

Table of Contents

Preface and Conference Organization

Chapter 1: Sustainable City and Regional Development

Analysis on Determining Factors of Regional Construction Land Carbon Emissions N. Lu and Y. Sun	3
Based on the Land Resources Reuse under the Condition of Projects Benefit Analysis W.M. Zhang and Z.C. Cao	7
Quantitative Analysis in the Coordinated Development of Human Settlements Environment and Economy for Guizhou L. Li and X.G. Xue	11
Strategy of Sustainable Development of City Streets Renovation - Taking the City of Baotou Steel and Arding Street Design as an Example Y.Q. Zhao, Y. Yang and L. Zhao	16
Studies on the Quantitative Relation between Economic Development and Ecological Environment of Minqin County H. Zhang and Z.Q. Zhang	20
Paradigm Analysis and Guidance of Island Commercial Settlements - A Case Study of Work-Living Settlements in Zhoushan Island Y.Q. Wu and J.T. Weng	27
Space Reconstruction of Industrial Heritage under Urban Transition - A Case Study of Hangzhou Section's Renewal of the Grand Canal J.T. Weng and Y.Q. Wu	32
Hangzhou Housing Demand Forecasting Model Based on BP Neural Network of Genetic Algorithm Optimization Y.H. Mao, M.B. Zhang and N.B. Yao	37
Building Sustainable Communities in China - Status and Outlook Y.X. Lv, G.H. Yan, C.Q. Xu and G.X. Kong	42
Study on the Regeneration of Urban Historical Area from the Viewpoint of Workshops Matchmaking Local Participations Y.C. Huang and S.M. Chen	48
Utilization of Beijing Olympic Stadiums and Development of the Asian-Olympic Business District J.W. Fang and D. Wan	57
A Survey on Coal-Mining Architectural Heritage in Yingcheng, Jiutai W. Mo and X.M. Li	63
Analysis of Landscape Space Meta-Structure in Regional Settlement W. Wang and G.W. Li	70
Applications of GIS in Regional Planning N. Gu and L. Gu	77
Attractiveness of the Area in the Context of Individual Housing O. Vašíček, M. Budina and T. Nehudek	81
Fuzzy Evaluation Method of Sustainable Development of Mining Area R.J. Ding and L. Yin	86
Investigation and Analysis of the Cultural Buildings of Industry Remains in Yanbian M. Wei and Z. Zheng	92
Analysis on Changdexincheng Development Driving Force Factors R.F. Sun and L. Zhu	98
Coordinated Development of Natural Reserve, Economy, Environment and Society in Guangdong Province L.Y. Zhang, Y.R. Jiang and Y.Z. Zhou	102
Residential Differentiation Research in Guangzhou X.M. Pang, L.M. Tang and D. Cen	107

The Initial Study of Evaluation System in Hot-Summer and Warm-Winter Region Y.L. Ni, L.W. Fang, Y.X. Zhou and M.S. Huang	111
Type Analysis of Rural Settlements Development of Hadaqi Region in Heilongjiang Province J. Lv and K.B. Zhang	119
Capital Construction and Noosphere Genesis Z. Gayevskaya and S.D. Mityagin	123
Dynamic Requisition-Compensation Balance Theory of Mining-under Village Relocation Planning Based on PSO Algorithm Y.K. Chen, D.W. Liu, Z.Y. Qiao, T.T. Wang and S. Jiang	128
Management of the Investment Potential of Sustainable Development of the City L. Stupishin, L.V. Sevrukova and M.L. Moshkevich	132
Mistakes for Preservation of Historic Blocks - Reflection on Old-Town Renovation of Beiliang District in Baotou L.P. Sun	136
A Survey on Development of Energy Service Industry in Zhejiang China Y. Qu, X.Y. Wang and J. Darkwa	140
Evaluation of Low-Carbon Development Level for Yangtze River Delta City Group H.L. Sun, B.Y. Zhou, Y.F. Xue and Q.Y. Cui	145
Possibilities of Mathematical Modeling Utilization in Brownfield Regeneration Efficiency Assessment S. Endel, E.W. Berankova and F. Kuda	149
Research of Shaanxi Province Urbanization Development Quality Evaluation Based on the Entropy Value Method Z.S. Liu and H.M. Wei	155
Research of the Evaluation of the Sustainable Development of Xi'an Urbanization L. Zheng and H.M. Wei	161
Study on Regional Water Environment Social Economic System due to Governance of Water's Five Aspects B. Li	166
Study on Urban Sustainable Development Based on System Dynamics J.P. Li, H.M. Duan and M. Qiu	171
The Measure Index System and Evaluation Research of New-Type Urbanization W. Xu and G.Y. Wang	176
The Survival of Urban Tourism Development under the Background of Religious Resources - In Baotou, for Example B. Yin and W.C. Xu	181
From Disorder Center Competition to Space Cooperation: Constructing Central Triangle Metropolitan Areas Z.C. Wu	185
Research on Development Patterns of Low-Carbon Tourism in Qinhuangdao City Y.D. Peng, T.T. Liu, M.T. Ji and C.Y. Zhang	193

Chapter 2: Renewable Energy and Building Energy-Saving Technologies

A Solar-Powered In-Vehicle Semiconductor Refrigeration System Y.T. Liu, C.P. Zhu, J.Y. Zhao, H.B. Sun, B. Wang, Y.B. Tang, B.Y. Chen, J. Chen, R. Qian and D.F. Jiang	199
Cost, Efficiency and Hygiene - Three Reflections on Green Building J.W. Zhang	203
Effect of CaCO₃ Pretreatment on Methane Production from Anaerobic Digestion of Rice Straw B.L. Dai, A.F. Zhu, F.H. Mu, N. Xu and Z. Wu	208
Mechanical and Thermal Properties of Liquefied Corn Bran-Based Epoxy Resins W.M. Zhang, W.S. Wu, Z.Q. Liu, X.W. Li and Y.C. Zhang	212
Nanomaterials for Hydrogen Storage H.M. Kan, M. Sun, N. Zhang, X.Y. Wang and H.B. Long	216

Research on Application of Building Photovoltaic System in Shanghai - Taking Chenjia Town as an Example Q.Y. Shou, X.M. Pei and J.Y. Zhang	220
Research on the Design and Construction of Zero-Energy Building Z.J. Zhang	224
Study on Cost of Green Building Based on the Life Cycle Theory Y.L. Yin and J. Bai	228
The Comprehensive Risk Evaluation for Combined Cycle Gas Turbine Included Wind Power System J.C. Liu, Y.X. Wu, X. Yu, J.B. Liao, T. Liu, S.X. Wang and C. Deng	232
A Research on Energy Conservation of Existing Residential Buildings in “Urban Village” B.L. Zhou and E.T. Qie	239
The Solar Energy-Air Source Heat Pump Was Applied to the Hot Water System C.P. Lu and K. Ji	243
Zhangjiakou a Residential Building Envelope Structure Optimization Design H.L. Ma	247
Energy-Saving Renovation Research of Existing Residential Buildings in Northern Y. Xue and X.J. Wang	252
Insulation Design for Non-Heated Stairwells of Residences in Severe Cold Zones B.L. Chen	256
Research and Design on Load Bearing Wall with Green Energy-Saving Straw Bale B.Z. Cao, B. Yuan, W.F. Duan, J. Li and M. Wen	260
A Design for Electric Heating Thermostat System Based on ZigBee in Intelligent Building A.J. Zhao and M. Wu	265
Analysis of R&D Capacity and Cooperation Trend of China and US in the Field of Building Energy Efficiency - Based on Paper and Patent Data Y.S. Zheng, Y.J. Liu and R. Tao	269
Analysis on Light Environment and Efficient Creation in College Student Dormitory of Chongqing M. Liu, Z.Q. Li, L.Y. Ruan, R.M. Yang and J.Y. Wu	276
Application of BIM Technology on Energy Efficiency Building Design M. Zhang	283
Energy-Efficient Technologies in the Construction of School in Hot Climates A.S. Fidrikova, O.S. Grishina, A.P. Marichev and X.M. Rakova	287
Photovoltaic Architectural Shadow and a Case Analysis Y.G. Jia, S.L. Ding, S.F. Su, Y.Q. Han, H.Y. Liu, Y. Liu and X.S. Zhang	294
Research and Analysis on the Heating Energy Consumption of Urban Residents in Hot Summer and Cold Winter Area of China J. Li, W.Y. Qu, F. Wang and W.Z. Li	299
Research on 20MWp Grid-Connected PV Station W.X. Wang, X.L. Luo, B. Chen and W.F. Wang	304
Review on Phase Change Material Storage in Solar Energy Application Y. Zhang, C. Chen and D.W. Qi	309
Study on Solar Assisted Different Heat Source Heating for School Building in Rural of Gansu C.Q. Hou and H. Hou	315
The Designs and Analysis of Wasting Heat Utilization in the Large Comprehensive Hospital Scheme H.F. Guo, W. Li and X.R. Zhang	320
The Research of Absorption Heat Pump Taking Basic Heat Load City Heat-Supply Network Heating Regulation Optimization H.H. Yu, Q.L. Cao, M.H. Cui and X. Wang	325
The Ways Assessment of Direct Production Electricity and Heat from Hydrogenous Fuel Based on Biogas for Autonomous Consumers M.Y. Zubkova, V.I. Maslikov, D.V. Molodtsov and A.N. Chusov	330
Automated Calculation of Solar Electricity Systems in Russia as an Example of the Moscow Region A. Volkov and L. Sukneva	338

