Table of Contents

Preface and Organizing Committee

Chapter 1: Environmental Science and Ecology

M. Jiao, X. Li, J.Y. Liu, Y.Q. Tian, Y. Huang, C.M. Gao and X.J. Chen	3
River Ecosystem Health Assessment and Implications for Post-Project Environmental Appraisal in China	
A. Chen, X. Sui, D.S. Wang, W.G. Liao, S.N. Wu and J. Tao	8
Impact of Long Transport on Taiwan's Ozone Air Quality from East Asia C.H. Chen, K.H. Chang and T.F. Chen	13
Water Quality Monitoring Based on Mobile Measurable System Z.F. Shao and L. Zhang	22
Innovative Application of Renewable Resources to Alleviate our Current Environmental	
Crisis Y.N. Han, W.M. Kong, L.V. Nhan and Y.K. Rui	28
Influence of Forest Gaps and Litter on Growth of <i>Castanopsis fargesii</i> and <i>Castanopsis carlesii</i> in the <i>Pinus massoniana</i> Pure Forest of the Three Gorges Reservoir Area D.L. Feng, X.H. Huang, Y.H. Geng and H.X. Zhu	33
Removal of Organochlorine Pesticides in Constructed Wetlands	40
H. Li, H.H. Zeng and Y.P. Liang Research on the Plant Selection of Buffer Zone and Pollutants Removal Ability of Plants in	40
Ashi River Basin	
F. Yang, Z.Y. Yan, Y.N. Liu, H. Han, W. Gong and H.W. Ni	44
Calculation Method of Assimilative Capacity for Shallow-Broad Rivers L.X. Han, B. Chen and L.N. Chen	50
Research Development on Water Quality Criteria L.M. Qin, H.H. Zeng and Y.P. Liang	55
With River Sand and Soil Matrix <i>Ophiopogon japonicus</i> Artificial Wetland Research on Treatment of Wastewater Containing Lead Y.M. Cao, Y.C. Xie, Y.H. Guo and H. Jiang	60
The Seed Bank Response of Five Pioneer Plants to Flooding – A Implication for Riverbank Vegetation Restoration J. Wang, F.Q. Chen, L. Xiang and M.Y. Geng	65
Seasonal and Interannual Variation of Soil Respiration on the Sanjiang Plain Wentlands in	
Northeast China J.B. Wang, X.L. Fu, H.X. Zhong, J.F. Wang and H.W. Ni	70
Study of the Comprehensive Utilization of Solid Emissions of the Power Plant Based on the SWOT Analysis	70
F. Dai, Y.C. Chen, J. Fan and X.D. Guo	74
Research on the Preliminary Site Selection of Sewage Treatment by Deep Sea Discharge in Fujian Province	0.0
T. Chen and X. Li	80
Impact of Different Sorting Media on the Waste Plastics Separation X. Li, Y.W. Guo, J.L. Ruan, Q. Qiao and J.Q. Zhang	84
Effect of Green Water Management on River Base Flow J. Li and W. Yin	90
Trend Analysis on Precipitation Time Series Data in Munda Catchment, Pakistan I. Ahmad, D.S. Tang, M. Wang and S. Hashim	97
Investigation and Development of Eco-Tourism Resources after Ecological Restoration in Mentougou District of Beijing	
Z.H. Chen, J. Qi, S. Shi, J.X. Wang and Y. Liu	103

