

Table of Contents

Preface and Organizing Committee

Chapter 1: Metal Materials

Phase Equilibria in the Er-Cu-V and Dy-Cu-V at 773K S.P. Guo, W. He, Y.H. Zhao and L.M. Zeng	3
Gamma-Ray Compton Spectroscopy for Determination of Electron Momentum Distributions in Iron S.A. Hamouda	8
Study on Hypereutectic Al-Si Alloy Fabricated by Liquid-Liquid Mixing Y.D. Li, S.H. Hu, X. Li, M.T. He, Y. Ma and D. Apelian	13
High Mixing Entropy Alloys Design with High Anticorrosion and Wear-Resistance Properties S. Zhu, W.B. Du, X.M. Wang and G.F. Han	19
Experimental Study on the Hydrogen Storage Properties of LaNi₅ Alloy in Repeated Hydriding/Dehydriding Cycles X.X. Cao, F.S. Yang, Z. Wu, Y.Q. Wang and Z.X. Zhang	25
The Thermal Stability of Bi-Pb-Sn-Cd Heat Transfer Fluid X.M. Cheng, J. MA, J.Y. Ye and X.J. Yang	31
Hot Deformation Behavior and Processing Maps of 7050 Aluminum Alloy Y.J. Guo, L. Deng, X.Y. Wang, J.S. Jin and W.W. Zhou	37
Study on Fracture of the Fibrous Monolith Cemented Carbide C.G. Ding, X.Q. Liu, Y. Li, C.H. Li, N. Li and F.C. Li	43
Wettability of Sn-Zn Lead-Free Solder on Aluminum Substrate X.Y. Xu, G.T. Qian, J. Zhou, Y. Yao and X. Chen	48
Corrosion Behavior of Five Commonly-Used Steels in Oily and Alcoholic Sewage from Gas Field Y. Ma, Q. Wang and X.M. Wu	55
Effect of Electron Beam Scanning on Ni60A Alloy Layer of H13 Steel Surface D.Q. Wei, Z.L. Zhao and R. Wang	61

Chapter 2: Electronic and Magnetic Materials

Parametric Study on Simulation Modeling of Diameter-Expanded Conductor J.J. Si, K.J. Zhu, J.C. Wan, J.L. Yang, L. Liu and Y. Ding	69
First-Principles Calculation of Intermetallics on Novel Anode Materials J. Zhang, P.X. Zhu, S.G. Zhou and J.X. Guo	73
Arc Erosion and Morphological Characters of Ag/LSCO(12) Contacts by Different Methods Q. He, H. Yang, L.S. Chen, X.P. Fan, Q.H. Shen, X.H. Wu, C.F. Mu and L.J. Zhang	80
Predictive Modeling of Oxide Layer Thickness in Ultrasonic-ELID Multiplicate Grinding X.F. Jia, B. Zhao and P.Y. Bian	86
Preparation of Barium Titanate/Polyimide Composite Film and its Dielectric Properties Y.J. Wang and X.J. Wu	93
Direction Finding of Multiple Coherent Signals Based on Frequency Domain Sample Process X.G. Zhu	99
Based on the Magnetic Memory Testing Technology of Wind Generator Fault Early Prediction Research P.L. Zhang, Z.Q. Zhao, Y.X. Xu and Y. Sang	104
Preparation and Characterization of Monodispersed Magnetic Nanoparticles with Carboxylic Groups via Polymerization Induced by a Double-Bond Ended Surfactant with Acrylic Acid J. Li, G.L. Zhong, W.K. Chen, Y.H. Wang, H.L. Mao and H.P. Xia	112

