## **Environmental Protection and Resources Exploitation II**

Selected, peer reviewed papers from the 2014 2nd International Conference on Advances in Energy and Environmental Science (ICAEES 2014), June 21-22, 2014, Guangzhou, China

von Zili Liu, Xinfa Dong, Zhaotie Liu

1. Auflage

Trans Tech Publications 2014

Verlag C.H. Beck im Internet: www.beck.de ISBN 978 3 03835 209 9

#### **Table of Contents**

#### **Preface and Conference Organization**

#### **Chapter 1: Environmental Chemistry and Biology**

A QSPR Study on Debromination of PBDEs with CPCM Solvation Model L.Y. Li, Y.M. Lin and J.W. Hu	3
Adsorption of Streptomycin on Soil: Effects of pH and the Presence of Cations	
N. Wang, W.Y. Zhao and W.L. Huang  Advances in Preparation of Activated Carbon from Sugarcane Bagasse and Using it to	10
Treatment of Wastewater Research Y.M. Qin, M.N. Liang and D.Q. Wang	15
Correlations of Substrate Microorganisms and Enzyme Activities with Wastewater Purification Effects in Subsurface Infiltration System J. Pan, S.Y. Song and Y. Zhang	20
Deposition Properties Research of Calcium Sulfate Scale on Microbic Surface S. Li, C.T. Qu, Y. Li, B. Yang and J. Ma	24
Diversity of Culturable Hydrocarbons-Degrading Bacteria in Petroleum-Contaminated Saltern	
X.X. Wang, C. Li, L.B. Zhao, L. Wu, W. An and Y. Chen	29
Effect of Environment on Yield and Quality of Rice Recombinant Inbred Lines Y.J. Xia, J. Zhang, M.Y. Fan, C.X. Liu, L. Yang, M.B. Li, Y.J. Jiang and Z.J. Xu	33
Effects of Water Stresses on the Photosynthetic Characteristics of Hemarthria Compressa J.Y. Jin, L. Yuan and B. Chang	38
Efficient Production of Laccase from <i>Armillariella tabescens</i> by Solid State Fermentation J.Y. He, X.Y. Ye, Q.Z. Ling and L.H. Dong	42
Enhancement of Bio-Hydrogen Production from Waste Activated Sludge by Carbohydrate Substrate Addition and pH Adjusting Y.X. Zhao, M.T. Gao and H. Mu	48
Influences of TiO <sub>2</sub> Nanoparticles on the Transport of Hydrophobic Organic Contaminant in	
Soil O.C. Cai	55
Optimization of Fermentation Medium and Culture Conditions of Hydrocarbon-Degrading Bacterium <i>Brevibacillus panacihumi</i> W25 X.X. Wang, C. Li, L.B. Zhao, L. Wu, P. Zhou, W. An and Y. Chen	69
Solubilization of Radionuclide <sup>238</sup> U and <sup>137</sup> Cs in Contaminated Soil with <i>Acidithiobacillus</i>	0)
thiooxidans Z.T. He, Y. Ding and S.B. Yuan	73
Study on the Taqman Real-Time PCR to the Detection and Quantification of <i>Rhizoctonia</i> solani AG-3 of Tobacco Target Spot	,-
Y.Q. Zhao, Y.H. Wu, X.X. Zhao, M.N. An and J.G. Chen	80
Synergetic Degradation of Enzyme-Fenton Reagent for Methyl Orange B. Yao, Z.M. Xu, C.A. Tao and J.F. Wang	84
A Study on Heavy Metals Pollution in Soil and Fruits of <i>Rosa roxburghii tratt</i> from the Planting Bases Located in the Karst Areas of Guizhou Province Y. Wang, X.Y. Ding, H. Yang, J.W. Hu, F. Jiang and H.L. Chen	88
Effects of Arsenic on Enzyme Activity in Mine Soil Microorganism J.H. Zheng	96
Production and Characterization of Monoclonal Antibodies against Acridine Ester L.X. Zhu, Y. Fan, X.M. Qiu, R.R. Liu, L. Xu and L. Xu	101
<b>Progress in Scenedesmus Obliquus Culture and Physiological Mechanisms of Toxicity</b> F.F. Wang, H.H. Zeng and L.Y. Mo	107
Progress on Treatment of Cadmium Pollution in Wastewater D.L. Huang, M.N. Liang, D.Q. Wang and Y.N. Zhu	112

Resistance and Distribution to Heavy Metals of Zoysia sinica hance and Rumex crispus X.C. Xue and G. Liu	117
Spring Bird Community Structure in Response to Habitat Heterogeneity in a Subtropical Hilly Landscape	
W.B. Li, Z.M. Mo, X.T. Chen, C. Huang and M.F. Xu	121
Variations in Proline Content of Salt Cedar ( <i>Tamarix chinensis</i> ) in Different Habitats of the Yellow River Delta, China Y. Yan, W.N. Zhao, H. Liu and L. Zhao	126
Study on Flotation Separation and Determination of Trace Copper in Water Samples Using Microcrystalline Adsorption System Y.J. Zhong and X.R. Wen	136
Antioxidant Defense Enzymes Response Following Polychlorinated Biphenyls Exposure to <i>Eisenia fetida</i> in Actual Polluted Soil D.S. Shen, X.Q. Tao, C.C. Shen, J.L. Shentu and M.Z. Wang	142
Coordinate Responses of ABA Accumulation against Drought at Physiological, Ecological and Molecular Levels in <i>Triticum aestivum</i> W.L. Tian, H.H. Song, X.R. Mei, Y.Z. Li and J.X. Guo	147
Cloning and Bioinformatic Analysis of Stearoyl-acyl-carrier Protein Desaturase Gene in	
Cassava (Manihot esculenta Crantz) J. Fan, R.M. Li, M.T. Geng, Y. Yao, C.L. Yang, Y.Q. Wang, R.J. Duan, S.P. Fu, J. Liu, X.W. Hu and J.C. Guo	155
Study on Fingerprint of ZheRong Radix Pseudostellariae by HPLC T.X. Wang, D.J. Gong, L.Y. Xia and X.Q. He	160
Analysis of Antioxidant Properties and Major Components of the Extract of <i>Paulownia tomentosa</i> Steud Flowers Z.F. Meng, X.F. Guo, Y. Zhu and S.K. Jing	164
An Automatic Microalgal Cells Counting Method Y. Zhao, D.J. Zheng and Y. Shen	178
Chapter 2: Environmental Materials	
Assembling Fe(III)-citrate Complexes on Graphitic Carbon Nitride for Coupling	
Photocatalysis with Fenton Reaction X. Li, J.H. Liu, Baosharileaodou, H.A. Yang, F. Huang, X.G. Guo, H. Yang, Q.X. Wang, L.M. Duan and Z.R. Liu	185
Photocatalysis with Fenton Reaction X. Li, J.H. Liu, Baosharileaodou, H.A. Yang, F. Huang, X.G. Guo, H. Yang, Q.X. Wang, L.M.	185 190
Photocatalysis with Fenton Reaction X. Li, J.H. Liu, Baosharileaodou, H.A. Yang, F. Huang, X.G. Guo, H. Yang, Q.X. Wang, L.M. Duan and Z.R. Liu  Effect of Rare Earths on Iron-Carbon Micro Electrolysis in Dyeing Wastewater Treatment X.G. Chen, J.C. Kuang and M.H. Chen  Enhanced Photoelectrocatalytic Activity of Oriented Rutile TiO <sub>2</sub> Nanorod Array Film through Nb Doping	190
Photocatalysis with Fenton Reaction X. Li, J.H. Liu, Baosharileaodou, H.A. Yang, F. Huang, X.G. Guo, H. Yang, Q.X. Wang, L.M. Duan and Z.R. Liu  Effect of Rare Earths on Iron-Carbon Micro Electrolysis in Dyeing Wastewater Treatment X.G. Chen, J.C. Kuang and M.H. Chen  Enhanced Photoelectrocatalytic Activity of Oriented Rutile TiO <sub>2</sub> Nanorod Array Film through Nb Doping  M.L. Chang, D.C. Chen, X.F. Ye, X.J. Li, L.P. Wu and M. Xi  Potential for Phosphorus Removal in Wastewater Using Volcanic Rock as Adsorbent	190 195
Photocatalysis with Fenton Reaction X. Li, J.H. Liu, Baosharileaodou, H.A. Yang, F. Huang, X.G. Guo, H. Yang, Q.X. Wang, L.M. Duan and Z.R. Liu  Effect of Rare Earths on Iron-Carbon Micro Electrolysis in Dyeing Wastewater Treatment X.G. Chen, J.C. Kuang and M.H. Chen  Enhanced Photoelectrocatalytic Activity of Oriented Rutile TiO <sub>2</sub> Nanorod Array Film through Nb Doping  M.L. Chang, D.C. Chen, X.F. Ye, X.J. Li, L.P. Wu and M. Xi  Potential for Phosphorus Removal in Wastewater Using Volcanic Rock as Adsorbent C. Zhang, Z. Zhong, Y.J. Feng, L. Sun and L. Qi  Preparation and Application of Morph Genetic Materials in the Field of Environment	190 195 202
Photocatalysis with Fenton Reaction X. Li, J.H. Liu, Baosharileaodou, H.A. Yang, F. Huang, X.G. Guo, H. Yang, Q.X. Wang, L.M. Duan and Z.R. Liu  Effect of Rare Earths on Iron-Carbon Micro Electrolysis in Dyeing Wastewater Treatment X.G. Chen, J.C. Kuang and M.H. Chen  Enhanced Photoelectrocatalytic Activity of Oriented Rutile TiO <sub>2</sub> Nanorod Array Film through Nb Doping  M.L. Chang, D.C. Chen, X.F. Ye, X.J. Li, L.P. Wu and M. Xi  Potential for Phosphorus Removal in Wastewater Using Volcanic Rock as Adsorbent C. Zhang, Z. Zhong, Y.J. Feng, L. Sun and L. Qi  Preparation and Application of Morph Genetic Materials in the Field of Environment S. Liang, Y.H. Li and C. Zhang  Preparation Gd/N-Codoped TiO <sub>2</sub> Photocatalyst to Remove TOC in Power Plant Boiler	190 195
Photocatalysis with Fenton Reaction X. Li, J.H. Liu, Baosharileaodou, H.A. Yang, F. Huang, X.G. Guo, H. Yang, Q.X. Wang, L.M. Duan and Z.R. Liu  Effect of Rare Earths on Iron-Carbon Micro Electrolysis in Dyeing Wastewater Treatment X.G. Chen, J.C. Kuang and M.H. Chen  Enhanced Photoelectrocatalytic Activity of Oriented Rutile TiO <sub>2</sub> Nanorod Array Film through Nb Doping  M.L. Chang, D.C. Chen, X.F. Ye, X.J. Li, L.P. Wu and M. Xi  Potential for Phosphorus Removal in Wastewater Using Volcanic Rock as Adsorbent C. Zhang, Z. Zhong, Y.J. Feng, L. Sun and L. Qi  Preparation and Application of Morph Genetic Materials in the Field of Environment S. Liang, Y.H. Li and C. Zhang	190 195 202
Photocatalysis with Fenton Reaction X. Li, J.H. Liu, Baosharileaodou, H.A. Yang, F. Huang, X.G. Guo, H. Yang, Q.X. Wang, L.M. Duan and Z.R. Liu  Effect of Rare Earths on Iron-Carbon Micro Electrolysis in Dyeing Wastewater Treatment X.G. Chen, J.C. Kuang and M.H. Chen  Enhanced Photoelectrocatalytic Activity of Oriented Rutile TiO <sub>2</sub> Nanorod Array Film through Nb Doping M.L. Chang, D.C. Chen, X.F. Ye, X.J. Li, L.P. Wu and M. Xi  Potential for Phosphorus Removal in Wastewater Using Volcanic Rock as Adsorbent C. Zhang, Z. Zhong, Y.J. Feng, L. Sun and L. Qi  Preparation and Application of Morph Genetic Materials in the Field of Environment S. Liang, Y.H. Li and C. Zhang  Preparation Gd/N-Codoped TiO <sub>2</sub> Photocatalyst to Remove TOC in Power Plant Boiler Make-Up Water B. Yang, M.D. Li, H. Zhang, A.Z. Yu, J.M. Lin, J.M. Zhao and S.P. Li  Preparation of Novel Pt-BiVO <sub>4</sub> /Fly Ash Cenospheres Composites with High Photocatalytic Performance	190 195 202 207 211
Photocatalysis with Fenton Reaction X. Li, J.H. Liu, Baosharileaodou, H.A. Yang, F. Huang, X.G. Guo, H. Yang, Q.X. Wang, L.M. Duan and Z.R. Liu  Effect of Rare Earths on Iron-Carbon Micro Electrolysis in Dyeing Wastewater Treatment X.G. Chen, J.C. Kuang and M.H. Chen  Enhanced Photoelectrocatalytic Activity of Oriented Rutile TiO <sub>2</sub> Nanorod Array Film through Nb Doping M.L. Chang, D.C. Chen, X.F. Ye, X.J. Li, L.P. Wu and M. Xi  Potential for Phosphorus Removal in Wastewater Using Volcanic Rock as Adsorbent C. Zhang, Z. Zhong, Y.J. Feng, L. Sun and L. Qi  Preparation and Application of Morph Genetic Materials in the Field of Environment S. Liang, Y.H. Li and C. Zhang  Preparation Gd/N-Codoped TiO <sub>2</sub> Photocatalyst to Remove TOC in Power Plant Boiler Make-Up Water B. Yang, M.D. Li, H. Zhang, A.Z. Yu, J.M. Lin, J.M. Zhao and S.P. Li  Preparation of Novel Pt-BiVO <sub>4</sub> /Fly Ash Cenospheres Composites with High Photocatalytic Performance J. Zhang  Research on the Corrosion Behavior of Nickel Base Alloy in Municipal Sludge Treated by Supercritical Water Oxidation	190 195 202 207 211 216
Photocatalysis with Fenton Reaction X. Li, J.H. Liu, Baosharileaodou, H.A. Yang, F. Huang, X.G. Guo, H. Yang, Q.X. Wang, L.M. Duan and Z.R. Liu  Effect of Rare Earths on Iron-Carbon Micro Electrolysis in Dyeing Wastewater Treatment X.G. Chen, J.C. Kuang and M.H. Chen  Enhanced Photoelectrocatalytic Activity of Oriented Rutile TiO2 Nanorod Array Film through Nb Doping  M.L. Chang, D.C. Chen, X.F. Ye, X.J. Li, L.P. Wu and M. Xi  Potential for Phosphorus Removal in Wastewater Using Volcanic Rock as Adsorbent C. Zhang, Z. Zhong, Y.J. Feng, L. Sun and L. Qi  Preparation and Application of Morph Genetic Materials in the Field of Environment S. Liang, Y.H. Li and C. Zhang  Preparation Gd/N-Codoped TiO2 Photocatalyst to Remove TOC in Power Plant Boiler Make-Up Water  B. Yang, M.D. Li, H. Zhang, A.Z. Yu, J.M. Lin, J.M. Zhao and S.P. Li  Preparation of Novel Pt-BiVO4/Fly Ash Cenospheres Composites with High Photocatalytic Performance  J. Zhang  Research on the Corrosion Behavior of Nickel Base Alloy in Municipal Sludge Treated by Supercritical Water Oxidation  H. Ma, S.Z. Wang, M. Gao and S. Wen	190 195 202 207 211
Photocatalysis with Fenton Reaction X. Li, J.H. Liu, Baosharileaodou, H.A. Yang, F. Huang, X.G. Guo, H. Yang, Q.X. Wang, L.M. Duan and Z.R. Liu  Effect of Rare Earths on Iron-Carbon Micro Electrolysis in Dyeing Wastewater Treatment X.G. Chen, J.C. Kuang and M.H. Chen  Enhanced Photoelectrocatalytic Activity of Oriented Rutile TiO <sub>2</sub> Nanorod Array Film through Nb Doping M.L. Chang, D.C. Chen, X.F. Ye, X.J. Li, L.P. Wu and M. Xi  Potential for Phosphorus Removal in Wastewater Using Volcanic Rock as Adsorbent C. Zhang, Z. Zhong, Y.J. Feng, L. Sun and L. Qi  Preparation and Application of Morph Genetic Materials in the Field of Environment S. Liang, Y.H. Li and C. Zhang  Preparation Gd/N-Codoped TiO <sub>2</sub> Photocatalyst to Remove TOC in Power Plant Boiler Make-Up Water B. Yang, M.D. Li, H. Zhang, A.Z. Yu, J.M. Lin, J.M. Zhao and S.P. Li  Preparation of Novel Pt-BiVO <sub>4</sub> /Fly Ash Cenospheres Composites with High Photocatalytic Performance J. Zhang  Research on the Corrosion Behavior of Nickel Base Alloy in Municipal Sludge Treated by Supercritical Water Oxidation	190 195 202 207 211 216

