

# Table of Contents

## Sponsors, Preface

### Development of a Multi-Quantum-Well Spatial Light Modulator and its Nonlinear Electro-Optical Driving Circuit

L. Wu 1

### Study on the Algorithms of Holes Feature Recognition in Auto Body Panels Based on UG

W.Q. Kang, D. Li and P.W. Guo 6

### A Two-Stage Optimization Method for the Stencil Printing Process Based on Neural Network and Response Surface Method

E.S. Pan, Y. Jin, Z. Mei and Y. Wang 10

### A Joint Model of Production and Preventive Maintenance Plan

Z.Q. Lu and Y.J. Zhang 18

### Processing of Human Feces Using Beanstalk and Sawdust as Matrix in a Composting-Type Eco-Toilet

N. Liu, X. Qian, G.F. Lu, L.M. Gao, G.X. Ning, Y. Mei, Z.M. Huang, B.H. Sheng, X.L. Kai and Z.F. Wang 24

### Study and Preparation of Electrocatalytic Ceramic Membrane Electrode

T.Y. Zhang, Y.Y. Shao, J. Chen and H.B. Fan 30

### Augmented Product Modeling Technique in New Product Development

J. An, J.S. Fan, R. Hua and D.P. Feng 36

### Adsorption of Arsenic (III) onto Modified Magnetic Microspheres

J.S. Wang, S.G. Chen, Z.W. Zhou and R.T. Peng 42

### Preparation of Novel Amino-Functionalized Ionic Liquids and their Application

B.Y. Liu, Y.Y. Wang, F.X. Wei and H.Y. Zhang 46

### Multi-Population Multi-Objective Cultural Algorithm

Y.N. Guo, Y.Y. Cao and D.D. Liu 52

### Quick Verification Technology of Coordinate Measuring Arm

J.F. Ouyang and W.L. Liu 56

### Matter Element Digraph Based Workflow Modeling

C.J. Yan and Y. Song 60

### A New Experimental Approach for Determination the Effect of Tool Flank Wear Length on Cutting Temperature Distributions

L. Yan, W.Y. Yang and H.P. Jin 64

### Characteristic of Cu-Based Catalytic Coating for Methanol Steam Reforming Prepared by Cold Spray

F. Wang, J. Zhou, Z.L. An and X.J. Zhou 68

### Research Finite Element Method Mesh Generation Based on Material-Discontinuous-Nature

J.C. Hu, H.F. Wang and M.C. He 74

### Comprehensive Evaluation Index System in the Application for Earthquake Emergency Shelter Site

J.Y. Chu and Y.P. Su 79

### Experimental Study on New Technology for Solidifying/Stabilizing Papermaking Sludge

X.N. Ning, S.W. Li, J.Y. Liu, Z.Y. Yang and Z. Ying 84

### Numerical Simulation for Magnetic Fluid Inclination Sensor

M.L. Sun, H.R. Cui, B. Wang and W.Z. Chen 90

### Effect of Process Parameters on Solid Fuel Briquette of Rice and Soybean Straw

N.C. Chen, J.X. Ren, P. Zhan and Z.C. Xu 94

### A Fast Retrieval Method Based on K-Means Clustering for Mechanical Product Design

H. Jing, C. Li, M.F. Huang and F.Y. Liu 98

### Research on the Optimization Algorithm of NC Tool-Path for Scanning Points

D.Z. Sun, X.C. Kang, J. Liu and C.H. Cui 102

### Crystal Structure and Electrochemical Properties of AB<sub>3.8</sub>-Type Earth Mg Ni-Based Hydrogen Storage Alloys

A.Q. Deng, J.B. Fan and K.N. Qian 108

<b>A Novel Evaluation Method for Overall Performance Testing of Rail Transit Brake System</b> X.Q. Ma, C.Q. Yang and G.S. Ren	113
<b>Finite Element Analysis of Temperature Characteristic on the Pressure Sensor Based on the Shell of Piezo Gauge</b> X.E. Li, J. Zu and P. Xu	117
<b>Study on Energy-Saving Product Concept Design Based on TRIZ and Function Analysis</b> F.Y. Zhang, H.C. Zhang, H. Zheng and Q.Q. Zhang	123
<b>Treatment of Lake-Type Raw Water by Ultrasonic and Photocatalytic Oxidization Process</b> L.P. Wang, W.J. Jiang, E.D. Du, C.Q. Wang and N.Y. Gao	127
<b>Stability and Accuracy of Wilson<math>\theta</math> Method with Modified Acceleration</b> D.P. Fang and Q.F. Wang	132
<b>Design Scheme and Simulation on Automatic Transmission Travel System of Engineering Vehicles Hydraulic Chassis</b> H.X. Han, P.S. Ren, X.L. Cao and M.F. Liu	137
<b>Modeling of Iron Matrix Composite Based on <i>In Situ</i> and Laser Coating Technology and Optimization of Parameters</b> L. Yang, Y.Y. Chen, W.G. Li and X.Y. Sun	142
<b>Initiative Design on Combined Stepless Transmission</b> X.R. Xi	148
<b>Study on Manufacture Technology for Enhancing the Life of Mining Flat Type Chain Connector Units</b> J. Mao, W.K. Li and J.G. Li	153
<b>Prediction of Life on High Temperature &amp; Low Cycle Fatigue for 3-Dimension Structure</b> W.X. Zhang, G.D. Gao and G.Y. Mu	157
<b>Analysis of the Relationship between Bus Board Customers' Purchasing Behavior and Business Decision Making</b> L. Han, R. Du and T. Shi	162
<b>Automatic Programming System Based on Solid Driven Technology for Machining Center On-Line Inspection</b> H.Q. Sang, F. Liu, J.J. Meng and J.T. Yun	168
<b>Dynamics Simulation of Parallel Indexing Cam Mechanism Based on Rigid-Flexible Coupled Modelling</b> H.D. Zhao, Y.K. Cao and P.Q. Guo	172
<b>Effects of Multi-Disciplinary and Intercultural Engineering Education in Automotive Engineering/Service at CDHAW of Tongji University</b> Y.F. Mao, M. Chen, H. Wiedmann and X. Feng	177
<b>CAD/CAE Collaborative Design of Auto Panel Die Surface</b> X.G. Qiu and Y.D. Huang	185
<b>Research on One-Time Forming Process of Matrix PDC Bits</b> Z.L. Wei, H. Wen, Q. He and J.M. Sun	190
<b>Optimization of Belt-Type Cylinder Based on Orthogonal FEM Simulated Calculation</b> D.M. Cai, Q. Wang, Y. Zhou and D. Zhao	194
<b>Main Beam Structural Reliability Sensitivity Analysis of a Loading Platform Based on the AFOSM Method</b> R.J. Zhang, N. Guo, Q. He and S.J. Zhang	198
<b>Dynamics Research on Tape Feeder of Placement Machine</b> Y.S. Xiao, Z.Y. Zhao and F.M. Song	203
<b>Research Foundation of Rock-Burst Hazard Control for Mining Pattern with No Pillar</b> Z.J. Wen, L.J. Chen, X.D. Zhao and C. Zhang	207
<b>3-D Interactive Simulation of Magnetic Compass Adjustment Based on VRML</b> J.H. Wu, H. Li and H.X. Li	211
<b>Adsorption of Congo Red Dye onto Raw and Chitosan-Modified Bentonite</b> S.P. Li and J.J. Cui	217
<b>The Application Research on Backfill Mining Technology of Gangue for Coal Pillar Mining in Xingtai Mining Village</b> L. Ma and Z.W. Ding	225
<b>Synthesis and Characterization of the Ba<sub>5</sub>(P<sub>x</sub>As<sub>1-x</sub>O<sub>4</sub>)<sub>3</sub>Cl Solid Solutions</b> C.C. Wei, Y. Pan, Y.N. Zhu, Z.L. Zhang, H.L. Liu and Z.Q. Zhu	232

