

# Table of Contents

## Preface and Organizing Committee

## Chapter 1: High Performance Structures and Materials Engineering

### Comparison Research on the Structural Elements of Two Business Models with the Different Performance Level

B.L. Hu 1

### An Empirical Study of the Relationships between Information Systems Strategy and Firm Performance

B.L. Hu 5

### Detection for Position of Suspended Transparent Film in the Water

Z.R. Qiu and R. Cao 9

### *Ab Initio* Study of Absorption Spectra in Ultra Small Diameter Single Walled Boron Nanotubes

S.K. Jain and P. Srivastava 16

### Preparations Effects on Amorphous/Nanocrystal Ni-Mo Alloys Structure and Properties

N. Li, C.H. Gao and G.M. Cheng 21

### Recognition of Vehicles on Geometric Morphology

G.F. Qin, Y. Sun and Q.Y. Li 27

### Control Design Applied to a Micro Electro Mechanical System: MEMS Comb Drive

A. Bonato Altran, F.R. Chavarette, C.R. Minussi, N.J. Peruzzi, M.L. Marthins Lopes, L. Barbanti and B.C. Damasceno 33

### Multinodal Load Forecasting in Power Electric Systems Using a Neural Network with Radial Basis Function

A. Bonato Altran, C.R. Minussi, M.L. Marthins Lopes, F.R. Chavarette and N.J. Peruzzi 39

### Molecular Dynamics Simulation of Diffusion Behavior for Thermalplastic Fusion Bonding

Y.B. Sun, Y. Luo, X.D. Wang and Y.Q. Feng 45

### Water Absorbing and Releasing of Lightweight Aggregate and its Influence on Frost-Resistance of Combined Aggregate Concrete

L.X. Gao, L.J. Kong and Y. Ge 51

### Hierarchical Partition Approach with Application on Enterprise Credit Assessment

F.F. Xia and Q.F. Zhou 57

### Comparison Research on Determination of Contact Loads with Finite Element Method and Mode Superposition Method

Y.Q. Yang and L.L. Xie 62

### Erosion-Resisting Properties for Chloride Ion of Short-Chopped Basalt Fiber Reinforced Concrete

J.Z. Zhang, H.T. Liu, Z.Q. Fu, L.Y. Wang and S.B. Zhou 66

### Study on the Preparation of Chitosan/PVA Sustained - Release Microspheres

J.X. Yu and Q.S. Shi 71

### Preparation of Palladium Nano-Particles by Electrosinning and its Application in Hydrogenations

J.X. Yu and T.Q. Liu 75

### A Study on Soft Water Attack Resistance of Concrete

D.M. Liu 79

### Study of Fracture Behaviors of 20g Steel under Short Period High Temperature and Thermal Shock Condition

N.C. Chen, P. He, T.Y. Chen and Y.J. Shen 84

### Preparation and Characterization of (HAp/SiO<sub>2</sub>)/Ti Biocomposites

X. Zhang, Z.M. Xiu and X.W. Li 88

### Temperature and Strain Rate Dependence of Deformation Microstructures of AZ31 Magnesium Alloy under Uniaxial Tension

W.P. Deng, Z.F. Gao and X.W. Li 93

### Microstructural Characterization of “New” 2.5D Woven Reinforcement Materials

D.T. Zhang, Y. Sun, W. Hai, L. Chen and N. Pan 97

<b>Crack Growth Direction Analysis Based on Elastic-Plastic Property of Material</b> Z.P. Yin, J. Zhang, J. Guo and Q.Q. Huang	101
<b>Effect of Elevated Temperature on the Flutter Characteristics of FGM Panel</b> Y. Gao, Z.C. Yang and J. Xie	107
<b>Experimental Study on Mechanical Properties of High-Strength Concrete Using Blast Furnace Slag Fine Aggregate</b> D.S. Shi, Y. Masuda and Y.R. Lee	113
<b>A Novel Transient Improvement with Overshoot Suppression</b> Y. Ding, X.H. Luo, M.Y. Wan and M.Y. Liu	119
<b>Structural Deformations Analysis of Carbon Filament-Wound Composite Pressure Vessels under Internal Pressure</b> X.T. Zheng, X.Y. Fan, T.J. Qu, L.H. Gou and Y. Cheng	125
<b>Fracture Behavior and Crack Growth Rate of Al-Li Alloy Friction Stir Welded Joints</b> Y.E. Ma	131
<b>Seismic Reaction Analysis on High-Rise Isolated Structure with Multi-Tower</b> N. Zhao, K. Ma, S.X. Tang, B.L. Chen and T. Li	137
<b>Study on Tear Propagation of a Fabric Laminate in Biaxial Stress</b> D.X. Liu, Z. Jia, J. Hu, P.F. Guo and Y.P. Ma	147
<b>Prepared and Microwave-Absorption Properties of SiC Coated Ni Nanocapsules</b> G.M. Shi, J.B. Zhang, S. Lian and L.S. Chen	152
<b>A New Design of Inflatable and Lightweight Device for Planetary Exploration</b> L.B. Liu, D.X. Liu and M.Y. Lv	158
<b>Synthesis and Characterization of Ti, Fe-Doped Mullite-I</b> L.X. Tong, J.H. Li and J. Cao	163
<b>Synthesis and Characterization of Ti, Fe-Doped Mullite-II</b> L.X. Tong, J.H. Li and J. Cao	169
<b>Comparative Study on HPC Mix Design Methods</b> L. Fan, L. Zhang and F.H. Li	175
<b>Evaluation of Fatigue Properties for Ultraviolet Radiation Aged Bitumen and Mixture</b> S.P. Wu, J. Han and X. Liu	181
<b>Dynamic Response Analysis of Stress Intensity Factors of Reflective Cracking in Asphalt Overlay Suffer Wheel Load</b> B. Yang, Q.S. Huang, X.W. Qiu and H. Xu	187
<b>Research of the Sensitivities of Fracture Strength of Porous Ceramic Materials to the Relevant Parameters</b> W.G. Li, R.Z. Wang, D.Y. Li and D.N. Fang	191
<b>Screw Inspection Optimized System Design and Implementation</b> Y.K. Liu, T. Cai and S.G. Ju	196
<b>Study on the Energy Saving Control of Groundwater Source Heat Pump Air Conditioning System Based on Integrated Optimization Viewpoint</b> Z.W. Wang, L. Shi, P. Li and W. Cao	202
<b>Fuzzy Comprehensive Assessment Methods on the Multi-Objective Decision of Hot Water Supply System Plans of Residential Buildings</b> Z.W. Wang, J.F. Zhao and Z.J. Gao	206
<b>An Enhanced Luminescent CdTe/ZnS Core-Shell Quantum Dot: Synthesis, Characterization, and its Optical Properties</b> S.C. Xu, Y.Q. Yang, Y.S. Liu, H. Miao, M. Dong, J. Yang, J.M. Zhang, Z. Dai, G. Zheng, B. Sun, S.Q. Sun and Z.Z. Jiang	212
<b>Preparation and Characterization of the Core/Shell Structured of CdTe/Ni Fluorescent-Magnetic Particle</b> S.C. Xu, Y.Q. Yang, Y.S. Liu, H. Miao, M. Dong, J. Yang, J.M. Zhang, Z. Dai, G. Zheng, B. Sun, S.Q. Sun and Z.Z. Jiang	216
<b>Study on Statistical Damage Constitutive Model of Rock Basing on Thermodynamics</b> W.L. Liu and L.D. Wei	220
<b>Study on the Method of Designing Sound Absorption Model by Multiple-Layer Structures each Layer's Natural Impedance</b> S.H. Zhou, W.C. Zhang and A.L. Jiang	226
<b>A Computational Algorithm for a Spatial Serial Robot</b> X.G. Huang	233

