

Hydraulic Engineering and Sustainable City Development III

Part 2

Edited by
Xun Wu, Weizhen Chen,
Weijun Yang and Jianguo Liang



TRANS TECH PUBLICATIONS

Hydraulic Engineering and Sustainable City Development III

PART 2

Selected, peer reviewed papers from the
2014 3rd International Conference on
Civil Architectural and Hydraulic Engineering
(ICCAHE 2014),
July 30-31, 2014, Hangzhou, China

Edited by

**Xun Wu, Weizhen Chen,
Weijun Yang and Jianguo Liang**



Copyright © 2014 Trans Tech Publications Ltd, Switzerland

All rights reserved. No part of the contents of this publication may be reproduced or transmitted in any form or by any means without the written permission of the publisher.

Trans Tech Publications Ltd
Churerstrasse 20
CH-8808 Pfaffikon
Switzerland
<http://www.ttp.net>

Volumes 641-642 of
Applied Mechanics and Materials 2-part-set
ISSN print 1660-9336
ISSN cd 1660-9336
ISSN web 1662-7482

Full text available online at <http://www.scientific.net>

Distributed worldwide by

Trans Tech Publications Ltd
Churerstrasse 20
CH-8808 Pfaffikon
Switzerland

Fax: +41 (44) 922 10 33
e-mail: sales@ttp.net

and in the Americas by

Trans Tech Publications Inc.
PO Box 699, May Street
Enfield, NH 03748
USA

Phone: +1 (603) 632-7377
Fax: +1 (603) 632-5611
e-mail: sales-usa@ttp.net

printed in Germany

Preface

This proceeding contains the accepted papers from The 2014 3rd International Conference on Civil, Architectural and Hydraulic Engineering (ICCAHE2014). The first of this conference was held in Zhangjiajie, China on 10-12 August 2012 and the second conference was held in Zhuhai, China on 27-28 July, 2013. Following the success of the previous conferences, The third of this conference series (ICCAHE 2014) was held in Hangzhou, China, on July 30-31 2014. This conference series is a forum for enhancing mutual understanding between scientists, engineers, policymakers and experts in the civil, architectural and hydraulic engineering field. This proceeding is enriched by contributions from many experts representing many industry and academic establishments worldwide. Authors from more than 20 different countries have pooled their rich multidisciplinary up-to-date knowledge, in order to share their invaluable experience with the community.

All papers published in this volume have been peer reviewed through processes administered by the proceedings editors. Reviews were conducted by expert referees to the professional and scientific standards. This book covers the subject areas of Hydrology, Water Resources, Flood and Drought Management, Hydraulic Engineering, Water Purification and Wastewater Treatment, Sustainable City and Regional Development, Indoor Environment, Urban Ecological Environment, Environmental Engineering and Environmental Protection, Electricity Infrastructure and Power Transmission, Road and Railway Engineering, Transportation Planning, Construction and Operation and Organization, Bridge Engineering, Traffic Control and Information Technology, Carrying Tools and Operation Engineering, Computer Applications and Intelligent Algorithms.

We would like to express our deep gratitude to all the keynote speakers, authors, referees, exhibitors, technical co-sponsoring organizations, committee members, and many others on whom the success of this prestigious event depends.

The Organizing Committee of ICCAHE2014

The 2014 3rd International Conference on
Civil, Architectural and Hydraulic Engineering
(ICCAHE 2014)

