2011 2nd International Conference on Challenges in Environmental Science and Computer Engineering

(CESCE 2011)

Procedia Environmental Sciences Volume 11

Haikou, China
14-15 December 2011

Part A

Editors:

Qihai Zhou

ISBN: 978-1-62748-534-0
ISSN: 1878-0296
## Contents

**Part A**

**Editorial**
Q. Zhou .......................................................... 1

The Geographic Information Platform of New Socialist Countryside Comprehensive Services
X. Li, Z. Yi, F. Zhang, X. Liu ........................................ 3

Operating Risk Evaluation of Thermal Power Enterprises based on Literature Content Analysis
J. Xin, Z. Xin ..................................................... 11

A New Measurement Model for Main Steam Flow of Power plants
J. Liu, S. Yan, D. Zeng ........................................... 18

Study on Family Carbon Emissions Assessment and Optimization
H. Li ................................................................. 25

The Design and Construction of Decision-making Command System for Digital Oilfield Emergency Drill
Z. Qi, C. Lei ....................................................... 32

ISAR Target Multi-Threshold Value Segmentation Algorithm based on Quantification Energy Band
Y. Yang, X. Gao, X. Feng, J. Fan .................................. 37

A Method of Removing ISAR Image Stripe Noise based on the Target Axis and the Energy Band Analysis
Y. Yang, X. Gao, X. Feng, J. Fan .................................. 43

The Application of Computer-Aided Audit for Tax Collection and Management
R. Liu ............................................................... 50

PSO-FNN-based Vertical Handoff Decision Algorithm in Heterogeneous Wireless Networks
N. Wang, W. Shi, S. Fan, S. Liu .................................. 55

MODM-based Evaluation Model of Service Quality in the Internet of Things
S. Fan, W. Shi, N. Wang, Y. Liu .................................. 63

Intervention Standards Time Series and Strength of Multi-Agencies’ Response in Emergency Management
W. Lin, B. Zhao, X. Zheng ........................................ 70

Research on Layered Resource Discovery Model in Grid
Z. Luo, B. Zhu, Y. Li, H. Song ..................................... 77

A Rapid Automatic Image Registration Method based on Improved SIFT

Search-Location Mechanism based on Redundant Super-Nodes
J. Chen ............................................................ 92

Modified D-S Evidential Theory in Hydraulic System Fault Diagnosis
Z. Dong, X. Zhang .................................................. 98

The Improvement of Fastness for a Kind of Uncertain Networked Systems based on the Stripping Principle and Optimal Control
W. Wang ........................................................... 103

Interface Implementation of Manufacturing Industry Agile Supply Chain Nodes based on Service Agent
J. Wang, X. Jing, T. Wang ........................................ 111

A Survey Study on Consumer Perception of Mobile-Commerce Applications
Z. Chen, R. Li, C. Xi, H. Xu .................................... 118

Improving Test Pattern Generation with Implication Learning
X. Liu .............................................................. 125

An Outlier Mining Algorithm based on Attribute Entropy
M. Zhou, J. Tao .................................................... 132

A Real-Time Face Recognition System based on BDPCA Plus BDDLDA
J. Li, Z. Yang, Y. Song, Q. Yang, F. Zhai .................... 139

Multi-Level Semantic Characterization and Refinement for Web Image Search
Y. Li, C.H.C. Leung ............................................. 147

Design and Implementation of Digital Control of Photovoltaic Power Inverter
H. Tao, S. Liu ................................................... 155

Comparative Study of Several Intelligent Algorithms for Knapsack Problem
J. Zhang ........................................................... 163

The Design of the Module Exchange Measuring Head based on 112-System
H. Qiao, C. Deng ................................................ 169

Multidisciplinary Design Optimization for Heavy Machinery based on HLA
X. Meng, G. Wang, J. Wang, L. An ............................ 177

Construct the Secure Shell Transport Model and Analyze its Security Performance
X. Huang, H. Guo ................................................ 183