## **Chapter 3: Environmental Safety and Health**

A Fuzzy Modeling Approach for Human Health Risk Assessment of Organic Contamination in Groundwater S.L. Tan, S. Guan and Z.F. Liu	237
An Overview of Drinking Water Treatment X.H. Zhao, H.L. Wang and H.M. Li	244
<b>Brief Introduction of Traditional Seismic Technology and Emerging Isolation Technology</b> J.Y. Li and W.F. Zhang	250
Geological Environmental Impact Assessment of Mining Subsidence Area Based on Multilayer Fuzzy Synthetic Evaluation J.X. Xu, H. Zhao and G. Li	254
Health Risk Assessment of Airborne Radon and its Daughters from Uranium Ore District by Monte Carlo Simulation Z.Y. Wang, N. Cui, C.R. Liu, T.Y. Zhang and S.F. Yang	259
Research Progress on Ecological Security Evaluation of Land in China J.C. Fu and W. Di	264
Study on Mutual Adaptability of Environmental Protection Project and Women M.Y. Xia, S.J. Chen and J. Cheng	270
Analysis of Landslide Hazard for Cities and Towns Construction in Mountains N.Q. Wang, Y.Q. Xue, L.B. Ren and W.J. Wu	275
Effect of Room Air Disinfection about Disinfectant Maken from Traditional Chinese Medicine X.Y. Wang, Z.C. Liu, L.L. Ma and N.N. Liao	280
Research on the System for Fire and Personal Evacuation of Ancient Building Based on Virtual Simulation Y.L. Bei, D.Y. Yang and X. Ren	284
Stability Evaluation of Fill Dam in Graphite Mine Tailings Impoundment S. Huang, J.P. Chen and Q. Wang	288
Study on Control Technology of Industrial Sticky Dust B.F. Jiang and Q.X. Liu	292
<b>Analysis and Countermeasures of Jinan Traffic Congestion Caused by Heavy Rain</b> Z.Y. Yin, W.L. Li, X. Huang and N. Li	297
<b>Residues of Veterinary Antibiotics in Pig Feeds and Manures in Zhejiang Province</b> D.S. Shen, X.Q. Tao, J.L. Shentu and M.Z. Wang	301
Construction and Research of Drought Mitigation Security Management System in Guizhou Province	205
H.X. Zhang, Y.T. Wang, M.X. Jiang and C.J. Shang  Smog in China: Trends, Causes and Countermeasures	305
W.D. Zhou	311
Chapter 4: Environmental Planning and Assessment	
<b>Hazard Evaluation for Seawater Intrusion in the South of Laizhou Bay</b> G.Q. Chen, W.Q. Liu, X.Y. Xu and Q. Su	317
Research on a Multi-Index Comprehensive Evaluation Method for Surface Water Quality Assessment X.L. Meng, G.L. Fan, X.H. Cao, J.G. He and J.H. Qu	321
Screening Method of Priority Pollutants in Surface Water Source Emergencies X.L. Meng, H. Zhu and L.H. Yu	325
The Inference On the Results of Atmospheric Environment Prediction by the Different Cloud Data	
X.L. Meng, X.H. Cao and S.Y. Guo  The Influence Assessment of the Intensive Using the See on Marine Descurees in Coefeidian	329
The Influence Assessment of the Intensive Using the Sea on Marine Resources in Caofeidian L.T. Cui and Z.W. Li	333

