## **Table of Contents**

## **Preface, Organizing and Committees**

Chapter 1: Advanced Materials Engineering	
Synthesis of Bismyristyl Bisulpho Betaine Type Amphoteric Surfactant	1
R.M. Zhang, D.H. Ma and Z.Y. Zhang  Proposation and Characterization of Mesonarous Activated Coulon Fiber	1
Preparation and Characterization of Mesoporous Activated Carbon Fiber Y.F. Yang, X.J. Zhang and H.Y. Li	6
Synthesis and Properties of Palmitic Acid-2-Hydroxy-3-Sulfonic Sodium Propyl Ester Y.L. Hao, Y.Z. Cheng and X. Wang	11
<b>Detection of Orange Shape Structure Parameters Based on DSP</b> L. Zhu and J.Q. Chen	17
Study on Performance and Blending Techniques of Corn Fibers M. Li	21
Research of Female Elite Speed Skaters' Blood Serum Anti-Oxidized Ability before Competition H. Ding, H.N. Gao and B. Zhao	26
The Feature of Laser Deposition of Polymeric Composite Films from an Active Gas Phase Z.B. Liu, X.H. Jiang, B. Zhou, M.A. Yarmolenko, D.L. Gorbachev, N.N. Fedosenko and A.V. Rogachev	30
Friction and Wear Behavior of Al15Si2Ni0.6Mg(x)Cu Alloys at Elevated Temperature F. Xia, J.P. Li, G.H. Li, M. Zhu and Y.F. Liang	36
Chemical Composition and Physical Properties for China Railway Grade B Cast Steel	
Wheel Y.X. Zhao, B. Yang and G.X. Song	42
Research on Changes on Blood Plasma ANP of Female Boxer during Training H.N. Gao, H. Wang, H. Ding and B. Zhao	47
Effects of Welding Parameters on Microstructure and Mechanical Properties of the Joint of the Magnesium Alloy AZ31B	52
D.X. Sun, S.J. Luo, H.Z. Zhang and D.Q. Sun  Experiment and Micro-Mechanism Study on Mechanical Properties and Durability of High-	53
Calcium Fly Ash Concrete S.X. Li, T.S. Yang, Z.M. Wang and Q. Hu	59
Effect of Lithium Chloride and Sodium Propionate on Growth of Selected Probiotics H. Chen, L.Y. Ji, G.W. Shu and Z.W. Wang	66
Effect of Steroidal Saponins from Fructus tribuli on Growth of Bifidobacterium bifidum and Lactobacillus acidophilus	=0
H. Chen, M. Hu, G.W. Shu, T. Qin and J.P. Wang  Martensitic and Magnetic Transformation Behaviors in Ni <sub>50</sub> Mn <sub>34.5</sub> In <sub>15.5-x</sub> Gd <sub>x</sub>	70
Metamagnetic Shape Memory Alloys L.N. Bai, J.J. Zhang and G.X. Zheng	75
Effects of Long-Term Training on the Pulmonary Function of Outstanding U-Half Pipe Snowboard Athletes H.N. Gao, H. Ding and B. Zhao	80
Real-Time Text Detection in Color Images Based on Color Projection J.J. Wu and Y.H. Zhang	84
Chemical Control of Post-Emergency Weed in Dichondra Turf L. Yang and G.H. Shen	89
Tunable Ferromagnetic Structures for Dynamic Cell Trapping H. Nguyen, C. Rauch and M. Brandl	95
Experimental Study on Horizontal Continuous Casting of 6061 Aluminium Alloy Bar Process	
X.J. Wang, J. Zhang, Y.P. Huang, Z.H. Zhao and J.Z. Cui	100
<b>Mechanical Alloying for Preparation of Ti</b> <sub>50</sub> <b>Fe</b> <sub>45</sub> <b>Sn</b> <sub>5</sub> <b>Amorphous Alloys Powder</b> G. Wang, C. Zhang, Y.Y. Zhu, Z.G. Chao and Q. Li	104

Relationship between Dielectric Constants and Moisture Contents P. Xu, S.S. Yan and Z.H. Bin	109
Analysis of Drop-Fall Damage Failure of Composite Cylinder Y. Tie, C. Li and P. Xu	113
Tensile Behavior of Foamed Aluminum with Closed-Cell F. Wang, L.C. Wang and J.G. Wu	117
Simulation of Fuel Temperature of Diesel Engine Heating by PTC Materials X.L. Li, L.F. Gu, C.S. Xu and Y. Li	120
<b>Study of Diesel Fuel Heating by Intelligent Materials under Transient High Pressure</b> X.L. Li, L.F. Gu, C.S. Xu and J. Wang	126
Adosorption of H2O on the Inside Surface of B-N Co-Doped Carbon Nanotube J.W. Wei, H. Zeng, L.C. Pu and N. Hu	132
Effect of La <sub>2</sub> O <sub>3</sub> on the Electrical Properties of WO <sub>3</sub> -Based Varistor Ceramics T.G. Wang, Q. Qin and W.J. Zhang	137
Hydrogen Donor Catalytic Aquathermolysis Upgrading for Heavy Oil: A Laboratory Study F.J. Zhao, Y.J. Liu, B. Zhang, L. Dong and H.T. Yu	142
<b>Study on the Optimization of Fermentation Conditions for Actinomycete F10</b> L. Yang, G.Y. Zhou and G.T. Song	148
Denoising Method of Wood Defect Images Based on Wavelet Packet Combined with Gray-Scale Morphological Filtering D.W. Qi, X. Yang and Y.Y. Zhou	153
Synthesis and Characterization of the Y/MCM-41 Composite Molecular Sieves L.Q. Wang, X.N. Yang, Y. Han, N. Yu and X.L. Zhao	159
Synthesis and Characterization of the ZSM-5/MCM-41 Composite Molecular Sieves L.Q. Wang, N. Yu, Y. Han, X.N. Yang and X.L. Zhao	165
Performance of Concrete Beams Strengthened with Prestressed CFRP Plates H. Chen, L.N. Deng and P. Zhang	170
Dry Tribological Performance of Al-Based Composites Reinforced by Continuous Ceramic D. Huang and W. Zhao	175