Shadowing Impact on Amount of Power Generated by Photovoltaic Modules D. Vuksanovic, V. Murgul, N. Vatin and E. Aronova	342
Solar Power Opportunities in Northern Cities (Case Study of Saint-Petersburg) E. Aronova, G. Radovic, V. Murgul and N. Vatin	348
Zonation for Development of Shallow Geothermal Energy in Urban Area of Kaifeng City and some Relevant Suggestions C.J. Yue and Z.S. Liu	355
Sea Water Heat Pump Technology Development Review and Prospective Application Y.X. Miao, S.X. Wang, J. Zhao and J. Wang	361
The Applications for Electrical Energy Saving in Engineering Design Y.C. Li	365
Practical Seawater Source Heat Pump Projects in China J.H. Wu and H.S. Li	374
The Research of Test on Load-Bearing Capacity of the New Energy-Saving Panels W. Liu, Y.L. Zhang and W. Xi	378
Analysis on Exterior Wall Conformation of Low-Rise Light Steel Structure Residence Based on Thermal Theory M.J. Lu and L.L. Zheng	384
Energy Saving Renovation of Existing Buildings on Campus Sunshade Design Y.H. Liao, L. Pan and M. Xiong	389
Energy-Saving Design Research of Entrance Space for Commercial Building in Cold Region S.D. Qi and C.Y. Zhou	393
The Importance of Building Energy-Saving Show from the Change of Climate Parameters in Energy-Saving Standards J. Zhang and X.D. Qin	397
Application and Research on Thermal Infrared Imager in Thermodynamic Defect Testing M. Ming, S. Zhe, K. Jing, P.P. Lei, W. Rui and M.S. Zhan	401
The Agglomeration Effect of Chinese Wind Power Industry and Empirical Study M. Song, X.Y. Ji and Y. Lu	405
Research on Environment Dependence of Thermal Conductivity of Expanded Polystyrene Foam Board L.X. Sun, H. Dong and J.F. Yang	409
Study on Energy-Saving of Industrial Buildings in China B.Z. Sheng	413

Chapter 3: Indoor Environment

Research on Architecture Interior Design Using Traditional Decorative Elements T.D. Wei, C. Zhang and X.J. Zhu	419
Factors for Improve the Summer Microclimate of Guangfu Dwellings and its Modern Applications S.Y. Zhang and N. Zhang	423
Application of Southwest Shandong's Folk Textiles in Modern Interior Design J. Xue, Z.P. Zhou and W.L. Dong	427
Research on Design of Indoor Light Environment in Modern Architecture S. Chen	432
The Research on Yearly Comfortable Indexes of Qinhuangdao "Water Front" Passive Houses Y. Hu and J.Y. Zhao	436
A Field Study on Thermal Comfort of Traditional Metal Processing Factories C.C. Su, S.C. Pan and S.F. Lin	443
Air Age Equation Parameterized by Ventilation Grouped Time W.Z. Wu	449
Analysis of Indoor Air Quality for Residential Buildings in Lhasa, China M. Zhang, W. Yu, F.Z. Zeng, C.Q. Du and X.F. Wang	453
Medical Space Oriented Color Psychology Perception Model C.F. Li and H.T. Shi	461

Numerical Research on Indoor Wind Environment of Green Building X.P. Zhou, C.W. Yan and W. Li	468
The Indoor Greening Design Practices B. Wang, X. Liu and P.C. Chen	476
Brief Analysis of the Lacquer Art Application Value for Indoor Environment Art Design L. Liang	480
The Determination and Analysis of Volatile Organic Compounds in Public Buildings H.Y. Tan, D.Z. Zheng, W.X. Xie and Y. Zhang	484
The Impact of Gymnasium Form's Tilting Side Interfaces on Natural Ventilation and Thermal Comfort of Exercise Site J. Li and Y. You	490

Chapter 4: City Ecological Environment

Application of Imitated Ecosystems in Urban Waterlogging Prevention S.G. Wu, M.T. Zhou and D.D. Ma	501
The Research to "Adapt to the Disasters" in the Traditional Architecture and Town Y.L. Gu	505
Application of Variance Weight Prediction Model in the Output Prediction of Urban Living Rubbish Y. Li, G.F. Li and F. Zhao	508
Reduce Haze and Improve Urban and Rural Construction B. Li and M.H. Sun	517
A Primary Study about Water Quality Characteristics of Urban Constructive Sites Wastewater K.J. Xiang and B.F. Xu	521
Noise Influence and Prevention Treatment of Residential Buildings near Highway T. Zhou and T. Zhao	525
Study on the Spatial Expansion Driving Force Mechanism of Carbon Source and Sink at Urban Fringe Areas M.L. Qin, J. Ya, J. Zhao, H. Li and X.N. Wei	530
A Quantitative Research on Carbon Emissions in the Residential Area of China Based on LCP Theory L. Zeng, T.M. Shi and Y.M. Hu	536
Rural Community Environmental Health Evaluation Empirical Study H.J. Xia, B.G. Wang and S. Wang	541
PCBs in Air from an Industrial Zone in a Coastal City-Tianjin, China Z.Y. Li, Y.L. Zhang and S.Q. Ni	546
Pcbs in Soils around an Old Electric Transformer Factory in North China Z.Y. Li, L. Chen, Y.H. Quan and Y. Song	550
Urban Waterlogging and Stormwater Management L. Gu and N. Gu	554
Condition of Road Infrastructure Related with Regional Development A.A. Bashkarev and J. Rajczyk	558

Chapter 5: Water Purification and Wastewater Engineering, Treatment Technologies

Application of Natural Zeolites for Aquatic and Air Medium Purification N. Vatin, V.N. Chechevichkin, A.V. Chechevichkin, Y. Shilova and L.A. Yakunin	565
Changing of Contaminants Content and Disperse State during Treatment and Transportation of Drinking Water M.J. Andrianova, L.M. Molodkina and A.N. Chusov	573
Effect of Ultrasonic Frequency on Chlorpyrifos Degradation in Sonolytic Ozonolysis J. Zhu, C.P. Zhu, B. Wang, R.H. Gong, Q.G. Ren, Q.B. Han, Z.B. He, B.Y. Chen, Y. Gao and M.L. Shan	578

