Qian, Q. Du, X.J. Gu and J.Y. Song	1486
Study on EGR Control Strategy for Vehicle Diesel Engine Based on Experiment Y.F. Liu, P.C. Pei, J.W. Yang and A.H. Zhu	1491
Robust Predictive Control for Uncertain Time-Delay Systems with Nonlinear Disturbance J.C. Zhao, C.L. Su and P. Li	1496
The Numerical Simulation of Flow Field of Target Type Impinging Stream Nozzle Based on Fluent	
S.Q. Yan and X.F. Zhang	1501
Research on Driving Fatigue Monitoring Based on Tree-Structure Classifier L.X. Zhang, X.Y. Qiu, R.C. Guo and Z.L. Zhang	1506
The Improvement of Pseudo-Boolean Satisfiability Algorithm for FPGA Routing Y.L. Tang and J.H. Chen	1511
Thermal Error Modeling and Compensation of a CNC Machining Center J. Han, L.P. Wang, L.Q. Yu and H.T. Wang	1516
The Temperature Measurement Method Based on the Image of Mechanical Part during Heating Treatment	1.521
Z.F. Dong, H.J. Yang, L.J. Wang and Y.M. Wang	1521
Study on Fractal Box Dimension and Its Application to Fault Diagnosis of Hydraulic Pump X.L. Liu, G.M. Chen and F.X. Li Strong Analysis of BC Column under the Isolaton in the Page Isolation System	1526
Stress Analysis of RC Column under the Isolator in the Base-Isolation System H.Y. Zhang and R.S. Pan Polysot Stabilization for a Class of Switched Northness Systems	1531
Robust Stabilization for a Class of Switched Nonlinear Systems C.Y. Wu and B. Niu	1536
The Application of Microcontroller Timer/Counter in Speed Measuring/Speed Regulation System	
S.S. Jia, B.Y. Li and X.H. Gao	1541
The Study of SPWM Controller Based on TMS320F2812 DSP Y. Gao	1546
Study on Boring Small Hole of Stainless Steel Dryly by Ultrasonic Vibration Double Cutter J.Z. Zhang, X. Wang and Y. Zhang	1551
Study on Compensation Based on Neural Network Control of GPC Y.J. Zhang	1555
The Control System Design Based on PLC for Low-Pressure Sealed Cabin L. Xiao, X.D. Yang and D. Sun	1559
Research and Design of the Remote Fault Diagnosis System for Complicated Equipment Based on Intelligent IETM	
H.B. Sun, Z.C. Xu and J. Zhou	1564
Single-Chip Fuzzy Control of Diesel Engine Electronic Speed Governor T.Y. Zhang, Z.K. Wei and X.R. Zhou	1569
Study on Processing Quality Monitoring Technology for Gun Barrel Caliber C.Z. Jia, G.S. Liu, Y.X. He and J.B. Zhang	1574
Navigation Condition Effect on Ship Motion in some Sea State J. Zhang, K. Qu and X.D. Zhang	1579
The Study of the SVPWM Realization Method Based on DSPIC30F6010A L.Y. Zhao and B. Zhang	1584
Tool Wear Prediction Based on Fuzzy Cluster Analysis H.T. Chen, D.W. Li and P. Fu	1589
Research on Thermal Characteristic and Thermal Compensation Technology of Spindle System of CNC Machine Tool	
Z.Q. Sheng, C.C. Liu, J.Y. Wang and L. Dong	1595
Research on Goniometer Fault Detection of a Certain Missile Based on Wavelet Analysis Z.L. Wang, J.K. Mao, Z.B. Zhang and X.W. Guo	1600
3D Motion Parameters Estimation Using MRF and Neural Network W.Q. Huang, W.J. Li, H.Y. Hu, Y.M. Wang and M.F. Jiang	1605
The Grey Relational Analysis of Driving Forces for Water Consumed Structure C.M. Lv and F.X. Du	1612

Research and Application of Reverse System Based on Bluetooth Technology P.X. Liu	1617
Study on the Application of Segmentation Algorithm Based on Medical Image Fusion J.Y. Li, W.B. Mu, C. Jin, K. Geng and S.L. Zhang	1622
The Statistic Definition and Research of the One Class Similar Special Curve P. Wang	1627
The Design of GPS Digital IF Signal Simulator B. Zhang	1631
Research on Fire Detection in Coal Mine Based on GA-Improved Wavelet Neural Networks H. Zhao	1636
Transient Dynamic Analysis of Mechanical Structure of Multi-Axis Force Sensor and Measuring Circuit Coupling System H.M. Feng, F.Z. Song and B. Song	1640
Simulation Research on SUV Passenger Car Rear End Impact X.T. Wang, Y.F. Zhao and X.J. Li	1645
The Multiple AC Servomotors' Synchronous Operation Control System Based on DSP and FPGA	
X.D. Gao, Z.M. Nie, Y.C. Li and J.J. Wang	1650
The Study on Automobile Electronic Key Systems using Numerical Analysis X.S. Sun	1655
Research on New Mechanical Seismic Simulation Platform Exciter T.Y. Zhang, Y. Zhang and X.R. Zhou	1659
The Management Cost Forecasted of Retaking Expired Operating Highway Based on the	
Grey Model GM (1,1) Q. Zhang, W. Zhou and H.Y. Wen	1664
Speech Enhancement System Based on Lyapunov FXLMS Algorithm C.Y. Wu	1670
TSP24 System and Application in Construction of a Highway Tunnel J. Huang, D.L. Zhang and H. Huang	1675
Production Research of PLC-Based Disc Motor Punching-Winding Machine C.Q. Li and Y.L. Wu	1680
The Analysis of Fiber Positioning System Temperature X.P. Liu and D.M. Zhao	1685
The Application of Improved Genetic Algorithm in Distribution Network Reconfiguration W.H. Zhou and X.L. Chen	1689
Design of Measuring and Evaluating System of Airport Support Vehicle Training Simulator L. You, L. Zhang, J.L. Li and X.D. Shi	1694
The Optimization Design of Vacuum Chamber in Vacuum Electron Beam Welding Machine	
W.W. Yue, Y.M. Song, D.B. Zhou, C. Liao and D.P. Liu	1699
Simulation Analysis of Production Control Methods in Manufacturing Systems S.W. Feng, J. Zhang and S.C. Ding	1704
An Improved Generalized Predictive Control for AUV Yaw Z.J. Tang, Q.B. He, S.A. Wang and J.L. Shen	1709
Analysis of Directional Accuracy of Three Single Arrays L.Q. Fang, H.K. Wang and K. Chen	1714
Air Targets Recognition Based on Feature Analysis and Particle Swarm Optimization K- Means Clustering	1710
S.L. Wang and W.Y. Chen	1718
The Application of Double Closed-Loop Unit Gain Negative Feedback and BP Neural Network Controller in Single Inverted Pendulum J.T. Wang, G.P. Liu, W. Jin and G.F. Xiao	1723
The Design and Test for the Intermittent Work-Style Drying System L. Chen and X.S. Tai	1728
A Trinocular Stereo-Matching Algorithm Based on Adaptive Support-Weight for Mobile Service Robot	
W.X. Huang	1733

Stage Boom Machinery Control Based on Adaptive Fuzzy PID D.S. Luo and S.F. Wu	1738
The Study on Oil Pollution Environmental Treatment Based on Micro-Biological Degradation	1730
H.P. Wang	1743
The Research Status and Development Trend on the Test and Diagnostic Techniques of Engineering Machinery S.M. Zhang, L.H. Bi and W.M. Hui	1748
A Circuit to Realize the Repetitive Operation of Underwater Corona Discharge in the	
Application of Water Treatment D. Chen, X.W. Zeng, Y.B. Wang and J. Zhang	1753
The Study on Starting Control of ER Clutch for Vehicle	1733
J.H. Wang, H. Xu and F. Xie	1759
Research on Fault Knowledge Acquisition Base of Circuit Simulation G.M. Tao	1763
The Design of Web-Based Ear-Nose-Throat Diagnosis System	1703
Y.H. Xuan, W.T. Liu, G.Q. Cao and Y. Zhang	1767
The Design of Interference Generator for Grid Based on 89S52 X.Z. Li and Y. Jiang	1772
Research on Deviation Correction Control Technique of the Paver's Traveling System	1//2
D.Q. Wang, E.R. Mao and X.J. Yin	1777
Study on Regenerative Braking Control Strategy for EV Based on the Vehicle Braking	
Mechanics G.F. Li and H.X. Wang	1783
Research on Navigable Width in Winding Channel T.M. Ding, J.X. Qi and W.Z. Ai	1788
Task Assigned Algorithmic for Multi-UCAV Based on Auction Mechanism X.C. Zhou, L. Deng and J.G. Yan	1792
The Study on Oral Cancer Detection Based on 3-D OCT Image Y.H. Xuan, C. Li, G.Q. Cao and Y. Zhang	1797
Surface Acoustic Wave Based Radio Frequency Identification Q.M. Sun, F. Tian and Y.J. Zhang	1802
Study of Grating Signal Processing Based on FPGA Y.F. Zhu, X. Yang, L. Shi and Y.F. Li	1807
Sonar Image Registration Based on Improved PSO and Powell Hybrid Algorithm D. Wang and H.Y. Bian	1811
Application of TSP Tunnel Geological Prediction for Case Study S.L. Dai and C.F. Ma	1816
Rapid Foreground Extraction Algorithm Based on Trimap S.W. Zeng and Z. Liang	1821
The Research of Input Ground Motion on Seismic Fragility Analysis of Bridges Y. Zhang, P. Tan and X.R. Zhou	1826
New Hardware Engine for New Genetic Algorithms F. Ahmadi and R. Tati	1831
A Modification of Newton-Type Method with Sixth-Order Convergence for Solving Nonlinear Equations D. Chan and L. Fang	1920
R. Chen and L. Fang Research on Dynamic of Wall Loading of the Discharge Chamber under Electro-Hydraulic	1839
Breakdown in Liquid X.Y. Hu and J. Yao	1844
Study on Clutch Control Strategy of Dry DCT Launching W. Sun, Y.L. Yang and G.Q. Liu	1848
The Study on Physical Training Segment Parameters Monitoring	1852
Design of Passive Acoustic Location System Based on Double Arrays L.Q. Fang, H.K. Wang and K. Chen	1857
Research on the Lane Detection Algorithm Based on Zoning Hough Transformation C. Fan, L.L. Hou, S. Di and J.B. Xu	1862