<b>The Reconstruction of Heat Flux in Moving Boundary in 1-Dimensional Heat Conduction</b> X.Y. Zhang and F. Huang	237
<b>Strengthening the Engineer's Lifelong Education</b> Y.L. Zhang, L.Z. Bai and D. Zhang	241
<b>A Study on Magnesium Alloy Substitution Design and Analysis for Automotive Seat Back Frame</b> Y.K. Gao, D.W. Gao and Y.H. Gao	245
<b>Solid Modeling and Dynamic Simulation of Spur Bevel Gear</b> D. Yang, H.Y. Cui, X.J. Tian and P.F. Xu	252
<b>Optimal Design of the Relative Clearance of Mill Oil-Film Bearing</b> J.M. Wang, Q.X. Huang, T. Lei, J.F. Kang and Y. Fan	257
<b>A New Method to Analysis the Co-Sintering of NiO/YSZ-YSZ Coating</b> Q.B. Chang, X. Wang, J.E. Zhou, Y.Q. Wang and G.Y. Meng	262
<b>Isolation of <i>Saccharomyces cerevisiae</i> YDJ05 from the Spontaneous Fermentation Pear Wine and Study of the Yeast Growth Dynamics during the Association Fermentation</b> D.W. Zhang, W. Dong, L. Jin, J. Zhang and Y.C. Jin	266
<b>Adosorption of Basic Fuchsin onto <i>Xanthoceras Sorbifolia</i> Bunge Crust Activated Carbon Developed by Sodium Hydroxide</b> Y.N. Hao and X.M. Wang	272
<b>Interaction of a Center of Dilatation and a Penny-Shaped Interfacial Crack in an Infinite Bimaterial</b> Y.Z. Sun, Y.D. Bian and Y.Z. Zhu	279
<b>Experimental Study on the Wet Molding for Wheat Straw Pellet Fuel</b> J.J. Hu, Q.G. Zhang, T.Z. Lei and Z.W. Wang	284
<b>Dynamic Simulation Analysis of a Cracked Flexible Rotor Supported on Rotor-Rolling Bearing Based on Virtual Prototyping Technology</b> T. Han, J. Bai and Z.J. Yin	293
<b>Signal Strategy of Conditional Transit Priority Based on Transit Schedule</b> X.Y. Tan, J. Li and W. Deng	298
<b>Study on the Head Impacting Properties of Foam Composite Material Engine Hood</b> G.F. Zhao, T.L. Teng and D. Cui	303
<b>Optimization of Processing Parameters for Micro Arc Oxidation Based on Orthogonal Design and Support Vector Machine Regression Analysis</b> M.Q. Pan	307
<b>Product Development to Improve Environmental Performance in Household Textile Processing</b> M. Poonprasit and S. Pangkamhang	311
<b>Simulation Research on Performance of All Electric Brake System in Tracked Vehicles</b> Y.H. Shang, Y.N. Zhang, N.M. Yan, J. Zhang and D. Wang	315
<b>The Study on Multi-Factor Coupling Numerical Simulation for Vehicle Cover Panel Stamping Forming</b> X.G. Qiu and H.A. Yi	320
<b>The Practicability of Automobile External Flow Simulation Based on the Two-Equation Models</b> X.S. Li, H.W. Sun and J.H. Huang	326
<b>A Dynamic Assembly Modeling Method for Satellite Final Assembly Sequence Planning</b> Y. Zhang, K.F. Zhang, J.F. Yu and L. Zhao	332
<b>Practice and Exploration of Localizing International Cooperation and Exchange of Industrial Design Education</b> J.S. Fan	339
<b>Study on Photoelectrocatalytic of Three-Dimensional Electrode Using TiO<sub>2</sub> Coatings Particle Electrode</b> H.D. Su and H.L. Du	344
<b>A Novel Slicing Method for Rapid Forming Based on Welding Arc Deposition</b> S. Zhu, J. Liu, F.L. Yin and Y.Y. Liang	350
<b>Virtual Mechanical Equipment Model Smoothing</b> X.L. Wang and H. Zhao	355
<b>Numerical Simulation of Intercepting Efficiency on Airbag Active Protection System</b> K. Zhong, Z.H. Du, L. Zhou and L.L. Song	360

<b>Effect of 1-MCP and CaCl<sub>2</sub> on Quality of Chinese Jujube Stored at Low Temperature</b> X.H. Li, L. Zhang, X.L. Wang and Y.Y. Li	367
<b>Effects of Modified Atmosphere Packaging of PE Film with Different Thickness on Quality of <i>Pleurotus nebrodensis</i></b> X.H. Li, Y.Y. Li, L. Zhang and X.L. Wang	371
<b>Removal of Red Acid Dye from Synthetic Wastewater by Adsorption onto Low-Cost Material</b> K. Kulyakorn, T. Satawat and S. Pattakamol	375
<b>Design and Study of PDC Bit for Igneous Rock Formation of Santanghu</b> Z.L. Wei, J.Q. Zhang, J.T. Li, J.B. Xue and Y. Zhang	379
<b>The Stress-Strain Analysis for the Nonlinear and Strength Difference Structure of Bars Jointed to Rigid-Body of Fixed-Point Motion</b> X.Q. Liu, X.H. Ni, S.Q. Zhang, L. Zhao and G.H. Zhong	383
<b>Modeling Bending Rigidity of Nonwovens with 2D Structures</b> H.W. Liu, Z.G. Chen and P. Xu	387
<b>Optimization of Surface Roughness by Taguchi Design Method</b> M.R. Rumman and S.J. Hong	392
<b>Study on Automobile Welding Jig Rapid Design System Based on Parametric Technology</b> Z.H. Sha, C.C. Chen, S.F. Zhang, Z. Liu and J.F. Mao	396
<b>Parameters for Heat Transport in Radiata Pine Board</b> H.W. Liu, Z.Y. Wang and P. Xu	400
<b>Effect of Modified Atmosphere Packaging on Nutritional Value and Quality of Honey Pomelo</b> X.H. Li, X.L. Wang, L. Zhang and Y.Y. Li	404
<b>Influence of Change of H/O Mixture Ratio on Combustion in the Combustor of the Micro Thermophotovoltaic System</b> X.Y. Zhang, Y.J. Wu and L.Y. Xu	408
<b>Demerit-GWMA Control Chart for Demerit Statistics</b> H.W. Kang, C.W. Kang, J.W. Baik and S.H. Nam	413
<b>Effect of Micro Pits Topography on the Platelets Adhesion on 316L Stainless Steel Surface</b> G.Z. Tang, Y.J. Wang, G.W. Guo, X.X. Ma and L.Q. Wang	422
<b>Numerical Study on the Heat Transfer Characteristics of Supercritical Water in Enhanced Sub-Channels in Reactors</b> W.S. Wang, H.S. Zhang, Q.C. Bi and J. Liu	426
<b>Oxygen Reduction in PEM Fuel Cell Based on Molecular Simulation</b> H. Sun, C. Liu, X.J. Gao and Y.L. Tang	432
<b>Control System for Multifunctional Green Buildings</b> C.M. Chung, C.W. Lin and C.C. Gu	439
<b>Investigation of Pyrocarbon Based Carbon Paper for Proton Exchange Membrane Fuel Cells</b> M.Y. Zhang, L.P. Wang, Z.A. Su and Q.Z. Huang	447
<b>Representation Method and Degree Selection of Class A Surfaces for Auto-Body</b> J.C. Xu, S.P. Gao and Y.F. Yin	451
<b>Multi-Objective Optimization Design of Composite I-Beam Embedded with Viscoelastic Layers</b> T. Wang, S. Lin, B. Wu and C. Xu	456
<b>Synthesis of a New Photochromic Compound for Optical Storage</b> S.Q. Cui, S.Z. Pu, G. Liu and W.J. Liu	462
<b>Nonlinear Analysis of a RC Frame Structure with Semi-Interlayers Damaged during Wenchuan Earthquake</b> P.T. Yu and J.J. Sun	467
<b>Effect of Ignition Advance Angle on Liquid Phase LPG Injection Engine Performance</b> X.Q. Li, D.Y. Song, B. Liu and Q. Li	473
<b>Removal of Rhodamine B from Aqueous Solution Using ACF/CNT Composites Prepared by Chemical Vapor Deposition</b> L.P. Wang, Z.C. Huang and M.Y. Zhang	477
<b>The Product Surface Remote Detection Method Based on the Single Laser Pulse Echo</b> Q. Zhan and N. Sheng	481