Effects of Liquid Carbon Source on the Biofilm Cultivation on Corncob Biocarriers F.M. Liu, G.C. Li, T. Yang and D.S. Sun	582
Numerical Simulation of Dissolved Oxygen Transfer in an Aerated Pond G.L. Wu, L.S. Zhu and F.C. Li	588
Study on the Effect of Different Water Treatment Technology on Removing 2-MIB P. Xia, D. Zhang, Z. Wang, H. Ye, Y.Q. Shen and J.R. Lu	594
Dual-Frequency Ultrasonic Assisted Ozonation for Degradation of Pesticide Wastewater B. Wang, C.P. Zhu, Y.Z. Yin, C. Yao, B.Y. Chen, C. Yin, M.L. Shan, Q.G. Ren, Y. Gao, Q.B. Han, Y.B. Tang and Z.B. He	598
Design of a Multi-Parameter Sonochemical Setup for Pesticide Wastewater Degradation and Experimental Tests R.H. Gong, C.P. Zhu, J. Zhu, B. Wang, Q.G. Ren, X.H. Zhang, B.Y. Chen, C. Yin, M.L. Shan, Y.B. Tang, Z.B. He, Q.B. Han, J. Chen and Z.X. Li	602
Development of Network Pressure-Superposed Secondary Water Purification F.X. Tan, F. Wang, D.J. Wu and X.X. Cheng	606
Immobilization Technology and Construction of Carrier K. Ji and Y.Q. He	612
Removal of Geosmin by Powered Activated Carbon as an Emergency Method Z. Wang, D. Zhang, P. Xia, H. Ye and W.Q. Zhou	616
The Improvement of Pretreatment on the Determination of Mercury in Industrial Wastewater M.M. Yang and W. Tang	620
The Removal of Interference from Microwave Digestion Solution of Industrial Wastewater on the Determination of Arsenic M.M. Yang and H.W. An	625
Electrochemical Oxidation of the Effluent from Coking Wastewater Treatment Plants Using Ti/RuO₂-IrO₂ Electrode J.B. Wang, C.L. Yang, X.J. Duan, T.Y. Wang, Y.H. Wang and Y.C. Wang	629
Information Technologies in View of Complex Solution of Waste Water Problems E. Gogina and N. Makisha	636
Laboratory Modeling and Research of Waste Water Treatment Processes in Biofilters with Polymer Feed N. Makisha and O.V. Yantsen	640
Methods of Biological Removal of Nitrogen from Waste Water and Ways to its Intensification N. Makisha and E. Gogina	644
Study on the Effect of Moved Wastewater on Oxygen Release from Roots and Wastewater Treatment C. Dong, Y.H. Huang and S.C. Wang	648
A Short-Term Model Experiment of Organic Pollutants Treatment with Aquatic Macrophytes in Industrial and Municipal Waste Waters M.J. Andrianova, K.V. Vorobjev, J.A. Lednova and A.N. Chusov	653
Analysis of Water Quality Assessment Model Based on the SPA Theory S.D. Gao, Q.L. Luo, Y.J. Wei and Q.Q. Chen	657
Double-Catalyzed Base-Acid Synthesis of Chestnut Shell Pigment Resin Cross-Linked with Formaldehyde M. Zhou, P. Su, J.H. Qi, Y. Hu and Z. Yao	663
Research and Application Progress of Yeast in Wastewater Treatment Q.H. Shen, X.J. Wang and X.J. Li	669
Research Progress of Ships Waste Treatment Technology X.J. Wang, Q.H. Shen and Y.Z. Ji	674
Study on Preparation of Flocculant in Low-Temperature Wastewater X.H. Wang, L.M. Dong, R.L. Wang and Y. Shi	680
Discussion of Treatment of Wastewater and Sludge from Viscose Industry H.B. Lun and Y.T. Zhang	684
Study on the Flocculation Performance of Polysilicate Aluminum and Magnesium on Domestic Sewage J. Li, T. Xu, D.J. Bao, Z. Xu and Z.M. Liu	688

Research Progress in Removing Heavy Metals from Waste Water via Bio-Sorption W. Sun	692
Application and Development of Artificial Floating Island Technology S. Chen, L. Chao, J. Zhao, N. Chen, L.S. Wang, X. Liu and L.N. Sun	696

Chapter 6: Air Environment Control and Architectural Environment Improvement Techniques

Tunnel Construction Dust Monitoring and Dust Control Technology of High Altitude and High and Cold Area Y. Xu, D.H. Yang and Y.W. Zhang	703
A Review of Research Development of Ventilated Double-Skin Facade X. Feng, H. Yang, X.Y. Feng, F.Y. Jin and G.Q. Xia	709
Comparison Research on US-China Green Building Practice Y.H. Yang	714
Experimental Study on Opening or Closing Performance of Ventilated Double-Skin Facade on the Airflow Window in Winter X.Y. Feng, H. Yang, X. Feng, F.Y. Jin and G.Q. Xia	721
Green Building Development Features in China Y.H. Yang	725
Research on the Theory of CHP System in Controlling Air Pollution in Northern Cities L. Jing and X.X. Wang	731
New Concept of Green Building Evaluation: Multi-Criteria Decision-Making Model L. Yan, F. Wang and Z. Dong	735
The Methods of Agricultural Residues Disposal and their Externalities in Xinyi, China C.L. Xia	740
Analysis on the Influencing Factors of Green Ecological Mine Construction Based on ISM C.H. Xin and C.X. Wang	748

Chapter 7: Environmental Engineering and Monitoring, Environmental Protection Technologies

Activation of Ca-Based CO₂ Sorbent by Hydration in Repetitive Calcination-Carbonation Reactions Y.Q. Zhao, C.Z. Qiao and W.J. Chen	755
Analysis of Problems of Online Monitoring about Liaohe River Basin Water Pollution Source through Analytic Hierarchy Process X. Gao, K. You and J.X. Fu	761
Comparisons and Decisions on Construction Methods from an Energy Consumption and Carbon Emission Perspective Y.H. Mao and B.X. Han	767
Construction of Ecological Environment Management Platform Based on Supermap IS.NET M.Y. Yu, T.G. Shi and F. Meng	772
Determination and Health Risk Assessment of Heavy Metals on the Source of Underground Water in Yulin City Y.N. Zhang, H.Y. Han and X.J. Wu	776
Diffusion Model of Atmospheric Fine Particles PM_{2.5} under the Direction of the Wind J.Y. Li, F. Guo and Y.N. Li	780
Landslide Groundwater Dynamic Monitoring in the Process of Water Content Instrument Installation Technology Research G. Li, X.Y. Yang and B. Deng	784
Minimum Particle Diameter of the Sulfur-Doped Nano-TiO₂ Transparent Hydrosol at Room Temperature L. Li, H.Y. Zhang, X.W. Li, Z.H. Xu, S. Wang, X.H. Zhao and G.Y. Dong	788

Chapter 7: Environmental Engineering and Monitoring, Environmental Protection Technologies

Optimization and Selection of Automatic Monitoring Indicators in Beer Manufacturing D. Wang, K. You and J.X. Fu	795
Research of Antibiotics Pollution in Soil Environments and theirs Biological Degradation N. Chen, S. Chen, L. Chao, L.N. Sun, D.M. Zheng, Q. Liu and Q. Zhang	800
Spatial Distribution and Pollution Evaluation of Heavy Metals of Surface Sediments in Nansi Lake S. Li, Y.M. Liu and Y.Y. Sun	804
Status Analysis on Construction and Operational Effectiveness of Municipal Wastewater Treatment Plants in Guangxi Q.F. Wu, G.W. Cheng, N.S. Liang, X.J. Qin, B. Han and F.P. Huang	808
Safeguard Mechanism Construction of Environmental Comprehensive Improvement in Qinhuangdao Offshore Area Y.D. Peng, T.T. Liu, S.S. Chen, Y. Li and Y. Wang	812
Study on Plant-Microbial Remediation of Antibiotic and Heavy Metal Contaminated Soil N. Chen, S. Chen, L. Chao, L.N. Sun, D.M. Zheng, Q. Liu and Q. Zhang	816
The Current Situation and Treatment and Disposal Techniques of Antibiotic Bacterial Residues in China H.J. Han, S.Y. Zheng, W.C. Ma, J.H. Huang, L.Y. Chen, X. Liu, S.Y. Jia and J.M. Mu	820
The Exploration of Public Participation Mechanism in Ecological Civilization Construction C.Y. Chen and X. He	824
The Influence of Coastal Development on Ecological Environmental in Hebei Province Z.W. Li and L.T. Cui	828
The Influence of Estimated Pollution Range on the Groundwater Pollution Source Identification Method Based on the Simple Genetic Algorithm Y.Q. Long, C.Y. Wu and J.P. Wang	836
The Summarized Study of Heavy Metal Pollution in the City Soil T. Lu, C.C. Xu, G.W. Pan, Y. Qin and H. Tang	842
Dissolution Behavior of Fluorine from AOD Slag after Treatments for Volume Stabilization Q.X. Yang, A.J. Xu, F. Engström, F.L. Han, P. Xue, D.F. He and B. Björkman	849
Anaerobic Fermentation Characteristic of Rice Straw Pretreated by HCl B.L. Dai, A.F. Zhu, F.H. Mu, N. Xu and Z. Wu	856
Thermal Desorption Experiment of Polycyclic Aromatic Hydrocarbons (PAHs) Contaminated Soil Used as Cement Raw Meal D.W. Dai, C.P. Li and L.Z. Tian	860
Trend Analysis and Quality Assessment of Sediment in the Marine District with High Strength Exploitation M.C. Li and Y.J. Zhao	865
Water Quality Evaluation Research Based on Fuzzy Mathematics in Weihe Y. Dong, J.H. Zhou and X.J. Wu	869
Effects of Sand-Stabilization on Plant Abundance of Interdune Lowlands in the Active Sand Dune Fields S.G. Yan and Q.T. Xu	873
Inhibitory Effects of Aqueous Extracts of Tropical Forest Plants on Urea Hydrolysis and Nitrification in Soil Y.F. Shi, L.L. Zhang, M.Q. Zhao and X.X. Xu	877
Marine Environment Impact Analysis and Countermeasures on Sea Water Utilization Project Y.X. Miao, S.X. Wang, L.Y. Li, T.X. Jiang and J. Wang	882
Simulation of Final Cover Systems in Mitigating Landfill Gas Migration T. Vangpaisal	886
Development and Application of Molecular Biology Techniques in Environmental Treatment Y. Yu and H.J. Yu	892