Effects of the Stress Annealing on Magnetic Properties of Nanocrystalline Fe_{73.5}Cu₁Nb₃Si_{15.5}B₇ Alloy	
X.R. Wu, D.R. Li, X.Y. Wang, Z. Li and Z.C. Lu	116
Numerical Demonstrations of Negative Refraction Properties in a Closed-Ring Pair Metamaterial under Parallel Incidence	
F. Fang	121
Investigation on the Thermal Stability of the Compounds Y_{1-x}Er_xCo₅ (x = 0, 0.12, 0.24)	
W. He, Y.Z. Zhang, Y.H. Zhao and L.M. Zeng	126

Chapter 3: Optical Materials

Microwave-Assisted Synthesis and Photocatalytic Activity of Thiourea-Modified ZnO Nanoparticles	
H.F. Zhang, S.X. Lu, W.G. Xu and F.X. Gao	133
Out-Coupling Efficiency Improvement in Organic Light-Emitting Diodes with Inverted Pyramid Glass Substrates	
R. Yan, J. Wang, W.Z. Li and C. Wang	142
Light Emission Induced by the Indium Distribution in InGaN Nanowires	
J.J. Shi, T.C. Zhou, H.X. Zhong, X.H. Jiang and P. Huang	148
Study on the Reflecting Properties of HFHIPS	
P.S. Jing, Y. Liu, X.T. Zheng, D.M. Wu and H.J. Wang	154
Gamma-Ray Compton Spectrometers	
S.A. Hamouda and S.M. Sergiwa	159
Study of the Reverse Saturate Absorption in Copper Phthalocyanine Solution	
F. Li and Z.C. He	165
Noble Metals Enhanced Frequency Conversion Luminescence of Ln³⁺ Ions Doped Glasses	
Y.B. Hu, J.B. Qiu, Q. Jiao, Z.G. Song, D.C. Zhou, Z.W. Yang and Y. Yang	171
Effect of Cd²⁺ Concentration on the Structure and Properties of CBD-CdS	
R.D. Fang, G.S. Liu, T.C. Ma, E.R. Cai, T. Feng, Z.Q. Hu and H.S. Hao	179
Electronic Structures and Optical Properties of Wollastonite	
M. He	183
A Recovery Algorithm of Star Energy Distribution for Star Sensor under High Dynamic Condition	
C.L. Wang, B.H. Li, C.H. Wang and Y. Chen	187

Chapter 4: Structural Materials

Effects of Mixing Melt Treatment and Heat-Treatment on the Microstructure and Wear Resistance of Al-22%Si Alloys	
Y.D. Li, M.T. He, S.H. Hu, J.L. Suo and Y. Ma	195
The Effect of Sequence Structure of Polyisoprene on its Crystallization and Reinforcement	
S.G. Li, J.M. Tan, J.W. He and S.Z. Wu	201
Research on Hot Ductility Behavior of 800 MPa Grade Ultra High Strength Weathering Steel	
C.B. Huang, Y. Zhu, R.Y. Wu, Q.S. Li, M. Zhang, Y. Zhong and L. Li	205
Evaluation Study on Mechanical Properties of Submarine Structural Steel at High Temperatures	
I.K. Kwon, H.J. Kim, H.Y. Kim, B.Y. Cho and K.S. Cho	212
Calculation and Analysis of Diffusion Kinetics of Alloying Elements in Bearing Steel	
H. Li, Z.L. Mi, X.L. Zhang, D. Tang and Y.D. Wang	216
Investigation on Dynamic Compressive Properties of Carbon Fiber Cloth-Reinforced Titanium Alloy	
T.T. Wu, J.X. Liu, S.K. Li and Q.R. Yang	221
Experimental Study and Analysis on Strength Properties of Waste Crumb Rubber Concrete	
J. Dai, J.M. Xiong and J.Z. Zhou	227

