

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_{3.8}-Type Earth Mg Ni-Based Hydrogen Storage Alloys

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

A Novel Evaluation Method for Overall Performance Testing of Rail Transit Brake System X.Q. Ma, C.Q. Yang and G.S. Ren	113
Finite Element Analysis of Temperature Characteristic on the Pressure Sensor Based on the Shell of Piezo Gauge X.E. Li, J. Zu and P. Xu	117
Study on Energy-Saving Product Concept Design Based on TRIZ and Function Analysis F.Y. Zhang, H.C. Zhang, H. Zheng and Q.Q. Zhang	123
Treatment of Lake-Type Raw Water by Ultrasonic and Photocatalytic Oxidization Process L.P. Wang, W.J. Jiang, E.D. Du, C.Q. Wang and N.Y. Gao	127
Stability and Accuracy of Wilsonθ Method with Modified Acceleration D.P. Fang and Q.F. Wang	132
Design Scheme and Simulation on Automatic Transmission Travel System of Engineering Vehicles Hydraulic Chassis H.X. Han, P.S. Ren, X.L. Cao and M.F. Liu	137
Modeling of Iron Matrix Composite Based on <i>In Situ</i> and Laser Coating Technology and Optimization of Parameters L. Yang, Y.Y. Chen, W.G. Li and X.Y. Sun	142
Initiative Design on Combined Stepless Transmission X.R. Xi	148
Study on Manufacture Technology for Enhancing the Life of Mining Flat Type Chain Connector Units J. Mao, W.K. Li and J.G. Li	153
Prediction of Life on High Temperature & Low Cycle Fatigue for 3-Dimension Structure W.X. Zhang, G.D. Gao and G.Y. Mu	157
Analysis of the Relationship between Bus Board Customers' Purchasing Behavior and Business Decision Making L. Han, R. Du and T. Shi	162
Automatic Programming System Based on Solid Driven Technology for Machining Center On-Line Inspection H.Q. Sang, F. Liu, J.J. Meng and J.T. Yun	168
Dynamics Simulation of Parallel Indexing Cam Mechanism Based on Rigid-Flexible Coupled Modelling H.D. Zhao, Y.K. Cao and P.Q. Guo	172
Effects of Multi-Disciplinary and Intercultural Engineering Education in Automotive Engineering/Service at CDHAW of Tongji University Y.F. Mao, M. Chen, H. Wiedmann and X. Feng	177
CAD/CAE Collaborative Design of Auto Panel Die Surface X.G. Qiu and Y.D. Huang	185
Research on One-Time Forming Process of Matrix PDC Bits Z.L. Wei, H. Wen, Q. He and J.M. Sun	190
Optimization of Belt-Type Cylinder Based on Orthogonal FEM Simulated Calculation D.M. Cai, Q. Wang, Y. Zhou and D. Zhao	194
Main Beam Structural Reliability Sensitivity Analysis of a Loading Platform Based on the AFOSM Method R.J. Zhang, N. Guo, Q. He and S.J. Zhang	198
Dynamics Research on Tape Feeder of Placement Machine Y.S. Xiao, Z.Y. Zhao and F.M. Song	203
Research Foundation of Rock-Burst Hazard Control for Mining Pattern with No Pillar Z.J. Wen, L.J. Chen, X.D. Zhao and C. Zhang	207
3-D Interactive Simulation of Magnetic Compass Adjustment Based on VRML J.H. Wu, H. Li and H.X. Li	211
Adsorption of Congo Red Dye onto Raw and Chitosan-Modified Bentonite S.P. Li and J.J. Cui	217
The Application Research on Backfill Mining Technology of Gangue for Coal Pillar Mining in Xingtai Mining Village L. Ma and Z.W. Ding	225
Synthesis and Characterization of the Ba₅(P_xAs_{1-x}O₄)₃Cl Solid Solutions C.C. Wei, Y. Pan, Y.N. Zhu, Z.L. Zhang, H.L. Liu and Z.Q. Zhu	232