Conference Organization

Chairman

Prof. Kejian Ma, Guizhou University, China

International Scientific Committee

Prof. Jianguo Liang, Changsha University of Science and Technology, China

Prof. Xun Wu, Tongji University, China

Prof. Weizhen Chen, Tongji University, China

Dr. Ahmed Sarhan, Malaya University, Malaysia

Dr. Gui Wang, The University of Queensland, Australia

Dr. Scott T. SMITH, Hong Kong University, Hong Kong

Dr. Sreenivasan M, SR Technical University, IN

Dr. Tianjian Ji, The University of Manchester, UK

Prof. Abdul Amir H. Kadhun, Malaysia

Prof. A. Kaveh, Iran University of Science & Technology, Iran

Prof. Aftab Mufti, University of Manitoba, Canada

Prof. Antoine E. Naaman, University of Michigan, USA

Prof. Ayman Mosallam, Univ of California Irvine, USA

Prof. B. H. V. Topping, Heriot-Watt University, Edinburgh, UK

Prof. Chao Hsun Haung, National Taipei University of Technology, Taiwan

Prof. Chiew Sing-Ping, Nanyang Technological University, Singapore

Prof. Carlos Aquino, Ritsumeikan University, Japan

Prof. David Hui, University of New Orleans, USA

Prof. Hamid Ronagh, The University of Queensland, Australia

Prof. Han-Bin Ge, Meiju University, Japan

Prof. I. E. Harik, University of Kentucky, USA

Prof. J. H. Bungey, University of Liverpool, Liverpool, UK

Prof. Jian-Fei Chen, the University of Edinburgh, UK

Prof. Jongwook Park, Sungkyunkwan University, Korea

Prof. Katsuyuki Kida, Kyushu University, JP

Prof. Ken-ichi Manabe, Tokyo Metropolitan University, Japan

Prof. Kum-Gil Sung, Inha University, Korea

Prof. Kyung-Man Moon, Korea Maritime University, Korea

Prof. K. J. Bathe, Massachusetts Institute of Technology, USA

Prof. Kang Seok Lee, Chonnam National University, South Korea

Prof. Lau Hieng Ho, Curtin University of Technology, Malaysia

Prof. Luciano Feo, University of Salerno, Italy

Prof. Lawrence C. Bank, University of Wisconsin-Madison, USA

Prof. Marcus M.K. Lee, the University of Southampton, UK

Prof. Mark G Stewart, The University of Newcastle, Australia

Prof. M. N. Soutsos, University of Liverpool, Liverpool, UK

Prof. Nangkula Utaberta, The National University of Malaysia

Prof. Ramiro Sofronie, University of Bucharest, Romania

Prof. R. Sri Ravindra rajah, University of Technology, Australia

Prof. Tim Ibell, University of Bath, UK

Prof. Tamon UEDA, Hokkaido University, Japan

Prof. TAN Kang-Hai, Nanyang Technological University, Singapore

Prof. Tan Kiang Hwee, National University of Singapore

Prof. Wen-Hsiang Hsieh, National Formosa University, Australia

Prof. Zhi-Shen Wu, Ibaraki University, Japan

Prof. Zong Woo Geem, Gachon University, South Korea

Prof. Quanxi Shao, The Commonwealth Scientific and Industrial Research Organisation of Australia

Prof. Hansong Tang, The City University of New York, USA
Prof. Shixiong Hu, East Stroudsburg University of Pennsylvania, USA
Dr. Dar Hao Chen, Texas Department of Transportation, USA
Prof. Zhouhui Yang University of Alaska Anchorage, USA
Prof. Chunsheng Cai, Louisiana State University, USA
Prof. Qiusheng Li, City University of Hong Kong
Prof. Changbo Jiang, Changsha University of Science and Technology, China
Prof. Jianguo Liang, Changsha University of Science and Technology, China
Prof. Weiliang Jin, Zhejiang University, China
prof. Xianglin Gu, Tongji University, China
Prof. Chunyu Wei, Hunan University, China
Prof. Feng Liu, Guangdong University of Technology, China
Prof. Shilang Xu, Zhejiang University, China
Prof. Shanhua Xu, Xi'an Univ. of Architecture and Tech., China
Prof. Lieping Ye, Tsinghua University, China
Prof. Jianguo Nie, Tsinghua University, China
Prof. Tiejun Zhao, Qingdao Technological University, China
Prof. Xingang Zhou, Yantai University, China
Prof. Jiru Zhang, Wuhan University of Technology, China
Prof. Chuangbin Zhou, Wuhan University, China
Prof. Xuejun Zhou, Shandong Jianzhu University, China
Prof. Guoqiang Zhang, Hunan University, China
Prof. Yibin He, Hunan University, China
Prof. Ditao Niu, Xi'an Univ. of Architecture and Tech., China
Prof. Zhiwu Yu, Central South University, China
Prof. Baihao Li, Dongnan University, China
Prof. Shuguo Liang, Wuhan University, China
Prof. Shicheng Ma, Xiangtan University, China
Prof. Bowang Chen, Hunan City University, China

