

Table of Contents

Preface and Organizing Committee

Chapter 1: Frontiers of Nanoscience and Technology

Enhanced <i>In-Situ</i> Anaerobic Bioremediation of TCE-Contaminated Groundwater Using Nanoscale Zero-Valent Iron (nZVI) K.F. Chen, C.M. Kao, W.P. Sung, C.C. Lin and T.Y. Yeh	3
Influence of Anodization Parameters on the Growth Rate and Morphology of the TiO₂ Nanotube Arrays Y. Wang, Y.C. Wu, Y.Q. Qin, J.W. Cui and H.M. Zheng	8
Evaluation of Mechanical Properties of Single-Walled Carbon Nanotubes S.C. Her and S.J. Liu	12
Effects of Ag-Carried Content in P/Ag Nanocomposites on Tribological Properties of 45 Mild Steel Friction Pairs L. Yang, Y. Li, Y.K. Zhou and X.M. Wu	17
Piezoelectric Potential Distribution in a Bent ZnO Nanorod Cantilever Z.Z. Shao, X.A. Zhang, F. Wang, G. Wang, H.H. Jia, S.L. Chang, H.L. Zhang and L. Fang	23
Hydrothermal Synthesis of Monodisperse Leaf-Like Boehmite Nanosheets: Transformation from Irregular to Regular Morphology J.X. Yang, J.J. Ma and Y.W. Huang	28
Investigation on Heat Transfer Performances of Nanofluids in Solar Collector Y. Li, H.Q. Xie, W. Yu and J. Li	33
Study on Nitrogen-Doped Titania Nanotubes as Visible-Light Responded Photocatalysts Y.F. Shen, J. Wu, Y.S. Tao, M. Li, H.Z. Jin and T.Y. Xiong	37
Structure Study of Nanocrystalline O-LiMnO₂ L.Z. Zhao and G. Chen	42
Study on Photo-Catalytic Properties of Nano-TiO₂/Anthraquinone in a Sandwich-Type Bipolar Membrane Y.X. Ren, Q. Chen, J.H. Lin and Z. Chen	49
Hopping Probe Ion Conductance Microscopy and its Combined Patch-Clamping A Powerful Tool for Structural and Functional Studies in Neural Nanobiology X.L. Zhao, X. Liu, H.J. Lu, L.Y. Ma, R.L. Gao, J.N. Zhang, M.J. Gao and Y.J. Zhang	54
High-Yield Synthesis of Bamboo-Like BN Nanotubes Using Self-Propagation High Temperature Synthesized Porous Precursor L.P. Zhang, J.L. Wang, Y.L. Gu, G.W. Zhao, Q.L. Qian, J. Li, X.Y. Pan and Z.H. Zhang	59
Effect of Nano-SiO₂ on the Rheology of Anionic Viscoelastic Solutions Formed by the Biodegradable Surfactant Fatty Acid Methyl Ester Sulfonate H.J. Fan, M.L. Luo, Z.L. Jia and H.T. Sun	64
The Application of Nanotechnology in Acupoint Catgut Embedding Therapy Y.X. Xu, J.Y. Cai, L.Q. Liang, G.Z. Chen and X.L. Xu	68
Synthesis of Stable Oil Dispersions of Silver Nanoparticles D. Li	73
Fabrication of α-Fe₂O₃ Nanowires by Thermal Oxidation Method L. Li, H. Wang and H.W. Jiang	79
Preparation and Photocatalytic Activity of N-TiO₂/Sepiolite Nanocomposite D.M. Chen, H.P. Ji, J.X. Wang, J. Chen, Z.M. Wu and Z.G. Xia	85
Preparation and Electrochemical Properties of VO₂(B) Nano-Belts Y.L. Qiao, Y.J. Ma, Q.P. Luo and C.H. Pei	91
Tribological and Oxidation Properties Study of a Kind of Sulfonate-Modified Nano Na₂CO₃ and K₂CO₃ Z.Y. He, L.P. Xiong, J.X. Wang, J.W. Qiu and X.S. Fu	98
Synthesis of Vinyl Polymer/ ZnO Nano Composite and its Application in Leather Tanning Agent Y. Li, D.G. Gao, J.Z. Ma and B. Lü	103

Low Temperature Wet-Chemical Synthesis BaTiO₃ Nano-Particles by Tetra-N-Butyl Titanate [Ti-(O-C₄H₉)₄]	
M. Zeng, Y.J. Ma, S.W. Chen and C.H. Pei	108
Surfactant-Assisted Hydrothermal Synthesis and Characterization of Nano-Sized 2H-MoS₂	