The Reconstruction of Heat Flux in Moving Boundary in 1-Dimensional Heat Conduction X.Y. Zhang and F. Huang	237
Strengthening the Engineer's Lifelong Education Y.L. Zhang, L.Z. Bai and D. Zhang	241
A Study on Magnesium Alloy Substitution Design and Analysis for Automotive Seat Back Frame Y.K. Gao, D.W. Gao and Y.H. Gao	245
Solid Modeling and Dynamic Simulation of Spur Bevel Gear D. Yang, H.Y. Cui, X.J. Tian and P.F. Xu	252
Optimal Design of the Relative Clearance of Mill Oil-Film Bearing J.M. Wang, Q.X. Huang, T. Lei, J.F. Kang and Y. Fan	257
A New Method to Analysis the Co-Sintering of NiO/YSZ-YSZ Coating Q.B. Chang, X. Wang, J.E. Zhou, Y.Q. Wang and G.Y. Meng	262
Isolation of <i>Saccharomyces cerevisiae</i> YDJ05 from the Spontaneous Fermentation Pear Wine and Study of the Yeast Growth Dynamics during the Association Fermentation D.W. Zhang, W. Dong, L. Jin, J. Zhang and Y.C. Jin	266
Adosorption of Basic Fuchsin onto <i>Xanthoceras Sorbifolia</i> Bunge Crust Activated Carbon Developed by Sodium Hydroxide Y.N. Hao and X.M. Wang	272
Interaction of a Center of Dilatation and a Penny-Shaped Interfacial Crack in an Infinite Bimaterial Y.Z. Sun, Y.D. Bian and Y.Z. Zhu	279
Experimental Study on the Wet Molding for Wheat Straw Pellet Fuel J.J. Hu, Q.G. Zhang, T.Z. Lei and Z.W. Wang	284
Dynamic Simulation Analysis of a Cracked Flexible Rotor Supported on Rotor-Rolling Bearing Based on Virtual Prototyping Technology T. Han, J. Bai and Z.J. Yin	293
Signal Strategy of Conditional Transit Priority Based on Transit Schedule X.Y. Tan, J. Li and W. Deng	298
Study on the Head Impacting Properties of Foam Composite Material Engine Hood G.F. Zhao, T.L. Teng and D. Cui	303
Optimization of Processing Parameters for Micro Arc Oxidation Based on Orthogonal Design and Support Vector Machine Regression Analysis M.Q. Pan	307
Product Development to Improve Environmental Performance in Household Textile Processing M. Poonprasit and S. Pangkamhang	311
Simulation Research on Performance of All Electric Brake System in Tracked Vehicles Y.H. Shang, Y.N. Zhang, N.M. Yan, J. Zhang and D. Wang	315
The Study on Multi-Factor Coupling Numerical Simulation for Vehicle Cover Panel Stamping Forming X.G. Qiu and H.A. Yi	320
The Practicability of Automobile External Flow Simulation Based on the Two-Equation Models X.S. Li, H.W. Sun and J.H. Huang	326
A Dynamic Assembly Modeling Method for Satellite Final Assembly Sequence Planning Y. Zhang, K.F. Zhang, J.F. Yu and L. Zhao	332
Practice and Exploration of Localizing International Cooperation and Exchange of Industrial Design Education J.S. Fan	339
Study on Photoelectrocatalytic of Three-Dimensional Electrode Using TiO₂ Coatings Particle Electrode H.D. Su and H.L. Du	344
A Novel Slicing Method for Rapid Forming Based on Welding Arc Deposition S. Zhu, J. Liu, F.L. Yin and Y.Y. Liang	350
Virtual Mechanical Equipment Model Smoothing X.L. Wang and H. Zhao	355
Numerical Simulation of Intercepting Efficiency on Airbag Active Protection System K. Zhong, Z.H. Du, L. Zhou and L.L. Song	360

Effect of 1-MCP and CaCl₂ on Quality of Chinese Jujube Stored at Low Temperature X.H. Li, L. Zhang, X.L. Wang and Y.Y. Li	367
Effects of Modified Atmosphere Packaging of PE Film with Different Thickness on Quality of <i>Pleurotus nebrodensis</i> X.H. Li, Y.Y. Li, L. Zhang and X.L. Wang	371
Removal of Red Acid Dye from Synthetic Wastewater by Adsorption onto Low-Cost Material K. Kulyakorn, T. Satawat and S. Pattakamol	375
Design and Study of PDC Bit for Igneous Rock Formation of Santanghu Z.L. Wei, J.Q. Zhang, J.T. Li, J.B. Xue and Y. Zhang	379
The Stress-Strain Analysis for the Nonlinear and Strength Difference Structure of Bars Jointed to Rigid-Body of Fixed-Point Motion X.Q. Liu, X.H. Ni, S.Q. Zhang, L. Zhao and G.H. Zhong	383
Modeling Bending Rigidity of Nonwovens with 2D Structures H.W. Liu, Z.G. Chen and P. Xu	387
Optimization of Surface Roughness by Taguchi Design Method M.R. Rumman and S.J. Hong	392
Study on Automobile Welding Jig Rapid Design System Based on Parametric Technology Z.H. Sha, C.C. Chen, S.F. Zhang, Z. Liu and J.F. Mao	396
Parameters for Heat Transport in Radiata Pine Board H.W. Liu, Z.Y. Wang and P. Xu	400
Effect of Modified Atmosphere Packaging on Nutritional Value and Quality of Honey Pomelo X.H. Li, X.L. Wang, L. Zhang and Y.Y. Li	404
Influence of Change of H/O Mixture Ratio on Combustion in the Combustor of the Micro Thermophotovoltaic System X.Y. Zhang, Y.J. Wu and L.Y. Xu	408
Demerit-GWMA Control Chart for Demerit Statistics H.W. Kang, C.W. Kang, J.W. Baik and S.H. Nam	413
Effect of Micro Pits Topography on the Platelets Adhesion on 316L Stainless Steel Surface G.Z. Tang, Y.J. Wang, G.W. Guo, X.X. Ma and L.Q. Wang	422
Numerical Study on the Heat Transfer Characteristics of Supercritical Water in Enhanced Sub-Channels in Reactors W.S. Wang, H.S. Zhang, Q.C. Bi and J. Liu	426
Oxygen Reduction in PEM Fuel Cell Based on Molecular Simulation H. Sun, C. Liu, X.J. Gao and Y.L. Tang	432
Control System for Multifunctional Green Buildings C.M. Chung, C.W. Lin and C.C. Gu	439
Investigation of Pyrocarbon Based Carbon Paper for Proton Exchange Membrane Fuel Cells M.Y. Zhang, L.P. Wang, Z.A. Su and Q.Z. Huang	447
Representation Method and Degree Selection of Class A Surfaces for Auto-Body J.C. Xu, S.P. Gao and Y.F. Yin	451
Multi-Objective Optimization Design of Composite I-Beam Embedded with Viscoelastic Layers T. Wang, S. Lin, B. Wu and C. Xu	456
Synthesis of a New Photochromic Compound for Optical Storage S.Q. Cui, S.Z. Pu, G. Liu and W.J. Liu	462
Nonlinear Analysis of a RC Frame Structure with Semi-Interlayers Damaged during Wenchuan Earthquake P.T. Yu and J.J. Sun	467
Effect of Ignition Advance Angle on Liquid Phase LPG Injection Engine Performance X.Q. Li, D.Y. Song, B. Liu and Q. Li	473
Removal of Rhodamine B from Aqueous Solution Using ACF/CNT Composites Prepared by Chemical Vapor Deposition L.P. Wang, Z.C. Huang and M.Y. Zhang	477
The Product Surface Remote Detection Method Based on the Single Laser Pulse Echo Q. Zhan and N. Sheng	481