Random Mechanical Properties of China Railway Grade B Cast Steel Wheel J.Y. Liu, Y.X. Zhao and G.X. Song	179
Optical and Hydrogen Sensitive Properties of Platinum-Doped Tungsten Oxide Films Z.L. Li, C.D. Zhou, Y.K. Tang, J. Xu and X.H. Fang	184
A New Method about Port Scan of Network Hosts X.C. Han and Y.Q. Ma	190
The Research of Inland Ship Sewage Treatment Based on Membrane Bioreactor (MBR) Y.M. Sun	195
Preparation and Characterization of Hydrophilic PVDF Hollow Fiber Ultrafiltration  Membrane  L.G. Wang, Y. L. Wang, A. M. Wang, W. L. Liv, S. O. Greened S. O. Liv,	201
L.G. Wang, X.J. Wang, A.M. Wang, W.J. Liu, S.Q. Guo and S.Q. Liu  Microstructures and Mechanical Properties of Troostite Nodular Cast Iron by Heat	201
Treatment K.G. Liu and A.M. Xu	207
Py-GC-MS Analysis on Benzene-Alcohol Extractives of <i>Phyllostachys pubescens</i> for Biomedical Engineering Q.Z. Ma, F.J. Wu, D.Q. Zhang and W.X. Peng	211
Effects of Electromagnetic Parameters on the Process of Low Frequency Electromagnetic Hot-Top Casting of Aluminium Alloy X.J. Wang, J.Z. Cui, H.T. Zhang and Q.F. Zhu	215
The Application of Genetic Algorithm on Optimization Problem for Mayonnaise	213
Compositions Z.Y. Luo, H.X. Zhao, X. Yuan and Y. Li	219
Analysis of Biomedical Components of Pyrolyzate of <i>Cinnamomum camphora</i> Root Wood D.Q. Zhang, L.L. Guo, H.Y. Zhang, F. Wang, L.H. Wang and K. Yue	225
Py-GC-MS Analysis on Biomedical Materials from Extractives of Moso Bamboo for Biomedical Engineering Q.Z. Ma, F.J. Wu, D.Q. Zhang and W.X. Peng	231

<b>Py-GC-MS Analysis on Extractives of </b> <i>Phyllostachys pubescens</i> <b> for Biomedical Engineering</b> F.J. Wu, W.X. Peng, Z.F. Zhang and Q.Z. Ma	235
Analysis on Health Risk of Extractives of Bamboo Leaves by Py-GC-MS Z.F. Zhang, X.Y. Zhou and Q.Z. Ma	238
Analysis on Health Risk of Extractives of Cinnamomum camphora by Py-GC-MS Y. Pang and Z.W. Wang	242
Study on Mechanics of GFRP Composite Wood for Timberwork on China Southern Plantation	246
Z.F. Zhang, X.Y. Zhou, J.H. Li, F.J. Wu and W.X. Peng  Identification of Biomedical Constituents of 450 °C Pyrolyzate from Benzene/Ethanol	246
Extractives of Moso Bamboo Root D.Q. Zhang, L.L. Guo, Q.M. Liu, K. Yue, L.H. Wang and F. Wang	250
<b>Determination of Bioactive Components of Oil-Tea Cake by Pyrolysis- GC/MS</b> Q.M. Liu, D.Q. Zhang, K. Peng and W.X. Peng	256
Effect of the Extract of <i>Fructus tribuli</i> on Growth of <i>Lactobacillus acidophilus</i> G.W. Shu, H. Chen, T. Qin and Q. Ma	261
Deep Analysis on Bioindustry Prospects of 40°C Volatiles of <i>Cinnamomum camphora</i> Branches	
Q.M. Liu, D.Q. Zhang, K. Peng and W.X. Peng	266
High-Grade Utilization of Recovering Wastewater from <i>Cinnamomum Camphora</i> Oil G.X. He, D.Q. Zhang and L.L. Guo	272
Analysis of Top Value-Added Utilization of Waste Leaves from Rosewood Tree by GC/MS Z.X. He, D.Q. Zhang and Q. Li	278
Flexural Behaviour of RC Beams Strengthened with Prestressed CFRP PlatesComparisons of Bonded and Unbonded Method L.N. Deng, P. Zhang and H. Chen	283
CFD Simulation for the Resistance Performance of 1000 Dwt Deep-Vee Vessels on Bulbous Bow	
Y. Xie, H. Zhao, X.B. Fan and H.J. Jian	288
A Study of the Material Removal Rate of Electrical Discharge Machining of Particle Reinforced Metal Matrix Composites with Concavo-Convex Electrode J.W. Liu, T.M. Yue, Z.N. Guo, Z.Y. Wan and G.Y. Liu	294
A Study of the Mechanism of Electrical Discharge Machining of Particle Reinforced Metal Matrix Composites with Concavo-Convex Electrode J.W. Liu, T.M. Yue, Z.N. Guo, Z.Y. Wan and G.Y. Liu	300
Cyclic Deformation Behaviour of China Railway Grade B Cast Steel Wheel	300
Y.X. Zhao and G.X. Song	306
Influence of the Structure of Comb-Shaped Polymer on the Adsorption between the Polymer and SO <sub>4</sub> <sup>2-</sup> Ions	211
G.R. Duan, X. Wang, G.H. Huang and Y. Gong  Analytical Expression of Typ. Dependence in Standard ISO 3685 for Cutting Coronic	311
Analytical Expression of <i>T-v</i> <sub>C</sub> Dependence in Standard ISO 3685 for Cutting Ceramic A. Panda, J. Duplák and J. Jurko Feature Selection for Object Recognition by Property Related Analysis	317
Y.M. Zhang and L. Ma	323
Experimental Research on Dynamic Characteristics of Synthetic Jet Induced by SJA with HCPCS Membrane	
Y. Zhou, B.F. Wang, W. Wang, Y. Cheng and F. Wang	329
Research on PLC-Based Automatic Liquid Pig-Feeding System M. Xu	335
Scatter Correction Method for Cone Beam CT Using Beam Attenuation Grid S.P. Xie, L.M. Luo, L.F. Yang and F. Zhang	341
Random Fatigue Limits of China Railway Grade B Cast Steel Wheel Y.X. Zhao, B. Yang and Z.G. Wang	347