<b>Formability Window of Tailor Rolled Blanks at Blank-Holder Force</b> Y.F. Jiang, L. Fang, Z.F. Li and Z.Z. Tang	488
<b>Neural Networks Model for Optimization an Study on Isomorphism Discernment</b> M. Zhang, N.B. Liao and C. Zhou	492
<b>The Research of Virtual Assembly of Cotton Picker Roller Based on Virtual Reality</b> W.L. Sun, Y.S. Cao and W. Sun	496
<b>A New Technology of Microbial Fuel Cell for Treating both Sewage and Wastewater of Heavy Metal</b> Y.J. Zhang, M. Zhang, X. Yao and Y.F. Li	500
<b>Multi-Objective Optimization Model for Urban Traffic Intersection Control Based on Data Fusion</b> W. Deng, L.M. Jia and H.H. Dong	505
<b>Study on Statistical Method of Steel Bridge Parts Information Based on Three-Dimensional CAD</b> L. Chen, M.R. Deng and Z.F. Jiang	511
<b>Study of the Method on Cutting-Force Modeling Based on the Current of High-Speed Electric Spindles</b> S.S. Li, H.W. Mao, P. Chen, X. Huang and X.Y. Chen	517
<b>Precise Vectorization of Industrial Computed Tomographic Image</b> B. He, F.L. Liu and B. Bi	523
<b>BOM Configuration Based on Genetic Algorithm</b> F.H. Zeng and L.H. Zhou	529
<b>Fracture Property of Mass Concrete with Inclusion of Fibers</b> H.Q. Yang, X. Chen and Y. Dong	534
<b>Modeling and Optimization on Yard Allocation Planning for Container Terminals</b> L.L. Yu, Z.Q. Lu, L.F. Xi, Z. Wan and L. Li	540
<b>Model Construction and Application of Integration Cellular Manufacturing System</b> J.J. Fan and D.Z. Feng	547
<b>Structural Line Shape and Stress Analysis in the Construction of Kaziwan Bridge</b> X. Ren	553
<b>Research on Mechanical Characteristic of a Self-Force-Amplifier Damper</b> D. Zhao, X.K. Liu and H. Tan	558
<b>Evolutionary Design Optimization on Automated Mechanical Transmission of Automobile</b> J.B. Ding	562
<b>Refining of Metallurgical Grade Silicon by Acid Leaching</b> D.L. Lu, Y.Y. Hu, T. Lin, Y. Liu, B. Wang, Y.H. Sun, H.Y. Chen and Q.S. Li	566
<b>Efficient Tool Path Planning for Machining an Impeller with a 5-Axis NC Machine</b> J.R. Feng, X. Dai, Y.Z. Cheng and C.H. Xiong	570
<b>Reliability-Based Multidisciplinary Design Optimization for Centrifugal Compressor Using the Fourth Moment Method</b> Y.S. Zhang, B. Zhao, Y.S. Liu and Z.F. Yue	575
<b>Research on a New Type of Metal Composite Material in Hot Forming and its Application</b> N. Ma, P. Hu and Z.H. Zhang	582
<b>Simulation of Rolling Resistance of Tire Based on ANSYS</b> Z.P. Wang and Q.X. Ji	592
<b>Multipoint Rapid Metal Forming Technology Based on Micro-Fluid Control</b> G.Y. Zeng and D.F. Zhao	596
<b>Stability and Correlation Analysis of Data Obtained by Contact and Non-Contact Measuring Body</b> X.M. Shang, J. Chen and Z.Y. Wang	600
<b>Analysis of Frictional Noise for Water Lubricated Rubber Bearings System</b> Y. Zhou, G.X. Li and J.X. Wang	607
<b>Thermal Design, Analysis and Experimental Verification of a Satellite Borne Electronic Equipment</b> B. Chen	611
<b>Research on Loading Simulation of Bolt Preload in Finite Element Analysis Based on ANSYS</b> Y.C. Hu, Y.Z. Hu, H.X. Li and J.Y. Hou	615

<b>Finite Element Analysis for Tooth Profile Modification of Gear-Box of Tracklayer</b> Y. Wang, J.S. Ma, H.Y. Deng and H.P. Liu	621
<b>Development of Constitutive Relationship for the Hot Deformation of Ti-47Al-2Cr-2Nb-0.2W Alloy</b> H. Wang, Y. Liu, W. Zhang, L. Wang and B. Liu	625
<b>Lagrangian Relaxation for Multiprocessor Task Scheduling Problem with Variable Job Profiles</b> X.L. Han, Z.Q. Lu and L.F. Xi	633
<b>Robust Tolerance Design of Automotive Body Product with Game Theory</b> C. Zheng, S. Jin and X.M. Lai	638
<b>Influence of Sulfide on Anti-Corrosion Performance of Passive Film Formed on Stainless Steel in Borate Buffer Solution</b> H.H. Ge, J. Shen, F. Song, L. Zhao and G.D. Zhou	646
<b>Synthesis of a Photochromic Diarylethene Having Thiazole and a Pyridyl Group for Optical Recording</b> H. Li, Y.L. Xia, S.Z. Pu and S.Q. Cui	650
<b>A New Unsymmetrical Diarylethene for Reversible Holographic Recording</b> P.J. Yan, Z.P. Tong, S.Z. Pu and W.J. Liu	655
<b>Study on Product Design Process Management</b> S. Li, X.D. Shao and J.T. Chang	660
<b>Synthesis, Photochromism and Optical Storage of a Novel Unsymmetrical Diarylethene Compound</b> T.F. Wang, Z.G. Liu, S.Z. Pu and G. Liu	665
<b>Optimization of Integrated Properties of Zirconia Ceramic Coatings Fabricated by a Plasma Spraying</b> M.D. Jean, M.C. Li, T.H. Chien and H. Chang	670
<b>Dynamic Response of the Steel Bridge Deck Thin Surfacing due to Vehicle Load</b>	677
<b>Multi-Disciplinary Education for Product Design and Development</b> T.L. Guo and J. Liu	681
<b>Achievement Appraisal and Improvement Study on Processing Material Manufacture Process</b> Y.L. Yao, B.J. Wang and H.H. Xin	685
<b>Research on Optimization of Output Speed of ESPCP System under the Multi-Factor Coupled Condition</b> X. Luo, S.J. Wang, X.R. Lv and H. Sun	689
<b>Research on PLM-Oriented Collaboration Digital Process Planning Technology</b> X.L. Jia, J.H. Geng and L.J. Huang	694
<b>Design and Simulation Analysis of Hydraulic Torque-Loading Device for Sintering Machine</b> S.B. Ren and M.H. Bai	700
<b>Effect of Deep-Drawing Properties for Lubricated Condition of Cold-Rolled IF Steel</b> Z.Y. Liu, Y.Q. Wang, X. Lu and J. Chen	704
<b>Research of Lasers Coating Applied with the Hammer Mill's Hammer</b> P.H. Mao and N.N. Xu	708
<b>Optimal Design of Television Packaging Based on Drop Analysis</b> D.F. Zhao, G.L. Ma and G.Y. Zeng	713
<b>The Effect of Material Performances of Knit Fabric on Clothing Comfort</b> Y. Yu and X.M. Qian	717
<b>Efficient Design on Body Strength and Capacitance of MLCC</b> C.M. Cheng, Y. Hsu and W.F. Wu	724
<b>Effect of Organic Loading Rate on Fermentative Hydrogen Production in CSTR</b> S. Gao, B. Wang, L.L. Zhu, W. Han, H. Chen and Y.F. Li	732
<b>The Process Parameters Modeling and Experimental Study Based on BP Neural Network for Laser Direct Rapid Forming Metal Parts</b> J.B. Wang, J.S. Yin and B.H. Chen	737
<b>Effect of Anode with Pretreatment on the Electricity Generation of a Single Chamber Microbial Fuel Cell</b> Y.L. Tang, X.W. Bi, H. Sun, J.X. Fu, M. Peng and H.F. Zou	742