Prof. Xijun Liu, Hunan University of Science and Technology, China

Prof. Shuibo Xie, Nanhua University, China

Prof. Wanlin Cao, Beijing University of Technology, China

Prof. Chaohe Chen, South China University of Technology, China

Prof. Changyu Cui, Harbin Institute of Technology, China

Prof. Yaojun Ge, Tongji University, China

Prof. Linhai Hang, Tsinghua University, China

Prof. Yong Huang, Guizhou University, China

Prof. Guoqiang Li, Tongji University, China

Prof. Lijuan Li, Guangdong University of Technology, China

Prof. Aiqun Li, Southeast University, China

Prof. Guangfan Li, Hainan University, China

Table of Contents

Preface	xxiii
Conference Organization	xxiv

PART 2

Chapter 7: Transportation Planning, Operation and Organization

A SD Prediction Model Based on System Dynamics of Social Economy and Transportation Industry	
X. Xia and M.Q. Jiang	669
FA-BP Neural Network-Based Forecast for Railway Passenger Volume	
M.T. Li, X.F. Ji, J. Zhang and B. Ran	673
Modeling and Sensitivity Analysis for Railway Passengers' Public Transit Mode Choice	
J. Zhang, C.J. Ma, X.F. Ji and G. Zhong	678
Optimization Analysis on Urban Transportation Network of Lanzhou	
H. Pu and C.R. Ma	685
Research of Intersection Navigation Algorithm Based on Intelligent Agent	
J.P. Tang, L.L. Li, S.K. Liu, D.P. Hu, M.L. Cai and X.Q. Liu	690
Research on Integrated Scale Prediction of Freeway and Expressway in Metropolitan Area	
N. Zhang, X.C. Guo and X. Xu	694
Research on Optimization of the Passenger Train Departure Time Domain for Reducing Passenger Train Stock Amount	
J.S. Cong and Y.Z. Zhang	700
Research on Simulation Evaluation of Strategic Projection Base Construction Planning in ExtendSim Environment	
F.B. Peng, E.D. E and T.L. Cui	704
Research on Speed Limit of Highway Expansion Project Construction Zone	
Q.G. Hu, S.Y. Xu, X.Z. Song and Z.M. He	711
Sensitivity Analysis on Key Factors of Sea-Rail Intermodal Transport System of Dry Bulk	
X.J. Feng, X.J. Fan, Y. Zhang and L.P. Jiang	715
Study and Application of Green and Low-Carbon Highway Evaluation Indicators System	
B. Ouyang, Z.H. Feng, X.Y. Yang, Y. Liu and Y. Zhang	721
Study on Stray Current Protection for Lanzhou Rail Transit Line 1	
Y.N. Li	727
Study on the Countermeasures to Current Problems in Beijing Subway Transfer Stations	
Y.Y. Hu, F. Chen, J.P. Fang and Y.X. Gao	731
Study on the Relationship between the Development of Rail Transit and the Evolution of Urban Spatial Structure: Taking Guangzhou as an Example	
Z.L. Zhu	736
The Vulnerability Analysis of Subway System	
Q. Lin and S.X. Song	741

A Method for Predicting Probabilistic Resource Conflicts between Trains	
J.B. Zheng and J.W. Guo	745
Urban Rail Transit Network Fare Analysis	
K. Yang and J.F. Jia	753
Study on Stability of Last Train Connection under Delays on Urban Rail Transit	
Y.P. Li	757
Current Situation and Thoughts on the Cultivation of Undergraduate Urban Rail Transit Talents in China	
J. Chen, Q.P. Wang and Z.F. Wang	763
A GPS Data Based Monitor Model of Unoccupied Taxis at Transportation Hubs	
X.L. Che, J.C. Weng, Q. Yu and T.Y. Xu	767
Short-Time Passenger Volume Forecasting of Urban Rail Transit Based on Multiple Fusion	
J.W. Li	773
Study on NTCIP-Based Architecture of Data Center for Transportation Information System in China	
L. Song, S.L. He, Y.K. Hu and J. Zhang	777
Logit Model-Based Research on Market Position of Jing-Hu High Speed Rail	
J.L. Jiang, H.W. Zhu and X.J. Wang	783