Developing a Technical Framework for Integrating Ecosystem Service into Strategic Environmental Assessment R.H. Cheng	339
Safety Evaluation of Underground Uranium Mine Ventilation System Based on Analytic Hierarchy Process and Fuzzy Comprehensive Evaluation Y.J. Ye, Z. Li and J.T. Jiang	344
Study on Assessment Method of Emergency Disposal Technology Based on Threat Evaluation X.L. Meng, H. Zhu and J.H. Qu	353
Study on Risk Source Recognition in Hongze Lake of South-to-North Water Diversion Project by R-AHP Comprehensive Evaluation J.H. Li, L. Guo, Z.L. Du, J. Liu, M. Ran and P. Wang	357
Analysis on the Source of China's Rural Pollution and Proposed Solutions X.H. Hu	361
Chapter 5: Environmental Analysis and Monitoring	
Analysis of Phthalic Acid Esters in Soil and Peanut from Guangdong Province H. Zheng, W.P. Lin, D.Q. Li, L.H. Jia and H.S. Li	369
Characterization of 58 Species Non-Methane Hydrocarbons from a Typical Coke Production Plant in Northern China J.W. Shi, H. Deng and X.Y. Han	373
Dynamic Monitoring of Vegetation Coverage in Daliuta Mine Based on ENVI and GIS Technology Z.Y. Qiao, D.W. Liu, T.T. Wei, S. Jiang, Y.K. Chen and J.Y. Zeng	377
Effects of Different Flooding Frequencies on Soil Nitrogen Mineralization in Typical Floodplain Wetlands under Aerobic Conditions Z.Q. Gao, J.H. Bai, D. Chen, Q.Q. Zhao and J.J. Wang	381
Temporal Variation of Urban Air Quality in Nanchong, a Big City of Southwest China K. Li, X.S. Tong, Y.P. Li and H. Zhou	385
The Hydrochemical Characteristics of Underground Brine along the South of Laizhou Bay Q. Su, H.J. Yu, C.S. Peng and X.Y. Xu  The Impact of Raw Material Purity on R142b Standard Gas Mixture Preparation	389
Z. Bi, Z.Y. Zhou, X. Wang and J. He  The Temporal and Spatial Variation of the Nutrientsin the Yangtze River Estuary	394
H. Liu, W.S. Xu, H.X. Kang and B.S. Yin  Water Environment Numerical Simulation for a Complicated River-Lake System	399
H. Wang, F.Q. Ji, K. Xia and M.A. Wu  CO <sub>2</sub> Concentration at the Soil Surface and CO <sub>2</sub> Flux between Soil and Atmosphere in Temperate-Arid Regions in Northern Hemisphere	403
X.Y. Sun, X.B. Liu and C.D. Gao  Comments on Technical Progress in Pretreatment and Analysis Method of Inorganic	409
Elements of Electroplating Sludge X.J. Mao, Y.H. Shi and H.C. Li	413
Determination of Calcium in Leisure Foods by Incomplete Digestion-Microemulsion Sampling-High Resolution Continuum Source Flame Atomic Absorption Spectrometry C. Li and S.L. Chen	417
Effects of Elevated Carbon Dioxide on Soil Bacterial Community Structure C.R. Li, W.K. Wang, H.Z. Deng, X.H. Zhao, F. Han and R. Wang	422
Numerical Investigation of Nitrate Leakage and Migration in the Soil after Rainfall J.H. Shan, J. Ding and J.F. Lu	429
Phytohormones Act as Information-Bridges between Light and Temperature Signaling Transduction Pathways J.Y. Song and B.R. Hu	437
<b>Practice for </b> <i>In Situ</i> <b>Measurement of CO</b> <sub>2</sub> <b>Flux at Soils Profiles in Arid Areas</b> X.Y. Sun, X.B. Liu and C.D. Gao	442
Research of Odor Detecting Method Using Micro-Fluid Chip and its Experiments Z Xu Z Wei Z Si Xiang X Y Yang I M Cheng I S Gu and I B Liu	446

Research on the Improvement and Application of Chemical Sequential Extraction of Phosphorus in Sediments Z. Hu, K.F. Zhang and L. Liu	452
Application of Various Space Dimensional Water Quality Model in Different Areas J. Zhou, L. Liu and L.M. Ma	456
Temporal-Spatial Variation Characteristics of Acid Rain during 2007 to 2012 in Fujian Province	150
B.B. Chen, K. Yang, Q.P. Zheng, W. Lin and H. Wang	462
Progress on Organochlorine Pesticides (OCPs) in China's Lakes Y. Song, H.H. Zeng and Y.P. Liang	467
Analysis of Genotoxicity and Characterization of Dissolved Organic Matter in the Aniline Industrial Wastewater Z. Wang, W.Y. Zhao, L.W. Xu and Q. Mu	472
<b>Distribution Characteristics and Impact Factors of the Haze Weather in Changsha Area</b> X.H. Zhang, L.Y. Liu and X.H. Chen	478
Impact of Herbicide Atrazine and Nicosulfuron on the Soil Respiration and Enzyme Activities	
A. Li, Y. Yao, S.Q. Sun, L.Y. Jiang, X. Liu and Z.G. Gao	484
Mining Subsidence Monitoring around Longgu Coal Mine Based on Remote Sensing H.Q. Wang	489
<b>Water Environment Quality Analysis in the Nearshore Marine District of the Caofeidian</b> Q. Si and M.C. Li	496
Colorimetric Study on Silk Dyeing with the Extracted Dye from Longan Leaves Using Pre-Mordanting Technique: A Research on Effect of Mordant Concentration R. Mongkholrattanasit, K. Maha In, C. Klaichoi, W. Pimklang, P. Buathong, W. Sittikijyothin and N. Rungruangkitkrai	499
Dyeing of Silk Fabrics with <i>Garcinia dulcis</i> (Roxb.) Kurz Bark: Comparison of Fastness Properties and Colour Strength by Padding and Post-Mordanting Technique R. Mongkholrattanasit, N. Punrattanasin, K. Sriharuksa, Y. Laoong-U-Thai and N. Rungruangkitkrai	503
Effect of Dye Concentration on UV Protection Property of Silk Fabric Dyed with Purple Corn Cob Using Pre-Mordanting Method R. Mongkholrattanasit, C. Klaichoi, J. Sarnium, P. Jareonsapyanant, N. Sasivatchutikool, J. Pattavanitch and N. Rungruangkitkrai	508
Research on Pad-Dry Dyeing and Ultraviolet Protection of Silk Fabric Using Dyes Extracted from <i>Laccifer lacca</i> Kerr R. Mongkholrattanasit, C. Klaichoi, M. Nakpathom, J. Pattavanitch and N. Rungruangkitkrai	512
Study on Colour Activity of Silk Fabric Dyed with Purple Corn Cob: A Research on Effect of Metal Mordants Concentration Using Post-Mordanting Method R. Mongkholrattanasit, C. Klaichoi, T. Tomkom, N. Sasivatchutikool, Y. Laoong-U-Thai and N.	
Rungruangkitkrai	516
Chapter 6: Environmental Restoration Engineering	
Brewing Spent Diatomite as Adsorbents for $Cu^{2+}$ Removal from Aqueous Solution Y.M. Wen and H.H. Teng	523
Preliminary Study on Reaction Kinetics of Ammonia Nitrogen in Aqueous Samples Removed by Microbial Nano-Silica Ball C. Yin, J. Lu, X.H. Shao, X.Y. Mao, L. Wang, Y. Min and M.C. Shu	528
Research on the Effects of Modified HDPE for Wastewater Treatment W.F. Ma, H. Guo and D.M. Han	532
The Effect of Bio-Drying Pretreatment on Heating Values of Municipal Solid Waste S.Q. Zhao, W.X. Huang, R. Yin, S. Yuan, D.D. Huang and C. Liu	537
The Experimental Study of $SO_2$ Removal by Atomized Ammonia Injection in the Tail Flue of a 300 MW CFB Boiler	
R.G. Wei, S.W. Cheng and J.Q. Gao  The Vinetic Model of the Untake and Polesce of Pollutants by Tubificides in Sludge	547
The Kinetic Model of the Uptake and Release of Pollutants by Tubificidae in Sludge Reduction System J.Q. Lou, D.Y. Yang, P. Zheng, M.X. Guo and P.D. Sun	551

Advance in Researching Polyploid Induction on Heavy Metal Hyperaccumulator S.H. You and Z.Y. Lin	560
Application of <i>Vetiveria zizanioides</i> Assisted by Different Species of Earthworm in Chromium-Contaminated Soil Remediation	
K. Zhang, Q. Chen, H.B. Luo and X.T. Li	564
Assessment on Emergent Pollution Emergency of Water Environment of Qinghe River Basin Based on Fuzzy Integrated Evaluation Method X.G. Ma and X.N. Liu	570
Effect of Organic Fertilizers Used in Washed Soil on the Growth of Tomatoes Y.X. Hou, J. Yang, X.J. Hu, Y.S. Li, X.Y. Song and J.S. Yang	576
Process Optimization of Chemical Precipitation for High Concentration Phosphorus Containing Wastewater Treatment Z.Y. Jia, L. Zhang, P.G. Cheng and N. Tang	580
Study on Denitrification Intensity in Rice Rhizosphere Soil under Water Management Model	
H.X. Chen, G.L. Ma, Z.G. Chen, L. Chen and K. Zhang	584
Summary of the Desulfurization Solutions of Marine Exhaust Gas J. Gao, G.Z. Liu, X.L. Liu, S. Xu and X. Liu	588
Advanced Treatment of Ship Sewage by Fenton-Oxidation Process	200
G.F. Liu, H.M. Yan, Y. Gao, Y.Q. Sun and Y.P. Zhang	595
Chapter 7: Environmental Protection and Ecological Environment Construction	
Environmental Effect Analysis of Coalfield Fire in Xinjiang and its Preventive Y. Zhang, S.R. Hu, T. Yue, X.Q. Zhang, M.D. Yu and X.F. Li	601
Impact of Range Hood Exhaust Air Volume on PM2.5 Concentration in a Residential Kitchen G.Q. Cao, H. Xie and S. Zhao	606
Influence of 3 Kinds of Organic Fertilizers on the Degradation of p, p'-DDT in Clay under	000
Flooding Conditions X. Deng, C.Y. Wu, Y. Li, J.K. Liu and Q.F. Li	610
Inhibitory Effects of Aqueous Extracts from Leaves of Common Tropical Green Plants on Urea Hydrolysis in Soils Y.F. Shi, L.L. Zhang, M.Q. Zhao and G. Wang	614
Overview of Hazard and Treatment Methods of Cu in Soil	
L. Sun and L.Q. Yang	618
Research of Compressibility of Purple Soil in the Three Gorges Reservoir S.F. Guan, Z.Y. Xia, L.L. Zhang and Y. Chen	622
Research on Synthesis and Complex of Corrosion Inhibitor for Blast Furnace Gas Pipeline X. Cheng, Y.C. Huang, X.L. Deng, S.T. Mei, H. Zhang and F.R. Zhou	626
Simulation Study on Sewage Discharge Environmental Effect in Tianjin South Port H. Yu	630
Study on the Relationship between Population Density of <i>Noctiluca scintillans</i> and Environmental Factors in the Coastal Waters of Qinhuangdao	
Y.J. Xi, Z.L. Zhao, C.L. Zhao, Y.Q. Xi, L. Yan, Y. Wu and C.C. Yang	635
Summary of Beijing-Tianjin-Hebei Haze Causes and Solutions Research X.L. Shen, T.G. Dang and J. Liu	639
The Impact of Oilfield Development on the Ecological Environment and its Protection Countermeasures	
T. Yue, S.R. Hu, Y. Zhang, M.D. Yu, X.Q. Zhang and X.F. Li	645
The Importance of Ecological Safety and its Realization Way S.B. Dong, J. Sun and Z.Y. Cao	650
Tourist Environmental Capacity of Futuan Estuary National Wetland Park	050
F.L. Kong, Y. Chen, Y. Li, L. Yang and T. Chen	654
Application of the CNOP Method in the Shallow Lake Ecosystem	658

