

Table of Contents

Preface, Committees and Sponsors

Chapter 1: Green Building

A Model of Application of Green Construction Techniques - HVAC Project of China's Scientific Development Concept Exhibition Hall P.J. Huang and Y.N. Xu	3
Knowing Place in International Landscape Architectural Practice Y. Zhang and M. Du	9
Analysis about Solar Water Heating System and Residential Building Integrated Design X.Y. Wang, D. Xu and Y.J. Wu	13
Study of Energy-Efficient Remodeling Strategy for Office-Building Based on Whole-Building Systems Approach N.X. Ren, R. Fan, J.H. Zhang, W.J. Jiang and H. Ming	17
Optimization of Public Building Energy Design Schemes Base on the Minimizing of Operating Energy Consumption M. Chen, M.J. Pang and H.G. Fang	21
Green Container Building's New Design Concept X.Y. Wang, Y.J. Wu and D. Xu	26
Problem about Solar Water Heating System and Residential Building Integrated X.Y. Wang, D. Xu and Y.J. Wu	30
The Application of Green Architecture to Residential Building Development R. Chen, H.C. Yang and H.C. Chang	34
Towards the Climate Adaptive Residential Buildings Design H. Chen, E. Wang and Q. Li	40
Developing a Healthy, Comfortable and Energy-Saving Office Building W.P. Sung, Y.R. Chi, L.J. Hong and Y.K. Zhao	45
Integrated Application of Renewable Energy Technology in Building Energy Efficiency J.Y. Chang, Y.D. Kuan, C.H. Yao and S.C. Chan	51
Analysis of the Major Drivers of Building Energy Consumption Using the STIRPAT Model - A Case Study in China W.G. Cai, H. Ren, S.P. Cao and H.J. Lu	57
Analysis about Existing Buildings for Energy Saving X.Y. Wang, D. Xu and Y.J. Wu	62
Modeling and Control of the Precision for the Building Energy Consumption Monitoring System L. Zhao, J.L. Zhang, R.B. Liang and Y.P. Chen	66
The Exterior Space Design of Public Rental Housing in Mountainous City of Chongqing S.Y. Gan and W. Zhang	72
The Low-Carbon City Construction Problems and Measures of Energy Scarcity Developed City in the Southern Jiangsu P.F. Zhu and H. Zhang	77
Discussion on the Architectural Design Based on Low-Carbon Economy J. Liu	81
Discussion on the Green Building Design Y. Huang	85
Dewatering of Sewage Sludge Using Thermal Compression L. Fan, M.Y. Zhou and X.L. Li	89
Energy-Efficient Curtain Wall Design for Super High Rise Building — A Case Study on Curtain Wall Design of Guangzhou Fortune Plaza Y. Lin and Y. Fei	94
Architectural Practice Inspired by Water Context Y. Wu, M. Du and L. Shen	99

Reflections Based on the Concept of Low Carbon Building Design S.R. Guo and A.F. Liu	103
Structure Design in the Design of Natural Lighting of Exhibition Hall Space of the Contemporary Convention and Exhibition Building L.J. Liu and T.Y. Kang	107
Application of Renewable Energy in the Construction Y. Ren and Z. Qi	111
Development and Challenges of Groundwater Heat Pump in China Q. Gao, X.Z. Zhou, X.W. Zhao, C.Q. Ma and Y.Y. Yan	115
Analysis and Discussion of the Cold Northern Areas of Rural Residential Energy Efficient Design Y.J. Wu, X.Y. Wang and D. Xu	121
Research on Evaluation Principle and Method for Green Building B. Yan	125
Designing Concept and Prospect of Green Architecture in China M.Y. Wang	129
Research of Land Layouts around the Square in Winter Cities Based on Microclimate Optimization H. Leng and C.Y. Jiang	133
Effect of Indoor Thermal Environment on Building Energy Consumption K. Cai, Z.D. Chen, X.B. Yang, Y.F. Zhang and M.X. Li	137
Assessment System of Green Building in Chongqing Z. Wen and J. Wen	142
Study of Solar Energy Floor Heating System in Cold Climate Zone Y. Zhang, D.W. Qi, W.J. Wang and Z.Y. Lv	146
The Energy-Saving Analysis of District Heating System X.L. Yang, J.J. Chen and G.H. Shi	152
A Study on Green Building Design of Huizhou Traditional Dwellings W.M. Ji	157
Application Research of Solar Energy Technology in Liaoning Rural House D. Xu, Y.J. Wu and X.Y. Wang	161
Study on the Application Pattern of Solar Energy of Rural House in the Cold Area D. Xu, X.Y. Wang and Y.J. Wu	165
Research of Solar Assistant Floor Radiant Heating in Freezing Region Z.G. Zhang	169
Study of a Constructed Wetland-Pond System for Treatment from Campus Buildings W.S. Ou and J.H. Lin	176
Life Cycle Inventories of Renewable Energy Construction Project — Energy Consumption and Direct Emission Y. Ren and J. Ren	180
Green Road Using Reclaimed Asphalt Pavement for Sub-Base and Base Layers J.C. Du and W.C. Hung	184
Study on the Low Temperature Hot Water Heating System by Solar Energy Y.M. Xu and L. Huang	188
An International Comparison of CO₂ Emission Performance and Reduction Potential Using Environmental Production Technology Q.W. Wang and S.L. Ge	193
Heat Recovery and Urban Mobile Heat Provider System for Industrial and Mining Enterprises P. Jiang, N. Li and Y.C. Sun	198
Influencing Factors of Low-Grade Energy Conversion System Using ORCs L.L. Wei, Y.F. Zhang, Y.C. Mu, X.C. Yang and H.T. Ma	206
The Strategy of Passive Solar Energy Utilization of Rural House in the Cold Areas F. Wang and Y. Dong	211
The Process of Urbanization and Urban Ecological Environment Sustainable Development Research G.F. Hao	216