Chapter 8: Traffic Control

A Comparative Study Reducing Road Noise Using Active Noise Cancellation	
W.P. Kang, H.R. Moon and Y.J. Lim	793
A Method for Reconstructing Vehicle - Vehicle Impact Accidents Based on Pc-Crash	
Y.G. Zhang, J.M. Xu, T.F. Zou and Y. Liu	799
A Vehicle Dynamic Weighing System Based on Wireless Smart Aggregates	
S. Yan, H.Y. Ma, B.H. Qi, H.P. Sun and F.X. Liu	805
Analysis of Typical Defects in SRS by Taking the Recall Cases as Examples	
Y. Yin, Y.Q. Feng, X.R. Zhang and L. Song	809
Development of Detection Research on Fatigue Driving	
X.J. He, J. Liu, Z.D. Yi and Y.Q. Yang	813
Models on Real-Time State Identification for Unban Traffic Based on Fixed Detector	
X.F. Chen, X. Liu, F. Han, D.L. Wang and J.J. Yin	818
Research on the Model of Emergency Fire Rescue Vehicle Routing Selection and Resource Allocation	
F. He, R.C. He, S.N. Sun and J.D. Chen	824
Vehicular Ad-Hoc Network and Routing Design	
N. Zhao, X. Li, M. Yang and X.T. Huang	829
VISSIM Simulation-Based Traffic Optimization Solution: Case Study in Nanjing, China	
B.B. Yang, J. Zhang, Y.K. Hu, H.M. Wang and L. Song	833
Correlation Degree Model of Urban Signalized Intersection Group Based on Turning Flows	
Q. Zhang, X.C. Guo and H. Liang	839
Research on Dynamic Route Guidance for an Emergency Vehicle Considering the Intersection Delay	
S.S. Chen, X. Zhao and Y. Sheng	848
The Study of the Beijing Traffic Noise Pollution Control Countermeasures	
W. Wang, H. Zhao, G.X. Wang and H.Z. Zhou	853

Identifying the Factors Affecting the Probability of Accident Severity in Community Road - Focusing on Seoul City	
Y.J. Lim, H.R. Moon and W.P. Kang	860
Action of Traffic Measures on Supply Chain Network Equilibrium	
W. Cao, X. Zhang and S.W. Ji	866
Driver's Psychophysical Performance at Urban Tunnel	
Q. Xu, F. Shao, T.Y. Guo and L.L. Luo	871
Duration Time of Freeway Incidents	
C. Gao, L.Y. Qin, T.X. Liu and L.Z. Zhang	881
Macroscopic Simulation of Traffic Flow on Continuum Urban Networks	
Y.Q. Jiang and S.G. Zhou	887
Research on Urban Taxi Reasonable Capacity Scale	
Y. Wang and K.M. Chen	892
Social Traffic Function Study: The Empirical from IT Reform to Trip Behavior Change of Urban Residents	
Y.T. Li and W.Z. Zhong	896
Struggle for Survival: The Status Quo for Shanghai's Bus Lane System	
F.F. Xu, Y.C. Du and L.J. Sun	901
Study of Setting of Bus Bay Stop Based on VISSIM	
J.J. Wang, X.T. Huang and N. Zhao	906
The Analysis of BP Network Traffic Accident Serious Level Model Based on Principal Component	
Y.J. Lv, B.S. Ying, L.Q. Zou, G.M. Qing and X.L. Zhou	910
Traffic Congestion Identification and Analysis of Urban Road Network Based on Granular Computing	
C. Yao, J.C. Gu and Q. Yang	916
Study on the Improvement of the Safety Distance Model Based on Speed Difference	
T. Ge, X.S. Fu, J. Ma and L.Q. Kang	923