<b>Degradation Screening Test Design for Electronic Products</b> R.L. Lin and Q.H. Zhong	747
<b>Virtual Assembly and Load Simulation of Roadheader Cutting Head</b> L.J. Zhao and Q.Z. Guan	754
<b>Effect of Network-Forming Oxides on Long-Lasting Phosphorescence in Mn<sup>2+</sup> Doped ZnO-B<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub> Glass</b> F.F. Li, M.X. Zhang, Y. Shen, Q.H. Wang and Z.G. Liu	759
<b>Finite Element Computation Method for Heat Transfer</b> S.X. Sun, G.C. Sun, L. Tang and X.N. Zhang	766
<b>On Obtaining Dynamic and Static Characteristics of Heavy Load Deflection Angle Milling Head by CAE and Experiment Techniques</b> L.G. Cai, S.M. Ma, Z.F. Liu, Q. Cheng and Y.S. Zhao	771
<b>Optimization of Ultrasonic Extraction Technique of Proanthocyanidin from Peanut Skin</b> Z.Q. Liu, Q.L. Yang, C.S. Zhang, J. Sun, Y. Zhang and S.Q. Wang	778
<b>Preparation of High-Purity Nanometer Bismuth Trioxide from Silver-Zinc Slag</b> L.H. Liu, J. Wu, X. Li and Z.Q. Gong	785
<b><sup>29</sup>Si and <sup>27</sup>Al MAS-NMR Studies of Fly Ash Changes during the Polymerization of Mineral Polymer</b> Y.M. Nie, M.H. Xia, F.S. Niu and S.X. Liu	794
<b>Ionic Conduction Performance of Solid Electrolyte Materials</b> M. Zhou and Y.W. Tian	799
<b>Study of Manufacture Process and Properties of Tailings and Slag Based Geopolymers</b> F.S. Niu, S.S. Zhou, S.X. Liu and J.X. Zhang	803
<b>Framework Design for Eco-Industrial Park's Waste Management System</b> L. Zhu, Z.J. Cui and J.R. Zhou	808
<b>Investigation on Crushing Kinetic Equation of Ball Milling of Quartz Powder</b> S.X. Liu, L.L. Shen, Q.P. Wang and F.S. Niu	812
<b>Formation Mechanism of Soot in Zinc-Bearing Dusts Direct Reduction Process</b> X.F. She, Q.G. Xue, H.X. Yang and Y.G. Ding	817
<b>Study of Utilizing of Massive Iron Tailings Resource</b> G.H. Sun and X. Lv	824
<b>Numerical Study on Transient Heat Transfer in a Regenerative Oxidation Bed during the Preheating Process</b> Y.Q. Liu, J.H. Han, Y.Y. You and Z.Q. Gao	829
<b>Research on Window Patterns' Layouts and its Expanded Application in Exploitation of Textile</b> J.H. Sui, Y.H. Ge, T.T. Zhou and Q. Hu	834
<b>Research of the Main Influence Factors of Fly Ash Thermal Insulation Material</b> J.X. Zhang, Y.M. Nie, S.C. Li and F.S. Niu	839
<b>Studies on the Preparation and the Process Optimization of PANI Compositing Conductive Fabric</b> J.F. Di and J.Y. Tang	844
<b>Preparation of an Iron Oxide Modified Montmorillonite for Removal of Arsenic in Waters</b> H.F. Liu, D.R. Miao and F. Liu	849
<b>Using Symplectic Schemes for Nonlinear Dynamic Analysis of Flexible Beams Undergoing Overall Motions</b> J.L. Cheng and T.S. Zhao	854
<b>Research for Fabric Regional Expansion Arranged by Tight and Loose Weaves</b> S.X. Chen, J.H. Sui, J.Y. Mo and L.F. Liu	862
<b>Research on the Revision and Application of the Paper Surface Efficiency Formula</b> Y.G. Yang, Q.X. Hou, Z.L. Cao and Q.X. Liu	868
<b>Effect of Catalytic Distribution on the Performance of Microreactor for Hydrogen Production through Methane Steam Reforming</b> F. Wang, Z.L. An, B. Qi and J. Zhou	873
<b>Effect of pH, ORP and Influent COD on Hydrogen Content in Fermentative Hydrogen Production</b> L.L. Zhu, B. Wang, S. Gao, X. Yao, L. Cao, X.F. Bai and Y.F. Li	877