<b>Influence of Quenching Parameters on Mechanical Properties of 7075 Aluminum Alloy</b> D.Q. Shi, Z.W. Gao, G.L. Gao, X.D. Wang and H.Y. Tang	238
<b>Investigation on the Bonding Mechanism of M42 Powder High-Speed Steel and 45 Steel</b> H. You, X.R. Wang, C. Liang, X.Q. Ding, X.Y. Han and J.F. Xu	243
<b>Magnetic P(St-MA) Microspheres Preparation, Characterization and Interaction with BSA</b> L. Ding, X. Li and C.C. Zhang	249
<b>The Analysis and Research on the Reliability of Concrete Pavement</b> Z.Q. Zhang and Z.G. Yang	256
<b>Study on Management Control Auditing on Construction Project</b> X.Y. Wang and S.Y. Fan	262
<b>The Risk Assessment and Control Technology to Engineering Schedule</b> X.Y. Wang, T. Liang and S.Y. Fan	268
<b>The Effect of POSS-NH<sub>2</sub> on the Curing Reaction of Cyanate Ester Resin</b> Z.P. Zhang, J.Z. Pei, S.F. Chen, H.Z. Du and Y. Wen	274
<b>Mechanical Properties and Micromorphologies of Methyl- Silsesquioxane/Cyanate Ester Resin Organic-Inorganic Hybrids</b> Z.P. Zhang, J.Z. Pei, S.F. Chen, Y. Wen and H.Z. Du	280
<b>Evaluation of Mechanical Properties of Wollastonite/SBR Composite</b> X.H. Meng, Y.H. Zhang, F. Wang, Z.L. Zhang, R. Zhang, F.Z. Lv and F.S. Zhou	286
<b>Improvement the Elongation at Break of Reclaimed Rubber</b> X.H. Meng, Y.H. Zhang, F. Wang, Z.L. Zhang, R. Zhang, F.Z. Lv and F.S. Zhou	290
<b>UV-Curable Organic-Inorganic Hybrid Films Based on Epoxynorbornene Linseed Oils</b> J.Y. He, J.P. Xiong and B.Q. Xia	294
<b>Theoretical Prediction and Experimental Research on the Tensile Strength of GF-TPU Composite</b> J.Y. He, M. Ming and K.J. Wang	300
<b>Study on the Lipid-Lowering Effect of Water-Soluble Chitosan Nanoparticles and Microspheres <i>In Vitro</i></b> B. Gao, S.H. Wu, H.L. Zhang, Y. Tao and Z.Q. Su	306
<b>Influence of RE/Mn (RE= La, Nd and Gd) Ratios on the Infrared Absorption and Emission Properties of Co-Zn Ferrites</b> Y. Zhang and D.J. Wen	311
<b>Testing Study on Ratio of Crack Widths on Two Sides of Protective Covering of Steel-Lined Reinforced Concrete Penstock</b> H.F. Deng, J. Guo, M. Zhu, T. Lu and J.F. Zhou	317
<b>Characterizations of Plating Structures and Electromagnetic Shielding Properties of the Micron-Sized Flaky Silver-Coated Copper Powder</b> D.G. Guan, C.M. Sun, J.H. Lin, Y. Sun, G.L. Xu and T. Lei	321
<b>Study on Job Shop Scheduling Optimization with Multi-Objective</b> T. Ze, D. Liang and Z. Qun	326
<b>Investigation on Mixed Mode Stress Intensity Factors for Inclined Surface Crack in Finite-Thickness Plates and Parameters Influence</b> W. Xie, S.W. Tu, Q.Q. Huang and Z.P. Yin	330
<b>Image Classification for Steel Strip Surface Defects Based on Support Vector Machines</b> Y.W. Yu, G.F. Yin and L.Q. Du	336
<b>Study on the Application of Viscoelastic Material in Sound Absorption Structure Model</b> W.C. Zhang, S.H. Zhou and A.L. Jiang	341
<b>Study on Integrated Properties of PP Composites Filled with Rice Husks Powder</b> C.X. He, J.J. Liu, P.F. Xue and H.Y. Gu	347
<b>Numerical Simulation Technology for a Full Cycle of Steel Line Pipe Manufacturing Operations</b> V. Aleshin, V. Kobaykov and V. Seleznev	353
<b>Distribution of the Molecule Weight and Grain Size of Medium Temperature Phenol Formaldehyde Resin</b> H. Jian and Y. Guo	359
<b>Flexible and Vibration Characteristics Simulation for the Large Megawatt Size Wind Turbine Blades</b> X.D. Wang, L.C. Wang, X.M. Zhang and J. Feng	363

<b>Synthesis and Characterization of Hierarchical Zeolite with High Mechanical Stability</b> X. Ling, R.L. Zong and B.K. Qiu	368
<b>J<sub>IC</sub> and K<sub>IC</sub> on Characterizing the Fracture Toughness of Small Size Samples</b> X.J. Wan	372
<b>Study on the Structure and Property of Ultra-Fine Denier PET Full Drawing Yarn: Effect of Draw Ratio and Take-Up Velocity</b> F.L. Shen, G.Q. Chen, J.Z. Ding, J.Y. Dai and X.F. Yu	377
<b>A Fuzzy Temporal System and its Characteristic Set Representation</b> G.P. Hu and H.Y. Huang	383
<b>The Asymptotic Homogenization Method of the Settlement Calculation of the Cement-Soil Pile Composite Foundation</b> M.Q. Guo, J. Li, S.C. Ma and Z.L. Liu	390
<b>The Research on Image Segmentation for Fingerprint Identification</b> X.J. Xu and X.Y. Dong	396
<b>Measurement of Dynamic and Static Modulus for Thin Particleboard</b> H.C. Yan, H.J. Zhang, L. Zhu and Y.L. Sun	402
<b>Determining Modulus of Elasticity of Ancient Structural Timber</b> H.J. Zhang, L. Zhu, Y.L. Sun, X.P. Wang and H.C. Yan	407
<b>Noise-Robust Speech Recognition Based on RBF Neural Network</b> X.M. Hou	413
<b>The Influencing Factors in Acoustic Nonlinearity Parameter B/A Measurement</b> S. Chen, H.J. Zhu and P. Yang	419
<b>Scraper Conveyor Dynamic Modeling and Simulation</b> D.S. Zhang, X.H. Liu, J.G. Shi, J. Mao and Z. Li	426
<b>Optimization Research on Structure Improvement of Stirring System for Preparation of Recycled Glass / Aluminum Matrix Composites with Stirring Casting Technique</b> G.N. Yao, K.W. Sun, B.G. Zhang and H.Y. Zhao	431
<b>Improved Thermal Conductivity of Compostie Particles Filled Epoxy Resin</b> X.J. Zhang, Z.D. Lin, B. Li and S.Z. Tan	439
<b>Blast Loads on Concrete Bridges</b> Z.J. Hu and C. Liu	445
<b>Research and Simulation of Routing Protocol in Different VANET Scenarios</b> M.J. Tong, L. Yu, C.H. Shu, Q.F. Dong and F. Gao	451
<b>Effect of Calcium Modification on the Microstructure and Properties of High Speed Steel</b> X.F. Zhou, X.Y. Yin, F. Fang and J.Q. Jiang	457
<b>Study on the Solidification Microstructure of Aluminum Alloyed High Speed Steel</b> X.F. Zhou, X.Y. Yin, F. Fang and J.Q. Jiang	463
<b>The Maximum Detection Thickness for Flatness Detecting System of Hot Rolled Strip</b> Z.P. Liu, G.H. Yang and R.Q. Gao	468
<b>Relation Expression and System Design for District Collaborative Design</b> J. Ma	474
<b>Analysis of the Research Management System Based on Web Technology</b> L.G. Song and L.X. Qi	480
<b>Research on Hierarchical Evaluation of Information System Agility</b> C. Yi, H.Z. Liao, W. Zhou and J.D. Wu	485
<b>Novolak Type Phenol Formaldehyde Resin from Waste Brown-Rotted Wood</b> G.Y. Li and T.F. Qin	490
<b>Influence of Resin Content on Composite Materials Railway Sleepers for Physical and Mechanical Properties</b> Y. Sun and S.L. Xiao	495
<b>Mechanical Properties of Cement-Free Bauxite Based Castables Bonded by Hydratable Alumina</b> Y. Ding, B.J. Wang and K.Q. Liu	500
<b>Residual Life Assessment for Ferromagnetic Components Based on Metal Magnetic Memory Technology</b> S.K. Ren, Y. Li and X.L. Li	504