Design and Realization of FIR Digital Filter Based on MATLAB S. Ren, X. Zhao and W.B. Zhang	1867
Chapter 2: Manufacturing and Design Science	
A Kind of Spatial Angular Magnetic Gear Transmission Y.K. Man, J.F. Zhang, Y.S. Zhang, S. Zhang, W.S. Hao and H. Li	1873
A Data Warehouse Cleansing Approach Based on Mathematical Association Rules Y.X. Song	1878
A Meshfree Weak-Strong-Form Method for Magnetohydrodynamic Flow in a Pipe X.H. Cai, C.Y. Shi, P. Xu, M.L. Zhu and G.L. Wang	1883
A Linear Algorithm of Spatial Straightness for Five Points F.W. Meng, C.G. Xu and J. Hao	1888
A New Method of Screw Extrusion Molding Pressure Y.L. Gao, R.H. Bai and J.L. Zheng	1893
A Improved Method of Enhancement of Video Image in the Coal Mine M.L. Zhao	1898
A Portable Digital Torsional Vibration Analysis System and its Signal Processing Q. Lin and S.L. Yu	1903
A Transformation Method between PLC Ladder Diagrams and Instruction Lists Using Recursive and Stack Algorithms	
Z.S. Zhang, C. Li, Y.F. Zhou and W.D. Liu	1908
Accurate Calculation and Control of Dry Dual-Clutch Torque during Shifting Process Z.J. Liu, L. Wang and C.B. Ren	1913
A Study of Sustainable Design Based on Unconscious Behavior X.T. Hu	1920
A Research on the Aided Method for Design of the Hot Runner Structure of Injection Molds	
Y.F. Lv and J.B. Fan	1925
An Approach to Interior Ecological Design Concepts X. Liu and B. Wang	1931
An Approach Dealing with Wrist Singularity of Six-DOF Industrial Robots Y.C. Huang, D.K. Qu, F. Xu and W.X. Zhang	1936
An Arithmetic Function and the k-th Power Part of a Positive Integer M.J. Wang	1941
An Indirect Measurement of the Slender Magnet Remanence with a Optical-Pumping	1711
Magnetometer Z.Y. Yang, C.S. Lin and J. Yu	1945
A Study on Model of the U.S. National Environment Management C.H. Cao	1949
A System Approach to Risk Management in the Age of Supply Chain Complexity Z.Q. Yu	1955
Analysis of Brockmann's Posters Based on Geometry of Design Y.M. Xue, Q.L. Han, J.H. Wang and R. Bai	1960
Analysis of the Existent Problem and the Policy Suggestions for Chinese New Energy Industry	10/7
M. Liu An Improved Method of Solving Contact Trajectory Boundary for Spiral Bevel Gear	1967
W. Wei A Study on Time Synchronization Algorithm Based on Energy Effective Strategy	1971
Y.W. Dai, L.H. Yan and Z.P. Chen	1976
An Optical Imaging Simulation Method for Inverted Microscope and its Application in Automatic Cell Manipulation	1981
Q.L. Du, X.S. Lan, L. Yuan and R. Liang Analysis for Blade with Centrifugal Preload under the Impact Stress Wave	1981
D.M. Yin and Z.X. Li	1986

A Study on the Controllability of Deepwater Manifold during Launch through Pendulous Installation Method	
S.R. Cao, J.X. Yu, G.Z. Zhang and W.L. Ma	1992
A Supply Chain Collaboration Model Based on System Dynamics W.P. Wang	1997
Analysis of the Greenway Construction in Western Countries K.L. Sun and Y. Lv	2002
Analysis of Fault Diagnosis for Rolling Bearing Based on EMD and Local Smoothness Index A.J. Hu, Y. Zhu and X. Wang	2007
Analysis of Vortex-Excited Resonance for Main Stay Bar on One Large-Span Bridge Y. Guo, X.L. Jiang, G.Y. Zhu and H.X. Shen	2012
Application of Apriori Algorithm in Diagnosis of Stroke W.P. Zhang	2017
Application of Improved Analytic Hierarchy Process in Industrial Design Evaluating for Product Design P.H. Li and L.N. Yang	2022
An Acoustic Experimental Study on Sound Acquisition in Standard Chinese by Native Speakers of Uyghur	2027
H.Y. Chen and Y. Yang Application of the Reverse Engineering to 3D Reconstruction on a Denture	2027
L. Žhang, H. Wang and H.L. Xu	2032
	2037
Analysis of Trust Chain Transitivity in TCG C. Zhang, G. Cui, Z.C. Fu and Y.D. Xu	2042
Comprehensive Quality Evaluation Oriented to Product Lifecycle X.Y. Jiang, L.Z. Xu, X.Y. Sun and S.J. Wang	2047
Application of TSP in Construction of Qiupi Tunnel Y.F. Zheng, Y. Men and X.C. Xi	2052
Application of Fiber Optical Sensor in Thickness Measurement of Mechanical Seal J.J. Zhai, Y. Liu, Z. Gao and Y.B. Lin	2056
Comparative Study on the Earthquake-Proofing Performance of Chinese and Japanese Building Structures Y.D. Wang and W.S. Zhang	2061
Control and Simulation Research on Interactive Oscillation of Operating Power of Diesel Generator Sets in Parallel L.W. Yan and X.J. Wang	2066
Effect of Die Radius and BHF on Formability of the Corner of Box-Shaped Parts in Deep Drawing Processes	2071
, ,	2071
	2076
Design, Lift Prediction and Test of a PZT Drive Mechanism of a New Concept of Micro Flapping Wing Rotor J. Lu and N.J. Fan	2081
ANSYS Simulation Analysis of the Tri-Axial Pipeline Magnetic Flux Leakage In-Line Inspection	2006
L.J. Yang, Y.X. Su and S.W. Gao Based on the Condition of the Equipment Management	2086
B.J. Wu, H.T. Zhu and Y. Wang	2091
Analyze the Efficiency on FDM Process of Rapid Prototyping Technology with the New Filling Method C. Ren, Y.Q. Cao and L.R. Fan	2095
Ecological and Energy Saving Ideas Incorporated in Residential House Design	2100
Digital Design Technology in the Contemporary Architecture	2105

Design Method of Fly Ash Concrete Mix Proportion Based on Stable Paste-Aggregate Ratio Q.W. Sun and H. Zhu	2110
Automatic Dredging Robot for Metallurgical Drainage Trench Based on Virtual Design Technology	
F. Wang	2115
Based on Genetic Algorithms and Artificial Neural Network Algorithms to Optimize the Structure Design and Implementation of Crane X.M. Yu and X.P. Liao	2120
Design of a High-Speed Reconfigurable Serial Fieldbus with Reliable Communication Based on FPGA	
X.J. Zhao, Z.Q. Liu, T.L. Hu and C.R. Zhang	2125
Based on the Matlab Simulation of the Maxwell Distribution X.Y. Yin	2131
Design and Compiling of Laser Propagation Simulation Software in Atmospheric	
Environment T.G. Zhao and Z.Q. Zhang	2136
	2130
Design of a Coaxial Positioning System Based on Flexible Decoupling Beams T. Chen, L.G. Chen, M.Q. Pan and L.N. Sun	2141
Design of Broadband Response Two Degrees of Freedom Piezoelectric Vibrator for Energy Harvesting	
S.Q. Liu, J.X. Peng, M.Q. Peng and X.P. Fan	2146
Damage Identification for Curl Tube Structure Based on Modal Flexibility Curvature Y.J. Li, L.Y. Ma and T.H. Wang	2151
Finding Principal Axes of Complex Plane Rigid Body with Rending-Image of MATLAB W.G. Li	2156
Customer Requirement Driving New Product Concept Generation Method Based on Naïve	
Bayes Cluster and RST L. Lin and G. Guo	2160
Finite Element Analysis of Stress for Nozzle Zone at Channel of Pressure Vessel X. Lv and S.J. Wang	2165
Experimental Comparison of Diesel Engine's Mounts W.B. Yan	2169
Cost Estimation Model Based on Improved Spreadsheet Algorithm for Assembly Line	210)
Manufacturing Systems B. Zeng, R. Wang and C.Y. Ma	2173
Design and Research of Double-Drum Winch for Lowering Mooring Anchor Chains K.A. Yu, K. Ding and Y.H. Chen	2178
Computing Profile Error of Scroll Wrap Based on the Method of Polar Radius Error D.D. Yuan, H.N. Tu and G.P. Liu	2183
Expression of "Vivid Inner Temperament" in the Contemporary Environmental Design X. She, Y. Pu and L. Zhang	2188
Comparative Study on Optimization Design Methods of Steering Mechanism J.G. Lin, J. Yang and W.M. Zhang	2191
Calculation of Decay $\mu \to e \gamma$ in Small Neutrino Mass Limit in a Model of Right-Handed Neutrinos	
J.P. Bu and B. Jia	2196
Failure Analysis of Laminates Single-Lap Adhesive Joints under Uniaxial Tensile Loading Y.H. Yang	2201
Experimental Study of Well Deviation Correction Model in Deviated and Horizontal Wells Production Profile	2225
J.F. Liu and H.M. Guo	2205
Based on Vector Control of All-Electric Injection Molding Machine Control System Design M.H. Li and Z.Q. Li	2210
Diesel Engine Cylinder Block Casting Process Optimization X.J. Wang	2215
An Optimizing Strategy of Load Balancing Based on MSTP J.Y. Tang and H.Y. Hao	2221