Microstructure and Mechanical Properties of Sintered Fibrous Monolith Cemented Carbide	
X.Q. Liu, C.G. Ding, C.H. Li, Y. Li, L.X. Li and J.P. Li	233
Study on Deformation Characteristics of Composite Lining Structure of Shield Tunnel	
C.S. Yang, H.H. Mo, J.S. Chen and M.X. Hou	240
The Effects of SiO₂/PEG Suspension on Mechanical Properties of Rigid Polyurethane Foams	
X.Y. Feng, S.K. Li, Y. Wang, Y.C. Wang and J.X. Liu	246
Numerical Simulation and Experimental Research on the Deformation of Equal Channel Angular Pressing of Al-5Ti-1B Aluminum Alloy	
W.Y. Zhang, X.L. Liu and X.M. Jin	251
Finite Element Analysis of Axially Loaded RPC Filled Circular Steel Tube Columns	
Z.H. Li, Z.G. Yan, J. Yang and H. Luo	256
The Mechanical Properties of FRP Fabric Steel-Reinforced Concrete Columns	
L. Zhou, X.C. Wang and J.P. Zhang	262
Fatigue Reliability Analysis of Connecting Rod Made of Powder and Steel Forging Material	
J. Ye, W. Gao, C.W. Liu and Z.Q. Zeng	268
Engineering Properties of Soils on Boubyan Island in Kuwait	
S.F. Bao and J.H. Huang	273
Analysis of Influencing Factors on Intrinsic Length of Clay in Tianhe District of Guangzhou	
Y.Z. Wang, H.H. Mo, Y.G. Fang and R.G. Gu	279

Chapter 5: Biomaterials and Healthcare

Study on Extraction Technology and Stability of Melanin from Banana Peel	
L.J. Min and J.F. Li	287
Low Molecular Weight Branched Polyethylenimine-Graft-Lentinan as a Novel Synthetic Gene Carrier	
L.J. Min and J.F. Li	293
Research on Proteinous Adhesive Made of Protein Isolated from Crayfish Shell Waste	
X.R. Zhao	299
Solid-Phase Synthesis of DNA Chemical Sensor	
H.Y. Zhang	305
Research on Protecting the Silk Fabrics from Fungus Erosion with Isothiazolone Resin Film Barrier and Inhibitor	
S.C. Li, C.B. Tang, T.T. Wang and J.P. Shi	312
Studies on Ultrasonic Assisted Extraction Technology of Flavonoid from Orange Peel	
L.J. Min and M.X. Zhao	317
Fabrication of Stable PVA/PVP Hydrogels	
H. Sun, T. Wu, Y.Q. He, Q.J. Gong, J.P. Gao and Y. Liu	321
Fabrication of Calcium Sulfate/Tri-Calcium Phosphate Composite Bone Fillers through Molding Method	
H. Sun, T. Wu, Y.Q. He, Q.J. Gong, C.Z. Yao and J.P. Gao	325
Corn-Rice Powder Extrusion Key Parameters in Twin-Screw Extrusion Process	
X.P. Li, Z.S. Zhang, H.J. Xiao, Q. Zeng and X.A. Zhang	329
Study on the Antibacterial Performance of the Antibacterial Shutter Blades	
M.L. Liu, C.F. Li, Y.L. Wang, K. Lu, J.Y. Pang, W.J. Luo and Y.L. Liu	333
Research on Corn Stover Fermentation by Multi-Bacterium and Improvement of Fermentation Devices	
X.Y. Wang and W.Z. Li	339
Combined Effects of Bone Marrow-Derived Mesenchymal Stem Cells and PLGA-PEG-PLGA Scaffolds on Repair of Articular Cartilage Defect	
C.W. Hsu, P. Liu, S.S. Zhu, F. Deng and B. Zhang	345
Inhibition of Recombinant Chicken Cystatin on Expression of Aflatoxin Biosynthesis Genes on Peanut	
H.L. Zhang, L.N. Zhang, J.W. He, K. Jiang, H. Lou and X.J. Meng	350