Carbon Storage and Carbon Dioxide Sequestration of Banana Plants at Different Growth	
Stages M.Q. Zhao, M. Li and Y.F. Shi	662
Catalytic Decomposition of N <sub>2</sub> O over M(10)/RPSA (M=Mg, Mn, Cu, Zn) Catalysts M.J. Wang, H. Wang, C.Q. Li, F.C. Ding, Y.J. Song and K.S. Cai	666
<b>Drip Irrigation Schedule of Greenhouse Green Pepper Based on Genetic Algorithm</b> J. Sun, T.L. Wang, B. Li and X.T. Song	670
<b>Environmental Design of Interior Space in Closed Type Architecture</b> S. Chen and L.B. Shi	681
Low-Carbon Intercropping Management: Effects on Ground-Wandering Spiders in Tea Plantations X.D. Li and J.X. Cao	685
Parameter Optimization of Municipal Sludge Treated by Supercritical Water Oxidation Process	
M. Gao, S.Z. Wang and H. Ma	693
Research on Estimating Cleanup Level by RESRAD for Mineral Naturally Occurring Radioactive Pollution of One Tailings Dam J.S. Liu	699
The Experimental Study on the UV Ballast Water Treatment System J.M. Dong, S.L. Yang, J.Y. Sun and X.X. Pan	704
Chapter 7: Environmental Protection and Ecological Environment Construction	
The Research Progress of Agricultural Non-Point Source Pollution in the Black Soil Area of	
Northeast China M. Shi, W.H. Xiao, C.M. Wang, D.W. He, C.L. Hao and X.F. Dang	711
Empirical Research on Ecological Carrying Capacity Evaluation of Agricultural Industrialization Leading Enterprises	717
Y.L. Liu and S.Q. Li  Analysis on Ecological Footprint and Bio-Capacity of Shandong in 2012	717
H.Y. Jia, J. Xu and G.S. Zhang	722
Chapter 8: Pollution Control Engineering	
A Review of Membrane Separation Process Enhanced by Shearing Force P. Wang, Y.H. Han, J.Q. Chen and X.F. Zhang	729
Comparison and Development of CLIA and ELISA for Detection of Sudan I in Food Sample	722
Y. Fan, L.X. Zhu, R.R. Liu, L. Xu and W. Meng  Degradation Microorganisms Filtration of Petroleum Hydrocarbon in Tropic Ocean	733
Z.J. Su, M. Li and Y.X. Zhang	737
Equilibrium Analysis of Upstream and Downstream Enterprises in the Emissions Trading Based on the Model of Treatment Costs Y. Zhou and Y.P. Chen	742
Experimental Study on Simultaneous Desulfurization and Denitrification by Ozone Oxidation Combined with Alkaline Wastewater Washing H. Yin and H.F. Guo	748
<b>Experiments on the Removal of Fine Particles in Existing Air Pollution Control Devices by Chemical Agglomeration</b>	
Y. Liu, L.J. Yang, D.P. Pan and R.T. Huang	756
Flocculant Screening for the Pretreatment of Printing and Dyeing Wastewater S.H. Lan, P. Ma, S.W. Geng, J.H. Sun, H.X. Lan and H. Zhang	761
Investigation on a Novel Seawater Exhaust Gas Cleaning System Applied for SOx Emissions Reduction of Marine Diesel Engine X.C. Wu and Z.J. Wang	765
Modeling the Influence of Wind Velocity and Water Content on Coal Dusts in Wind Tunnel X.C. Cong and Q.Q. Liu	772

Preliminary Study on Influencing Factors of Wastewater Purification by Microbial Nano- Silica Ball	
C. Yin, X.H. Shao, L. Wang, X.Y. Mao, J. Lu, T. Wang and L. Ren	777
Research and Prospect of Waste Mud Treatment Technology J. Ma, C.T. Qu, B. Yang and S. Li	785
Research of Improving the Technique of Electrostatic Collection to High Resistivity Dust by Humidifying and Cooling through Ultrasonic Atomization L.J. Guo, W.G. Hao, X.Z. Ren and K. Zhang	789
Study Case - Low Concentration Fluoride Wastewater from Photovoltaic Enterprises Recycled Y.L. Wang	796
Study on Aerosol Particles Thermophoretic and Diffusiophoretic Deposition F.Z. Zhang, Y.S. Zhong, X.Y. Liu, H.M. Du and H. Yang	801
Study on the Advanced Treatment of Printing and Dyeing Wastewater by Fenton Oxidation X.W. Wu, P. Ma, H.X. Lan, H. Zhang and S.H. Lan	805
Study on the Effects of Wastewater Duress on Chlorophyll Content of 4 Species Wetland Plants	
M. Lu, G.S. Liu, D.H. Li, W.F. Kang, J. Zhao, K.K. Li, D. Li and X.M. Zhao	809
The Prevention and Control of Pollution from Airport Oil Depots X.D. Ouyang, S.B. Dong and L.M. Hu	813
The Research of Absorption on U(VI) by Nanometer $\alpha$ -Fe <sub>2</sub> O <sub>3</sub> Microsphere Q.P. Wei, S.Y. Li, S.B. Xie, J.B. Liao and Y. Li	817
Water Movement Rule and Quality Assessment of Overflow in the Zhenjiang Neijiang S.M. Wang, C.D. Wu, J.Y. Chu and Q.J. Xie	821
Analysis of Rhodamine B in Chinese Wolfberry from Market Sale by HPLC T.X. Wang, L.Y. Zhou, X.Y. Zhang and H.X. Jiao	826
Biodegradation of 2-Chlorophenol by Laccase Immobilized on Large-Sized Macroporous Silica	
X.Z. Liu, Q. Zhang, Y.X. Liang and R.F. Zhang	830
Determination of Amaranth by Fluorescence Spectrometry H.L. Zhu, W. Huang and F. Wang	835
<b>Discussion on Air Pollution and its Control Measures</b> L.H. Huang and B. Gui	839
Moat Water Quality Assessment and Pollution of the Kowloon Yuan in Jing Zhou City Z.X. Zuo, S.G. Cheng and Y. Shi	843
Numerical Study the NOx Emission Characteristics of 600MW Opposed Swirling Coal- Fired Utility Boiler Y.M. Liu, F.Y. Li and Q.S. Xu	847
Research Framework on Agricultural Non-Point Source Pollution	
C.L. Hao, W.H. Xiao, D.W. He, M. Shi and X.F. Dang	856
Simultaneous Desulfurization and Denitrification by Combined Ozone Oxidation and Alkaline Wastewater: A Case Study H. Yin, H.F. Guo, X.Q. Xu and Y.G. Qian	862
Study on the Collaborative Degradation of Acid Red B Dye Wastewater by $\mathbf{O}_3/\mathbf{H}_2\mathbf{O}_2$ H.F. Chen	872
Study on the Copper Ion Removal from Water by Adsorption L.B. Liu, L. Zhang and W.M. Gong	876
Sulfur Poisoning and Regeneration of SCR Catalyst Based on $V_2O_5/TiO_2$ N. Zhao, L. Li, S.W. Pan and L.H. Tang	880
The Application of Information Retrieval in Governance Decision of Water Bloom Based on Decision Tree and CPN Neural Network Z.Y. Wang, Y. Shi, X.Y. Wang, L. Wang, J.P. Xu and Y.T. Bai	885
The Study on the New Technology of Exhaust Gas Cascade Utilization from Electrolytic Aluminum Industry J.J. Du, P. Zeng, H.Y. Long and F. Zhang	891
THF Removal from Polluted Air in Aerobic Biotrickling Filter Inoculated with	071
Microbactrium oxydans DDH-1 D.S. Shen, H.L. Huang, M.Z. Wang and Y.Y. Zhou	895

A Classification Method of Projection Pursuit Based on Population Migration Algorithm for Fly Ash	000
L. Xu and C. Fang  Study on Acceleration of Aqueous Catalyzed Oxidation to Biological Trickling Filter of	900
SO <sub>2</sub> &NO <sub>X</sub> in Flue Gas Y.M. Lei, J. Wang and P.S. Sun	906
Chapter 9: Waste Disposal and Recycling	
Absorption Performance of Rotating Packed Bed with Gas-Liquid Distribution Inducer M. Jin, L. Zhan, L.Y. Zhou, G.X. Yu and P. Lu	913
Earthworms Decomposing and Recycling the Urban Household Garbage J.C. Kuang	917
Effect of Different Mass Ratios of Straws and Vegetable Wastes on Co-Composting X. Cui and Y.C. Yang	922
Effects of Transition Metals and Rare Earths on Iron-Carbon Micro Electrolysis Degrading Dyeing Effluent J.C. Kuang, X.G. Chen and M.H. Chen	928
Influence of Aeration Modes on Aerobic Bio-Drying of Municipal Solid Waste (MSW) H.Y. Zhang, J. Gu, G.Q. Wang, L.W. Hao and X.Q. Wu	928
Present Situation and Necessity of Kitchen Waste Disposal in our Country D. Yang, M. Zhang and X.J. Zhang	939
An Experimental Study on Production of Silica Aero-Gel Using Fly Ash from Coal-Fired Power Plants X.H. Qin, J. Xu, Y. Feng, A. Tahmasebi and J.L. Yu	943
Characteristics of Gaseous Produced from Co-Pyrolysis of Municipal Solid Waste and Corn Stalk	
J.W. Jia, M.Y. Lu, Y.F. Yuan, L. Liu, F.S. Yang, X.M. Fu, G.H. Xu, H. Zhao, S. Meng and X.Q. Shu	947
Co-Pyrolysis of Polyethylene Plastic and Cellulose as Models for Medical Waste in Supercritical Water Y.M. Gong, S.Z. Wang and X.Y. Tang	952
<b>Evaluation of Stability and Maturity during Tobacco Industrial Solid Waste Composting</b> G.H. Zhao, Y.J. Feng, Y.L. Yu and Z.M. Li	956
Fe <sub>3</sub> O <sub>4</sub> Magnetic Preparation by Bauxite Ore Washing Fine Mud J.Q. Xiao, G.W. He and Y.J. Hu	961
PCR-DGGE Analysis of the Bacterial Community in Composting of Agriculture and Forestry Wastes with Different Microbial Agents S.L. Wang, Y.Q. Liu, Y. Liu, C.D. Gao and K.F. Liu	966
Research on Flue Gas Emission Control Technology of Vehicular Pyrolysis Treatment Equipment for Medical Waste	
J.S. Han, L.H. Wu and Z. Wang  Research on System Planning of Retired or Scrap Weaponry and Equipment Recycling	973
T. Xin, Y.Y. Han and K.K. Hu  Study on the Disposal for Retired or Scrap Weaponry and Equipment T. Xin, Z.C. Xu and Y.Y. Han	979 984
Study on the Feasibility of Recycling Condensate Water of Lignite by Microwave Dehydration Treatment	
H.R. Tang, Z.Y. Huang, M.K. Shen, Z.H. Wang, J.H. Zhou and K.F. Cen  Suggestions of China Participating in Global Recyclable Resources Circulation	990
M. Zhang and J. Chen  The Waste Collection Vehicle Arc Routing Problem with Turn Constraints	996
J. Liu, Y.F. He and A.P. Zhang  Effect of Total Solids Content on the Biogas Production and Phosphorus Release from	1000
Excess Sludge X.L. Liu, M.M. Wang, X.J. Hu and Y.H. Song	1006