Evaluation of Eco-Environment Quality in the Scale of County: A Case Study of Changping District	
J. Qi, Z.H. Chen, S. Shi, F. Gao and Y. Liu	109
Characteristics of Landscape (Land Use) Change and its Driving Force in County - A Case Study of Shunyi District of Beijing S. Shi, Z.H. Chen, J. Qi and Y. Liu	115
Assessment of Regional Water-Human Harmony Based on ANP-Entropy Model M. Wang, D.S. Tang, I. Ahmad and J.X. Zhang	121
Urban River Pollution Control Based on Bacterial Technology S. Hashim, Y.B. Xie, I. Hashim and I. Ahmad	127
Esterification of Waste Palm Oil in Wastewater Pond for Community Biodiesel Production A. Timyamprasert, V. Punsuvon, K. Chunkao, J.L. Silva and T.J. Kim	133
Preservation of Forest Biodiversity – A Key Factor of Sustainable Development of a Territory	139
Y.V. Lebedev, V.P. Anufriev and T.A. Lebedeva Ecological Improvement of <i>Fraxinus velutina</i> Forest on Heavy Saline-Alkali Soil X.X. Lu, T. Liu, J.H. Yang, Y.J. Liu and J.X. Huang	143
Adsorption of Zn(II) from Aqueous Solution by Attapulgite J. Ren, D. Xu, L. Tao and Z.W. Fu	149
Preparation of a Magnetic, Hydrophilic and Bacteria Attachable Ceramsite and its	
Application in Wastewater Treatment Z.F. Zhu, J.Z. Zhu, L. Chen, J.B. Chen and M. Ji	156
Use of Soluble Phosphates to Stabilize Lead Contaminated Soils Z. Zhong, Y.J. Sun, H.M. Lao and C. Zhang	161
Optimization of Fermentation Conditions for Cellulase Production by HDZK-BYTF620 (Aureobasidium pullulans) which is from the Gut of Termites	167
M.J. Sun, L.Q. Sun, S.S. Wang and K. Zhao The Effects of Soft Leaching with Citric Acid on Soil P Release Characteristic	167
C. Feng, J.M. Zheng, L.S. Feng, X.J. Yu, P.F. Wang, Z.X. Sun and L.Z. Guan	172
Chapter 2: Materials Physics and Chemistry	
Comparison of Dynamic Mechanical Properties between Pure Iron (BCC) and Fe-30Mn-3Si-4Al TWIP Steel (FCC)	
W.P. Bao, Z.P. Xiong, F.M. Wang, J. Shu and X.P. Ren	179
The Characteristics of Optical Pumped GaN-Based Vertical Cavity Surface Emitting Laser Structures	
Y.T. He, X.Y. Lei, Z.R. Qiu, B.P. Zhang, N. Lu, I.T. Ferguson and Z.C. Feng Application of Ceramic Membrane Technology in Tungsten Fine Particle Concentration	187
Process W.F. Huang, X.F. Wang, X.D. Li and S.M. Yan	191
Experiment on Doping Rare Earth Diamond Tools Matrix Composites with Fe Replacing	
Co Q.H. Zou and Z.G. Wang	200
Large-Scale Synthesis of Large-Sized Monodispersed Iron Oxide Nanoeggs X.L. Liu and J. Ding	206
Experimental Study on the Lateral Compression Energy Absorption Characteristics of Hexagonal Steel Tube Filled with Polyurethane Foam Z.P. Zhou, F. Liu, Y.H. Gao and F.X. Xue	210
Microstructure and Thermal Shock Behaviour of Alumina Composite Ceramic for Heat Transmission Pipeline	
X.H. Xu, X.Y. Xu, J.F. Wu, Y. Zhou and D.Z. He	217
The Slag Resistance of Al ₄ SiC ₄ -Al ₄ O ₄ C Composite Refractories W.J. Yuan, C.J. Deng, W. Zhou and H.X. Zhu	224
Dependence of Stability of Sr ₅ (AsO ₄) ₃ OH on pH Value Y.H. Huang, Z.N. Li, H. Qin, Z.Q. Zhu, Y.N. Zhu, L.Q. Dai and Y.L. Niu	229