<b>Research on Main Performance and Impact Factor of Flakeboard through the Method of Partial Least Square Regression</b> L. Zhao and S.L. Xiao	510
<b>Surface Flashover Performance of Ion-Exchanged Machinable Glass Ceramics Material in Vacuum</b> P. Zhai, X.P. Ma and N. Zheng	516
<b>Comparative Study on the Application of Naphthalene Water-Reducing Agent and Polycarboxylate Water-Reducing Agent in High-Performance Concrete</b> L. Gao, Y. Shi and G.Q. Xu	522
<b>A Platform for Applications in Wireless Body Area Sensor Networks</b> D.Q. Geng, Z. Zhao, Z. Fang, Y.D. Xuan and Y.H. Shi	527
<b>Second-Order Nonlinearity of Organic/Inorganic Hybrid Materials Doped with Organic Chromophore by All-Optical Poling</b> Y.L. Liu, W.J. Wang, J. Wang, X.X. Gao and H. Li	533
<b>The Calculation of Unit Water Use in Recycled Concrete</b> X.H. Liu, Z.L. Liu and X.B. Zhang	539
<b>A Technology of Robot Simulation and Control</b> X.G. Huang	544
<b>All-Optical Poling Properties of the Host-Guest Adulterant Thin-Films</b> X.X. Gao, W.J. Wang, Y.L. Liu and Y. Li	549
<b>Rheological Behavior and Mechanical Properties of PVC/V-POSS Nanocomposites</b> J.G. Gao, Y.G. Du and X. Li	555
<b>UV-Curable Coating of Epoxy-Acrylate/Polyurethane-Acrylate Nanocomposites Modified with V-POSS</b> J.G. Gao, Y.Y. Ma and H.J. Lin	559
<b>Synthesis, Curing and Thermal Properties of Boron-Containing o-Cresol-Formaldehyde Resin</b> J.G. Gao, H.J. Lin and Y.Y. Ma	564
<b>Load Stress Analysis of Airport Pavement Based on Multi-Structural System</b> Z.Y. Wu, J.F. Guan, Z.Q. Lu and J.M. Liu	568
<b>Effects of Heat Treatment on the Magnetic Properties and Dimension Accuracy of Fe-12%Al Soft-Magnetism Alloy</b> J.Y. Sun and J.M. Tang	572
<b>An Agent-Based Dialog System for Adaptive and Multimodal Interface: A Case Study</b> N. Taghezout	578
<b>On the Monotone Matrices over Distributive Lattices</b> J. Jiang, L. Shu and X.A. Tian	584
<b>Research on the Micro-Crack Density of a Chromium Coating/Steel Substrate with and without Laser Pre-Quenching Treatment</b> B.Q. Yang, G.N. Chen and X.J. Chen	591
<b>Fracture Behavior of a Brittle Coating on an Elastic Substrate under Residual Stress</b> B.Q. Yang and P. Li	595
<b>Delay-Probability-Distribution-Dependent Stability Analysis for Stochastic Neural Networks with Mixed Time-Varying Delays: The Discrete-Time Case</b> X. Zhou and S.M. Zhong	600
<b>Effects of Wood Fiber Content on Structure and Properties of WF/PLA Bio-Composites</b> W.J. Guo, F.C. Bao, Z. Wang, L. Chang and L. Gao	606
<b>The Study between Passive Self-Adaptability and DOF of the Rover</b> F. Yang, J.G. Tao and Z.Q. Deng	614
<b>Influence of Friction on Springback of Quadrangle Parts Bending</b> C.J. Su, G.H. Zhang, S.M. Guo, L. Gao and R. Ma	619
<b>Microstructure Development and Properties of HSS-Based Self-Lubrication Composites</b> Y.J. Wang, B. Wang, L.Y. Yang and S.R. Wang	625
<b>Research on the Capability and Application of Flame Retardant Cable</b> Y. Wang	631
<b>Bulk Metallic Glass <math>\text{Ti}_{42}\text{Cu}_{37.1}\text{Co}_4\text{Zr}_8\text{Sn}_2\text{Ag}_2\text{Be}_{4.9}</math> with High Glass Forming Ability and Ductility</b> X.F. Zhang, H.X. Li, Z.Q. Jiang and S.H. Yi	636

<b>Modelling Methods and Error Analysis of Deformable and Non-Deformable Real Particles</b> X. Du, Y.W. Zeng, R. Gao and J. Yan	642
<b>Preparation and Dielectric Properties of Polyimide Nanocomposite Films Based on Hollow Silica</b> Y. Li, Y.H. Zhang, B. Shen and F.Z. Lv	647
<b>Suitability Evaluation of Four Thermal Insulation Solutions in Hot Summer and Cold Winter Zone in China</b> X.R. Hua and X.M. Shen	652
 <b>Chapter 2: Computer Science and Material Science</b>	
<b>Design of early Warning System of Agricultural Products in the Data Warehouse</b> L.J. Zhou, K. Li and X.X. He	656
<b>Optimization Methods to Texture Synthesis</b> Y. Zhao, W.H. Qian, Q. Chen and Z.M. Chen	662
<b>Exponential Stability for Uncertain Switched Neutral Systems with Nonlinear Perturbations</b> X. Liu, S.M. Zhong and X.Y. Ding	668
<b>Effect of Heat Leading of Windward Leading Edge Using Heat Pipe with Porous</b> J. Sun and W.Q. Liu	674
<b>Effect of Carbon Addition on the Microstructure and Mechanical Properties of the <i>In Situ</i> Formed TiAl/Ti<sub>2</sub>AlC Composites</b> J.F. Zhu, W.W. Yang and Y.P. Gong	680
<b>Reactive Synthesis of TiAl/Ti<sub>5</sub>Si<sub>3</sub> <i>In Situ</i> Composites</b> J.F. Zhu, W.W. Yang and S.D. Li	684
<b>Tribological Behavior of Poly(ethylene Glycol)-Carbon Nanotubes</b> X.F. Li, H. Yan and S.X. Peng	688
<b>Effect of Melt Overheating History on the Microstructure of Ni-Base Single Crystal Superalloy</b> M.M. Zou, J. Zhang, B. Li, L.J. Zhu, L. Liu and H.Z. Fu	692
<b>Preparation and Characterization of High-<i>k</i> Copper-Phthalocyanine/Polyimide Composites with Outstanding Thermal Stability</b> J.W. Shang, Y.H. Zhang, Y. Li and F.Z. Lv	697
<b>Data Analysis and Forecast for Aircraft Structure Impact Damage Based on GP Symbolic Fitting Method</b> M.Y. Hou, H.L. Fan and W.L. Zhu	701
<b>Calculation Method of the Horizontal Displacement on the Multi-Grid Composite Wall-Shear Wall Structure</b> Q. Yuan, M. Guo, P.F. Li and Q.F. Yao	706
<b>Research on the Formula of Vibration Period of Multi-Ribbed Composite Slab Structure</b> Q. Yuan, Y.Y. Zhao and H.T. Liu	712
<b>Mechanics Analysis of Beam-Like Space Deployable Truss Mast</b> H.W. Guo, R.Q. Liu and Z.Q. Deng	717
<b>A Study on Out-of-Plane Compressive Properties of Metal Honeycombs by Numerical Simulation</b> M. Li, R.Q. Liu, H.W. Guo and Z.Q. Deng	723
<b>Epoxy Modified Polyurethanes Coated High Modulus Carbon Fiber: Synthesis and Properties Studies</b> Y.H. Tian, Z.Q. Liu, S.M. Kang and X.J. Zhang	728
<b>Risk Assessment of Reinforced Concrete Structure Attacked by Chloride</b> C. Sookoomjariyapong, S. Vongchavalitkul and S. Sayamipuk	734
<b>The Effect of Water-Cement Ratio and Curing Age on the Strength of Recycled Concrete</b> X.B. Zhang, C.G. Kuang and Z. Fang	740
<b>Study on Technology of Filter Made by Engineering Grade Thermoplastic Polyurethane</b> J.M. Zhang	746
<b>Experimental Study on Mechanical Properties of Improved Multi-Grid Composite Wall</b> P.F. Li, Q. Yuan, M. Guo and Q.F. Yao	752
<b>Further Research about Fast Extraction Method of Auditory Brainstem Response</b> J.B. Gui, Y. Sun, W. Gao and R.J. Gao	758