Efficient Recovery of Carbon, Nitrogen and Phosphorus from Chicken Manure by a Three-Stage Countercurrent Anaerobic Digestion Process X.J. Hu, X.L. Liu, Z.B. Yue, J. Wang and Y.H. Song	1010
A Study on a Green Route to Preparation of Silica Powders with Rice Husk Ash Z.X. Yang, L. Dong, M. Wang and H. Li	1015
Chapter 10: Water Supply and Drainage	
Modeling of Groundwater Flow and Contaminant Transport in Two-Dimensional Geometries in an Unconfined Aquifer	1000
F. Dimane, I. Hanafi, A. El Himri, K. Haboubi, F. Mata Cabrera and J. Tejero Manzanares  Study on the Characteristics of Sediment Incipient Motion in Pressure Pipeline  M.H. Lei, R.H. Nie, S.Q. Yuan and X.N. Liu	1023 1028
Study on Water Measuring Facilities in Water-Saving Irrigation District, China X. Yu, X.J. Long, Y. He and Y. Liu	1033
Xiangjiaba Reservoir Ecological Operation Preliminary Study Based on Genetic Algorithm M. Qin, Y. Peng and X.L. Yu	1037
A Hybrid ARIMA and BP Neural Network Model to Forecast Industrial Water Use Efficiency	
X.H. Fan and C. Ning	1042
Chapter 11: Hydrology and Water Resources Engineering	
<b>A Graphing Method of Solute Parameter Estimation for Convection-Dispersion Equation</b> C.P. Liu, Y. Shi, Y.D. Tang and X. Liao	1049
Characteristic of Sap Flow of Poplar and Response to Meteorological Factors in Coastal Region Q.Y. Zhou, Y.R. Wang and S.H. Sun	1055
Stable Isotopes Analysis of Precipitation in Subtropical Plateau of Yunnan W. Guan, T. Fan and X.Q. Zhu	1059
The Research on the Process of Water Resources Carrying Capacity and the Countermeasures of Water Resources Exploitation and Utilization G.B. Ji, Y.H. Wang and F.M. Zheng	1064
Numerical Simulation of the Salty Water Intrusion after the Construction of Houshan Reservoir, China M.X. Xie, T. Xu and Y. Cai	1070
Spatiotemporal Evolution of the Drought and Flood in Northeast China R. Huang and D.H. Yan	1075
Analysis of Precipitation and Flood Processes Caused by Cyclone and Cold Front in Dahuofang Reservoir	
J. Zhang, J.S. He and L.F. Zhou  Design of Water Resources Optimal Allocation Model of Sustainable Development	1084
C. Hu and D.S. Li  Long Term Evolution Characteristics of Runoffs in the Tideway of the Changjiang River H.M. Huang, H. Zhu, Y.G. Wang and W.N. Zhang	1089 1095
The Temporal and Spatial Evolution of Saltwater Intrusion during Dry Season in the Yangtze River Estuary, China	
W.N. Zhang, Y.G. Wang, T.J. Yang and H.M. Huang  Factors to Affect the Eutrophication and Phytoplankton Blooms in the Three Gorges	1099
Reservoir Z.J. Yang and J.L. Zhang	1104
Chapter 12: Soil and Water Conservation and Desertification Control	
Analysis of the Effect of Tropical Crop Cultivation on Soil Quality L.Q. Du, L.Y. Zheng, H.Y. Ma, H. Wu and C.B. Wei	1113

Causes and Social Governance of the Water and Soil Loss in Ethnic Mountainous Areas — Based on the Empirical Study of ENSHI City X.C. Tan	1120
Review of Quantitative Study of Rill Morphology on Slope	1120
P. Zhang, W.Y. Sun and W.Y. Yao	1125
The Influence of Debris Flow on Lake Depositon: An Case from Guanba River in Qionghai Lake Basin J.G. Yue, Y.L. Qi, X.L. Wei and N.S. Chen	1129
Analysis of Variance about the Sadiment Size in Jiuyuangou and Tuwei River Watershed's	112)
Silt Dam L. Li, W.Y. Sun, Q. He and X.X. Hou	1140
Effect of Grass on Reducing Runoff and Sediment and its Critical Flow Shear Stress P.Q. Xiao, E. Yang and P. Jiao	1145
<b>Experimental Study on Sediment Transport Capacity Model of Slope Runoff Based on ANN</b> P. Jiao, P.Q. Xiao, X.X. Hou and D. Zhang	1149
Study on Soil and Water Loss of Black Soils in Northeast China C.L. Hao, W.H. Xiao, X.F. Dang, M. Shi and D.W. He	1153
Chapter 13: Forest Cultivation, Protection and Plant Protection	
Characterization of Cell Wall Degrading Enzymes of <i>Rhizoctonia solani</i> AG-3 from Tobacco Target Spot	
Y.Q. Zhao, Y.H. Wu, X.X. Zhao, M.N. An, J.G. Chen and X.M. Yin	1161
Photosynthetic Performance of Marestail ( <i>Hippuris vulgaris</i> Linn.) across a Water Temperature Gradient L.N. Gao	1165
Studies on the Nutrition Component of Fresh Shoots of Large-Sized Cluster Bamboo from Yunnan, China	
C.M. Hui, W.Y. Liu, W.J. Wang and N. Liang	1170
The Super-Cooling Point of the Spiralling Whitefly, <i>Aleurodicus dispersus</i> Russell J.Y. Chen, G.C. Ma and Y.G. Fu	1175
<b>Bioinfomatics Analysis of the</b> <i>Anthocyanidin synthase</i> <b>Gene in Tree Peony</b> Y.Z. Zhang, Y.W. Cheng, H.Y. Ya, C. Yun, J.M. Han, H.B. Pang and K. Gao	1181
Identification and Characterization of Hsp70 from Lactuca sativa Y.W. Cheng, Y.Z. Zhang, H.Y. Ya, C. Yun, J.M. Han, H.B. Pang and K. Gao	1185
<b>Indication Effect of Guangdong Indigenous Broadleaf Tree Species to Distribution Pattern of Climate</b>	
Y.D. Ou, C.B. Wang, X.D. Fan and T. Wu	1189
Organic Carbon Storage and Spatial Distribution of Forest Soil in Jiangxi Q.G. Zhang, S.F. Wang, J.Y. Wu and S.H. Chen	1194
Study on Superior Tree Selection Methods of Phoebe Hui in Hunan T.H. Li, S.Z. Wen, G.X. He, L. Chen and S.J. Huang	1198
The Spatial Patterns of Plant Population Distribution at the Barren Slopes in the Arid Valley along the Upper Reaches of Minjiang River C. Yang and Z.S. Yang	1202
Triangle Method: A New Distance Method for Density Estimation X.Z. Zhu, T. Gao and J.T. Zhang	1209
Physical and Chemical Properties of Four Strawberry Cultivars L. Li, B. Li, H.L. Shang, D.N. Li, X.J. Meng and G.H. Huang	1215
Overview of Pesticide Toxicity Studies on Oblique Scenedesmus M. Tang, H.H. Zeng and L.T. Qin	1220
Effects of Soda Saline-Alkali Stress on Physiological Characteristics of Rice in Different Concentrations	
M.X. Zhu, F. Jin, X.W. Shao, X.Y. Gao, Y.Q. Geng and S. Wang	1225
The Analysis of Vegetation Phenology and Climate Change in the North-South Transect of Eastern China  7. Wang and S.R. Liu	1230

## **Chapter 14: Geographic Information Science and Remote Sensing**

237
243
248
254
258
262
267
272
276
283
287
291
297
301
307
312
317
322
326
332
336

Research on the Urban Influence upon Development Zone Z.X. Sun, L.N. Du and F. Pian	1340
Study on Status Analysis and Countermeasures of Anhui Urbanization L.J. Zhu, L.Y. Chen and P. Fang	1344
Chapter 16: Mineral Prospecting and Exploration	
3D Stochastic Modeling for Reservoir Characterization and Application G.M. Chen, L. Sun and X.S. Bao	1353
Characteristics of Sedimentation Evolution Based on the Sequence Stratigraphic Frameworks in Shahezi Formation of Southern Xujiweizi Fault Depression A. Li, L.X. Cai, S.F. Lu and Q. Li	1359
Extraction of Prospecting Information for Sedimentary-Metamorphic Type Iron Deposit Based on Ziyuan-3 Satellite Data — Taking Xinjiang Taxkorgan Area as an Example L. Chen, Y. Zhou and W. Zhang	1365
Petrogenesis and Chronology of Intermediate-Acidic Intrusive Rocks in Tongling Area, Anhui Province, China Z.L. Yue, Y.L. Gao and Z.G. Zeng	1372
Petrologic Characteristics of Dawsonite-Bearing Sandstones in Dongying Sag of Bohai Bay Basin, China	
F.L. Li, W.S. Li, Z.F. Duan and Y. Deng	1376
Research on Transverse Faults in the Longmenshan Fault Zone, China W.F. Wang, C.H. Zhu, Y.B. Qing and X.J. Shan	1380
Tight Sandstone Reservoirs Classification from Mercury Injection Capillary Pressure (MICP) Data in the North Ordos Basin X.L. Wei, X. Li, R. Xu and L.L. Zhi	1387
Application of Grey Correlation Analysis in the Priority Sequence of Mineral Resources  Development  B. Lv and G.Q. Wang	1391
Characteristics of Subtle Fault Zone in Jinhu Sag W.W. Zhou, W.F. Wang and Z. Jie	1399
Deformation Analysis and Tectonic Implications of South Tianshan Orogenic Belt, SW China	
H.M. Guan, H.Y. Cheng and Y.L. Kang  Lower-Middle Ordovician Cave-Reservoir Characters and Dominant Factors in Southern	1404
<b>Tahe Oil Field</b> W.W. Xu and Q.X. Gu	1408
Paleozoic Orogenic Activity of the Kanggurtag-Yamansu Ductile Shear Zone in the East Tianshan Orogenic Belt, SW China	1400
H.M. Guan, Z.X. Wang and W.F. Xiao	1413
Chapter 16: Mineral Prospecting and Exploration	
Structural Deformation of Southern Tien Shan Fold-Thrust Belt — Take the North Margin of Kashi for Example J.F. Qian	1419
Upper Carboniferous Shale Gas Potential Analysis in Eastern Qaidam Basin, Northwestern China	
H.Y. Cheng, Y.S. Ma, C.M. Yin and Y.Y. Yang	1425
Fluid Inclusion and Hydrocarbon Migration in Woruo Mountain Area of North Qiangtang Basin D.S. Ge, Q. Li, J.J. Hu and W. Shao	1430
Sedimentary Research of Block8 in Jinglou Oilfield	1700
J.J. Li, Y.F. Zhang and G.G. Liu	1435
3D Visualization Prediction of Fractured Reservoir in Xujiahe Formation of Sichuan Basin in China	
C.R. Wu, W.S. Duan and R.C. Zheng	1440

