

Table of Contents

Preface and Conference Organization

Chapter 1: Geological and Geotechnical Engineering

A Study of the Prediction of Load-Settlement Curves of Bored Piles with an Improved Grey Model C.H. Wang and M.N. Zhang	3
Analysis of Bearing Capacity for Quicklime Compaction Pile Composite Foundation Y.Q. He, B.C. Liu, B.P. Jiao and J.Z. Gan	10
Analysis on Response of Destructive Piles with and without Post-Grouting Craftwork J. Ma	14
Application of Georadar in Detecting Karst Cave underneath Independent Foundation X. Li, F.F. Li and A.N. Jiang	19
Back Analysis of Parameters and Settlement Prediction of Chengdu Clay Ground Considering Its Creep Behavior Y. Feng and J.F. Li	23
Construction of 3D Strata Model Based on the Multiple Source Data C.Y. Liu, S.M. Gu and Y. Liu	27
Coupling Calculation of Continuous and Discrete Method Y. Liu and D. Zhang	31
Evaluation on Engineering Geology Applicability for Urban Construction Land Based on GIS: Taking Zhengding New District of Shijiazhuang City for Example C.Y. Liu, J.Z. Sun and Y. Liu	35
Experimental Study on the Process of Geomorphic Evolution of Debris Flow on Slope H.M. Tang, G.J. Wen, L.F. Wang and H.K. Chen	39
Field Test Study on Frost-Heave of Subgrade in Seasonal Frozen Region along Haerbin-Dalian Passenger Dedicate Line J.F. Hou, Y.L. Wang and J. Feng	45
Flac3D Numerical Simulation Study on the Failure Developing Law of Interface for Geotechnical Prestressed Anchorage Bolt S.F. Zhang, J.X. Feng and R. Han	50
Influence Research on Pit Excavation Close to Existing Shield Tunnel L. Liu, P.F. Ge, G. Wei, Z.J. Ying, C.F. Luo and X.T. Fei	54
Landslide Machanism in Xinghai Zhong Long Yuan and Its Reinforcement Technology J.K. Li, H.Z. Sun and X. Li	60
Measurement and the Distribution Law of <i>In Situ</i> Stresses at Deep Depth of Hongyang Coal Mine H.M. Xia, J. Wang, Y. Liu, J.W. Pang, D.Q. Liu and X.L. Ren	65
Monitoring and Numerical Simulation of the Supporting of the Inverted Side Wall Shaft A.J. Yao, C. Mei and H.F. Chen	69
Numerical Simulation of Static Liquefaction in Tailings Pond Y. Liu, X.T. Zhao and H.X. Yan	76
Orthogonal Analysis on Factors Influencing Slope Stability of Coal Gangue Dump C.X. Jiang, X. Han and J.H. Wang	80
Relative Impermeability of the Ordovician Top and Risk Assessment of Water Inrush from Coal Floor in Baode Coalfield W.J. Zhang, S.C. Li, J.C. Wei, Q.S. Zhang, R.T. Liu, Z.P. Li and Z.Z. Sun	85
Reliability Analysis of the Vertical Bearing Capacity of Prestressed Pipe Pile Foundations C.Y. Liu, M.X. Zhao and Y. Liu	90
Research for Dynamic Modulus and Ing Ratio of Fly Ash Modified Loess J. Wang, Q. Wang, X.M. Zhong, N. Wang, P. Wang and S.F. Chai	94
Research on Application of Deep Foundation Pit Decompression Dewatering Technology and Impact on Surrounding Environment D.D. Zhang, J.W. Ding and R.B. Wang	101

Research on Prediction Model of Support Vector Machine Based Land Subsidence Caused by Foundation Pit Dewatering Z.G. Li, H.H. Zhou and Y.H. Xu	105
Research on Stability of Slope by Influence of a Rapid Drawdown of Water Table Z.G. Li, L.L. Chai, C.B. Li and Y.H. Xu	109
Simulation Analysis on Deep Foundation Pit Construction Near the History Style Construction C.Y. Liu, W.W. Cao and Y. Liu	113
Simulation of Coal Mechanical Characteristics with Discrete Element Method S.Y. Liu, H.X. Jiang and K.D. Gao	117
Soil Layer Settlement Experimental Study of Dynamic Compaction in Aeolian Sand Foundation J.H. Zhang, Z. Feng and P.X. Yang	122
Soil Nailing Optimization Design Based on Improved Response Surface Q. Wang, Z.G. Song and Q. Xu	126
Study on Non-Linear Numerical Method of Composite Foundation with Rigid-Flexible Piles S.C. Yang and J.H. Zhang	133
Study on Slope Stability & Stress-Deformation of Foundation Pit Based on FEA F. Guo, J.J. Tang, W. Gu and F. Yuan	137
Study on the Methods of Layer Adjustment in Gas Dynamic Reserve Measurement Y. Zhang, B.H. Liu, Q.M. Gan, H.X. Shi and J.F. Liu	142
Test Research on the Long-Term Consolidation Mechanism of Ultra-Soft Clay A.M. Liu, S.W. Yan and J.S. Li	146
The Degradation of Saturated Clay's Un-Drained Shearing Deformation Modulus under Cyclic Loading W. Hu, J.J. Xu and Y. Zhang	151
The Relationship between High Fluorine Groundwater and Geological Environment in Gaomi Z.J. Gao, X. Zhu, Y. Tian, Y.M. Ma and J.J. Li	156
Underlying Surface Influenced on the Landslide Runout X.Y. Fan, Y.X. Zeng and X.D. Duan	161
A Neural Network Approach for Estimating Model Parameters of Rockfill Materials J.Z. Wang and Y.F. Su	167
A Study on the Effect of Initial Shear Stress on Dynamic Properties of Saturated Clay J.F. Qi, Y. Yuan and Z. Wang	171
Application of GA-BP to Back Analysis of Rock's Parameters G.F. Wang, W. Zhao, Y.P. Guan and S.G. Li	175
Application Study on the Stability of Xiufengsi Landslide by Using Limit Equilibrium Method and Finite Element Method Q. Wang, L.H. Yao and N. Zhang	180
Back-Analysis for Design Parameters of Large Diameter Bored Piles W. Raongjant and M. Jing	186
Construction Technique of Dynamic Consolidation on Saturated Silt Y.L. Niu, Y.X. Cao and Y. Liu	190
Disturbance Effects by Excavation of Neighboring Roadways in Deep Coal Mine L.G. Xiao and K. Shi	195
Dynamic Response Analysis of Compaction Loess Subgrade G.X. Zhang, Z.X. Yuan, N. Wang, Z.Z. Zhang and P. Gao	202
Effect Analysis on Foundation Pit Excavation Adjacent to Existing Railway Y. Yang and J. Zhou	209
Environmental Vibration Analysis Induced by Subway Trains Running in Overlapping Shield Tunnels Y.W. Liu and X.F. Ren	214
Influence of Slope Thickness and Soil Porosity on the Failure Mechanism of Reduced-Scale Slope Models P. Wang, L. Hou and S.M. Asce	218
Numerical Analysis on the Bearing Capacity of Single Pile in Deep Excavation Area J.J. Wu, J.J. Chen, S.J. Liu and J.H. Wang	226