Web-based Collaborative Learning
Q. Fan, L. Li ...................................................... 189
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources Allocation in Virtualized Systems based on Try-Before-Buy Approach</td>
<td>193</td>
</tr>
<tr>
<td>R. Yu, C. Jiang, X. Xu, C. Hui, J. Wan</td>
<td></td>
</tr>
<tr>
<td>Geometric Rectification using Feature Points Supplied by Straight-lines</td>
<td>200</td>
</tr>
<tr>
<td>T. Long, W. Jiao, W. Wang</td>
<td></td>
</tr>
<tr>
<td>Improved Retinex Image Enhancement Algorithm</td>
<td>208</td>
</tr>
<tr>
<td>L. Tang, S. Chen, W. Liu, Y. Li</td>
<td></td>
</tr>
<tr>
<td>A Improved Method of Discretization of Continuous Attributes</td>
<td>213</td>
</tr>
<tr>
<td>S. Chen, L. Tang, W. Liu, Y. Li</td>
<td></td>
</tr>
<tr>
<td>An Empirical Analysis on the Relationship between IPO Waves and Market Timing on the Basis of Product Market Competition in China</td>
<td>218</td>
</tr>
<tr>
<td>Z. Lin, L. Han, X. Guo</td>
<td></td>
</tr>
<tr>
<td>Research on SLM Algorithm for PAPR Reduction in MB-OFDM UWB Systems</td>
<td>227</td>
</tr>
<tr>
<td>W. Meng, Z. Feng, Y. Li, Q. Song</td>
<td></td>
</tr>
<tr>
<td>The Error Performance and Fairness of CUWB Correlated Channels</td>
<td>232</td>
</tr>
<tr>
<td>W. Meng, Z. Feng, Y. Li, G. Liu</td>
<td></td>
</tr>
<tr>
<td>Change Detection using Change Vector Analysis from Landsat TM Images in Wuhan</td>
<td>238</td>
</tr>
<tr>
<td>X. Song, C. Bo</td>
<td></td>
</tr>
<tr>
<td>Analysis of Climatic Change from Energy Perspective</td>
<td>245</td>
</tr>
<tr>
<td>Z. Yin Y. Guo, M. Lai</td>
<td></td>
</tr>
<tr>
<td>A Bandpass Sampling Design in Multi-Channel Radio Receiver</td>
<td>250</td>
</tr>
<tr>
<td>W. Li, Z. Liu</td>
<td></td>
</tr>
<tr>
<td>A Method of SVM with Normalization in Intrusion Detection</td>
<td>256</td>
</tr>
<tr>
<td>W. Li, Z. Liu</td>
<td></td>
</tr>
<tr>
<td>Confident Recovery for Lost Motion Vectors in Video Transmission</td>
<td>263</td>
</tr>
<tr>
<td>W. Li, J. Xu</td>
<td></td>
</tr>
<tr>
<td>A Self-Adapting Dynamic Localization Algorithm for Mobile Nodes in Wireless Sensor Networks</td>
<td>270</td>
</tr>
<tr>
<td>J. Wang, T. Han</td>
<td></td>
</tr>
<tr>
<td>Analysis and Optimal Design About a Kind of Bearing Beam with Sleeve Joint Structure</td>
<td>275</td>
</tr>
<tr>
<td>J. Hea, Y. Chenb</td>
<td></td>
</tr>
<tr>
<td>The (2.1) -Total Labeling of Double Graph of Some Graphs</td>
<td>281</td>
</tr>
<tr>
<td>Q. Ma, J. Wang</td>
<td></td>
</tr>
<tr>
<td>Space-Aware Data Integration for Ocean Observing Systems</td>
<td>285</td>
</tr>
<tr>
<td>L. Li, A.K. Nalluri, L. Ai</td>
<td></td>
</tr>
<tr>
<td>A Web-based Software Framework for Aircraft Design Modeling, Analysis and Multidisciplinary Optimization</td>
<td>291</td>
</tr>
<tr>
<td>Y. Wang, Y. Lu, P. Chu, P. Gao, J. Wang</td>
<td></td>
</tr>
<tr>
<td>A New Low Leakage Power Flip-Flop based on Ratioed Latches with Power Gating</td>
<td>297</td>
</tr>
<tr>
<td>X. Yu, J. Hu</td>
<td></td>
</tr>
<tr>
<td>An Improved Implementation of Debit-Interleaving</td>
<td>304</td>
</tr>
<tr>
<td>W. Zeng, J. Li</td>
<td></td>
</tr>
<tr>
<td>Dielectric Parameters and Wave Propagation Characteristics in Multilayer Media</td>
<td>310</td>
</tr>
<tr>
<td>Q. Lei</td>
<td></td>
</tr>
<tr>
<td>Performance Evaluation of a Infiniband-based Lustre Parallel File System</td>
<td>316</td>
</tr>
<tr>
<td>Analysis and Comparison on Wind Load of Long Span Girder Bridges with High Pier</td>
<td>322</td>
</tr>
<tr>
<td>Z. Ye, Y. Xiang, Z. Ye</td>
<td></td>
</tr>
<tr>
<td>Empirical Research on Influence of Mission Statements on the Performance of Nonprofit Organization</td>
<td>328</td>
</tr>
<tr>
<td>Y. Wang, J. Lin</td>
<td></td>
</tr>
<tr>
<td>Data Management Trust System in Pervasive Environments</td>
<td>334</td>
</tr>
<tr>
<td>Z. Hu, S. Wang</td>
<td></td>
</tr>
<tr>
<td>Adiabatic Two-Phase CPAL Flip-Flops Operating on Near-Threshold and Super-Threshold Regions</td>