Preparation and Performance of β-Sialon/Si ₃ N ₄ Composite Ceramics for Solar Heat Absorber	
J.F. Wu, Y.X. Zhang, X.H. Xu, D.Z. He, Y. Zhou and Y. Liu	234
Preparation of Immobilized Chromium Schiff Base Complexes and their Catalytic Performance for Olefins Epoxidation G.D. Wu, X.L. Wang and Z.L. Zhai	240
Microwave Depolymerization of DGEBA/EDA Epoxy Resin in Ionic Liquid J.Q. Zhang, T. Tian, L. Zhang, J.Y. Chen and C.B. Yu	245
The Influence of the Aqueous Dispersion of Maleic Anhydride Grafted Polypropylene (MAH-g-PP) on the Interfacial Crystallization of Glass Fiber Reinforced Polypropylene (PP/GF)	0.51
X.Y. Zhao, K. Zhao and P.Q. Sun Crustallization of Polymonylana Induced by the Aguacus Dispersion of Isotoptic	251
Crystallization of Polypropylene Induced by the Aqueous Dispersion of Isotactic Polypropylene Wax X.Y. Zhao, K. Zhao and P.Q. Sun	255
Effect of the Ratio of Si-H/C=C on the Properties of Organosilicone Gel Materials for Large-Power LED Encapsulation R. Yan, P. Xiang, Y.F. Cheng, C.J. Yang, Y. Li and M.S. Yang	261
Numerical Analysis of Effective Conditions of Chemical Reaction Suppression during Typical Forest Fuel Material Combustion	201
A.O. Zhdanova, G.V. Kuznetsov and P.A. Strizhak	267
Effect of Different Curing Catalysts on Curing Behavior of Transparent Epoxy Molding Compound for SMD LED Packaging Y.F. Cheng, Y. Zhou, R. Yan, Y.K. Chen, M. Liang, Y.J. Lin and M.S. Yang	272
Temperature Influences on Frictional Coefficient of Electrostatically Sprayed PTFE/PEEK Composite Coatings	
J.Q. Zhang, E.Y. Ming, C.H. Zhang, J. Xu and H. Liu Microstructural Evolution in Worn Surface Layer of T10 against 20CrMnTi Steels after	277
Dry Sliding Friction X. Wang, R.B. Li and J. Zhang	282
Study on the Viscosity and Dispersion Stability of AA-AMPS Copolymer on Nano Zinc Oxide	
Y.L. Liu and J. Liu	288
The Dispersion Stability of Polyacrylic Copolymers with Three Anionic Sulfonic Groups on Nano Zinc Oxide Y.L. Liu and J. Liu	292
Equivalent Analogy Research on Filtration Resistance of Wet Fiber Layer for Mine	->-
Particles X.S. Chen, Y.L. Zhang and Y.H. Wang	296
Sol-Gel Derived Strong Green Phosphor Zn ₂ SiO ₄ : Mn ²⁺ and the Luminescent Properties Y. Wang, C.B. Huang, P.B. Xie, S.J. Li, Z.W. Chen and J.H. He	304
Preparation Process Analysis on BN Powder with High Specific Surface Area P.Y. Yao, B. Zhao and J. Xu	311
Microstructure of AZ61 Magnesium Alloy by Equal Channel Angular Extrusion D. Wu, Y.L. Lu, X.C. Li, W.T. Xu and G.Y. Chen	315
Catalytic Application of H ₄ SiW ₁₂ O ₄₀ /TiO ₂ -SiO ₂ in Synthesis of Acetals and Ketals F. Peng, Y.L. Xu, S.Y. Xiang and S.J. Yang	320
Synthesis of Adipic Acid Using H ₄ SiW ₆ Mo ₆ O ₄₀ /TiO ₂ -SiO ₂ as Catalyst F. Peng, H. Zhao and S.J. Yang	326
Recovery of Iron from Cyanide Residues by Carbothermic Reduction-Magnetic Separation $L.M.\ Yu$	332
Effect of La Content on the Infrared Stealth Property of ZnO: (La, Al) Coated on Cotton Fabrics V. J. Vu. I. B. Zhang, V. Zhang, H. Vu and Z. B. Mag.	337
X.L. Yu, L.P. Zhang, Y. Zhong, H. Xu and Z.P. Mao Fabrication of Barium Titanate/Hydroxyapatite with Aligned Pore Channels by Freeze	33/
Gelcasting Y. Zhang, Y.X. Bao, K.C. Zhou and D. Zhang	341