Preliminary Researches on Possibility of Several Kinds of Plants Including <i>Dracaena Angustifolia</i> Used to Relieve the Damages Caused by Organic Phosphorous Compounds K.J. Chen, G. Zhao, S.C. Wu, Q.C. Zhuang and F. Qian	358
Preliminary Researches on Conditions to Extract Chlorophyll from Leaves of <i>Wedelia Trilobata</i> (L.) Hitchc T.N. Li, G. Zhao and L.G. Qiu	362
Preparation and Characterization of Hexadecane Microcapsule Phase Change Materials by <i>In Situ</i> Polymerization X.Q. Song, Y.X. Li and J.W. Wang	367
Proliferation and Angiogenic Differentiation of Bone Marrow Mesenchymal Stem Cell Induced by $\text{Ca}_7\text{Si}_2\text{P}_2\text{O}_{16}$ Bioceramics X.M. Zhang, C.T. Wu and J. Sun	371
Microwave Promoted Synthesis of 2-(1H-Benzoimidazol-2-Yl-4-Phenol)-5-Aryl-1,3,4-Oxadiazoles Y.J. Lei, H. Li, M. Ding and X.S. Wu	375
Structure and Properties of Natural Cellulose Extracted from Pineapple Leaf T.K. Fu, J.H. Li, Q.H. Wang, H. Huang, X.Y. Wei, L.H. Cui, Y.H. Wang and F. Wang	379

Chapter 6: Energy and Environment Materials

Study on Combined Soil Purification Tank System Reactor in Treatment of Domestic Sewage X.Y. Tian, Z.M. Zhou, C.B. Ye and D.L. Dai	389
Application of New Building Materials in Green House Y. Liu	396
Study on New Types of Environmental Protection AgSnO_2 Electrical Contact Materials J. Zheng, F. Jiang and S.L. Li	400
Microstructural Characterization in Metallurgical Grade Silicon after Treatment by CaO-SiO_2 and $\text{Na}_2\text{O-SiO}_2$ Slags M. Fang, C.H. Lu, L.Q. Huang, H.X. Lai, J. Chen, J.T. Li, W.H. Ma, J.N. Shen, Z.L. Sheng and X.T. Luo	404
Performance Improvement of MFCs by Treatment of Carbon Cloth Anode with Ultrasonic or Spent Anolyte W.F. Liu and S.A. Cheng	409
Research and Application of Heat Transfer Fluids in Solar Thermal Power X.M. Cheng, C. Zhu, H. Zhang and X.J. Yang	415
Effects of Mg^{2+} and Ti^{4+} Doping on Performance of LiFePO_4 for Lithium-Ion Batteries X.P. Huang, C. Yang and Y.C. Yao	423
Preparation of Amphoteric Polyacrylamide-Grafted Starch Flocculant and its Application Y.J. Sun and Y.L. Yang	427
Preparation of Anionic Polyacrylamide-Grafted Starch Flocculant and its Application Y.J. Sun, G.F. Guo and Y.L. Yang	432
Improvement of Adsorption Performance Based on Metal Ion Modified ETS-4 Molecular Sieves L.Y. Song, X.J. Liu, Z.C. Zhan, H. He, X.H. Zi and W.G. Qiu	437
Synthesis and Characterization of Novel Polyfluorene Derivatives L.D. Zhou, X.D. Hu, S.H. Wang, Z.X. Hou and M.H. Wang	443
Diffusion Coefficients of Selenium and Gallium during the $\text{Cu}(\text{In}_{1-x}\text{Ga}_x)\text{Se}_2$ Thin Films Preparation Process J. Wang, Y.F. Zhang and J. Zhu	448

Chapter 7: Nano-Scale and Amorphous Materials

Fabrication of Nanostructured Hydrophobic Surfaces with Laser Interference Lithography H. Yu, B.R. Lu, H. Li, J.Y. Li and R. Liu	457
Synthesis of Core-Shell Cu-Au Nanoparticles via a Redox-Transmetalation Method in Reverse Microemulsion J.J. Jing, J.M. Xie, G.Y. Chen, W.H. Li and M.M. Zhang	465