Chapter 9: Renewable Energy, Energy Saving Building, Low-Carbon Building, Ecological Building

A Brief Talk of Structure Designing and Actual Application of Microgrid	
C. Liu, Z. Li, H. Wang and L. Xia	931
Application Analysis of Water Loop Heat Pump System Energy Conservation of a Sports Training Center	
H.L. Wang	938
Architectural Construction for Energy Efficiency of Rural Dwellings in Ningxia Hui Autonomous Region	
R. Liang, L. Lei, Y.Y. Zhu and Q. Zhang	942
Complexity Measurement of Eco-Residential District Construction System Based on Structural Equation Model	
Y.P. Hu, H.H. Liu and K.M. Chen	946
Comprehensive Benefit Evaluation of Ecological Architecture Based on Fuzzy Comprehensive Evaluation	
X.X. Zheng and B.L. Wang	952
Forecasting Agricultural Bio-Energy Potential of Beijing	
R.P. Ma and J. Liu	956

Research on Carbon Calculation of Rural Roofing Materials J. Liu, L.W. Li, Y.L. Sun and W. Qi.....	961
Research on Rural Vernacular House Energy Efficiency in NingXia Hui Autonomous Region R. Liang, L. Lei, Y.Y. Zhu and Q. Zhang.....	966
Research Progress on Independent Temperature-Humidity Control Air Conditioning System J.L. Liu, X.Q. Xia, J.N. Xie and P. Liu.....	970
Some Issues about Low Carbon Architecture Z.F. Jia.....	978
Study of Public Building Energy Consumption Status and Energy Saving Potential F.F. Li, Z.P. Zhang and J. Yu.....	982
The Measurement Model and its Application of the Green Building Life-Cycle Carbon Emissions Q. Wang.....	987
Integrated Photovoltaic System Design and Key Points Analysis Based on Green Building Y.G. Jia, H.Y. Liu, S.F. Su, S.L. Ding, Y.Q. Han, Y. Liu and X.S. Zhang.....	994
A Perspective of Low Carbon: On the Design of Public Facilities C. Dong.....	999
Effect of Wall Insulation with Different Orientation on Energy Consumption in Different Climate Areas D.K. Huang and H.Y. Yu.....	1003
Studying the Effects on the Absorption Rate of Absorber Plate Having Different Surface Shapes S.L. Li and H.X. Wang.....	1010
Research on College Teaching Building Energy Saving Design J. Xue, S.P. Wang and J. Huang.....	1016
Discussion on Development Trend in the Construction Industry - Green Low Carbon Buildings S.F. Liu, H.Y. Ren and Y. Niu.....	1021
The Analysis and Application of Building Water Supply and Drainage Energy Saving Technology R.L. Wu.....	1025
Subei Urban Residential Developments in Thermal Comfort Problem J. Wang.....	1029
Study on the Application of Heat-Isolating Techniques Using External Building Walls in Hot-in-Summer and Cold-in-Winter Area J. Li and F. Wang.....	1033
The Application of Energy-Saving Wall Insulation Z.N. Tong.....	1037
Qualitative Discussion of Influences of some Factors on the Occurrence of Wind-Driven Coastal Upwelling Associated with “Aoshio” on the Northeast Shore of Tokyo Bay Using the Developed Analytical Model Z.F. Zhu.....	1040
The Optimal Wind Direction for the Occurrence of Wind-Driven Coastal Upwelling Associated with “Aoshio” on the Southeast Shore of Tokyo Bay Z.F. Zhu.....	1046