<td>339</td>
</tr>
<tr>
<td>Z. Xin, J. Hu, C. Qi</td>
<td></td>
</tr>
<tr>
<td>A Genetic Algorithm Based on Combination Operators</td>
<td>346</td>
</tr>
<tr>
<td>X. Shuai, X. Zhou</td>
<td></td>
</tr>
<tr>
<td>The Remanufacturing Reverse Logistics Management based on Closed-Loop Supply Chain Management Processes</td>
<td>351</td>
</tr>
<tr>
<td>W. Xia, D. Jia, Y. He</td>
<td></td>
</tr>
<tr>
<td>The Pollution State in 31 Provinces and Regions in China</td>
<td>355</td>
</tr>
<tr>
<td>J. Yang, S. Yang</td>
<td></td>
</tr>
<tr>
<td>Performance Evaluation of Airport Construction Energy-Saving based on DEA Network Design and Performance Analysis</td>
<td>358</td>
</tr>
<tr>
<td>X. Guo</td>
<td></td>
</tr>
<tr>
<td>Research on Impact of Ground Control Point Distribution on Image Geometric Rectification based on Voronoi Diagram</td>
<td>365</td>
</tr>
<tr>
<td>G. Yang, J. Weili</td>
<td></td>
</tr>
<tr>
<td>A Method of Fast Module Location Test Based on Requirements Changes</td>
<td>372</td>
</tr>
<tr>
<td>X. Guo, H. Chen, S. Wu, J. Zhan, Z. Sheng</td>
<td></td>
</tr>
<tr>
<td>Sales Forecasting System for Chinese Tobacco Wholesalers</td>
<td>380</td>
</tr>
<tr>
<td>D. Fanga, W. Weng</td>
<td></td>
</tr>
<tr>
<td>The Research and Design of an Interpolation Filter used in an Audio DAC</td>
<td>387</td>
</tr>
<tr>
<td>Transportation Risk Assessment of Chemical Industry Supply Chain based on a Dual Model</td>
<td>393</td>
</tr>
<tr>
<td>L. Liu, S. Li, T. Fan, X. Chang</td>
<td></td>
</tr>
<tr>
<td>Present Research Situation and Trend of Temperature Measurement and Control Technology for Dry-Type Transformers</td>
<td>398</td>
</tr>
<tr>
<td>J. Feng, G. Kang, Z. Chen, A. Zheng, Y. Wei, G. Cui</td>
<td></td>
</tr>
<tr>
<td>Title</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Consumer Perceptions of E-Service Convenience: An Exploratory Study</td>
<td>406</td>
</tr>
<tr>
<td>Method of Real-Time Assessing of Life of Hp Heater Tube-Plate in Power Plants</td>
<td>411</td>
</tr>
<tr>
<td>By-Example Synthesis of Compactly Stored Textures</td>
<td>418</td>
</tr>
<tr>
<td>Efficient Loop Selections using an Energy Function based on Bayesian Theorem</td>
<td>426</td>
</tr>
<tr>
<td>The Study of Second-Degree Professional “Police Information System Application” based on Course Teaching and Reform</td>
<td>434</td>
</tr>
<tr>
<td>Exact Solutions of Homogeneous Partial Differential Equation by a New Adomian Decomposition Method</td>
<td>440</td>
</tr>
<tr>
<td>Research of Oracle Bone Inscriptions Ontology Construction based on Relational Database</td>
<td>447</td>
</tr>
<tr>
<td>A Trust Model based on Cloud Model and Bayesian Networks</td>
<td>452</td>
</tr>
<tr>
<td>The Universal Report System in the Power System with Similar to the EXCEL</td>
<td>460</td>
</tr>
<tr>
<td>A Billiards Track and Score Recording System by RFID Trigger</td>
<td>465</td>
</tr>
<tr>
<td>Vehicle Interior Sound Quality Prediction based on Back Propagation Neural Network</td>
<td>471</td>
</tr>
<tr>
<td>Queuing Theory based Service Performance Evaluation under H2H and M2M Blending Traffic Arriving</td>
<td>478</td>
</tr>
<tr>
<td>A Efficient Indexing Maintenance Method for Grouping Moving Objects with Grid</td>
<td>486</td>
</tr>
<tr>
<td>Throughput Model of IEEE 802.11 DCF Considering Multi-Rate</td>
<td>493</td>
</tr>
<tr>
<td>Multi-Platform Mobile Thin Client Architecture in Cloud Environment</td>
<td>499</td>
</tr>
<tr>
<td>An Efficient Hardware Implementation for Deblocking Filter of Avs Decoder</td>
<td>505</td>
</tr>
<tr>
<td>An ECA-based Control-Rule Formalism for the BPEL Process Modularization</td>
<td>511</td>
</tr>
<tr>
<td>An Efficient Dynamic Route Optimization Algorithm for Mobile Ad hoc Networks</td>
<td>518</td>
</tr>
<tr>
<td>Analysis on Research Framework of Corporate E-Learning</td>
<td>525</td>
</tr>
</tbody>
</table>
Contents