Synthesis and Characterization of Polyaniline Dopd with Anionic Spherical Polyelectrolyte Brushes	
Q.Q. Dong, H.B. Li, P. Zhang, Q. Zhang and H. Li	347
Redoping Effects on Structure and Properties of Coaxial Polyaniline/Carbon Nanotube Nanocomposites	
Y. Zhou, W.Y. Li, Q.W. Tian and D.J. Zhang	352
Chapter 3: Materials Engineering and Processing Materials	
A Study on Hot-Rolling Deformation Resistance of a TRIP Steel C.S. Yu, Z.W. Zheng, M.L. Wang and G.T. Zhang	359
Fracture Analysis of the Weld Alloy Plate of Flat Valve J.J. Xue, H. Zhao and B. Zhao	366
Research on Hot Deformation Behavior of the X100 Pipeline Steel W.H. Yu, F. Liu, S. Gao and S.D. Chen	371
Study on Thermal Decomposition Kinetics of Nano-Cr(OH) ₃ Powder F. Pan, Z.Y. Li and C.J. Li	377
Experimental Study on Ultrasonic Vibration Drilling of Stainless Steel 0Cr17Ni4Cu4Nb Micro-Deep-Hole	
Z.F. Liu and T. Guo	381
Study on the Test of Fatigue Life Prediction for X80 Line Pipe Q.R. Ma, Y. Li and K. Yang	387
Synthesis of Silicalite-1 Membrane with High-Thermal Stability on Silica Tubes by <i>In Situ</i> Hydrothermal Synthesis	
H.L. Chen, B.B. Yang, J.S. Yang, Y. Wang and H.Y. Li	391
Research on Preparation of Activated Carbon from Thermosetting Epoxy Circuit Board J.Q. Zhang, S.H. Liu, J.H. Zu, C. Song and C.B. Yu	396
Evaluation of the Surface Roughnes the Machined Surface of Holes during the Drilling of Stainless Steels DIN 1.4301 J. Jurko and A. Panda	401
Evaluation of the Tool Wear the Screw Drill during the Drilling of Stainless Steels DIN 1.4301 J. Jurko and A. Panda	406
Furnace Temperature Optimal Setting of the Dispersal Reversing Furnace	400
H.C. Jing and X.Q. Liu	411
Preparation of Nano Carbon Black/Epoxy Composite by Frontal Polymerization Z. Chen, P. Liu, L. Shi, Z.X. Huang and B.Y. Jiang	416
Size Effect of Ion Translocation through Nanopore by Molecular Dynamics I. Hanasaki, Y. Kuzuya and S. Kawano	420
The Fatigue Property Research of Steel Q345 Butt Welded Joint W.P. Ouyang, L.S. Chen and X.D. Xu	424
Tribological Behavior and Mechanisms of the Deloro60 Alloy Coatings by Electro Spark Deposition under Dry Sliding Friction Conditions	420
X.L. Wang, T. Xu, Y.F. Tan, L.Z. An, L.L. Wang and W. Xu Carbon Dioxide Corrosion and Corrosion Prevention of Oil Well Cement Paste Matrix in	428
Deep Wells J.F. Zhang, J.L. Yang, K. Liu, B. Wang and R.X. Hou	433
Key Drawing Program for the Prior Eutectoid and Eutectoid Zone of Non-Equilibrium Phase Diagram of Carbon Steel Q.H. Zou and L. Zhu	439
Program Drawing the Dynamic Phase Diagrams of MnCrNiMo Type Steels Q.H. Zou and L. Zhu	444
Study on the Galvanealing Process for High Strength Low Alloying Auto Steel F. Fang, L.X. Wang, L.H. Wang and F.Y. Sun	450
Research on Properties and Reaction Mechanism of Blast Furnace Slag Backfilling Cementing Material	150
S.G. Hu, X.J. Lu and H.L. Niu	454

Gas Sensing Performances of Sb-Doped SnO ₂ Nanograins Fabricated by Co-Precipitation in Alcoholic or Aqueous Solvent	
L.F. Zhu, J. Huang, C.Y. Zhang, G.S. Gai and Y.W. Yao	460
Marine Engineering Steels – Properties Requirements and Evaluation J.X. Fu, L. Chen, C.J. Wu and Y.X. Wu	465
Effect of Al ₂ O ₃ -Water Nanofluid on the Heat Performance of Gravity-Assisted Heat Pipe W. Wu, S.L. Zhao and Q. Lin	470
Effect of Fly Ash on LifeCycle CO ₂ Assessment of Concrete Structure K.H. Yang, E.A. Seo and D.U. Choi	475
Effect of Corrosion Inhibitor on the Compressive Strength of Polymer-Modified Cement Mortars	
J.E. Jeong, K.H. Yang and I.G. Yun	482
Effect of Unit Binder Content on Mechanical Properties of Foamed Concrete K.H. Lee and K.H. Yang	486
Full-Field Strain Behavior of Friction Stir-Welded Titanium Alloy by Digital Image Correlation	
M. Ramulu, T. Greenwell and P. Labossiere	490
Research on the Evaluation Method of Water Stability for Large Size Aggregate Particle Asphalt Mixture	
Z.Ĥ. Sun, T.B. Wang, Z.F. Wu and Z.S. Wang	497