

Table of Contents

Preface and Organizing Committee

Chapter 1: Energy Science and Saving Technology

Optimization Research of the Comprehensive Coke Rate of Blast Furnace Based on the Operational Characteristic of Auxiliary Materials H. Zhang, Z.H. Feng and Y.H. Wang	3
Variation Characteristics of Reactive Plumes in the Process of Extinguishing Diesel Flame by Water Mist L. Wang and S.C. Su	10
Grid-Connected Micro-Inverter Systems Based on Mode Selector M. Ling, J. Sha, C. Huang and Q.Y. Lv	17
1-Octadecanol/SiO₂ Hybrid Form-Stable Phase Change Materials for Thermal Energy Storage B.T. Tang, X.X. Zheng, M.G. Qiu, C. Jia and S.F. Zhang	22
Hydrogen: Technologies, Policies and Challenges J. Zhang, L.C. Ji and B. Jin	28
Mesoporous Thin Films: Thermoelectric Application M.H. Hong, C.S. Park, Y.J. Choi, H.S. Lee and H.H. Park	34
Design Optimization of SS-AlN Cermet Solar Selective Coatings X.Y. Liu and R.S. Tang	40
Explore Impacts of Urban Compactness on Energy Consumption H.S. Chang, T.L. Chen and C.F. Wang	46
Stabilization of Large-Scale Wind Power Generation by Combination of Pumped Storage Generation with Archimedean Screw S. Uehara, K. Nishijima, M. Mitobe, J.H. Ma, Y.Z. Zhai, S.Y. Gon and A. Sugawara	50
Determination of Airborne Quantity and Consequence Analysis of 1,3-Butadiene Release from a Petrochemical Plant Pipeline M. Jabbari, S.M.H. Sajjadi and R. Gholamnia	56
Fuzzy Controlled Energy Saving Solution for Large-Scale Belt Conveying Systems Y. Pang, G. Lodewijks and D.L. Schott	59
The Role of Vernacular Architecture in Design of Green Sidewalk (Case Study: Iran, Shushtar) M.J. Mahdavinnejad, A. Ghaedi, M. Ghasempourabadi and H. Ghaedi	65
Performance Optimization of Building Integrated-Mounted Wind Turbine M. Milanese, A. de Risi and D. Laforgia	69
Biomass Exploitation in Efficient ORC Systems P. Morrone and A. Algieri	77
Synthesis and Properties of the Composite DSD Acid-Triazine Structure Containing Long-Chain Quaternary Ammonium Fluorescent Brighteners M.Y. Wang, M.S. Wan and C.B. Cao	83
Simulation on Maximum Wind Energy Capturing of DFIG H.H. Song and D. Tian	87
Security Authentication for Smart Substation Communication Based on IEC 62351 L. Chen, Y.F. Wang and T. Zhang	91
Analysis and Experimentation of Multi-S Rotors for Vertical Wind Turbine Applications E.M. ElBeheiry and W.A. El-Askary	97
Explore the Self-Governance on Nuclear Safety Emergency - A Case Study of the 3rd Nuclear Power Plant Y.C. Lin and Y.N. Yang	103
Physicochemical Modeling of Hypergene Mineralization Processes in the Solnechnaya Reclamation Plant Tailing Dump (Khabarovsk Region) in the Temperature Range from -5 to +45 °C A.M. Kostina, V.P. Zvereva, K. Frolov, A. Pyatakov and A.I. Lysenko	107