Dynamic Modeling Method based on Support Vector Machine
S. Wang, B. Meng ................................................................. 531

Parameter Selection Algorithm for Support Vector Machine
S. Wang, B. Meng ................................................................. 538

The Research of Information Filtering Technology based on Bayesian Network
Q. Zhao, S. Wu, Y. Cui, X. Jia .............................................. 545

A New Wireless Sensor Platform with Camera
H. Liu, S. Yin, L. Liu, S. Wei ................................................ 552

A Crop Monitoring System based on Wireless Sensor Network
L. Zhao, S. Yin, L. Liu, Z. Zhang, S. Wei ................................ 558

Testing and Analysis of Thermal Performance of Ground Source Heat Pump System
S. Qu, G. Xu, Y. Liu, Q. Yu ................................................... 566

Research on the Water-Saving and Yield-Increasing Effect of Polyacrylamide
X. Wei, X. Yuan, Y. Li, Y. Wang, X. Yuan, X. Wei, Y. Li ............ 573

A Cost Model Approach For RO Water Treatment Of Power Plant
T. Zhou, Z. Wang, W. Li ...................................................... 581

Drawing Impedance Spectroscopy for Fuel Cell by EIS
C. Xie, S. Quan ................................................................. 589

The Research of Cooling Load and Cooling Capacity Calculation Methods of Spinning Workshop
S. Yan, J. Liu, X. Ge, X. Huang ............................................. 597

The Role of Green Roofs on Reducing Heating and Cooling Loads: A Database across Chinese Climates
K. Georgios, A. Tietje, D. Jo .................................................. 604

The Effect of Velocity and Outlet Angle of the Thermal Discharge on Its Diffusion with basic Flow in Power Plant
Y.L. Cheng, Q.-z. Hao, L.-L. Liu ............................................ 611

Effects of Topography on Diffusion of Thermal Discharge in Power Plant
Y.L. Cheng, Q.-z. Hao, L.-L. Liu ............................................ 618

The Optimization of Power Dispatch for Hydro-Thermal Power Systems
R. Zhai, B. Jing, Z. Yang ..................................................... 624

Based on Fuzzy Weight Matter Element to Evaluate the Water Quality of Jialing River in Nanchong, China
C.-r. Jia, J. Zhang ............................................................... 631

Evaluation of Regional Circular Economy based on Matter Element Analysis
C.-r. Jia, J. Zhang ............................................................... 637

Design of Air Conditioning Distributed Control System for an Office Building in Xi’an
T.-w. Qiang, H. Xiang, J.-m. Wu ............................................ 643

MRI Study on CO2 Flooding Characteristics in N-Decane Saturated Glass Bead Packs
Y. Liu, Y. Song, Y. Zhao, T. Wang, L. Jiang .............................. 650

Power System Dynamic State Estimation based on a New Particle Filter
H. Chen, X. Liu, C. She, Y. Cheng ....................................... 655

Effect of Activated Carbon in Pulsed Discharge Reactor for Degrading Methyl Orange
Y.-Z. Zhang, Y. Han, X.-Y. Xiong, Z. Wei ................................ 662

Comparison of Catalysis of Different Activated Carbon in Pulsed Discharge Reactor
Y.-Z. Zhang, X.-Y. Xiong, Y. Han, Z. Wei ................................ 668

Performance of a New-Type Integrated Biofilm Reactor in Treating High Concentration Organic Wastewater
H. Hong, H. Peng, P. Yang .................................................. 674

Geochemistry of Aromatic Fractions in Es Oil Extracts from the South Slope of Dongying Sag and its Implications
X.-C. Chang, Z.x. Li, C.-p. Yan ............................................. 680

The Feasibility Study of Cotton Pulp Wastewater Treatment with IC Anaerobic Reactor
P. Cui, X. Zhou, Y. Zhang ................................................... 686

Oil Spill Response Information System and Contingency Planning for Guinean Waters
L. Sylia, D. Xiong ............................................................. 693

Wetlands Environmental Degradation in the Yellow River Delta, Shandong Province of China
X. Liu, S. Qi ................................................................. 701

Research on Technology for Land use Map Renewal and Database Construction
H. Lin, P. Liu, J. Xia, H. Sun, T. Kun, S. Ding ............................ 706

Experimental Study on Purification Effect of Particulate Matters in FBC-POC Diesel
G. Yao, D. Jiang, H. Liu, X. Zi, Z. Xu, J. He .............................. 713

Experiment on Different Storage Temperature Impact on Litchi’s Quality Change
J. Shen, C. Li, M. Hui, C. Deng ............................................. 719
Contents

Effects of Nitrogen Fertilizer and Irrigation Rate on Nitrification in a Sandy Farmland in Northwest China
Y. Rong, X. Wang .......................................................... 726

An Open Reversed Brayton Cycle with Regeneration using Moist Air for Air Conditioning Cooled by Circulating Water
S. Hou, S. Fan ............................................................... 733

Ecological Effect of Z-QS01 Strain on Chlorella Vulgaris and its Response to UV-B Radiation Stress

Research on Security Assessment Model of Water Supply System based on Leakage Control
H. Li, Y. Li, W. Wu, M. Lu .................................................. 749

Biodiesel Fuel Production through Transesterification of Chinese Tallow Kernel Oil using KNO3/MgO Catalyst
X. Zhang, W. Huang ....................................................... 757

Effect of Polyacrylamide Applications on Soil Hydraulic Characteristics and Sediment Yield of Sloping Land
Y. Li, M. Shao, R. Horton .................................................. 763

Effects of Vegetable & Flower Residues Returning with Compound Microorganism on Soil Nutrients Release and Crop Yield
F. Shen, Y. Zeng, S. Deng, Y. Li ........................................... 774

Bioethanol Production from Sweet Sorghum Stalk Juice with Immobilized Yeast
F. Shen, Y. Zeng, S. Deng, R. Liu ........................................ 782