Numerical Simulation on Supporting of Deep Surrounding Rock with Zonal Disintegration Tendency	
Y.J. Zuo, D.K. Zhu and W.C. Zhu	230
Parameter Optimization Design of Soil Nail Supporting to Deep Foundation Pits	
W. Xu and J.S. Feng	235
Reliability Analysis of Foundation Pit Based on Response Surface of Support Vector Machine	
C.N. Sun, J. Cao, H.M. Liu and H.M. Zhao	240
Research on 2D Limit Equilibrium Method of Slopes Considering the Effect of Horizontal <i>In Situ</i> Stress	
W.H. Tan, Y.L. Li and C.C. Li	245
Research on Calculation Theory of Double-Row Piles Retaining Structure	
J. Cao, K.Y. Jiang, Y. Gui and H.M. Liu	251
Research on Nonlinear Viscoelastic Creep Characteristic of Frozen Soft Rock of Cretaceous Formation	
J. Zhu	257
Research on Suitable Anti-Sliding Piles Spacing Considering of Soil Arch Effect in Colluvial Landslide	
L.N. Sun, J. Li and L. Wang	262
Research on the Failure Mechanism of Bedding High Rock Slope at an Open-Pit Mine	
F. Zhang, J. Cao and H.M. Liu	266
Research on the Softening and Disintegration Mechanism of Carbonaceous Shale	
X.X. Liu, Z.J. Wu, G. Wang, Z.H. Yang and S.X. Tang	274
Research Status and Prospect of Rock Mass Acoustic Emission Instrument	
Q. Zhang and L. Wang	280
Sensitivity Analysis of Influence Factors at Open-Pit Coal Mine High Slope Based on Uniform Experimental	
F. Zhang, J. Cao and H.M. Zhao	284
Sensitivity Analysis on Influencing Factors of Double-Row Piles for Excavation	
K.Y. Jiang, J. Cao, H.M. Liu and H.M. Zhao	290
Study on Deformation of Steel Cylinder during Artificial Island Construction	
X.Q. Kou, A.M. Liu and J.F. Hou	296
Study on Law of Structural Evolution and Sedimentary Evolution for North Uskyurt Basin	
C. Liu, H.T. Xue, S. Wang and Y.J. Sun	302
The Analysis for the Dynamic Strength and Vibration Liquefaction of Saturated Sand under Cyclic Loading	
L.K. Xu and W.L. Liu	306
The Block Spring Model for Slope Stability Analysis (BSM)	
J. Ma, W.S. Chen and Z. Li	311
The Influence Factors Analysis on Heavy Cone Dynamic Penetration Test Method to Geotechnical Exploration in Gravel Soils	
M. Shan, B. Yang, P. Wu and S.H. Mo	315
The Slope Deformation Forecast Model Based on Kalman Filter and Wavelet Neural Network	
B.J. Shi, Y.F. Ruan, Q. Li and Y.H. Wu	323
Volcanic Oil and Gas Reservoir Characteristics and Comprehensive Evaluation in Oulituozi Area	
J.J. Zhang, C.Z. Liu, Y.L. Yang and S.H. Yu	328
Study on Sample Preparation Method of DEM	
Y. Liu, X.D. Zhu and C.Y. Wan	333
Practice of Slip Surface Depth of Highway Slope Determined by Synthetic Survey Method	
C.L. Zhang, C. Wang and L. Liu	337
Study of Artificial Structural Loess under the True Triaxial Tests	
C.L. Chen, F. Juan, A.Z. Luo and S.J. Shao	343
Finite Element Analysis with Joint Element for Model Pile under Vertical Loading	
Y. Wu and H. Yamamoto	349
Deformational Influence of Foundation Pit on Foundations of Style Constructions	
C.Y. Liu, M. Li and Y. Liu	353

Study on Effects of Ground Deformation Based on Foundation Pit Excavation H.M. Liu, J. Cao and W.F. Zhang	357
Deep Horizontal Displacement Measurement Technology in the Application of Foundation Pit Excavation J.K. Li and L. Li	363
Determining Method for Effective Length of Soft Ground in Tianjin Binhai H.T. Shao, X.R. Yang and Y.H. Wang	368
Experimental Study on Evaluating High-Pile Wharfs for Real Ship Berthing Impact Y.F. Xie and W.Q. Tang	372
Experimental Determination of Coefficient of Soil Hydrodynamic Dispersion A.J. Shao, J.H. Chen and Y. Huang	380
Safety Analysis of Arch Dam with Strength Reverse Method X.L. Zhao, Y. Xia, D.W. Wang and Z.Q. Zhang	384
Numerical Study for Water Waves Generated by Debris Flow R.J. Zhang, H.Y. Sun, H.Z. Zhang and H. Tokuzo	388
Signal Feature Analysis of Excited Stress Waves in Bolts Embed in Different Anchor Medium B. Sun, X.T. Zheng and S. Zeng	393

Chapter 2: Structural Engineering

Estimation Theory on Cross-Sectional Area of Cables in Mega Steel Frame and Cable Bracing Structure S. Gu, B.J. Tang and F. Wang	399
Estimation Theory on Initial Prestress of Cables in Mega Steel Frame and Cable Bracing Structure B.J. Tang, F. Wang and S. Gu	404
Experiment Research on Square Columns Reinforced by High Strength Wire Mesh Mortar C.M. Dong and K.D. Guo	409
Experimental Analysis of Wall Consist of Straw Concrete Composite Board under the Action of Vertical Load Y.J. Jin, K. Qian and M. Wang	413
Experimental and Numerical Studies on the Joint of Special-Shaped Concrete-Filled Rectangular Composite Tubular Column with H-Shaped Beam J.X. Liu, S.B. Dai, Y. Peng and J. Huang	417
Experimental Investigation into the Effect of Spring-Settlement Support on Bearing Capacity of the Shallow-Buried Structure W.F. Zhang, Z.K. Guo, W.J. Ren, Y.H. Wang, L.F. Cao and Y.C. Li	424
Deflection Calculation on Reinforced Concrete Beams Strengthened by Externally Prestressing Transverse Tensioning Method J.J. Liu and T.W. Wang	430
Design and Construction of the Cofferdam Pile with GFRP Reinforced Concrete M.L. Ma, G.L. Wang, D.M. Miao and B.Y. Lian	437
Dynamic Effects on a Pre-Stressed Multi-Story Plane Steel Frame Caused by Sudden Failure of a Cable F. Wang and B.J. Tang	441
Effects of Web Height-Thickness Ratio on Longitudinal Residual Stresses of the Welded Monosymmetric I-Section Z.N. Zhang, Y.N. Zhao and L. Jin	446
Equivalent Static Wind Loads on Low Rise Buildings F.H. Li, M. Gu and S.Z. Shen	450
Experimental Research on Steel Bar Reinforced High-Strength Concrete Columns X.D. Fang, G.X. Chen, H. Wei and Z.Q. Yao	454
Experiments on Cold-Formed Steel Lipped Channel Beams with Complex Edge Stiffeners and Web Holes C.G. Wang, R.J. Liang, L.G. Jia and H. Liu	461
Fatigue Behavior of Elastic Concrete-Steel Composite Beams Y.H. Wang and Q.H. Han	465

Finite Element Analysis of Shear Strength of Reinforced Concrete Beams after Fire K. Xiang, G.H. Wang and B. Zhao	474
Fire Protection of Steel Space Truss Structures K. Xiang, G.H. Wang and B. Zhao	479
FRP Reinforced Short Wood Columns under Axial Compressive Load Y.M. Zhu, T. Long, M. Hou and Q.Y. Wang	484
Genetic Analysis and Treatment of Cracks in the Residential Construction H. Liu and X.M. Du	488
Influence of Span-Depth Ratio to the Ductile Property in Prestressed Concrete Hollow Slab H. Dong, X.Q. Cui and S.G. Lv	492
Light Steel Structure Residence Social Benefit Analysis M.Y. Wang, Y.P. Chu, Y. Yao and Y.P. Zhu	496
Modal Analysis for Space Grid Structure under Different Supporting Conditions Y. Lv and L. Wang	500
Nonlinear Solution Formulation for Complex Space Truss C.J. Fu	505
Numerical Analysis of Bearing Capacity to Q690 Tubular Joints Enhanced by Inner Sleeve L.Y. Li, L. Wan, Y.L. Peng and T. Zhang	509
Numerical Analysis of Bearing Capacity to Q690 Tubular Joints Enhanced by Tile Shaped Plate X.M. Han, Y.L. Peng, H.B. Li and T. Zhang	514
Numerical Simulation on the Dynamic Response of Buried Pipelines Subjected to Blast Loads G.F. Xu, Z.D. Deng, F.F. Deng and G.B. Liu	519
Orthogonal Analysis on T-Shaped Concrete-Filled Steel Tubular Column Seismic Performance Based on the Finite Element Analysis Results B. Cao, S.B. Dai and J. Huang	523
Parameter Sensitivity and Reliability Analysis for Construction Control of Cable-Net Structure Supporting the Reflector of FAST X. Kong, Q.M. Wang, C.J. Liu and Z.Y. Zhu	529
Research on Behavior of RCS Composite Joints Z.F. Guo, J.J. Men, Q.X. Shi and J.B. Tian	534
Research on Influence Factors of the Ultimate Bearing Capacity of the Soil of Push-Extend Multi-under-Reamed Pile under Compression Y.M. Qian, Y. Yi and R.Z. Wang	538
Research on Load Distribution Effect of Load Distributed Structure in the Complex Rotational and Translational Engineering E.J. Wu, Z.N. Cao, F.F. Zhang and W. Wang	542
Research on the Connection Modes and Numerical Simulation Methods of RC Frame and Infill Wall H. Jin	549
SAP2000 Analysis of a Particular Beam String Structure J.Q. Li, C.H. Zhao and Y.Q. Chen	555
Situation and Prospect of H-beam with Corrugated Web X. Liu, J.M. Yan and R.W. Hu	559
Snow Distribution on Low-Rise Roofs and Practical Analysis Method F.H. Li, M. Fan, M. Gu and S.Z. Shen	565
Stationary Problems of Moisture-Elasticity for Inhomogeneous Thick-Walled Shells V.I. Andreev and A.S. Avershyev	571
Structural Optimization Design of a Tall Residential Building with Rectangle Layout in High Seismic Intensity Q. Zhou and J.J. Men	576
The Empirical Analysis on the Reinforcement Application of the Energy Dissipation to the Framework Structure Y.J. Sun and X.D. Yang	580
The Method of Sandwich Plate about Thin-Wall Cast-in-Site Reinforced Concrete Hollow Floor Y.B. Chen, D.L. Gong and J.M. Chen	586