Selection of Dominant Plants at the Road Green Space in Longyan G.L. Lv, X.J. Hu and X.S. Li	221
Effects of Aspect Ratio on Average Daily Shading Factor of Flat-Plate Solar Collector Array in Winter Months S.X. Wei, Z.Y. Zhang, X.F. Zhou and S.F. Tao	227
Indoor Thermal Comfort Predicting Correlations in Subtropical Plateau Monsoon Climate S.X. Wei, Q. Zhou, S.F. Tao and G.X. Chen	231
Exploration about the Ecological Model of Road Landscape in the Construction of New Rural Landscape M.M. Tian, M.Q. Fang and Y. Zhang	235
Study on Green Low Carbon Building Design Based on Photovoltaic Power Generation Technology X. Fu, S.G. Shen and J. Yin	239
Composite Evaluation Model Analysis to Eco-Carrying Capacity of High-Density Residence Communities X.H. Hou, S.T. Wang and D.H. Lai	243
Study on Development and Technology of Low-Carbon Building in Japan J.Q. Bao, L.L. Zhang and Y. Miao	248
Building Energy Simulation for LEED Qualification on a Commercial Building in China C.H. Law, J.K. Yang and X.Y. Jiang	258
The Design and the Construction of Measures of the Retaining Pile C.M. Zhang and G.P. Zhi	270
Research on the Evaluation of the Soil Quality in the Evolution of Ecological Slope-Protected Base Material Y.S. Yang, W.N. Xu, Z.Y. Xia and Q. Yang	274
The Implementation and Case Study of the China Energy Efficiency Evaluation and Labeling System for Civil Buildings X.Y. Jiang, J.K. Yang and C.H. Law	279
Analysis the Environmental Adaptability of Wooden Furniture H.Y. Zhang	286

Chapter 2: Building Materials

Research on Pavement Performance of Flame Retarding Asphalt Mixture B. Tian, L. Zhao and C.G. Wei	293
Regeneration Aggregate Concretes Enhancement Technology Experimental Study Y. Xu	298
The Research on Heat Stability of Wood-Plastic Composites Added Four Different Stabilizers K.F. Li, K.M. Xu, X.T. Xie and C.P. Xie	303
Preparation and Performance Study of Fatty Acid Diatomite Composite Phase Change Materials and Light Weight Phase Change Gypsum Wall Materials Y. Zhang, B. Huang, J.Y. Zhang and D.X. Li	307
Effect of Nitrite Concentration and pH on Steel Corrosion Induced by Chloride in Simulated Concrete Pore Environment Z.L. Cao, M. Hibino and H. Goda	314
Compatibility between <i>Orychophragmus violaceus</i> and the Plant-Growing Concrete Y.Y. Wu, Y. Chen, H.P. Zhao, K. Zhao, Z.N. Song and K. Wang	319
Studies on the Time-Varying Effect of Root Morphology and Soil Reinforcement of Two Kinds of Herbs B.Q. Zhao, Z.Y. Xia, W.N. Xu and Z.J. Zhou	323
Process and Mechanical Properties of Basalt Fiber/Polylactic Acid Composites L.H. Lv, G.B. Liu and D. Zhou	329
Research on the Centralized Procurement Mode of Construction Projects Materials L.X. Li, Y.B. Zhang and H. Sun	333
Effect of Steel Fiber on the Performance of Concrete Materials S.P. Zhang and X. Dong	337