Fatigue Reliability Curves for China Railway Grade B Cast Steel Wheel H.Q. Liang, Y.X. Zhao and Y. Li	352
Effect of Substrate Concentrations of the BZ Reaction on Period of Self-Oscillation for Non-Thermoresponsive Polymer Chain Y. Hara	357

Scale and Surface Machining Quality Effect on Fatigue Properties for China Railway Grade	
B Cast Steel Wheel Y.X. Zhao, B. Yang and Y. Li	363
Trasmittance Self-Oscillating Behavior of a Non-Thermoresponsive Polymer Chain Induced by the Belouzov-Zhabotinsky (BZ) Reaction Y. Hara	369
Random Fatigue Cracking Thresholds of China Railway Grade B Cast Steel Wheel B. Yang, Y.X. Zhao and G.X. Song	375
Random Critical Fracture Toughness Values of China Railway Grade B Cast Steel Wheel L. Chen, Y.X. Zhao and G.X. Song	381
Random Fatigue Crack Growth Rates of China Railway Grade B Cast Steel Wheel Y.X. Zhao, B. Yang and G.X. Song	387
Waveband Selection for NIR Spectroscopy Analysis of Wastewater COD T. Pan, W.W. Chen, Z.H. Chen and J. Xie	393
Comparison of the Fashion Ontology Integration Models X.Y. Wang, R.J. Bai and X.F. Yu	397
Phases and Thermoelectric Properties of Bulk CoSb <sub>3</sub> Prepared by Wet Milling and Sintering	400
K.G. Liu, W.P. Zhang and L. Shi Two Design Projects of Multifunctional Scanning Electron Microscope Sample Stages	402
K.G. Liu and X.Q. Sun	406
Research on Application of Network Education Technology in Mathematics Teaching of Higher Vocational Institutions X.F. Hu and J. Huang	410
The Non-Destructive Measurement Instrument for Material Thickness S.C. Ding, W.H. Li and G.C. Yuan	415
Acoustic Emission Behaviors of Carbon-Cloth/Epoxy Composites in Compression Test C. Lu, P. Ding and Z.H. Chen	421
Study on Nugget Diameter and Joint Strength of Dissimilar Metals in Capacitor Charging Projection Welding K.H. Tseng and Y.C. Chen	427
Effect of Heat Treatments on Microstructure and Properties of Hot Compression Aluminum Alloy 7A04	
M. Meng, Z.M. Zhang, J.M. Yu and X.K. Li  Degradation of Micro-Arc Oxidation Coatings on the Surface of Magnesium Alloy under	433
NaCl Droplet Y.H. Wang and Y.Y. Liu	437
Localized Corrosion of 304 Stainless Steel under a NaCl Droplet Y.H. Wang and Y.Y. Liu	443
The Tensile Strength of Neat and Coated Woven Fabrics P. Wang and Y. Zhang	448
The Effect of Twist on the Tensile Strength of Yarns with High Performance P. Wang and Y. Zhang	453
Computational and Experimental Study of Temperature Distribution and Residual Stress in Butt-Joint TIG Welds K.H. Tseng and K.L. Chen	459
80°C-Based TD-GC/MS Analysis of Chemical Components from Branches of <i>Cinnamomum</i>	737
camphora Q.M. Liu and W.X. Peng	466
450°C-Based Pyrolysis- GC/MS Analysis of Utilization of Benzene/Ethanol-Extracted Residue from Oil-Tea Cake G.X. He, D.Q. Zhang, Q.M. Liu and K. Peng	472
Py-GC/MS Analysis of Bioactive Components of 550°C Pyrolyzate from Acetone	<b>⊣</b> 7/∠
Extractives of <i>Cinnamomum camphora</i> Root Wood X.Y. Hu, D.Q. Zhang and L.L. Guo	478
Determination of Bioactive Components of 600 °C Pyrolyzate from Acetone/Ethanol Extractives of Moso Bamboo Root by Pyrolysis-GC/MS Q. Li, K. Peng and D.Q. Zhang	484

Bioactive Components Determination of Acetone Extractives from Oil-Tea Cake by 600°C-Based Pyrolysis-GC/MS	
Y.L. Zeng, D.Q. Zhang and K. Peng	490
550°C-Based Py-GC/MS Analysis of Chemical Components of Benzene/Ethanol Extractives from Trunk Bark of <i>Cinnamomum camphora</i> K. Peng, D.Q. Zhang and H.Y. Zhang	496
GC/MS Determination of Bioactive Components of Waste Leaves from <i>Platanus</i> × <i>acerifolia</i> (Ait.) Willd	502
D.Q. Zhang, K. Peng, L.L. Guo and H.Y. Zhang  Analysis of Biomedical Application of 550°C Pyrolyzate from Petroleum Ether Extractives	502
of Oil-Tea Cake by Py-GC/MS X.Y. Hu, D.Q. Zhang and L.L. Guo	507
Py-GC/MS Analysis of Bioactive Components of 450°C Pyrolyzate from Ethanol Extractives of Oil-Tea Cake Q.M. Liu and W.X. Peng	513
Reaction Synthesis of (Ti,Cr) <sub>2</sub> AlC/Al <sub>2</sub> O <sub>3</sub> In Situ Solid Solution Composite J.F. Zhu and N. Han	519
Synthesis of $Al_2O_3$ Reinforced $Ti_3AlC_2$ In Situ Composites from $Ti$ , $Al$ , $TiO_2$ and $C$ J.F. Zhu and L. Ye	523
Advances in Fusion Welding Technique of Austenitic Stainless Steels K.H. Tseng and H.L. Sung	527
Improving of Balling Performance by High Pressure Roll Grinding Y.P. Mo, J.J. Fan and Y. Wang	533
Mechanical Analysis of Diamond Saw Blade J.D. Yang, Z.P. Luo, F. Lu and Y. Wang	539
Development Strategy for Demand of ICTs in Business- Teaching of CRHEIs H. Liu	546