Intelligent Optimization of Green Logistics System for Agricultural Products Based on the Database Resource Mining	2226
H. Zhang and C.B. Shao Load Sharing of Parallel Shaft Split Torque Transmission System	2220
N. Zhao, R.F. Wang, L. Tao and Q.J. Jia	2231
Design and Analysis of a Lower Limb Rehabilitation Robot X.H. Shi, H.B. Wang, L. Yuan, Z. Xu, H.W. Zhen and Z.G. Hou	2236
Mechanical Kinematic Scheme Design of Automatic Piston Pin Sorting Machine S.J. Jiang, H. Zhou and W. Wang	2241
Force Analysis Methods and Experimental Research on Double-Curved Arch Bridge Y. Zhang, X.R. Zhou, B. Li and L.B. Yan	2245
Effect of Parameters on Strength of Composites Single-Lap Adhesive Joints Y.H. Yang	2250
Energy Saving Analysis of Solar-Powered LED Street Lighting Systems L.L. Zang, S. Li and D.J. Tian	2254
MASTA Software for Wind Turbine Gearbox Design L.M. Zhao	2259
Green-Efficiency Assessment of Chinese Industry Based on Principal Component Analysis and Super-Efficiency Data Envelopment Analysis	
R.J. Liu and Z.H. Zhang	2264
On the Creative Design of Intellectual Property Protection F. Li	2269
Dynamic Characteristics Analysis and Optimization Design of Spindle Box with FEA X.P. Li, W. Wang, M.Q. Zhao and X.C. Meng	2273
Experimental Study of Heat Pipe Exchanger for High Power LED Cooling System Y.J. Gou and X.H. Zhong	2278
Methods of Moving Boundary Based on Artificial Boundary in Heat Conduction Direct	
Problem X.Y. Zhang, Q. Li, D.Q. Gu and T.P. Hou	2282
Developing on Experiment System of Process Equipment and Control Engineering Based on PC and PLC	
J. Han and R.L. Chang Numerical Analysis and Tool Personal on World Process of BSD in Pulse Solid Peoplet	2286
Numerical Analysis and Test Research on Work Process of PSD in Pulse Solid Rocket Motor	
W.P. Tian, C.G. Wang, C. Chen and D.M. Yang	2290
Fatigue Reliability Evaluation Model of Drillstring in Bending Section of Horizontal Well Y.F. Yan and L.F. Cheng	2295
Design, Propulsive Force Prediction and Test of a Electromagnetic Drive Mechanism of a New Concept of Micro Flapping Wing Rotor J. Lu, N.J. Fan and Y.W. Wang	2300
Kinematic Analysis of a Planar Mechanism Driven by Two Orthogonal Layout Actuators	2300
X.R. Zhu, Y. Lu and H.P. Shen Design of One Portable Maintenance Auxiliary Equipment	2305
L.S. Wang, T.J. Li, H. Fan, F.M. Liang and W.P. Sheng	2310
Numerical Analysis of Thermal Response of UHTCs under Aerodynamic Heating M.Q. Liu, H.Q. Lv and Z.Q. Wang	2314
Experimental Study on Torsional Vibration of Dual Mass Flywheel D.M. Chen, J.H. Xu, X.F. Shi and Y.Y. Ma	2318
Fracture Reason Analysis of Coal Compactor Roller Shaft M. Yin and L.Z. Wang	2323
Numerical Simulation on Dynamic Analysis for Pipe Vibration Control Based on an Actively Generated Hydraulic Excitation Force	2220
J. Wu, H.X. Zhang, Z.M. Kou and C.Y. Lu Research of Technology of Virtual Building and Scene Roaming by Visual Basic	2328
M.Y. Zhang and W.M. Zhao Programming Methods Research for the Non-Circular Curve - The Oval, for Example	2333
X.J. Xu	2337

Finite Element Analysis of the Hydraulic Pressure in a Large Heat Exchanger H.J. She, S.J. Wang and H.P. Ru	2342
Experimental Study on the Dynamic Performance of Long-Span Steel Arch Bridge in Passenger Dedicated Line X.F. Wei, J.Q. Bu and J.G. Chen	2347
Realization of the Detecting Method for Aircraft Digital Image Transmission System Based on Multi-Processor	2252
F.Y. Duan, L.M. Chang and Y. Zhan Performance Analysis of Bionic Propulsion Device above Water in Different Parameters X.H. Bai, F.H. Tao and J.G. Lv	23522357
Numerical Simulation and Die Casting Process for Cylinder Y. Huang, Y. Dong and X.M. Du	2362
Appropriate Mass Flow Research of Lubricant for Different Oil Groove Type of Wet Multi-	
Disc J.B. Wang, M. Han and D.Y. Yu	2366
Application of Kalman Filter in Brake Inertia Dynamometer of Motorcycle G.S. Wu, L.P. Zhang and Z.R. Li	2371
Modeling and Simulation of Inert Gas System for Dangerous Cargo Tankers S. Su, Q.M. Shang and H. Chen	2376
Optimal Design Method of Fins in Automotive Oil Cooler Based on the Thermal-Hydraulic Performances	
B.L. Xiao, W.M. Wu, X.L. Yu and G.D. Lu	2381
Process of Micro-Simulation of Infilitration Clogging for Highland Reservoir Dam Foundation Y.Y. Wang, G.C. Wang and Y. Cao	2386
Research of Manufacturing Strategic Decision Based on the Competitive Strategic Situation	
Cognition Y. Yang and X.B. Guo	2391
Research on Energy Consumption Analysis Method Based on Improved Fuzzy Analytic Hierarchy Process (FAHP) in Iron and Steel Industry D. Qiu, X.B. Wang and Y.Y. Fu	2396
New Model of Waste Comprehensive Combustion D.C. Wang, C.F. Qian and X.Z. Liu	2400
Simulation of Coast Wind Farm Construction Z.L. Du and W.D. Gu	2405
Design and Entity Modeling of Wet Double Clutch X.L. Guo, J.P. Pan, W. Sun and G. Chen	2409
Finite Element Analysis of some Radial Tire J. Zhang, G.L. Wang, N.J. Fu and K. Wang	2414
Research on Playing Board Process of Kimono Sleeves with Triangle under the Armpit Based on CAD System	
D.F. Yi and Y.L. Zhai	2419
Apply the Route Diagram of the Clothing Business Enterprise Sample Product Technique Level of the High Technology Exaltation Analysis F.Q. Wang and J.Q. Wen	2424
Design of a Precision Three-Coordinate Measuring Machine Based on SCM L.Z. Shen and Y.J. Fan	2430
Experimental Study on a Kind of Long Anchor Bolt H. Tao, T. Chen, Q.H. Ren and Z.T. Zhu	2435
Research on Ergonomic Design of Fascia Based on QFD and TRIZ Theory Q. You and D.X. Liu	2439
Navigable Flow Condition Numerical Simulation for Approach Channel of Tiangongtang Junction C. Wen and G.J. Ran	2444
Experimental Study on the Mechanism of Axial Ultrasonic-Assisted Grinding S.X. Yuan and M. Xiao	2449
Parametric Design of Spiral Bevel Gear Based on Pro/E W. Wang, W. Liu, Y. Chi and X.M. Cui	2454

Finite-Time Stabilization for Singular Linear Time-Delay Systems with Time-Varying Exogenous Disturbance	2450
M. Su, S.W. Wang and X. Zhang Multiple Leteranteed Control Board on Footness Date of Controlled System with Bondon	2459
Multiple Integrators Control Based on Feature Data of Controlled System with Random Disturbance G.H. Qiao	2464
Security Issues of RFID Technology in Supply Chain Management M.H. Wang, J.F. Liu, J. Shen, Y.Z. Tang and N. Zhou	2470
Design of Portable Comprehensive Test System of Aircraft Wire X.D. Shi, S.B. Zhang and T. Jing	2475
Mobile Robot Movement Analysis and Design X.P. Liu and D.M. Zhao	2480
Performance of a Parabolic Flexible Joint Using Compliance Closed-Form Equation J.F. Hu, P. Li and X.F. Cui	2484
Member Behavior-Oriented Simulation Research for Supply Chain Coordination C.C. Zhao, X.D. Zhang and J.J. Qiu	2489
Research on Stray Current Monitoring of Subway Tracks D.L. Zhang and Y.L. Yang	2494
Optimization Design of Single Steering Trapezoid Mechanism of Vehicle Based on MATLAB	
A.H. Ren and C.Q. Sun	2499
Research on the Simulation of TT&C System of Space Survey Vessel S.S. Wang, G. Chen, L.Q. Zhou and L. Yao	2505
Research on a Combined Directional Instrument of DMC and Gyro for Vehicles Y.B. Feng, X.S. Li and X.J. Zhang	2510
Multidisciplinary Object Compatibility Design Optimization Based on Simulated Annealing Algorithm	
B.Q. Yu, X.Q. Wang and L.H. Wang	2515
Outstanding Influence Factor Research of Wet Friction Thermal Field Based on iSIGHT M. Han, K.Y. Ning, J.B. Wang, Z.Y. Wang and Y.J. Li	2520
Grey Correlation Analysis of the Impact of Rate on Urban Transport Structure X.Q. Sun	2525
Experimental Study of Effect Factors on Performance of Heat Dissipation of HP Heat Exchanger for LED Cooling System Y.J. Gou, Z.L. Liu, C.M. Wang and X.H. Zhong	2530
Research and Application of Collaboration between Design & Manufacturing for Precision	2330
Forged Blade	2524
H. Yang, D.H. Zhang, S. Li and Z.B. Fan Road Stress-Absorbing Interlayer Mix Design Method	2534
W.Y. Xu, C.Y. Deng and H.Y. Yang	2540
Finite Element Analysis on Bending Stress of Generating Spur Bevel Gear Based on ANSYS D.L. Cui, Y.T. Li and H.Z. Zhang	2546
Ecological Design for Indoor Interior Surface of Residential Building B. Wang and X. Liu	2550
Optimal Design of High Power LED Driving Circuit J.M. Zhong and H.J. Liu	2555
$\begin{array}{l} \textbf{Research of Three-Dimensional Simulation Tree Based on Iterated Function System} \\ Y.C.\ Zhang,\ Y.\ Xiao\ and\ K.\ Hu \end{array}$	2559
Research on Prospect and Strategy of Civil Engineering Informatization S.J. Jiang	2564
Furniture Form Bionic Design Methodology Y. Chen, R.B. Hu and X. Ye	2568
Study for Spray Experiment and Simulation of Nozzle on Icing Wind Tunnel H.L. Liu, T.Y. Fan, Y.M. Xing and Q. Sheng	2573
Smart Home Energy Saving Switch Controller J.Q. Lu, X.J. Zou and D.Z. Sun	2578
Research on Environmental Adaptability Evaluation of Engine Based on Fuzzy Evaluation X.C. Wang, X. He and J. Zhang	2583