The Reliability Evaluation Methods of the Wind Farm H. Wang and L. Pan	112
Stripping Photo-Resist with RF Dielectric Barrier Atmospheric Pressure Plasma S.X. Jia, L.L. Zhao, J.H. Yang, C. Zhang and S.G. Wang	114
The Method for Torque Distribution of In-Wheel Motor Driving Vehicle Aiming to Save Energy H.H. Zhang and G.P. Yang	120
Wind Tunnel Experimental Study of Wind Turbine Airfoil Aerodynamic Characteristics X.Z. Tang, X. Zhang, R.T. Peng and X.W. Liu	125
The Research of LED Lights Model Based on Road Lighting in Mesopic Vision F.Z. Zhu, W.H. Yuan, H.M. Xu and Y.F. Yuan	130
Performance Enhancement of Phase Change Thermal Energy Storage Unit Using Fin and Copper Foam Y.Q. Xie, J. Song, P.T. Chi and J.Z. Yu	137
Design and Simulation Analysis of Doubly Fed Induction Generator Wind Turbines P. Cheng, F.Y. Li and J.H. Li	142
Energy Storage: A Key Factor for Large-Scale Utilization of Renewable Energy Y.J. Chen	148
Two-Dimensional Modelling and Simulation of Crystalline Silicon n^+pp^+ Solar Cell S. Tobbeche and M.N. Kateb	154
On the Control of the Collector Field Outlet Temperature of Shiraz 250 KW Solar Power Plant M.Z. Mohi Abadi, S.M.H. Mohammadi, S.A.A. Safavi and S.V. Naghavi	163
Improve the Condition of the Energy Consumption of the Refinery Based on the Exergy Theory M. Jia and X.Z. Song	169
The Architectural Applications and Design Methods of Gluebam X.H. Liu, D. Xiong, W. Mu and H. Liu	175
Rapid <i>In Vitro</i> Propagation of Bioenergy Crop Miscanthus Sacchariflorus H.P. Guo, R.X. Shao, C.T. Hong, H.K. Hu, B.S. Zheng and Q.X. Zhang	181
Thermogravimetric Analysis of Different Biomass Materials and the Primary Biomass Components Y.B. Li, X.M. Zhang, L.Q. Zhao, Q. Lu and C.Q. Dong	187
A Review of Foreign Researches on Energy and Environment Field: Based on the Research Perspective of CGE Model W. Liang and H.Y. Zhang	192
Modeling and Simulation of Wear in PTFE Lip Seals J.W. Sun, L.Q. Wang and L. Gu	196
Impact Analysis to Building Energy Consumption of Daylighting Combined Lighting Control X.L. Li, H. Li and J.P. Gao	202
Study on Determination of Best Window-Wall Ratio of Office Building in Cold Area Z.H. Zhou, S. Hu and T. Du	209
Ashing Temperature's Impact on the Characteristics of Biomass Ash W.N. Li, Q.H. Li, Y.G. Zhang and A.H. Meng	217
Design and Simulation of Stand-Alone Wind-Solar Hybrid Generating System G. Wang	224
A New Real Time Forecasting Model for Wind Power S. Xu and S.L. Chen	231
Implementation of Secure GOOSE Protocol Using HSM J.C. Kim, Y.E. Kim and T.H. Kim	236
Intra-Day and Day-Ahead Wind Farm Output Forecasting Using Neural Network Ensembles A. Fuser and J. Copper	242
Role of Green Coverings in Mitigating Heat Island Effects: An Analysis of Physical Models G. Peri, G. Rizzo, G. Scaccianoce and G. Sorrentino	251
Research on Adaptive Current Protection of Wind Farm F.T. Li and C.S. Su	257

The Security Strategy for Chinese Petroleum Industry S.B. Dong, X.M. Li and M. Su	263
Energy Efficiency of Major Energy Consuming Countries X.Q. Wei and B.S. Zhang	267
Dynamic Response of a Semi-Submersible Floating Offshore Wind Turbine in Storm Condition H.T. Wu, J. Jiang, J. Zhao and X.R. Ye	273
Study on Fire Safety Planning in Chinese Petrochemical Industry Parks H.B. Wan and Y.X. Yun	279
Research the Structural Feature of Jibei Mining Area to Control the Gas Bearing H.Y. Liu, Z.X. Li, D.W. Lv, D.D. Wang and W.F. Ning	284
Green Construction Partner Selection H.B. Tang	290
Design Study of Small Pb-Bi Cooled Non-Refueling Nuclear Power Reactors (SPINNORs) Z. Su'ud	296
Application and Efficiency Verification of Classical and Unconvetional Sorbents which Serve for Capture of Heavy Metals during Coal Combustion in Experimental Fluid Device O. Němček, S. Honus and D. Juchelková	302
Optimization of Small Long Life Gas Cooled Fast Reactors with Natural Uranium as Fuel Cycle Input M. Ariani, Z. Su'ud, F. Monado, A. Waris, Khairurrijal, I. Arif, A. Ferhat and H. Sekimoto	307
Characterization of Biodiesel from Vegetable Oil Using Comprehensive Two-Dimensional Gas Chromatography F. Corriere, G. Peri and V. La Rocca	312