<b>Study of the Removal of Boron from Metallurgical Grade Silicon by Oxidation Slagging Method</b>	
Y.Y. Hu, D.L. Lu, T. Lin, Y. Liu, B. Wang, C.J. Guo, Y.H. Sun, H.Y. Chen and Q.S. Li	882
<b>The Development of High Efficient CNC Gantry Belt Grinder for Trimming Edge in Kitchen Sink</b>	
Z. Huang, W.W. Zhang, Y. Huang and Y.Y. Wu	886
<b>The Purification of Solar Grade Silicon by Chloridizing Roasting</b>	
T. Lin, D.L. Lu, Y.Y. Hu, B. Wang, Y. Liu, Y.H. Sun, H.Y. Chen and Q.S. Li	890
<b>Study on the Algorithm of Tool Compensation for Rotary Center Offset in 5-Axis Machining</b>	
K. Zhou, S.T. Yu, M.H. Xu and S.D. Xiao	894
<b>Competitive Adsorption of Lead, Copper and Zinc Ions on Polymeric Al/Fe Modified Clinoptilolite</b>	
H.Y. Wang and H.F. Huang	900
<b>Study on the Output Characteristics of Piezoelectricity Generator</b>	
X.L. Yang, T.M. Zhang and S. Wen	908
<b>Semantic Web Service Based Framework for Inter-Organizational Business Process Management</b>	
M.W. Wang, S.S. Zhang and J.T. Zhou	915
<b>Four Materials as Carriers for Phosphate Dissolving <i>Rhizobium Sp.</i> Inoculants</b>	
J.F. Li, S.Q. Zhang, S.L. Shi and P.H. Huo	919
<b>Life Cycle Assessment of the Bio-Hydrometallurgical Process of Recycling Copper from Printed Circuit Boards Scraps</b>	
C.L. Zhang, J.W. Wang, J.F. Bai and W.J. Wu	929
<b>Fenton/Ultra-Violet Treatment on Carbon Nanotube and its Effects on Carbon Nanotubes Reinforced Phenol Formaldehyde Resin/Graphite Composite for Bipolar Plate</b>	
A.J. Li, Q. Yin, K.N. Sun and L. Shao	933
<b>Reuse of Municipal Wastewater Sludge for Construction Material</b>	
D.L. Jiang, G.W. Ni and G.Y. Ma	939
<b>Research on the Cutting of High Nitrogen Austenitic Stainless Steel</b>	
X.H. Pang and X.Y. Zhang	943
<b>Grinding Fluid Flow Field Modeling and Multi-Parameter Numerical Analysis Based on Smooth Model</b>	
G.Y. Meng, J.W. Tan and Y. Cui	948
<b>Optimal Selection of Machining Parameters for Multi-Pass Turning Operations</b>	
L.B. An	956
<b>A Fuzzy Impact-Matrix Method for Evaluating Impacting Factors in Manufacturing</b>	
P. Jiang, B. Guo and K.L. Zhang	961
<b>Simulation on the Combustion Property of Blast-Furnace Gas Engine by GT-POWER</b>	
Y.Q. Liu, X.Y. Wang, G.F. Zhu, R.X. Liu and Z.Q. Gao	965
<b>Research on Thick-Wall Columnar Pressure Vessel with Auto-Fretting</b>	
Q.H. Cao	969
<b>Preparation of Palladium Based Catalysts by Electroless Plating and their Application in Catalytic Combustion of Toluene</b>	
Y.F. Li, Y. Li, L. Yu, Q. Yu and J.F. Pan	973
<b>Forecasting Traffic Volume with Space-Time ARIMA Model</b>	
Q.Y. Ding, X.F. Wang, X.Y. Zhang and Z.Q. Sun	979
<b>Numerical Simulation of Heat Transfer and Gas Flow Characteristics in Honeycomb Ceramics</b>	
Y.Q. Liu, X.C. Chen and R.X. Liu	984
<b>Synthesis of BaZrO<sub>3</sub> Powders by Hydrothermal Method from Reactive Precursors</b>	
Y.P. Pu, H.D. Wu and K. Chen	988
<b>The Supervisory Control and Data Acquisition System for Plate Leveler Based on Multi-Fieldbus</b>	
Y. Hu, Q.X. Huang, X.H. Hao and S.Z. Jin	992
<b>Properties of ZrO<sub>2</sub>-C Materials with Anti-Oxidants</b>	
G.Q. Liu, H.X. Li, F. Qian, W.G. Yang, J.B. Yu and T.F. Ma	996
<b>The Efficiency Analysis and Optimization of Gear Trains</b>	
N. Zhao and Q.J. Jia	1000



<b>A Novel Method for Quantitative Analysis of Tetragonal Phase in Barium Titanate Powders by X-Ray Diffraction</b> Y.P. Pu, N. Xu and X.L. Chen	1006
<b>Effect of Mineralizers on MnNb<sub>2</sub>O<sub>6</sub> Powder Prepared by Hydrothermal Method</b> Y.P. Pu, Y.Y. Zhuang, K. Chen and N. Xu	1010
<b>Dimethyl Ether (DME): A New Alternative Fuel for Diesel Vehicle</b> G.B. Li	1014
<b>Effect of a Furniture Interior Air Purifying Device on Reducing Concentrations of Formaldehyde in Air</b> S. Li, L. Jin and S.S. Liu	1019
<b>Catalytic Partial Oxidation of Coke Oven Gas to Syngas over Ni/SiO<sub>2</sub> Catalyst Modified by Rare Earth Metal Oxide in a Membrane Reactor</b> D.H. Hu, X.G. Lu, H.W. Cheng and W.Z. Ding	1024
<b>Fuzzy Optimization Design Method on Fine-Pitch Tooth Profile</b> F.Q. Zhao, T. Wang, H.M. Li, X.F. Li and J. Shen	1029
<b>Research on Removal of Boron from Metallurgical Grade Silicon by Si-Al Alloying</b> Y. Liu, D.L. Lu, Y.Y. Hu, T. Lin, Y.H. Sun, H.Y. Chen and Q.S. Li	1037
<b>Study on Electrical Aging Lifetime of Power Cable with Extruded Insulation</b> W.G. Li, G.S. Ye and S.K. Wang	1041
<b>Properties and Application of Pb-Ca-Sn-Al-Ag-La-Ce Alloys for Positive Grids of Electric Vehicle Batteries</b> A.J. Li, H.Y. Chen and R.Z. Li	1046
<b>A Proof of the Modification Theory Formula of Toroidal Worm-Gearing</b> H. Xu, L.Y. Zhou, Q.M. Wen and W.X. Tang	1050
<b>Use of N-(2-Hydroxyl) Propyl-3-Trimethyl Ammonium Chitosan Chloride for Antheraea Pernyi Silk Modification</b> Y.H. Lu, J. Lin and Z.C. Yu	1055
<b>Microbial Fermentation Simultaneous Extraction Processing of Oil and Protein from Soybean</b> H.B. Wu, L.Z. Jiang, X.Q. Zhu, H.T. Wu and Y. Li	1059
<b>Simulation of Spindle Rotation Error with Three-Point Method Based on Matlab</b> Z.Y. Huang, W.Q. Gao, Q.S. Yan, J.J. Huang and C.T. Qing	1069
<b>Study on the Reaction Process of Ploy-High-Ferric-Silicic Coagulant</b> Y.Z. Yu, J. Tan and Y. Sun	1074
<b>Improvement of the Photovoltaic Performance of Dye-Sensitized Solar Cells by Using Mesoporous Carbon in Polyvinylidene Fluoride/1-Methyl-3-Hexylimidazolium Iodide Gel Electrolyte</b> G.Q. Wang, L. Wang and S.P. Zhuo	1078
<b>Learning Physics Using Practical Engineering Projects</b> H.L. Zhang, D.D. Shi and C.Y. Zhang	1082
<b>Fatigue Strength&amp; Analysis of Diesel Engine Piston on Finite Element Analysis</b> Y.X. Wang and H. Gao	1086
<b>Study on the Composites of Phenol Formaldehyde Resin/Graphite Reinforced by Milled Carbon Fibers for Bipolar Plates</b> W.Q. Wang, A.J. Li, M.M. You and B. Xia	1090
<b>Study on Magnetic Field and Free Boundary of Magnetic Fluid Seal</b> Y.G. Fan, F.Y. Chen and B. Chen	1097
<b>Study for Preparation and Photoelectric Property of ZnSe Crystal</b> C.X. Liu, Z.Y. Jian and M. Zhu	1101
<b>Simulation and Experimental Study on Sugarcane Field Excitation to the Cutter</b> X. Lai, S.P. Li, F.L. Ma, Z.W. Qin, J.H. Zhou and G.P. Zheng	1105
<b>Effect of Capsaicin-Coated PE Film on Microbiological and Physiological Properties of Rice during Storage</b> X.H. Li, G.M. Lei and X. Liu	1109
<b>Study on Water Extraction Technology of <i>Litsea cubeba</i> Essential Oil from the Seed of <i>Litsea cubeba</i> (Lour.) Pers. Assisted by Microwave and Ultrasonic</b> G.E. Yang, X.Z. Li, M. Zhang and Y.H. Li	1113
<b>Property Analysis of Solid-Adsorption Desiccant System</b> H. Chen, W. Li, Q.Y. Xu and W.L. Cai	1117