Structural Damage Detection of Continuous Beam by NExT Based Wavelet Packet Energy P. Yan and Q. Li	2588
Design of Conjugate-Cams for High-Speed Paper-Separation Mechanism C. Zhang and T.F. Xiong	2594
Safety Recognition Model of Urban Railway Level-Crossings Based on Attribute Mathematics Method H.D. Wang and H. Deng	2599
The Integration on Electrical Control Systems Based on Optimized Method A.R. Zhang	2604
The Method of Automatic Counting of Circular Objects Based on the Matching Method of Fuzzy Circular Template	
Q. Li and G.N. Li Simulation Analysis of a Novel Magnetic Gear	2609
Y.K. Man, W.S. Hao, Y.S. Zhang, S. Zhang, J.F. Zhang and H. Li	2614
Study on Die Surface Coating by Electric Discharging Machining X.H. Li, D.C. Wang and Y. Fang	2619
Research and Design on Monitoring System of Simple Bridge Based on Virtual Instrument Technology H.W. Zheng, L. Chang, C.H. Wu and Y. Liang	2624
Fabrication of Flaky Magnetic Composite Particles	
W.Q. Zhang Talk about Structural Design of High-Rise Buildings	2628
X.P. Zhu and J.W. Li	2632
The Experimental Study about Relationship of Centrifugal Fan Shape and Tuyeres Wind Speed H.B. Si, C. Zhou, Z. Liu, Y. Lei, W.J. Fang and F.J. Zhang	2636
The Simulation and Comparison of Synchronous and Serial Regulating Gates Method in the	
Emergency Status of Long Distance Water Project Y.C. Han and H. Luo	2642
The Optimal Design of Injection Mold Cooling System Z.Y. Huang	2647
Optimized Design for the Number of Injection Mold Cavities Y.G. Liu and C.W. Xu	2652
The Study and Simulation on Campus Network Intrusion Detection System P. Xie and W. Wang	2657
Research on Dynamic Characteristic of the Rotors Connected by the Misaligned Gear Coupling W.P. Lei, J. Han, L.J. Li and L. Chen	2662
The Study on Man-Machine System Modeling Based on Computer Aided Ergonomics	2002
Design J. Wang	2667
The Investigation of Performance of Gas-Spray Water Quenching C. Tian, B.D. Shao, L.F. Wang and H.M. Cheng	2672
The Reconstruction Scheme Design and Experiment of the Height-Adjustable W-Beam	
Guardrail H.J. Cui, X.J. Shen, Y. Liu and X.X. Sun	2676
Optimal Design of a Planar Five-Bar Parallel Manipulator Driven by Two Orthogonal Layout Actuators	
X.R. Zhu, Y. Lu and H.P. Shen The Strength Analysis of Aircraft Landing Gear Strut Based on ANSYS	2681
F. Chen, Y. Lv and Z.W. Xing	2686
Study on Mechanical Behavior of Regenerated Concrete Based on Construction Garbage S.Q. Lv and L. Tian	2691
The Study on Low-Carbon Building Technology Using Natural Air Conditions Z.W. Zhao, R.F. Luo and S. Li	2695
Research on Structure Design and Kinematics Equation of Restaurant Service Robot Manipulator	
Y.X. Shi and H.M. Fan	2700

The Safe and Environmentally Sound Recycling of Ships and its Application in China Z.F. Du	2704
The Research of Three-Dimensional CAD/CAPP Technology Based on Feature A.G. Peng and C.T. Cai	2709
The Study on Building Structure for Vibration Control L.J. Li	2714
Strength Analysis of Pressure Vessel with Big Openings Y.L. Huang, S.J. Wang, H.P. Ru and B.J. Zhao	2719
Optimal Design for Broadband Dynamic Damper Y.T. Ai, J. Tian, Q. Fu and F.L. Zhang	2723
Shaft Vibration Modal Analysis of Turbine-Generating Set L. Xiang, H. Sun and S.D. Li	2728
Fracture Reasons and Improvements for the Running Gear of Shearers C.Y. Song, J.R. Liu and X.J. Zhang	2733
Secure, Robust and Adaptive Echo-Based Information Hiding in Voice Communications for Equipment Maintenance in Marine Ships H. Chen	2738
The Development of a Multi-Functional Composite Embedded Smart-Skin Antenna Structure	
Z.H. Xie, W. Zhao, L. Li and P. Zhang The Finite Element Analysis of Piston under Thermal Load Based on UG/ANSYS	2743
L.Z. Wen, Z.W. Guan, C.F. Liu and X.T. Zhang	2748
Study on the Physics and Mechanical Properties of Freeze-Thaw Soil and Undisturbed Soil G.W. Zhao and J.H. Dai	2752
The Design of the Ethernet Meter Reading System Based on Broadband Power Line Y. Tian, Y.F. Ren and G.H. Wang	2755
The Study of Super Element Cable X.Y. Sun and Z.Q. Wang	2760
Structure Optimization of a Screw Pump Unit Based on Load Identification Y. Zhang, Z.J. Shuai, W.Y. Li, Y.H. Xiao, C.L. Chen and Q. Zhang	2764
Virtual Prototype Design of No-Tillage Planter Based on Solidworks S.H. Wu and W.Y. Bao	2769
The Parameters Identification of Airplane Flutter Model Based Global Nonlinear Separable Least Square Method J. Yao and J.H. Wang	2774
Study of Process Flow and Layout of Broiler Production H.Q. Xu, J.Z. Wu and Z.L. Wang	2780
Weight-Reduction Optimization Design for Milling Planer Bed Based on Finite Element Analysis D. Sun and X.D. Yang	2785
Study on Process Control Experimental System Based on MCGS B. Hong and H.M. Wang	2790
The Preliminary Study of Food Waste Processing Equipment Reliability Design Y.D. Liu, Y.J. Sheng, W.T. Shi, Y. Zhang, Y.J. Lan and Y.P. Cao	2795
The Integrated Structure Design for the Transmitter of the Companion Satellite Y. An, P.L. Wang, F. Li, L. Zhang and X.Z. Li	2800
Optimization of Vibrating Parameters for Large Linear Vibrating Screen Y.Y. Wang, J.B. Shi, F.F. Zhang, H.L. Lu and F. Xu	2804
The Embedded Data Collecting System of Multi-Channel Based on ARM Y.B. Zhang, C. Liu, C. Xiong and D.Q. Guo	2809
Research on the Rapid Response Production Preparation System for Compressor Blades of Aero-Engine	
X.Q. Shi, S.S. Zhang, S. Li and R.X. Ma	2814
Design of a Domestic Wastewater Reuse System T.J. Wang	2819
Vehicle Loading Length Measurement System Research Based on TRIZ C.L. Xie and Y.K. Liu	2824