Chapter 2: Motivation, Thermal, Electronics and Power Engineering

Research on Evaluation System of New Energy Vehicles Based on AHP S.H. Li	321
A Comprehensive Study on Ground Source Heat Pump Applicability J.F. Chen, L. Gao, J.W. Chen, Y.B. Chen, B.J. Xu and J. Xiong	326
Optimization of Economy Shift Schedule for Automated Mechanical Transmission in a Parallel Hybrid Electric Vehicle Z.T. Liu, H.W. He and W.Q. Li	331
Performance Analysis of Induction Machines with Unconventional Winding Configurations M. Muteba, A.A. Jimoh and D.V. Nicolae	337
Research on Camera-Oriented Smart Car and Intelligent Control Z. Ma and G.B. Wang	342
The Research of Induction Motor Vector Control System Based on Fuzzy Self-Adaptive Pi Complex Control Algorithm W. Wang, X. Sun and B.Y. Li	348
The Pure Electric Vehicle Dynamic Performance Simulation Z. Zhang, M.R. Guo and P. Zhang	353
Performance Analysis and Simulation of Automotive Air Conditioning Systems Z. Zhang, P. Du and P. Zhang	357
Design and Implementation of System Integration Method for Power Distribution and Consumption J.B. Ye	362
Finite Element Modal Analysis for Steam Turbine Blade Based on ANSYS L. Wang, S.Q. Ye and R. Meng	368
The KSF of LED Business Development in Taiwan with E Company as Case Study M.L. Wang and H.K. Chen	372
Corona Detection System on Insulators via Acoustic Emissions M.A.M. Rennó, E.L. Bonaldi, L.E.L. Oliveira, J.G.B. Silva and G. Lambert-Torres	379
Charging and Discharging Equalization with Improved Switching Matrix for Series-Connected Battery Pack in EV Y.J. Rong, C.Y. Hua and W.B. Tang	385

Indoor Air Quality Audit and Grey Incidence Analysis of an Air-Conditioned Institutional Library in the Subtropics L.R. Liu, J. Wu, X.X. Wang, Z.S. Li and T. Cheng	391
Risk Analysis of Smart Terminals in Mobile Application of Power System and the Protection Solution Design Z.P. Shao, S.D. Lu and M. Chen	397
Analysis of Shock Effect Generated by Vehicles on Human Body under HVAC Transmission Lines A.Q. Ma and L. Chen	402
Research on the Equivalent Circuit Modeling of Oil-Paper Insulation of Transformer by Analyzing the Dielectric Spectra Y.Q. Liu, J.D. Cai and Y.X. Guo	408
Research of Setting Main Circuit Parameters of Independent Photovoltaic Power System F. Zhang, J. Fu, H. Jia and J. Li	414
The Propagation Characteristics of Partial Discharge Signals in Enclose Busbar F. Zhang, J. Fu and J. Li	420
A Multiplex Data Acquisition System Applied in High Voltage Transmission Line Based on Electronic Transformers T. Song	426
A Reactive Power Generator Based on Voltage Source Inverter T. Song	432
Thermal and Mechanical Characteristics of Thermal Barrier Coatings in Cyclic Thermal Fatigue Systems K.H. Lee, S.W. Myoung, M.S. Kim, S.S. Lee, E.H. Kim, Y. Jung and U.Y. Paik	438
Stability Evaluation for Polymer Electrolyte Membrane Electrolyzer H.G. Kim, H.J. Shin, Y.J. Cha, S.H. Ko, H.W. Kim and L.K. Kwac	443
A Complete Optimal Control Solution for Permanent Magnet Synchronous Motors M. Gaiceanu and E. Rosu	449
Research on the Control Strategy of DFIG Grid Side Converter under Unbalanced Grid Voltage Conditions F. Song, D. Zhu, K. Tang and X.J. Liu	454
Effect of Top Coat Thickness on Thermal Stability in Thermal Barrier Coatings T.S. Jang, S.W. Myoung, H.S. Kim, Z. Lu, G.H. Cho, J.H. Lee and Y. Jung	460
Calculation Model of Peak Power Load Shifting of Electric Thermal Storage Air-Conditioning System H. Wang, D.Z. Li, R.W. Xu and H. Ji	466
The Research and Design of Intelligent Community Energy Management System Y.F. Yang and Y.Y. Xi	471
The Design of Arc Fault Circuit Interrupter Based on Wavelet Transformation X.J. Xiang and Z. Lin	476
The Study of Hierarchical Control Method for Micro-Grid Control Y.Y. Wu and S.H. Wang	482
Design of Three-Phase Voltage Source PWM Rectifier Using Feed-Forward Compensation Q. Zhu and J.B. Shi	487
Optimization of Drive Unit through Load Measurement J. Nečas, T. Mlčák, J. Zegzulka and R. Hrbáč	494
Degradation of 2-Chlorophenol Using a Pd/MWNTs Gas Diffusion Electrode in the Divided Cell Z.P. Zeng, H. Wang, Z.Y. Bian and L. Pang	499
Study Platform for AC Transmission System of High-Speed Train X.C. Fang, Z.P. Yang, F. Lin and J.F. Qin	505
Design on Pulse Acquisition Circuits of Intelligent Distribution Network Digital Terminal Y. Zhang and G.B. Zhang	511
Coordinated Control Strategies between Photovoltaic Power Plant in MW Level and the Power Grid K.N. Wang, C.Y. Yang, J.H. Wang and L. Liu	518
Fault Current Limitation (FCL) and Voltage Dip Improvement Thanks to Distributed Static Series Compensator (DSSC) S. Badkubi	525