J. Zhang, X. Li, Y.L. Feng, B. Xu and Y.H. Guo	113
Mechanochemical Synthesis of Nanosized Hydroxyapatite Powder and its Conversion to Dense Bodies	
S.A.S. Abu Bakar, I. Sopyan, M.H. Bin Abd Shukor and R. Singh	118
Fabrication and Characterization of Nanoencapsulated Stearic-Acid/SiO₂ Phase Change Material	
B.X. Li, Y.F. Wang and B. Zhu	123
Sodium-Doped Hydroxyapatite Nanopowder through Sol-Gel Method: Synthesis and Characterization	
E. Pusparini, I. Sopyan, M. Hamdi and S. Ramesh	128
Preparation and Grain Growth Kinetic of Nickel Oxide Nano-Particles	
H. Han, Q.H. Ma, L. Lv and X.J. Wang	133
Electroluminescence Properties of ZnO Nano-Particles Embedded in Polyimide	
J.Q. Lin, J.H. Shi, J. Leng, M.H. Xia and Q.G. Chi	137
Research on Preparation of Nano-Silver by Orthogonal Test	
B.L. Tang, G.X. Chen, Q.F. Chen and J.L. Tai	142
Thermal Properties of Composites Containing Metal Oxide Nanoparticles	
J.F. Wang, H.Q. Xie, Z. Xin, Y. Li and J. Li	146
Synthesis of Nanocrystalline LaFeO₃ by Precipitation and its Visible-Light Photocatalytic Activity	
P.S. Tang, M.B. Fu, H.F. Chen and F. Cao	150
ZnO Nanorods Based Ammonia Gas Sensors with Interdigitized Electrodes	
T.Y. Chen, J.S. Wu, C.S. Hsu, P.C. Chou, H.I. Chen, K.W. Lin and W.C. Liu	155
Interactions Analysis in BSA-Loaded Chitosan Nanoparticles at Different pH Values	
Y. Liu, Y. Sun, Y.L. Li, S.C. Xu and Y.X. Xu	160
Synthesis of Spherical Assembly Composed of Mn₃O₄ Nanoparticles and its Adsorption Behavior for Alizarin Red in Water	
M. Yang, Q. Sun, C.F. Zhao and X.X. Sheng	165
Preparation and Characterization of Coenzyme Q₁₀-Loaded Nanostructured Lipid Carriers	
Q. Xia and J.Y. Wu	170
Influence of Shell Thickness on the Raman Properties of ZnO/ZnS Core/Shell Nanowires	
X.Q. Meng, F.M. Wu, S.H. Huang, Y.Z. Fang and J.B. Li	175
Study on Nano SiO₂ Synthesized by Gaseous Detonation under Different Initial Temperature	
H.H. Yan, S.X. Xi and X.C. Huang	180
A Novel Ammonia Sensor Utilizing Cataluminescence on Nano-TiW₃Cr₂O₁₄	
K.W. Zhou, Z.Q. Zhang, L.J. Xing, X. Li and C.X. Fu	184
Preparation and Exothermic Characterization of Hydroxyl-Terminated Polybutadiene(HTPB)-Coated Aluminum Nanopowders	
K.J. Huang, C.D. Tan and C.S. Xie	189
Hydrothermal Synthesis of Porous α-Fe₂O₃ Nanorods	
Y. Wang, J.L. Cao, G. Sun and Z.Y. Zhang	195
Quasicontinuum Simulation of Uniaxial Tension of Single Crystal Copper Nanowire	
X.L. Hu, Y.C. Liang, J.X. Chen and H.M. Pen	200
The Use of Magnetite Nanoparticles in Applied Medicine	
A.N. Belousov	205
Preparation, Characterization and Oxygen Gas Sensitivity of Nanosolid Superacid SO₄²⁻/LaCoFeO₄	
D.J. Lin, S.F. Shen, Q.H. Wang, L.J. Wang, N.S. Chen and J.L. Huang	209
Effects of Deposition Temperatures on the Nanoflakes Co(OH)₂ Porous Films for Supercapacitors	
Z.J. Yu, B.B. Wang, R.B. Liao and Y.M. Cui	214
Tribological Properties and Self-Repairing Effect of Palygorskite /Copper Nanocomposites as Lubricating Oil Additive	
X.M. Wu, Y.K. Zhou and L. Yang	219

Study on Cytotoxicity of Nanoscale Zero Valent Iron Particles X. Wang, M.Y. Dong, L. Liu, Y. Liu, Z.H. Jin and T.L. Li	224