Urea (CO(NH₂)₂) Pretreatment Improve Biogas Production Performance of Rice Straw B.L. Dai, A.F. Zhu, F.H. Mu, N. Xu and Z. Wu	896
The Analysis of the Characteristics and the Research Status of the Recycled Concrete B. Wang, X. Liu and X. Yu	900
Effect of Exogenous Spermidine on the Absorption of Copper Ions in <i>Salix Matsudana</i> C.F. Tang, J.F. Song, K.L. Li, B. Li and R.Q. Zhang	904
Study of the Oxygen Supply, Propelling and Mixing Performance Optimization Conditions of an Improved Carrousel Oxidation Ditch W.Q. Zhang, B.L. Li, Y. Li and X.P. Yan	908
Pretreatment Effect on the Stability of Coal Hexane Coal-Water Suspension N.E. Bekturganova, M.Z. Kerimkulova, K. Musabekov, L. Baibulova, M. Orynbasarova and G. Makanova	912

Chapter 8: Road and Railway Engineering

A Southern Highway Asphalt Pavement Analysis and Treatment of Water Damage W.L. Li	919
Anti-Damage Performance of Asphalt Concrete Reinforced with Different Position Grid Y.Z. Sun, Z.Y. Xin and S.B. Zhang	924
Field Study of Improvement Mechanism of Geogrid-Reinforced and Pile-Supported Embankment F. Lian, Z. Liu, J. Xu, Q. Wang, X.H. Hu and H. Wu	928
Frequency Domain Analysis to Vibration Responses of Subgrade Induced by Train at Seasonally Frozen Region of Daqing in China L.H. Tian, X.Z. Ling, L.N. Wang and F. Zhang	934
Analysis of Stress and Strain for Semi-Rigid Asphalt Pavement Based on Accelerated Loading Test C.Y. Zhuang and Y.L. Ye	939
Experimental Study on Microseism Wave Propagation Characteristics of the Pavement Base Y.H. She	943
Study on the Bearing Capacity Test for the Saline Soil Soft Ground J.Y. Liu and L.J. Zhang	947
The Analysis of the Thickness of the Layers Influence on Graded Broken Stone Stress State S.J. Ma, X.Y. Wang and Z.W. Hu	952
The Rail Profile Shape Dynamic Acquisition System Based on LabVIEW J. Wang, W.P. Wang, M.N. Zhang and P. Wang	956
The Study on a New Composite Road Panel Structure H. Qi, Y.G. Li, K. Liu, H.L. Lu, J.Y. Sun and G. Chen	961
Construction Technology Urumqi Outer Ring Expressway Road Reconstruction Project Expansion Y.L. Cheng	965
Research on Ice-Broken Effect of Granulated Rubber Asphalt Mixture High-Elastic Deck Pavement on Bridge Y.S. Yang	971
Study of Static Mechanical Properties of Aeolian Sand H. Zhang, Z.Y. Wang, R.X. Liu and L. Li	976
Safety Design on Small Radius Curve of Mountain Road R.W. You	981
Study on Durability of Granulated Crumb Rubber Asphalt Pavement Based on TPS High-Viscosity Asphalt Y.S. Yang and Q. Dong	985
The Different Pavement Structure Combination Shear Stress Analyze J.H. Gao	990
Acoustic Models for Dense- and Open-Graded Asphalt Pavement Y. Liu	996
Experimental Study on Controlling Rail Corrugation by Tuning Rail Damper H. Zhang, L. Jiang, Y.J. Li, L. Meng and X.S. An	1002

Research on Evaluation Method of Asphalt Pavement Crack Treatment X.H. Ju	1007
Study on Failure Mechanism and Prevention Measures of Typical Rock Slope in Tibetan Plateau J. Zhao	1012
Study on Site Scheme Selection of Highway and Railway Bridge across Songhua River Reconstruction Project Q.H. Wang	1021
Representation Indexes and Grades Division of Single Pavement Damage Affecting Vehicles Operating G.J. Sun, Z.Z. Yuan, Y.F. Gao and J. Meng	1030
Three-Dimensional Finite Element Analysis on Subgrade Dynamic Stress Response under Moving Load Z.Q. Xu, D.P. Liu and J. Wang	1034
Time-Domain Simulation of High-Speed Railway Track Irregularity Y.F. Du, C.Y. Chen and X.N. Li	1039
Application of MHB Technique in Superhighway Cement Concrete Pavement Resurfacing Projects Y.T. Hu, L. Mu, Z.L. Liu and Y.L. Du	1043
Development of Prediction Model for Doweled Joint Concrete Pavement Using Three-Dimensional Finite Element Analysis H.B. Sii, G.W. Chai, R.V. Staden and H. Guan	1047
Grey Relational Analysis of Fiber Asphalt Mixture Based on Pavement Performance and Economic Benefits H. Zhang, X.H. Du, P.W. Hao and L. Liu	1058
Modulus Back-Calculation Based on FWD Dynamic Deflection Basin for Semi-Rigid Base Asphalt Pavement C.Y. Zhuang and Y.L. Ye	1062
Evaluation Segregation of SMA-13 Asphalt Pavement by Compactness C. Li, A. Liu and Y.R. Xiao	1067
Precast Pavement Smoothness Control Method P. Peng, D.F. Wu, B. Tian and K.M. Niu	1071
Analysis and Reference of Local Railway Operation and Management Mode X. Guo, H.S. Sun and X.F. Wang	1075
Analysis of Influence of Fine Aggregate on Void Ratio of Asphalt Mixture G. Jing	1079
Analysis of Settling Character and Prediction Result of the Red Sandstone Dynamic Compaction Embankment Y.Y. Ren and J. Wang	1084
Application of Bentley Power Rail Track Software in the BIM Railway Design X. Sheng, H.P. Luo and P. Wang	1091
Application of Stress Absorbing Layer in Project H.Z. Li	1095
Design and Behavior of RPC Slab Track J. Yang, J.S. Wang and X. Peng	1100
Design Countermeasures of Preventing Frost Heaving of the Airport Cement Concrete Pavement in Cold Area B.H. Shi, P. Mei, Y.M. Zhang and B. Cao	1106
Detection and Assessment Methods for the Planeness of Planes' Asphalt Road Runway W.Y. Huang, B.H. Shi, Y.M. Zhang and W. Zhou	1110
Development of a Model to Predict Pavement Temperature for Ghat Region in Libya H.A. Salem, D. Uzelac and Z.L. Crvenkovic	1115
Dynamic Consolidation Ground Reclamation Vibration Transmission Mechanism and Impact Studies on Composite Foundation Y.F. Li, J.J. Zhang, Y.M. Dou and Z. Guo	1125
Effect of Emulsified Asphalt Content on Mechanical Property of Cement and Emulsified Asphalt Mortar Y. Li and P. Wang	1132