Synthesis of Copper Nanospindles and Microflowers via a Surfactant-Assisted Hydrothermal Process	
J.J. Jing, J.M. Xie, G.Y. Chen, W.H. Li and M.M. Zhang	469
New Opportunities in Lead Selenide Nanolayers	
A.M. PashaeV, O.I. Davarashvili, M.I. Enukashvili, Z.G. Akhvlediani, R.G. Gulyaev and V.P. Zlomanov	473
Flame Retardancy of Polypropylene/LDHs Composites: An Influence of Organo-LDH Types	
M. He, X.J. He, L.J. Wang and X.L. Xie	478
Preparation of Cationic Polyacrylamide Nanocomposite by Aqueous Two-Phase Polymerization Method	
Q.C. Wu and S. Li	484
Nano Structures Constructed by AFM Based Lithography	
H.Y. Zhang	490
Bifunctional Ag/AgCl/α-Co (OH)₂ Nanocomposite with Selective Adsorption and Photocatalytic Properties for Dyes Removal	
J.C. Sun, J. Cheng, H. Fan and S.Y. Ai	496
Gas Sensors Based on Deposited Single-Walled Carbon Nanotubes-Polypyrrole Networks for Ammonia Detection	
Y.Y. Wang, Y.H. Liu, L. Yuan, F. Zhang, W. Zhang, C. Rong, D.Y. Huo, X.Y. Zhang and C.S. Peng	501
Preparation and Characterization of Pt-SnO₂ Deposited on Multi-Walled Carbon Nanotubes for Methanol Electro-Oxidation	
D. Zhang	508
Self-Assembled Morphologies of Diblock Copolymers Confined in Multiwalled Carbon Nanotubes	
Y.X. Zuo, G.Q. Wang, Y. Yu, C.C. Zuo and Y.R. Wang	512
Higher-Order Elasticity Constants of Carbon Nanotubes	
B. Gao, Y.Z. Sun and S. Li	516

Chapter 8: Functional Materials

Microwave Synthesis and Photocatalytic Activity of Ce⁴⁺, Fe³⁺ Co-Doped TiO₂ Nanocomposite	
W.Q. Xiong, Q.X. Zhu, J. Lei, W.X. Ye and X.H. Liao	523
Research on Condensing Lining Structure of Large Scale Submerged-Arc Furnace for Ferronickel Production	
Y.H. Jia, S.L. Zeng, W.J. Nong, F. Chen, Q.Z. Chen, F.X. Ruan, K. Huang and Q.R. Xie	529
Luminescence Properties of Eu²⁺ Doped Ba₃La(PO₄)₃ Phosphor	
J.Y. Wang, J.B. Wang, H.M. Liu and P. Duan	535
Laser Cladding of Fluoridated Hydroxyapatite Coatings on Titanium Alloy for Bone Replacement Structures	
A.G. Huang, Y. Liu, S.H. Hu, Q.H. Wang and L.L. Zhen	540
Study on the Synthesis and Properties of Waterborne Epoxy Resin and Curing Agent	
J.G. Sheng, P. Zeng and Y.D. Shan	547
The Compatibility of Poly(3-hydroxybutyrate-co-4-hydroxybutyrate) and Thermoplastic Polyurethane Blends	
X.M. Sun, L.H. Zhong, X.P. Lan and G.Y. Tan	552
The Mechanical Properties for the Attenuation of Shock Wave Interaction with Watery Foam Material	
J. Zhou and G. Tao	558
Hydrogen Production over Eosin Y-Sensitized Pt-Loaded Layered Lanthanum Niobate under Visible Light Irradiation	
X.P. Zhang, Y.L. Wei, S.H. Chen, J. Xu, H. Zhao and Y.F. Huang	567
Effect of Preparation Conditions on the Performance of Ni-TiB₂-Gd₂O₃ Composite Coatings	
X.Z. Liu, Y.Z. Li, L.L. Song, X.D. Yu and W.T. Lu	574
Rheological Properties and Anti-Aging Properties of PP/PP-g-AN Blends	
Y.Z. Wang, C.E. Yue, D. Ma, W.N. Jia and Y. Li	579