Three-Phase AC Variable Frequency Speed Adjustment Controller Based on FPGA C.Z. Lv, T. Gao, G.Z. Xin and Y.Y. Zhou	532
Modeling of Wellbore Overall Heat Transfer in Circulation H.F. Song, R.H. Wang and H.J. Ni	537
The Study on the Battery Modeling through the Mathematical Modeling Techniques of High-Power Lithium-Polymer Battery for HEV D.W. Seo, J.K. Koo and I.S. Kim	543
A New Approach to Analyzing Gas Mixtures Based on Improved BP Neural Network Algorithm T. Li, X.M. Yuan, S.L. Yang and X.H. Zhang	548
Study of Magnetics Performance of Inset Permanent Magnet Synchronous Machine (Inset - PMSM) Using Finite Element Method J.M. Ling and T. Nur	554
Investigation the Performance of Axial Channel Rotor in Inset Permanent Magnet Synchronous Machine J.M. Ling and T. Nur	559
Investigation of the Thermal Flow Field and Recirculation of a Direct Air-Cooled Condenser for a Large Power Plant W.L. Zhao, Q.Y. Li and L.H. Wang	565
Prediction Model Establishment of the Opening Angle of a Ball Valve Z.R. Feng, L.X. Wang and Z.Q. Li	570
Analysis of Energy Demand and Smart Grid Policy-Making Issues of China S.X. Cai	576
Optimum Design of Interior Permanent Magnet Motor for Automotive Cooling Device J.S. Yu and H.W. Cho	581
Analysis and Study on Microgrid Planning Based IEEE 1547 X.Q. Huang, D.W. Yang, J.H. Yang, Y.F. Tang, R.G. Yang, J. Zhang and B. Feng	587
The Use of FT-IR for the Determination of Liquid Products Properties after the Tyres Thermal Degradation V. Sassmanová, Z. Poláčková, J. Frantík, S. Honus and D. Juchelková	593
Experimental Determination of Energy Demand and Spatio-Temporal Course of Pyrolysis for Various Materials S. Honus, O. Němček, J. Frantík, V. Sassmanová and D. Juchelková	598
Comparison of Numeric Methods that Simulate Energy Transfer by Radiation S. Honus and D. Juchelková	605
Advanced Refrigerating Plants Based on Transcritical Cycles Working with Carbon Dioxide for Commercial Refrigeration V. La Rocca, A. Messineo, M. Morale, A. Dispenza and D. Panno	611

Chapter 3: Environmental Science, Analysis and Engineering

Study on the Kitchen Residues and Cattle Manure Anaerobic Co-Digestion in Bench-Scale Laboratory Test X. Ke, X. Zhao, Y. Sun and Y. Zhang	621
Utilization of Steelmaking and Hot-Rolling Mill Waste L. Chen	627
Health Risk Assessment of Polycyclic Aromatic Hydrocarbons (PAHs) in the Pearl River Delta H. Zhang, J.J. Zhao, A.M. Song and M.W. Song	631
Research on Application Mechanism of Vanadium Extraction Tailings by Cleaner Production J. Wang, L. Chen, L.K. Jiang, L.G. Yi, S.Q. Huang and Y.J. Zhang	637
The Economic Comparisons and Introduction to China of the Kyoto Mechanisms S.F. Wang and Y. Bai	642
Environmental Pollution and Protection of Oil & Gas Production and Utilization in China X.L. Yang and M.M. Sun	648
Heavy Metal Element Sedimentary Record Adjacent to the Pingtan Island Y. Hu, J. Chen and J. Xu	654