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

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

Degradation Screening Test Design for Electronic Products R.L. Lin and Q.H. Zhong	747
Virtual Assembly and Load Simulation of Roadheader Cutting Head L.J. Zhao and Q.Z. Guan	754
Effect of Network-Forming Oxides on Long-Lasting Phosphorescence in Mn²⁺ Doped ZnO-B₂O₃-SiO₂ Glass F.F. Li, M.X. Zhang, Y. Shen, Q.H. Wang and Z.G. Liu	759
Finite Element Computation Method for Heat Transfer S.X. Sun, G.C. Sun, L. Tang and X.N. Zhang	766
On Obtaining Dynamic and Static Characteristics of Heavy Load Deflection Angle Milling Head by CAE and Experiment Techniques L.G. Cai, S.M. Ma, Z.F. Liu, Q. Cheng and Y.S. Zhao	771
Optimization of Ultrasonic Extraction Technique of Proanthocyanidin from Peanut Skin Z.Q. Liu, Q.L. Yang, C.S. Zhang, J. Sun, Y. Zhang and S.Q. Wang	778
Preparation of High-Purity Nanometer Bismuth Trioxide from Silver-Zinc Slag L.H. Liu, J. Wu, X. Li and Z.Q. Gong	785
²⁹Si and ²⁷Al MAS-NMR Studies of Fly Ash Changes during the Polymerization of Mineral Polymer Y.M. Nie, M.H. Xia, F.S. Niu and S.X. Liu	794
Ionic Conduction Performance of Solid Electrolyte Materials M. Zhou and Y.W. Tian	799
Study of Manufacture Process and Properties of Tailings and Slag Based Geopolymers F.S. Niu, S.S. Zhou, S.X. Liu and J.X. Zhang	803
Framework Design for Eco-Industrial Park's Waste Management System L. Zhu, Z.J. Cui and J.R. Zhou	808
Investigation on Crushing Kinetic Equation of Ball Milling of Quartz Powder S.X. Liu, L.L. Shen, Q.P. Wang and F.S. Niu	812
Formation Mechanism of Soot in Zinc-Bearing Dusts Direct Reduction Process X.F. She, Q.G. Xue, H.X. Yang and Y.G. Ding	817
Study of Utilizing of Massive Iron Tailings Resource G.H. Sun and X. Lv	824
Numerical Study on Transient Heat Transfer in a Regenerative Oxidation Bed during the Preheating Process Y.Q. Liu, J.H. Han, Y.Y. You and Z.Q. Gao	829
Research on Window Patterns' Layouts and its Expanded Application in Exploitation of Textile J.H. Sui, Y.H. Ge, T.T. Zhou and Q. Hu	834
Research of the Main Influence Factors of Fly Ash Thermal Insulation Material J.X. Zhang, Y.M. Nie, S.C. Li and F.S. Niu	839
Studies on the Preparation and the Process Optimization of PANI Compositing Conductive Fabric J.F. Di and J.Y. Tang	844
Preparation of an Iron Oxide Modified Montmorillonite for Removal of Arsenic in Waters H.F. Liu, D.R. Miao and F. Liu	849
Using Symplectic Schemes for Nonlinear Dynamic Analysis of Flexible Beams Undergoing Overall Motions J.L. Cheng and T.S. Zhao	854
Research for Fabric Regional Expansion Arranged by Tight and Loose Weaves S.X. Chen, J.H. Sui, J.Y. Mo and L.F. Liu	862
Research on the Revision and Application of the Paper Surface Efficiency Formula Y.G. Yang, Q.X. Hou, Z.L. Cao and Q.X. Liu	868
Effect of Catalytic Distribution on the Performance of Microreactor for Hydrogen Production through Methane Steam Reforming F. Wang, Z.L. An, B. Qi and J. Zhou	873
Effect of pH, ORP and Influent COD on Hydrogen Content in Fermentative Hydrogen Production L.L. Zhu, B. Wang, S. Gao, X. Yao, L. Cao, X.F. Bai and Y.F. Li	877