<b>Research on the Relationship between Temperature and Dimension of Large-Scale Forgings in Manufacturing Process</b> Y.C. Zhang, S.S. Yang, X.B. Fu and Y.D. Qi	763
<b>4-Substituted Benzoic Acids Functionalized Multi-Walled Carbon Nanotubes in Mild Polyphosphoric Acid/Phosphorous Pentoxide</b> H.H. Liu, N. Wang, L.C. Hou, W.W. Peng, Y.M. Jin and X.X. Zhang	768
<b>Study on a New Formula for Rust Remover</b> X.H. Wang	774
<b>Theoretical Study of an Axial Pumping Baffle Seal for Reactor Coolant Pumps</b> X. Liu, X.D. Peng and X.K. Meng	777
<b>The Effects of Annealing Temperature on the Microstructure and Properties of Cold-Rolled 5083 Aluminum Alloy</b> Z.H. Bai and B.H. Luo	784
<b>Study on Properties of Artificial Cylindrical Ice</b> L.Y. Zhang, H. Chen, J. Yao and K. Chen	790
<b>Fluid Hydrodynamics in a Single Inlet and Multi-Inlet Hollow Fiber Module</b> Y. Wang, H.F. Zhang, Y.S. Zhang, Y. Yao, W. Liu, S.B. Gao, R.H. Cai and D. Wu	796
<b>Research on the PVDF Hollow Fiber Gas Membrane Used for Bromine Extraction</b> Y. Yao, W. Liu, H.F. Zhang, R.H. Cai, Y. Wang, S.B. Gao, D. Wu and Y.S. Zhang	802
<b>Identifying the Sentiment in Domain-Independent Chinese Sentences</b> M.W. Si, M.C. Su and J.Y. Wang	808
<b>Study on Precipitation Behavior of High Strength Steel Plate Strengthened Complexly by Titanium and Molybdenum</b> H.B. Wang, S.L. Li, L. Li and P.C. Ma	812
<b>Case Study on CDIO-Based Engineering Education Mode through College-Industry Linkages</b> W.W. Ye and W. Lu	819
<b>A Design of Amplifying Circuit Based on Pt Resistance Strain Pressure Sensor</b> Y.H. Shi, Z. Zhao, Z. Fang, D.Q. Geng and Y.D. Xuan	824
<b>Chloride Penetration Capacity in NPP Structures Caused by Crack</b> K.B. Kim, D.G. Kim and J.H. Lee	830
<b>The Optimal Application of GA-Improved Wavelet Network in Optical Fiber Sensor</b> H. Zhao	835
<b>Automatic Inspection and Classification for Casting of Tractors Chassis Based on Machine Vision Recognition Technology</b> H. Zhao	841
<b>Autoclaved Brick from Semi-Dry Desulfuration Ash</b> H. Li, F.Q. Zhao, Q. Li, L.L. Fu and S.J. Liu	846
<b>Mechanical Performance of a New Coir Fiber Laminated Composites</b> J. Yao, Y.C. Hu, W. Lu and J. Li	852
<b>Non-Destructive Testing and Performance Analysis of Glass Fiber Reinforced Soybean Straw Particleboard</b> W. Lu, Y.C. Hu, J. Shen and J. Yao	856
<b>A New Approach in Testing and Evaluating Micro-Cracking Performance of Electroplated Diamond Film (EDF)</b> Y. Wu, M.Q. Sun and Z.Q. Li	860
<b>Flaking Failure in Silicon Nitride under Reciprocating Rolling Contact Fatigue</b> K. Kida	866
<b>Effect of Frequency on Fatigue Cracks of Silicon Nitride Balls under Cyclic Loads</b> K. Kida, J. Koga, E.C. Santos and T. Honda	874
<b>Research on Strength Calculation Model of 7A05 Aluminum Alloy Welding Heat-Affected Zone</b> K.B. Jiang, Y. Ding, Y.W. Liu and F. Zheng	880
<b>Case-Based Reasoning Based on Good-Point-Set Genetic Algorithm and its Application</b> R.Y. Jia, Z.H. Jia and J.W. Geng	886
<b>Effect of Sliding Speed on Wear Property of <math>\text{Al}_2\text{O}_3\text{-SiO}_{2(\text{sf})}</math> / AZ91D Composite</b> G.J. Liu, X. Ning, W.Q. Zhang and Z.T. Yu	893

<b>Optimizing of Deposition Speed of Electroless Nickel Plating Coating</b> G.J. Liu, W.Q. Zhang, Z.T. Yu and X. Ning	897
<b>Stability Analysis of Switched Systems with Mixed Delayed and Nonlinear Perturbations</b> X.Y. Ding, L. Shu and X. Liu	901
<b>Parameter Identification for the Dynamic Load Modeling Based on Denoising Method of the Measurement Data</b> L.D. Wang, J.F. Tang and J.S. Shi	907
<b>First-Principles Investigation about the Plastic Property of Doping Ni in Ir Solid Solution System</b> R. Chen, J.C. Chen, J. Yu, W.T. Lu and J.H. Xue	911
<b>Fuzzy Iterative Learning Control of Servo System</b> H.L. Liu, Q.X. Zhu and X.W. Chen	917
<b>Stability, Electronic and Magnetic Properties of <math>\text{Ca}_3\text{Ru}_2\text{O}_7</math></b> J.H. Xue, J.C. Chen, J. Yu, J. Feng, Y. Pan, R. Chen and W.T. Lu	924
<b>Study on Electronic Structure and Optical Property of Silicon Doped with Transition Metal by First Principles</b> J. Yu, J.C. Chen, Y. Pan and R. Chen	930
<b>Effect of Ball Milling on Mechanical Properties of Graphite/Copper Matrix Composites</b> Y.P. Jin and M. Hu	936
<b>Thermal Stability of Graphite/Copper Nanocrystalline Composite Powders Prepared by High Energy Mechanical Milling</b> Y.P. Jin and M. Hu	941
<b>Numerical Simulation of Vertical Extrusion Process of Large-Sized Seamless Steel Tube with Thick Wall</b> J. Zhang, X.L. Wang, J.H. Song, X.Q. Jin and Z.H. Wang	946
<b>Influence of Extrusion Ratio on Forming of Thick-Walled Tube</b> J. Zhang, J.H. Song, X.L. Wang, X.Q. Jin and Z.H. Wang	952
<b>Influences of Strain Rate and Deformation Temperature on Flow Stress and Dynamic Recrystallization of Heat Resistant Steel P91</b> X.Q. Jin, D.S. Bi, J. Zhang, X.L. Wang, J.H. Song and Z.H. Wang	958
<b>Relation between 3 Dimension Interface Topography and Residual Stress in Thermal Barrier Coatings</b> Z.Y. Han and H. Wang	964
<b>Effect of Trace Ni, Al and Cr on the Surface Film Structure of Sn-Pb Liquid Alloys</b> G.S. Gan, C.H. Du, Y. Luo, F. Chen and B. Yang	969
<b>Longitudinal Interaction between Welded Turnout on Continuous-Slab-Track and Bridge</b> R. Chen, W. Ping and W.H. Zhao	976
<b>Influence of Cyclic Heat Treatment and Oxygen Content on the Rolling Contact Fatigue of JIS SUJ2 Bearings</b> E.C. Santos, K. Kida, T. Honda, J. Rozwadowska, K. Houri and K. Hashimoto	982
<b>Wear Resistance Improvement of Titanium Bearings by Laser Gas Nitriding</b> J. Rozwadowska, K. Kida, E.C. Santos, T. Honda, H. Koike, Y. Kashima and K. Kanemasu	988
<b>Secure Distributed Computation in the Exponent</b> H. Wang and S.M. Wei	994
<b>The Effect of Interface Damage on Macroscopic Constitutive Behavior of Composite Materials</b> C.B. Ma and H.F. Qiang	1001
<b>The Extraction Processes and Biological Characteristics of a New Generation Demineralized Bone Matrixes</b> Z.Y. Zhou, L.J. Zou, H.S. Li, C. Bunger and X.N. Zou	1006
<b>Efficiency Measurement of Bionic Propulsion</b> Y. Liu, W. Jiang, Z.S. Jing, X.Y. Su and M. Lu	1014
<b>Operational-Mission-Oriented Method for Equipment Support Resource Verification</b> L. Chen, Y.L. Yu, Z.P. Shu, D.D. Li and Y. Li	1020
<b>Design on the Testing System of the Towing Tank</b> G.N. Li and X. Guo	1026
<b>Prediction of Oilfield Cementing Quality Based on Levenberg-Marquardt BP Algorithm</b> Y.X. Wang and S.H. Zhou	1032