The Water Pollution Control Planning Research in Lingyuan Stream Segment of Daling River	
J. Pan, H.X. Li and C.H. Li	659
Development and Sensitivity Analysis of Model for Aeration Chamber in Water-Circulating Aerator	
X. Sun, F.F. Duan, T.L. Huang and M.D. Zhang	663
Analysis of Water Quality Change before and after the Wenchuan Earthquake	
F. Qian, B. Hu, J.J. Liu, M.B. Xiong and H. Hu	674
Debris Flow Warning System Design by Diao Zhongba on the Basis of GIS	
X.P. Li and Y.N. Li	679
Metabolic Characteristic Analysis of an Oil Field Wastewater Degrading Strain <i>Chelatococcus</i> G5	
X.Y. Liu, C. Wang and M. Ji	684
Study on Recycling and Disposal of Waste Fluorescent Lamps	
T.H. Li and D.Q. Xiang	690
Estimation of Biogas Production from Shrimp Pond Sediment Using the Artificial Intelligence	
J. Srisertpol, P. Srinakorn, A. Kheawnak and K. Chamniprasart	695
Resonance Rayleigh Scattering Spectral Method for Trace Fe³⁺ Using 1, 4-Dithiothreitol-Modified Nanogold as Probe	
G.Q. Wen, L.Q. Wu and Z.L. Jiang	701
Photopatterning Based on a Chemically Amplified Mechanism Nano-Sheet Films	
T.S. Li, X.H. He, K.K. Zou, W.J. Xu, Y.J. Wu and T. Miyashita	707
Industrial Wastewater Reclamation for Sustainable Development – Integration of Membrane Bio-Reactor Process	
C.H. Ni and J.C.T. Lin	715
Research on the Residential Environment Construction of Healthy City	
D.Z. Wang	721
Effects of Soil Amendment Fertilizer on Cotton Growth and Yield	
J. Du, X. Du, Y.M. Li, J.S. Jian and C. Du	725
The Influences of Industry Development on the Urban Environment in Beijing, China	
K.Y. Wang and Y. Deng	731
Evaluation of Formaldehyde Emission from Particleboard Using the Large Chamber and Desiccator Method	
Z.L. Que, L.F. Ma, F.B. Wang and T. Furuno	738
Research on Recycling Technology of Vanadium Extracting Waste	
L.K. Jiang and X.F. Zou	744
Characterization and Identification of Inorganic Water-Soluble Ions in PM_{2.5}	
W. Dai, J.Q. Gao, B. Wang and F. Ouyang	748
Feasibility Study on the Concentration of Miscible Liquid in Aeration Tank Used by CAF Process	
X.T. Guan, F.P. Hu and L.Y. Wang	754
Supply Chain Contract Arrangements of Carbon Abatement with Consumer Preferences	
N. Ma and X.L. Gao	759
Azo Dyes Biodegradation Based on Silicone Membrane-Aerated Bioreactor	
J. Wang, H. Lu and G.F. Liu	765
Effect of Mechanical Aeration on Nitrogen and Microbial Activity in Sediment-Water Interface from Urban Lake	
J.J. Chen, S.Y. Lu, Z.Y. Liao, S.C. Ai and M.S. Huang	770
Effects of Simulated Acid Rain on Soil Chemical Properties of Potting Yellow Cinnamon Soil under <i>Quercus Variabilis</i>	
X.Q. Liang, R.Q. Wang, W.J. Ding, Y.J. Luo and J. Liu	776
The Relationship between Ecosystem Health and Ecological Safety	
Y. Song, R.Y. Chang, Z.D. Yu, R.Q. Wang and J. Liu	781
Analysis and Evaluation of Heavy Metal Pollution of Surface Soil in Baicheng City	
G. Wang	786
Experiment Study on Microwave Strengthened Fenton Process Oxidation of Organophosphorus Pesticide Wastewater	
Y.F. Li, J.X. Wang and Y. Zhang	792