Numerical Simulation of the Performance of a Solar-Assisted Heat Pump Heating System
W. Yang, J. Zhu, M. Shi, Z. Chen ......................................... 790

Sustainable Evaluation of Urban Water Resources and Environment Complex System in North Coastal Cities
F. Cong, Y. Diao ............................................................ 798

A New Model Concerning the Relationship between Industrial Wastewater Generation, Abatement Rate, Discharge and Economy in China
J. Zhang, S.-H. Deng, Y.-Z. Zhang, Q. Tang ............................. 803

The Impacts of Economic Growth on Resources and Environment in Henan Province
G. Bo ........................................................................... 810

The Effect of Stacking Rate on Soil Glomalin under Traditional and Mixed Grazing Systems in a Temperate Steppe
H. Bai, X. Bao, X. Sun, S. Jiang, H. Bai, X. Bao .......................... 817

Analysis of China's Energy Consumption Impact Factors
H. Li, H. Ma, M. Zhang ..................................................... 824

Feasibility Analysis on Digital Integration of Urban Local Climates, Energy Consumption, and Reference Recommendations
Y. Zou, T. Shen, Y. Zou ...................................................... 831

Evaluation and Analysis of Wind Resources in Jin-Jing-Ji Region of China
H. Yang, B. Yan, C. Qi, C. Dan .............................................. 836

Effects of Tillage Managements on Soil Rapidly Available Nutrient content and the Yield of Winter Wheat in West Henan province, China
Y. Li, M. Huang .............................................................. 843

Study the Ways to Forecast the Discharge of Restaurant Wastewater in Beijing
Y. Li, L.-K. Yin, J. Zhou .................................................... 850

Study of Treating High Ammonia-N Domestic Wastewater with CASS Process
Y. Li, A.-J. Guo, J. Zhou .................................................... 858

Research of Ecological Carrying Capacity—Comprehensive Evaluation Model
Y. Li, T. Guo, J. Zhou ........................................................ 864

Study of the Resource Utilization Management of Construction Waste
Y. Li, Z. Yin, T. Guo, J. Zhou .............................................. 869

Construction of the Evaluation Model for Ecological Carrying Capacity of Shallow Mountain Area in Beijing
Y. Li, G. Zhao, J. Zhou ..................................................... 874

Source Management Policy of Construction Waste in Beijing
Y. Li, Z. Yin, J. Zhou ........................................................ 880

Calculation and Research on the Evaluation Model of Ecological Carrying Capacity of Shallow Mountain Area in Beijing
Y. Li, G. Zhao, J. Zhou ..................................................... 886

Study on the Development of Rural Urbanization in Beijing
Y. Li, T. Guo, J. Zhou ........................................................ 893

Establishment of Evaluation Index System of Ecological Carrying Capacity in Changping District Pusalu Village
Y. Li, G. Zhao, J. Zhou ..................................................... 899

Analysis and Research of Management Policy of Construction Waste in Beijing
Y. Li, Z. Yin, T. Guo, J. Zhou .............................................. 906

Study of Resource Utilization Supportive Policies of Construction Waste in Beijing
Y. Li, Z. Yin, T. Guo, J. Zhou .............................................. 912

Research the Relationships between the Environmental Change of Vegetation and the Activity of Debris Flows based on Remote Sensing and GIS
J. Yin, F. He, Z. Luo .......................................................... 918

Effect of Water Resource on Soil Salinization of Oasis on The Lower Reaches of Tarim River, China
H. Zhou, W. Li ............................................................... 925

Research and Preliminary Realization of Parallel Computing Technology of Yellow River Mathematical Model based on MPI
M. Yang, X. Yu, M. Wang .................................................. 934

Analysis of the Groundwater and Soil Pollution by Oil Leakage
Y. Song, Y. Wei, Q. Hui, Y. Fang .......................................... 939

Ecological Optimization for a Generalized Irreversible Carnot Engine with an Universal Heat Transfer Law
Y.-B. Zhan, P.-C. Ma, X.-Q. Zhu .......................................... 945