<b>Calibration of Pipe Friction Factor Based on Improved Genetic Algorithm</b> R.F. Zhou and Y.X. Wang	1036
<b>Suspended Load Prediction on Sucker Rod Suspension Load Based on Artificial Neural Network</b> R.F. Zhou, L. Bai, K.X. Dong and Y.X. Dai	1040
<b>Fastest Complete Vehicle Routing Problem Using Learning Multiple Ant Colony Algorithm</b> S.Y. Wen and Y. Li	1044
<b>Effects of Plasma Nitriding and TiN Coating Duplex Treatment on Wear Resistance of Commercially Pure Titanium</b> Y. Tong, T.W. Guo, J. Wang, H.F. Liang and M. Qian	1050
<b>Practices and Research on Goal Setting of Software Performance Engineering</b> M. Xu and M.Q. Fang	1056
<b>Forward Displacement Analysis of a Parallel Manipulator</b> X.G. Huang	1061
<b>Study on Glass Transition Temperature of Polyvinylamine Hydrochloride</b> H.C. Zhao, Q. Li, L.B. Bai and F. Huang	1066
<b>The Structure, Morphology and Catalytic Performance of a Silica Supported Cu Catalyst for Ethylene Glycol Synthesis</b> L.J. Zhu, S.R. Wang, X.L. Ge, X.B. Li and Z.Y. Luo	1070
<b>3ACare: A Wireless Body Sensor Network for Health Alert and Monitoring</b> Y.D. Xuan, Z. Zhao, Z. Fang, D.Q. Geng and Y.H. Shi	1075
<b>Experimental Research on Thermal Mechanical Behavior of Recycled Aggregate Concrete from Earthquake-Stricken Area</b> H.Q. Yan, Y. Peng and Q.Y. Wang	1081
<b>Localization and Path Planning of Intelligent Wheelchair Based on Data Fusion</b> Y. Luo, S. Shao and Y. Zhang	1086
<b>Dynamic Modeling of the Capture Process of Snare Space Grapple Device</b> L. Li, Z.Q. Deng and B. Li	1093
<b>Research on the Microstructure of Solid FeS by TEM</b> L.N. Zhu, C.B. Wang, H.D. Wang, B.S. Xu, J.J. Liu and G.L. Li	1098
<b>Structure and Tribological Behaviors of Synthetic MoS<sub>2</sub> Film Prepared by a Novel Compound Method</b> L.N. Zhu, C.B. Wang, H.D. Wang, B.S. Xu, J.J. Liu and G.L. Li	1102
<b>A New Optimization Algorithm for Identification of Material Parameter</b> Y.H. Lv, X.T. Feng and J.Y. Liu	1108
<b>Preparation and Characterization of FeS Film by Low Temperature Ion Sulfurizing Technique</b> J.J. Kang, C.B. Wang, H.D. Wang, B.S. Xu, J.J. Liu and G.L. Li	1113
<b>Research on the Tribological Property of Synthetic Multilayer MoS<sub>2</sub>/FeS Film under Dry Condition</b> J.J. Kang, C.B. Wang, H.D. Wang, B.S. Xu, J.J. Liu and G.L. Li	1117
<b>Effects of Homogenization on Microstructures and Mechanical Properties of as Cast AZ91 Mg Alloy</b> J.W. Liu, S.Q. Lu, X.J. Dong and X. Xiao	1123
<b>The Preparation and Properties of Rice Straw/Starch Composites</b> J.J. Liu and C.X. He	1129
<b>The Effects of Bonded Retarder on Fatigue Crack Growth in 7085 Aluminium Alloy</b> Y.E. Ma, B.Q. Liu and Z.Q. Zhao	1135
<b>Research on the Multimedia Order System in Catering Services</b> Y. Jiang and Q.W. Zhang	1141
<b>Design and Implement of Sharable Multi-Channel On-Chip Memory for Embedded CMP System</b> C.X. Liu, Z.B. Zhang, F.Q. Wei and X.D. Xu	1147
<b>Experimental Investigation into the Buckling Behavior of an Advanced Grid Stiffened Plate by a Fringe Projection Profilometry System</b> M.F. Ren, Q.Z. Huang and H.R. Chen	1153
<b>Poly(aryl Imino Sulphone)s as Novel High Performance Polymers</b> G.J. Chang, L. Zhang and R.X. Lin	1159