Stability Prediction Model for Milling Process H.L. Ma, A.J. Tang and Q.K. Chen	2829
The Application of Proliferated Form in Designing Product Modeling W. Yang	2834
Study on Demand Bill of Electric Vehicle in China's Carbon Emission Reduction Environment Y.N. Wang, B.Q. Tang, H.B. Zhang and X. Fu	2838
The B/S Structure Design of Firefighting Equipment Management System for Fire Brigade Q.H. Pei	2843
Research on Punching and Hot-Pressing Process and Related Mechanism for Easy Tear Lid J.J. Tang, W.Z. Wu and H.X. Dong	2848
Study on Ship Motion under Internal Sloshing Impacts Z.B. Wei, X.W. Xiong and N. Zhang	2853
The Finite Element Simulation Analysis of Tapered Bearing Retainer and Optimized Selection of Mould Parameters Y.W. Jiang, Y. Chen and J.D. Liu	2858
The Study on EDA Tools for Antenna Design G.J. Zhou	2864
The Application of Water-Cooling Pipes in the Mass Concrete of Hu Lu Shan Wan Crossing Sea Bridge	
Y.F. Zheng and Q. Zhao The Construction of Warning Model for Technology Patent on Environmental Engineering	2869
S. Wang Design of Numerical Control Machine on Human-Centered Design and Man-Machine	2873
Engineering X.L. Wu, Y.Y. Yao and C.Q. Xue	2877
Research on Concept Design of Hot Runner Based on Axiomatization and Knowledge Unit Y.F. Lv, J.L. Lai and C.W. Xu The Track Structural Design and Finite Florent Analysis of the Track Two II Track Thinning	2882
The Track Structural Design and Finite Element Analysis of the Track Type Thinning Shredder Y. Wu and Y. Ma	2888
The Single Straw Composite Board Manufacturing Process Research S.C. Zhang, Y.J. Jiang and J.Y. Pang	2893
Research on the Realizing Mechanism of an Industrialized PL-ISEE Database Platform J.L. Dong, N.G. Shi and Y.Y. Chen	2897
Test on the Shape Schemes of Jilintai-I Hydropower Station Flood Discharge System W.X. Zheng	2902
Reverse Engineering of Artwork Teacup J. Feng and B. Jiang	2906
Study on Structure of Articulated Needle and its Obstacle Avoidance Y.Z. Wang, L.Z. Xia, H.F. Huang and Y.H. Chen	2911
Research on Flexible Bonnet Polishing Process Method and Related Technology S.J. Sha, L.S. Wang and Y.J. Shi Selection of Outsourcing Supplier Based on AHP	2916
W.L. Geng and Y.S. Hu Test System for Digital General-Purpose Integrated Chip	2921
A.J. Zhu Research on Cooperative Equipment Maintenance Technology Supported Platform	2926
Y. Xing and X.H. Chen The Application of the Vector Control in Centrifuge	2931
F. Ou, H. Chen and X. Xiong Research of Geological Exploration Information System Based on Three-Tiered C/S	2937
Architecture L. Wang	2942
The Single Pipe Double Cavity IMS Contraband Explorer for Trace Detection H. Zhu Studies on the Dynamic Transform of Database Based on Design Breezes	2946
Studies on the Dynamic Transform of Database Based on Design Process W.H. Liu and H.B. Liu	2951

Synthetic Evaluation of Warfare Capability of Submarine Launched Torpedoes Based on Projection Pursuit Model	
L. Zhang, P.K. Wang, Y.C. Dong, M. Lin, L.H. Yi and G.H. Fan	2956
The Model Analysis of Mobile Emergency Platform Car Frame Based on ANSYS B. Gao, Z.M. Kou and J. Wu	2961
Linear Regression Calculation and Energy Saving Analysis about Thermotechnical Parameters of Target Type Impinging Stream Nozzles S.Q. Yan and S. Tang	2966
Nuclear Polarization and Σ^- Atom Energy Levels	
B.Z. Wang, Y.M. You and J.Y. Wang The Finite Element Analysis on the Submarine Pipeline under the Seismic Loading	2971
Y.F. Yan and L.F. Cheng	2977
Strength Analysis of Flexure Hinge Mechanism in XY Table X.M. Feng, L.S. Li, W.K. Liu and D.W. Zhang	2982
Research on Aerodynamic Noise of Base Styling Characteristics of Car Rearview Cover X. Chen and J.L. Zhou	2987
Research on Technology of Responding for Multi-Specification and Small-Batch Mechanical Production Quotation Based on Feedback Amendment T. Li and C.W. Xu	2992
Research on QoS of ertPS of 802.16e Scheduling Algorithms H.H. Shi, X. Xu, Y.J. Wang and W. Kang	2998
The Functional Configuration Mapping for Cloud-Based Mass Customization Service Platform	
J.H. Che, Q. Zeng and S.Y. Zhang	3003
Study of Performance of US-FE-LSPIM QUAD4 Element on Mesh Distortion C. Jia and H.H. Chen	3008
Cause Analysis of Cracks Found on Horizontal Truss of Quayside Container Cranes Z. Qiao, D.S. Dong and H.Q. Zheng	3013
The Discharge Characteristic Analysis and the Simulation of Axial Piston Pumps X.Y. Wei, Z.R. Lu, H.Y. Wang and L.R. Si	3018
FEM Analysis of a Diesel Engine's Cylinder Head S.Z. Jiang	3023
Comprehensive Optimum Design of Working Device of Loader Based on Sensitivity X.M. Wu, G.X. Xiao and R. Chen	3027
Emulation Analysis for Construction Process of High-Rise Building F.Q. Pei and Q.L. Zhang	3032
Chapter 3: Material Engineering and Science	
A Comparative Study on Emergency Materials and Equipment for Oil Spills F.J. Kong, M. Xie, Y. Chen, S.S. Zhang and S.L. Liu	3039
A R-p-da/dN-AK Surface Formula and the Statistical Analysis of Effects of Stress Ratio on Crack Growth for GC4 Steel K.Q. Wang, R.P. Xu and J.H. Lin	3044
Adsorption of Heavy Metal Ions with Magnetic Carbon-Coated Iron Nanoparitcles J.S. Pang, A.H. Deng, L.B. Mao, J. Chen, X.J. Peng and J. Zhu	3049
Application of the High Strength Steel in the Automobile R.C. Guo, J. Zhou and Y. Shi	3054
A Review on Mechanical Properties of Freestanding Diamond Films L.F. Hei, F.X. Lu, C.M. Li, W.Z. Tang, G.C. Chen and J.H. Song	3059
Analysis of Disturbance Signals in Steel Rolling Process W. Yan, J. Zhang and Y.S. Zhou	3065
Approach to Modified Mechanism of Eutectic Si in Alumina Fiber Reinforced Al-Si Alloy Composites	
Z. Liu and X.M. Liu	3070
Characteristics and Process Optimization of Hot-Air Drying Pepper C.S. Liu, W.F. Wu, J. Song, Y.Q. Zhang, J.X. Li and Y.Q. Li	3074

Development of High Silicon Nickel-Copper Alloy NCu30-4-2-1 Extrusion Bars D.L. Liu, T. Jiang, C.H. Tao and Y. Yu	3079
Characterization and Properties of CrN and CrBN Films X.M. Yuan, S.L. Yang, T. Li and G.G. Zhang	3086
Effect of Strip Defect on Cleavage Fracture Toughness of Steel 16MnR Y.G. Liu, J. Ma and X.M. Sun	3089
Effect of Growth Parameters on Single Crystal Diamond Deposition by DC Arc Plasma Jet CVD	
L.F. Hei, J. Liu, F.X. Lu, C.M. Li, J.H. Song and G.C. Chen	3094
A Portable Apparatus for Colloidal Gold Test on Clenbuterol Z.J. Yang, T.H. Wu and F. Chen	3100
Apply Artificial Neural Networks to Estimate Stress Distribution around Holes Edge in Composites K. Pazand and Y. Alizadeh	3105
Dynamics of Phase Transformation of Cu-Ni-Si-Zr-Cr Alloy during Aging Precipitation X.P. Xiao, B.Q. Xiong, Q.S. Wang, G.L. Xie and L. Peng	3109
Application of R/S Rheometer in Low Temperature Drilling Fluid Rheology Determination X.L. Jiang, Z.M. Lei and K. Wei	3114
Effect of Rare Earths Addition on Mechanical Properties and Wetting Behavior of Sn-2.5Ag-0.7Cu Lead-Free Solder J. Yang, P.S. Shu, X.L. Feng, X.Y. Hao and Y.P. Wang	3119
II. Characterizations of Alginate-Chitosan Hydrogel for Wound Dressing Application N. Xing, F. Tian, J. Yang and Y.K. Li	3124
Evaluation of Glass-Forming Ability for Metallic Melts by Phase Field Approach G. Wang, D.C. Zeng and Z.W. Liu	3129
Effect of Chelating Pretreatment on Photocatalysis Bleaching Y. Li, Y.P. Lei, B. Nong and D.M. Huang	3134
Magnetization Evolution with the Doping Element in Double Perovskite Q. Zhang, Q. Wang and S.J. Yuan	3140
Controllable Synthesis of CaMoO ₄ Microcrystals with Tailored Morphologies and Optical Properties	
L. Lv, Y.Z. Xie, X.Q. Liu, Y.G. Su and X.J. Wang	3145
Fundamental Research on Development of Micro-Actuator Driven by Liquid Crystal Z.Z. Zhang and G. Li	3150
Dynamic Performance of the Steel Tube Filled with Steel-Reinforced Concrete Finite Element Analysis	
X. Liu and M. Li	3155
Influence of Fluoride Ion on the Electrochemical Properties of Al/β-PbO ₂ Electrode Z. Chen, J. Wu, Z.C. Guo and Q. Yu	3160
Efficient Synthesis and Photochromic Properties of a New Unsymmetrical Photochromic Diarylethene Base on Naphthalene Unit R.J. Wang, S.Z. Pu and S.Q. Cui	3167
Application of Laser Heat Treatment Process on the Surface Treatment of Pipe Threaded J.Y. Liu and J. Liu	3172
On the Stability Capacity of Steel Tube Filled with Steel-Reinforced Concrete Column Subject to Axial Compression X. Liu and L. Zhao	3177
Distributed Control System of Ceramic Material Kiln Based on MVC S.Q. Yang, B.L. Liu and C.X. Pei	3182
Environmental-Friendly Electropolishing of 304 Stainless Steel Surface C.L. Men, W. Wang, B. Yang, Q. Wang and H. Zhang	3187
Cytotoxic Responses and Potential Health Effects of Nanosized ZnO on Tetrahymena Thermophila J. Chen, Y.G. Lu and C. Sun	3192
Design of CO ₂ Heat Pump Water Temperature Control System Based on C8051F500 SCM and Electronic Expansion Valve	2107
J.Y. Fei, K. Gao, R. Deng and X.F. Yang	3197