The Role of Nanometer Silicon Dioxide in the Modification of Fluid Magnetic Abrasive W.D. Li, M. Lv and H. Zhang	229
Preparation of Polyacrylic Acid/TiO₂ Nanocomposites and its Application in Photodegradation of Methyl Orange X.F. Meng, Z.W. Zhang, Y. Zhang, Z.C. Xiao and Q.L. Wei	234
Nanotechnology Applications in the Field of Ship Protection Y.L. Jiang, X.R. Liang and S.Y. Wu	239
Spectroscopic Study of 2-Thiobarbituric Acid Modified Gold Nanoparticles J. Du and Z.N. Xia	244
A Micro Fuse Realized by Integrating Al/CuO-Based Nanoenergetic Materials on a Micro Wire X. Song, G.C. Yang and F.D. Nie	249
Preparation and Hardness Behavior of Al-Based Amorphous/Nanocrystalline Composite Coatings on Mg Alloy Prepared by High Velocity Arc Spraying Process Z.B. Zhang, X.B. Liang, Y.X. Chen and B.S. Xu	256
Actuality and Application Foreground of Nanofluids in Refrigeration System M. Zhang, R.X. Wang and J.F. Lou	261
The Synthesis of Nitrogen Doped Carbon Nanotube with Different Catalyst H.Y. Jin, N.C. Bing, L.L. Wang and L.J. Wang	266
Surface Nanocrystallization of U70 Rail Steel Treated by Ultrasonic Impact B.L. He, Y.X. Yu, Z.X. Chen and J. Liu	270
Hydrothermal Synthesis and Characterizations of Cobalt-Doped ZnO Nanostructures L.P. Zhu, N.C. Bing, D.D. Yang and H.Y. Jin	274
Influence of Hydrogen Concentration on TiO₂ Nanoparticles Prepared by Gaseous Detonation H.H. Yan, X.C. Huang and S.X. Xi	278
Influence of Concentration Modes on Morphology of Nano-Silver W.W. Li, L.H. Li, X.W. Hu, H. Fang, X. Leng, W.B. Li and S.K. Li	284
Nano-Au/C Catalysts for the Selective Oxidation of Glyoxal into Glyoxalic Acid Z.J. Li, D.S. Huang, W. Liu, Y. Min, R.M. Xiao, Y. Jiang and L.D. Sun	288
A Novel Chemical Reduction Route towards the Synthesis of Nickel Nanoparticles at Room Temperature Z.G. Wu	293
Study on on-Line Detecting of Total Phosphorus by Nano-TiO₂-UV Photoelectron-Catalysis Oxidation Method M.J. Sun, P. Wang, Y.H. Shan and C.B. Zhang	298
Pressureless Sintering of Electro-Conductive Zirconia Composites M. Amiriyani, S. Ramesh, I. Sopyan, M. Satgunam, R. Tolouei and W.D. Teng	304
Influence of Nano-Refrigeration-Oil on Saturated Vapor Pressure of R22 J.F. Lou, R.X. Wang and M. Zhang	309
Synthesis and Electrochemical Performance of Poly(N-Acetylaniline)/Carbon Nanotubes Composite for Supercapacitors J. Li, H.Q. Xie, Y. Li and J.F. Wang	315
Study on CH₄ Conversion over Ce-Zr Solid Solution Supported Nano Ni-Pt Bimetallic Catalysts: Preparation and Characterization of Catalysts M. Yang, Q. Dang, Z.M. Xie and H.J. Guo	319
Study on the Synthesis and Properties of Nano-ZnO Z.R. Liu, J. Hou, L.M. Duan and L. Xu	324
Prepared and Magnetic Properties of B₄C/C Coated Co Nanocapsules D.W. Yu, J.B. Zhang and G.M. Shi	328
Effects of Different Substrates and Anneal Temperatures on the Nanoflakes Co(OH)₂ Porous Films for Electrochemical Capacitance Z.J. Yu, P.F. Guo, R.C. Yin and Y.M. Cui	332
Research the Al Material Reinforced by CNT(Carbon Nanotubes) X.L. Cai and X.F. Wang	337

Application of Nanocrystalline Magnetic Materials in Electromechanical Devices L.J. Wang, J.Q. Li and H.J. Wang	341