Effect of Reinforcing the Base of Pavement with Steel Geogrid S.A. Matveev, E.A. Martynov and N.N. Litvinov	1137
Effect of Temperature on Volumetric Parameters of Rubber Modified Asphalt Mixture X.B. Bi	1141
Experimental Study on the Reinforcement Treatment of Saline Soil Subgrade L.J. Ma, Y.L. Wang and J.Y. Zhang	1145
Failures of Concrete Slit Drains, Caused by Inappropriate Dilation Material Inserted into Multi-Layer Road Systems P. Tej and J. Kolísko	1148
Failures of Concrete Slit Drains, Caused by Negative Effect of their Erroneous Integration into Surrounding Multi-Layer Road Systems P. Tej and J. Kolísko	1152
Highway Subgrade Disease Treatment Technology Research in Volcanic Karst Crater Region Q.H. Huang and H.J. Fan	1156
Key Construction Technology of Porous Concrete Permeable Base A.M. Bai	1162
Microscopic Analysis of Rutting Formation of Dense Graded Asphalt Concrete Y.L. Li	1167
Newly-Constructed Cement Concrete Pavement Crack Renovation Technique Y. Liu and Z. Luo	1171
Base Shrinkage Stress Analysis in Semi-Rigid Base Asphalt Pavement Y.M. Hou	1175
Case Study on Composite Bridge Pier Construction Method J.S. Lin, S.T. Cheng and I.T. Liu	1182
Experimental Study on Pavement Performances of SBP Modified Asphalt Y.Z. Sun, C.J. Zhu, J.C. Wang, Y. Yuan and G.B. Wu	1186
Old and New Embankment Splicing Technology in Highway Reconstruction Project G. Zhan	1190
Orthogonal Test Research on Molding and Curing for Cold Recycle Mix with Emulsified Asphalt Y.H. Yang, Y. Yang and Y. Shen	1194
Research and Analysis of Temperature Anti-Rutting Performance Evaluation Index for Asphalt Pavement R.J. Wu	1199
Research on Maintenance and Repair Technology of the Continuous Welded Railway in Plateau Permafrost Region F. Han and B.C. Wang	1204
Research on the Behavior of Rigid Pavement of Basalt Fiber Reinforced Dowel Bar under the Condition of Variable Temperature Y.T. Zhang, C.X. Zhou, Z.Y. Huang, J.C. Wang, G.B. Wu and S. Jiang	1209
Review of the Influencing Factors of Pressure Exert on Compartment by Bulk Goods X.J. Feng, T. Wei and Z.Y. Zuo	1216
Review on Nanomodified Asphalt P. Li and Y.L. Li	1220
Specific Study of Airport Pavement Asphalt Mixture X.H. Guo	1224
Static Contact Characteristics Analysis of Wide Base Tire against Hot Asphalt Pavement R.Z. Wu, W. Du, L.Q. Shao and Z.N. Mi	1228
Study on Factors for Determination of Highway Subgrade Height W. Yang and C. Li	1233
Study on the Design Method of Prestressed Concrete Sleeper Based on Chinese and American Criteria H.P. Luo, X. Sheng, P. Chen and P. Wang	1238
Study on the Effect of WMA Additive to the Asphalt Technical Properties Z.L. Liu, Y.L. Du and L.F. Du	1243
Study on the Resistance to Water of CA Mortar Used in CRTSII Ballastless Slab Track H.Y. Sun, X.F. Ma and P. Wang	1250

Temperature Field Analysis of CRTS-II Ballastless Track Slab Structure on Soil Subgrade L. Zhao, L. Sun and T.J. Fan	1255
The Application of Discrete Element Method on Asphalt Mixture J.P. Xiong and B.I. Xiong	1262
The Base Material Segregation Control Technology Research of Strong Interlocked Skeleton Dense Graded Aggregate S. Yong	1266
The Indirect Tensile Strength of Palm Oil Fuel Ash (POFA) Modified Asphaltic Concrete A.M. Maleka, I.A. Alkali and R.P. Jaya	1270
The Influence of Coarse and Fine Ratio on ATB Asphalt Mixture Performance X.F. Zhai	1276
The Study of Rheological Behavior about High-Modulus Modified Asphalt X.D. Li	1281
Discussion about Technical Problems in CBR Test W.P. Zhao and C.X. Fan	1286
Experimental Study on the Anti-Cracking Performance for High Viscoelastic Asphalt Sand with SCB Y.Z. Sun, Z.Y. Xin, J.C. Wang and G.B. Wu	1291
Numerical Simulation for the Seasonal Change of the Temperature and Humidity Field of Embankment in Moist Heat Areas Y. Que and J. Chen	1295
Research on the Differences of Retaining Wall between in Widening Highway and in the New Highway Z. Yang	1301
Study on Libyan Silt Property and Suggestions on its Application in Subgrade Construction Z.Y. Zhang, L.Y. Peng, J.Y. Wang and A. Abdulali	1305
Study on Water Stability Improvement of Granite Asphalt Mixture Z.M. Peng, M.J. Lin and Q.Q. Liu	1311
The Fatigue Test of Railway Rail Fastener Assemblies J.L. Xu and Y.L. Zhang	1315
WJ-8 Rail Fastener of Ballastless Track Torque Test Research Z.P. Zeng, J.Y. Yuan, X.F. He, C. Liu and K.T. Zhu	1320
Research on Numerical Simulation of Roadway Deformation under the Influence of Mining H.J. Xue, J.L. Xue, X. Xu, J. Kong and M. Liang	1324
Evaluation and Utilization of Kuantan Clayey as Material Embankment for Roadway A. Fauzi, Z. Djauhari and U.J. Fauzi	1328
Study on Low Temperature Performance of SBS Modified Asphalt and its Mixture J.Q. Chen, A.J. Li, M.Q. Jin, M.N. Zheng and W.Y. Yang	1332

Chapter 9: Bridge Engineering

A Model-Based BIM Framework for Bridge Engineering Y. Zou and S.X. Zhou	1339
A Study on the Adaptability of Photoelastic Experiment on Main Tower of Cable-Stayed Bridge Z.S. Dong	1344
An Analysis of the Impact of the Natural Void Ratio of Cohesive Soil on the Calculation of the Backwater Height of the Highway Bridge Z.S. Dong	1349
Analysis of Mechanical Characteristics for Continuous Rigid Bridge with Corrugated Steel Webs S.D. Song, X. Li, B. Zhu and L.L. Duan	1353
Analysis of the Arrangement of Prestressed Steel in Web of Continuous Concrete Box-Girder Bridges L. Qiao and S.W. Zhang	1359
Application of Quadratic Programming Method to Cable Force Calculation of Cable Erection Arch Bridge C. Wu, J.Y. Liu and S.X. Zhou	1364

Comparison of Structural Type and Economics of Super-High Pier for Continuous Rigid Frame Bridge	
G.Q. Yang, J.Y. Liu, Y. Zou and S.X. Zhou	1370
Effect of Viscous Damper Position for Isolation System of Self-Anchored Cable-Stayed Suspension Bridge	
F. Miao	1377
Mechanical Properties of Wood and Timber Bridge Evaluation	
L.L. Yu, J.J. Wang and T. Huang	1381
Research on Investment Estimation Model of Municipal Bridge Engineeringa — A Case Study of Hollow Slab Girder Bridge	
H. Ke, Z. Xu and S. Li	1386
Mechanical Features of Cable-Girder Anchorage for Long-Span Railway Cable-Stayed Bridge with Steel Box Girders	
C.Y. Yao, Q.H. Pu and Y.D. Yao	1391
Study on Nondestructive Testing Method of Vertical Prestressed Reinforcement Tension in Box Girder	
Y.Q. Gao, J.P. Zhu, F. Zhang and G.Z. Qi	1395
Study on the Vehicle Load of Highway Bridge Based on Measured Data	
C. Zhao, Y.M. Dou and J.S. Sun	1402
Temperature Control Technique and Analysis of Mass Concrete in the Pile Cap of Main Pier in Yangtze River Bridge	
J. Su, G.W. Zuo and W. Li	1407
Application of Stress-Free Status Control Method in Bridge Construction Control	
Y. Liao, J.H. Zhan and C. Li	1412
Fatigue Phenomenon Analysis of the Steel Railway Bridges with Short and Medium Span	
S.I. Gutiu and C. Moga	1416
Research on Calculation Method of the Stability Factor of Variable Cross-Sectional Concrete Filled Steel Tubular Laced Columns	
Z.J. Ou, L. Huang and Q.L. Yan	1420
Research Status of FRP-Concrete Composite Beam/Bridge Deck Systems	
L.H. Yang	1424
Control Technology on Jacking Closure Construction of Liangjiang Great Bridge	
H.J. Zhang, Z.Q. Peng, B.L. Li and X.C. Fan	1430
On the Development and Innovation of Modern Suspension Bridge in China	
H.Q. Zhao, X.J. He, M. Zhao and J.W. Zhao	1435
Temperature Correction around Anchorage Zones of Cable-Stayed Bridge in Field Test	
J.Y. Luo, X.D. Zhang, L. Liu and X.M. Guo	1439
The Response Analysis of the Train-Bridge System under Seismic Action	
W.M. Xia and X.M. Liu	1443
Research on Simulation and Analysis of Tensioning Process of Suspender for Combinative Bridge with V-Type Pier Continuous Rigid Frame and Arch	
Z.Q. Li, Y.Y. Fan, J.F. Bai and Y. Li	1448
The Application of Pushover Method in Complex Bridge Seismic Design	
X.Y. Gao	1454
Time-History Analysis of Pre-Stress Loss of Four-Spans Pre-Stressed Continuous Rigid Frame Bridge	
J.Y. Liu, Y. Zou and P.P. Zheng	1462
An Improved Flutter Analytical Method for Bridge	
G.F. Chen, W. Xu and B.C. Yu	1468
Discussion about the Limit Span of Self-Anchored Suspension Bridge and Influencing Factors	
Q. Huang	1473
Effect Evaluation of Prestressed Carbon Fiber Plate Reinforced Bridges in Critical Condition	
F.W. Jiang, Z.Q. Zhang and W.J. Guo	1477
Research on Skew Coefficient for Stresses of Skewly Supported Three-Span Continuous Box Girders	
L. Liu	1483