<b>Synthesis of a Low-Density Copper Oxide Monolithic Aerogel Using Inorganic Salt Precursor</b>	
Y.T. Bi, H.B. Ren and L. Zhang	1165
<b>Mechanical Properties of PVC/ABS Composite Material</b>	
W.W. Qiao, H. Wang, Y.H. Zhao and Y.X. Han	1170
<b>Effect of Refining Slag on the Inclusions of Hard Wire Steel during Melting Process</b>	
Y. Li, Z.H. Jiang, S.Y. Yin, Y. Zhuang and M. Li	1174
<b>Influence of Cold Working and Grain Size on Pitting Corrosion Resistance of Ferritic Stainless Steel</b>	
H.B. Li, Z.H. Jiang, Q.F. Ma and Z. Li	1180
<b>Simulation and Calculation to Segregation of High Nitrogen Steels Solidification Process Based on PROCAST Software</b>	
W.M. Li, Z.H. Jiang and H.B. Li	1185
<b>The Effect of Pressure and Pore-Forming Agent on the Mechanical Properties of Porous Titanium</b>	
P. Zhang, Y.C. Qi and W. Li	1191
<b>Analysis on Steady Temperature of Honeycomb-Core Panel Based on Coupled Aerothermal Heating and Honeycomb Conduction</b>	
W. Liang, Y. Fu, Z.Q. Liu, L.L. Yang and H.C. Mai	1197
<b>Characterization and Possibility of Coconut Filter Fibers as Reinforcement for Polymers</b>	
N.P.G. Suardana, A. Abdalla, H.C. Yoon, J.G. Cui, D.Y. Jung and J.K. Lim	1202
<b>Study on the Compression Properties of Epoxy Matrix Composites Reinforced by PES Warp-Knitted Spacer Fabric</b>	
F.L. Huo, G.L. Zhang, J.L. Li, G.W. Chen and L. Chen	1208
<b>Controlled Hydrothermal Synthesis of ZnO Nano and Microstructure Materials with Photocatalytic Properties</b>	
H.Q. Wang, H.B. Li, Y.C. Wang, H. Wang, W.X. Zhao, H. Huang, C.L. Liang, Y.J. Deng and Y. Liu	1212
<b>OWL-Based Description for Agent</b>	
G. Wang, J. Lin, Q.Q. Long and Z.J. Hu	1218
<b>Influence of Mixing Time on Workability and Strength Properties of Concrete in Different Consistency</b>	
D. Fang, M.K. Zhou and H.G. Wang	1224
<b>Preparation of Refractory Castable for High-Temperature Zone of the Alumina Kiln</b>	
X.X. Cao, J.G. Liao, X.F. He, L.L. Zhu, R.N. Wang and Q. Ma	1229
<b>Preparation and Properties of ZnTiNb<sub>2</sub>O<sub>8</sub> Microwave Dielectric Cramics</b>	
Y. Lei, Y.S. Yin and Y.C. Liu	1235
<b>Preparation of Bio-Degradable Polyurethane Foams from Liquefied Wheat Straw</b>	
Q.L. Chen, R.Y. Li, K.W. Sun, J.C. Li and C.H. Liu	1239
<b>Effect of Interface Improving on Morphology and Properties of Coir Fiber/LLDPE Bio-Composites</b>	
H.S. Tan, Y.Z. Yu and J. Zhang	1245
<b>Damping Properties of Viscoelastic Stiffened Laminated Cylindrical Shells with an Unconstrained Fiber-Reinforced Layer</b>	
S.H. Yang, A.W. Wang, J. Wu and F. Huang	1249
<b>Effect of Anode-Cathode Spacing on Anodic Formation of Self-Organized TiO<sub>2</sub> Nanotube Arrays</b>	
S.K. Liu, H.B. Yang, H.S. Zuo and W.J. Zou	1255
<b>Influence of Radial Load on PEEK Plastic Bearings Life Cycle under Water Lubricated Conditions</b>	
H. Koike, T. Honda, K. Kida, E.C. Santos, J. Rozwadowska, K. Houri, M. Uryu, Y. Kashima and K. Kanemasu	1260
<b>Effect of Repeated Induction Heating on Fatigue Crack Propagation in SAE 52100 Bearing Steel</b>	
H. Koike, E.C. Santos, K. Kida, T. Honda and J. Rozwadowska	1266
<b>Effect of Finishing on the Structure and Filtration Property of PPS Filter</b>	
B. Yu, J. Han, Q. Zhang, X.B. He and G.P. Xu	1272
<b>Temperature Effect on Microstructure and Mechanical Behavior of Ti-15V-3Cr-3Al-3Sn</b>	
R.T. Huang, W.H. Chen and L.W. Tsay	1277

<b>The Effect of Notch Processing on Fracture of High-Carbon Steel (C70S6)</b> Y. Zhao, S.H. Yang and Q.F. Zheng	1283
<b>Developed Machine Learning Technology and its Application on Electric Power System</b> H. Zheng, L. Xie and L.Z. Zhang	1289
<b>Intelligent Simulation Method and its Application on Risk Analysis</b> H. Zheng, L. Xie and L.Z. Zhang	1293
<b>Localization of Partial Magnetization around Artificial Slits in Square Bars of Medium Carbon Low Alloy Steel JIS S45C</b> M. Uryu, K. Kida, T. Honda, E.C. Santos and K. Saruwatari	1297
<b>Structural Strength Evolution of Soil under Dynamic Load</b> X.D. Zhang, Y.B. Bai, C.Y. Lan and J.J. Zhang	1303
<b>The Higher Order Asymptotic Fields for Anti-Plane Oblique Crack with Physical Weak-Discontinuity</b> Y. Dai, S.M. Li, P. Zhang and X. Chong	1309
<b>The Higher Order Asymptotic Fields for Plane Interfacial Crack with Physical Weak-Discontinuity</b> Y. Dai, L. Zhang, P. Zhang and J.F. Liu	1314
 <b>Chapter 3: Materials Engineering and Industry Application</b>	
<b>The Crack-Tip Fields of Reissner's Plates of Radial Functionally Graded Materials</b> Y. Dai, J.F. Liu and P. Zhang	1319
<b>Research on Automatic Monitoring System with Measurement Robot</b> Y.H. Mi, L.X. Liu and L.F. Lai	1324
<b>ECG Application to Remote Care System via Web-Based and Graphics Interface</b> W.T. Sung, J.H. Chen and Y.C. Chiang	1330
<b>Powder Metallurgical Processing of Ti6Al4V Alloy</b> N. Liu, Z. Li, H. Yuan, W.Y. Xu, Y. Zhang and G.Q. Zhang	1336
<b>Intelligent Flexible Reform Technology of Logistic Unified Information System Based on Internet of Things</b> X.Z. Lin	1343
<b>Logistic System Information Perception Model Building in the Environment of Internet of Things</b> Y.L. Yang	1349
<b>Research on Information Security Evaluation of Internet of Things Electronic Commerce Based on AHP</b> M.Y. Huang	1355
<b>Research on the Key Technology of Polynaphthalene Sulphonate Preparation</b> Y. Li	1361
<b>Research on EEG Identification Computing Based on Photo Images</b> Z.D. Mu and J.F. Hu	1366
<b>Analysis of Powder Segregation in Powder Injection Molding</b> Y.H. Wang, X.H. Qu, W.F. Zhang and Y. Li	1372
<b>Experiment on the Bending Performance of Sea Sand Concrete Beam under the Artificial Climate Environment</b> H.L. Lv, Y.L. Song and Y. Li	1380
<b>Experiment on Bending Performance of Double Mixing HPC Concrete Beam under the Artificial Climate Environment</b> H.L. Lv, J. Qian, Y.S. Yi, Y. Li and X.W. Zhu	1385
<b>Subwavelength Plasmon Microcavity Based on the Indefinite Metamaterial Waveguide</b> L.W. Zhang, Y.C. Lou, Y.H. Zhao, Q. Wang, W.T. Qiao and L.X. Li	1392
<b>Chinese Date Grading Based on Machine Vision</b> F.J. Wang and Y.M. Zhang	1398
<b>A Knowledge Simplification of a Uncertain System Based on Information Consistency</b> H.L. Zeng, X.H. Zeng and L. Zhou	1402
<b>The Observation of Changes in the Magnetic Field due to the Crack Initiation under Different Stress Ratio Conditions</b> T. Honda, K. Kida, E.C. Santos, J. Rozwadowska and M. Uryu	1408