Research on Causality Relationship of Low-Carbon Development and Industrial Structure
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vertical Distribution Shapes of Dust Aerosol and the Relation with Atmospheric Condition</td>
<td>960</td>
</tr>
<tr>
<td>J. Zhang, C. Tang</td>
<td></td>
</tr>
<tr>
<td>Down-Hole Electromagnetic Method for Detecting Water Hazard of Coal Mine</td>
<td>970</td>
</tr>
<tr>
<td>X. Shi, K. Wu</td>
<td></td>
</tr>
<tr>
<td>Exploitation of Water Resource in Jiaozuo, Henan</td>
<td>977</td>
</tr>
<tr>
<td>G. Ma, L. Gong, G. Zhang, W. Bai</td>
<td></td>
</tr>
<tr>
<td>Vegetation Dynamic Changes of Lake Nansi Wetland in Shandong of China</td>
<td>983</td>
</tr>
<tr>
<td>C. Liang, Z. Zhang</td>
<td></td>
</tr>
<tr>
<td>Economy and Reliability Selection of Production Casing Thread Connections for Low Pressure and Low permeability Gas Field</td>
<td>989</td>
</tr>
<tr>
<td>J. Wang, Y. Feng</td>
<td></td>
</tr>
<tr>
<td>Applying Matlab/Simulink to Study Calculation of NOx Efficiency of the SCR</td>
<td>996</td>
</tr>
<tr>
<td>Y. Su, J. Li, Y. Gao, D. Qu</td>
<td></td>
</tr>
<tr>
<td>Study on the Character of Indoor Air in House with Displacement Ventilation System</td>
<td>1001</td>
</tr>
<tr>
<td>X. Wu, J. Gao</td>
<td></td>
</tr>
<tr>
<td>Analyzing Dynamic Process of Land use Change in Ha-Da-Qi Industrial Corridor of China</td>
<td>1008</td>
</tr>
<tr>
<td>X. Wang, S. Zang, X. Na</td>
<td></td>
</tr>
<tr>
<td>Investigation on Water Recording system for Large user of Water Supply Network based on PLC</td>
<td>1016</td>
</tr>
<tr>
<td>J. Liu, H. Li, M. Lv, S. Dong, Y. He, S.-L. Wu</td>
<td></td>
</tr>
<tr>
<td>Effect of Humidification Water on Semi-Dry Flue Gas Desulfurization</td>
<td>1023</td>
</tr>
<tr>
<td>N. Wang, X. Zhang</td>
<td></td>
</tr>
<tr>
<td>J. Dong, X. Zhang, J. Xue, X. Xu, Y. Tang</td>
<td></td>
</tr>
<tr>
<td>Water-Filled Double Reflective Window and its Year-Round Performance</td>
<td>1039</td>
</tr>
<tr>
<td>C. Li, T.-T. Chow</td>
<td></td>
</tr>
<tr>
<td>Optimization of Air Flow Distribution in China Pavilion of Expo 2010 Shanghai</td>
<td>1048</td>
</tr>
<tr>
<td>W. Yang, Y. Lu, C. Ning, C. Huang</td>
<td></td>
</tr>
</tbody>
</table>
## Contents

**Part C**

Simulation and Optimization of Indoor Thermal Environment in a Ship Air-conditioning System  
H. Liu ................................................................. 1055

Preliminary Assessment of CO₂ geological storage potential in Chongqing, China  
Z. Fang, X. Li ......................................................... 1064

Research for Ventilation Properties of Solar Chimney with Vertical Collector  
Y. Zhou, G. Jing, X. Liu, Q. Li ........................................ 1072

Study on Emissions of a DI Diesel Engine Fuelled with Pistacia Chinensis Bunge Seed Biodiesel-Diesel Blends  
Z. Ma, X. Zhang, J. Duan, X. Wang, B. Xu, J. Wu .......................... 1078

Study of Earthquake Disaster Population Risk based on GIS A Case Study of Wenchuan Earthquake Region  

The Resource Utilization of Anaerobic Fermentation Residue  
F. Hui, G. Qu, P. Ning, X. Xiong, L. Jia, Y. Shi, Z. Jun ......................... 1092

Sensing of Diesel Vehicle Exhaust Gases under Vibration Condition  
C. Wei, Z. Zhang, Q. Xin, A.I. Al-Shamma’a, A. Shaw ........................ 1100

Research on the Influence of Ocean Environment on Sea Clutter  
Z. Zhang, J. Zhang, Y. Zhang ............................................. 1108

Empirical Study on the Contribution of Infrastructure to the Coordinated Development between Urban and Rural Areas: Case Study on Water Supply Projects  
S. Jiang, L. Shen, Z. Li .................................................... 1113

Effects of Intake Temperature and Excessive Air Coefficient on Combustion Characteristics and Emissions of HCCI Combustion  
C. Zhang, J. Pan, J. Tong, J. Li ............................................ 1119

Controller Design for Small Wind Generator with ADRC  
Y. Zhang, B. Cao, L. Kang, J. Xu ........................................... 1128

Study on Dynamic Changes of the Soil Salinization in the Upper Stream of the Tarim River based on RS and GIS  
F. Gao, Q. Huang, X. Sun, Z. Yan .......................................... 1135

The Study on Emergency Management System of Supergiant Water Resources and Hydropower Projects  
J. Wang, X. Zheng .......................................................... 1142

Accelerated Aging Tests of High Concentration Multijunction Solar Cells  
G.J. Lin, L.J. Wang, J.Q. Liu, P.X. Wei, H.S. Ming, Z.H. Wu .................. 1147

Numerical Study on Mixing Characteristics of Hot Water inside the Storage Tank of a Solar System with Different Inlet Velocities of the Supply Cold Water  
W. Gao, T. Liu, W. Lin, C. Luo .............................................. 1153

Design of Heliostats Field for Scale of 1MW Solar Power Tower Plant  
H. Zhang, Z. Wang, X. Wei, Z. Lu .......................................... N/A

Preliminary study of Shortcut Nitrification and Denitrification using Immobilized of Mixed Activated Sludge and Denitrifying Sludge  
Y. Chen, Y. Wang, M. Fan, H. Jin ........................................... 1171