The Nonlinear Finite Element Analysis to Bonded Post-Tensioned Prestressed Concrete Frame Based on Two-Stage Loading Model	
M.Z. Chen, L.Q. Huang, X.Y. Chen and L.P. Wang	591
The Performance Analysis of Calcium Silicate Composited Wall's Impact Resistance	
M.M. Chen, Z. Tao, H.M. Zhang and W.Z. Yu	596
The Research about the Method of Establishing the Model of Limited Unit about the Push-Extend Multi-under-Reamed Pile	
Y.M. Qian, N. Mu and R.Z. Wang	602
A Steel Headframe Structure before and after the Comparison and Analysis of the Performance of Process Modification	
J.P. Sun and J.F. Jiao	606
Analysis and Test for the Space Different Thickness Film Structure in Still Air	
Y.F. Chen, W.J. Chen and Y.L. He	611
Analysis of Cracking Moment and Immediate Deflection in FRP Rebars Reinforced Concrete Beams	
S.F. Liu, M.Y. Hou, X. Liu and R.H. Wang	618
Analysis on Reinforcement and Design of a Historic Building Retrofitting Project	
M. Liu, X.H. Fan and L. Liu	622
Axial Compressive Behavior of High- and Ultra High-Strength Concrete-Filled AFRP Tubes	
T. Vincent and T. Ozbakkloglu	626
Calculation Methods for Flexural Capacity of Normal Section of Concrete Beams Strengthened with Prestressed CFRP Plates	
J. Zhang, L.N. Deng and L. Liao	632
Capacity Calculation on Reinforced Concrete Beams Strengthened by Externally Prestressed Transverse Tensioning Method	
Y.Z. Tong and T.W. Wang	636
Comparative Analysis of Traditional Braced Wall System and Retaining Wall System with Pre-Stressed Wale and Square Pipe Struts	
G.H. Kim, K.T. Kwon, H.G. Cho and Y.S. Shin	642
Compressive Testing of H-Shaped Steel Stub Columns Fabricated with Grade 800MPa High Performance Steel	
K.M. Lee, M.J. Lee, Y.S. Oh, T.S. Kim and D.H. Kim	646
Damage Inspection and Assessment on a Transmission Angle Tower in Coastal Areas	
P.Y. Li, B. Chen and Y.Z. Sun	650
Elastic Results' Comparison between Computing and Test of a Scaled Model of a Complex Supertall Building	
Y. Chen	655
Experimental Study on Improving Seismic Performance of Load-Bearing Masonry Walls Made of Autoclaved Aerated Concrete	
J.H. Yu, J.F. Cao and T.H. Fei	661
Experimental Study on Local Compression of Concrete-filled Glass Fiber Reinforced Gypsum Wall Panel	
K.Z. Zhao, J.F. Li and F. Wang	668
Experimental Study on the Corrosion Rate of Rebars in Chloride-Contaminated Concrete with Adding or Painting Inhibitors	
L. Yu, Z.Y. Liu and H.X. Sun	674
Finite Element Analysis of Corrugated Mild Steel Damper	
W.L. Shi, J.M. Yan and X. Liu	678
Finite Element Analysis of Historical Construction with Differential Settlement	
C.Y. Liu, X. Han and Y. Liu	684
Finite-Element Study of Geometrical Parameters of Corrugated Web Girders	
X.L. Hu, Q.Y. Wang and L.F. Tan	688
Influence of Reinforcement Ratio to the Ductile Property in Prestressed Concrete Hollow Slab	
D. Han, X.Q. Cui, R. Wu and S.G. Lv	693
Introduction of Regional Confined Concrete	
X.M. Cao, X.W. Huang, Z.G. Mo and H.Y. Tian	697

Introduction of the Application of Strut-and-Tie Model in Concrete Deep Beams H.J. Gong and M. Su	704
Local Buckling Behaviors of Built-Up Box Columns Fabricated with High-Performance Steel under Concentric Axial Loading J.H. Yoo, K.M. Lee, J.W. Kim, J.K. Yang and J.W. Kang	709
Mechanism and Theoretical Calculations of Buttress Anti-Slide Pile X.X. Wu, Y.F. Lu and X.D. Fu	713
Nonlinear Analysis on Static Behaviors of New All-Bolted Beam-to-Column Connections for Concrete-Filled Square Steel Tube X. Zhao, M. Wu, D.D. Kong and N. Wu	718
Numerical Simulation Analysis of Auxiliary-Rod Force for Tower M. Li, X.J. Jin and Y.H. Li	722
Numerical Simulation of One-Way Reinforced Concrete Slabs Subjected to Blast Loadings T.H. Li, J.H. Zhao and X.M. Dong	726
Performance of Different Corrosion Ratio RC Beams under Fatigue Load A.P. Yu, H.B. Lu and Y.L. Zhao	731
Primary Analysis of Concrete-Filled Steel Tubular Slender Columns with Elliptical Section under Axial Compression Z.G. Jiang, X. Zhao, Q.X. Ren, J.G. Wu and C. Tan	736
Probabilistic Model of Corrosion in Reinforced Concrete Structures Considering Coupling Effects of Influence Factors X.G. Zhang and J. Wang	740
Reinforcement and Repair Pressure Pipeline With CFRP Z.W. Zhang, L. He, X.Q. Chen and B. Jia	746
Reinforcement and Replacement Technology on Members and Roof Purlin of a Space Grid Structure after Snowstorm Disaster M. Liu, L. Li, X.H. Fan, X.M. Zai and Y.Q. Wang	750
Reliability and Resistance Statistical Analysis for the Structural Members of Cold- Formed Thin-Walled Structures X.F. Huang and X.Y. Shao	754
Research on the Attenuation Law of Stress Wave Propagation in Concrete Media W. Sun, S. Yan and S.F. Jiang	758
Simple Assistant Frame Fabrication for Duct Assembly J. Wei, T. Jian and Z. Chong	768
Soft Rock Roadway Mesh Shell Lining Experimental Study of the Mechanical Properties H.X. Li, Y.W. Wang and B.X. Tang	774
Strengthening and Retrofitting of the Industries Building After Fires M. Liu, X.H. Fan, Y.Z. Zuo and B.F. Song	778
Strengthening Research in the Longitudinal Frames of Prefabricated Structures with Viscous Dampers B. He, J.L. Pang and C.Q. Liu	782
Stress Analysis of Steel Pipelines Strengthened by CFRP Sheet M.Y. Hou, B. Jia, S.F. Liu and X.Q. Chen	786
Structural Flexural Bending Assessment of Prestressed Concrete Joist with Corrosion J. Vercher, E. Gil, Á. Mas and C. Lerma	790
Study on Deflection of Reinforced Concrete Beam Strengthening with CFRP Cloth L.J. Meng, J. Zhao and Y.J. Zhang	794
Study the Impact of Differential Settlement on Frame Structure through Back-Analysis Method N. Jiang and L.M. Huang	799
The Case Analysis of Adding-Storey and Strengthening Design of Certain Single-Span Steel Structure of High-Rise Building H.L. Sun and J.F. Jiao	804
The Finite Element Analysis of Overall Stability of High-Frequency Welded H-Section Steel Beam W. Liu, J.P. Wang, Y.S. Li and J.M. Shen	810
The Finite Element Analysis on Shear-Lag Effect of the Steel Box-Girder Y.S. Li, J.P. Wang, W. Liu and J.M. Shen	815