On the Assessment Tools of Green Building Materials X.M. Yan, D.L. Tan and H. Jia	341
Measurements of VOC Emission from Polyurethane Varnish for Interior Use J. Chen, N. Zhu and X.L. Shi	345
Properties of Concrete with High-Volume Limestone Powder as Composite Mineral Admixture S.M. Song, X.L. Wang and L. Wang	351
Discussion of the Fireproof Wall Insulation Materials H.B. Yao, D. Zhang and W. Zhu	360
Preparation and Properties of MWCNTs/CF Reinforced Epoxy Resin Composite Patch W. Song, C.Q. Li, L. Lin and Y. Chen	363
Green Roof as a Green Material of Building in Mitigating Heat Island Effect in Taipei City C.Y. Sun, Y.J. Lin, W.P. Sung, W.S. Ou and K.M. Lu	368
Finite Element Analysis of Concrete Frames after Fire with Fiber Model M. Xia, J.T. Yu, Z.D. Lu and L.W. Zhang	372
A New Type of Superplasticizer Performance and Applied Research X.Q. Ma	379
Study on the Desulfurization Gypsum and Steel Slag Blended Clinker-Free Cementing Material H.L. Luo, C.S. Li, Y.T. Ye and F.D. Chen	384
Evolution of Various States of Water in Blended Cementitious Materials A.M. She, W. Yao and W.C. Yuan	389
Investigation on Asphalt Modified by LDPE Combined with Petroleum Resin J. Li, W. Yuan and W.K. Jia	393
Properties of Mortar with Recycled-Cement H.Z. Lu, H.M. Ai, F. Yan and L.D. Han	397
Attenuation Ratios of Cement-Based Materials Containing B₄C to 14.8MeV Neutron Z.Q. Shen, Q. Kang, J. Xu, Z.G. Wang and Y.J. Zeng	402
Research on Application of New Energy-Saving Building Materials A.F. Liu and S.R. Guo	406
The Analysis and Research of Secondary Phases Generated during Isothermal Aging of Duplex Stainless Steels K. Lin, H.Q. Shi, L.Q. Ma and Y. Ding	411
Effectiveness of Alkali-Activated Slag Cementitious Material as Adhesive for Structural Reinforcement J. Zhu and W.Z. Zheng	418
Rice Hull Ash Concrete Mechanical Properties B.C. Sun and S.Q. Wang	423
Study on Low Temperature Performance Evaluation Index of Asphalt Mixture Based on Bending Test at Low Temperature S.S. Lv	427
Strength and Resistance of Alkali-Activated Slag Concrete to High Temperature M.C. Chi, R. Huang and W.H. Lu	431
Experimental Study on High-Performance Water-Reducing Agent in C80 Concrete M.Y. Hang, Y.J. Lan, B. Zhang and S.Q. Qu	435
Sorptivity of Porous Construction Gypsum Plasters Q.G. Wang	440
TG-FTIR Study on the Heat Treatment of Plasticized Melt-Spun PAN Precursors for Carbon Fiber B. Yan, K.Q. Han, J.J. Zhang, D. Wang, S.P. Liu, Y.C. Tian and M.H. Yu	444
Application of Energy-Saving Building Materials and Economic Comparison Z.M. Liu, W. Gao and J. Ji	448
Laboratory Assessment of Workability of Asphalt Rubber Hot Mixes Using Warm Mix Technology M.Y. Huang, J.H. Liu, X. Zhang and D.N. Li	452
Corrosion Performance of Common Pressed Prepainted Steel Sheet H.P. Bai, Z.H. Zheng, Y.Q. Tu and J. Cai	458

Microcrystal Growth in Heat-Treating Process for Europium Ions Doped Aluminosilicate Glasses	
W. Guo, X. Zhao, S.W. Jiang, Z.Q. Wang, L. Zheng, M. Liu and H. Lin	462
Numerical Stimulation Method of Chloride Concentration in the Concrete Structure Exposed to Chloride Aggressive Environment	
Y. Huang, J. Wei, R.Z. Dong and H.H. Yan	466
Use of Limestone Powder to Improve the Properties of Self-Compacting Concrete Produced Using Cathode Ray Tube Waste as Fine Aggregate	
G. Sua-Iam and N. Makul	472
Study on the Anisotropy of Clay	
L. Chen	477
Synergistic Effect of Zeolite on Bonding Strength of Flame Retardant Plywood	
M.Z. Wang, Y. Bi, W.J. Sun, H.P. Ji and L. Li	481
Research on Method of Separating Autogenous Shrinkage from Thermal Deformation of Concrete at Early Ages	
L. Xie and W.Y. Ding	486
Research on Permeability of the Construction Generated Soil Serving as Filling Material for Consolidation Piles	
L. Chen	492
The Technology on Producing the First Class Plywood Using Fast Growing Eucalyptus Timber	
K.F. Li and K.M. Xu	496
A Study on the Application of Rubber Crumb Modified Asphalt Mixture	
X.C. Wang, Y. Li, Y.P. Wang and L. Fu	500
Preparation and Properties of Polyurethane Heat Insulating Building Materials Based on Lignin	
Y.M. Han, T.F. Qin and F.X. Chu	505
Hydration Dynamics of Portland Cement Studied by Magnetic Resonance	
A.M. She, W. Yao and W.C. Yuan	509
Use of CRT Funnel Glass as a Fine Aggregate in Self-Compacting Mortar: The Effect of Limestone on Pb Immobilization	
N. Lairaksa and T. Moon	513
Evaluation the Heat Environment for Using Phenolic Resin as Heat Insulation Construction Material	
W.P. Sung, H.H. Wu, T.Y. Chen and W.S. Ou	517
Research for Experiment of Molten Carbonate Fuel Cells Generation	
Y.D. Tian	522
Thermal & Energy Consumption Analysis of New Sustainable Building Material Applied to Commercial Office Building in Beijing	
M. Zhang	526
Full-Light-Aggregate Concrete for Structural and Thermal Insulating Wall	
C.B. Li, S.H. Yin, Z.Y. Wen and X.H. Zhou	533
Experimental Study on Fire Resistance Performance of Glulam Beams	
Z.P. Ni and P.F. Qiu	539
Experimental Study on APP Modified Asphalt Felt Used as Interlayer between Old Cement Concrete Pavement and Asphalt Overlay	
Y.Q. Yuan, X.C. Li, T. Guo, W. Li and L.Y. Wang	544
The Performance of Green Basalt Fiber and its Application in the Civil Engineering Field	
J.J. Li, Y. Meng and Y.C. Liu	548
Research on the Adobe Block of the System of New Compounded Adobe Walls	
G.P. Liu and Y. Zhang	553
Study on Evaporative Cooling Effect of Porous Decorative Layer Applied to Vertical Walls	
Y.S. Feng, L. Zhang and Q.L. Meng	556

