

# Table of Contents

## Preface, Organizing and Committees

### Chapter 1: Advanced Materials Engineering

<b>Synthesis of Bismyristyl Bisulpho Betaine Type Amphoteric Surfactant</b> R.M. Zhang, D.H. Ma and Z.Y. Zhang	1
<b>Preparation and Characterization of Mesoporous Activated Carbon Fiber</b> Y.F. Yang, X.J. Zhang and H.Y. Li	6
<b>Synthesis and Properties of Palmitic Acid-2-Hydroxy-3-Sulfonic Sodium Propyl Ester</b> 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
<b>Study on Performance and Blending Techniques of Corn Fibers</b> M. Li	21
<b>Research of Female Elite Speed Skaters' Blood Serum Anti-Oxidized Ability before Competition</b> H. Ding, H.N. Gao and B. Zhao	26
<b>The Feature of Laser Deposition of Polymeric Composite Films from an Active Gas Phase</b> Z.B. Liu, X.H. Jiang, B. Zhou, M.A. Yarmolenko, D.L. Gorbachev, N.N. Fedosenko and A.V. Rogachev	30
<b>Friction and Wear Behavior of Al<sub>15</sub>Si<sub>2</sub>Ni<sub>0.6</sub>Mg(x)Cu Alloys at Elevated Temperature</b> F. Xia, J.P. Li, G.H. Li, M. Zhu and Y.F. Liang	36
<b>Chemical Composition and Physical Properties for China Railway Grade B Cast Steel Wheel</b> Y.X. Zhao, B. Yang and G.X. Song	42
<b>Research on Changes on Blood Plasma ANP of Female Boxer during Training</b> H.N. Gao, H. Wang, H. Ding and B. Zhao	47
<b>Effects of Welding Parameters on Microstructure and Mechanical Properties of the Joint of the Magnesium Alloy AZ31B</b> D.X. Sun, S.J. Luo, H.Z. Zhang and D.Q. Sun	53
<b>Experiment and Micro-Mechanism Study on Mechanical Properties and Durability of High-Calcium Fly Ash Concrete</b> S.X. Li, T.S. Yang, Z.M. Wang and Q. Hu	59
<b>Effect of Lithium Chloride and Sodium Propionate on Growth of Selected Probiotics</b> H. Chen, L.Y. Ji, G.W. Shu and Z.W. Wang	66
<b>Effect of Steroidal Saponins from <i>Fructus tribuli</i> on Growth of <i>Bifidobacterium bifidum</i> and <i>Lactobacillus acidophilus</i></b> H. Chen, M. Hu, G.W. Shu, T. Qin and J.P. Wang	70
<b>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> Metamagnetic Shape Memory Alloys</b> L.N. Bai, J.J. Zhang and G.X. Zheng	75
<b>Effects of Long-Term Training on the Pulmonary Function of Outstanding U-Half Pipe Snowboard Athletes</b> H.N. Gao, H. Ding and B. Zhao	80
<b>Real-Time Text Detection in Color Images Based on Color Projection</b> J.J. Wu and Y.H. Zhang	84
<b>Chemical Control of Post-Emergency Weed in Dichondra Turf</b> L. Yang and G.H. Shen	89
<b>Tunable Ferromagnetic Structures for Dynamic Cell Trapping</b> H. Nguyen, C. Rauch and M. Brandl	95
<b>Experimental Study on Horizontal Continuous Casting of 6061 Aluminium Alloy Bar Process</b> X.J. Wang, J. Zhang, Y.P. Huang, Z.H. Zhao and J.Z. Cui	100
<b>Mechanical Alloying for Preparation of Ti<sub>50</sub>Fe<sub>45</sub>Sn<sub>5</sub> Amorphous Alloys Powder</b> G. Wang, C. Zhang, Y.Y. Zhu, Z.G. Chao and Q. Li	104