Modeling Wood Crystallinity with Multiple Linear Regression Y.X. Li and L.C. Jiang	550
Influence of Al <sub>2</sub> O <sub>3</sub> Doping on the Microstructure and Current–Voltage Characteristics of <b>ZnO-Based Linear Resistance Ceramics</b> J.F. Zhu, Y. Zhou, H.B. Yang and F. Wang	556
Research on Embedding Strength of Diamond J.D. Yang, Z.P. Luo, F. Lu and Y. Wang	560
Test Study on Mechanical Characteristic of High Strength Composite Shaft Lining of Steel and Concrete Z.S. Yao, H.Q. Song and H. Cheng	568
Droplet Generation and Piezoceramic Actuation of a Jetting Inker L. Zhang, H. Hu and Y. Cao	574
Laminar Flow Analysis of Low Temperature Propellant Flowing through Pipes of Filling System	
J.J. Song, X.P. Du, J.G. Zhao, J.P. Chen, Q. Wang, X. Li and Y. Jiang  Turbulence Flow Analysis of Low Temperature Propellant Flowing through Pipes of Filling	580
System J.J. Song, X.P. Du, J.G. Zhao, J.P. Chen, Q. Wang, B.M. Feng, X. Li and Y. Jiang	585
Research on Airborne Blue-Green Laser Anti-Submarine Technology H.Y. Li	590
Effect of Solution Treatment on Hardness and Wear Properties of Nanometric Al <sub>2</sub> O <sub>3</sub> Particulate Reinforced Al Alloy Matrix Composites Manufactured by Casting Y.B. Yang, Z.M. Zhang and M. Meng	595
Characteristics Analysis of Angular Contact Ball Bearing Based on the Oil Film Stiffness <sup>1</sup> Z. Liu, H. Zhou and Y.S. Zhao	599
ZnO Field-Effect Transistor Fabricated by RF Magnetron Suputtering and Lithographic/Wet Etching Processes H.Y. Ma, E.J. Ding and Z.L. Shi	605
Determination of Three Kinds of Volatile Residue of Ozone-Depleting Substances in Polyurethane Foam by Gas Chromatography H.F. Chen and F. Cao	609

A Novel Interactive 3D Display Based on Half-Silvered Mirror W.K. Liu and Y. Liu	614
<b>Volumes Constrained Layout Optimization of a Continuum with Multiple Materials</b> K. Cai and S. Jiao	619
Synthesis, Film Morphology and Performance of a Functional Polysiloxane Containing Polyether, Epoxy and Trifluoropropyl Side Groups W. Xu, Q.F. An and W. Xu	624
Blue Shifting of Hydrogenated Silicon Carbide Multiple Quantum Wells W.T. Chang, Y.T. Chen and C.C. Kuo	629
Die Parameters Optimized for Drawing of AZ31 Magnesium Alloy Sheet by Finite Element Method S.F. Zeng and W.Z. Chap	634
S.F. Zeng and W.Z. Chen  Synthesis and Characterization of Bi <sub>2</sub> Mn <sub>0.1</sub> V <sub>0.9</sub> O <sub>5.35-δ</sub> Thin Films  M. Guo, L.Y. Wu, C.X. Liu and S.H. Zhou	639
Control Module of Laser Metal Deposition Shaping System K. Zhang, X.F. Shang and W.J. Liu	644
AR Sand Table with VSTAR System Y. Zhang and L. Li	650
<b>Zirconium Alloys Thin Walled Pipe Automatic Comprehensive Measuring System</b> H.Y. Zhong, H. Zhai and H. Zhao	656
An Analytic Solution for Characterizing the Fracture Toughness of the Inhomogenous Coatings on Substrates	((2
B.Q. Yang and F.X. Li  The Infiltration of Green Chemistry Concept in University Chemical Education Y.H. Wang, H.Y. Tian, D.D. Jia, H.L. Wang, L. Liu and D.J. Wang	662 668
Sulphate Acid Catalyzed Ethanol Pulping of Wheat Straw P. Luo and D.J. Pan	672
<b>Development and Application of Super-Hard Cutter Material</b> J.B. Liu, Z.F. Shi, X.J. Li and D. Wang	676
Synthesis of Novel Fluorosiloxane Polymer/Silica Hybrid Nanocomposites and Superhydrophobic Cotton Surface from it W. Xu, Q.F. An and W. Xu	681
Microstucture and Mechanical Properties of Semi-Solid Sn-58Bi Alloy Y.J. Hu, B.Q. Zhong, F. Li, X.L. Cheng, X.T. Xiao, Y. Li, J.N. He, Y.C. He, C.C. Zheng, Y.C. Zheng and Y.C. Wu	687
Preparation and Characterization of Hydrophilic Ultrafiltration Membrane with PVDF and PAA Blends	
L.G. Wang, X.G. Zhang, S.Q. Guo, A.M. Wang, X.J. Wang and S.Q. Liu	691
Chapter 2: Manufacturing Systems and Industry Applications	
Software Development for Calculating Overlapping Mineral Resources H.C. Ge, P. Xu, L.Y. Wang and X.Z. Chen	697
Research on Dispatching Ready Mixed Concrete Based on Simulated Annealing Algorithm L.P. Ll, G.L. Xu and Y. Long	701
Finite Element Analsysis of Deformation during Continuopus Rolling on CSP X. Chen, Y.X. Zhang, Q.M. Chang, C.J. Chen and J.L. Xiong	707
Engine Room Monitoring System Design for Aging Vessels in Coastal Waters Q. Ma, Y.N. Miao and J.H. Sui	712
Research on Range Gated Airborne Laser Underwater Detecting System H.Y. Li, M. Zhu and K.W. Xu	718
<b>Application of ID3 Algorithm in Logistics Performance Evaluation</b> Y.K. Sheng and W.L. Lan	723
Several Important Diseases of Chinese Fir Plantations and their Control Measures H. Li and G.Y. Zhou	727
A Method to Measure Depressed Pavement Area Based on Single Image B.H. Tan and L. Zhang	733