Chapter 10: Sustainable City and Regional Development

A Probe on Urban Agriculture-Oriented Ecological City	
T. Zhou and T. Zhao	1053
A Study on Development Policy of Low-Carbon City	
D. Wang and H. Guo	1058
Analysis of Sustainable Development of Changsha Based on Ecological Footprint Method	
L. Wu	1062
Imitation of Nature, Philosophy of Beautiful Yancheng Construction	
J. Wang.....	1066
Research on Space Resources Use and Traffic Organization Optimization of Belt City	
H.F. Li and J.J. Zhang	1070
Study on Technical and Economic Evaluation Method of the LID Mode	
H.S. Ma and Y. Yang	1074
Analysis of Hunan Province Industry's Carbon Emission Based on the Energy Consumption Structure	
L. Wu and H. Li	1078
Urban Green Infrastructures and Social Shared Choices: A Deliberative Valuation Method	
S. Miccoli, F. Finucci and R. Murro	1082
Analysis of Carbon Sequestration and Oxygen Release Capabilities of 25 Afforestation Plants in Tianjin	
F. Wang, H.Y. Li, X. Li and J.N. Yang	1087
The Research Progress and Prospect of <i>Pennisetum sp.</i> (Giant Juncao) Planting Working Mechanism	
X.Y. Tong, S.H. Zheng, D.P. Ye, J.J. Xie and Z. Zhu	1093

Chapter 11: Indoor Environment

A Research on Interior Color Design	
Z.L. Dong	1101
Accessible Design of the Kitchen Table for Wheelchair Users	
X. Chen and J. Wu	1105
Brief Analysis of Kitchen Design Based on the History of Western Society	
J. Wu and X. Chen	1109
The Influence of Traditional Chinese Icons on Interior Design	
Z. Wang.....	1113
Yunan Typical Courtyard Type Wind Environmental Analysis - Zhu Zigui Courtyard, for Example	
Y. Shi and Y. Fan.....	1117

Chapter 12: Environmental Engineering, Monitoring and Protection

Coupling Effect Research on Artificial Forest Carbon Sequestration Capacity and Ecological Environment	
Z.G. Wang.....	1123
Discussion on Activated Carbon Regeneration Method	
G.P. Wang.....	1127
Improvement Strategy for Outdoor Environment Quality in Commercial Street Based on ENVI-MET Simulation	
P. Xun, S. Huang and Z. Chen	1131
Investigation on Municipal Solid Waste Separation and Integrated Utilization Technology	
L. Chen, S.Z. Wang, Z.Q. Wu, H.Y. Meng, J. Zhao and Z.H. Lin	1137
Mobility of Zinc in Heavy Metal Contaminated Soil after Compost Amendment and <i>Brassica juncea</i> Harvest	
H.L. Huang, L. Luo, J.C. Zhang, P.F. Qin, M. Yu and X. Li.....	1141
Rationality Study of Establishing Nature Reserve in Luosuo River from the Point of Fish	
Y. Wang, D.S. Wang, Q.R. Yang, T.T. Jin, L.H. Dong and C. Shen	1146
Recent Progress on the Application of BASE in Energy Storage and Environmental Protection	
W.F. Li, S.H. Ma and X.D. Shen	1151
Research on Desorption of Suspended Sediments to TN and TP in Waizhou Reach	
G.Q. Gao, H.Y. Ju, H. Zhou and S.S. Liu	1155
Research on Establishing Monitoring Index System of Pollution Source in Puhe Basin	
D. Wang, K. You, J.X. Fu and S.P. Cao	1159
Research Review on the Ecological Function of Biogenic Volatile Organic Compounds	
L.Y. Lv, H.Y. Li and J.A. Yang.....	1163
Solar-Powered Environment Monitoring System Based on ARM	
L. Long, Y.D. Shao and H.S. Liu.....	1168
Study of Electric Conductivity of Urban Stream Water Polluted with Municipal Effluents	
A.N. Chusov, E.A. Bondarenko and M.J. Andrianova	1172
Study on Heavy Metal Accumulation of Plants in Gejiu Tin Mining Area	
G.X. Li, J.P. Shao, X.J. Fang, J.J. Ma, L.P. He, Y. Chai and B. Bi.....	1176
Study on the Correlation of N, P Nutrients and Chlorella Growth	
J.S. Wu, R.B. Jia, B. Li and C.C. Liu.....	1183
Study on the Relationship between New Socialist Countryside Construction and Environmental Protection	
S.B. Zhang.....	1187
The Coupling Relationship between Forest Vegetation and Terrain of Daliuta Mine	
D.W. Liu, Z.Y. Qiao, T.T. Wei, S. Jiang, Y.K. Chen and J.Y. Zeng.....	1191
Toxic Effects of Toxaphene for Goldfish	
S.M. Wang, X.Y. Wu, H. Xu, C.W. Lu, Y.X. Xu and F. Zhang.....	1195
Analysis of Heavy Metal Residue in Red Grape of Different Planting Areas	
P.Y. Zhao, X. Liu, X.H. Li, Y.X. Tian, L. Zhang, H.Y. Ma and Y.Y. Li	1200
The Effect of Water Stress on the Physiological Characters and Growth of <i>Abelia grandiflora</i> 'Francis Mason'	
H. Jiang, F.Y. Liao, Q.F. Xia and Y. Zhu	1204