Study of the Removal of Boron from Metallurgical Grade Silicon by Oxidation Slagging Method	
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
The Development of High Efficient CNC Gantry Belt Grinder for Trimming Edge in Kitchen Sink	
Z. Huang, W.W. Zhang, Y. Huang and Y.Y. Wu	886
The Purification of Solar Grade Silicon by Chloridizing Roasting	
T. Lin, D.L. Lu, Y.Y. Hu, B. Wang, Y. Liu, Y.H. Sun, H.Y. Chen and Q.S. Li	890
Study on the Algorithm of Tool Compensation for Rotary Center Offset in 5-Axis Machining	
K. Zhou, S.T. Yu, M.H. Xu and S.D. Xiao	894
Competitive Adsorption of Lead, Copper and Zinc Ions on Polymeric Al/Fe Modified Clinoptilolite	
H.Y. Wang and H.F. Huang	900
Study on the Output Characteristics of Piezoelectricity Generator	
X.L. Yang, T.M. Zhang and S. Wen	908
Semantic Web Service Based Framework for Inter-Organizational Business Process Management	
M.W. Wang, S.S. Zhang and J.T. Zhou	915
Four Materials as Carriers for Phosphate Dissolving <i>Rhizobium Sp.</i> Inoculants	
J.F. Li, S.Q. Zhang, S.L. Shi and P.H. Huo	919
Life Cycle Assessment of the Bio-Hydrometallurgical Process of Recycling Copper from Printed Circuit Boards Scraps	
C.L. Zhang, J.W. Wang, J.F. Bai and W.J. Wu	929
Fenton/Ultra-Violet Treatment on Carbon Nanotube and its Effects on Carbon Nanotubes Reinforced Phenol Formaldehyde Resin/Graphite Composite for Bipolar Plate	
A.J. Li, Q. Yin, K.N. Sun and L. Shao	933
Reuse of Municipal Wastewater Sludge for Construction Material	
D.L. Jiang, G.W. Ni and G.Y. Ma	939
Research on the Cutting of High Nitrogen Austenitic Stainless Steel	
X.H. Pang and X.Y. Zhang	943
Grinding Fluid Flow Field Modeling and Multi-Parameter Numerical Analysis Based on Smooth Model	
G.Y. Meng, J.W. Tan and Y. Cui	948
Optimal Selection of Machining Parameters for Multi-Pass Turning Operations	
L.B. An	956
A Fuzzy Impact-Matrix Method for Evaluating Impacting Factors in Manufacturing	
P. Jiang, B. Guo and K.L. Zhang	961
Simulation on the Combustion Property of Blast-Furnace Gas Engine by GT-POWER	
Y.Q. Liu, X.Y. Wang, G.F. Zhu, R.X. Liu and Z.Q. Gao	965
Research on Thick-Wall Columnar Pressure Vessel with Auto-Frettage	
Q.H. Cao	969
Preparation of Palladium Based Catalysts by Electroless Plating and their Application in Catalytic Combustion of Toluene	
Y.F. Li, Y. Li, L. Yu, Q. Yu and J.F. Pan	973
Forecasting Traffic Volume with Space-Time ARIMA Model	
Q.Y. Ding, X.F. Wang, X.Y. Zhang and Z.Q. Sun	979
Numerical Simulation of Heat Transfer and Gas Flow Characteristics in Honeycomb Ceramics	
Y.Q. Liu, X.C. Chen and R.X. Liu	984
Synthesis of BaZrO₃ Powders by Hydrothermal Method from Reactive Precursors	
Y.P. Pu, H.D. Wu and K. Chen	988
The Supervisory Control and Data Acquisition System for Plate Leveler Based on Multi-Fieldbus	
Y. Hu, Q.X. Huang, X.H. Hao and S.Z. Jin	992
Properties of ZrO₂-C Materials with Anti-Oxidants	
G.Q. Liu, H.X. Li, F. Qian, W.G. Yang, J.B. Yu and T.F. Ma	996
The Efficiency Analysis and Optimization of Gear Trains	
N. Zhao and Q.J. Jia	1000