Chapter 3: Civil Engineering

Influence of Culvert Structure Style and Boundary on Vertical Earth Pressure Distribution of High-Filled Culvert	565
H. Fan, J.H. Xu and Z. Han	
Mechanic Analysis of Continuous Bridge-Deck Pavement on Curved Slope in Qinling Mountains Expressway	569
W. Xu, S.Q. Li, X.C. Wang and R.M. Han	
Time History Analysis to Prestressed Concrete Exterior Wall of LNG Storage Tank within Condition of Interior Tank Betray	573
W. Li, P. Wang, L.N. Yao and S.A. Shao	
Research of the CFRP Strengthened Reinforced Concrete Structures	579
X.C. Wang and H.B. Nie	
Unit Cell Orthogonal Model for Stable Soil Structure	584
Z.H. Wei, M.S. Wang and D.L. Zhang	
Study on Stability of Arch Bridge by Finite Element Method	592
X.X. Yan, C.X. Zhang, L.H. Zhao and B.P. Cao	
Field-Trial Study on the Control and Prevention of Soft Ground Settlement through Geogrid Reinforcement and Pile Supporting	596
J.F. Liang, F. Wang and G. Bao	
Effect of Reinforcement Size on Concrete Crack Width with the Same Reinforcement Ratio	600
N.N. Shi, D.H. Huang and R.X. Zhang	
The Development of Cement Concrete Pavement and Preventive Maintenance	605
S.Z. Yang	
Analysis of Failure Patterns and Damage Mechanisms under Impact Compression of Hybrid Fiber Reinforced Concrete	609
M. Chen, Z. Li and Z.A. Lu	
Study on the Optimizing Parameters of Underwater Drilling Blasting	614
L.N. Li and D.W. Zhong	
Research on Fault Diagnosis System of Heat Pipe Network	619
Y.K. Lv, H.F. Liu, S. Chang, B.J. Song and K. Zhao	
The Influence of Engineering Pile on the Bottom Upheaval of Foundation Pit	624
X.Z. Zhang, Q.M. Gong and S.H. Zhou	
Brief Introduction on the Application of High-Performance Concrete Preparation Technology in Ultra-High-Rise Buildings	633
L.B. Xu, H.W. Ye, N.Q. Feng and C.G. Bee	
Dynamic Analysis and Evaluation of Wind Turbine Towers	639
C.Z. Chen, P.P. Pan, S.W. Zhang and M. Qiang	
Stress-Strain Monitoring and Assessment of Steel Beam in the Process of Column Demolition	643
S.W. Cui, Y.L. Zhang, S.L. Zhao and C.C. Wang	
Modeling Simulation of Reinforced Concrete Perforated Slab and Project Cost Analysis	647
Z.M. Liu, W. Gao and J. Ji	
Bearing Capacity Experimental Analysis on Slotted End Plate Connection Joints of Different Types	651
J.F. Yang, H.B. Li, Y.L. Peng and R.H. Qiang	
Research on Compression Failure and Size Effect in High Strength Eccentric Reinforced Concrete Column	656
C.M. Matamb, X.L. Du and J.W. Zhang	
Intelligent Prediction for Distortion of Weak Surrounding Rock in Tunnel	662
Y.L. Huang, X.W. Zhou and J.Q. Liao	
Study on Microstructure of Soil Using MATLAB	666
C. Yu, L.C. Wu and Z.L. Chen	
Numerical Simulations on Embankment Settlements over Soft Ground	671
C. Yu, X.Q. Cai and H.J. Wu	
The Safety Status Evaluation of Rock Mass Element by Nonlinear Mechanics Model	675
H.B. Zhang and Q.Y. Liu	
Study on the Strata Stress Field Caused by the Construction of Shallow Driven Method Tunnel Level in Saturated Soft Clay	679
L.Y. Pan, C. Yu, X.B. Li and F.X. Sun	