Growth Mechanism and Optical Properties of Bundle-Like ZnO Nanostructures Synthesized by a Sonochemical Method S.C. Cui, X.P. Pu, D.F. Zhang, X.H. Qian and Y.Y. Gao	345
Preparation of PVC/Kaolin Nanocomposites through Solid State Shear Compounding Based on Pan-Milling K.S. Li, Y.H. Chen, H.M. Niu and J.J. Chen	350
Photodegradation of Phenol on Halogen-Doping TiO₂ Nanoparticles Composites in Seawater P.C. Deng, J.Z. Hu and H.Z. Wang	355
Photoluminescent Enhancement and Blue-Shift of γ-Al₂O₃ / 8-HQ Nanocomposites X.L. Liu, X.X. Lian, Y. Guo, Y.L. Zou and J.G. Li	360
Freeze-Drying and Characterization of Vitamin a Palmitate-Loaded Nanostructured Lipid Carriers (NLC) Q. Xia and R. Kong	365
WS₂ Nanotubes Prepared by Aluminum Oxide Template D.B. Yu, Y. Feng, Y.F. Zhu, X.B. Zhang, B. Li and H.Q. Liu	370
The Fabrication and Photoelectric Properties of the Nanopillar Arrays for Solar Cell J. Liu, Y.X. Liao, B. Wang and F.T. Yi	375
Magnetic and Microwave Absorption Properties of Ni_{1-x}Co_xFe₂O₄ Nanometer Powders in GHz Frequencies C. Xu	380
Frabrication and Photoluminesence of ZnO Nanobelt with Superlength Nanocantilevers M.Y. Zhou, L.S. Qu, B.G. Tian and H. Li	385
Dependence of the Fracture Toughness on the Sintering Time of Dense Hydroxyapatite Bioceramics R. Tolouei, S. Ramesh, I. Sopyan, C.Y. Tan, M. Amiriyani and W.D. Teng	391
Spectroscopic Investigated to the Interaction of Human Serum Albumin with Fluorescence Carbon Nanoparticles F. Jin	396
Determination of Size Distribution of Dispersed Nanophases and Spaces among them in PVC/MBS Blends by TEM Image Analysis Z.Y. Liu, H.T. Li, F.F. Yin, Y.X. Li, Y.Z. Yu and Z.M. Li	399
Hydrogen Generation by Photoelectrochemical Splitting of Water by Using CdS/TiO₂ Nanotube Photoanode K.W. Lin, F. Lin, K.K. Hsu, B.S. You and H.I. Chen	403
Selective Synthesis of Boron Nitride Nanotubes L.P. Zhang, J.L. Wang, G.W. Zhao, Z.H. Zhang, F. Zhang, Y.L. Gu and W.M. Wang	408
Effect of Nano-AlN on the Friction Performance of Cu-Based Friction Material J.H. Du, Y. Zang and X.Y. Zhu	413
Fabrication and Luminance Properties of Field Emission Backlight Unit Based on SnO₂ Nanowires L.J. Wang, C.X. Wu, Y. Ye and T.L. Guo	418
Comparative Study on Effects of GA Nanoparticles Suspension and Unprocessed GA Solution on Oral Bioavailability, Hepatic Function and Liver Antioxidant Enzymes Activities in Carbon Tetrachloride-Induced Liver Damage Rats L. Zhang, W. Wei, Y.G. Zu, L. Yang, X.H. Zhao and B.S. Zu	423
Preparation of Polyacrylate/ZnO Nanocomposite J.L. Liu, J.Z. Ma, Y. Bao, Z.F. Zhu, Y.H. Liu and Y. Zheng	430
Apatite-Leucite Micro/Nano Crystals from Aluminosilicate Glasses for Dental Applications P. Sooksaen, F. Panyusoh, S. Atthapinan and W. Wae Noh	435
Preparation of Nano-TiO₂/Fly Ash Beads Composite Material and Photocatalytic Properties L.K. Guo, J. Lv, S. Zhou, D.M. Wang, Z.X. Zheng, G.Q. Xu and Y.C. Wu	440
Research on Photocatalysis Properties of Nano TiO₂/Mica Composite Material Prepared by the Method of Hydrolysis-Precipitation S. Zhou, Y.C. Wu, J. Lv, L.K. Guo, D.M. Wang, G.Q. Xu and Z.X. Zheng	449