A Novel Method for Quantitative Analysis of Tetragonal Phase in Barium Titanate Powders by X-Ray Diffraction Y.P. Pu, N. Xu and X.L. Chen	1006
Effect of Mineralizers on MnNb_2O_6 Powder Prepared by Hydrothermal Method Y.P. Pu, Y.Y. Zhuang, K. Chen and N. Xu	1010
Dimethyl Ether (DME): A New Alternative Fuel for Diesel Vehicle G.B. Li	1014
Effect of a Furniture Interior Air Purifying Device on Reducing Concentrations of Formaldehyde in Air S. Li, L. Jin and S.S. Liu	1019
Catalytic Partial Oxidation of Coke Oven Gas to Syngas over Ni/SiO_2 Catalyst Modified by Rare Earth Metal Oxide in a Membrane Reactor D.H. Hu, X.G. Lu, H.W. Cheng and W.Z. Ding	1024
Fuzzy Optimization Design Method on Fine-Pitch Tooth Profile F.Q. Zhao, T. Wang, H.M. Li, X.F. Li and J. Shen	1029
Research on Removal of Boron from Metallurgical Grade Silicon by Si-Al Alloying Y. Liu, D.L. Lu, Y.Y. Hu, T. Lin, Y.H. Sun, H.Y. Chen and Q.S. Li	1037
Study on Electrical Aging Lifetime of Power Cable with Extruded Insulation W.G. Li, G.S. Ye and S.K. Wang	1041
Properties and Application of Pb-Ca-Sn-Al-Ag-La-Ce Alloys for Positive Grids of Electric Vehicle Batteries A.J. Li, H.Y. Chen and R.Z. Li	1046
A Proof of the Modification Theory Formula of Toroidal Worm-Gearing H. Xu, L.Y. Zhou, Q.M. Wen and W.X. Tang	1050
Use of N-(2-Hydroxyl) Propyl-3-Trimethyl Ammonium Chitosan Chloride for Antheraea Pernyi Silk Modification Y.H. Lu, J. Lin and Z.C. Yu	1055
Microbial Fermentation Simultaneous Extraction Processing of Oil and Protein from Soybean H.B. Wu, L.Z. Jiang, X.Q. Zhu, H.T. Wu and Y. Li	1059
Simulation of Spindle Rotation Error with Three-Point Method Based on Matlab Z.Y. Huang, W.Q. Gao, Q.S. Yan, J.J. Huang and C.T. Qing	1069
Study on the Reaction Process of Ploy-High-Ferric-Silicic Coagulant Y.Z. Yu, J. Tan and Y. Sun	1074
Improvement of the Photovoltaic Performance of Dye-Sensitized Solar Cells by Using Mesoporous Carbon in Polyvinylidene Fluoride/1-Methyl-3-Hexylimidazolium Iodide Gel Electrolyte G.Q. Wang, L. Wang and S.P. Zhuo	1078
Learning Physics Using Practical Engineering Projects H.L. Zhang, D.D. Shi and C.Y. Zhang	1082
Fatigue Strength& Analysis of Diesel Engine Piston on Finite Element Analysis Y.X. Wang and H. Gao	1086
Study on the Composites of Phenol Formaldehyde Resin/Graphite Reinforced by Milled Carbon Fibers for Bipolar Plates W.Q. Wang, A.J. Li, M.M. You and B. Xia	1090
Study on Magnetic Field and Free Boundary of Magnetic Fluid Seal Y.G. Fan, F.Y. Chen and B. Chen	1097
Study for Preparation and Photoelectric Property of ZnSe Crystal C.X. Liu, Z.Y. Jian and M. Zhu	1101
Simulation and Experimental Study on Sugarcane Field Excitation to the Cutter X. Lai, S.P. Li, F.L. Ma, Z.W. Qin, J.H. Zhou and G.P. Zheng	1105
Effect of Capsaicin-Coated PE Film on Microbiological and Physiological Properties of Rice during Storage X.H. Li, G.M. Lei and X. Liu	1109
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 G.E. Yang, X.Z. Li, M. Zhang and Y.H. Li	1113
Property Analysis of Solid-Adsorption Desiccant System H. Chen, W. Li, Q.Y. Xu and W.L. Cai	1117