An Intelligent Incremental Conductance MPPT Method for a Photovoltaic System K.H. Chao and Y.H. Lee	739
Shield's EPB Simulation Device Based on Fluid Power Transmission Principle X. Li and X.J. Su	745
Multi-Objective Runner Optimization for Injection Mold of Combinational Cavities Based on Kriging Model F.L. Huang, J.M. Gu, Y.J. Lou and G.W. Liu	751
A Software to Convert ESRI Shapefile to Flash SWF Format and its Extended Application J.Q. Zhang	758
Reliability Evaluation for Complex Machinery Products F. Du, Z.W. Guan and Y. Zhou	763
A Defensive OTP-Based Mechanism against Application Layer DDoS Attacks X. Ye, W.S. Wen and Y.R. Ye	769
Performance Analysis of a Robust Matched Subspace Detector T.J. Li	775
Research of Unattended Management System Based on RFID Technology in Parking Lot X.W. Yang, X.R. Dong, Y.Z. Ma and F.N. Liu	781
Limiting Factors of Driving Hall Element by Pulsed Power Supply X.L. Chen	786
<b>Development of an Intellectualized Wireless Infusion Control/Monitoring System</b> L.J. Bi, H.Y. Sun and S.S. Liu	790
Three Gorges-Gezhouba Cascade Reservoirs Multi-Objective Optimization Decision Support System Overall Design and Implementation N. Xu and X.J. Wang	795
Analysis and Design of Data Management Information System for the Enterprise of Wooden Door D.F. Ye, W. Fan and L.J. Lin	800
A Method of Multi-Attribute Synthetic Evaluation Based on Cloud Model J.J. Song, X.P. Du, Q. Wang, X. Li and Y. Jiang	805
The Impact of Low-Temperature Liquid Hydrogen Filling System on the Bend Pipe J.J. Song, X.P. Du, J.G. Zhao, J.P. Chen, Q. Wang, B.M. Feng, X. Li and Y. Jiang	810
Appraisal Model on the Values of the Green Ecological Real Estate Brand H. Ren and J.B. Liu	815
Evaluation on Independent Innovation Ability of High-Tech Industry Based on Rough Set and Projection Pursuit Model J. Wen, L.J. Lei and Z.Q. Tian	821
High Speed Spectral Optical Coherence Tomography for Imaging Biological Tissue <i>In Vivo</i> Z.H. Ma, Y.X. Su, Z.H. He and Q.Y. Wang	827
Modeling the Propagation of Wireless Worms among Vehicles M.L. Guang and S. Dan	833
Autonomic Indoor Fire Extinguishing System D.X. Wang and S. Chen	841
Study on Duplicate Tasks in Workflow Mining W. Tian, M.Q. Wang and H. Kang	845
New Criteria on Exponential Stability of Uncertain Delayed Systems with Multiple Delays and Parameter Uncertainty	940
Y.Q. Chen  MMSE-BLE Algorithm of Single-Carrier Multi-User Channel Capacity J. Yang, H.M. Zhang and W. Xie	849 855
Study on Removing Baseline Drift in the Brain Blood Stream Signal Based on Cubic Spline Interpolation Technique	
N.Q. Zhou  Calculation of Axial Expansion in Vertical Shell and Tube Heat Exchanger with Expansion	862
Joint X.H. Li  Design and Implementation of Report Model for Rose Information of Form Produce	868
Design and Implementation of Report Model for Base Information of Farm Produce Quantity Security Based on TelerikReporting Component S.D. Zhang, Z.X. Sun and N. Luo	872

Cluster Analysis for Drilling-Quality Based on the Modified Algorithm of InDBSCAN Y.H. Zhou, H. Guo, Y.S. Dong and Q. He	877
Study of Micro Vibration Detection Based on the Tunneling Effect M.C. Li	883
Experimental Research on Performance of Heat Pump Using Shower Waste Water as Heat Source	887
H.D. Wang  A New Non-Aliasing Nonsubsampled Contourlet Transform  H. Yan and Y.J. Pan	893
<b>Geo-Membrane Strength and Failure Analysis of Dumping Large Geo-Container</b> Y. Tie, C. Li and B.S. Zhang	899
<b>Research on Application of Plant Structure Bionics in Building Materials</b> W.T. Wu, Y. Ren and H.Y. Zhao	904
Study of Streamline Dynamic Successive Trees Index Model for Ciphertext L. Huo, D.S. Li, Y.L. Tan, X. Xing and X.Z. Zou	908
<b>Design of Generally Remote Transmission System</b> Y.H. Li and X.H. Yang	916
On the Hamilton Cycle of the Hypercube Y.Z. Hu and H.D. Wang	922
Slack Distribution for the Battery Aware Dynamic Voltage Scaling Policy S. Xu, X.F. Zhang, J.S. Li and H. Jin	928
Medical Image Display Based on DICOM P.J. Chen	932
Implementation of Virtual Terminal Based on CAN by Using WinCE Platform Builder 6.0 K. Hyeokjae, T. Enkhbaatar and H. Woonchul	938
An Intuitionistic Fuzzy Set-Based Model for Intelligent Traditional Chinese Medicine Diagnosis M.H. Wu	944
Analysis on the Positioning Errors of Ink-Jet Printing Equipments Oriented to Three- Dimensional Microstructure Y.Y. Yao and L.P. Zhao	950
A Novel 3D Game Design Method Based on Virtools Platform C. Gang and X.Y. Huang	956
Heat Generation of Bearing Y.S. Wang, Z. Liu and H.F. Zhu	962
A Novel Animation Design Method Based on Collaborative Design C.M. Li and X.Y. Huang	968