Effect of Alumina Content on the Properties of Ceramic Foams Crystallized with Nano-Sized Mullite Crystals P. Sooksaen	456
Preparation and Magnetic Properties of the Core-Nanoshell Composite Materials Doped with Sm R.X. Che, B. Yu and C.X. Wang	461
A Convenient Method for Synthesis of Nano-Titania Thin Films from Aqueous TiO₂ Precursor Sols W.D. Liang, X.K. Wang and Y.P. Yang	466
Research on the Structure of LiMnO₂ Doped with Different Ni L.Z. Zhao, J.C. Zhang, X.H. Xu, X.Y. Chen and X.M. Zhao	471

Chapter 2: Frontiers of Materials Science and Engineering

Using Segment Number Parameter of Piecewise Linear Chaotic Map Construct Novel Hash Scheme P.C. Wei and J.J. Huang	479
A Micro Triggered Spark Gap Switch with Three Electrodes H. Shen, G.F. Ding, Z.W. Zhou, Z.Q. Yang and X.M. Cui	485
Effect of Different Acid Treatment on Surface Characteristics of Titanium Alloy D.G. Zhang, H.M. Cheng, Y.J. Wang and C.Y. Ning	490
The Electrostatic Tangential Resistance of the MEMS Moving Plate with Bumps Considering the Edge Effects X.J. Shen, Z.L. Wang and L. Zhou	497
Microstructure and Mechanical Properties of FeCrNiCoCu(B) High-Entropy Alloy Coatings X.B. Liang, W. Guo, Y.X. Chen and L.L. Wang	502
Study on MWCNTs Catalyze Electrogenenerated Chemiluminescence of Ru(bpy)₃²⁺ W.L. Guo, E.Z. Li, D.X. Yang, H. Chen, H.D. Wang and B.S. Xu	508
Photoluminescence Properties of NaLa(WO₄)₂:Tb³⁺ Novel Green Phosphors Prepared by the Combustion Method X.H. Qian, X.P. Pu, D.F. Zhang, S.C. Cui and Y.Y. Gao	513
The Grinding Revision of the Diamond Grinder of the Carbide Scraping Hob H.R. Liu	518
The Study of a MEMS Magnetic Field Sensor Based on “Cross-Shape” Ferromagnetic Film Q.B. Lin and G.T. Du	523
Research on Hydrogen Bonding Interaction of Trigonal Schiff Base Compound with Barbituric Acid in Organized Molecular Films T.F. Jiao and J.X. Zhou	528
Photodegradation of Rhodamine B in Water by ETS-10 Prepared through a Novel Titanium Source L.L. Wang, H.Y. Jin, N.C. Bing and L.J. Wang	533
The Influnence of the Amplitude and Frequency of Sweepled Magnetic Field on the Exchange Bias and Coercivity for Ferromagnetic / Antiferromagnetic Films: Monte Carlo Simulation W.T. Zheng, L.Q. Jiang and Z.G. Huang	538
Structure and Spectrum of (Ir_nN)^{0, ±} (n=1~6) Clusters by Density Functional Theory Methods X.R. Zhang, Y.N. Cui and Y. Li	543
Catalytic Degradation of Reactive Golden Yellow CRL Using Iron Doped Zinc Oxide A. Tariq, R. Nazir, T. Aman, A. Ahmad Kazi and F. Deebea	549
Photocatalytic Treatment of MO in Water with BiOBr Photocatalyst X.X. Zhao, Y. Wang, Z.Q. Shi and C.M. Fan	554
Temperature Induced Morphology Transformation of ZnO under Hydrothermal Condition Y.W. Li, G. Sun, J.L. Cao, H. Bala, Y. Wang, J. Wang, X.S. Wu and Z.Y. Zhang	559
Synthesis and Characterization of Functional Cholesteryl Substituted Luminol Derivative T.F. Jiao, Y.Y. Xing and J.X. Zhou	565

A Timesaving Solution Route for Hollow Polymer Microspheres by Alkali Neutralization Method	570
D.M. Nie, T. Duan and Y.J. Tang	
Synthesis and Properties of Fe₃O₄ Ferrofluids with Narrow Particle Size Distribution	575
J.H. Zhang and H.B. Sun	
Design and Fabrication of Low-Power Planar Type Gas Sensor	580