Sulfur Glomeration Mechanism and Critical Velocity Calculation in Sour Gas Well Bore  

The Relationship between CO₂ Emissions, Economic Scale, Technology, Income and Population in China  
G. Hang, Y. Jiang ........................................................... 1183

Isolation and Characteristics of a Bacterial Strain for Deodorization of Dimethyl Sulfide  
X. Wang, Y. Zang, X. Peng, S. Ma, M. Hu, R. Wang .......................... 1189

The Research and Practice of Water Quality Safety Evaluation for JiNan urban Water Supply System  
H. Li, M. Lv, S. Ye .......................................................... 1197

The Research and Practice of Ecological Safety Evaluation Methods(I) Evaluation Index and Model  
H. Li, M. Lv, S. Ye .......................................................... 1204

The Research and Practice of Ecological Safety Evaluation Method (II): Ecological Evaluation  
H. Li, M. Lv, S. Ye .......................................................... 1211

Using ²⁷Be to Trace Temporal Variation of Interrill and Rill Erosion on Slopes  
G. Liu, Q. Zhang, M. Yang .................................................. 1220

An Appraisal of Two Tracer Methods for Estimating Tillage Erosion Rates under Hoeing Tillage  
J.H. Zhang, F.C. Li .......................................................... 1227

Evaluation of the Heat-Pulse Technique for Measuring Soil Water Content with Thermo-TDR Sensor  
X. Liu ................................................................. 1234

Construction of Enterprises’ Financial Knowledge Management System (EFKMS)  
M. Du, F. Qiu, W. Xu ......................................................... 1240

Geological Environment Problems and Countermeasures of Shijiaying Mine in western Beijing  
Z. Zhang, N. Shen, Y. Wang, Y. Li, Y. Song, T. He ............................. 1245
Contents

Steam Flooding is Feasible and Capable to Enhance Oil Production in SaBei Transition-Zone
X. Zeng ................................................................. 1253

Changes of Some Chemical Substances and Antioxidant Capacity of Mandarin Orange Segments during Can Processing
F. Zhang, L. Hu, G. Xu, Q. Chen ........................................ 1260

Discussion on Current Pollution Status and Legislation of Environmental Hormone in China
Y. Zeng, B. Li, W. Ma, Z. Ke, H. Fan, H. Wang ................................ 1267

Analysis of Rural Ecological Environment Governance in the Two-Oriented Society Construction: A Case Study of Xiantao City in Hubei Province
J. Lv, J. Hou, L. Yang ................................................... 1278

Vertical Pollution Characteristics of PAHs around an Oil Sludge Storage Site of Jianghan Oil Field of China
Y. Li, F. Zeng, W. Ma, Q. Dong, H. Fan, C. Deng ................................ 1285

Discussion on Nitrogen and Phosphorus Removal Process Characteristics of Improved Oxidation Ditch
L. Shen, R. Chen, F. Zhang, J. Yang, Y. Li ................................. 1291

Distribution of HCHs and DDTs in Agricultural Soil of Pudong New Area, Shanghai
Y. Liu, M. Fei .......................................................... 1296

De-noising of GIS UHF Partial Discharge Monitoring based on Wavelet Method
Z. Xin, J. Quan .......................................................... 1302

An ANN-based Approach for Forecasting the Power Output of Photovoltaic System
M. Ding, W. Lei, R. Bi ..................................................... 1308

Preliminary Study of Purification for Livestock Wastewater of Immobilized Microcystis Aeruginosa
Y. Wang, P. Gao, M. Fan, H. Jin ........................................ 1316

Effect of Solution pH on the Carbon Microsphere Synthesized by Hydrothermal Carbonization
J. Liang, Y. Liu, J. Zhang ................................................ 1322

Study on the Self-Purification of Juma River
S. Tian, Z. Wang, H. Shang .............................................. 1328

Spatial Data-Mining Technology Assisting in Petroleum Reservoir Modeling
G. Li, X. Keyan .......................................................... 1334

Effects of Preconditioning on Photosynthesis of Rice Seedlings under Water Stress
X. Li, L. Zhang, L. Mu .................................................... 1339

Preconditioning Affects Antioxidative Enzyme Responses in Rice Seedlings to Water Stress
X. Li, L. Zhang, Y. Li ..................................................... 1346

Assistant Design System of Urban Underground Pipeline based on 3D Virtual City
J. He, Y. Zou, Y. Ma, G. Chen ........................................... 1352

Low Carbon Energy Policy Research
Y. Song, C. Fu, E. Yong ................................................. 1359

The Analysis of Ecosystem Service Value’s Change in Yueqing Bay Wetland based on RS and GIS
G. Song, C. Fu, E. Yong ................................................ 1365

Characteristics of Particle Size Distributions About Emissions in A Common-rail Diesel Engine with Biodiesel Blends
P. An, W. Sun, G. Li, M. Tan, C. Lai, S. Chen .............................. 1371

Assessing Vulnerability and Adaptation Responses to Rainfall-Related Landslides in China, A Case Study of Enshi Prefecture in Hubei Province
J. He, Y. Zou, Y. Ma, G. Chen ........................................... 1372