Study of Simulation in Storm Sewer System of Zhenjiang Urban by Infoworks ICM Model J.G. Sheng, Y.D. Dan, C.S. Liu and L.M. Ma	683
The Numerical Analysis on Stability of Deep Roadway Support System Z.Y. Xiao and Y. Liu	687
Analysis on the Impact Force of a Ship Colliding with a Bridge Pier J.G. Ding and Z. Qiao	693
Dynamic Response of the Stay Cable under Bridge Deck Excitation S. Luo, H.J. Liu and Q.S. Yan	702
ε_0 Line for Mixed Mode Crack S.L. Chen, T. Yu, J.J. Shi, J. Huang and K.H. Dong	708
Planning Design of Step on Widening Engineering of Expressway R.L. Zhao, X. Ma and X.M. Li	712
Impact Compaction Technology of Filling Subgrade with Yellow River Sandy Soil Y.Q. Yuan, W. Li, T.W. Yang and T. Guo	717
Experimental Research on the Effects of Reinforcement Ratio on Axial Compression Properties of FRP Reinforced Concrete Column Y.F. Zhang, Z.L. Lv and D.W. Zhao	721
Simulation of Seismic Behavior for RC Columns under Bidirectional Compression-Bending D.G. Lu, Y.J. Li, Z.Y. Wang and G.Y. Wang	727
Multi-Attribute Decision-Making Model for Choice of the Soft Soil Foundation Treatment Methods H.Y. Zhou and L. Huang	732
Numerical Simulation Used for High Strength Concrete under Impact Loading Y.Q. Long and G.P. Jiang	736
Decision Model of the Soft Ground Improvement Based on Improved Sugeno Fuzzy Integral Y.Z. Zhu and C.L. Zhang	740
Study on Influence of Poisson's Ratio on Bearing Capacity of Subsoil L. Mei, A.Z. Zhou and P.M. Jiang	748
Seismic Response Analysis on Two-Tower Isolated Structure with Enlarged Base Y.B. Pang	753
Discussion on the Calculation Method of the Deep Buried Tunnel Surrounding Rock Loose Pressure Y.F. Yun and D.L. Wu	757
Study on the Polyurethane Concrete for the Rapid Repairment of Highway Pavement H. Wang, H.X. Liu and C.H. Zhuang	762
Technology of Temperature Measurement in Concrete Bridge Pier Y.F. Wu and Z.Y. Zhang	770
Characteristics of Shuiboxia Landslide Triggered by the 2008 Wenchuan Earthquake in China M. Xia, G.M. Ren and S.D. Lv	776
Based on Analytic Hierarchy Process in the Study of Cave Construction Y. Zhang and H. Yang	780
The Highway Landscape Evaluation Based on Fuzzy Hierarchy Analysis Z.J. Shi, W. Ge and X. Meng	785
Analysis of Failure Mode of Masonry Wall under Vertical Compressive Stress H.H. Zhao and W.F. Zhang	791
Exploration of the Rockwork Controlled Blasting Closed to the Existing Railways and its Safety Precautions X.S. Lv	796
Hybrid Control System for Seismic Protection of the Benchmark Model J.F. Fu, X.J. Feng and J.L. Zhang	801
Research on Advanced Geological Prediction in Highway Double-Arch Tunnel Construction S.M. Tang, C.J. Lin, X. Yao and C.X. He	805
Impacts of Additional Columns on the Vertical Dynamic Response of Mega-Beam in MSCSS T. Yang, X.A. Zhang, Y.D. Lian, X.J. Wang and Z. Wei	810

The Design of Mix Proportion of High-Performance Concrete for Passenger Dedicated Railway Based on Overall Calculation Method X.S. Xie	814
Testing and Evaluation of Frictional Lose for Strand with Multi-Curves X.K. Li, S.B. Zhao, L. Jiang and Z.Y. Hu	822
Experimental Study on Creep of Surrounding Rock Mass in Argillaceous Soft Rock Tunnel Q.Y. Fan, J.Y. Lu and Z. Zhu	826
Stochastic Finite Element Based Reliability Analysis of Concrete Structures in Marine Environment B. Hong, L.F. Yang, Z. Chen, Q.M. Jiang, C.Y. Hu and R. Li	831
Experiment Study on the Phenomenological Model of Bolted Joint Connections M. Yang	839
Covering and Reinforcement Key Technologies of Airport Old Cement Concrete Pavement B.H. Shi, W.P. Ning, H.W. Wang and T. Sun	843
Experimental Study on Thermal Performance of Steel Mesh Frame Sandwich Insulation Board Y.H. Yang, D.R. Li, Y.H. Liu and L.Y. Li	847
Calculation of Shear Capacity of Steel Reinforced Concrete Beams Strengthened with Near-Surface Mounted CFRP Rods W.H. Chen and M.Q. Wu	852
Failure Analysis of PCCP with Broken Wires R. You and H.B. Gong	855
Study of Long-Term Strength Experiment on Xigeda Soil W. Chen, F. Chang, T. Jiao and Q. Luo	859
Design and Stability Analysis of Latticed Shell Structure in Site of Tianluoshan W.F. Du and Z.F. Sun	864
Principle of Stress Rate in the Instability of Trusses W.F. Du and F.D. Yu	868
Research on the Influence of the P-δ Effect to Ultimate Bearing Capacity of Single Layer Latticed Shell Structures W.F. Du and Z.Y. Zhou	872
Multi-Criteria Decision Analysis: Beijing South Railway Station Y. Leng, Q. Li, Y.J. Liang, N.H. Zhou and C.G. Kou	876
Influence of Incorporating Recycled Aggregate on Carbonation Performance of Recycled Concrete Y. Huang, Z.H. Deng, Y.F. Hu and H. Xu	882
Commercial Concrete Quality Test J.Y. Zhang	887
Experimental Study and Finite Element Analysis of Reinforced Inorganic Polymer Concrete Beam Z.A. Lu, X. Jin and X.C. Fan	891
Application of Hui Zhou Brick Carving in Modern Interior Design F. Guang	897
Bond of Corroded Reinforcement and Concrete under Repeated Loading X.D. Dai, X.J. Kou, S.C. Wen and J. Liu	901
Summary of the New Rutting Tests of China H. Liu, H.X. Guan and Z.J. Luo	905
Study and Application of the Self-Compacting Recycled Pavement Concrete of High early Strength Q.T. Liu, G.P. Cen, L.C. Cai, Y.G. Wu, H.S. Wu and X.J. Liu	910
Durability of the Airfield Pavement Concrete on the Qinghai-Tibet Plateau G.P. Cen, Q.T. Liu, G. Hong and J.H. Wang	914
Analysis of Dynamic Response of Simply-Supported Girder Bridge in High-Speed Railway Based on the Moving Rows Mass-Spring Model J.F. Wu, Z.J. Zhang and X.Z. Li	919
Effects of Vibration Frequency on Dynamic Properties of Undisturbed Structural Marine Soil X.L. Chen, D. Li and R.M. Liu	925