<b>New Strategy Suppressing Vibration for Euler Beam by Using Impact Damping of Inlaid Steel Ball</b>	
J.W. Wang and H. Xu	1122
<b>Load Transfer Analysis Using Indexes U* and U** for Truck Cab Structures in Initial Phase of Frontal Collision</b>	
E.Y. Wang, T. Nohara, H. Ishii, H. Hoshino and K. Takahashi	1129
<b>Cross-Section Shape Optimization of Expandable Cased-Hole Liners</b>	
B. Ma, H.Q. Li, X. Deng and M. Li	1141
<b>Hydrogen Storage Properties of <math>\text{Mg}_{76}\text{Ti}_{12}\text{Ni}_{12-x}\text{Cr}_x</math> (x=0,3,6,9) Alloys by Mechanical Alloying</b>	
Z.Q. Lan, S.B. Li, Z. Lu and J. Guo	1146
<b>Research on Aluminum Alloy Cylinder Internal Surface Friction Coating Treatment Process</b>	
X.L. Dai, S.H. Peng, A.Y. Chen and K.J. Lu	1151
<b>Colored Graph Based BOM Layer Model</b>	
C.J. Yan and Y. Song	1156
<b>Design and Experimental Research of Gas Cooler for CO<sub>2</sub> Heat Pump Water Heater</b>	
Y.F. Liu, G.D. Gong and X. Chen	1161
<b>Elastic Fabric Template of Sheath Dress Based on Dynamic Change</b>	
X. Lu	1165
<b>Bending and Rotation Movement Control of a Novel Actuator Utilizing Hydrogen Storage Alloys</b>	
A. Nakai, M. Mizumoto and A. Kagawa	1170
<b>Experimental Design Optimization for Two-Pipeline Intake System on a Small Engine</b>	
C.J. Shih, C.N. Yeh and T.H. Chang	1176
<b>The Establishment of Wave Model in Qingdao Fushan Bay</b>	
S.Y. Li	1181
<b>Design and Simulation of 2-Step Braided Composites Based on VRML-Java</b>	
X.P. Zhang and J.Z. Wang	1187
<b>Finite Element Analysis of Pressure Device in Die-Cutting Based on the ANSYS Workbench</b>	
S.H. Shen and X.D. Shi	1195
<b>Synthesis and Electrochemical Performance of <math>\text{Li}_3\text{V}_2(\text{PO}_4)_3</math> Cathode Materials by Microwave-Assisted Carbothermal Reduction Method</b>	
B.Q. Jiang, S.F. Hu and Z.Q. Ye	1199
<b>The Optimization Design of the Pressure Foot Mechanism in a Single-Sheet Feeder</b>	
X.D. Shi, S.H. Shen and Y.M. Wang	1203
<b>Assessment of Feasible Recycling Ways on Waste Textile Fiber Materials</b>	
J. Cui, Y.L. Yu, L.H. Lv and J. Zhou	1207
<b>Characters of Nickel-Loaded Activated Carbon Fibers and Adsorption Experiments of Gaseous Mercury</b>	
J.D. Ding, Y.F. Diao and H.G. Shen	1211
<b>Characterization of Coconut Shell Activated Carbon Obtained from By-Product of Preparation Process of Bio-Oil with Fast Pyrolysis</b>	
Q.R. Xie, Z.F. Tong, L.W. Zheng and X.G. Chen	1215
<b>Preparation and Electrochemical Performance of <math>\text{Li}_3\text{V}_2(\text{PO}_4)_3</math> Cathode Materials by Microwave-Heated Sol-Gel Method</b>	
B.Q. Jiang, S.F. Hu and M.W. Wang	1219
<b>Virtual Manufacture of the Twist Drill Flute in UG</b>	
P. Gao and X.H. Wang	1223
<b>Preparation and Performance of Single Walled Carbon Nanotubes Supported Anode Catalysts (20%Pt-10%Ru) of Direct Methanol Fuel Cell</b>	
B.Q. Jiang, Z.Y. Gong and M.W. Wang	1227
<b>Energy Consumption Analysis of Variable Flow Pump under Different Pipe Network</b>	
F.H. Ge, Q.S. Yu and Z.C. Hu	1232
<b>Study on Tool Path Algorithm for Mushroom Blade Boot in 4_Axis Machining</b>	
K. Zhou, S.T. Yu and S.D. Xiao	1238
<b>Parametric Design on Belt Conveyor Drums Based on VBA</b>	
Y.F. Leng, J. Liu and F. Zu	1243

<b>The Characteristics and Application of Water Quenched Slag Particles (WQSP) as Filter Media</b>	
Y. Feng, Y.Z. Yu, J.W. Zhang and T. Juan	1247
<b>The Effect of Cable Material Characteristics on Suspended</b>	
Z.H. Chen, G.J. Sun and Z.S. Liu	1251
<b>Dynamic Optimization of Lift-Arm Luffing Mechanism of Rotary Drilling Rig</b>	
H.M. Kang, Q.H. He, J.X. Zhu and Y.S. Xu	1256
<b>Analysis of Crown Control Characteristics for SmartCrown Work Roll</b>	
H.B. Li, J. Zhang, J.G. Cao and L.L. Meng	1261
<b>Discussing the Green Design for Belt Conveyor</b>	
Y.C. Guo, Z.F. Wang and K. Hu	1266
<b>Calculation Methods for Equivalent Fatigue Stress Amplitude Based on Corten-Dolan Accumulative Damage Rule</b>	
H.B. Zhu	1271
<b>Optimization Design of Finger Seal Performances Based on Game Theory</b>	
Y.C. Zhang and G.D. Chen	1275
<b>System Development of the Service Robot</b>	
L. Chen and J. Zhu	1281
<b>Study on Dynamic Response Optimization and Experiment of the Double Crank Ring-Plate-Type Pin-Cycloidalgear Planetary Drive</b>	
W.D. He, L.X. Li, W. Wei and Y. Liu	1285
<b>Elasto-Plastic Analysis on Wellbore Stability under the Condition of Permeation</b>	
J.B. Sang, S.F. Xing, C.H. Lu, W.J. Wang and B. Liu	1292
<b>Simulation of the Mathematical Model for Lathe Tool Cutter</b>	
X.B. Liu, W. Zhao, S.C. Ma and C.N. Li	1297
<b>Photochromic Fabric of WO<sub>3</sub> and its Anti-UV Properties</b>	
W.Q. Du and Q.L. Su	1301
<b>Numerical Simulations of the Spall Damage of the Target Material Induced by Laser Driven Flyer Impacting</b>	
H.J. Wang, H.X. Liu, Z.B. Shen, W. Li, Y.Y. Zheng and X. Wang	1305
<b>Preparation and Properties of Knitted Coated Fabric with Flame Retardancy</b>	
J.F. Di, J. Xu and W.Q. Du	1313
<b>Temperature Field and Its Influencing Factors of Heavy Rail during Quenching</b>	
J.Y. Kong, S.Q. Xu, G.F. Li, J.T. Yang, H.G. Xiong and G.Z. Jiang	1318
<b>Effect of Catalytic Material in Environment Pollution Treatment</b>	
L.N. Zhu, Y.J. Wang and L. Zhang	1323
<b>Development of a New Rotary Solar Photocatalytic Reactor</b>	
X.H. Sun, J.Q. Cheng and L. Sun	1327
<b>Development and Utilization of Database on Corrosion of Ocean Engineering Materials and Structures</b>	
Z. Li, L.J. Yao and X.Y. Tong	1331
<b>Searching of Critical Slip Surface of Slope Based on Bionics Algorithm</b>	
W. Gao and L.Y. Zhang	1335
<b>Studies on the Relationship between the Speciation Distribution and Si/Fe Ratio of Poly-Silica-Ferric-Chloride</b>	
J. Shi, Q. Liu and D.S. Wang	1339
<b>Friction and Wear Behavior of Sucker Rod and Tubing String in the Presence of Oil Field Wastewater as the Lubricating Medium</b>	
H.X. Wang, N.H. Hou and Y.X. Liu	1343
<b>Preparation of Activated Carbon from Blue Coke Powder and its Adsorption Properties of Cr(VI)</b>	
Y.H. Tian, X.Z. Lan, L.B. Li, X.Y. Chen and T.H. Hu	1347
<b>Numerical Study on the Flash Gutter of Forging Die Using Response Surface Methodology</b>	
Y. Zhang, Z.G. An and W. Li	1352
<b>Study on Modelling Random Deterioration Process for Complex Repairable System</b>	
H.J. Zhang, H.F. Zuo and S.H. Zhu	1356