Static Loading Test and Theoretical Analysis of a Pedestrian Bridge C. Zhang, R.S. Ma and L. Tian	1488
Study on Concrete Durability Design for Penang Second Bridge of Malaysia S. Liu and M.Q. Qin	1493
Study on Static and Dynamic Load Test of Huaronggou Bridge W. Wang and L. Wang	1500
The Pier's Deformation and Load Capacity Calculation of Bridges in Construction with Movable Die Carrier W.L. Yang, X.H. Ju and L. Bian	1507
Traveling Wave Effect Analysis on Fabricated Box Girder Bridge Based on ANSYS Q.H. Liu and Z.X. Zhang	1512
Ultimate State of Bridges with Soil-Pile-Structure Interaction under Extreme Earthquakes T.Y. Lee, K.J. Chung and P.Y. Chen	1518
Analysis of Effect of Fetching Girder from Trestle of Long-Span Steel Truss Bridge under Cantilever Erection X. Luo, X.S. Fu, L.X. Gu and L.R. Cai	1522
Construction Scheme Research of Long-Span Cable-Stayed Bridge with Three Pylons Based on Structure Stability X.G. Deng and M.Y. Liu	1527
Design of an Experimental Prestressed Arch Pedestrian Bridge Made of UHPC P. Tej, A. Tejová and J. Kolísko	1535
Dynamic Analysis and Test Validation for Continuous Girder Bridge Y.X. Yang and P. Liu	1539
Effects of Curvature Radius on Seismic Response of Curved Box-Girders Bridge Q. Zhao	1543
Impact Response Spectrum for Design of Ship-Bridge Collisions J.J. Wang and Z.R. Yu	1547
Loading Tests of Experimental Models of an Integral Bridge Loaded by the Effects of Water Pressure during Floods P. Tej, J. Kolísko, P. Bouška, M. Vokáč, T. Bittner, J. Čech, L. Vráblík and M. Šístek	1554
Nonlinear Analysis of Cable-Stayed Bridge H.H. Mo	1558
Bearing Capacity Analysis of Reinforcement for the Double Curvature Arched Bridge in Service Y. Zhang and H.X. Ao	1563

Chapter 9: Bridge Engineering

Capturing Riding Characteristics of Double-Deck Bridges under Multi-Lane Moving Vehicles X.T. Si, K.J. Chen and W.H. Guo	1569
Optimization of Cable Force of Extradosed Bridges C.H. Kou, T.T. Wu and P.Y. Lin	1577
Parsing on the Processing Methods of Seamline for Concrete Bridgewith Seamless Broaden Technology F.Y. Li and X.S. Guo	1581
Practical Calculation of Cable-Stayed Arch Bridge Lateral Stability W. Lu, D. Zhou and Z. Chen	1586
Prestressed I-Beams of 12 m Span Made of Ultra-High Performance Concrete for Construction of Railway Bridges P. Tej, J. Kolísko, P. Bouška, M. Vokáč and J. Čech	1593
Reliability Analysis of Half-Through Concrete-Filled Steel Tubular Arch Bridge C.Y. Wang	1597
Research on Design and Construction of Main Pylon of Maanshan Changjiang River Highway Bridge Q.Y. Liu, M. He, X.L. Li and Q. Zhang	1604
Research on the Effect of Bridge Guardrail to Load Distribution Y.J. Zhou, T.T. Xu, Y. Zhao and M. Yang	1608

Research on the Key Techniques of Zhanjiang Donghai Island Bridge W.G. Yuan and M.Y. Liu	1614
Research on Working Behavior of Prestressed Curved Girder Bridge F. Wang, Z.F. Luo and S.H. Mo	1618
Sensitivity Parameter Analysis and Accurately Calculation Method of Cables Unstressed Length for Cable-Stayed Bridges J. Tian, X.W. Wu and Y.F. Hu	1622
Study on the Durability of Coastal Area Bridge L.J. Ma, Y.L. Wang and J.Y. Zhang	1627
The Changes of Internal Forces and the Reliability of Curved Bridge Taking the Cross-Sectional Design of Axial Symmetrical Z.J. Zhao and J.H. Gao	1631
Analysis of Technical Characteristics and Construction Focus of Long-Span Continuous Rigid Frame Bridge with High-Rise Piers Y. Cui, W.N. Hou and F.Y. Liu	1637
Design of an Experimental Prestressed Vierendeel Pedestrian Bridge Made of UHPC P. Tej and A. Tejová	1642
Design of an Experimental Tensegrity Pedestrian Bridge P. Tej, A. Tejová and J. Kolísko	1646
Sensitivity Analysis of Continuous Curved Bridge under Different Curvature Radius M.X. Luo and J.H. Gao	1650
Study on Dynamic Behavior and Seismic Performance of Cable-Stayed Bridge with Different Auxiliary Pier Positions B.Y. Jia, X.L. Yu, K. Huang and Q.S. Yan	1655
Study on the Prestressed Arrangement in Cable-Pylon Anchorage Zone of Cable-Stayed Bridge X.L. Yu, B.Y. Jia, K. Huang and Q.S. Yan	1659
Transverse Ribs Affect the Stability of Steel-Concrete Composite Box Beams C.Y. Zhou, J.R. Yang and W.W. Jiang	1663
Research on Prestressed Loss in Curving Hole of Prestressed Concrete Structure Caused by Frictional Resistance C. Li, K.Y. Zhang and Z.L. Fan	1668
The Experimental Analysis of the Nonlinear Effects of Live Load of E-Dong Yangtze River Highway Bridge H.L. Chen	1672
Experimental Analysis of Historical Metal Railway Bridges: A Review W. Fang and S. Brandolinio	1680
The Aerodynamic Characteristics of Bus in Different Lateral Locations of Steel Box-Girder Bridge J.G. Zhou and Z.T. Hu	1693
Simulation Analysis on Construction of Liangjiang Great Bridge M. Si, S.X. Bie, B.L. Li and X.C. Fan	1698
The Designing and Construction about the below Model without Wind Bracing Tied-Arch Bridge P.Z. Lu, J.H. Zhang and C.Q. Zhan	1703
Research on CWR Design on Steel-Concrete Composite Beam Bridge in Alpine Region W.L. Sun and F. Han	1708
The Construction Technology of T-Type Rigid Frame Bridge No.0 Pouring Section B.Q. Shi	1713
Static Loading Test and Evaluation of Single Beam of Highway Prestressed Concrete Hollow Slab Beam Bridge T.L. Chen, H. Li, Z.H. Wang and X.K. Li	1718
The Technical and Economic Comparison of Reinforcing Schemes of Stone Arch Bridge H. Li	1723