Self-Lubricating Behavior of $\text{ZrO}_2(\text{Y}_2\text{O}_3)$-Mo-$\text{CaF}_2$-Graphite Composite L.Q. Kong, Q.L. Bi, S.Y. Zhu and W.M. Liu	584
Effect of Conductive Silicone Rubber Fillers on Piezoresistive Properties Y.X. Zhang and B. Li	588
Evaluation of Modified Poly by UV-Induced Graft Polymerization as a Novel Hydrophilic Films B.Q. Wang	594
Honeycomb Shaped Monolithic Fe-β Zeolite Catalyst for N_2O Decomposition Y.X. Li, J. Chen and Z.L. Luo	599
The Properties of Wood-Plastics Composite (WPC) and its Application in Furniture M. Li and Z.H. Wu	605
A Novel Method to Fabricate Hydrophobic Surfaces Based on Candle Soot Particles and Polydimethylsiloxane L. Yuan, F. Zhang, W.P. Liu, X.Y. Gu, W. Zhang, D.Y. Huo, X.Y. Zhang, Y.Y. Wang and C.S. Peng	610
The Novel Fluid Loss Additive ANMG1305 for Oil Field Cementing X.X. Liu, W.F. Xiao, Q. Xiao and L.T. Dong	616
The Fabrication of Screen-Printed Lanthanum Hexaboride Films Applied in PDP Protective Layer J. Deng, B.Q. Zeng, X.J. Wang, Z.L. Lin, K.C. Qi and G.C. Cao	621
Ti_3SiC_2 – A New High Temperature Solid Self-Lubricating Additive Agent L.X. Li, X.Q. Liu, C.G. Ding, Y. Li, F.C. Li and J.P. Li	626
The Creep Behavior of Wood-Polymer Composites Y. Zhu, P.Y. Liu and Z.H. Jiang	632
The Dynamic Viscoelastic Behavior of Wood-Plastic Composites P.Y. Liu and Z.H. Jiang	639
Study on Absorbing Properties of Honeycomb Absorbing Materials H.M. Sun, Z.Z. Gu and R.R. Yang	645
Study on the Performance of Ionic Polymer-Metal Composites of Various Fabrication Technique Y. Zhao, B. Xu, B.L. Xu, L.K. Yu and D.H. Sun	650
Blue-Green Mechanoluminescence of $\text{CaAl}_2\text{Si}_2\text{O}_8\text{:Eu}^{2+}$ and $\text{CaAl}_2\text{Si}_2\text{O}_8\text{:Eu}^{2+}, \text{Dy}^{3+}$ Z.M. Chu, Y.X. Li, X.S. Wang and X. Yao	655
Broad Red Emission with Ultraviolet Excitation in Pr^{3+} Doped MgAl_2O_4 Phosphors H. Zou, D.F. Peng, Z.M. Chu, X.S. Wang, Y.X. Li and X. Yao	662
Studies on the Temperature Difference of a Component under Different Heat Sources H.F. Luo and W.G. Yuan	668
Cubic-Shaped Al-Doping MgO Powders Used in PDPs J.T. Xiao, J.J. Li, Y. Yin, Z.L. Lin, K.C. Qi, X.J. Wang and G.C. Cao	673
Photon Cascade Emission of Pr^{3+}-Doped $\text{K}_2\text{YZr}(\text{PO}_4)_3$ Phosphor W. Liang, L.F. Niu, Y.H. Gao and Y.H. Wang	677
Effects of Gas Property on Quality of NiCoCrAlY Coating by Cold Gas Dynamic Spraying S.Q. Feng, B. Ma, X.L. Wang and G.P. Ling	682