Z.L. Zhang, C.B. Yin, C.M. Tao and B. Zhu	
The Effect of Multi-Step Anodic Oxidation	585
Y. Zhen, H. Wang, X.R. Jia, H.W. Jiang and J.T. Liu	
The Thermal Stress between the Interfaces of Different Materials of the Axis Symmetric Structural	591
H.R. Liu	
Polyimide Electronic Structural and Optical Properties from First Principles Calculations	597
J.Q. Lin, J. Leng, M.H. Xia, J.H. Shi and Q.G. Chi	
Preparation of Visible-Light Responsive Photocatalyst S_xTi_{1-x}O₂	602
Y.Q. Wang, F. Liu and C.C. Zhao	
The Tribological Properties of (<i>n</i>-palmitic acid)-N-quinazolin-4-one Methyleneester as Additive in Liquid Paraffin	608
P. Ouyang	
The Difference between Rare Earth Ions and Alkaline Earth Metal Ions in DNA Condensation Process	613
J. Zhang, X.T. Shi, W. Guo, Z. Zhang and H. Yang	
Research on Chip Breaking Feature of the Micro Hole Vibration Drilling	616
P. Zhang, X.Y. Guo, K.P. Zhao and L.Y. Zhu	
Effect of Gamma-Irradiation towards Stress-Strain Curve of Single Die QFN Package	620
W.Y. Wan Yusoff, A. Jalar, N.K. Othman and I. Abdul Rahman	
Synthesis of Porous MgO into Sheet-Like Structure via Solution Routes	625
M. Abu Bakar, M. Azmi Abdul Hamid, A. Jalar and R. Shamsudin	
Mn and MnZn Ferrite Powders Prepared by Detonation of Emulsion Explosives	630
X.J. Li, X.H. Wang, H.H. Yan, L. Xue and N. Luo	
Mechanical Behavior of CNTs/SiCp/AZ91D Magnesium Matrix Composites	635
W.X. Li, Y.F. Nie and D.D. Wang	
Optimization of the Catalytic Wet Peroxide Oxidation of Phenol over the Fe/NH₄Y Catalyst	640
J.Q. Xu, F. Guo, S.S. Zou and X.J. Quan	
White Organic Light-Emitting Diode Based on Organic Quantum Well Structure	645
L. Wen, F.S. Li and T.L. Guo	
The Analysis and Testing of the Natural Frequency of Air-Spring Precision Isolation Systems	650
W. Zhang, J.L. Yin, L.B. Jin and D.S. Li	
Effect of Measurement Temperature on Electroluminescence Properties of PET Films	657
J.Q. Lin, M.H. Xia, J.H. Shi, J. Leng and Q.G. Chi	
Stable Ti/IrO₂ Anode with Iridium-Titanium Oxide Interlayers for O₂ Evolution	662
J.Z. Hu, P.C. Deng, X.W. Wang and H.B. Xu	
Research on some Schiff Base Compounds with Aromatic Substituted Groups and their Cu-Complexes	667
T.F. Jiao, N. Yang and J.X. Zhou	
Influence of Nickel Film Thicknesses on Dark Current-Voltage Characteristics of Silicon Solar Cells	672
T. Li, C.L. Zhou, Z.G. Liu, W.J. Wang, Y. Song, Z.H. Gao, Y. Duan and Y.Z. Li	
Structural and Electronic Properties of c-BC₂N Supper Hard Material: an <i>Ab-Initio</i> Study	676
Y.P. Zheng, N. Wei, Z.Y. Fan, L.Q. Xu and Z.G. Huang	
Isotherms for Aqueous Potassium Adsorption and Characterization of Natural Pyrophyllite	682
H.F. Chen, P.S. Tang, M.H. Xu and F. Cao	
Experimental Research and Analysis on Micro Electrode Fabricated by Electrochemical Etching	686
H.B. Wang, Z.N. Guo and Z.P. Han	
Speckle Characterization and Suppression	690

Photoluminescence Characteristics of CdSe/ZnS Quantum Dot Doped Fibers in Different Matrices X.F. Peng	695
Passive Q-Switching with Graphene Saturable Absorber in Nd:YAG Operating at 1064nm M. Jiang, Z.Y. Ren, Y.P. Zhang, B.L. Lu, R.J. Zhang, J.X. Guo, Y.X. Zhou and J.T. Bai	700