## **Chapter 17: Mining Engineering**

Calculation Model of Airflow Temperature and Simulation System in Coal Mine X.H. Hao, H. Ma, Y.X. Liu and H.B. Zhang	1449
Optimization Research of Stope Structural Parameters in Upward Drift Cut-and-Backfilling Mining Method P.K. Zhu and J.Q. Zhao	1454
Research on Rational Width of Entry Protection Coal-Pillar in Large Mining Height Work-	1434
Face of Shallow Coal Seam  X.B. Xu, B.J. Wang and T.F. Cui	1461
Seepage Field-Strain Field Coupling Analysis for Rock Masses of Coal Seam Floor during Mining Based on COMSOL Y.J. Zhang and C. Fan	1467
Selection and Application of Ventilation System's Sensitive Branches Based on the Sensitivity	
L.M. Hu, S.G. Jiang and S.B. Dong	1471
Study of the Effect of Mining with Transition from Open-Pit to Underground and without Protective Coal Pillar on Slope Stability S.G. Sun, Y. Yi, L. Jin and J.H. Shi	1475
Surrounding Rock Deformation Properties and Control Technique for Roadway along Goaf in Soft Rock	1.402
M. Yang, X.Z. Hua and D.H. Chen	1482
Technology Principle and Application of Microseismic Monitoring Rockburst X.J. Zhu, Y.S. Pan and Z. Tang	1487
The Comparative Study on the Gassy Coal Thermal-Fluid-Solid Coupling and no Coupling T. Qin, K.Y. Zhang and H.L. Liu	1494
The Thermal-Fluent-Solid Coupling Numerical Simulation Study of Coal and Rock Containing Gas T. Qin, Y.L. Liu and K.Y. Zhang	1498
Technology Research on Applying the Flue Gas of Mine Mouth Power Plant to Fire Prevention and Extinguishing in Goaf B. Yin, G. Han, B.S. Jia, X. Ai and Z.K. Pi	1502
A Study on the Application of RBF Neural Network in Slope Stability of Bayan Obo East Mine	
C.Y. Wang, F. Zhang and W.D. Han	1507
Cemented Filling Mining Technology in Continuous Miner Filling Mining Face P.L. Liu	1511
Experimental Study on Mine-Loess and Fly Ash Backfilling Material K.H. Sun	1518
Failure Analysis and its Numerical Simulation on Impact-Damage Rock F.Q. Gao	1523
Fluid-Solid Coupling Numerical Simulation Analysis of Impermeable Rock Mining Seam Floor Failure C.J. Song and C. Fan	1527
Numerical Simulation on the Influence of Flammable Gas Concentration on Explosion Peak	
Pressure X.F. Ma	1531
Optimization Studies on Pillar Size of Fully Mechanized Caving Face X.Z. Meng	1535
Research of Technology of Backfilling Process in West Open-Pit Mine in Fushun J.F. Fan and Z.L. Song	1540
Sensitivity Analysis of Slope Stability Influence Factors Based on BP Neural Network C.Y. Wang, F. Zhang and W.D. Han	1544
Study on Gas Flow Law in Goaf of Huangling No.1 Mine Fully-Mechanized Face T.X. Hao and M. Liu	1548

Study on the Law of Ground Subsidence for Shallow Buried and Thick Coal Seam by Fully Mechanized Caving Mining Method G. Liu, N.Z. Xu and K.H. Sun	54
<b>Technology Research on Rapid Excavation of Large Section Super-Long Coal Roadway</b> S.K. Liang	
Rockburst Prediction Based on Electromagnetic Radiation Technology and its Application C. Wang and W. Peng	
The Research and Application of FLAC3D in Optimization of Roadway Support H.F. Du	
Chapter 18: Mineral Processing Engineering	
<b>DFT Simulation of Copper Activation of Pyrite Surface</b> M.X. Wang and Y.Q. Li	77
<b>DFT Study of the Effects of Co and Ni Impurities on the Properties of Pyrite Surface</b> R.Q. Huang and Y.Q. Li	81
<b>Iron Recovery from Hematite Tailings by a Novel HGMS-Centrifuge Process</b> H.F. Zhang and L.Z. Chen	85
<b>Study on Present Status of Complex Refractory Ores Depth Reduction Technology</b> F.J. Li, H.J. Wang and Q.M. Jia	90
Characteristics Research and Selective Leaching of Anode Slime with High Content of Copper and Stannum	
W. Wang, Z. Xu, S.T. Huang, L.M. Yang, L.L. Cai, Z.G. Ji and Y. Li  Comparison of Combination of Flotation-Magnetic-Gravity Separation Process with Bluk	94
Flotation for Recovering Fine Tin Slime R.Z. Huang, L.Y. Yang and Z.Q. Tang	98
Experimental Research of Roughing and Cleaning Column Flotation of Difficult-to-Float High Ash Coal	0.2
J.Z. Wang, X.B. Zhang, H.B. Qin and L. Tan	03
Experimental Research on Recycling Phlogopite from Molybdenum Tailings X.L. Wang, J.M. Wang and Z.J. Ma	09
Process Mineralogy of Jinshan Gold Ore Based on Mineral Liberation Analysis System L.L. Cai, S. Liu, W.J. Li, C.Y. Zhou, W. Qu and Y.S. Song	13
Review on New Process and New Reagent of Copper Oxide C. Zhang, X.D. Jia, Y.L. Lu, D.W. Liu and X.L. Zhang	18
Review on the Mineral Processing-Metallurgy Combined Processes Researches on Copper	
Oxide Ore Y.B. Mao, S.M. Wen and J.J. Fang	22
Studying on Oxide Copper Ore Flotation with Different Collectors Y.B. Mao, S.M. Wen and J.J. Fang	26
<b>Experimental Study on Flotation of Copper Sulfides in Yunnan Province</b> J.G. Ku, H.H. Chen and W.Y. Liu  163	30
The Flotation Process with High Intensity Conditioning and Cleaning for Fine Coal J.H. Li, L.Q. Ma, Y.Z. Zhai, W.J. Li and J.W. Yue	36
Chapter 19: Oil and Gas Well Development Projects	
Application of Multivariate Regression Method in the Prediction of Oilfield Development Indexes	4.5
Q. Li, M. Qin, H.B. Wang and J.C. Zhang	43
Application Status of the Technology of Logging While Drilling Q. Peng, Q.H. Li and Q. Zhang  163	50
Research on Production Decrease Regularity for an Extra High Water Cut Stages of Xingnan Development Zone J.C. Zhang, Y. Lv, Q. Li and X.Y. Wang	54

Studies of Incremental Rules of Water Cut of Various Well Network during Oil Producing with Extra High Water Cut	1.665
G.D. Wang	1665
Technical Research on Fracture of the Large Segment Perforated Old Horizontal Wells H. Du	1671
The Characteristics and Impacts Factors of Relative Permeability Curves in High Temperature and Low-Permeability Limestone Reservoirs	1676
B. Li, W.F. Pu, K.X. Li, H. Jia, K.Y. Wang and Z.G. Yang  Analysis of Nitrogen Gas Flooding Development Effect on Water-Flooding Reservoirs	10/0
Z.J. Wang, Y.D. Yao, J.U. Wang, X. Zhou, C.F. Qiao and T. Gao	1684
Application of Monitoring Data of Multi Point Temperature and Pressure in Regulation of SAGD Well Group G.D. Wang	1689
Applied Research of Heat Self-Generated CO <sub>2</sub> Technology in Steam Huff and Puff Y. Ding, G.W. Qin, P. Liu, Z.L. Fan, H.W. Xiao, Y.M. Bai, L. Wang and W.B. Xu	1693
<b>Dynamic Resistivity Changes of Diesel Contamination Plume in Simulated Aquifer</b> Y.Y. Pan, Y.G. Jia and J.S. Yang	1699
Influence of Formation Pressure Variation on Relative Permeability Characteristics of Oil and Water Phase	1505
J. Yan, X.B. Liang, W.G. Wang and J. Yao	1705
Mechanical Properties and CO <sub>2</sub> Corrosion Behavior of High Strength and Toughness X80 Pipeline Steel	
L.D. Wang, F.L. Liu and H.B. Wu	1709
New Calculation Method of Sweep Efficiency after Pattern Infilling in Low Permeability Reservoir	
F. Zhao, R. Shen and G. Xu	1713
Numerical Simulation of Deep Sea Gas Hydrate Plumes Z.L. Hua and Z.H. Zhou	1719
Quantitative Identification of Reservoir Fracture with the Variable Scale Fractal Technique	-,-,
in Su53 Gas Field, Ordos Basin H. Wen	1723
Research on the Remaining Oil Starting Mechanism in Different Pores of Polymer	1/23
Surfactants Using NMR Analysis Y.Q. Li, Z.Y. Liu, Y.Y. Li and Y.B. Xu	1727
<b>Residual Oil Distribution Law and Controlling Factors of Chang 6 Reservoir in Liutai Area</b> F.R. Zhang, A.H. Guo and H.E. Cai	1735
The Adsorption Behavior of Thiazole on the Surface of Carbon Steel in Heterogeneous Solution	
J.Z. Ai	1740
The Analysis of Horizontal Extension Capability in Horizontal Wells W.K. Liu, M.X. Song, Z.Y. Xu and X.H. Zhang	1745
The Technologic Research and Application of Frequency-Divided Inversion in SL Oilfield P. Yu	1750
Water Testing Technology Research and Application in Horizontal Well H.J. Li	1754
The Recognition of Abnormal Gas Measurement Data and Oil and Gas Show W.Z. Du	1758
Application of Seismic Prediction Technique on Complex Lithological Reservoir in SL Oilfeild	
H.Y. Wang, Y.Y. Zhang and M.Y. Tan	1763
New Method Research of Tight Oil Reservoir Pulse Decay Permeability Measurement $H.Y.\ Qu,\ Z.M.\ Yang\ and\ T.\ Hu$	1768
The Polymer Cement Fluid Loss Reducer in Haita Region X.H. Zhang, D.C. Ma, J.G. Wang and A.Q. Tong	1772