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

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

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

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

<b>A Novel Interactive 3D Display Based on Half-Silvered Mirror</b> 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
<b>Synthesis, Film Morphology and Performance of a Functional Polysiloxane Containing Polyether, Epoxy and Trifluoropropyl Side Groups</b> W. Xu, Q.F. An and W. Xu	624
<b>Blue Shifting of Hydrogenated Silicon Carbide Multiple Quantum Wells</b> W.T. Chang, Y.T. Chen and C.C. Kuo	629
<b>Die Parameters Optimized for Drawing of AZ31 Magnesium Alloy Sheet by Finite Element Method</b> S.F. Zeng and W.Z. Chen	634
<b>Synthesis and Characterization of <math>\text{Bi}_2\text{Mn}_{0.1}\text{V}_{0.9}\text{O}_{5.35-\delta}</math> Thin Films</b> M. Guo, L.Y. Wu, C.X. Liu and S.H. Zhou	639
<b>Control Module of Laser Metal Deposition Shaping System</b> K. Zhang, X.F. Shang and W.J. Liu	644
<b>AR Sand Table with VSTAR System</b> 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
<b>An Analytic Solution for Characterizing the Fracture Toughness of the Inhomogenous Coatings on Substrates</b> B.Q. Yang and F.X. Li	662
<b>The Infiltration of Green Chemistry Concept in University Chemical Education</b> Y.H. Wang, H.Y. Tian, D.D. Jia, H.L. Wang, L. Liu and D.J. Wang	668
<b>Sulphate Acid Catalyzed Ethanol Pulping of Wheat Straw</b> 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
<b>Synthesis of Novel Fluorosiloxane Polymer/Silica Hybrid Nanocomposites and Superhydrophobic Cotton Surface from it</b> W. Xu, Q.F. An and W. Xu	681
<b>Microstructure and Mechanical Properties of Semi-Solid Sn–58Bi Alloy</b> 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
<b>Preparation and Characterization of Hydrophilic Ultrafiltration Membrane with PVDF and PAA Blends</b> L.G. Wang, X.G. Zhang, S.Q. Guo, A.M. Wang, X.J. Wang and S.Q. Liu	691
<b>Chapter 2: Manufacturing Systems and Industry Applications</b>	
<b>Software Development for Calculating Overlapping Mineral Resources</b> H.C. Ge, P. Xu, L.Y. Wang and X.Z. Chen	697
<b>Research on Dispatching Ready Mixed Concrete Based on Simulated Annealing Algorithm</b> L.P. Li, G.L. Xu and Y. Long	701
<b>Finite Element Analysis of Deformation during Continuos Rolling on CSP</b> X. Chen, Y.X. Zhang, Q.M. Chang, C.J. Chen and J.L. Xiong	707
<b>Engine Room Monitoring System Design for Aging Vessels in Coastal Waters</b> Q. Ma, Y.N. Miao and J.H. Sui	712
<b>Research on Range Gated Airborne Laser Underwater Detecting System</b> 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
<b>Several Important Diseases of Chinese Fir Plantations and their Control Measures</b> H. Li and G.Y. Zhou	727
<b>A Method to Measure Depressed Pavement Area Based on Single Image</b> B.H. Tan and L. Zhang	733