Chapter 2: Structural Engineering

The Inner Force Analysis of a Long Span Pre-Stressed Multi-Story Building Based on Special Construction Process Requirement C.Y. Chen and Q.F. Zhou	823
The Mathematical Model of the Reinforcement Layout of the Making of Hyperbolic Paraboloid Thin Shell Roofs L.J. Fan and Y. Yang	828
The Study on Static Force Behavior of Concrete Filled Steel Tube Lattice Wind Generator Tower Joints Y. Wen and F. Zhou	833
Yield Surface Applied to Dynamic Elastoplastic Analysis of Frame Structures with Flexibility Method Y.S. Chen, B. Wu and T.L. Pan	838
Internal Force Calculation of Continuous Beam Considering Torsional Supports S.Z. Liu	843
Nonlinear Numerical Analysis of Transfer Beam Under Complex Situation J. Chen, S.Y. Jiang, Z. Jiang, X.R. Zeng, L. Zhang and W. Luo	847
Numerical Analysis on Bending Strength and Ductility of Compact Section I-Girders with HSB800 Steels B.H. Choi and Y.M. Park	851
Finite Element Analysis on the Resistance Capability of a New Precast Concrete Tube Column H.Y. Ding, J.H. Nie, P.Y. Zhang and C. He	855
Research on the Dynamic Behaviors of Semi-Rigid CFST Frame-Shear Wall X.L. Sun	859
Study on the Dynamic Behavior of Semi-Rigid Frames X.L. Sun	864
Optimization of Steel Liner on Spiral Case Structure for a Large Hydropower Station H.L. Wu, S.H. Qin and X.F. Du	868
Research on Simulation Technique for Fixed Guide Vanes in Axial Symmetric Models of Spiral Case H.Z. Zhang, X.J. Li, Z.Y. Ma and K.S. Xiang	873
Elastic Modulus Reduction Method Based Limit Analysis of Steel Lined Reinforced Concrete Penstocks Containing Flaws S.L. Liu, C.X. Fu and W. Zhang	879
Influence of Suspension Length on the Mechanical Response of Submarine Flexible Pipe under Internal Pressure and Transverse Load F. Gu, H.X. Wang, D. Wang and J.Q. Sun	884
The Research of the Slewing Bearing Force Balance of the Super Large Lifting Equipment J.T. Guo and S.F. Li	888
A Study on the Effects of Wake Vortex to the Aero-Elastic Parameters of Downstream Square Prism J.H. Chen	893
Dynamic Characteristics of a Wood Frame Structure: (I) the Effect of Temperature and Relative Humidity D.S. Yao, H.L. Xing and S.T. Xue	897
The Experimental Research on the Reinforced Concrete Beam Performance of Crack Repair F. Zhang, J.F. Hao, G.D. Liu and J.F. Gao	902
Numerical Investigation on Bending Failure of Concrete Beam Strengthened by Bonded Steel Plate B. Xu, D.G. Wang and Z.X. Wang	906
A Study on Relations Between Section Shape Factor and Temperature History of Steel of Composite Beam Subjected to Standard Fire under Same Thickness Condition of Spray-Type Fire Resistant Materials I.H. Yeo, K.S. Cho, B.Y. Cho, J.H. An and H.J. Kim	912

Dynamic Characteristics of a Wood Frame Structure: (II) the Effect of Artificial Damage H.L. Xing, D.S. Yao and S.T. Xue	921
Nonlinear Inelastic Buckling Behavior and Residual Strength of H-Section Steel Column D. Yesheawork Abebe and J.H. Choi	927
The Study on Bearing Capacity of Concrete-Filled Double Skin Steel Tubular Columns of Octagon Section under Axial Compression Q.Y. Ge, C.M. Li and F.L. Yang	936
Current Situation of Research on CFST and SRC B.D. Zhao and P.C. Chen	940

Chapter 3: Bridge Engineering

3D Temperature Field Prediction and Experiment Verification of Concrete Diaphragm of Box-Girder Bridge in Early Hardening Period Y.S. Zhou and J.H. Liu	947
Behaviour Analysis of Prestressed Concrete Deck-Tied Arch Bridge Y.Q. Xiang, L.C. Zhang and Q.Q. Wu	952
Comparison of Temperature Gradient Effect on Curved Concrete Box Girder Based on Different Codes M. Zhao, J. Di, W.R. Lu, J. Dai, F.J. Qin and L. Ning	957
Design of an Extra-Long Railway Overpass Bridges Construction Supporting Frame with Combat Readiness Equipments H.C. Li, C.W. Chang and X.R. Yang	962
Evaluation of Stress Intensity Factor Range in the Prediction of Fatigue Crack Growth at Rib-to-Deck Welded Joints of Orthotropic Steel Decks G.Y. Shi, X.X. Li and G.N. Zhang	969
Finite Element Analysis on Incremental Launching Construction for Steel Box Girder J. Dai, J. Di, F.J. Qin, M. Zhao and W.R. Lu	974
Forward-Calculating Optimization Method for Determining the Rational Construction State of Cable-Stayed Bridges S.J. Sun, J. Gao and P.M. Huang	980
Influence of Shear Lag and Shear Deformation Effects on Deflection of Composite Box Girder with Corrugated Steel Webs P. Qiao	985
Large Span Continuous Girder Bridge Jacking Steel Hoop Stress Analysis Z. Chen, Q.S. Yan, B.Y. Jia and X.L. Yu	991
Research on Loading Model of Bracket in Multiple Mass Concrete Placement D.R. Zeng and Y. Ren	996
Research on Static and Dynamic Performance of Large-Span Steel Trestle H. Wang and M.H. Cheng	1002
Study on Rational Position of Joint Section of Steel-Concrete Hybrid Girder Bridge F.J. Qin, J. Di, J. Dai, W.R. Lu and M. Zhao	1007
Analysis of Effective Pre-Stress of Continuous Rigid Frame Bridge in Service Based on Inversion Theory Z.N. Zhang and K.X. Li	1012
Damage Detection of Continuous Box Girder Based on Modal Flexibility Curvature Method X.F. Xu, F. Zhang and W.X. Zhu	1016
Dynamic Test and Analysis of Double Curved Arch Bridge Based on Ambient Excitation L.X. Wang and S.K. Di	1021
Evaluation of Compressive Strengths of HPS Plate Systems Stiffened with Trapezoidal Stiffeners D.K. Shin and K. Kim	1025
Field Testing on Natural Frequencies of a Cable-Stayed Footbridge Based on Ambient Excitation H. Liu, Y.T. Huang, J. Hu, X. Wang and W. Fan	1029
Full-Scale Fatigue Test of Trough-to-Deck Plate Joints in Steel Orthotropic Deck X.W. Wang, L. Tang, C.S. Wang and G. Liu	1035

Influence of Concrete Shrinkage and Creep on Composite Beam of Cable-Stayed Bridge X.H. Hu, N. Zhong and S.H. Jing	1040
Space Analysis of Long-Span Continuous Rigid Frame Bridges X.W. Hao and Y.X. Yang	1045
Study on Finite Element Modeling of Girder Bridges X.H. Xia	1051
Temperature Effect Analysis of the Twin Towers Concrete Cable-Stayed Bridge for Construction Control G.Z. Wang and Y.M. Li	1055
The Damage Analysis of Usu Bridge under Static Load W.G. Sun, J.H. Gao and L. Zhang	1064
Numerical Simulation of Integral Mechanical Behavior for Dual-Wall Steel Cofferdam during Construction Process W.R. Lu, J. Di, M. Zhao, F.J. Qin and J. Dai	1069
Effect of Different Compaction Methods on Bridge Pavement J.R. Hou and L.J. Zhao	1073