Chapter 10: Transportation Planning and Systems, Routing and Logistics Engineering

A New Decision Support Methodology for Subway Operation Management J.Y. Li, X.M. Chen and Z.H. Liu	1729
Analysis and Calculation on the Capacity of Stairway in Urban Rail Transit Hubs G.Y. Nie, Z.Z. Yuan and H.L. Wu	1733
Determination of the Minimum Departure Interval between Trains with same High-Speed at the Relatively Initial Station J.J. Shao, L.S. Zhou, Z.X. Bai and Y.F. Shang	1737
Development of German Ecological Comprehensive Transportation and its Enlightenment to China G. Yang, Y.L. Gao, N. Dong and P. Wu	1741
Evaluation Model of Road Network Vulnerability and its Genetic Algorithm Solution M.G. He, Y.H. Jia and H.N. Li	1749
Parking Demand Forecast Method of Big City and its Application J.F. Yu, X.L. Gong and X.J. Zhang	1753
Research on Building Integrated Urban Rail Transport System Model of the Hohhot C.B. Li, M. Li and R.X. Guo	1757
Study on Selection of Alliance Cooperation Partner of Freight Transport on a Special Route H.C. Wang and C.Y. Zhou	1761
The System Evaluation of Passenger Station Travelers Satisfaction B. Li and M. Li	1766
Analysis the Transformation and Upgrading Path of the Ports in Pearl River Delta Q.F. Ao	1771
Research on Quick Measurement Method for the Flow Moisture Point of Shipping Liquefiable Solid Bulk Cargoes L.J. He, Y. Wei, M.Y. Liu, H.Z. Fan, H.L. Ge and Y.Y. Chen	1776
Studies on Construction and Operation Mode of Intelligent Transportation Systems M.Z. Chen and Y.K. Hu	1780
Research on the Optimization Model of Berth Allocation-Quay Crane Assignment-Truck Scheduling at Container Terminals Z.J. Gao, C.J. Wu, Q.Y. Zhao and J.X. Cao	1785
Review on the Berth Allocation and Quay Cranes Assignment Problems in Container Terminal Y.L. Zhou, R.D. Wang, Q.Y. Zhao and J.X. Cao	1789
The Integrated Berth and Quay Crane Scheduling Problem in Container Terminals C.J. Wu, L.H. Chen, Q.Y. Zhao and J.X. Cao	1793
The Integrated Yard Truck and Yard Crane Scheduling and Storage Allocation Problem at Container Terminals L.H. Chen, Z.J. Gao, C.J. Wu and J.X. Cao	1797
The Study of Changchun Automobile Industrial Logistics Transport Land Distribution J. Lv and Y. Zhou	1801
Traffic Demand Model to Study Urban Agglomeration Transportation System C.B. Li, R.X. Guo, M. Li and J.C. Wang	1805
Transit Scheduling Model Research Based on Time-Space Network Y. Meng, J. Zhang, J.Q. Nie and G. Zhong	1809
A Method of Bike Sharing Demand Forecasting X.N. Liu, J.J. Wang and T.F. Zhang	1813
Evaluation Model of Urban Expressway Nodes Based on Entropy Weight and Variable Weight Model R. Li, Y.X. Jin and H. Ren	1817
On Urban Transportation Planning in an Information Society W. Zhu	1822
Parking on University Campus: How to Avoid the Tragedy of Commons? Z.T. Wang and X.J. Wang	1826
Schedule Risk Management of Railway Station Project J. Sun, Y.R. Tan and W. Xu	1830
Study on the Bike Path Width Considering the Electric Bike S.R. Tao, X.J. Niu and K.M. Chen	1836

Study on the Characteristics of the Bus Trip of the Elders in Nanjing W.Y. Yang, Y.M. Liao and S.Y. Zheng	1840
Adaptive Reliable Shortest Path in Discrete Stochastic Networks Y.Y. Pan	1854
Application of Projection Method Based on Combination Weight in Comprehensive Evaluation for Highway Network Planning L. Wang	1858
Comprehensive Evaluation for Urban Rail Transit Network Based on TOPSIS Model Y. Wang and K.M. Chen	1862
Forecast of Urban Public Transport Demand in Yantai Economic and Technological Development Zone Q.B. Tian	1867
Freight Vehicles Regulatory Assistance System Based on Internet of Things Y. Jiang, Y.L. Xing, C.X. Zhang, B. Wang and L.L. Du	1871
Highway Transportation's Contribution Rate of Scientific and Technological Progress of China J.B. Lu and P.L. Zhang	1875
Investigating Pedestrian Behavior Differences of Walking Streets and their Effect Factors with Three Wuhu Cases B. Liu, Z.W. Wang and Y.B. Zhou	1879
Multi-Objective Optimization Model for Non-Suspending Runway Reconstruction Project Scheduling in Busy Airports Y.L. Yang and Z.H. Ma	1884
Research and Application of Activity-Based Costing in Drop and Pull Transport Enterprises Cost Management J. Wen, B. Zhan and X.H. Zhang	1888
Research of Cluster Supply Chain Network for its Optimal Control by SOA Technology Y.X. Chen, X.J. Dong and J. Sun	1892
Research of Container Transport Organization Model Based on the Theory of Hub and Spoke X. Chen, P.L. Zhang and H.G. Liu	1897
Research on Prediction of the Amount of Regional Airport Aviation Based on GM (1.1) Model in the Gray System A.L. Peng, K. Dong and W.N. Yang	1901
Research on Supply Chain Network System Based on Industrial Cluster Y.X. Chen, J.B. Liu and N. Zhang	1907
Simulation and Analysis Based on Emergency Evacuation Success Rate in Elevated Layer of Beijing South Railway Station Z.H. Li and X. Zhang	1912
Study of Traffic Impact Assessment for Construction Projects Based on Regulatory Detailed Planning M.J. Wang, J.J. Wang and T.F. Zhang	1916
Study on Ideas of Highway Transportation Hub Development in Ethnic Minority Areas G. Yang, L. Bu and X.N. Sun	1920
Study on the Index System of Urban Rail Transit and Bus Network Integration B. Li	1927
The Study of Differential Pricing Model in Market of Urban Taxi Industry Based on the Zoning Service Q.Y. Liu, L.J. Xu and D. Ying	1932
Study of Passengers' Route Choice of Urban Rail Transit Network under the Emergency Q. Li, Y. Qin, Z.Y. Wang and L.Q. Zhang	1940
The Influence of Bohai Strait Tunnel Project on Freight Transportation System in Bohai Economic Rim B. Wang, C.N. Deng and F. Liu	1944
Design and Improvement of Material Handling Apparatus in the Machine Shop of Company Z X.B. Pei and O.Y. Li	1950
Railway Freight Volume Prediction Based on Support Vector Regression (SVR) Y. Liu and M.X. Lang	1954

The Optimization of Arriving and Departing Time of Trains in Urban Rail Transit Based on Passenger Transfer J.P. Sun	1958
Research on Integration of Connection and Layout about Comprehensive Transport Hub and Corridor within Municipal Area Y.H. Li, J.M. Feng and X.N. Sun	1963
Based on Project Management of Urban Rail Transit Projects BT Mode Selection and Operation Effect L. Yan and L.J. Zhu	1967
Analysis Method Based on Cloud Model for Comprehensive Indices for Natural Zoning for Highways C. Li and Y.L. Wang	1972
Sensitivity Analysis about Traffic Mode Selection of Lintong Metro Line Based on Logit Model T. Li, K.M. Chen, L.J. Yu and R.L. Li	1977
The Instance Analysis on the Urban Rail Transit Transfer Stations with Multiple Lines Y. Liu, K.M. Chen and Y.L. Li	1981
Northern Sea Route: Perspectives for Bulk Carriers and Liquid Tankers N. Kuptsov	1986
Dwell Time Prediction of Bus Rapid Transit Using ARIMA-SVM Hybrid Model J. Ding, M. Yang, Y. Cao and S.L. Kong	1993
Research on the GISDK-Based Prediction System of Integrated Transport Demand Q.G. Pang and X.N. Sun	1998
Effect Evaluation and Modeling of Variable Message Signs on Route Choice Behavior X.J. Ou Yang, X. Zhang and H. Wang	2003
Optimizing Supply and Demand in Coal Logistics Networks X.J. Guan, X.F. Wang, H.K. Fan and W.J. Wu	2007
Suggestions on Comprehensive Metro and Real Estate Development Applied in China: A Case Study of the MTR L. Li, C.H. Rong and H.F. Zhu	2014