Elasticity Stability Analysis of Cable Stayed Arch Bridge in Plane X.X. Yan, S.F. Yu, L.H. Zhao and Z.M. Li	931
The Application of ANSYS in the Horizontal Bearing Pile H. Wang, J. Yao and L. Liu	935
Analysis of Soil Arch under Dynamic Load M.F. Li, Q.M. Gong and S.H. Zhou	939
Nonstationary Probabilistic Seismic Response Analysis of Nonlinear Soil Profile under Bidirectional Dynamic Loading X.D. Pan, J.E. Zhong and C.C. He	949
Optimal Design for the Maximum Load of Three-Point Bending Concrete Beam Based on the Analyzing of Critical Crack-Mouth Opening Displacement X.Q. Wang and L. Wang	954
Bearing Capacity Analysis on Improved Slotted End Plate Connections H. Wan, Y.L. Peng, J.F. Yang and R.H. Qiang	958
A Study on Lightweight Multifunctional Concrete Made Using Waste PET Bottles Y. Kitsutaka and Y. Uchida	964
Unified Design of Tensile-Compression Prestressed Concrete Structure J.B. An	970
Research on Damage Identification of Suspension Bridge by Wavelet Analysis of the Strain Mode D.Q. Guan, Q. Tang and H.W. Ying	976
Numerical Investigation of Stress Concentration Phenomenon in Piled Embankment under Moving Train Loads P.N. Thach and G.Q. Kong	980
Research on Applicability of Group Form Theory in Contemporary Urbanism: A Case Study of Hillside Terrace S. Jin, K.S. Chen and D. Tong	984
Experimental Research on Shock Wave in Water of Underwater Drilling Blasting J.F. Si, D.W. Zhong and L.N. Li	989
The Forecasting for Artificial Frozen Soil Temperature Field Based on Support Vector Machines Method S.Y. Zhang, J.H. Chen and F. Mao	995
The Damage Identification of Multilayer Frame Structure Containing Sheet Crack by Wavelet Analysis D.Q. Guan and L. Liu	1001
Technical and Economical Assessment of the Corrosion Preventive Methods for Maritime Reinforced Concrete Structures S.F. Nabavi, S. Nejadi and B. Samali	1005
The Test Study to the Changes of Excess Pore Water Pressure during Precast Pile Construction S.Q. Zhao	1010
An Introduction of the Case of AN Art and Craft Building Quality Judicatory Authentication W.M. Zhang	1014
The Study of the Highway Glare Plate Height under Mixed Traffic C.F. Yang, J.L. Xiao and J.S. Sun	1017
Progressive Collapse and Structural Robustness of Bridges M.R. Wang and Z.J. Zhou	1021
Study on High-Performance Office Buildings J. Ren and Y. Liu	1025
Rationality Evaluation on the Fire Compartment of Large-Scale Public Buildings J. Wang, Y. Ren and X.H. Yin	1029
Additive Load Influence Analysis of Shield Tunneling Construction on Adjacent Piles G. Wei, J. Hong and X.J. Wei	1033
Study on Seismic Performance of a New Multi-Layer Frame-Bent Industrial Building by Pushover Analysis J.G. Ding and Z. Qiao	1038

The Indoor Air Quality and Thermal Comfort Experimental Research on the Combined Cooling Ceiling and Displacement Ventilation System J.C. Ma and Z.G. Zhang	1048
Study of Subway Construction Management Mode L.X. Li, J.G. Zhang and Y.B. Zhang	1052
Time Dependent Rotational Displacement of Retaining Wall under Seismic Condition J. Dong	1056
Modeling & Field Test of Dwelling with Courtyard Summer Thermal Environment S.Z. Jiang, Z.Y. Wang and J.J. Li	1061
Methods of Quantifying of Structural Robustness M.R. Wang and Z.J. Zhou	1065
Impact Analysis of the Thickness of Wall Insulation on Indoor Comfort in Hot Summer and Cold Winter Area M.X. Fang, T.Y. Fang, J. Chen and Z. Yu	1069
Analysis on Parking Problem for Residential Area X.Y. Wang, C.X. Liu and D. Xu	1075
Study on Performance Index for Reinforced Concrete Bridge Structures B.Y. Lu, Z.B. Cai, Z.Q. Ye and Y.J. Chen	1079
Cross-Sectional Optimization of Reinforced Concrete Columns Considering both Economical and Environmental Costs M. Kripka and G.F. de Medeiros	1086
A New Form of Genetic Algorithm for Back-Calculating Pavement Structure Modulus Based on Database Searching Theory X.J. Feng, J.F. Fu and J.L. Zhang	1090
Selective Disassembly Strategy Based on the CAD Model Assembly Building J.X. Zhong	1095
The Detection and Reinforcement of a Flyover by Fire Z.J. Li and Y. He	1099
Justification of a Fire Model on Predicting Fire in Large Room S.S. Li, Y. Gao, G.W. Zou and Y. Huo	1103
The Structure of the Performance that Resist the Static Wind on the Reinforced of Steel Structure L.M. Wu, X.L. Luo and Z.J. Wang	1109
A Study on Cable-Stayed Bridges B. Bannazadeh, Z.S. Zomorodian and M.R. Maghareh	1113
Study on Use Planning of City Natural Gas Q. Zhang, X.C. Dong and R. Huang	1119
Experimental Study on Dynamic Behaviors of Concrete Bridge in China Existing Railway Speed Increase to 200~250km/h P.H. Liu, Y.Q. Yang, J.C. Yao, W. Wang and Z.S. Dong	1123
Nonlinear Numerical Analysis of SRC-RC Transfer Columns H. Lin, Y. Zou, Y.X. Chen and Z.W. Wan	1129
Smoke Control Models in Building Fire: A Literature Review X.T. Zhang and S.L. Wang	1134
Relation-Formula for Room Temperature and the Flow of Heating User in Design Conditions J.S. Shi, Z. Liu, Y. Yang and D. Wu	1138
Analysis of Construction Safety Features and Assurance Measures for the Runway Expansion Project in Qingyang Airport B.H. Shi, W. Ren, W.P. Ning, H. Feng and L.H. Cai	1143
Simulation on Bond Behavior of RC Beams Strengthened with FRP X.Y. Lin and H.P. Meng	1148
Drainaging Technology for Construction Subgrade in the Shallow Groundwater Area Y.Q. Yuan, X.C. Li, S. Wen and W.B. Huo	1152
Numerical Analysis of Passive Microclimatic-Modifying Effects of a Moist Void-Brick Wall J. He and K.Q. Liu	1156
Lighting Environment Study on Rural Residential Buildings in Weihe Plain of China X. Liao, J. Luo, Y. Jiang, Y.P. Zhu and W.B. Wu	1165