Research and Analysis of Solar Heating Biogas Fermentation System
J. He, Y. Zou, Y. Ma, G. Chen ........................................... 1372

Experimental and Theoretical Investigation of Nonlinear Flow in Low Permeability Reservoir
X. Wang, Z. Yang, Y. Sun, X. Liu ....................................... 1392

An Analysis of Present Situation and Future Trend about the Energy Consumption of Chinese Agriculture Sector
Y. Lu, H. Mu, H. Li ....................................................... 1400

Effects of Vacuum on Sterilizing Rate in Medical Waste Steam Treatment Process
D. Jin, Z. Bao, X. Yu ................................................... 1407

Weight of Evidence Method and its Applications and Development
D. Fan, X. Cui, D. Yuan, J. Wang, J. Yang, S. Wang ........................ 1412

Water Treatment Plant Decision Making using Rough Multiple Classifier Systems
F. Lin ................................................................. 1419

Application of Urban Thermal Environment Monitoring based on Remote Sensing in Beijing
C. Ye, Y. Liu, W. Quan, W. Liu, C. Liu ................................. 1424

Evaluation of Underground Water Quality in Qing-Shuihe District, Inner Mongolia Autonomous Region
S. Xing, Z. Zhang, T. Rui, L. Yang ....................................... 1434

Inverse Prediction of Snow Insulation to a Wall with Apertures
X. Huang .............................................................. 1441

Air-Rain System-Concept and Numerical Assessment on Its Ability Against the Spread of Chemical Agents in Large Space Public Buildings
N. Chen, J. Kozinski .................................................... 1447

A New System to Reduce Air Pollution in Metro Platform
G. Li, S. You .......................................................... 1454

The Effect of O-Dihydroxybenzene and Pyrogallol on the Chlorella Pyrenoidosa Chick Growing
S. Wu, X. Li, L. Yang .................................................... 1459

Discussion on Parameter Choice for Managing Water Quality of the Drinking Water Source
S. Wu, Y. Hu, Z. Dan ................................................... 1465

Numerical Simulation Study on CO2 flooding in ultra-low Permeability Reservoirs
M. Cui, Y. Ding, Z. Yang, S. Xiong, X. Wang ............................ 1469

The Application of Fuzzy Variable Sets Theory in Eutrophication Evaluation for Urban Lake
W. Chen, X. Zhang, W. Xu .............................................. N/A
Comparative Analysis of Automatic Water Identification Method based on Multispectral Remote Sensing
F. Zhang, Z. Bing, J. Li, Q. Shen, Y. Wu, S. Yang ................................................................. 1482
Simulation Study of Atrazine-contaminated Soil Biodegradation by Strain W
J. Du, Z. Ying, M.A. Yaexuan, J. Li, Q. Zhang ................................................................. 1488
Effect of Cloud Water Content on the Atmospheric Extinction
X. Wang, C. Niu, H. Qi, L. Ruan ................................................................. 1493
Y. Zhuang, H. Song, H. Lin, B. Niu ................................................................. 1499
Effects of Iron Plaque on Phosphorus Uptake by Pilea Cadierei Cultured in Constructed Wetland
L. Yang, Y. Li, X. Yang, X. Hong, H. Peng, S. Deng ................................................................. 1508
Influence of Different Cover Ratios on Gas-Particle Flow Characteristics of a Centrally-Fuel-Rich Primary Air Burner: Experiment and Simulation
Z. Chen, S. Shen, Z. Li, Q. Zhu ................................................................. 1513
A New Method to Predict Polymer Flood Performance
E. Yang, J. Wang ................................................................. 1522
Development Zones and Evolvement of Urban Spatial Structure a Case Study on LanZhou City
Z. Zhang, A. Shi ................................................................. 1529
Research on Effects of Double-Layers Arrangement of Nozzles on Fuel-Gas Mixing and Combustion in Cylinder
J. Yun, X. Han, H. Wei ................................................................. 1535
Experimental Research on Gas Fire Backdraft Phenomenon
J. Wu, Y. Zhang, X. Gou, M. Yan, E. Wang, L. Liu ................................................................. 1542
Analysis of Mine Water Inrush Accident based on FTA
J. Chen, R. Yang ................................................................. 1550
The Exergy Analysis of Gas Cooler in CO2 Heat Pump System
Y. Xie, Z. Wang, K. Cui, X. Zhang ................................................................. 1555
Study on Monitoring of Red Tide by Multi-Spectral Remote Sensing based on HJ-CCD and MODIS
G. Wang, Z. Bing, J. Li, Z. Hao, Q. Shen, D. Wu, Y. Song ................................................................. 1561
Comparison of Turbulence Promoter Geometry on Flow Pattern from View Point of Field Synergy Principle
X. Li, X. Liu, J. Peng, S. Yi ................................................................. 1566
Prospect of Perennial Wheat in Agro-Ecological System
C. Shi, C. Tian, J. Li, Y. Zhang ................................................................. 1574
A study on Fast Predicting the Washability Curve of Coal
Z. Zhang, J. Yang, Y. Wang, W.-C. Xia, X. Ling ................................................................. 1580