New Strategy Suppressing Vibration for Euler Beam by Using Impact Damping of Inlaid Steel Ball	
J.W. Wang and H. Xu	1122
Load Transfer Analysis Using Indexes U* and U** for Truck Cab Structures in Initial Phase of Frontal Collision	
E.Y. Wang, T. Nohara, H. Ishii, H. Hoshino and K. Takahashi	1129
Cross-Section Shape Optimization of Expandable Cased-Hole Liners	
B. Ma, H.Q. Li, X. Deng and M. Li	1141
Hydrogen Storage Properties of $\text{Mg}_{76}\text{Ti}_{12}\text{Ni}_{12-x}\text{Cr}_x$ (x=0,3,6,9) Alloys by Mechanical Alloying	
Z.Q. Lan, S.B. Li, Z. Lu and J. Guo	1146
Research on Aluminum Alloy Cylinder Internal Surface Friction Coating Treatment Process	
X.L. Dai, S.H. Peng, A.Y. Chen and K.J. Lu	1151
Colored Graph Based BOM Layer Model	
C.J. Yan and Y. Song	1156
Design and Experimental Research of Gas Cooler for CO₂ Heat Pump Water Heater	
Y.F. Liu, G.D. Gong and X. Chen	1161
Elastic Fabric Template of Sheath Dress Based on Dynamic Change	
X. Lu	1165
Bending and Rotation Movement Control of a Novel Actuator Utilizing Hydrogen Storage Alloys	
A. Nakai, M. Mizumoto and A. Kagawa	1170
Experimental Design Optimization for Two-Pipeline Intake System on a Small Engine	
C.J. Shih, C.N. Yeh and T.H. Chang	1176
The Establishment of Wave Model in Qingdao Fushan Bay	
S.Y. Li	1181
Design and Simulation of 2-Step Braided Composites Based on VRML-Java	
X.P. Zhang and J.Z. Wang	1187
Finite Element Analysis of Pressure Device in Die-Cutting Based on the ANSYS Workbench	
S.H. Shen and X.D. Shi	1195
Synthesis and Electrochemical Performance of $\text{Li}_3\text{V}_2(\text{PO}_4)_3$ Cathode Materials by Microwave-Assisted Carbothermal Reduction Method	
B.Q. Jiang, S.F. Hu and Z.Q. Ye	1199
The Optimization Design of the Pressure Foot Mechanism in a Single-Sheet Feeder	
X.D. Shi, S.H. Shen and Y.M. Wang	1203
Assessment of Feasible Recycling Ways on Waste Textile Fiber Materials	
J. Cui, Y.L. Yu, L.H. Lv and J. Zhou	1207
Characters of Nickel-Loaded Activated Carbon Fibers and Adsorption Experiments of Gaseous Mercury	
J.D. Ding, Y.F. Diao and H.G. Shen	1211
Characterization of Coconut Shell Activated Carbon Obtained from By-Product of Preparation Process of Bio-Oil with Fast Pyrolysis	
Q.R. Xie, Z.F. Tong, L.W. Zheng and X.G. Chen	1215
Preparation and Electrochemical Performance of $\text{Li}_3\text{V}_2(\text{PO}_4)_3$ Cathode Materials by Microwave-Heated Sol-Gel Method	
B.Q. Jiang, S.F. Hu and M.W. Wang	1219
Virtual Manufacture of the Twist Drill Flute in UG	
P. Gao and X.H. Wang	1223
Preparation and Performance of Single Walled Carbon Nanotubes Supported Anode Catalysts (20%Pt-10%Ru) of Direct Methanol Fuel Cell	
B.Q. Jiang, Z.Y. Gong and M.W. Wang	1227
Energy Consumption Analysis of Variable Flow Pump under Different Pipe Network	
F.H. Ge, Q.S. Yu and Z.C. Hu	1232
Study on Tool Path Algorithm for Mushroom Blade Boot in 4_Axis Machining	
K. Zhou, S.T. Yu and S.D. Xiao	1238
Parametric Design on Belt Conveyor Drums Based on VBA	
Y.F. Leng, J. Liu and F. Zu	1243

The Characteristics and Application of Water Quenched Slag Particles (WQSP) as Filter Media	
Y. Feng, Y.Z. Yu, J.W. Zhang and T. Juan	1247
The Effect of Cable Material Characteristics on Suspended	
Z.H. Chen, G.J. Sun and Z.S. Liu	1251
Dynamic Optimization of Lift-Arm Luffing Mechanism of Rotary Drilling Rig	
H.M. Kang, Q.H. He, J.X. Zhu and Y.S. Xu	1256
Analysis of Crown Control Characteristics for SmartCrown Work Roll	
H.B. Li, J. Zhang, J.G. Cao and L.L. Meng	1261
Discussing the Green Design for Belt Conveyor	
Y.C. Guo, Z.F. Wang and K. Hu	1266
Calculation Methods for Equivalent Fatigue Stress Amplitude Based on Corten-Dolan Accumulative Damage Rule	
H.B. Zhu	1271
Optimization Design of Finger Seal Performances Based on Game Theory	
Y.C. Zhang and G.D. Chen	1275
System Development of the Service Robot	
L. Chen and J. Zhu	1281
Study on Dynamic Response Optimization and Experiment of the Double Crank Ring-Plate-Type Pin-Cycloidalgear Planetary Drive	
W.D. He, L.X. Li, W. Wei and Y. Liu	1285
Elasto-Plastic Analysis on Wellbore Stability under the Condition of Permeation	
J.B. Sang, S.F. Xing, C.H. Lu, W.J. Wang and B. Liu	1292
Simulation of the Mathematical Model for Lathe Tool Cutter	
X.B. Liu, W. Zhao, S.C. Ma and C.N. Li	1297
Photochromic Fabric of WO₃ and its Anti-UV Properties	
W.Q. Du and Q.L. Su	1301
Numerical Simulations of the Spall Damage of the Target Material Induced by Laser Driven Flyer Impacting	
H.J. Wang, H.X. Liu, Z.B. Shen, W. Li, Y.Y. Zheng and X. Wang	1305
Preparation and Properties of Knitted Coated Fabric with Flame Retardancy	
J.F. Di, J. Xu and W.Q. Du	1313
Temperature Field and Its Influencing Factors of Heavy Rail during Quenching	
J.Y. Kong, S.Q. Xu, G.F. Li, J.T. Yang, H.G. Xiong and G.Z. Jiang	1318
Effect of Catalytic Material in Environment Pollution Treatment	
L.N. Zhu, Y.J. Wang and L. Zhang	1323
Development of a New Rotary Solar Photocatalytic Reactor	
X.H. Sun, J.Q. Cheng and L. Sun	1327
Development and Utilization of Database on Corrosion of Ocean Engineering Materials and Structures	
Z. Li, L.J. Yao and X.Y. Tong	1331
Searching of Critical Slip Surface of Slope Based on Bionics Algorithm	
W. Gao and L.Y. Zhang	1335
Studies on the Relationship between the Speciation Distribution and Si/Fe Ratio of Poly-Silica-Ferric-Chloride	
J. Shi, Q. Liu and D.S. Wang	1339
Friction and Wear Behavior of Sucker Rod and Tubing String in the Presence of Oil Field Wastewater as the Lubricating Medium	
H.X. Wang, N.H. Hou and Y.X. Liu	1343
Preparation of Activated Carbon from Blue Coke Powder and its Adsorption Properties of Cr(VI)	
Y.H. Tian, X.Z. Lan, L.B. Li, X.Y. Chen and T.H. Hu	1347
Numerical Study on the Flash Gutter of Forging Die Using Response Surface Methodology	
Y. Zhang, Z.G. An and W. Li	1352
Study on Modelling Random Deterioration Process for Complex Repairable System	
H.J. Zhang, H.F. Zuo and S.H. Zhu	1356