Effect of Cooling Rate on the Microstructure of Cu₈₀Cr₂₀ Alloys Z.M. Zhou, W.J. Huang, J. Luo, X.P. Li, T. Zhou, B.B. Lei, C.H. Wang, H. Xia and C.Y. Peng	704
Elevated Temperature Mechanical Properties of Al-8.5Fe-1.3V-1.7Si/SiC_p Composite Prepared by Multi-Layer Spray Deposition Y.Q. He, B. Qiao and L.C. Feng	708
Fabrication of MWCNT-Reinforced Copper Composite and Thermal Expansion Behavior Z.F. Fan, X.H. Chen, L.S. Xu, Y.Q. Liu, W.B. Zhong, W.Y. She and B. Zeng	713
Study on the Performance of Amorphous Nickel Hydroxide Codoped with Ce and Fe C.J. Liu, C.X. Xing and S.J. Chen	718
Effect of Atomic Structures and Clusters on Deformation Behaviors in the Binary Zr₅₀Cu₅₀ Amorphous System Y.Z. Dang, L. Wang and Q.B. Fan	723
The Research of the Chemistry Composition of High Temperature Oxidization under Loads for the Cr5Mo Alloy S.Q. Chen and Y.M. Ma	729
Electrical Conductivity Research of Inhomogeneous Ceramic-Metal Composites L.C. Feng, X.M. Yu, B. Qiao and Y.Q. He	733
Characterization and Properties of Organic Silicon Modified Vegetable Oil Fatliquor B. Lü, J.Z. Ma, D.G. Gao and J. Zhang	738
Silver-Supporting Diatomite Preparation and Antibacterial Performance Test F.E. Hu, Z.J. Wang and J.L. Li	742
The Design of Electroporation Device Based on Dielectrophoresis with its Application on the Control of Monoplast W. Zhe, X. Qin and J.R. Fan	746
Television Part of Plastic Mold Design Based on CAE J. Zhou, L.J. Li, Y.H. Hu and M.C. Wang	750
The New Method in Scraping the Back Off Surface of Side Edge of the Carbide Hob H.R. Liu	754
Solidification Behavior of Undercooled Cu₉₈Cr₂ Alloys Z.M. Zhou, L.W. Tang, M.M. Cao, X.P. Li, J. Luo, T. Zhou, Y. Hu and J. Zhan	760
Rapid Degradation of Rhodamine B over Cyclodextrin Modified TiO₂ X. Zhang and N.S. Deng	764
Effect of Particle Size on Hydrogen Reduction Reaction Kinetics Parameters of Cu₂O Powders Z.Y. Li, K. Yu, Y. Gao, J. Liu, D. Jin and Y.C. Zhai	769
Perpendicular Magnetic Anisotropy in the CoFeB/Pt Multilayers by Extraordinary Hall Effect N. Liu, H. Wang and T. Zhu	773
Research on Interfacial Coordination of Trigonal Schiff Base Compound with Hydrophobic Core and Aromatic Periphery at Air/Water Interface T.F. Jiao and J.X. Zhou	778
Preparation and Evaluation of a W/O/W Double Emulsion Containing both Vitamin C and Vitamin E Q. Xia and Y.L. Yao	783
Synthesis of Al-Substituted 11Å Tobermorite from Aegirine-Augite Syenite Potash Ores by Hydrothermal Reaction at 300°C Y.Q. Liu, H.T. Xia and H.W. Ma	788
Cooling Water Screening Test of Corrosion and Scale Inhibitors M.J. Sun, Y. Lei, L.J. Xi, Y.H. Liu and X. Wang	794
Oxidation Resistance of Ni-Co-ZrO₂ Composite Coatings W.C. Sun	799
Preparation and Characterization of Spherical Mesoporous Material SBA-15 in the Presence of H₃PO₄ W.J. Li, Z.Y. Yu, F. Xie and M.Z. Qi	804

Measuring Subsurface Damage of the Ground Sample by Roughness along the Bevel H.R. Wang, G.L. Sun, C. Guan, C. Chen and Z.D. Jiang	809
Efficient Photocatalytic Degradation of Bisphenol a over Urushiol Modified Titanium Dioxide under Visible Light Irradiation X. Zhang and N.S. Deng	815