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

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



<b>The Formalization of Least Privilege Mining in RBAC</b> L.J. Dong, X.J. Kang, J. Song and M.C. Wang	1023
<b>Image Processing of the Hook on the Catenary Based on Machine Vision</b> J. Yu, C.C. Li, S.F. Wang and H.G. Liu	1028
<b>CNC Remote Monitoring and Fault Diagnosis Based on Multi-Agent Technology</b> 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
<b>Polyphone Disambiguation Based on Maximum Entropy Model in Mandarin Grapheme-to-Phoneme Conversion</b> F.Z. Liu and Y. Zhou	1043
<b>Optimal Design of 6-UPU Parallel Mechanism</b> G.H. Wu, L.H. Gong, X.W. Ji, Z.J. Wu and Y.J. Gai	1055
<b>Entire Symmetric Structure Inchworm-Type Piezoelectric Linear Actuator</b> H.Z. Zhang, J.T. Shi and D.X. Sun	1061
<b>Preparation and Characterization of Chitosan-Casein Phosphopeptides Biocomposite Coatings on the Medical Titanium Alloy</b> B. Liu, L. Wang, Y.Z. Bu, S.R. Yang and J.Q. Wang	1065
<b>A Computational Method of Salvo Fixed Lead Angle for Wake-Homing Torpedo</b> D.X. Wu and T. Jiang	1070
<b>Control of Handling Stability in Four-Wheel Steering Vehicles Based on Individual Channel Design</b> B. Yang, M.S. Wan and Q.H. Sun	1074
<b>Optimization Design Based on DEFORM-3D Finite Element Analysis about Steel Rolling Production</b> 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
<b>The Schematic Design of Scanning Electron Microscope Sample Stages with the Function of Structural Dynamic Observation</b> K.G. Liu and X.Q. Sun	1091
<b>Effect and Effect Principle Modeling of Microcomponent</b> X.T. Yan	1095
<b>Design and FEM Analysis of a High Efficiency Axial-Flux Brushless DC Motor for Flywheel System</b> C. Zhang and G.Z. Zhao	1099
<b>Analysis and Design of Monitoring System Based on Streaming Media</b> D.L. Cai and D.X. Zhu	1105
<b>Research on Non-Gyro Projectile's Attitude Measurement Based on Improved Unscented Kalman Filter</b> Z.H. Liu, J.B. Chen, Y. Wang, C.L. Song, J. Wang and W. Feng	1111
<b>Research on the Key Technology and Application of the Process Monitor Configuration System</b> 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
<b>The Development and Experiment of the MSMA Actuator Test Platform Based on LabVIEW</b> H.W. Ji, Y.Q. Wen and C.M. Fu	1129
<b>Study on Flow Field in Different Styles of Blades for Eddy Current Retarder's Rotor Based on CFD</b> J.M. Shen and C.Y. Liu	1134
<b>Prediction of T-Shaped Tube Hydroforming Stress Limit</b> L. Zhou and X.M. Cheng	1140
<b>Applying Data Mining Technology to Analisis Clearance Efficiency in the Port Logistics</b> Y.Q. Wang and Y.M. Song	1144
<b>Five-Axis Machining Center On-Line Inspection System Based on Workpiece</b> H.Q. Sang and J.J. Meng	1150

<b>Attitude Controller Design for a Six-Rotor Type MAV</b> W. Wang, Y.Z. Song, K. Nonami, Y. Cheng, Y. Zhou and F. Wang	1155
<b>Sensor Deployment for Location-Estimation Coverage</b> J. Ma, N. Komuro and S. Sakata	1161
<b>Feedback Control of a Flexible Micro-Displacement Manipulator</b> 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
<b>A Location Fingerprinting Algorithm Based on RSSI Statistic Parameters Matching Estimate</b> 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
<b>The Optimization of Automated Stereoscopic Warehouse's Cargo Space Allocation Based on Hybrid Particle Swarm Algorithm</b> W. Yang, H.G. Wang and X.H. Qiu	1191
<b>Research on Project Cost Management Model of Ecological Construction</b> 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
<b>Image Segmentation Using Binary Level Set Method Based on Region-Based GAC Model</b> G. Ren, X.Q. Cao, W.M. Pan and Y. Yang	1206
<b>Sensitivity Analysis of Cost Parameters of Sequential Imperfect Preventive Maintenance Model and Applications</b> Z.M. Wang	1210
<b>A Constructive Genetic Algorithm for the P- Median Location Problem of Typhoon Emergency Shelter in China Coastal Rural Areas</b> A.P. Pan	1215
<b>Research on the Application of Green Technology to Leather Shoes in their Life Cycle</b> W.L. Peng, Z.B. Qin, W.N. Zhang and J.J. Tan	1221
<b>The Influence Factor Analysis for Coupling Performance of HSK Tool System</b> 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
<b>Research on Item Model in Content-Based Filtering Recommender Systems</b> S.J. Gong	1235
<b>Design and Analysis of Hydraulic Control System for Pipe Storage and Handling System</b> 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
<b>A New Oxygen Concentration Tester Design</b> L.J. Ren	1251
<b>Study on how to Control the Affect by Ironing Shrinking to the Size of Silk Garment in International Silk Garment Business</b> M.H. Zhao and X.P. Zhang	1255
<b>Challenges in a Long-Distance Pipe Jacking and Solutions in China</b> L. Hui	1260
<b>Construction Technology of Shallow Pipe- Jacking Working Shaft</b> L. Hui	1266
<b>Key-Points of Construction Techniques for Concrete Pipe-Jacking Tunnel</b> Z.Y. Yang	1271
<b>Feasibility Analysis and Status of Shallow Pipe-Jacking Technology in Urban Drainage Systems</b> Z.Y. Yang	1278
<b>Construction Technique of Inspection Well for Water Drainage Pipe Jacking Project with Sunk Tube Method</b> Z.Y. Yang	1283

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

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

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