Chapter 4: Tunnel, Subway and Underground Facilities

Analysis of Surface Subsidence Rule of the Shallow Subway Tunnel Construction F.F. Wang, H.R. Bai and J.J. Li	1081
Analytical and Numerical Anti-Floating Study Concerning the Shield Tunnel across the River S.Q. Zhang, W.J. Yuan, H.H. Zhang, L. Huang and Y.F. Zhong	1087
Effect of Shield Tunneling on Existent Piles in Soft Soil Area Y.H. Cao and A.J. Zhuge	1093
Elastoplastic Analysis on Circular Tunnels Surrounding Rock under Asymmetry Load Y. Zhou, A.Z. Lu and L. Kuang	1098
Monitoring Study on Drift Deformation by Shield Tunnel H.X. Sun and W. Zhao	1102
An Effect Analysis of Color Design in Guangzhou Subway System: From the Color Universal Design Perspective J.W. Lin and J. Tang	1106
On the Principle of “One Line, One Colour”, the Design of “One Station, One Scene” of Stockholm Subway Z.H. Hu, J. Tang and H. Tang	1110
Study on the Geological Forecast and Treatment for Water-Bearing Fault of the Qingdao Kiaochow Bay Subsea Tunnel Z.P. Li, S.C. Li, Q.S. Zhang, D.M. Wang, B. Hui, W.J. Zhang and Y.H. Liang	1114
Design of Enclosure for Subway Station Foundation Pit in Southward Extension Line of Chengdu Metro Line One X.J. Zhou, J.H. Wang and H.Y. Hu	1122
Experimental Study on Fiber Concrete Lining in Tunnel with Seismic Dynamic Response J.M. Zhou, G.W. Meng, Y.Y. Hu and C.Z. Xu	1126
Simulation on THM Coupling Process of Deep Rock Roadway with Aquifer in Coalmine J.G. Yang, L.C. Chen, H.L. Liao and F. Yang	1131
The Study on the Control of the Early-Stage Crack of the Concrete Poured in Winter in Shenyang Subway L. Han, W. Zhao and Y. Zhao	1135
Research on Arching Mechanism of the Lane Arching under Pre-Stress Bolt Supporting Y.C. Zhao, J.Y. Zhang and Z.Q. Xiang	1140
Reasons and Control Countermeasures of Special Soft Coal Roadway Deformation in Liangbei Coal Mine L.T. Cheng, J.L. Zhang, Z.S. Zou and Q.B. Li	1144
Study on Strata Behaviors of the Coal Face with Sublevel Caving in Hugely-Thick Coal Seam in Qianqiu Coal Mine X.X. Zhai, Y.W. Zhai and S.W. Zhang	1150

Research on Shenyang Metro Line I Engineering underground Structural Waterproofing Technology	
Z.G. Zhu, C.Y. Yao, Y. Zhao, Z.Y. Tang and Y. Zhao	1156
Research Situation of Large Deformation Mechanism and Prevention-Control Measures of Surrounding Rock in Tunnel	
L.Q. Tang, Y.J. Zang and K. Tang	1160

Chapter 5: Road and Railway Engineering

Analysis of Coarse Saline Soil Salt Expansion Characteristics with Different Freeze-Thaw Cycle	
Q.M. Zhang, J.T. Tang and X.H. Yang	1169
Dynamic Properties of High-Speed Turnouts under Foundation Settlement	
X.P. Cai, J.S. Qiu and H.Q. Liu	1174
Joint Issue Discussion on Cement Concrete Pavement	
D.Y. Wang and W.S. Fei	1179
Study on New Treatment Technology of Subgrade Longitudinal Crack in Qinghai-Tibet Highway	
M. Li, X.L. Zhi, L. Tian and S.B. Ren	1183
Study on Shear Performance and Construction Technology of the Stress Absorbing Layer in Underground Road Composite Pavement	
C.L. Zhang, N.L. Li, Q.Y. Xiao, C. Du and T. Song	1189
A Research on Methods to Improve the Subgrade Stability in Permafrost Regions	
J. Deng, J.C. Chen and Z.L. Zhang	1193
Experimental Study on Stiffness and Strength of Ballastless Track Slabs	
Y.Y. Shi, P. Pan and Y. Ouyang	1197
Fracture Performance of Asphalt Mixture with Styrene Butadiene Styrene Based on the J-Integral	
P. Li, J.J. Pei, Y. Yao and G.W. Sun	1202
Investigations and Cause Analysis of Early Diseases in SMA Pavement	
Y.W. Cheng	1208
Method of TER Location for High-Grade Highway Based on Fuzzy Rough Set	
C. Li and Y.L. Wang	1212
Mountain Road Multi-Level Retaining Wall Horizontal Earth Pressure Law	
Y.W. Wang, H.X. Li and Y.Q. Guo	1217
Numerical Simulation Study on Self-Settlement Process of High Embankment	
Y. Zhang and Y. Wang	1221
Optimization Design and Research on Gradation of ATB-25	
X. Huang, L. Yuan, R.M. Wei and X.Q. Li	1225
Research on Solidified Mechanism of Compound Consolidated Soil	
J.C. Xu and Q.Z. Liu	1231
Study on Anti-Cracking of Mortar and Concrete Pavement in Dry Areas of North China	
W.Z. Cao, H.Z. Wang and Y.H. Yang	1235
Study on Calculation Method of Reinforced Embankment Bearing Capacity Based on Landslide Equilibrium Method	
W.X. Liu	1240
Study on Roadbed Soil Dynamic Resilient Modulus Test	
A.H. Xu and J.H. Fang	1245
Study on the False Joint's Layout Mode of Unit Double-Block Ballastless Track Bearing Layer	
Y.X. Wei and J. Chen	1254
Study on the Prediction Method of Track Maintenance Cycle Based on Track Quality State	
Z.L. Zhang, X.P. Cai and J. Deng	1259
Test Analysis of Vibration Characteristics on CRTS II Slab Ballastless Track Subgrade of the Beijing-Tianjin Intercity High-Speed Railway	
H. Chen, K. Lin, S.B. Fan and J. Chen	1263

Three-Dimensional Finite Element Analysis of Dynamic Response of the Stress in Pavement Structure under Overload	
B.S. Wang, J.Q. Liu and P.F. Pang	1267
The Application of Gray Theory on Predicting the Settlement of High Embankment	
J. Jin, Y.M. Dou and Q.N. Li	1272
Experimental Study of High Temperature Properties and Rheological Behavior of Iranian Rock Asphalt	
W.T. Huang and G.Y. Xu	1277
Study on Survey of Bituminous Pavement Rut Distress and Patching Material Performance	
J.W. Li	1282
Effect of Aging on Urban Asphalt Pavement	
N.L. Li, X.P. Zhao, C. Du, C.L. Zhang and Q.Y. Xiao	1287
Test and Analysis of Basalt Fiber Reinforced Concrete's Mechanical Properties and Pavement Performance	
S.L. Ma, B. Peng and Z. Huang	1291
Test on Cement Stabilized Blast Furnace Slag Material	
T. Jiao, L.C. Hu, J.P. Zhou and J. Fu	1297
Study on Reasonable Length of Ballasted-CRTS II Ballastless Track Transition Section on High-Speed Railway Bridge	
Y. Liu and G.T. Zhao	1301
FEM Analysis and Parameters Determination of Lightweight Concrete Multiple Shear Rivet Paving Project on Steel Box Girder Bridge Deck	
J. Fu, L. Han, Q.J. Ding and F.Z. Wang	1306

Chapter 6: Seismic Engineering

Research Status on Seismic Performance of Steel-Concrete Composite Coupling Beam	
Q.X. Shi, J.B. Tian, K. Li and Z.F. Guo	1315
Analysis of Seismic Performance of RC Frames with Centrally Reinforced Columns	
Z.X. Lei, Y.H. Han, S.S. Dong and J.Q. Guo	1319
Analysis of Vibration Frequency Characteristic for Elastic Support Beam	
Z.Z. Li, D.G. Tang and W.W. Li	1324
Analysis on Seismic Energy Response of Reinforced Concrete Frame-Core Wall	
K. Li, Q.X. Shi and Z.F. Guo	1329
Applied Research of the Steel Frame-Shear Wall System in the Primary and Secondary Schools	
M. Zhu, Z. Tao, M. Zhang and L.X. Li	1335
Elastic-Plastic Seismic Response Analysis of High-Rise Building with Transfer Storey	
J.W. Nie, H.B. Liu and Z. Fang	1341
Ground Motion Distribution Analysis about Taipei-101 in Earthquake	
Z. Lu, R.Y. Zuo and X. Ruan	1346
Investigation on Seismic Structural Damages in Anchang County in Wenchuan Earthquake	
W. Li, S.Y. Li and Z. Zhao	1351
Research for Bridge Optimal Seismic Retrofitting Strategies	
P. He, S.L. Ge and M.G. Zhai	1356
Research for Vehicle Load and Load Effect After Earthquake Based on Simply Supported Beam Bridge	
P. He, S.J. Ge and M.G. Zhai	1362
Response Spectrum Characteristics of Near-Fault Ground Motions and Influence to CFST Arch Bridge	
F. Xing and R. Kang	1367
Seismic Risk Evaluation of Retrofitted Reinforced Concrete Buildings Utilizing Base Isolation and Considering Mainshock-Aftershock	
R.L. Han and Y. Li	1372
Study on Engineering Site Seismic Effect in Shijiazhuang	
J.H. Chen, Y.H. Yang and W. Wang	1376