Study on Flame Retardant and Anti-UV Finishing Technology of Cotton Knitted Fabric J.F. Di, J. Xu and W.Q. Du	820
Preparation of Silver-Doped TiO₂ Photoatylst via a Simple Sol-Hydrothermal and their Visible Light Photocatalytic Activity L. Guo, F. Fu, D.J. Wang, X.D. Qiang, Q.B. Wei and Y.F. Wu	824
Flow Characteristics of Microfilter in Slip/Transition Regime F.B. Bao, J.X. Wang and J.Z. Lin	831
The Preparation, Characterization and Application of the CNTs Modified Electrode X.M. Cui, G.F. Ding, Y. Wang, W.J. Lu and H. Shen	838
Performance on GaN-Based Light-Emitting Diodes with Different Substrate Tilt Angles J.K. Liou, Y.J. Liu, S.Y. Cheng, P.C. Chou, C.C. Chen and W.C. Liu	842
Microstructure Characterization of Rapid Solidification Al Alloy Foil Y. Li, C.X. Zhai and C.H. Xu	847
The Profile Calculation and the Best Fillet of Powder Metallurgical Gears H.R. Liu	851
Effects of CNT Concentration and Heat Treatment on Micro-Hardness of Ni-P-CNTs Composite Coatings W.C. Sun	855
Study on a NmaI₂O₃/Epoxy Compound Wear-Resisting Coating Applied in Flood Discharging Structure of Hydraulic Works X.F. Xu, Y.B. Cai and H.Y. Sun	860
Enterprise Multi-Project Selection Combination Restrained by Resources B. Zhang	864
Mechanical Characterization of Hepatoma Cells Using Atomic Force Microscope J.H. Wang, M. Yu, L. Liu, J. Zhao and H.X. Wang	869
Application of CdTe Quantum Dots to Development Fingerprints on Adhesive Surfaces R.Q. Yang, Y.G. Wang, B.B. Xia, Y.J. Wang and J.J. Liu	874
Combination of Microemulsion for Topical Delivering Tripterygium Wilfordii Multiglycoside X. He, X.H. Zhao and W.Q. Ou Yang	881
Atomic Force Microscopy-Based Investigation on the Elastic Properties of Oligodendrocytes J.H. Wang, M. Yu, L. Liu, J. Zhao, Y.C. Liang and S. Dong	886
Performance of a GaAs-Based Pseudomorphic High Electron Mobility Transistor (PHEMT) with an Electroless-Plated Treated Gate C.C. Huang, C.C. Chen, J.K. Liou, P.C. Chou, H.I. Chen, S.Y. Cheng and W.C. Liu	891
Vacuum Adhesive Bonding and Stress Isolation for MEMS Resonant Pressure Sensor Package Y.X. Li, D.Y. Chen and J.B. Wang	896
Organic Light-Emitting Diodes with Varying Thickness of Bathocuproine Layer G.Y. Zhong, P.Y. Fang and Y.M. Cao	901
Molecular Dynamics Simulation of Relaxation and Local Structure Change of a Molten Cu₁₃₅ Cluster during Rapidly Quenching S.N. Xu, N. He and L. Zhang	908
Study on Tribological Properties of n-SiO₂/FeS Solid Lubrication Composite Coating Y.Q. Zhao, Y. Zang, Y.L. Qiao and S.L. Yang	914
The Simple Method in Grinding the Carbide Burs of the Shape of a Cone Upside down H.R. Liu	919
Propagation Characteristics of Longitudinal Displacement Wave in Micropolar Fluid with Micropolar Elastic Plate Q.Y. Sun, H.Y. Xu and B. Liang	923
The Research on Ferromagnetism of the Y Doped ZnO Film Z.H. Lan and X.J. Miao	928

A Facile Method to Fabricate Monodispersed SBA-15 Spheres M.X. Du, M.Z. Xu and W.Z. Li	931
An Efficient Catalysis-Oxidation Method for the Degradation of Phenol in Wastewater W. Bin and D.L. Chai	936
The Effect on the Surface of Ti-5Al-2Sn-2Zr-4Mo-4Cr by Laser Shock Peening X.F. Nie, N.D. Long, W.F. He and Q.P. Li	946