Temperature Field Analysis of Bearing Y.S. Wang and H.F. Zhu	974
Analysis on Dynamic Characteristics of High Speed Cylindrical Roller Bearing Y.S. Wang, N.N. Jin and H.F. Zhu	980
Fault Diagnosis Methods of Rolling Bearing: A General Review X.X. Qi, J.W. Ji and X.W. Han	986
Concurrent Engineering Technology in Injection Product Development H.L. Yuan	993
The Application of Maya in Film 3D Animation Design J. Liu and C.M. Li	998
The Research on the Telecom Customer Churn Based on System Dynamics Y. Wang, L. Yang and M. Li	1003
Microscopic Simulation Modeling of En-Route Diversion Strategies for Commercial Vehicle Operations	4000
H. Wang, R. Cheu and D.H. Lee Research on Kansei Engineering and its Application in Massage Chair Design	1008
Z.Y. Wang, Y.Y. Liang and H.H. Shi  Communication Software Design of Remote Monitoring System for Motor Excitation	1014
Parameters Based on PSTN X.Q. Zhang and L.J. Chen	1018

The Formalization of Least Privilege Mining in RBAC L.J. Dong, X.J. Kang, J. Song and M.C. Wang	1023
Image Processing of the Hook on the Catenary Based on Machine Vision J. Yu, C.C. Li, S.F. Wang and H.G. Liu	1028
CNC Remote Monitoring and Fault Diagnosis Based on Multi-Agent Technology C. Peng and Q. Liu	1033
<b>A Dynamic Traffic Coordination Control Model of Congestion Based on Synergetics</b> P. Gao and Z.S. Yang	1039
Polyphone Disambiguation Based on Maximum Entropy Model in Mandarin Grapheme-to-Phoneme Conversion F.Z. Liu and Y. Zhou	1043
Optimal Design of 6-UPU Parallel Mechanism G.H. Wu, L.H. Gong, X.W. Ji, Z.J. Wu and Y.J. Gai	1055
Entire Symmetric Structure Inchworm-Type Piezoelectric Linear Actuator H.Z. Zhang, J.T. Shi and D.X. Sun	1061
Preparation and Characterization of Chitosan-Casein Phosphopeptides Biocomposite Coatings on the Medical Titanium Alloy	1065
B. Liu, L. Wang, Y.Z. Bu, S.R. Yang and J.Q. Wang  A Computational Method of Salvo Fixed Lead Angle for Wake-Homing Torpedo  D.X. Wu and T. Jiang	1003
Control of Handling Stability in Four-Wheel Steering Vehicles Based on Individual Channel Design	- 7 , 7
B. Yang, M.S. Wan and Q.H. Sun	1074
Optimization Design Based on DEFORM-3D Finite Element Analysis about Steel Rolling Production J.H. Ren, W. Wang and R. Liu	1079
<b>Optimization Variation for Multiple Heuristic Approaches in Solar Tracking</b> D.F. Fam, S.P. Koh, T.S. Kiong and K.H. Chong	1085
The Schematic Design of Scanning Electron Microscope Sample Stages with the Function of Structural Dynamic Observation K.G. Liu and X.Q. Sun	1091
Effect and Effect Principle Modeling of Microcomponent X.T. Yan	1095
Design and FEM Analysis of a High Efficiency Axial-Flux Brushless DC Motor for Flywheel System C. Zhang and G.Z. Zhao	1099
Analysis and Design of Monitoring System Based on Streaming Media D.L. Cai and D.X. Zhu	1105
Research on Non-Gyro Projectile's Attitude Measurement Based on Improved Unscented Kalman Filter	
Z.H. Liu, J.B. Chen, Y. Wang, C.L. Song, J. Wang and W. Feng	1111
Research on the Key Technology and Application of the Process Monitor Configuration System W. Li	1117
<b>Topology Optimization for Vertical Electrochemical Machine Tool Based on FEA</b> Y. Wang, G.N. Zhu and Y.L. Chen	1123
The Development and Experiment of the MSMA Actuator Test Platform Based on LabVIEW	1100
H.W. Ji, Y.Q. Wen and C.M. Fu	1129
Study on Flow Field in Different Styles of Blades for Eddy Current Retarder's Rotor Based on CFD J.M. Shen and C.Y. Liu	1134
Prediction of T-Shaped Tube Hydroforming Stress Limit L. Zhou and X.M. Cheng	1140
Appling Data Mining Technology to Analasis Clearance Efficiency in the Port Logistics Y.Q. Wang and Y.M. Song	1144
Five-Axis Machining Center On-Line Inspection System Based on Workpiece H.Q. Sang and J.J. Meng	1150

Attitude Controller Design for a Six-Rotor Type MAV W. Wang, Y.Z. Song, K. Nonami, Y. Cheng, Y. Zhou and F. Wang	1155
Sensor Deployment for Location-Estimation Coverage J. Ma, N. Komuro and S. Sakata	1161
Feedback Control of a Flexible Micro-Displacement Manipulator H.W. Ji, Y.Q. Wen and C.M. Fu	1167
<b>An Affine Correction Algorithm for High Definition Rugged Paining Acquisition</b> X.F. Shi and X.H. Chen	1173
A Location Fingerprinting Algorithm Based on RSSI Statistic Parameters Matching Estimate	
W.G. Guan, Z.L. Deng, Y.T. Ge and Y.P. Yu	1179
<b>Reconfiguration of Shipboard Power System Using Improved Ant Colony Optimization</b> Z. Wang, Y.J. Wang and Z. Li	1185
The Optimization of Automated Stereoscopic Warehouse's Cargo Space Allocation Based on Hybrid Particle Swarm Algorithm W. Yang, H.G. Wang and X.H. Qiu	1191