<b>Analysis of Dynamic Characteristic of Numerical Remanufacture Machine's Feeding System</b>	
Q.L. Pu, X.D. Huang and W.Z. Ding	1360
<b>Development and Experimental Investigation of a High Speed Grinding Spindle Equipped with Fully-Ceramic Bearings and Ceramic Shaft</b>	
S.H. Li, Y.H. Wu and L.X. Zhang	1366
<b>Contribution of Phenolics and Flavonoids to Anti-Oxidat Activity and of Ethanol Extract from <i>Eichharnia crassipes</i></b>	
C.C. Liu, G.L. Zhao, Y.N. Li, Z.P. Ding, Q.G. Liu and J.L. Li	1372
<b>Study on Adsorbing Chromium(VI) Ions in Wastewater by <i>Aureobacidium pullulans</i> Secretion of Melanin</b>	
X.H. Yu, Z.X. Gu, R. Shao, H.X. Chen, X.J. Wu and W. Xu	1378
<b>First-Principles Calculations on Pure and Ga-Doped Anatase TiO<sub>2</sub></b>	
R.Q. Xu, L.F. Yao, L. Li, S. Wang, L.L. Tian and X.L. Fang	1385
<b>Innovative Design of Honeycomb Paperboard Production Process</b>	
S.C. Ma, H.L. Jia and X.B. Liu	1389
<b>The Design of Double Strand Silk Semi-Automatic Machine</b>	
X.Q. Chen, J.X. Su, H. Shen, Z.K. Wang and F. Shao	1393
<b>An Optimal Resource Allocation Method for Aircraft Subassembly System Based on Graphic Ant Colony Algorithm</b>	
J. Zhang, Z.J. Xu and Y. Li	1397
<b>Adsorption of Dyes from Wastewater onto Cross-Linked Chitosan Beads</b>	
X.Q. Guo, L.J. Qu, G.J. Han and Y.N. Sun	1404
<b>A Laser-Imageable Thermo-Sensitive Film Based on Tertiary Amine Oxide-Containing Resin</b>	
Z.X. Li, W.K. Fan and J.L. Pu	1410
<b>Stress Analysis and Life Estimation of Drawing Die with Bi-Materials</b>	
Z. Zheng, H.O. Zhang and G.L. Wang	1415
<b>Mortars with Partially Oxidized Waste Rubber Crumbs</b>	
L.H. Chou	1421
<b>A 3D FEM Methodology for the Full-Scale Air Hammer Bit, Teeth and Rock Contact Analysis</b>	
H.Y. Zhu, Q.Y. Liu, X.H. Xiao and J.J. Jing	1425
<b>Experimental and Theoretical Study on Properties of the Fayalite Mineral in Coal Ash</b>	
M.F. Du, G.L. Lu, T. Zhou, N.P. Hou, Z.X. Zhang, G.H. Wu and Y. Zhang	1430
<b>A 3D FEM Methodology for Air Hammer Bit Design</b>	
H.Y. Zhu, Q.Y. Liu, X.H. Xiao, J.J. Jing and C. He	1435
<b>Catalytic Activity of Ba Doped Ta<sub>2</sub>O<sub>5</sub> for Methylene Blue Degradation under Visible Light</b>	
Y.H. Zhao, M. Sun, S.W. Wang, W.M. Tong and X.J. Wang	1440
<b>Growth and Hydrogen Production Characteristics of HPB B49</b>	
L.R. Yue, Y.F. Li, N.Q. Ren, Y.M. Hui and J.Z. Li	1444
<b>Thermal Effects of a Large Scale Bridge Tower Based on Field Measurement</b>	
B. Chen, C.F. Song and J. Zheng	1450
<b>Simulation on Temperature Distribution of Composite Bridge Deck Plate</b>	
B. Chen, J. Zheng and J.P. Wang	1455
<b>On Improvements of Rubberized Concrete with Organosulfur Compounds</b>	
L.H. Chou	1459
<b>Research on the Load Distribution of Throwing Ends in Vertical Shaft Impact Crusher</b>	
F. Zhao, J.M. Zhang, W. Wang and D.R. Duan	1463
<b>A Study on Applying Human-Centered Automation to Network Control Systems in E-Manufacturing</b>	
W.J. Shiang, H. Rau and P.T.B. Huang	1467
<b>A New Magnesium Reduction Jar Materials and Manufacturing Technologies</b>	
P.M. Dong and Z.R. Guan	1471
<b>Monitoring and Diagnosis Technique on Slewing Bearing</b>	
Z.J. Liu and J. Chen	1478
<b>The Mössbauer Spectrum Research of the Lanthanon Compound R<sub>3</sub>Fe<sub>29-x</sub>Cr<sub>x</sub></b>	
H.L. Liu and M. Guo	1484

<b>Kinematic Study on a New Coil Winder of RSPC Type</b> W.H. Hsieh and C.H. Tsai	1488
<b>Research and Implementations of the IEEE 1588 Precision Time Protocol Based on ARM-Linux</b> G.Y. Yang, Z.J. Ye, S.Q. Zhang and W. Xu	1492
<b>Process Modeling for Production System Based on Matrix Mapping</b> M.Q. Li and D.Y. Li	1497
<b>Solving for Dynamic Problems in Flexible Manufacturing Systems</b> Y.L. Hwang and S.J. Hwang	1501
<b>Blocking Partition Manufacturing of Complex Parts</b> X.M. Cheng, Z. Mei, J.Y. Shen and M. Liu	1505