Variability of Soil Erosion under Different Topographical and Vegetation Conditions in Upper Min River Watershed Z.Y. Liu, X. Zhang, P. Zhou and D. Wei	796
Study on a Combination Drying Technique of Shrimp Y.X. Bai, Y.C. Hu and Q. Huang	804
Characteristics and Causes of Air Pollution in Lanzhou, China Y.X. Ma	808
Resonance Rayleigh Scattering Spectral Determination of Vitamin C by Nanogold Catalysis G.Q. Wen and Z.L. Jiang	815
A Design Scheme of Energy Management System for Low-Carbon Community in Smart Grid Environment S.H. Wang and Y.Y. Wu	820
Estimation of Effect of Technogenic Discharges on Hydrosphere in Dalnegorsk District of the Far East V.P. Zvereva, L.T. Krupskaya and E.N. Salyukova	825
The Carbon Emission Quantification of the Low Carbon Road Maintenance Technology in China K. Zhou, Y. Wong, X.J. Xu, C.R.C. Chiang and H.C. Zhang	833
Retention and Removal Efficiency of Riparian Wetlands on Non-Point Source Pollutants J. Xu, L.G. Xu and L. Dong	841
The Long-Term Dynamics in Crude Oil Prices B.M. Qiao, S. Zhang and H. Jin	846
Effect of Thermal Conductivity of the Soil Cover on the Air Temperature Dynamics under Natural Conditions and at Anthropogenic Loads E.E. Kholoden, O.M. Morina and S.A. Lobanov	852
Removal of Caramel Pigment from Sauce Wastewater by Electrocoagulation Process Using Aluminum Electrodes X.L. Li, T.T. Li and F.Q. Zhang	856
The Research of Mine Environmental Quality Early Warning Y.Z. Rao and H.Y. Yang	862
Study on the Recycling of Waste Old Ship-Wood Z.F. Zhang, K. Huang and J.S. Gao	868
Analysis and Assessment of the Environment in the Area of Abandoned Coal Mines in Primorsky Region A. Derbentseva, L. Krupskaya, O. Arefieva, A.V. Nazarkina, A. Orlov, V. Morin and N.G. Volobueva	872
Sustainability through Optimization: The Future of Watershed Management T. Saravanapavan, G.S. Zhang and M. Voorhees	876
Study on Risk Analysis and Control of Oil Tank Based on Environmental Safety Q.D. Yong, Y. Chen and Y. Wang	882
The Effect of Polyacrylamide on Floc Structure of Typical Systems P.K. Jin, Y.N. Feng, J. Xu and X.B. Wang	887
Evaluation of the Implementation of Cleaner Production among Enterprises in Qingdao, China L. Xing, L. Shi, R.C. Wang, X.C. Sun and L. Tian	891
Micro-Morphology and Micro-Area Chemical Characteristics of the Nickel-Carrying Minerals in the Garnierite W. Fu, X.R. Huang, H.Y. Chen, H.J. Niu and M.L. Yang	896
The Study of Cavity Making Using Directional-Butted Wells Technology D.Y. Jiang, L. Yi, J. Chen, X. Jiang, S. Ren and H.F. Qiu	902
The Numerical Calculation of Highway Slope Stability under the Influence of Rainfall Y. Chen, H.Y. Duan and C.T. Zhou	907
Effects of Environmental Factors on Phosphorus Release in Sediment from Baihua Lake, China M. Jin, J.W. Hu, X.F. Huang, L.Y. Fu, J. Luo, M. Jia, C. Liu and W. Shen	912
Research on the Electrical Model of a Capacitive Soil Moisture Sensor Y. Xu, W.D. Yi and K.W. Jwo	917