Research on Project Cost Management Model of Ecological Construction F. Liu and J.M. Wang	1197
<b>Design and Implement of a Food Safety Testing Instrument Based on Microcontroller</b> A. Wu, J.H. Zhu and X.N. Hu	1201
Image Segmentation Using Binary Level Set Method Based on Region-Based GAC Model G. Ren, X.Q. Cao, W.M. Pan and Y. Yang	1206
Sensitivity Analysis of Cost Parameters of Sequential Imperfect Preventive Maintenance Model and Applications Z.M. Wang	1210
A Constructive Genetic Algorithm for the P- Median Location Problem of Typhoon Emergency Shelter in China Coastal Rural Areas A.P. Pan	1215
Research on the Application of Green Technology to Leather Shoes in their Life Cycle W.L. Peng, Z.B. Qin, W.N. Zhang and J.J. Tan	1221
The Influence Factor Analysis for Coupling Performance of HSK Tool System C.J. Zhou	1225
<b>Design and Analysis of the Base of the Precision Motion Platform</b> H.B. Lin, Z.G. Hu and G.Z. Yang	1230
Research on Item Model in Content-Based Filtering Recommender Systems S.J. Gong	1235
Design and Analysis of Hydraulic Control System for Pipe Storage and Handling System Y. Wang, B.L. Liu and Y.B. Hu	1240
<b>Design Research of Efficient Vacuum-Type Rotary Drum Filter</b> H.G. Zhang, L.G. Wang and Y.C. Xu	1246
A New Oxygen Concentration Tester Design L.J. Ren	1251
Study on how to Control the Affect by Ironing Shrinking to the Size of Silk Garment in International Silk Garment Business M.H. Zhao and X.P. Zhang	1255
Challenges in a Long-Distance Pipe Jacking and Solutions in China L. Hui	1260
Construction Technology of Shallow Pipe- Jacking Working Shaft L. Hui	1266
<b>Key-Points of Construction Techniques for Concrete Pipe-Jacking Tunnel</b> Z.Y. Yang	1271
Feasibility Analysis and Status of Shallow Pipe-Jacking Technology in Urban Drainage Systems Z.Y. Yang	1278
Construction Technique of Inspection Well for Water Drainage Pipe Jacking Project with Sunk Tube Method Z.Y. Yang	1283

Decorative Arts on Manor House Wood Doors and Windows of Changjia H. Yan	1289
The Research and Application of Nuclear Power Valve Steel Casting by CAD / CAE Simulation Design and Refining Technology H.F. Chen and F. Cao	1293
A Boundary Tracking Method Based on Topological Relation & Region Growing	1293
J. Wang	1298
Research on Automatic Washing Machine Control System S.C. Ding, W.H. Li and S.Z. Yang	1302
Fitting Growth Model Using Nonlinear Regression with Random Parameters Y.X. Li and L.C. Jiang	1308
Study on the Economy of Scale in Industry Based on DEA D.Q. Li	1313
Analyze on Construction Status Long-Span Arch Rib Bridge by Numerical Simulation	1210
J. Hao  Analyze on Safety Evaluation of Masonry Arch Bridge by the Chain-Styled Theory J. Hao	1318 1324
Detection of Human Body Motion Based on Electrostatic Measurements in the Indoor	1324
Environment W. Zheng and Z.Z. Cui	1329
Research on the Radial Accuracy and Stiffness of HSK Tool System in High Speed Machining	
C.J. Zhou  Analysis of Biomedical Prospect of Leaves from <i>Liriodendron Chinense</i> (Hemsl.) Sarg by	1335
GC/MS D.Q. Zhang, H.Y. Zhang, L.L. Guo and K. Peng	1341
Development of a Wireless Sensor Network for Factory Power Monitoring and Automation	1341
Control W.T. Sung, Y.C. Hsu and J.H. Chen	1346
An LMI Approach to Guaranteed Cost Control of Networked Control Systems with Nonlinear Perturbation N. Xie and B. Xia	1352
Research on Optimization of Processing Parameter in Turning Process Based on BP Neural Network and Genetic Algorithm	
B.D. Li and X.H. Wu Simulated Annealing Algorithm and Genetic Algorithm for Optimization Design of	1358
Multilayer Optical Thin-Film Coatings X.J. Zhang and G.J. Qiao	1362
Coupled Feedback Control of Chaos in the Qi System J.Y. Wang and H.T. Wang	1368
Comparison and Research of LED Screen's Image Quality Optimizing Technology X.M. Zhao, X.Y. Zhou and S.C. Yuan	1373
The Model of Liu Chaotic Synchronization with Oscillating Parameters under the Impulsive Control	
Y.Ĥ. Chen	1378
Complex Network Synchronizability: The Effect of Coupling Strength X.J. Liu, Y. Zou and J.L. Liu	1383
Maximum Norm Error Estimates for Quadratic Block Finite Elements with Twenty-Six Degrees of Freedom J.H. Liu and G. Hu	1388
The Processing Quality and Control Measures of the Box-Shaped Piece Drawing H.L. Yuan	1393
The New Collocation Meshless Method for Analyses of Forming Problems	1373
Y.M. Guo and S. Kamitani	1396
The Concurrent Development of the Multi-Stationed Progressive Die of the Micro-Motor Rotor and Stator H.L. Yuan	1402
Stabilization for a Class of Discrete-Time Switched Linear Singular Systems	
B. Men, X.S. Li and X.Y. Ou	1406