Observation and Study of Summer Aerosol by APL Lidar at Beijing	
H. Yang, X.S. Zhao, J.J. Zong and C.F. Lv	1209

Chapter 13: Electronics and Power Engineering

Deduction of Coordinate Transform for Instantaneous Reactive Power Theory	
X.S. Zhou, D.Y. Wang and Y.J. Ma	1219
Introduction of the Direct Drive Wind Power Generation System	
X.S. Zhou, H.M. Guo and Y.J. Ma	1223
Overview of Smart Distribution Grid	
X.S. Zhou, Y.F. Yuan and Y.J. Ma	1227
RCM Analysis for Insulating Switch in Substation	
Z.M. Li, F. Shi, A.S. Cheng and P. Du	1231
Research in Geological Environmental Evaluation System of Transmission Line	
Z.X. Feng, B.B. Zhao, L. He and C. Fang	1238
The Electric Potential Distribution of Linear Charge and the Infinite Long Dielectric Cylinder Shell System	
W.M. Shen, S.P. Wang and L.H. Ma	1246
Study on Wind Vibration Control Effect of the Tower and Tower-Line Coupling System of the Transmission Tower	
W.P. Xie, D.Z. Xia and W.J. Yang	1251
V2G Technology for Electric Vehicles	
X.S. Zhou, X.L. Kong and Y.J. Ma	1256
Construction and Detection Algorithm of SAPF	
X.S. Zhou, W. Liu and Y.J. Ma	1260
Research on Multiple Autonomous Underwater Vehicles Formation Control	
Z.Q. Lin, Y.J. Pang and D.P. Jiang	1264

Chapter 14: Information Technologies

Construction of Community Logistics Distribution Network Based on K-Means Algorithm	
M. Li, J. Zhang and X.P. Zhou	1271
Defect Detecting Technology Based on Machine Vision of Industrial Parts	
X.J. He, Z.D. Yi, J. Liu and Y.Z. Wang	1275
Design and Implementation of Content Audit System for Mobile Platform	
J.P. Tang and L.L. Li	1280
Design of Distributed Recommendation Engine Based on Hadoop and Mahout	
J.Y. Yu	1284
Image De-Noising Using Deep Learning	
L. Zhang, Y.F. Nie and Z.H. Wang	1287
Research on Cloud Service Leasing Method Based on Maximum Benefit	
Y. Xie and Y.L. Zhang	1291
Research on the Performance of Routing Protocol for Ad-Hoc Networks	
X. Wei, Y. Li and X.J. Yang	1295

Study on Cloud Computing's Key Management Framework	
S.Z. Guo	1299
Analytical Modeling and its Validation for Data Acquisition of ADS-B System	
J.H. Wang.....	1303
Application of Anti-Outlier UKF Algorithm in Integrated Navigation	
W.C. Liu, H.W. Bian and R.Y. Wang.....	1307
Study on the Improvement of Floyd Algorithm and its Application in Network Plan	
Q.R. Huang and M. Cao.....	1312
The Application of SIFT Image Matching in the Information Query Based on MPI Acceleration	
T.S. Li and C.M. Hu.....	1316
Keyword Index	1321
Author Index	1331

CHAPTER 7:

**Transportation Planning, Operation and
Organization**