Construction Risk Assessment Research of Continual Rigid Frame Bridge with Concrete-Filled Steel High Piers	1174
X.D. Pan, W. Jiang and B. Qian	
Dynamic Response of Bridges to Moving Trains: A Study on Effects of Concrete Creep and Temperature Deformation	1179
W.Q. Li, Y. Zhu and X.Z. Li	
Technology of Lowering Confined Water for Irregular Foundation Pit with Metro Foundation "Pit-in-pit"	1183
J.C. Zou, S.H. Zhou and Q.M. Gong	
Experimental Research of Effect on Carrying Capacity of Normal Section of CFRP-Strengthened Beams for CFRP Debonding	1192
Z.J. Liu and H.P. Meng	
Structural Comparison and Project Cost Analysis on Two Kinds of Frame Structures	1197
Z.M. Liu, X.H. Liu and J. Ji	
Analysis on the Causes of the Formation of Antoni Gaudi's Architectural Style	1201
L.L. Wang	
Exploring the Art of Masahiro Chatani's Architectural Origami	1205
N.N. Cai	
Experimental Study and Numerical Analysis of CFRP Reinforced Beam Bending Performance	1210
B. Qian, J.Z. Xia, X.H. Shi and X.D. Pan	
The Influence of Structural Damage on the Vibration Characteristics of Shear-Wall Buildings	1216
K. Huang, L.H. Zou and J.M. Chen	
The Seismic Performance Analysis of Brick Masonry Wall between Windows with Central Reinforced Concrete Constructional Columns	1221
J. Yang and W.F. Zhang	
The Protection and Utilization of Daowai Characteristic Building Facade in Harbin	1226
X. Yan	
Probability Density Evolution Method for Stochastic Earthquake Response and Reliability Analysis of Large-Scale Aqueduct Structures	1230
Z.J. Liu, X. Fang, Y. Wan and Y.F. Xing	
Calculation Method of Unlimited Passive Earth Pressure on Retaining Wall with Translation Mode	1234
Q.G. Yang, S.H. Luo and J. Liu	
Study on the Pressure Difference Control in Variable Flow Rate Central Heating Systems	1239
J.W. Qiang, J.X. Guo and Z.W. Sui	
Multidimensional Analysis on the Digital Architecture	1243
S.L. Lai	
Analysis of Bridge Health Monitoring System for Hongfenghu Bridge Based on Limited Sensors	1247
J. Fu, Y. Qin, X.H. Yu, Y. Chen and X.T. Shi	
Building Damage Analysis and Research on Reinforcement Measures in Wenchuan Earthquake	1253
M. Gao	
Engineering Planning and Management Control in High-Rise Building Construction	1257
M. Zhang	
Research Review on the Temporary Bracing System of Prefabricated Structure	1261
K.W. Ding and X. Yang	
Parametric Modeling of Six Typical Double Reticulated Dome	1265
X.Y. Lu, Q. Wang, X.W. Zhao, K. Li and C. Wang	
Seismic Analysis on Single-Storey Industrial Buildings with Roof of Saddle Plate in Different Span	1270
Y.W. Dai, J.G. Ding, C.X. Wang, G.P. Zhang and L. Chen	
Simulated Shaking Table Test Research of Isolated and Non-Isolated Frame Structure Model	1278
H.B. Tu, Y. Wang, Y. Tan, S.L. Xu and J. Teng	
Optimizing Research on the Clad Façade of a High-Rise Building Using CFD Method	1284
L. Yuan, L.L. Shao and X.S. Xu	