Chapter 11: Traffic and Transportation Control and Applied Information Technology

Coordination Safety Control Technique for Ship-Bridge Collision during Construction Period D. Jiang and L.W. Huang	2021
The 4E-Oriented Performance Evaluation of Public Traffic Based on BSC R.J. Ding and F.Z. Xin	2025
Predictive Controller for Aircraft Landing under Wind Shear Z.X. Gao and Z.Q. Li	2030
Research on Traffic Flow Characteristics of Urban Expressway Y. Li and H.P. Lu	2036
Dynamic User Optimal of Traffic Assignment Based on Optimal Signal Timing L. Zhang	2040
Analysis of the Impact of Fog on Expressway Vehicle Speed Y.L. Gu and T.J. Gao	2045
Analysis of the Traffic Parameters Based on Traffic Investigation in the Hohhot Y.L. Zhou, Q.Y. Zhao, L.H. Chen and J.X. Cao	2049
Research on the Urban Traffic Flow and Traffic Problems in Hohhot Q.Y. Zhao, L.H. Chen, Z.J. Gao and J.X. Cao	2053
Traffic Speed Time Series Short Term Forecasting Using Aggregated Model J. Gu and S.Y. Chen	2057
Research on Economic Benefit Evaluation of Transportation Enterprise Based on Extension Matter-Element Model X.J. Zhang	2063
Study of Dynamic Adjustment to the Freeway Entrance Ramp Based on VISSIM X.T. Huang, J.J. Wang and L.P. Qu	2068

The Efficient and Reliable Routing Protocol of Bus Mobility Vehicle Network Y.L. Peng, P. Yu and H. Yin	2072
Design of a Warning System for Pedestrians and Non-Motorized Vehicles C.A. Gao, Y.T. Xie, D.D. Ouyang, H.H. Li and G.S. Wang	2076
Express Business Transformation Research Based on Hoare Three-Dimensional Structure Model G.S. Wang, H.H. Li, C.X. Zhang, Y.T. Xie and C.A. Gao	2080
Network Coordinated Ramp Metering Control Strategy: Optimization and Evaluation J. Fang	2084
Engineering Realization of Dual-Target DPVS on Expressway Fog Detection Q. Guan	2089
Research on the Calculation Model of Signal Intersection Delay Z.Y. Yan, Z.H. Song and S.C. Lv	2096
Study on the Quantitative Method of Oversaturated Intersection Q. Liu, J.M. Xu and K. Lu	2100
The Design and Implementation of Traffic Management System Based on SuperMap M.Y. Yu, T.G. Shi and F. Meng	2105
The Intersection Optimization Problem of New Road in Hohhot Z.Y. Liu, R.Q. Yan and Z.H. Song	2109
Use Subsampling to Solve Imbalanced Dataset Problem for Automatic Incident Detection Algorithm M.H. Li and S.Y. Chen	2114
Research on Applications of Grid Technology in Railway Information Service Y.Y. Qin and X.F. Wang	2120
Research on the Elastic Pricing Theory Based on Ramsey Model L. Zhang and S.Y. Liu	2124
Setting and Achieving of Travel Inducing on the Expressway in the Fog G. Hu	2128
A Survey on Awareness of Traffic Signs among Youth in Qatar K. Shaaban	2133
Optimal Signal Timing of Single Intersection for Traffic Emission Control X. Li and F. Chen	2137
Power Quality Problems and their Monitoring of Urban Rail Transit M.M. Chen and Z. Li	2141
Study on City T-Junction Design under Optimal Scenarios S. Wu and Y.C. Huo	2145
Security Design in Tianjin City Expressway Entrances and Exits J.Z. Zhang	2151
Analysis on the Anti-Glare Plate Setting Distance on Horizontal Curve Sections of Expressway T. Xiao, J.S. Sun and C.Z. Jin	2156
Sensitivity Analysis the Ticket Price of Hangzhou to Shaoxing Intercity Line Based on the Equilibrium Model H. Peng and W. Wei	2160
The Research on Urban Rail Transit Ticket Pricing Based on System Dynamics X. Chen and L.S. Zhou	2166
The Study on the Central Strip Width of the Arterial Highway of Xinjiang Production and Construction Corps K. Li, J.Y. Chen and X.P. Tian	2170
The Effects of Noise Pollution Produced by Road Traffic of Naples Beltway on Residential Real Estate Values V. del Giudice and P. de Paola	2176
An Analysis on Common Overload Traffic Disease and Treatment L. Yu, D.Y. Zhu and L.S. Bao	2183
Research on the Safety Performance Technical Identification Normative for Accidental Vehicles H.H. Xu and G.F. Li	2188

Simulation and Modeling for Traffic Collaborative Control applying the S - Paramics Z.L. Wei, N.N. Li and W.Y. Liu	2193
Comparison of Capacity of Intersection with Connection Lane on the Left of Running Lane and the other Types of Intersections V. Krivda and I. Mahdalova	2201
Nash Equilibrium Analysis Based on a Generalized Travel Cost Z. Cui, Z.X. Gan and X. Xie	2205
A Cellular Automaton Model for Highway: Considering Multi-Lane Traffic Rules H.J. Zhu, D. Wang and J.B. Zhou	2213
Exploration of Traffic Facilities Engineering Design for Tide Lanes L.P. Qu, J.J. Wang and X.T. Huang	2220
Research on Traffic Safety on Freeway Merging Sections Based on TTC and PET X.H. Meng, Z.Z. Zhang and Y.Y. Shi	2224
Impact Analysis of Different Bus Lane Layout Form to Traffic Efficiency Q.N. Jiao, J.J. Wang and T.F. Zhang	2230
Waiting Area Research at Large Intersections in Hohhot Z.Y. Liu, J.P. Wang, Z.H. Song and T.Q. Jia	2234
Model and its Application of Passenger Travel Sharing Rate in Inter-City Comprehensive Passenger Traffic Channels Y.M. Zhou, J. Lian and X.N. Sun	2239
Research on New Ideas of Comprehensive Traffic Demand Analysis Techniques and Methods P. Wu, X.N. Sun and X.G. Wang	2246
Study on Route Choice Behavior of Urban Rail Transit Passengers S.S. Liu, E.J. Yao, Y.S. Zhang and L. Lu	2252
Passengers Organization Fuzzy Comprehensive Evaluation Analysis of Beijing South Railway Station T.H. Niu and X. Zhang	2257
Improvement Design about Anti-Dazzling of Mid-Barriers on Multilane Highway in Urban Fringes of China J.L. Yu, L.J. Xu and M.Y. Zhang	2261
Research on Urban Traffic Sustainable Development of Huhhot Z.Y. Wang, C.B. Li, X.L. Zou and R.X. Guo	2268

Chapter 12: Computer Application Technology and Mathematical Modeling

Application Study of Green Building Based on BIM Technology L. Zhang	2275
On Equilibrium for Abstract Economies in GFC-Spaces K.T. Wen and H.R. Li	2279
The Analysis of Second-Hand Housing Price Influencing Factors Based on Hedonic Model and WEB Information L.H. Rong and Y.M. Sun	2285
Research on the Application of BIM Technology in Indemnificatory Houses Planning and Design R. Han, W. Mo and R.X. Jin	2290
Improved Global Harmony Search Algorithm for Numerical Optimization P. Zhang, M.L. Li, Q. Han, Y.N. Zhang and G.J. Li	2295
Two-Sided Matching with Ordinal Numbers and Costs Q. Yue	2299
A Class of Linear Integral Equation in Engineering L.M. Zhao and J.T. Huang	2303
Simple Criteria for Block H-Matrices H.S. Gao	2307
Solving Discrete Dirichlet Problems on Spectral Finite Elements by Fast Domain Decomposition Algorithm V.G. Korneev	2312

Study on the Fitting Methods of the Polyworks Software W.H. Xiao and M. Li	2330
The Stability Analysis for a Kind of Functional Differential Equations Y.L. Li and M. Hua	2335
Wireless Sensor Network Mobile Agent Routing Based on the Improved Ant Colony Algorithm J.Y. Li and J.P. Wang	2339
Analysis on Non-Center Cloud Storage Architecture of Gluster X.Y. Liang	2346