Investigating of Correlation between MODIS Satellite Data and Ground Data Related to Aerosols and Modeling Aerosols Using Neural Networks over Shiraz A.R. Dehghani, A.A. Safavi, M.J. Nazemossadat and S.M.H. Mohammadi	926
Characteristics of TVOC, Aldehydes and Ketones Emitted from Fiber Dryer in Manufacturing of HDF Made from Poplar and Pine S. Huang, P.G. Zhou, Z.G. Lu, G.Z. Zhang, W.B. Sang, H.D. Zhou and T. Ding	930
Environmental Practices as Requirements for Supplier Evaluation and Selection in the Automotive Supply Chain R.M. Vanalle and L.B. Santos	935
Integrated Assessment of Carbon Dioxide Emissions for a Large-Scale Iron and Steel Corporation in China A.J. Li and Y.X. Cao	942
Numerical Simulation on Self-Priming Spray and Conventional Spray Characteristics Z.F. Ma, Z. Zhang and Z.L. Ge	948
Effect and Control of Suspended Solids at the Blast Furnaces A.S. Afolabi, K.O. Sanusi, A.S. Abdulkareem and B.S. Oluwaseyi	954
Effect of Flotation Parameters on Recovery of South Africa Nickel Sulphide Ore A.S. Afolabi, A.S. Abdulkareem and E. Muzenda	961
Investigation of the Treatment of Wastewater Using Activated Sludge Process A.S. Afolabi, O. Johnson, A.S. Abdulkareem and B.S. Oluwaseyi	969
Thermal Analysis of Recycled Gypsum from Construction and Demolition Waste G. Camarini, S.M.M. Pinheiro and K. Tannous	977
IBIS Model-Based Simulation Study on Variation of Ecological Carbon Sink Potential in Shenzhen City W.L. Liu, L.B. Zhang and B. Gong	981
Study on Indicators System for Construction of Ecological Demonstration Province in Guangxi H. Cheng, Y.C. Huang and J.H. Xiong	988
Experimental Analysis of CO₂ Concentration X.D. Zhang, C.D. Wang, J.J. Jin and Y.Z. Li	993
Study on Speciation Analysis and Bioavailability of Cr in Soil by Fixatives X. Ke, Y. Sun and Y. Zhang	998
Wind Erosion at a Saline Playa Environment, Ebinur Lake, Xinjiang, China - A Case Study on the Source of Saline Dust Storm D.W. Liu and J. Abuduwaili	1003
Construction Waste Recycling Technology Management Based on Circular Economic Theory J.L. Wu and Y.B. Deng	1009
Research on Leachate Treatment Process Selection of Guangxi Municipal Solid Waste Plant H. Cheng, M. La and J.H. Xiong	1013
Analysis of the Crushing Effect about Ultrasound on <i>E. coli</i> and <i>B. subtilis</i> X.Y. Wang, Y.T. Liu, M. Hui and J.F. Xu	1017
The Numerical Simulation Study of a Flocculation Reactor Y.P. Lai and J.H. Zhao	1022
Estimation Method for Spatial Capacity of Sea Areas Reclamation M.H. Zhang, C.P. Chen and A.N. Suo	1026
Changes of Value of Ecosystem Services and its Driving Forces in the Lower Reaches of the Tarim River X. Huang, W.H. Li and J.X. Ma	1030
The Effect of Ferric Ion and Copper Ion on Extracellular Polymeric Substances L.Y. Ge, H.H. Deng, D.X. Gao and H.W. Wang	1035
The Effect of Doping Ce and Fe on the Mn/TiO₂ Catalyst for Low Temperature NO Selective Catalytic Reduction with NH₃ S.Y. Feng, P. Gao, C.Q. Dong and Q. Lu	1041
Photodegradation of Two Antibiotics Involved with Fe (III) and Marine Algae L.Y. Ge, Y.G. Huang, D.X. Gao and H.H. Deng	1047
Research on Influencing Mechanism of Industrial Carbon Emissions in Hebei Province W.Y. Yu and H.N. Zhao	1052