<b>Effects of Moduli Differences on Layout Optimization of a Continuum with Multiple Materials</b>	
S. Jiao, Z.Z. Wang and K. Cai	1414
<b>Calculation of the Stress Intensity Factors for Elliptical Cracks Embedded in a Weld under Tensile Loading I Single Crack</b>	
X.Y. Liu, C.F. Qian, H.F. Li and H. Zheng	1419
<b>Calculation of the Stress Intensity Factors for Elliptical Cracks Embedded in a Weld under Tensile Loading II Double Cracks</b>	
X.Y. Liu, C.F. Qian, H.F. Li and H. Zheng	1425
<b>Associated Interpretation of Sub-Bottom and Single-Channel Seismic Profiles from Shenhu Area in the North Slope of South China Sea - Characteristic of Gas Hydrate Sediment</b>	
S.J. Li, F.Y. Chu, Y.X. Fang and Z.Y. Wu	1430
<b>Mechanical Modal and Numerical Simulation of Fracture Process of Block Wall</b>	
Y. Li, X.S. Yin and B. Wang	1438
<b>The Establish and Analysis of the Quenching Residual Stress' Function of the Club-Shaped Metal</b>	
L.X. Zheng, W. Zhao and Y.C. Zheng	1444
<b>Thermokinetic Properties of CTAB on Quartz Surface and its Effects on Surface</b>	
W.D. Liu and L.H. Sun	1449
<b>Burnt Microstructure and Properties of 7003 Aluminum Alloy</b>	
X.M. Chen and R.G. Song	1454
<b>Hardness Prediction of 7003 Aluminum Alloy by Gradient Descent Algorithm in BP Artificial Neural Networks</b>	
J.P. Ren and R.G. Song	1458
<b>Solid-Phase Synthesis and Photocatalytic Property of Cobalt-Doped TiO<sub>2</sub> Mesoporous Materials</b>	
S.Y. Liu and Q.G. Feng	1462
<b>Simultaneous Determination of <i>p</i>-Nitrochlorobenzene and <i>o</i>-Nitrophenol in Mixture by Single-Sweep Oscillopolarography Based on Cascade Neural Network</b>	
S. Duan, S. Xu, X.M. Xu, X. Zhang and C.L. Zhou	1469
<b>Study of Space Big Aperture New Materials Mirror and its Technology</b>	
K.R. Gai, X.T. Niu and T. Fang	1475
<b>Air Compressor Plate Drum's Reliability Analysis</b>	
X.Y. Li and Y.B. Han	1483
<b>Modal Analysis of Shaft Coupling</b>	
X.Y. Li, D.F. Zhang and Y.B. Han	1488
<b>Effect of Electromagnetic Field on the Solidification Structure of Copper-Iron Alloys</b>	
B.M. Li, H.T. Zhang and J.Z. Cui	1492
<b>Modification of Bisphenol A Dicyanate Ester Resin with Poly Vinyl Pyrrolidone (K30)</b>	
J.L. Wang, A.J. Gu and G.Z. Liang	1497
<b>Shear Behavior of Interior Joints with Different Depth Beams in RC Frame Structures</b>	
T. Wu, X. Liu, G.H. Xing and B.Q. Liu	1504
<b>Thermal-Structure Coupling Numerical Simulation of a Special-Type Plug Nozzle</b>	
B.Y. Zhang and W.Q. Liu	1510
<b>Tobacco Pest Monitoring Feasibility Analysis Based on RS</b>	
M. Wang, X.J. Li, Y.Y. Lu and S.L. Guo	1516
<b>DYNA Numerical Experiment on Long-Term Stability of Strip Pillar in Deep Mine</b>	
C.Q. Wang, S.B. Gu, Z.J. Wei, B. Li and S.J. Chen	1520
<b>Experimental Study on Melting Characteristics of Spherical Capsule Packed Bed Latent Heat Storage Material System</b>	
H.T. Cui	1525
<b>Analysis on Thermal Fatigue Fracture on Engine Exhaust Manifold Based on ANSYS</b>	
C. Lu	1531
<b>Wireless Granary Temperature and Humidity Monitoring System</b>	
C. Lu	1536
<b>Effect of Press on Thermal Contact Resistance</b>	
H.M. Huang and W. Jiao	1541

<b>Study on Anti-Seismic Performance of Steel Storage Shelves</b> H.M. Huang and W. Jiao	1547
<b>The Fabrication of Highly Ordered TiO<sub>2</sub> Nanotube Arrays and their Application in Dye-Sensitized Solar Cells</b> H.M. Xu, Y. Liu, H. Wang, W.X. Zhao, H. Huang, C.L. Liang, Q.H. Ye, M. Li, Y.J. Deng and H. Shen	1553
<b>How to Protect Brand Equity in Product Harm Crisis by Appropriate Response?</b> Z. Fang, P.F. Ji, X.J. Li, Y. Yang and J. Cai	1559
<b>A Improved Chan Algorithm Basing on Particle Filtering in NLOS Environment</b> Z.Q. Wang, Y.S. Zhu and N. Liu	1564
<b>Synthesis of Porous Molybdenum Disulfide Materials with High Specific Surface Area Using Sodium Chloride as the Template</b> G.J. An, C.H. Xiong, C.B. Lu and Z.J. Chen	1569
<b>Electrochemical Impedance Spectroscopy Study of the Effect of Curing on Property of Vinyltriethoxysilane Films on Carbon Steel Surfaces</b> X.M. Zhang, L.J. Huang, Y.J. Ying and C.M. Liu	1574
<b>The Relationship Analysis of Surrounding Rock Stability and Continental Sedimentary Environment</b> C. Liang, C. Zhang, N.J. Ma, M.M. Wen and C. Li	1580
<b>Crush Behavior of Corrugated Cores Sandwich Panels</b> Y.C. Zhang, S.L. Zhang and Z.L. Wang	1584
<b>Study on Key Technique of Reconfigurable CNC System</b> G.F. Zhu and Y.L. Zhang	1590
<b>Study on Simulation Signals of Blasting Seismic Waves Based on Technology of Wavelet Analysis</b> H.X. Wei	1595
<b>Compatibility of Polyethersulfone/Polycarbonate Blends</b> D. Jiang, X.R. Zhang, Y.M. Ma and C.Y. Ma	1601
<b>Properties of Random PSF/PES Copolymers as High-Performance Polymers</b> D. Jiang, X.R. Zhang, Y.M. Ma and C.Y. Ma	1606
<b>Preliminary Investigation of Polyethersulfone/MCM-224956 ‘Family’ Zeolites Composite</b> D. Jiang, X.R. Zhang, C.Y. Ma and H.S. Wang	1611
<b>Structural Optimization of an Inertially Stabilized Platform for Aerial Remote Sensing Systems</b> X.Y. Zhou, R.X. Yu, D.P. Li and J.P. Li	1615
<b>Pseudo-Potential Calculations of Structural, Elastic and Thermal Properties of Si<sub>3</sub>N<sub>4</sub></b> B.H. Yu, D. Chen and Y.L. Jia	1619
<b>Reasons and Prevention Measures of Crack at the Bottom of the Extruded Magnesium Alloy Tube</b> M. Meng, Z.M. Zhang and Y.B. Yang	1625
<b>Research of Microstructure and Property of Laser Alloying on the Surface of P20 Steel Compared with Nitriding</b> W. Zhang, L.Z. Jiang, R.Q. Wang and B. Lin	1629
<b>Technical Parameters Model of Laser Direct Metal Deposition</b> W. Zhang and J.H. Yao	1633
<b>Research on Fully Mechanized Coal Face Hydraulic Support Selection Based on the Testing Principle of Floor Specific Pressure</b> N.J. Ma, G.D. Zhao, C.L. Ju, W. Jiang and C. Li	1637
<b>Pressure Regularity Study of Three Soft Complex Coal Caving Coal Face</b> N.J. Ma, G.D. Zhao, C.L. Ju, C. Li and X.Z. Dong	1641
<b>Prediction of Coal Production Based on BP Neural Network</b> M.M. Wen	1647
<b>The Electronic Structures and Magnetic Properties of Co(endi)<sub>2</sub>(N<sub>3</sub>)<sub>2</sub></b> Z.L. Wang, H.J. Xu and K.L. Yao	1652
<b>Numerical Analysis about Flexural Strengthening Reinforced Concrete Beams by Bolting Steel Plates</b> X.D. Liu, S.W. Hao and Y.Y. Li	1658