Analysis of Dynamic Characteristic of Numerical Remanufacture Machine's Feeding System	
Q.L. Pu, X.D. Huang and W.Z. Ding	1360
Development and Experimental Investigation of a High Speed Grinding Spindle Equipped with Fully-Ceramic Bearings and Ceramic Shaft	
S.H. Li, Y.H. Wu and L.X. Zhang	1366
Contribution of Phenolics and Flavonoids to Anti-Oxidat Activity and of Ethanol Extract from <i>Eichharnia crassipes</i>	
C.C. Liu, G.L. Zhao, Y.N. Li, Z.P. Ding, Q.G. Liu and J.L. Li	1372
Study on Adsorbing Chromium(VI) Ions in Wastewater by <i>Aureobacidium pullulans</i> Secretion of Melanin	
X.H. Yu, Z.X. Gu, R. Shao, H.X. Chen, X.J. Wu and W. Xu	1378
First-Principles Calculations on Pure and Ga-Doped Anatase TiO₂	
R.Q. Xu, L.F. Yao, L. Li, S. Wang, L.L. Tian and X.L. Fang	1385
Innovative Design of Honeycomb Paperboard Production Process	
S.C. Ma, H.L. Jia and X.B. Liu	1389
The Design of Double Strand Silk Semi-Automatic Machine	
X.Q. Chen, J.X. Su, H. Shen, Z.K. Wang and F. Shao	1393
An Optimal Resource Allocation Method for Aircraft Subassembly System Based on Graphic Ant Colony Algorithm	
J. Zhang, Z.J. Xu and Y. Li	1397
Adsorption of Dyes from Wastewater onto Cross-Linked Chitosan Beads	
X.Q. Guo, L.J. Qu, G.J. Han and Y.N. Sun	1404
A Laser-Imageable Thermo-Sensitive Film Based on Tertiary Amine Oxide-Containing Resin	
Z.X. Li, W.K. Fan and J.L. Pu	1410
Stress Analysis and Life Estimation of Drawing Die with Bi-Materials	
Z. Zheng, H.O. Zhang and G.L. Wang	1415
Mortars with Partially Oxidized Waste Rubber Crumbs	
L.H. Chou	1421
A 3D FEM Methodology for the Full-Scale Air Hammer Bit, Teeth and Rock Contact Analysis	
H.Y. Zhu, Q.Y. Liu, X.H. Xiao and J.J. Jing	1425
Experimental and Theoretical Study on Properties of the Fayalite Mineral in Coal Ash	
M.F. Du, G.L. Lu, T. Zhou, N.P. Hou, Z.X. Zhang, G.H. Wu and Y. Zhang	1430
A 3D FEM Methodology for Air Hammer Bit Design	
H.Y. Zhu, Q.Y. Liu, X.H. Xiao, J.J. Jing and C. He	1435
Catalytic Activity of Ba Doped Ta₂O₅ for Methylene Blue Degradation under Visible Light	
Y.H. Zhao, M. Sun, S.W. Wang, W.M. Tong and X.J. Wang	1440
Growth and Hydrogen Production Characteristics of HPB B49	
L.R. Yue, Y.F. Li, N.Q. Ren, Y.M. Hui and J.Z. Li	1444
Thermal Effects of a Large Scale Bridge Tower Based on Field Measurement	
B. Chen, C.F. Song and J. Zheng	1450
Simulation on Temperature Distribution of Composite Bridge Deck Plate	
B. Chen, J. Zheng and J.P. Wang	1455
On Improvements of Rubberized Concrete with Organosulfur Compounds	
L.H. Chou	1459
Research on the Load Distribution of Throwing Ends in Vertical Shaft Impact Crusher	
F. Zhao, J.M. Zhang, W. Wang and D.R. Duan	1463
A Study on Applying Human-Centered Automation to Network Control Systems in E-Manufacturing	
W.J. Shiang, H. Rau and P.T.B. Huang	1467
A New Magnesium Reduction Jar Materials and Manufacturing Technologies	
P.M. Dong and Z.R. Guan	1471
Monitoring and Diagnosis Technique on Slewing Bearing	
Z.J. Liu and J. Chen	1478
The Mössbauer Spectrum Research of the Lanthanon Compound R₃Fe_{29-x}Cr_x	
H.L. Liu and M. Guo	1484