Literature Reviews and Summary of Concrete Bridge Seamless Broaden Technology F.Y. Li, Z.Y. Xie and X.S. Guo	1290
Studies on In-Plane Stability Behavior of Arches with Web Openings L.Y. Jiang, M.X. Liu and L.Q. Kang	1296
Empirical Study on Factors Influencing the Development of Construction Industry - Based on Anhui Construction S.D. Yang	1300
Study on Failure Mechanism of Rural Building in Flood and Protection Strategies Y.J. Liu, J.H. Zhou and X.T. Ma	1307
Simulation Analysis of a Beam-Slab Floor Structure and Comparison on Project Economy Z.M. Liu, X.H. Liu and J. Ji	1311
Seismic Response Analysis of High Pier and Long Span Rigid Framed Bridge under Non Uniform Excitation C.B. Yin and F. Yu	1315
Thermal Discomfort Evaluation in Hot Environment Y.P. Sun, N. Zhu, Z. Tian, N. Li and J. Liu	1320
Preserving the Sense of Place: A Case Study of Hawaii State Capitol Building S. Jin, K.S. Chen and K. Liu	1324
Analysis on Steel-Concrete Interface of Hybrid Self-Anchored Suspension Bridge J.T. You	1329
Prevent Fabricated Floor Slit Cracking Construction Technology Y. Liu	1334
Bridge Structure Random Reliability Analysis L.Y. Zhang, X.D. Guo and L.J. Dong	1338
Damage Identification for Beam Structure Based on Correlation Dimension M. Jiang, L. Zhou, Y.T. Li, H.Q. Zhou and J. Shao	1342
Seismic Rehabilitation of a Three-Storey R/C Flat-Slab Prototype Structure Using Different Techniques M. Valente	1346
Study on Stability Behavior of Cable-Stayed Ultra-High Strength Steel Column with Welded I-Section Z.X. Bai, M.F. Chen, X.M. Hou, K.R. Xu, Y.M. Liu, C.S. Dai and C. Xu	1352
Research on Carbon Fiber Strengthening Node of Reinforced Concrete Framework under the Action of Seismic Wave T. Liu and H.X. Wei	1357
Study on the Recycled Concrete Beam's Stiffness F. Yu, C.B. Yin and M. Jiang	1361
Experimental Research of Bending Capacity of Normal Section of Steel Fiber Reinforced Concrete Wall-Beams Simply Supported S. Qi, Y. Zhang, S.H. Liu and X. Song	1365
Research on Mixture Ratio of Recycled Concrete Aggregate in Concrete Y.S. Cheng, K.Q. Yu and S.X. Wang	1371
The Construction Technology and Control Points of Composite Bailey Beam and Fastener-Style Steel Pipe Group Support X.F. Cheng	1376
Rationalize the Usage of <i>Fabric Art</i> for Interior Design C.G. Wang, Y.M. Cui and T.T. Xu	1380
Experimental Study of the Tensile Bond Strength in Concrete Aggregate - Paste Interfacial Transition Zone C.W. Pei, Y. Yao, D.G. Chen, B. Jia, L.J. He and J.L. Zhang	1384
The Improved Mechanics Behavior of the FRP Deck Y.F. Li, T.H. Hsu and F.C. Hsieh	1389
Application Research of Prestressed High Strength Concrete Pipe Pile in Construction Z.P. Wu, X.D. Yang and L. Bao	1393
A Novel Method to Seal the Edge of the Vacuum Glazing X.L. Zhang, J.Y. Zhao, S.Y. Luo and W.C. Xu	1397
Fundamental Mechanical Performances of Rubber Concrete J.H. Xu, X.T. Feng, S.L. Chen and C.Y. Shi	1401

Analysis on the Seismic Behavior of Extended End-Plate Connections of Steel Frame Structure	1405
Z.L. Yan, B.L. Cui and K. Zhang	
Experimental Research on Resistance to Frost of Rubberized Concrete	1414
J.H. Xu, S.L. Chen, Y. Wang and M. Liu	
The Square Steel Tube Columns Filled with Steel-Reinforced Concrete Bias Supporting Capacity Unified Solution	1418
Z.J. Liu, J.H. Zhao, X.G. Yu, G.Q. Su and X. Zhao	
Monotonic Behaviors of Steel Frames with Sandwich Composite Panel Infills: Theoretical and Numerical	1424
M. Liu, Y.F. Sun, C.X. Qiu and H.T. Hou	
Research on the Mechanical Properties of Fire-Damaged Reinforced Concrete Columns Strengthened with CFRP	1429
D.L. Qiu, K. Yu, G.F. Wang and J.H. Li	
The Prediction Method of S-N Curve for Welded Steel Structure Using Critical Distance Theory	1436
D.Q. Guan and Y.H. Pan	
Applications of BIM in Erecting Steel Structure	1440
X.M. Liao, Z.Y. Fang, J.S. Yu, Y.G. Yang and S. Yang	
The Flange Effect of Brick Masonry Wall Subjected to Seismic Effect	1444
N.N. Yao, W.F. Zhang and J.W. Wei	
Experimental Study of Vegetation-Growing Concrete's Resistance to Rain Erosion	1449
Q. Yang, W.N. Xu, Y. Ding and Y.S. Yang	
Fatigue Experiments of Simulating Propagating Process of Reflective Cracking in Asphalt Concrete Overlays	1454
Y.M. Yin	
Nonlinear Finite Element Analysis of Stiffened T-Shaped Thin-Walled Concrete-Filled Steel Tube Composite Columns	1461
B.S. Li and A.H. Jin	
Test Research on Self-Tapping Screw Joints of Cold-Formed Steel Frame Shear Walls	1465
C.G. She, Y. Liu and Y.F. Xu	
Seismic Performance of Existing R/C Frames Strengthened by Steel Plate Shear Walls	1470
M. Valente	