<b>Detection and Linking Algorithm Based on Improved Snake Model for Pores with Weak Contour</b>	
J.F. Yu, Y. Zhu, X.Y. Ding and C. Zhang	1663
<b>Strength Prediction and Test of FRP Composite Laminates with Central Hole</b>	
J.Y. Zhang, C.Q. Sun and B.J. Fei	1669
<b>Synthesis, Characterization and Oxidation Behavior of a Novel Curable Liquid Polysilane Precursors for C/C-SiC Composite</b>	
K.K. Guo, Y.B. Liu, H.M. Qi, F.R. Huang and L. Du	1673
<b>Microstructure Characterization of Hot Extruded 7075 Al Bar with Different Passes and Temperatures</b>	
Y.B. Yang, Z.M. Zhang and M. Meng	1679
<b>Effects of Technological Parameters on the Tensile Properties of GF/PET Hybrid Thermoplastic Composite</b>	
W. Tian, Y.Q. Li, Z.H. Feng and C.Y. Zhu	1683
<b>Size-Dependence of Effective Anisotropy and Coercivity in Nanocomposite Permanent Magnetic Materials</b>	
J.J. Guo, Z.W. Wang, J. Zhang, H.W. Li, X. Zhao and W. Chen	1689
<b>Pulse-Laser-Crystallization of Amorphous <math>\text{Nd}_{3.7}\text{Pr}_{3.4}\text{Dy}_{0.9}\text{Fe}_{86}\text{B}_5\text{Nb}_1</math></b>	
J.J. Guo, Z.W. Wang, J. Zhang, X. Zhao and W. Chen	1693
<b>Transmission Properties of the Symmetrical Structure of One-Dimensional Photonic Crystal Quantum Well</b>	
A. Su and Y.J. Liang	1696
<b>Preparation and Characterization of Magnetic Toner Particles by Direct Polymerization Method</b>	
Y.F. Duan and Z.X. Fu	1702
<b>Structure, Optical, Temperature Dependent Electrical Properties of P-Type Conduction in N-Al Codoped <math>\text{Zn}_{1-x}\text{Mg}_x\text{O}</math> Films by Ultrasonic Spray Pyrolysis</b>	
X. Zhang, Q.H. Liao, H. Chen, Z. Yan and Z.S. Yu	1708
<b>Study on Preparation and Application of High-Performance Cu-Al Composite Row</b>	
W.J. Liao, Y.X. Wang, L.C. Zeng and B. Yan	1716
<b>Research on Mine Pressure Behave Law in Mining of Face under the Coal Pillar</b>	
W. Shi, H.T. Liu, C. Liang and H.S. Jia	1721
<b>Design and Impelementation of Two Switchable Chaotic Systems</b>	
W. Fan, Z.L. Wang, M.Q. Xu and A.F. Wang	1725
<b>Hot Deformation Behavior of 7075 Aluminum Alloy Bar Compressed with Different Orientation at Elevated Temperature</b>	
Z.M. Zhang, Y.B. Yang and M. Meng	1729
<b>Effects of RE and Sb on Microstructure of <math>\text{Mg}_{3}\text{Al}</math> Based Magnesium Alloy</b>	
H.W. Sun, S.X. Liu, J. Deng, J.Q. Miao, S. Guan and Y. Chen	1733
<b>Simulation of Numerical Test of Concrete Mechanical Properties Base on Numerical Manifold Method</b>	
Y. Zhao, G.X. Zhang, S.N. Ru and F.X. Chai	1739
<b>Deposition of <math>\text{TiO}_2</math> Thin Films Using Magnetron Sputtering</b>	
X.L. Guo	1743
<b>Preparation of Dense Ultrafine TiAl Alloys by Spark Plasma Synthesis from Mechanically Activated Powders</b>	
Z.W. Wang, D.D. Zhang and X.H. Zhang	1747
<b>Feature Selection Based on GA and PNN</b>	
M. Hao, S.S. Ma, X.D. Hao, L.L. Ma and L.J. Wang	1753
<b>Analyze on the Mechanical Properties of Stitched Composites</b>	
T. Chang	1758
<b>Study on the Analysis of Crack Causes and Control Measures of Prestressed Concrete Cylinder Pipe</b>	
R.L. Wang, H. Huang, T.S. Dou and M. Li	1763
<b>Research of Correlation Tracking Algorithm Based on the Function of the Minimum Average Absolute Difference</b>	
H.Y. Dong, Q. Liu and S.F. Chen	1769
<b>Delaunay Graph Based Path Planning of Dynamic Obstacle Avoidance Method for Mobile</b>	
H.Y. Dong, Y. Song and Y. Zhao	1775

<b>Optimization Design of CTP Imaging Drum Based on ANSYS</b> J.F. Xing, X.Y. Ni, J. Zhang and D.J. Chen	1781
<b>Cost Estimation of Post-Earthquake Rehabilitation of Industries Based on BP Neural Network</b> Y.R. Wang, M.Y. Zhang and Y. Xia	1789
<b>An Amperometric Immunosensor Based on a Polyelectrolyte/Nano Gold Particle Layer-by-Layer Assembly Modified Electrode for the Determination of Clenbuterol in Meat</b> L.J. Gao, N. Gan, F.T. Hu, Y.T. Cao and L. Zheng	1793
<b>The Design of High-Precision Capacitance Micro-Displacement Sensor</b> L.J. Wang, D.F. Wang, X.H. Wang and S.H. Shi	1797
<b>The Design of Remote Monitoring and Diagnosis System Based on Virtual Instrument</b> L.J. Wang, H.J. Guo and D.F. Wang	1802
<b>Research on the Buffer Zones of Cultural Heritages with the Theory of Soliton</b> W.Y. Li, K. Shi, C.Q. Liu and W.Y. Hu	1807
<b>Dynamic Compressive Behavior of Concrete at High Temperatures</b> C.X. Liu, Y.L. Li, B. Hou, W.G. Guo and J.L. Zou	1811
<b>A Study on the Nail-Plate Connection Performance of Light Wood-Frame Structure</b> G.L. Xu, Y.S. Bai, D.B. Zhu and W.G. Chen	1817
<b>Modeling and Simulation of Single-Phase Full Bridge Two-Level PV H6 Inverter Connected to Grid</b> Y.G. Guo, P. Zeng, J.Q. Zhu, L.J. Li, W.L. Deng and F. Blaabjerg	1821
<b>Preliminary Studies on Luoyang Leisure Sports</b> Y.W. Liu	1825
<b>Early Warning of the Financial Risk on the Power Industry</b> L. Zhou and H.J. Jiao	1829
<b>The Motive Mechanism of the Development of Competitive Sports by Synergetic View</b> D.C. Pei and G. Li	1833
<b>Thinking on the College English Curriculum (2004) and the Multimedia-Aided Teaching in College English</b> W.H. Wang and X.S. Zou	1839
<b>An Innovation Ability Characterization Study on a High-Level Professional Tennis Coach in China</b> Y. Ke and Y.H. Liu	1844
<b>Research on the Strategy for Regional Tourism Cooperation in Hubei Province</b> Y. Wang and S.T. Cao	1851
<b>The Current Situation and Countermeasures of Online References Recording about Sports Core Academic Journals</b> X.F. Wang and X.J. Zhou	1857
<b>The Experimental Study on College Psychical Education Professional Men Load Combination Methods of Fast Strength</b> J.S. Xiong	1862
<b>The Practical and Innovative Research of College Taiji Softball</b> Q.S. Guo	1869
<b>A Study of Comprehensive Testing of Moving Ability of Volleyball Players and Modular Training</b> J.M. Wang	1874
<b>A Research on Coping Styles of College PE Majors</b> J.Q. Wang	1879
<b>The Aesthetic Appreciation of the Epochal and National Character of Competitive Martial Art Routines</b> W.N. Zheng	1886
<b>Research on Communication of New Media Mobile in China</b> Y. Xie	1891
<b>Research on the Courses Setting of Undergraduate Physical Education in China</b> Q.H. Fang and H. Kang	1896
<b>Research on the Principals' Participating in Physical Education Curriculum Implementation</b> Q.S. Hu and N. Ye	1901