Study on Control Factors and Genetic Model of Karst in the Ordovician of Tahe Oilfield Y. Li and S.Y. Xu	1057
Research on the Classification of Coupling Relationship among the Ecological Environment, Natural Disasters and Regional Poverty in Inner Mongolia Autonomous Region A. Tuya, B.R. Jirigala and B. Yin	1063
Research of Biochemical Processing on Wastewater of Halogen Products Q.Y. Wang, X.Y. Guo and S.K. Xie	1069
Influence of Influent pH on Ceramic Printing Wastewater Treatment Y.L. Zhang, Z.Z. Huang and M.M. Zhou	1074
Study on early Warning Mechanism of Water Resources Security M.Q. Chang and Y.L. Fan	1079
Application of Life Cycle Assessment in Agricultural Circular Economy X.X. Zhang, F. Ma and L. Wang	1086
A Simulation Training System of Multi-Effect Seawater Desalination W.Q. Li and Y. Wu	1092
Study on the Advanced Treatment Technology for Wastewater Containing both Zn^{2+} and Cd^{2+} G.Z. Huang, D.K. Li, X.M. Miao, J.F. Wang and L.J. Bao	1098
A New Calculation Method of Environmental Similarity X.M. Xu, J.X. Ke and D. Kun	1104
Influence of Reaction Pressure on Papermaking Black Liquor Treatment with Wet Oxidation Method G.X. Hao, Z.R. Zhong and W.M. Liao	1109
Research on the Corn Stalk Composite Solvent Liquefaction X.Y. Li, Y.G. Zou, J.H. Wu, J.Y. Pang, J.Y. Shi and C.N. Ma	1115
The Development and Optimal Allocation of Water Resources in Zhidan Country Energy Chemical Industrial Park P.K. Jin, L. Zhang, X.B. Wang and Y.N. Feng	1120
The Inevitability Research on the Adjustment of Industrial Structure to Achieve Sustainable Development of the Resource-Based Cities J. Chen, F.B. Cai and B.Y. Xiao	1125
The Impact of Green Tide on the Phytoplankton Community in Yellow Sea X.K. Song, Y.J. Shi, A.Y. Liu, H.Y. Xing, H.C. Jiang, W.J. Wang and L.M. Zhang	1130
Quantitative Study of Elements Migration during the Wall Rock Alteration Process for Gejiu Copper-Polymetallic Deposit inside Rock X.H. Deng, S.Y. Chen and S.L. Liao	1138
Non-Uniform Electrokinetic Removal of Heavy Metals from Contaminated Soil with Permeable Reactive Composite Electrodes F. Liu	1145
Vibration Control Based on Shift Mass of Propulsion Motor for Watercraft H. Wu and T. Sun	1151
FLY System of Green Infrastructure for Coping with Climate Change G. Choei, J.G. Bae, S.M. Shin and H.Y. Park	1156
Ecological Effects of Mining Exploitation and Typical Technology of Ecological Restoration S.M. Yang	1158
Review of the Treatment of Water Containing Arsenic Y.N. Chen, L.C. Ding and C.H. Liu	1162
Environmental Implications of Traffic Flow Delays: A Model for Urban Streets F. Corriere, G. Peri, V. La Rocca and G. Rizzo	1167
Comparison of Extraction Methods for Quantifying Extracellular Polymers of Marine Algae L.Y. Ge, Y.G. Huang, D.X. Gao and H.H. Deng	1173
Flocculation and Sedimentation of Bauxite Flotation Tailings H.Y. Xie, L.K. Gao, S.M. He, D.W. Liu and X. Tong	1179
Evaluation on Circular Economy Development in Provincial Region-Based on Eco-Efficiency Perspective M.H. Cui	1183

The Study of Heavy Metal Pollution Characteristics in Soil of Typical Urban-Industrial Wasteland	
S. Chen, L. Chao, L.N. Sun and T.H. Sun	1189
Toxicity of As on Soil Neutral Phosphatase	
X. Ke, Y. Sun and Y. Zhang	1195
Study of Failure Rate Model for a Large-Scale Water Supply Network in Southern China Based on Different Diameters	
P.J. Yu, J.X. Nie, G. Xu, Z.H. Long, Z.H. Wang, Y. Tu, B. Li, X. He and Y.L. Chen	1200
Characterization of ZSM-5 during Conversion of Glucose to Levulinic Acid	
Y. Liu, L. Lin, X.Y. Sui, J.P. Zhuang and C.S. Pang	1206
The Study on the Inhibiting Effect of Denitrifying Bacteria on Sulfate-Reducing Process	
Y. Li, X. Zhang, L.H. Zhou, J.K. Ren and N. Zhao	1210
Study of CO₂ Emissions Decrease in Metallurgy Industry of Czech Republic	
S. Jursová, P. Pustějovská, J. Frantík and V. Sassmanová	1215
Establishment and Practice of China's Corporate Environmental Supervisor System	
J.Y. Tian and Y.H. Mao	1219
Preliminary Study of the Geological Disaster Modeling in the Three-Dimensional Tunnel Project	
X.F. Zu, W.H. Hua and J. Luo	1225
Cause Analysis and Countermeasure Research on the Deterioration of Oasis Ecological Environment of Minqin County	
F.H. Li, X.L. Liang and K. Chen	1231
GIS-Based Alerting and Control System Design of Geological Disaster in Jiangxi Province	
X.F. Zu, X.G. Luo and J. Luo	1236
Research on Environment Geology Information System Based on GIS	
J. Luo	1242
A Study on the Relationship between Debris Flow Deposit and Environmental Evolution in Quaternary	
X.Z. Liang	1249
Effects of Influent pH on Papermaking Black Liquor Treatment with WAO Method	
Y.M. Liu, C. Shi and L.L. Shang	1257
Influence of Influent Concentration on Papermaking Black Liquor Treatment with Wet Air Oxidation Method	
Z.H. Chu, X. Geng and C.L. Zheng	1263