Constant-Wavelength Synchronous Fluorescence Spectrometry for the Determination of Polycyclic Aromatic Hydrocarbons in Water Samples	
R.P. Zhang, Q.L. Yuan, K.H. Chen and L.F. He	3202
Development of Experimental System in Organic Synthesis B. Hong and H.M. Wang	3207
Low Temperature Large Scale CVD Synthesis of Nano Onion-Like Fullerenes L.S. Chen and C.J. Wang	3211
Automatic Classification of Welding Flaws in Ultrasonic Testing Using the Layer Multi- Class Classifier Based on v-SVM	
Y. Chen and H.W. Ma	3215
Extremely High Efficiency Orange Phosphorescent Organic Light-Emitting Devices Y.F. Lv, P.C. Zhou, H. Lin, F.F. Wang, N. Wei and B. Wei	3221
Nonlocal Size Dependence of a Softness Nanobeam with Large Axial Tension under Various Boundary Conditions C. Li and W.G. Huang	3226
Effect of Acid Pretreatment on Photocatalysis Bleaching Y.P. Lei, Y. Li, B. Nong and D.M. Huang	3231
Melt Flow Type and Physical Model of Semisolid Rheo-Casting Process by Cooling Sloping	3231
Plate R.G. Guan, Z.Y. Zhao, C. Lian, R.Z. Chao and C.M. Liu	3237
Fracture Analysis near Interface Crack Tip for Mode I of Orthotropic Bi-Materials A.Q. Dong, W.Y. Yang and J.L. Li	3242
Optical Properties of β -Si $_3N_4$ Studied from First-Principles Method D. Chen and K. Yang	3253
Effect of Sub-Temperature Quenching Temperature on Microstructure and Property of 35CrMo Steel	2257
A.M. Li and M.J. Hu Ionic Liquid Assisted Sol-Gel Prepared Ce-Doped ZnO Y.L. Jiang, Y. Liu, L.J. Yang, J.Y. Liu and Y.F. Lin	3257 3262
Effect of Thermal Process on the Microstructure and Property of Si/Al Composite with	3202
High Si Content Y.X. Li, J.Y. Liu, G.Q. Liu and W.S. Wang	3266
Facile Synthesis and Enhanced Photocatalysis of Sm Doped TiO ₂ H.T. Gao, W.C. Liu and G.J. Liu	3272
Intelligent Materials and Contemporary Industrial Design X. She, H.B. Wang and D.H. Zhuang	3277
Drilling Simulation on Carbon Fiber Reinforced Plastics and Aluminum Laminated Composite	
B. Li, S.N. Liu, X.T. Tian, F. Gao and Z.M. Zhang Material Engineering for Low Power Consumption and Multi-Level Storage in Lateral	3281
Phase-Change Memory Y. Yin, R.I. Alip, Y.L. Zhang and S. Hosaka	3286
Influence Mechanism of Curing Shrinkage on Tensile Shear Strength of Isotropic	3200
Conductive Adhesive R.M. Yin, L.G. Wang, H.R. Yang, P. Liu, J. Li and F.B. Ji	3291
Discuss on Green Shipbuilding Technology: Design and Material H.L. Xu, H. Wang, H. Xu, X. Kou, C. Li, H.S. Yan, Z.F. Du and W.H. Xu	3296
Photochromic, Kinetics, and Fluorescence of a Novel Diarylethene X.T. Li, S.Z. Pu and H. Li	3301
Microstructure and Properties of TiO ₂ Thin Films Doped with Ni F. Gao, X.Y. Liu, L.Y. Zheng, M.X. Li and R.J. Jiang	3306
Low Temperature Synthesis of Nano-Carbon Materials Using a Water-Soluble Catalyst Support by Chemical Vapor Deposition L.S. Chen and C.J. Wang	3311
Low Temperature Synthesis of Onion-Like Fullerenes Using Aluminum Hydroxide Supported Iron Catalyst L.S. Chen and C.J. Wang	3315
z.o. c.o. mang	5515

Microstructure Formation Mechanism of AZ31 Magnesium Alloy Processed by Rheo- Forming	
R.G. Guan, Z.Y. Zhao, C. Lian, R.Z. Chao and C.M. Liu	3319
Material Constants of TC18 Titanium Alloy Deformated in α+β Region X. Zhao, H. Zhao and R. Zhang	3323
New Technics of Restoring High-Strength Steel Parts on Airplane by Brush Plating a Composite Coating of Diamond	
W.J. Ge, Q.Y. Lv and C.B. Xia	3327
Finite Element Analysis of the φ320mm Hydraulic Support Column J.Y. Liu and Y. Fang	3331
Modeling of the Mixing of Composite Solid Propellant Slurry in a Kneading Mixer A.M. Jiang, G.C. Li and A.P. Tian	3334
Phase-Field Simulation of Interface Effect during Grain Nucleation F. Huo and J.W. Zhao	3339
LiFePO ₄ Battery Information Integrated System X.P. Liu and D.M. Zhao	3344
Influence of Alloying on the Uniformity of Strength and Structure of Gray Iron L.L. Xiao, F.Z. Ren, M.Q. Liu, Y.F. Wang, N.W. Zhang and R. Wu	3348
Numerical Simulation Analysis of the Cold Bending Forming Technology Based on DEFORM	
X.B. Xu and H.R. Luo	3353
Preparation and Character Measurements of ZrO₂ Films for RF Magnetron Sputtering T.L. Gui, J.Y. Wen and J.S. Mei	3358
Preparation and Characterization of Glass Flake/Nano-TiO ₂ Compound Particle on Low	
Temperature Y. Guo, J. Yan, S.G. Du, B. Wang and J. Liu	3362
Flame Retardancy of Lanthanum Phosphinate in Combination with Intumescen Flame-Retardant in Polypropylene	
C. Liu	3366
Preparation and Spectral Analysis of Light Conversion Advanced Invisible Falsification- Resistant Ink H.Y. Liu, Y.P. Zhu and D.P. Liang	3370
Preparation of Tin - Titanium Alloy in Powder Metallurgy Method H.L. Zhang, H. Tang, Z.F. Li and C.S. Xiang	3376
Preparation and Swelling Dynamics Characterization of Poly(N, N-Diethylacrylamide-Co-Itaconic Acid) Intelligent Hydrogels	
X.Q. Li, N.Y. Zhang and J.H. Zhang Photoin duced Anisotropy in a New Discretations Require Five and Six Marshaued And	3382
Photoinduced Anisotropy in a New Diarylethene Bearing Five and Six-Membered Aryl Z.P. Tong, S.Z. Pu and S.Q. Cui	3387
Microstructure and Electrical Properties of ZnO-Bi ₂ O ₃ -Based Varistor Ceramics by Different High-Energy Ball Milling Time	2201
C.H. Zhang, M.S. Li, D. Xu, Y.F. Chen, Y.L. Liu and K. Zhang Preparation and Basic Characterizations of Alginate-Chitosan Hydrogel	3391
N. Xing, F. Tian, J. Yang and Y.K. Li	3396
Normalized Fuzzy Control of High Density Aquiculture's Dissolved Oxygen J.M. Jiang, S. Bing, Z.H. Ma and Z.W. Zhu	3401
Motion Characteristics of Composite-Type Sea Cage under Pure Wave C.L. Li and Y.P. Zhao	3405
Pythagoras Number Theory and the Scientific Beauty of the Theory Origin Z.D. Wang	3410
Standard Plate for Radar Absorbing Materials' Measurement in 3 mm Band J.C. Zhao, Y. Zhang and H.L. Yan	3414
Research on Process of Copper-Infiltration on 304 Stainless Steel by Double Glow Plasma	
Technology Y. Wang, J.Y. Xu, C. Gao and B. Gao	3418
Processing Maps for TC18 Titanium Alloy Deformed in α+β Region X. Zhao, H. Zhao and R. Zhang	3423