The Seismic Reinforcement Measures of through Type Timber Frame Joint Based on the Earthquake Damage Survey	1380
L.X. Li, Z. Tao, L.B. Qin, M. Zhu, R. Tian and X. Duan	
A Comparative Study of Artificial Boundary Conditions in ABAQUS	1386
Y.W. Wang, S.Y. Li, Q. Ma and W. Li	
Analysis on Seismic Damage of Timberwork Building and Reinforcement	1390
R. Liu, M.Y. Hou, X. Liu and R.H. Wang	
Earthquake Response Analysis and Safety Evaluation of Haokou Gravity Dam	1394
F. Yang, Z.Z. Shen, K.M. Chu and X.Y. Zhao	
Floating Roof Influence on Seismic Response of Large Vertical Storage Tank	1399
Y. Sun, J.G. Sun and L.F. Cui	
Introspection on Anti-Seismic of Rural Housing	1403
W.J. Li, C.Q. Gong and X.S. Ren	
Literature Review of Seismic Behavior of Composite Steel Plate Shear Wall	1408
N. Zhou, F. Xiong, Q.Y. Huang, Q. Ge and J. Chen	
Optimal Analysis of High-Rise Building Facade Shape Based on Frequent Earthquake Response	1414
S.Y. Zhang and S. Suo	
Recovering Seismic Displacements from Underground Strong-Motion Acceleration Records of the 2011 M_w9.0 Tohoku Earthquake in Japan	1418
H. Li, S.M. Zheng, C. Song and Q. Feng	
Seismic Analysis of a Masonry Structure Retrofitting	1423
J.H. Yu, S.S. Zhao and N.N. Yu	
Seismic and Collapse Resistant Capacity of New Light Quality Concrete Bearing Masonry	1429
J.H. Yu, H.M. Xu and N.N. Yu	
Seismic Evaluation of Retrofitted Factory with Rubber Bearing and Design Method	1435
B. He, J.L. Pang and C.Q. Liu	
Seismic Performance Investigation of Research Status and Problems Analysis of Short-Leg Shear Wall	1441
P.L. Zhang	
Seismic Response Analysis of CFRP Retrofitted Reinforced Concrete Structures	1445
B. Jin, D.F. Zu, H.S. Wu and Y. Gao	
Study on Performance-Based Seismic Performance Method for Masonry-Infilled Frame Structures	1458
Q.W. Wang, Q.X. Shi and Z.H. Han	
Study on the Seismic Performance of Block Masonry	1462
L. Sun, Z.Y. Cui, F.S. Liu and S.J. Wang	
The Fluid-Solid Coupling Analysis of Aqueduct Imposed Multi-Point Seismic Waves	1467
L. Kong, M.Y. Zhang and B.X. Shi	
The Seismic Research of Connection with Haunch Frame	1471
L.Y. Jiang and X.D. Sun	
Experimental Instruments and Results' Analysis of a Shaking Table Model Test for a Complex High-Rise Building	1475
Y. Chen	
Experimental Study on Seismic Behavior of Strengthening Joints in Light Steel Adding Storey	1480
R. Guo, S.W. Zhao and K. Liu	
Study on Seismic Behavior of Evacuated Square Pyramid Space Grids in a Project	1484
S.N. Wang and L. Wang	
Study on Seismic Behavior of Transformed-Connection Joint in Light Steel Adding Storey	1490
R. Guo, C. Du and C.L. Yin	
Study on Finite Element Method for Simulating Seismic Behavior of New All-Bolted Semi-Rigid Connection	1494
X. Zhao, M. Wu, X.S. Chen and G. Wei	
The Analysis of Influencing Factors for Seismic Performance of Load-Bearing Wall Using Light Artificial Block	1498
J.H. Yu, Y. Wang and T.H. Fei	

The Seismic Performance of High-Rise Structure with Different Conversion Layer Position K.L. Zhai, J.S. Lei and S.X. Li	1505
Vibration Energy Dissipation Analysis of a Shear Wall Structure J. Zheng and A.Q. Li	1509
Vibration Table Test and Research on Seismic Performance of Reinforced Concrete Eccentric Frame - Shear Wall Structures B. Li, H.P. Jiang and W.H. Wang	1514
Shaking Table Test on Seismic Pounding Response of Reinforced Concrete Bridge X.Y. Yan, L.H. Wang and X.L. Du	1519
On the Application of Anti-Seismic & Waste-Recyclable Foamed Concrete Cast-in-Place Wall in Architecture H.F. Hu	1524

Chapter 7: Computational Mechanics

Coupled Damage and Plasticity Modeling in Failure Analysis of Heated Concrete R.T. Li	1531
Numerical Simulation of Buried Structure Response to Strong Dynamic Load X.Z. Nian and Y. Zhang	1535
Numerical Simulation of Ground Shock Produced by Chemical Explosion in Closed Soil X.Z. Nian and D.J. Yan	1539
A Wavelet Collocation Precise Integration Method for Laminated Rectangular Plates with Four Sides Clamped H.W. Zhang, Y.L. Wang and G.H. Qing	1543
Numerical Simulation of Shock Wave Around-Flow in Explosion Test X.M. Zhu, H. Zhan and Z.G. Jiang	1552
Properties of the Solution Set for Generalized Equilibrium Problems with Lower and Upper Bounds in FC-Metric Spaces K.T. Wen	1557
Stability Analysis of Stiffened Plates Based on State-Vector Equation Y.L. Wang and G.H. Qing	1561
Studying on Deduction of Unit Weight Mean Square Error of No-Equal Precision Independent Surveying Values about Literatures[1-2] Y.H. Deng	1570
A Constraint Model for Interface Stress Element Method without Virtual Elements B. Feng, H.S. Liu and R.Q. Lan	1574
A Flow-Condition-Based Interpolation Method Combined with Splitting Algorithm for Wind Field Calculation B. Su and X.K. Han	1578
An Interference Fitting Algorithm of the Oil Well Structural Stresses Calculation Based on the Concrete Solidification Process Z.F. Yang, Q.Y. Meng and K.Y. Zhong	1583
DQM to Simulate 3D Vortex Structure of Cuboid Cavity Driven Flow S.H. He, L.X. Zhang and T.M. Xu	1588
Lateral Buckling Analysis for Rectangular Cantilever Plate Subjected to a Concentrated Loads L.Q. Jiang, S.J. Wu and H. Zheng	1596
Lateral Buckling Studied of Rectangular Plate with Two Opposite Edges Clamped under the Action of a Concentrated Loads S.J. Wu, L.Q. Jiang and W.N. Yuan	1600
Element Bearing Ratio Based Integral Safety Evaluation of Penstocks J. Wang, W. Zhang, J. Zhang and W.L. Wu	1604
Stability of Implicit Midpoint Algorithm Applied to Structures with Nonlinear Damping T.L. Pan, B. Wu and Y.S. Chen	1609
Correct Indirect Discrete-Continual Boundary Element Method of Structural Analysis P.A. Akimov	1614
Some Properties for a System with Dense Orbits T.X. Lu and P.Y. Zhu	1619

Simulation of Dust Control in Coal Mining X.D. Yang and L.Z. Jin	1624
A TF-Contractive Fixed Point Theorem in a General Metric Space Z.H. Xiu	1628

Chapter 8: Traditional Construction Materials

The Static Test Study on Anchors of CFRP Cables K.H. Mei, Z.T. Lv and J.W. Zhang	1635
The Application of Bounded Normal Distribution in Statistics of Concrete Strength X. Yan, Y.Z. Zuo, Q.Z. Lu, D. Huo and M. Liu	1641
Material Factor for GFRP RC Structures in Canada J.W. Huang	1648
Chloride Ion Diffusion Behavior of Concrete after Freezing and Thawing Cycles F. Qu and D.T. Niu	1652
A New Measuring and Calculating Method for Concrete Thermal Conductivity with Multipoint S. Qiang, C. Wu, N.N. Zhang and Z.Q. Xie	1657