## Advertisement

<b>Theory and Application of Modular Manufacturing for Complex Product System</b> M.Q. Li and D.Y. Li	1513
<b>Evaluating Charpy Impact Signals with Different Frequencies Using Power Spectrum Densities</b> S. Abdullah, M.B. Ali, M.Z. Nuawi, Z. Mohd Nopiah and K.A. Ariffin	1518
<b>Microstructure and Piezoelectric Properties of <math>[(K_{0.5}Na_{0.5})_{1-x}Li_x](Nb_{1-y}Ta_y)O_3</math> Lead-Free Piezoelectric Ceramics</b> B. Xu, F. Gao, B. Li, L.L. Liu and Z.Q. Deng	1522
<b>Study of Coupling Agent on Properties of Wheat Straw/pp Composite</b> M. Xu	1528
<b>Optimization Design of Composite Wing Structure of a Minitype Unmanned Aerial Vehicle</b> Y. Zhang, F.F. Xiong, S.X. Yang and X.N. Mei	1532
<b>Continuous Rotary Motor Electro-Hydraulic Servo System Based on Discrete Sliding Mode Controller</b> X.J. Wang, J.P. Shao and J.H. Jiang	1537
<b>Study on Microstructure and Properties of BTBY Piezoelectric Ceramics with High Curie Temperature</b> B. Li, F. Gao, L.L. Liu and B. Xu	1541
<b>Development of Efficient Washing System for Reduction of Oil Contamination on Machining Parts</b> N. Rojanarowan and A. Senjuntichai	1545
<b>Numerical Simulation Studies on Tension Behavior of Casing and Dowel Joint of Square Steel Tube</b> M. Ding, Z.H. Hou, X.G. Jiang, Z.C. Lin, G.K. Zhang and J.S. Ju	1555
<b>Influence of Carbon Content on the Qualities of Oxy-Fuel Float Glass</b> X.Q. Liu and J.L. Xie	1559
<b>Numerical Simulation Studies on Flexural Behavior of Casing Joint of Square Steel Tube</b> M. Ding, Z.H. Hou, X.G. Jiang, Y.Z. He, G.K. Zhang and J.S. Ju	1564
<b>Numerical Simulation of Heat Transfer Characteristics for Two Metallic TPS Structures</b> H.Y. Liu and H.F. Qiang	1568
<b>Study of Key Technology on a Novel Automated Balancing Machine</b> Z.Y. Zhang, J.L. Li and Q. Li	1574
<b>Innovation and New Product Development Management</b> Y.J. Miao and H.M. Chen	1578
<b>Natural Frequency Computation Method of Nonlocal Elastic Beam</b> X.L. Shen, Y.X. Luo, L.X. Zhang and H. Long	1582
<b>Cracking Analysis of Q235-B Steel Plate in Cold-Bend Process</b> L.Q. Chen, F. Wang and P. Zhang	1586
<b>A New Scheme of Shell Model Potential for Hydrogen System</b> X. Wang, H. Sun, Y.H. Wang, Z.N. Ma, Q.J. Wang, J.Y. Wang, Y.N. Shan, X. Li, Z.H. Zhai, Q. Li and Z.Q. Yu	1590
<b>A Novel Optic Sensor for Real-Time Metal Analysis in the BOF Steelmaking Process</b> M. Zhang, Y.R. Chen, L.F. Xu and Y.Q. Wang	1594

<b>Glass-Mold Defective Reduction in Plastic Lenses Manufacturing Process Using Six Sigma Approach</b>	
N. Rojanarowan and T. Senprom	1598
<b>Experiment Study on Safety Evaluation of L245A-Pipe Steel in Wet H<sub>2</sub>S Environment</b>	
P. Zhang, L.Q. Chen and Y. Biao	1603
<b>Experimental Investigation and Improvement of Dynamic Performance of High-Speed Grinding Machine</b>	
X.L. Shen, C.G. Ren, Z.M. Pi and D.L. Zhu	1609
<b>On-Machine Profile Measuring System for Grinding Surface of Aspheric Lens</b>	
X.Y. Lei, H. Huang, F. Yang, X.H. Chen and Q. Xu	1613
<b>The Optimal Allocation of Manufacturing Resources Capabilities in Workshop Based on AFSA</b>	
Z.G. Wang	1622
<b>Rapid Manufacturing and Remanufacturing System Based on Robotic GMAW</b>	
Z.Q. Yin, G.J. Zhang, H.H. Zhao and L. Wu	1626
<b>Investigation of the Flow and Heat Transfer around Cylinders at Low Re</b>	
L. Yue, Z.G. Zhang, D.K. Feng and A.V. Mudaliar	1630
<b>Modeling and Simulation of Baseball Sweet Spot</b>	
W. Shi, Y.B. Zhang, T. Zhang, J.S. Li and B.J. Shi	1635
<b>Synthesis and Properties of a Blue Photochromic Diarylethene Derivative</b>	
W.J. Liu, C.M. Zhang, S.Z. Pu and S.Q. Cui	1639
<b>Effect of Ultrasonic Reflection Echo during Polymer Mixing Process</b>	
C.C. Cheng, S.C. Cheng and C.H. Lu	1644
<b>Recycling of Coal Fly Ash for Fabrication of Porous Mullite Composite</b>	
J.M. Lee, T.Y. Yang, S.Y. Yoon, B.K. Kim and H.C. Park	1649
<b>Optimal Design of Self-Sealing Low Friction and Non-Leakage Plunger Pump</b>	
X.T. Han, X.D. Li, Y.L. Wang, C.X. Zhang, J.L. Li, X.J. Sun and J.C. Xu	1653
<b>An Investigation into the Fracture Mechanical Behavior of Bone Cement: Simulation Using Cohesive Zone Models (CZMs)</b>	
X.H. Huang, W.G. Liu, G.Q. Zhao and X.H. Zhao	1658
<b>Optimization of the Multi-Layer Die for Support Shaft</b>	
X.H. Huang, M. Zhang, Y. Wang and X.H. Zhao	1665
<b>Influence of Electromagnetic Field on the Solidification Structure of C90500 Tin Bronze</b>	
B.M. Li, H.T. Zhang and J.Z. Cui	1670
<b>The Effects of Cutting Speed on Continuous Miner Cutting Performance</b>	
Y.L. Cao, X.H. Li and C.X. Chao	1675
<b>Shakedown Analysis of Cylindrical Shells Containing Part-Through External Pit</b>	
X.F. Wang, F. Xing, M.D. Xue and B.Y. Xu	1680
<b>Green Function of a Point Dislocation in Thin Plate with a Partially Debonded Inclusion</b>	
X.F. Wang, F. Xing and N. Hasebe	1684
<b>Carbothermal Reduction of Alumina in a Vacuum</b>	
Y.B. Feng, B. Yang and Y.N. Dai	1688
<b>Design with Caring for Humanity about Comprehensive Training Bed for Medical Rehabilitation</b>	
Y. Ma	1692
<b>Mechanical Performance of Geosynthetic-Reinforced Pile-Supported Embankments</b>	
L. Sun, J.J. Zheng, J. Zhang and Q. Ma	1696
<b>Simulation on Extrusion Comminution Model of Roller Press</b>	
X.W. Cheng, J. Liu, Q.Z. Ding, L.M. Song and Z.L. Wang	1702
<b>Ultra-Hard Bainitic Steels Processed through Low Temperature Heat Treatment</b>	
H.F. Lan, X. Liu and L.X. Du	1708
<b>Intragranular Porous Aluminum Titanate Ceramics with Low Thermal Expansion and High Strength Simultaneously</b>	
G. Xu, W.B. He, Y.Q. Li, Y.G. Wang and G.R. Han	1713
<b>Development of Diagnosis System for Machine Tool Shaft Inspection</b>	
N.K. Hsieh, W.Y. Lin and H.T. Young	1717
<b>N-Doped TiO<sub>2</sub> Nanotubes and its Photocatalytic Activity under UV Light</b>	
Y.W. Dou, X. Feng and C. Yin	1725