Researches of a Magneto-Rheological Fluid Damper with External Coil Based on Electromagnetic Finite Element Analysis	
X.M. Xu and C.M. Zeng	3427
Research of the Morphology and Distribution of the Primary Silicon in Al-18Si Alloy under a Gradient High Magnetic Field F.W. Jin, L. Wu, Z.J. Ai, L.M. Qiu and Z.M. Ren	3432
Preparation of Mesoporous TiO ₂ Thin Films and Research on Ultraviolet Photolysis Degradation of Dioxins from MSW Ash	2440
L. Wang, Y. Luo and J.L. Ren	3440
Static Load Test and Analysis on Completed Deck Arch Bridge of Large-Span Reinforced Concrete P. Wang, D. Lv and G.Q. Liu	3444
Recognition of Partial Discharge Pulse Based on Short-Term Energy and DTW Y. La, L.B. Tian, J.H. Ye and J.L. Wang	3449
Preparation and Characterization of Resveratrol-Loaded Hydroxylpropyl-β-Cyclodextrin W.J. Zhao, G.Y. Liu and Q. Xia	3454
Preparation and Research of Short Carbon Fibers Network Structure Antistatic Composites	2450
S. Zhang, C.G. Wang, H. Yuan and X. Lin	3459
Microwave-Assisted Hydrothermal Synthesis of Ag/BiVO ₄ Architecture with Enhanced Photocatalytic Activities L. Guo, D.J. Wang, F. Fu, X.D. Qiang and Y. Yang	3464
Research on the Method of Measurement of Nonlinear Refractive Index of Optical	5.0.
Materials by Interference of Capillary S.W. Qi, A.P. Liu and H.G. Lu	3468
Preparation of Conductive Films by <i>In Situ</i> Polymerization of 3-Alkylthiophene with Soluble MWNTs	2472
Q.M. Feng, S.M. Wang, Q.G. Wang, J.P. Li and W.X. Chen	3472
Preparation and Formaldehyde Emission and Bonding Performance of Novel Modified Urea-Formaldehyde Resin Adhesive Z.Z. Gao, C. Yue, H.B. Cao, X.B. Wang, X.F. Zhu and R.H. Lin	3476
Research on Lubricating Property of Piston Pin P. Huo, C. He, L.Z. Tian and Y.H. Li	3481
Preparation of β-PbO ₂ and β-PbO ₂ -MnO ₂ Coating on Stainless Steel Substrate Q. Yu, Z. Chen and Z.C. Guo	3486
Optical Spectrum Analyses of ZnS _{1-X} Se _x Ternary Material X.Y. Zhang and G.L. Fan	3491
Preparation and Characterization of Attapulgite Modified by KH-570 for Formaldehyde	
Adsorption T. Hu, Y. Yang and J.W. Xia	3495
Optimization of Microwave-Assisted Extracting of Proanthocyanidins from Purple Cabbage and Evaluation of Antioxidant Activity <i>In Vitro</i>	
S.L. Li, X.M. Chen and J. Lin	3500
Research on Metal-Rubber Composite Damping Steel Plate Application in Acoustic Bridge for Double Cylindrical Shell Q.Q. Xia, Z.J. Chen, J. Gong and L.J. Zhang	3505
Self-Lubricating SiC/PTFE Composite Coating Formation on Surface of Aluminium Alloy	3303
M.H. Chen, K.C. Kao, M.W. Tu and D.N. Zhang Properties and Application of Characteristic Polynomial	3511
J.S. Pan	3516
Sonochemical Synthesis and Characterization of Bismuth Aluminate Nanocrystals Z.F. Wu and S.J. Li	3522
Preparation and Properties of Chrome-Free Colored Na3AlF6 Conversion Coating on	
Aluminum Alloy A.H. Yi, W.F. Li, J. Du and S.L. Mu	3527
Static Stiffness Analysis for the Parallel Bonding Mechanism of IC Chip Die W.D. Peng and Z.W. Wu	3531
Self-Propagating High-Temperature Spraying Synthesis of Ferrites Hollow Microspheres B.C. Xu, R.Z. Yang, R.X. Duan, X.D. Cai, J.J. Wang and L. Zhang	3536

Study on Activated Carbon Prepared from Coking Fly Ash with KOH Activation S.G. Ouyang, L.L. Fu and Z. Wang	3540
Study on Productive Technology of Greensand Mold and Thick-Walled Small Piece for Nodular Cast Iron	33 10
X.Z. Wang, X.R. Song and Y. Zhang	3545
Study on Dyeing Technology Affecting the Dye-Uptake of Bamboo Pieces C.G. Du and T.T. Shu	3549
Study of an Inorganic Ion Exchanger Al _{1.25} Fe _{0.75} (PO ₄) ₂ J.H. Jiang	3553
Study on Impacting Performance of Bamboo-Plastic Composite Z.H. Ge, W.B. Chen and P.J. Tian	3557
Semiconductor Assembly and Test Production Line Simulation Technology C.J. Xiao, J.M. Li and J. Yao	3562
Study on Photometric Performance Attenuation Law of Retroreflective Materials for Road Traffic	
D. Li, C.J. Sun, W.Y. Su, X. Wang and W. Wang	3568
Study on HVOF Sprayed Nickel Coated MoS ₂ Coatings B.L. Zha, X.J. Yuan, L. Jiang and Z.H. Zha	3574
Study on Automatic Calibration System of Multi-Layered Laminated Thin Film	
Thermocouple Cutting Temperature Sensor Y.N. Wang, D.M. Li, Y.X. Cui and R. Ibrahim	3578
Study on Mass Segregation Phenomenon of Al ₂ O ₃ Ceramic Slurries during Centrifugal Slip	
Casting J.Y. Yu and Q. Li	3584
Study on Preparation of Gradient Porous Ti by Powder Metallurgy Method Q. Li, J.Y. Yu, E.Y. Zheng, Z. Sun and Y.S. Zeng	3589
Study on Damage Assessment of Reinforced Concrete Structure after Fire Y.J. Wang, Z.Q. Wang, L.N. Zhu and H.Q. Lv	3594
Research Progress of New Methods for Toughening Epoxy Resin L.Y. Guo, L.Y. Wang and X. Su	3598
Study on the Mechanism of Cutting Fracture of H700X300 H-Beam J.Q. Zhao and S.Q. Xu	3603
Research on the Determination of Calcium Content in Calcium Tablet by Microscale Chemistry Experiment Y.G. Zhuo and J. Liu	3608
Review of Hygrothermal Effects on Carbon Fiber-Reinforced Composite Materials P. Jin, D. Wang and X.M. Tan	3611
Study of Anticorrosive Properties about Epoxy Heavy Anticorrosive Over-Rust Primer/IPN Topcoat	
L.M. Tang and W.J. Bi	3616
Soybean Protein Acrylates Adhesive Research Progress J.Y. Pang, L.N. Dong and S.C. Zhang	3620
Synthesis and Electrochemical Performance of Li ₃ V ₂ (PO ₄) ₃ Cathode Material by Microwave Method S.K. Zhong, H.P. Hu and J.Q. Liu	3624
Study on the ASTM Standard E826 and its Role in Testing Materials Homogeneity R.B. Ning, S.N. Xu and Q. Li	3628
Startup Research of DIC Hydrolysis Acidification Reactor in Printing and Dyeing Wastewater Treatment Y.F. Guo, J.Y. Chu, Y.J. Liu, W.J. Zhang and L.Z. Xu	3633
Study on the Deformation of the Prestress Frame of Open-Die Forging Hydraulic Press with Different Operating Modes	
R.J. Gu, Y.J. Zhang, Z.Y. Fang, Y.L. Fan, S.F. Zhou and L. Wu	3638
Study on the Factors Influencing Plating Coat Thickness in Ultrasonic-Aided Hot-Dip Aluminizing Facing Remanufacturing Z.W. Niu, X.M. Huang, J.Y. Zhang, H.F. Liu and L. Li	3643
Study on the Key Technology of Intelligent Energy-Saving Building Glass by Nanometer	
Method S.X. Luo, J.L. Li, Z. Song and Y.K. Wang	3648

Study on the Ductile-Mode Milling of Brittle Ceramics X. Cheng, B. Gao, J.Y. Liu and X.H. Yang	3654
Startup Research of Integrated Anoxic Aerobic Process in Printing and Dyeing Wastewater Treatment	
Y.F. Guo, H.H. Yang, Z.S. Hao, T. Mu, Y. Cao and J.Y. Chu	3658
Synthesis and Characterization of Modified Epoxy-Silicone Resin Q.C. Chen, L.Z. Ma, Q.G. Chu, M. Zhang and H. Wu	3663
Synthesis and Deswelling Behavior of Intelligent Thermosensitive Poly(N, N-Diethylacrylamide-Co-Itaconic Acid) Hydrogels N.Y. Zhang, Y.G. Shen and X.Q. Li	3667
Synthesis and Properties of a New Unsymmetrical Diarylethene Bearing Two Thiophene	3007
Rings H. Li, Y.M. Tu and G. Liu	3672
Synthesis and Properties of a Novel Unsymmetrical Diarylethene with Five and Six Ring Aryls	
W.W. Geng, S.Z. Pu and S.Q. Cui	3676
Synthesis of a Novel Photochromic Fluorescence Switching Diarylethene for Optical Recording Storage	2601
T.F. Wang, G. Liu and W.J. Liu Study on Rupture Curing and Monitoring of Shaft Lining in the Special Stratum	3681
P.L. He and L. Guo	3685
The Basic Properties of the Composite Straw Veneer Y. Zhao, Y.J. Jiang and J.Y. Pang	3690
Synthesis of Gold Nanoparticles by Using a Bolaform Schiff Base Amphiphile at Liquid-	
Liquid Interface F.Y. Wang and T.F. Jiao	3694
Synthesis, Characterization of Poly(Aryl Ether Sulfone)s Based on Naphthalene Isomers S.X. Zhang, Y.H. Tang, Y. Lu and Y.M. Niu	3698
Synthesis of Al _{1.75} Fe _{1.25} (PO ₄) ₃ and its Selectivity to Li ⁺ Exchange J.H. Jiang	3703
Study on the Dynamic Lubrication Characteristics of Water Lubricated Rubber Bearing J.H. Liu	3707
Study on Technology of Food Waste Biological Aerobic Composting Y.D. Liu, Y.J. Lan, Y.J. Sheng, W.T. Shi, Y. Zhang, Y. Liu and Y.P. Cao	3712
The Damping Analysis of the Laminated Composite Plate Considering Geometric Nonlinearity	
K. Yang and Z.Y. Mei	3717
Synthesis, Optoelectronic Properties of a Novel Photochromic Diarylethene Bearing Phenyl and Benzofuran Group	
D.H. Jiang, G. Liu, W.J. Liu and S.Q. Cui	3722
The Analysis for Evaluation of Ceramic Tile's Color Difference Based on CIELAB Color Space	
Z.M. Dai, D.S. Li and H. Xie Synthesis, Proporties and Application in Optical Memory of a Photochromic Disrylethons	3726
Synthesis, Properties and Application in Optical Memory of a Photochromic Diarylethene Bearing Pyrimidine and Pyridine Ring S.H. Jing, S.Z. Pu and S.Q. Cui	3733
The Design of the Wind-Light Complementary Street Lamp C.Q. Li, X. Zhou and X. Wang	3738
The Damped Eigenfrequency Analysis for an Elastic Disk Clamped by a Water-Filled Cylinder	
Z.X. Yang	3742
The Adhesion Testing and Analysis for NiCr/NiSi Thin-Film Sensor X.F. Zheng, Q.Y. Zeng, Z. Li, L.Z. Jiang and F. Chen	3748
The Environment-Friendly High-Elasticity Asphalt Mixture Using as Stress Absorbing Layer	
J.Y. Liu, L.J. Zhang, B. Kou and P. Shen	3753
The Building of Debris Flow Monitoring and Warning System Based on Zigbee Protocol Using Multi-Sensor Technology	
Y.J. Yang, Q.Y. Gu, W.J. Tan, Y.Q. Shang and Y.W. Yang	3762