Chapter 8: Traditional Construction Materials

A Simplified Concrete Damage Constitutive Model J.P. He and W.Z. Chen	1663
Analysis on Concrete Neutralization and Life Evaluation of Reinforced Concrete Chimney Y.H. Li, Y.Y. Zhang, J.C. Wei and Y.F. Wu	1672
Deterioration of Concrete due to Acid Rain Attack in North China K. Wang, L.N. Yu and M.C. Chen	1676
Effect of High Frequency Vibration on Pore Parameters and Frost Resistance of Air Entrained Concrete Y.C. Zhang and L.L. Gao	1680
Nanostructural Layer and Properties of 35 CrMo Steel Rolled by Cross-Rolling J. Xiao, R. Wu, C.S. Rao, M.H. Zhao, S.P. Song and Z.P. Wang	1684
Research on Test of Fracture Toughness and Fracture Criterion of Crack of Mixed Mode I and II of Steel Fiber Concrete H.D. Zhang and X.S. Xu	1688
Rheological Properties of Asphalt Binder Modified with Chemical Warm Asphalt Additive M.E. Abdullah, K.A. Zamhari, M.K. Shamshudin, M.R. Hainin and M.K.I.M. Satar	1692
Study on Expansion Rate Assessment Method for Sulfate Resistance of Cementitious Material K.P. Gu and C.Q. Wang	1700
Study on Nonlinear Multi-Objective Optimization for Concrete Mixed Proportions S.Y. Zuo and H.L. Cai	1706
Test and Research on Mechanical Property of Ceramsite Steel Fiber Concrete S.L. Dong, X.S. Xu and B. Zhang	1711
An Improved Test Method for the Detection on Alkali-Silica Reactivity of Aggregate J. Wang, G.H. Li, J.P. Zhang, J.J. Zhou, F.M. Sun and X.X. Peng	1715
Application of Special Sensor for Deformation Modulus Test of Plastic Concrete E.C. Guo, S.Y. Wang and Z.Y. Ren	1721
Applying Study on the Bayer Red Mud as Fast Building Dam Materials D.L. Luo	1725
Development and Construction Techniques of Foreign PC Continuous Beam D.Y. Huang	1729
Effect of Composition of Cementitious Materials on Alkalinity of Pore Solution and Strength of Cement Paste X.L. Yuan, S.H. Zhou and D.M. Liu	1732

Experimental Research on Mechanical Properties of Recycled Aggregate Concrete under Uniaxial Loading X.Y. Zhao and M.L. Duan	1736
Experimental Study on Cement Mortar with Bentonite H.H. Lee and C.W. Wang	1741
Performance Research on Ultra-High Performance Self-Compaction Concrete (UHP-SCC) L.B. Xu, N.Q. Feng and I.D.C. Guan Bee	1745
Research on the Thermal Insulation Performance and Energy Saving of Fabricated Straw Brick Z. Huang, W. Chen and D.S. Huang	1751
Swelling Behaviour of GMZ Bentonite D.A. Sun, H.B. Lv and C.F. Wei	1756
Tests on Mechanical Properties and Anti-Penetration Performance of Steel-Fiber Reactive Powder Concrete Y. Liu, C.M. Song and S.L. Yue	1761
Timber and Chinese Architecture F. Han and S.F. Wang	1766
Application of Infra-Red Thermography to the Analysis of Construction of the Valencian Rammed Earth Walls of The Seminary-School of Corpus Christi in Valencia (Spain) C. Lerma, A. Mas, E. Gil and M. Galiana	1770
Study on Gluing Properties and Surface Wettability of Radial Bamboo Strips C.G. Du, C.D. Jin and G.Y. Li	1774
The Research Progress of Epoxy Resin Coating in Building Waterproof B.T. Liu, G.Y. Zhu and P.J. Ding	1779

Chapter 9: Advanced Construction Materials

Restrain Effect of Expansive Admixture in Concrete Members X. Xue, Z.W. Chen and H. Seki	1785
Analysis of Thermal Performance of a New Regenerated Glass Pumice External Wall Insulation System in Hot Summer and Cold Winter Zone Q. Gu, S. Ren, Y. Wang and H. Luo	1791
Experimental Study and Life Cycle Assessment of High Volume Fly Ash Concrete S.Q. He, H. Li, Z.F. Zhu and P.F. Li	1796
Experimental Study on Mechanics Performance of Complex High Titanium Heavy Slag Concrete J.K. Sun, S.H. Huang, W. Chen, B. Li and J. Liu	1800
Exploration about New Green Building Materials - The New Decorative Materials of Water Printing Ecological Wood S. Li, X.F. Sun and J.X. Mao	1805
Flammability and Mechanical Properties of Toughened Phenolic Foams Containing APP, MP and MCA S.H. Xu, X.Y. Sui and Z.Z. Wang	1809
Influence of Adding Lime Dust on Compressive Strength and Frost Resistance of Fly Ash Recycled Concrete X.H. Wu, Y.X. Yao, X.W. Yin and P. Yuan	1813
Mechanical Behavior of Super-Elastic Home-Made NiTi Shape Memory Alloy Bar in Tension H.J. Zhou, H.F. Liu and H.H. Huang	1817
Nonlinear Fatigue Life Modeling of FRP Composite Materials Based on Genetic Algorithm X.M. Xue, Q. Sun, X.H. Wu, H.C. Wang, X.L. Zhao and K. Zhu	1821
Polypropylene-Based Biocomposites Reinforced by Tailor-Modified Cellulose Fibers and Microfibrils Y.F. Pan, S.Z. Li and H.N. Xiao	1826
Quantitative Characterization of 3D Pore Structure in Porous Limestone Y.T. Ji, P. Baud, T.F. Wong and L.Q. Liu	1830
Slope Effect of Phase Change Materials in Phase Change Roof L.B. Lu, J. Wang, M. Gao and D. Li	1835

Study on the Workability of High Performance Concrete Mixture with Compound Mineral Admixtures	
Y.G. Wang, C. Wan, K.J. Huang, G.Q. Zhang and Y.F. Hu	1839
Test and Analysis on the Wearability of Bamboo Pulp Fabric	
S.B. Ma	1844
Test Research of Thermal Insulation Property of Straw-Based Board	
Y. Liu and J. Li	1848
The Mechanical Properties of Recycled Aggregate Concrete	
Z.S. Li, L.H. Xie, J.Y. Luo and X.C. Zhang	1852
Usage of Iron Mine Tailing Sand on Concrete	
Y.F. Hou and X. Jia	1856
An Experimental Study on the Compressive Behavior of CFRP-Confined High- and Ultra High-Strength Concrete	
T. Vincent and T. Ozbakkloglu	1860
Compressive Behaviour of Recycle Concrete Cubes after Freeze-Thaw Cycles	
T. Long, S.H. Dong, S.M. Cui and Q.Y. Wang	1865
Effect of Fluidity of Cement Mortar and Dispersion of Basalt Fibers on Mechanical Properties of BFRC Composites	
W.M. He, S.F. Chen, C. Wang, X.G. Zhang and R. Xiong	1869
Experimental Study on a GGBFS Activator Using a By-Product Salt	
R. Mu, Z.B. Liang, X.S. Chen and X.W. Wang	1873
Experimental Study on Fire Resistance Properties of Post-Installed Rebar Connection	
X. Wang, C.J. Jiang, K.Z. Zhao and X.R. Chen	1877
<i>In Situ</i> Synthesis of Nylon 6/MgAl Layered Double Hydroxide (LDH) Nanocomposites by Hydrolyzed Ring Opening Polymerization	
H.L. Li, G.S. Yang and Y.C. Wu	1883
Introduction on a Kind of Environmental Biological Materials - Dextrins	
Y. Zhao and Y.G. Tu	1889
Mechanical Behaviors of HDPE Fiber Reinforced Cement Mortar	
T. Kamsuwan, T. Amornsakchai and T. Srihirin	1893
New Trends of Green Building's Skin Material: Take the Solar Decathlon Europe 2010 for Example	
S. Zhang, H. Liu and Y. Wang	1905
On Study of Development Expansive Coal Gangue Portland Cement by Microwave Technology	
Z.M. Zhao, Q. Wang, C.J. Wang and X.M. Zhang	1909
Preparation and Experimental Study on a New Type of Exterior Wall Putty	
G.L. Zhang, L.W. Mo, J.Y. Sun, J.B. Chen and J.Z. Liu	1914
Research on the Strength of High-Strength Steel Slag Concrete with Skeleton Coarse Aggregate Gradation	
Y.Z. Zhuang, E.B. Tian and Y.Z. Lian	1918
Synthesis, Properties and Engineering Applications of Green Energy-Saving Slump Retaining Agent	
X.Q. Guo	1923
Technology Development and Application of Asphalt Concrete Impervious Panel	
Y. Ye and L. Tan	1928
Temperature Sensitivity Analysis of Temperature Control Parameters for Massive Concrete Mixing with Slag Powder and Fly Ash	
Y. Tan, F. Wang, D.Q. Deng and C.J. Wang	1932
The Carbonized Life of Fiber Reinforced Concrete Nuclear Waste Storage Containers	
L. Zhang, W. Zhao, Y. Li and Y.P. Guan	1936
Using GFRP to Develop the Mechanical Performance of Structural Insulated Panels	
M. Jing and W. Raongjant	1941
Experimental Study of Asphalt Mixtures Containing Polyolefin/Ethylene Copolymer Modifier by Dry Process	
H. Yin and Y.T. Zhu	1945
Test Machinery System of the Pressure Water Absorption Inside the Lightweight Aggregate Concrete	
G.L. Wang, M.L. Ma, D.M. Miao and H.J. Ma	1950