# **Chapter 20: Storage and Processing of Agricultural Products**

Applied Orthogonal Experiment Design for Optimization of Ultrasonic-Assisted Extraction of Polysaccharides from <i>Agaricus bisporus</i> Mycelia Q.S. Chen, T.Y. Zhou, X.Y. Li, Y. Bi and H.D. Yang	1779
Comparison of Storage Characteristics and Quality of Semi-Dry Fermented Sausage Using	1//9
Microwave Vacuum Drying and Hot Air Drying J.P. Zhang, Y.H. Wu, E.Q. Liu, H. Song and Y. Li	1783
Effect of the Starter Cultures on Microbial Characteristics of Mutton Fermented Sausages D.B. Wang, L.H. Zhao, F. Yang, M.J. Li, R.N. Su, D. Ma and Y. Jin	1789
Study on Basic Properties of Freeze-Drying Gelatinized Glutinous Rice Starch J. Liu, R.D. Yang and F. Yang	1793
<b>Textural and Color Changes of Red Sea Bream (</b> <i>Pagrosomus major</i> <b>) during Storage at 0°C</b> X.F. Wu, D.S. Zhu, J.Y. Liang, L.N. Wang and J.R. Li	1797
Design of Coconut Milk Automatic Extraction System C.Z. Chu, D.L. He, Y. Zhang and M.P. Cheng	1801
Effects of Different Packaging Materials on Red Fragrant Pear during Postharvest Modified Atmosphere Storage	400.
D.S. Zhu, J.Y. Lv, J.Y. Liang, Y.H. Ge, X.H. Cao, X.Q. Feng and J.R. Li	1805
Research on the Quality Safety Risk Control of Raw Materials and Accessories of Liquor H.H. Xin, W. Wang, T.X. Wang and Y.M. Fan	1810
Study of Different Plastic Films on Changing of Flesh Quality in MAP during Carp Storage D.S. Zhu, L.N. Wang, X.F. Wu, Y.X. Xu and J.R. Li	1814
Study on Phase-Point Controlled Atmosphere Storage Technical Characteristics X.Y. Jia, X.H. Li, H.D. Liu, C.X. Shao, L. Li and X. Liu	1818
Study on the Preparation, Sensory, Chemical, Microbiological Properties of Melon Yoghurt L.L. Zhai	1822
The Best Working Condition of the Food Refrigeration and Frost Time Determine Z.Y. Wang, L. Wang, Z.W. Tong and M. Wang	1826
Chapter 21: Energy Saving, Environmental Protection, Low Carbon Ideas	
A Discussion of Bad Driving Habit to the Fuel Loss of Vehicle X. Wang, Z. Yao, Y. Bai and Y.C. Shen	1835
<b>Application of Evaluation System for Low-Carbon Industrial Park by Using AHP Method</b> X.Q. Ma, M.H. Li, Y.S. Sun and F.Y. Jin	1839
	1839 1844
X.Q. Ma, M.H. Li, Y.S. Sun and F.Y. Jin  Application of Lagrange Interpolation Algorithm in Beijing Carbon Emissions Prediction	
X.Q. Ma, M.H. Li, Y.S. Sun and F.Y. Jin  Application of Lagrange Interpolation Algorithm in Beijing Carbon Emissions Prediction M.Y. Wang, Y.Y. Wang and X.L. Shen  Energy and Resource Saving and Environment Protection	1844
X.Q. Ma, M.H. Li, Y.S. Sun and F.Y. Jin  Application of Lagrange Interpolation Algorithm in Beijing Carbon Emissions Prediction M.Y. Wang, Y.Y. Wang and X.L. Shen  Energy and Resource Saving and Environment Protection S.B. Dong, X.D. Ouyang and L.M. Hu  Preliminary Study on Low-Carbon Urban Development and Low-Carbon Design	1844 1850
X.Q. Ma, M.H. Li, Y.S. Sun and F.Y. Jin  Application of Lagrange Interpolation Algorithm in Beijing Carbon Emissions Prediction M.Y. Wang, Y.Y. Wang and X.L. Shen  Energy and Resource Saving and Environment Protection S.B. Dong, X.D. Ouyang and L.M. Hu  Preliminary Study on Low-Carbon Urban Development and Low-Carbon Design X.N. Li and Y. Zhang  Research on the Shortest Path Problem Based on Green Transportation B.Y. Liu and Y.R. Liu  The Green Design is Reflected in the Traditional Thought of "Make the Best Use of everything"	1844 1850 1854 1858
X.Q. Ma, M.H. Li, Y.S. Sun and F.Y. Jin  Application of Lagrange Interpolation Algorithm in Beijing Carbon Emissions Prediction M.Y. Wang, Y.Y. Wang and X.L. Shen  Energy and Resource Saving and Environment Protection S.B. Dong, X.D. Ouyang and L.M. Hu  Preliminary Study on Low-Carbon Urban Development and Low-Carbon Design X.N. Li and Y. Zhang  Research on the Shortest Path Problem Based on Green Transportation B.Y. Liu and Y.R. Liu  The Green Design is Reflected in the Traditional Thought of "Make the Best Use of everything" Y. Zhang and H.H. Zhou	1844 1850 1854
X.Q. Ma, M.H. Li, Y.S. Sun and F.Y. Jin  Application of Lagrange Interpolation Algorithm in Beijing Carbon Emissions Prediction M.Y. Wang, Y.Y. Wang and X.L. Shen  Energy and Resource Saving and Environment Protection S.B. Dong, X.D. Ouyang and L.M. Hu  Preliminary Study on Low-Carbon Urban Development and Low-Carbon Design X.N. Li and Y. Zhang  Research on the Shortest Path Problem Based on Green Transportation B.Y. Liu and Y.R. Liu  The Green Design is Reflected in the Traditional Thought of "Make the Best Use of everything" Y. Zhang and H.H. Zhou  The Research on Low Carbon Economy Development around Capital Economic Circle Q.F. Pei, H.M. Zhang and X.X. Wan	1844 1850 1854 1858
X.Q. Ma, M.H. Li, Y.S. Sun and F.Y. Jin  Application of Lagrange Interpolation Algorithm in Beijing Carbon Emissions Prediction M.Y. Wang, Y.Y. Wang and X.L. Shen  Energy and Resource Saving and Environment Protection S.B. Dong, X.D. Ouyang and L.M. Hu  Preliminary Study on Low-Carbon Urban Development and Low-Carbon Design X.N. Li and Y. Zhang  Research on the Shortest Path Problem Based on Green Transportation B.Y. Liu and Y.R. Liu  The Green Design is Reflected in the Traditional Thought of "Make the Best Use of everything" Y. Zhang and H.H. Zhou  The Research on Low Carbon Economy Development around Capital Economic Circle Q.F. Pei, H.M. Zhang and X.X. Wan  The Tourism Development Study of Desert, Wetland and Oasis Composite Resources — Taking an Example of Na Lin Tao Hai Farm	1844 1850 1854 1858 1862 1866
X.Q. Ma, M.H. Li, Y.S. Sun and F.Y. Jin  Application of Lagrange Interpolation Algorithm in Beijing Carbon Emissions Prediction M.Y. Wang, Y.Y. Wang and X.L. Shen  Energy and Resource Saving and Environment Protection S.B. Dong, X.D. Ouyang and L.M. Hu  Preliminary Study on Low-Carbon Urban Development and Low-Carbon Design X.N. Li and Y. Zhang  Research on the Shortest Path Problem Based on Green Transportation B.Y. Liu and Y.R. Liu  The Green Design is Reflected in the Traditional Thought of "Make the Best Use of everything" Y. Zhang and H.H. Zhou  The Research on Low Carbon Economy Development around Capital Economic Circle Q.F. Pei, H.M. Zhang and X.X. Wan  The Tourism Development Study of Desert, Wetland and Oasis Composite Resources — Taking an Example of Na Lin Tao Hai Farm L. Yang  Analysis of Beijing Energy Economy and Environment (3E) System Architecture and Index System Structure	1844 1850 1854 1858 1862 1866
X.Q. Ma, M.H. Li, Y.S. Sun and F.Y. Jin  Application of Lagrange Interpolation Algorithm in Beijing Carbon Emissions Prediction M.Y. Wang, Y.Y. Wang and X.L. Shen  Energy and Resource Saving and Environment Protection S.B. Dong, X.D. Ouyang and L.M. Hu  Preliminary Study on Low-Carbon Urban Development and Low-Carbon Design X.N. Li and Y. Zhang  Research on the Shortest Path Problem Based on Green Transportation B.Y. Liu and Y.R. Liu  The Green Design is Reflected in the Traditional Thought of "Make the Best Use of everything" Y. Zhang and H.H. Zhou  The Research on Low Carbon Economy Development around Capital Economic Circle Q.F. Pei, H.M. Zhang and X.X. Wan  The Tourism Development Study of Desert, Wetland and Oasis Composite Resources — Taking an Example of Na Lin Tao Hai Farm L. Yang  Analysis of Beijing Energy Economy and Environment (3E) System Architecture and Index	1844 1850 1854 1858 1862 1866