Chapter 9: Technologies, Engineering and Processing Materials

Effect of Ultrasonic Impact Treatment on Corrosion Resistance of Welded Joints of 16MnR Steel B.L. He, Y.X. Yu, J. Liu and J.P. Shi	689
The Effect of Residual Stress on Fatigue Life of Welded Cruciform Joints of 16MnR for Train Bogie Y.X. Yu, B.L. He, J.P. Shi and J. Liu	695
A Contrast Experimental Study of C40 Concrete Tensile Strength P. Li, Y.C. Li, S.W. Duan and R.Y. Huang	700
Particle Size Distribution of Micropowder in Jet Milling/Electrostatic Dispersion Y.B. Li, R. Zhang, P.F. Yin, J.C. Hu, L.M. Zhang and N. Li	707

The Corrosion Resistance Discrimination of TC11 Titanium Alloy Using Scanning Kelvin Probe	
Y.L. Ai, L. Liu and W. He	712
Study on the Graft Copolymerization of AN onto PP by Using Supercritical Carbon Dioxide	
Y.Z. Wang, D. Ma, C.E. Yue, W.N. Jia and Y. Li	717
Comparison of Kjeldahl and the Elemental Analysis Methods for Determination of Nitrogen Content in Raw Natural Rubber	
N.L. Qi, P.W. Li, X.H. Zeng, H.H. Huang, Z.M. Yang and X. Gong	722
Preparation of the BaO-B₂O₃ Matrix Low-Temperature Sintering Ceramics via an Aqueous Suspension Route	
S. Chen, D.G. Zhu, H.L. Sun and P.Q. Sun	727
Study on Impurities Removal from Silicon by Slag Refining with Fe (OH)₃-SiO₂-CaF₂ Slag System	
C.H. Lu, M. Fang, H.X. Lai, L.Q. Huang, J. Chen, Y.Q. Chen, J.T. Li, W.H. Ma, Z.L. Sheng and X.T. Luo	733
Synthesis and Characterization of Branched Poly(Ethylene Terephthalate)	
Y.M. Chen, D. Zhao, L.Y. Wang and Q.C. Wu	738
Simulation Analysis on the Contact Status during Sheet-to-Tube Single Sided Spot Welding Process	
C.P. Liang, N. Li and F.F. Sun	742
Synthesis and Liquid Crystalline Properties of New Chiral Monomers and Polysiloxanes	
J.S. Hu, Y.N. Liu, Y.T. Song and D. Wang	747
Zinc Oxide Films and Nanowires Synthesized by Sol-Gel and Hydrothermal Methods and their Applications	
W. Wei, C.F. Zhang, D.Z. Chen, R. Gao and Z.Z. Wang	752
Implementation of a Shear Modified GTN Damage Model and its Application in Cold Rolling	
Q. Sun, Y.X. Yan, J.J. Chen, X.X. Li and H.L. Pan	758
The Influences of Different Precursors on Morphology of Bi₃TiNbO₉ Powders Prepared by a Sol-Gel Method	
Z.D. Li and D. Liu	765
Effects of Slag Refining and Vacuum Treatment on De-Phosphorus from MG-Si Using CaO-SiO₂-CaCl₂ Slag	
L.Q. Huang, H.X. Lai, M. Fang, C.H. Lu, J. Chen, Y.X. Lin, D.Q. Yu, J.T. Li, W.H. Ma, J.N. Shen and X.T. Luo	773
Study on Laser Welding of Phone Nuts	
X.H. Wu	778
Numerical Simulation of Temperature Field and Microstructure in the Quenching Process of Steel Rail	
Y.Y. Liu, F. Zhang, Z.Y. Zhang and L. Chen	782
Defect Depth of Thermal Non-Destructive Testing for the Titanium Implants	
Q.F. Zhu, Z.M. Sun, T.D. Ma, P. Li, Z.G. Fan and V. Vavilov	786
Mechanical Milling and its Influence on Microstructure and Electric Conductivity of High Mass Fraction TiC / Cu Composites	
J. Yan and K.Y. Jiang	790
A New Method for Measuring the Soil-Water Retention Curve of Red Clay	
P. Chen and C.F. Wei	796
Ultrasound Promoted Synthesis and Antibacterial Activity of 5-Aryl-1,3,4-oxadiazole-2-yl Sulfanyl Derivatives	
Y.J. Lei, X.S. Wu and M. Ding	803
A Research on the Device of Manufacturing Metal Powder	
F. Luo	807
An Inverse Heat Transfer Problem about Crack of Boiler Furnace Wall Based on Infrared Thermographic Temperature Measurement	
G.Q. Zhou, L. Yang, S.G. Lv and L.L. Liu	813
Exploit of Shipping Auxiliary Swing Test Platform	
J. Wang, D.H. Lu and S.L. Xie	821
Method of Surface Treatment of Carbon Fiber and its Evaluation	
X.C. Wang, L. Zhou and J.W. Wang	827