Statistic Analyses of Correlation Distances of Soil Parameters X.Y. Li	1412
Performance of Signal Space Separation Depending on Sensor Array Arrangement in	1412
Biomagnetic Measurements K.W. Kim, Y.H. Lee and S.W. Park	1418
Design of the Scheme Flight Trajectory Command for the Tactical Missile Y.T. Zhao and Y.A. Hu	1426
The Application of GPC Decoupling Control in Tubular Furnace Z.P. Chen and X.J. Li	1432
Comprehensive Utilization and Resources of Gold Mining Tailings W.Z. Wang and C.G. Yang	1438
<b>Application of Super Iron Concentrate and its Beneficiation Technology</b> W.Z. Wang and C.G. Yang	1442
Pumping Spin and Charge Currents from Applying a Time-Variant Field and a Magnetic Field to a Quantum Dot	1446
J.M. Yao  Ocean Surface Modeling in Vary Wind Field L. Bo, Z.Y. Li and Y.J. Zhang	1446 1452
Research of Resource Matching Algorithm Based on Incentive Mechanism and Penalty	1432
Mechanism Y.H. Lu, L. Sun and D.C. Huang	1457
Self-Adaptive Illumination Method for Optical Multi-Touch System T. Yang, X. Li, Y.T. Wang and Y. Liu	1463
Study on Kinematics-Based Symbolic Computation-Driven Quadruped Robot Gait Simulation System	
H.J. Song, X.W. Rong, Y.B. Li and J.H. Ruan	1469
Robust Reliable Sliding Mode $H_{\infty}$ Control for Uncertain Stochastic Nonlinear Jump Systems with Actuator Failures Z.Y. Tang, S.C. Ni and W.P. Duan	1475
Dynamic Study of 8-R Seven Bar III Degree of Freedom Linkage Mechanism Z.B. Chu, D. Li and Q.X. Huang	1480
<b>Developing a Framework for Integration Manufacturing Systems Based on PLIB Ontology</b> G.X. Zhou and M. Liang	1485
Wind Environment Investigation Research on the Site of a Cross-Sea Cable-Stayed Bridge L. Hui	1489
Dynamic Characteristics of a Long-Span Cable-Stayed Bridge L. Hui	1496
Research Based on Information Fusion of Safety Risks Prediction and Control Management in Construction	
P. Zhao and H. Zhang  Struku on the Levy Coulem Feen and of the Development Postvictive Problem	1502
Study on the Low-Carbon Economy of the Development Restrictive Problem X.J. Al and L. Bai	1507
Bearing Loads Study for High-Speed Motorized Spindle D.M. Yu, C.P. Shang, D. Wang and Z.H. Gao	1511
Configuration and Adjustment of Substrate Preheating Device K. Zhang, R.S. Long and W.J. Liu	1516
The Influence of Stirring Time on Mechanical Properties of Sn–58Bi Alloy Treated in the Semi-Solid State by Mechanical Stirring Process	
Y.J. Hu, Y. Li, J.N. He, X.L. Cheng, F. Li, X.T. Xiao, Y.C. He, B.Q. Zhong, C.C. Zheng, Y.C. Zheng and Y.C. Wu	1521
Optimization of Goose Meat Composite Tender Agent by Response Surface Methodology H.Y. Gao, Y.P. Xu, H.J. Ma, R.S. Pan and B. Li	1525
Empirical Study on the Relevance B between Manufacturing and Logistics Based on Gray	
Correlation Analysis J.L. Peng	1530
Surface Reconstruction by Alpha Geometric Shape Based on Triangulation X.M. He, C.L. Hua, C.G. Li, M.M. Ni and Q.H. Jin	1536

A Combined Nonlinear PID Control and Cross-Coupled Pre-Compensation Control in Hydraulic Excavator	
D.Y. Wang, C. Guan and L.P. Shao	1542
Optimization of Hub-Spoken Topology Based on Dependable Margin Motion Coefficient Y.L. Lu, W.B. Xie and M.R. Xu	1548
The Working Principle and Main Technical Factors Influencing on Finished Accuracy of Rapid Prototyping	
J.B. Liu, D. Wang, X.J. Li and Z.H. Gao	1554
Realize Automatic Incremental Change to Field by Form Pattern J.B. Geng, S.B. Qiao and L.K. Sun	1559
The Establishment of Mathematical Model of LED Based on Monte Carlo Method Z.Q. Huang, X.H. Fan and G.L. Zheng	1571
Flat Rate Mechanical Optimizational Analysis of Four-Lane Tunnel with Single Arch Based	
on Load Structure Model T. Liu and Z.C. Dong	1577
Recognition of the Single-Phase Ground Fault in Power Distribution System J. Zhang	1581
Numerical Study on Temperature Distribution of Classroom with Hybrid Ventilation S.H. Xu, H.G. Dong and W.F. Li	1587
Weld Seam Recognition Based on Wavelet Analysis Algorithm Y.R. Huang and N.N. Zhao	1593
<b>Design and Research of Online Authentication Based on Conic Curves</b> X.X. Song and Z.G. Chen	1598
WebGIS Intelligent Diagnosis and Forecasting System of Plant Diseases M.W. Shi and Y. Zhou	1603
From Digital Mine to Smart Mine X.S. Ge and Y.M. Zhang	1607
An Binary Discernibility Matrix Attribute Reduction Algorithm on Attribute Importance Heuristic Message	
Y. He and D. He	1613
The Design and Implementation of the Core Algorithm of Embedded Real-Time Image Compression Technology	
T. Qu, C. Tang and Y.Y. Zhang	1618
A New Type High Quality Indoor Coverage Solution for WLAN Y.R. Liu, C. Yang and C.B. Jiang	1623