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

Advertisement

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

Glass-Mold Defective Reduction in Plastic Lenses Manufacturing Process Using Six Sigma Approach	
N. Rojanarowan and T. Senprom	1598
Experiment Study on Safety Evaluation of L245A-Pipe Steel in Wet H₂S Environment	
P. Zhang, L.Q. Chen and Y. Biao	1603
Experimental Investigation and Improvement of Dynamic Performance of High-Speed Grinding Machine	
X.L. Shen, C.G. Ren, Z.M. Pi and D.L. Zhu	1609
On-Machine Profile Measuring System for Grinding Surface of Aspheric Lens	
X.Y. Lei, H. Huang, F. Yang, X.H. Chen and Q. Xu	1613
The Optimal Allocation of Manufacturing Resources Capabilities in Workshop Based on AFSA	
Z.G. Wang	1622
Rapid Manufacturing and Remanufacturing System Based on Robotic GMAW	
Z.Q. Yin, G.J. Zhang, H.H. Zhao and L. Wu	1626
Investigation of the Flow and Heat Transfer around Cylinders at Low Re	
L. Yue, Z.G. Zhang, D.K. Feng and A.V. Mudaliar	1630
Modeling and Simulation of Baseball Sweet Spot	
W. Shi, Y.B. Zhang, T. Zhang, J.S. Li and B.J. Shi	1635
Synthesis and Properties of a Blue Photochromic Diarylethene Derivative	
W.J. Liu, C.M. Zhang, S.Z. Pu and S.Q. Cui	1639
Effect of Ultrasonic Reflection Echo during Polymer Mixing Process	
C.C. Cheng, S.C. Cheng and C.H. Lu	1644
Recycling of Coal Fly Ash for Fabrication of Porous Mullite Composite	
J.M. Lee, T.Y. Yang, S.Y. Yoon, B.K. Kim and H.C. Park	1649
Optimal Design of Self-Sealing Low Friction and Non-Leakage Plunger Pump	
X.T. Han, X.D. Li, Y.L. Wang, C.X. Zhang, J.L. Li, X.J. Sun and J.C. Xu	1653
An Investigation into the Fracture Mechanical Behavior of Bone Cement: Simulation Using Cohesive Zone Models (CZMs)	
X.H. Huang, W.G. Liu, G.Q. Zhao and X.H. Zhao	1658
Optimization of the Multi-Layer Die for Support Shaft	
X.H. Huang, M. Zhang, Y. Wang and X.H. Zhao	1665
Influence of Electromagnetic Field on the Solidification Structure of C90500 Tin Bronze	
B.M. Li, H.T. Zhang and J.Z. Cui	1670
The Effects of Cutting Speed on Continuous Miner Cutting Performance	
Y.L. Cao, X.H. Li and C.X. Chao	1675
Shakedown Analysis of Cylindrical Shells Containing Part-Through External Pit	
X.F. Wang, F. Xing, M.D. Xue and B.Y. Xu	1680
Green Function of a Point Dislocation in Thin Plate with a Partially Debonded Inclusion	
X.F. Wang, F. Xing and N. Hasebe	1684
Carbothermal Reduction of Alumina in a Vacuum	
Y.B. Feng, B. Yang and Y.N. Dai	1688
Design with Caring for Humanity about Comprehensive Training Bed for Medical Rehabilitation	
Y. Ma	1692
Mechanical Performance of Geosynthetic-Reinforced Pile-Supported Embankments	
L. Sun, J.J. Zheng, J. Zhang and Q. Ma	1696
Simulation on Extrusion Comminution Model of Roller Press	
X.W. Cheng, J. Liu, Q.Z. Ding, L.M. Song and Z.L. Wang	1702
Ultra-Hard Bainitic Steels Processed through Low Temperature Heat Treatment	
H.F. Lan, X. Liu and L.X. Du	1708
Intragranular Porous Aluminum Titanate Ceramics with Low Thermal Expansion and High Strength Simultaneously	
G. Xu, W.B. He, Y.Q. Li, Y.G. Wang and G.R. Han	1713
Development of Diagnosis System for Machine Tool Shaft Inspection	
N.K. Hsieh, W.Y. Lin and H.T. Young	1717
N-Doped TiO₂ Nanotubes and its Photocatalytic Activity under UV Light	
Y.W. Dou, X. Feng and C. Yin	1725