The Effect of Microstructure on Mechanical Properties and Fatigue Crack Growth Behavior of TC4-DT Alloy	
L.W. Zhu, Z.S. Zhu, X.N. Wang and C.X. Cao	3767
The Catalytic Properties of the Anodic Aluminum Oxide Template in Synthesis of Carbon Nanotubes L. Zhang and C.J. Wang	3773
The Casting Process Design and Simulation of the Rear Wearing Plate of 65ZGB Slurry Pump	
J.Z. Liu, Y.J. Han and F.L. Qiao	3777
The Preparation of O-Carboxymethyl-Chitosan and its Particles X.X. Shang, J. Du and H.Y. Zhang	3782
The Numerical Simulation on Steam-Water Two-Phase Flow Field of Car Exhaust Pipe Q.G. Liu and Y. Ma	3786
The Intelligent Bridge Health Monitoring System Based on Optical Fiber Sensing Technology	2702
L.N. Yue, S.J. Xiang and Y. Yang The High Stability Mesoporous MgO-ZrO ₂ Materials as CO ₂ Adsorbents	3792
X. Fu	3797
The Prospect of Application of Nanometer Material in Oil Exploitation S.D. Zhu, J.J. Zhang, J.F. Shi, R.D. Zhao, M. Liu and Y. Shu	3802
Synthesis of Carbon Spheres with Controllable Size Distribution by Chemical Vapor Deposition	2005
L.S. Chen and C.J. Wang The Brown and fine of Blatinum New an anticles on Titanium Using Chemical Badratine Creatile	3807
The Preparation of Platinum Nanoparticles on Titanium Using Chemical Reductive Growth Procedures L. Guo, J.Q. Hu, H. Zhang and S.Z. Yang	3811
The Research of β-SiCp/Al Electronic Packaging Composites Fabricated by Pressureless	
Infiltrating X.G. Wang, H.Y. Ren, M. Zhu, L.R. Deng and S.H. Lu	3816
The Interface Design of a Dot Matrix Liquid Crystal Display C.S. Zhang	3822
The Constraints on the Parameters in the Decay Process $\mu \to e \gamma$ and $\mu \to 3e$ at Tree Level in the Hung Model J.P. Bu and B. Jia	3826
The Study of Counting the Strapping Steel Pipes Based on Image Recognition X.H. Li, H.M. Liang, Z.K. Cao, Z.Y. Jiang and L. Chen	3831
The Influence of Decomposition and Slagging of Limestone to Temperature in Convertor	3836
Y.Q. Li, H. Li, L.F. Guo, J. Feng and W.C. Song	3030
Y.Q. Li, H. Li, L.F. Guo, J. Feng and W.C. Song The Growth of Si on SiC Complex Substrate by CVD W. Cheng, P. Han, F. Yu, L. Yu, L.H. Cheng, H. Lu, Z.L. Xie, X.Q. Xiu, R. Zhang and Y.D. Zheng	3840
The Growth of Si on SiC Complex Substrate by CVD W. Cheng, P. Han, F. Yu, L. Yu, L.H. Cheng, H. Lu, Z.L. Xie, X.Q. Xiu, R. Zhang and Y.D.	
The Growth of Si on SiC Complex Substrate by CVD W. Cheng, P. Han, F. Yu, L. Yu, L.H. Cheng, H. Lu, Z.L. Xie, X.Q. Xiu, R. Zhang and Y.D. Zheng The Influence of the Post-Annealing Temperature on the Crystalline Orientation and the Crystallinity of PZT Films	3840
The Growth of Si on SiC Complex Substrate by CVD W. Cheng, P. Han, F. Yu, L. Yu, L.H. Cheng, H. Lu, Z.L. Xie, X.Q. Xiu, R. Zhang and Y.D. Zheng The Influence of the Post-Annealing Temperature on the Crystalline Orientation and the Crystallinity of PZT Films J. Wan, C.T. Yang and Y. Gao The Studies on Photolysis of Dioxins from MSW Ash by TiO ₂ Thin Film Codoped Co and N L. Wang, J.L. Ren and B. Chang The Method Research of Parameter Identification of Li-Ion Battery Base on Least Square Method	3840 3845 3850
The Growth of Si on SiC Complex Substrate by CVD W. Cheng, P. Han, F. Yu, L. Yu, L.H. Cheng, H. Lu, Z.L. Xie, X.Q. Xiu, R. Zhang and Y.D. Zheng The Influence of the Post-Annealing Temperature on the Crystalline Orientation and the Crystallinity of PZT Films J. Wan, C.T. Yang and Y. Gao The Studies on Photolysis of Dioxins from MSW Ash by TiO ₂ Thin Film Codoped Co and N L. Wang, J.L. Ren and B. Chang The Method Research of Parameter Identification of Li-Ion Battery Base on Least Square Method J. Feng, Y.L. He and R. Bao	3840 3845
The Growth of Si on SiC Complex Substrate by CVD W. Cheng, P. Han, F. Yu, L. Yu, L.H. Cheng, H. Lu, Z.L. Xie, X.Q. Xiu, R. Zhang and Y.D. Zheng The Influence of the Post-Annealing Temperature on the Crystalline Orientation and the Crystallinity of PZT Films J. Wan, C.T. Yang and Y. Gao The Studies on Photolysis of Dioxins from MSW Ash by TiO ₂ Thin Film Codoped Co and N L. Wang, J.L. Ren and B. Chang The Method Research of Parameter Identification of Li-Ion Battery Base on Least Square Method	3840 3845 3850
The Growth of Si on SiC Complex Substrate by CVD W. Cheng, P. Han, F. Yu, L. Yu, L.H. Cheng, H. Lu, Z.L. Xie, X.Q. Xiu, R. Zhang and Y.D. Zheng The Influence of the Post-Annealing Temperature on the Crystalline Orientation and the Crystallinity of PZT Films J. Wan, C.T. Yang and Y. Gao The Studies on Photolysis of Dioxins from MSW Ash by TiO ₂ Thin Film Codoped Co and N L. Wang, J.L. Ren and B. Chang The Method Research of Parameter Identification of Li-Ion Battery Base on Least Square Method J. Feng, Y.L. He and R. Bao The Study on Microstructure and Thermal Expansion Property of SiCp/Al-30Si Composite Material Prepared by Hot-Pressing A.Q. Wang, M. Fang, J.P. Xie, Z.L. Ni and L.J. Zhang The Synthesis and Ion-Exchange Property of Li ⁺ Memorized Inverse Spinel Al _{0.75} Fe _{1.25} (PO ₄) ₂	3840 3845 3850 3854
The Growth of Si on SiC Complex Substrate by CVD W. Cheng, P. Han, F. Yu, L. Yu, L.H. Cheng, H. Lu, Z.L. Xie, X.Q. Xiu, R. Zhang and Y.D. Zheng The Influence of the Post-Annealing Temperature on the Crystalline Orientation and the Crystallinity of PZT Films J. Wan, C.T. Yang and Y. Gao The Studies on Photolysis of Dioxins from MSW Ash by TiO ₂ Thin Film Codoped Co and N L. Wang, J.L. Ren and B. Chang The Method Research of Parameter Identification of Li-Ion Battery Base on Least Square Method J. Feng, Y.L. He and R. Bao The Study on Microstructure and Thermal Expansion Property of SiCp/Al-30Si Composite Material Prepared by Hot-Pressing A.Q. Wang, M. Fang, J.P. Xie, Z.L. Ni and L.J. Zhang The Synthesis and Ion-Exchange Property of Li ⁺ Memorized Inverse Spinel Al _{0.75} Fe _{1.25} (PO ₄) ₂ J.H. Jiang and B. Shan	3840 3845 3850 3854
The Growth of Si on SiC Complex Substrate by CVD W. Cheng, P. Han, F. Yu, L. Yu, L.H. Cheng, H. Lu, Z.L. Xie, X.Q. Xiu, R. Zhang and Y.D. Zheng The Influence of the Post-Annealing Temperature on the Crystalline Orientation and the Crystallinity of PZT Films J. Wan, C.T. Yang and Y. Gao The Studies on Photolysis of Dioxins from MSW Ash by TiO ₂ Thin Film Codoped Co and N L. Wang, J.L. Ren and B. Chang The Method Research of Parameter Identification of Li-Ion Battery Base on Least Square Method J. Feng, Y.L. He and R. Bao The Study on Microstructure and Thermal Expansion Property of SiCp/Al-30Si Composite Material Prepared by Hot-Pressing A.Q. Wang, M. Fang, J.P. Xie, Z.L. Ni and L.J. Zhang The Synthesis and Ion-Exchange Property of Li ⁺ Memorized Inverse Spinel Al _{0.75} Fe _{1.25} (PO ₄) ₂	3840 3845 3850 3854 3859

3874
3878
3883
3887
3892
3897
3902
3907
3912
3916
3920