The Raw Material Sources and Nondestructive Identification Study of the Blue and White Porcelain Made in Jiajing Official Kiln and Dehua Housuo Kiln	
R.W. Li, G. Chen, D.W. Yang, J.X. Zheng, L.F. Chen and H.S. Cheng	833
Properties of Grouting Mortar Modified with Alunite/Bauxite/Gypsum Ternary System as Expansion Component	
Y.S. Dai, J.D. Ding, Y.H. Tan, X.J. Yuan, C.H. Lu and Z.M. Gong	839
1-xSr_xCoO₃ Induced by Distortion of CoO₆ Octahedron	
H. Liu, H.G. Zhang, Y.T. Li, X.G. Dong, Y.Y. Chen, L.S. Chen, K. Chen, Q.T. Hou, X.P. Ge and Q. Li	845
Study on Pretreatment Method of X-Ray Real-Time Imaging Digital Image	
P.L. Zhang, Z.Q. Zhao and P. Kong	854
The Numerical Simulation and Finite-Element Analysis of the Motor Vibration Problem Based on the Base Anchor Softening Layer	
Y. Gu, S.X. Li, R. Li and Q. Li	860
An Experimental Method of LY12 Duralumin Alloy Affected by the Ultrahigh Pressure	
Y.X. Zhang, B.B. Liu and H. Wang	868
Low-Cycle Fatigue Behavior of TP347H Austenitic Stainless Steels at Room Temperature	
H.W. Zhou, Y.Z. He, Y.W. Cen and J.Q. Jiang	875
Optimization of Biomechanical Systems For the Fighter Plane Ejection Seats	
Y.F. Wang, B. Wang, J.Y. Wang and D.Q. Meng	880
Influencing Factors of Coal Gangue Carbothermal Reduction and Nitridation Reaction	
F. Duan, A.Q. Ma, G.Q. Xiao, X.H. Zhang and R.H. Yu	886
Electron Transitions between Grain Boundaries in the (La_{1.85}Sr_{0.15}CuO₄)_{1-x}(La_{0.5}Sr_{0.5}MnO₃)_x Composites	
X.G. Dong, H.G. Zhang, Y.T. Li, H. Liu, K. Chen, Q.T. Hou and Q. Li	893
Influence of Acidic Impurities on Rheological Properties of Boron/Agglomerated Boron and HTPB Slurry	
X.L. Hu, W.L. Zhou, L.Q. Xiao and X.X. Jian	898
A Study of the De-Noising Methods for Cotton Fabric Rubbing Sound Signal	
H.S. Wang and W.L. Xu	905
Application of Remote Sensing Technology on Tobacco Planting in Fuquan City	
Y.P. Li, Z.G. Ling, Z.Q. Ma, Z.G. Gou, X. Liu and Y.L. Tang	910