Carbon Emission Performance Research Based on the "Full Carbon Emission" X.H. Zhang and X. Li	1889
On the Application and Research of Sustainability Thinking in Indoor Environment Design X.Q. Feng and X. Wang	1894
Research on "Happy Farmhouse" Low Carbon Tourism Education: A Case Study of Daxi Village, Anji County, Zhejiang Province	
J.Q. Hu, X.F. Lou and J.J. Wang	1898
Research on China's Forest Carbon-Sink Policy Path in Coal Mines C.H. Shang, Z.H. Xu and J. Wang	1903
Species Composition and Carbon Accounting for Landscape Trees in Urban Parks of Dongguan, China	
Y.W. Zhou, P.Y. Li, D.C. Shen, L.J. Mo, S.S. Liu and L. Zhang	1907
Study on Energy Saving and Environmental Protection of Marine Dual Fuel Diesel Engine and Using Problems in China X.D. Cui, Z.D. Zhang and B. Li	1912
Study on Green and Low-Carbon Port Evaluation Index System: Case Study of Guangzhou	
Port O.Y. Bin, L. Wang, Z.H. Feng and J. Guo	1918
Study on the Characteristics of Ecological Civilization System in Shanghai	1916
G.D. Yan, J.C. Kang and G.W. Yan	1924
The Countermeasures and Suggestions of the Energy Low-Carbonization Development of the Industrial Park in China T.T. Wang, M. Zhang and T. Zhu	1928
Carbon Emissions Measurement of Jiangsu Province Industrial Energy Consumption Based	1,20
on LMDI Method S.X. Xiao and L. Wu	1932
Chapter 22: Environmental Protection and Economic Development	
A Correlation Game Analysis between Regional Trade and Environmental Cooperation H.Y. Zhao, X. Qiu, Y.H. Lu and Q. Wang	1939
A Correlation Game Analysis between Regional Trade and Environmental Cooperation	1939 1944
A Correlation Game Analysis between Regional Trade and Environmental Cooperation H.Y. Zhao, X. Qiu, Y.H. Lu and Q. Wang Analysis on Significance of Bamboo Products Based on Sustainable Development Y.Y. Wang and H. Yin Carbon Efficiency Evaluation for Four Provincial-Level Municipalities Using the DEA	
A Correlation Game Analysis between Regional Trade and Environmental Cooperation H.Y. Zhao, X. Qiu, Y.H. Lu and Q. Wang Analysis on Significance of Bamboo Products Based on Sustainable Development Y.Y. Wang and H. Yin Carbon Efficiency Evaluation for Four Provincial-Level Municipalities Using the DEA Model	1944
A Correlation Game Analysis between Regional Trade and Environmental Cooperation H.Y. Zhao, X. Qiu, Y.H. Lu and Q. Wang  Analysis on Significance of Bamboo Products Based on Sustainable Development Y.Y. Wang and H. Yin  Carbon Efficiency Evaluation for Four Provincial-Level Municipalities Using the DEA  Model H.L. Zhang, X.H. Zhang, C.Y. Huang and Y.F. Wang  Measuring Sustainability of Liaoning Province Based on the Genuine Progress Indicator	
A Correlation Game Analysis between Regional Trade and Environmental Cooperation H.Y. Zhao, X. Qiu, Y.H. Lu and Q. Wang  Analysis on Significance of Bamboo Products Based on Sustainable Development Y.Y. Wang and H. Yin  Carbon Efficiency Evaluation for Four Provincial-Level Municipalities Using the DEA  Model H.L. Zhang, X.H. Zhang, C.Y. Huang and Y.F. Wang	1944
A Correlation Game Analysis between Regional Trade and Environmental Cooperation H.Y. Zhao, X. Qiu, Y.H. Lu and Q. Wang  Analysis on Significance of Bamboo Products Based on Sustainable Development Y.Y. Wang and H. Yin  Carbon Efficiency Evaluation for Four Provincial-Level Municipalities Using the DEA Model  H.L. Zhang, X.H. Zhang, C.Y. Huang and Y.F. Wang  Measuring Sustainability of Liaoning Province Based on the Genuine Progress Indicator Method	1944 1949
A Correlation Game Analysis between Regional Trade and Environmental Cooperation H.Y. Zhao, X. Qiu, Y.H. Lu and Q. Wang Analysis on Significance of Bamboo Products Based on Sustainable Development Y.Y. Wang and H. Yin Carbon Efficiency Evaluation for Four Provincial-Level Municipalities Using the DEA Model H.L. Zhang, X.H. Zhang, C.Y. Huang and Y.F. Wang Measuring Sustainability of Liaoning Province Based on the Genuine Progress Indicator Method Y. Hou Research on Cost Evaluation of Water Depletion	1944 1949 1957
A Correlation Game Analysis between Regional Trade and Environmental Cooperation H.Y. Zhao, X. Qiu, Y.H. Lu and Q. Wang Analysis on Significance of Bamboo Products Based on Sustainable Development Y.Y. Wang and H. Yin Carbon Efficiency Evaluation for Four Provincial-Level Municipalities Using the DEA Model H.L. Zhang, X.H. Zhang, C.Y. Huang and Y.F. Wang Measuring Sustainability of Liaoning Province Based on the Genuine Progress Indicator Method Y. Hou Research on Cost Evaluation of Water Depletion L. Jia, H. Gan, C.H. Qin, Q. Lu and J.J. You Research on Coupling Model of Energy-Economy-Environment System of Beijing City X.L. Shen and L.J. Mo Research on the Dynamic Relationship between Energy Consumption Structure and Economic Growth in China	1944 1949 1957 1963
A Correlation Game Analysis between Regional Trade and Environmental Cooperation H.Y. Zhao, X. Qiu, Y.H. Lu and Q. Wang  Analysis on Significance of Bamboo Products Based on Sustainable Development Y.Y. Wang and H. Yin  Carbon Efficiency Evaluation for Four Provincial-Level Municipalities Using the DEA Model H.L. Zhang, X.H. Zhang, C.Y. Huang and Y.F. Wang  Measuring Sustainability of Liaoning Province Based on the Genuine Progress Indicator Method Y. Hou  Research on Cost Evaluation of Water Depletion L. Jia, H. Gan, C.H. Qin, Q. Lu and J.J. You  Research on Coupling Model of Energy-Economy-Environment System of Beijing City X.L. Shen and L.J. Mo  Research on the Dynamic Relationship between Energy Consumption Structure and	1944 1949 1957 1963 1969
A Correlation Game Analysis between Regional Trade and Environmental Cooperation H.Y. Zhao, X. Qiu, Y.H. Lu and Q. Wang Analysis on Significance of Bamboo Products Based on Sustainable Development Y.Y. Wang and H. Yin Carbon Efficiency Evaluation for Four Provincial-Level Municipalities Using the DEA Model H.L. Zhang, X.H. Zhang, C.Y. Huang and Y.F. Wang Measuring Sustainability of Liaoning Province Based on the Genuine Progress Indicator Method Y. Hou Research on Cost Evaluation of Water Depletion L. Jia, H. Gan, C.H. Qin, Q. Lu and J.J. You Research on Coupling Model of Energy-Economy-Environment System of Beijing City X.L. Shen and L.J. Mo Research on the Dynamic Relationship between Energy Consumption Structure and Economic Growth in China L. Jiang Research on Virtual-Water Futures Based on Food Safety	1944 1949 1957 1963 1969
A Correlation Game Analysis between Regional Trade and Environmental Cooperation H.Y. Zhao, X. Qiu, Y.H. Lu and Q. Wang Analysis on Significance of Bamboo Products Based on Sustainable Development Y.Y. Wang and H. Yin Carbon Efficiency Evaluation for Four Provincial-Level Municipalities Using the DEA Model H.L. Zhang, X.H. Zhang, C.Y. Huang and Y.F. Wang Measuring Sustainability of Liaoning Province Based on the Genuine Progress Indicator Method Y. Hou Research on Cost Evaluation of Water Depletion L. Jia, H. Gan, C.H. Qin, Q. Lu and J.J. You Research on Coupling Model of Energy-Economy-Environment System of Beijing City X.L. Shen and L.J. Mo Research on the Dynamic Relationship between Energy Consumption Structure and Economic Growth in China L. Jiang Research on Virtual-Water Futures Based on Food Safety G.L. Tian, X.B. Sun and X. Wu The Optimization of Typical Environmental Issues by LINGO Software M. Li and B.Y. Liu An Empirical Analysis of the Impact of Environmental Regulation on China's Manufacturing Industry Innovation Capacity	1944 1949 1957 1963 1969 1976 1980 1985
A Correlation Game Analysis between Regional Trade and Environmental Cooperation H.Y. Zhao, X. Qiu, Y.H. Lu and Q. Wang Analysis on Significance of Bamboo Products Based on Sustainable Development Y.Y. Wang and H. Yin Carbon Efficiency Evaluation for Four Provincial-Level Municipalities Using the DEA Model H.L. Zhang, X.H. Zhang, C.Y. Huang and Y.F. Wang Measuring Sustainability of Liaoning Province Based on the Genuine Progress Indicator Method Y. Hou Research on Cost Evaluation of Water Depletion L. Jia, H. Gan, C.H. Qin, Q. Lu and J.J. You Research on Coupling Model of Energy-Economy-Environment System of Beijing City X.L. Shen and L.J. Mo Research on the Dynamic Relationship between Energy Consumption Structure and Economic Growth in China L. Jiang Research on Virtual-Water Futures Based on Food Safety G.L. Tian, X.B. Sun and X. Wu The Optimization of Typical Environmental Issues by LINGO Software M. Li and B.Y. Liu An Empirical Analysis of the Impact of Environmental Regulation on China's	1944 1949 1957 1963 1969 1976 1980

The Plight and Transcendence of China's Environmental Civil Society  H.B. Zhang and Y.R. Zhang	2002
The Environmental Pollution Governance of the Small and Medium Sized Enterprises:  Based on the Perspective of Science Technology Legislation  J.Y. Gu and D.P. Zhang	2007
The Spatial Analysis of Population Pressure on the Ecological Environment in China during 1990-2010 Years S.N. Li and D.Q. Sun	2011
Chapter 23: Eco-Economy, Circular Economy, Low Carbon Economy	
A Strategy Research on Building Green Hotels under the Background of Low-Carbon Economy T. Yu	2019
Applying Eco-Efficiency and Emergy Theory to the Quantitative Evaluation of Tourism Industry Ecologicalization F. Lu, Q.Z. Ming, H.F. Liu and W.H. Luo	2025
Research of "One-Station Three Factories" Cyclic Economy Mode in Scale Framing Y. Wang and S.S. Zhang	2031
Research on Carbon Cost of Export Industrial Products Based on Low Carbon Economy A. Li	2035
Study of Relationship between Renewable Energy ElectricPower and Economic Development in China Based on the Principle of Asymmetric Equilibrium J. Liu, R. Wu, Y.P. Liu, W.Y. Liu and Y. Xu	2041
The Government Intervention in the Development of New Energy Industry: The Boundary of Responsibility and Policy Tools D.Q. Duan, W. Zhang and Y.X. Hu	2045
The Scenario Analysis of Low-Carbon Development on the Basis of Improved IPAT Model in China B.Y. He, Z.M. Zhu and T.M. Shen	2050
A Research on Low-Carbon Industry in Shenzhen D. Wang and H. Guo	2055
Discussion on Low Carbon Economy A. Wang and X.Q. Zhang	2063
Enlightenment of the International Carbon Trading on China's Economic Development under Low-Carbon Economy X. Chen, W.Y. Liu, J.J. Liang, L.Z. Du and H. Liu	2067
Research on Spatial-Temporal Characteristics of Agricultural Carbon Emissions in Guangdong Province and the Relationship with Economic Growth L.H. Liu and H.P. Xin	2072
Study on the Problems and Countermeasures of Circular Economy Development of China's Coal Industry H. Liu and X.L. Wang	2080
Systems Dynamics Analysis of Jiangsu Province's Low-Carbon Economy System - Based on the Carbon Tax Perspective	
S.X. Xiao and L. Wu  The Sustainable Development of Circular Economy under the Perspective of Ecological Tourism	2086
Y. Zhang and L. Tian  The Opportunities and Challenges of Chinese Renewable Energy Greenhouse Gas Emission Reduction Trade	2090
L.X. Han, J.J. Zhai and L. Zhang  The Development and Demonstration of Edible Fungus Circular Agriculture Mode and its	2094
Standardization Production Technology Y. Wang, B. Tao, B.L. Ma and Q.L. Xue	2102