Infrared Spectrum Test and Analysis of Regenerated Cellulose Fibers S.B. Ma	1954
Study of High-Strength Lateral Ties Stress of High-Strength Confined Concrete Q.X. Shi, N. Wang, P. Wang and Z.F. Guo	1958

Chapter 10: Modern Technology in Construction

Hydraulic Method for Earthwork Excavation Construction Technology G.H. Yu, J. Chen, Y.N. Liu and Q.Y. Li	1965
Research on the Construction Technology of Composite Floor of Super High-Rise Core Tube Copestone and Steel Composite Wide-Flat Beam of Hollow Steel Tube and its Application R. Bai, C.Q. Yao, X. Bai and C. Wang	1970
Research on the Installation Technology of Box-Shaped CFST Column with Super-Large Section and its Application X. Bai, C.Q. Yao, R. Bai, C. Wang and H.B. Ma	1975
Study and Application of 60cm (Thickness) Roller Compacted Concrete Technology H.W. Zhou and H.Q. Li	1983
Construction Technology and Organization of Jiande Yangxi Main Bridge X. Jiang and T.Q. Yu	1988
Experimental Study on Spray Uniformity of Spraying Machinery Y.J. He, H.M. Hua, X.F. Li and J.Z. Shi	1993
IT Supported Construction Management: A Comprehensive Review and Ongoing Research J. Yang	1998
Optimization Design and Application of Sluice Pier Sliding Formwork J. Xing, H.L. Cai and J.B. Cheng	2005
Research and Benefit Analysis on Exterior Mesh Construction Technology of Super Cross-Section CFST Cylinder C.Q. Yao, X. Bai, R. Bai, C. Wang and H.B. Ma	2011
Expert System Apt to Automatical Matching and Forming for Connecting Joint of Steel Structure L.H. Li	2016
Applications of Fiber Grating in Temperature Measurement of Hydration Heat of Concrete X.X. Tang, J.B. Liang, X.Z. Tang, W. Guo and Y. Xu	2020
Construction Method of Low Temperature Welding for Large-Span Steel Truss Beam Structure W.Z. Duan, L. Li, J.P. Han, J. Zhou and C.S. Xiang	2025
Development of Civil Engineering Structural Damage Diagnosis D.Y. Huang	2029
Exploration for Maintenance Measures and Temperature Control of Mass Concrete Pile Caps C.M. Yu, J.T. Qu, Z.H. Ran, H. Ying and F.T. Meng	2032
The Application of the Crack Control Measures Applied in Ultra-Long Basement Concrete Structure L. Liu, X.H. Tong and M. Liu	2038
Research on Data Correlation in Structural Health Monitoring System Q. Li, C. Xiao, W. Li, L.Q. Li and H. Liu	2044
Application of Bridge Construction Control Based on Gray System Theory Modified by Kalman Filtering Method Z.L. Luo, Y.F. Song and C.S. Wang	2049
Application of Global Positioning System Measuring Technology in Safety Monitoring of Long-Span Bridges Y.L. Guo and Y. Xin	2053
Study on Safety Control of CSTS and Application Y.R. Chen, L.J. Liu and Y.C. Duan	2057
Stress Monitor and Control in Cantilever Construction of a Continuous Bridge J.M. Zhao, J.Y. Zhang and Y.L. Wang	2063

Real-Time Monitoring System for Landslides Based on GPRS Technology J.F. Li and L. Wang	2067
3D Visual Geology-Modeling in Wannian Mine of Fengfeng Coalfield A.J. Shao, J.H. Chen and Y. Huang	2072
A Comparative Study on the System of Displacement Monitoring of Slope D.L. Qin and J.F. Li	2076
A Multi-Information Intelligent Identification Method of Rock Mechanics Parameter and Application in Underground Engineering T.Y. Liu	2081
The Feasibility Study of GPS Displacement Monitoring in the Slope Geological Disaster Survey D.L. Qin and J.F. Li	2087
The Setting of the Database Management System for Geotechnical Engineering Exploration Q.L. Lang, G.J. Li and M. Yang	2091
Application of Global Positioning System Measuring Technology in Safety Monitoring of Highway Slope Y.L. Guo and X. Yan	2095
Data Preprocessing of Magnetic Suspension Gyro-Total-Station by Vondrak Filter H.R. Li, Z.Q. Yang and Z. Shi	2099
Implosion Method of Numerical Simulation and Local Component Failure Analysis X.L. Li, Y. Yang and L.F. Luan	2103
3D Laser Scanner and its Application in Engineering Survey Y.P. Feng, W.G. Li, L.B. Yang, Y.L. Gao and W.B. Li	2111

Chapter 11: Energy-Efficient Technologies in Buildings

The Research of the Application of Energy-Saving Technique in the Buildings Rebuilt Project in Germany P. Bo	2117
Analysis and Study of Solar-Assisted Heat Pump System Q. Wang, Q. Wang, X.Y. Hui and Z.J. Shi	2122
Development of Foreign Building Saving-Energy Technology D.Y. Huang	2126
Experiences and Enlightenment in Energy-Saving of Newly-Built House from Developed Countries H.Z. Liu and Y.H. Zhu	2129
Optimum Tilt Angles of Modules on Louvered PV Façade in Changsha, China S.Y. He, S.Y. Tang and W. Liu	2135
Simulative Study on Solar-Assisted Air Source Heat Pump System Q. Wang, F.Z. Liu, L.J. Hou and J.H. Gao	2141
The Application of Energy Efficiency System with EPS Module Steel Structure of Industrial Building in Construction Engineering Y.J. Jin, K. Qian and G.Y. Dong	2145
Thermal Optimization Strategy of External Wall in Low-Rise Light Steel Keel Structure Based on the Theory of Thermal Bridge M.J. Lu	2150
Building Enclosure Structure Energy Saving Discussion Z.N. Tong	2154
A Model for Solar Plant Site Selection A.H.I. Lee, K.C. Shen, Y.W. Tu, C.Y. Lin and W.M. Wang	2158

Chapter 12: Architectural Design and Its Theory

A Comparative Study of Humane Ecological Status Quo in New Rural Areas of Zhejiang Province Based on the Interaction Analysis Method S.J. Xing and Y.S. Wang	2165
--	------

A Study on the Architectural Aharacteristic of Nanyue Temple under the Influence of Different Cultures	
X. Li, S. Liu and Z.M. Peng	2170
Biological NanoArchitecture: Architecture in the Age of Biomaterials	
M. Elsamny	2174
Contemporary Architectural Education and the Radical Experiments in 1960s in Florence	
D. Pedrabissi	2180
Creation of Outdoor Space for the Elderly	
H.Y. Xin	2185
Evolution of Research on Chinese Vernacular Dwellings	
Y. Huang and W.M. Guo	2189
Features of Architecture and Construction about Traditional Residential House in Shanxian of Henan	
H.G. Li, Y.Q. Liu and C.Z. Gao	2193
Fusion Study on Architecture Feng-Shui Theory and Ecological Architecture of Edong Ancestral Hall	
X.S. Lu and X.S. Zhen	2198
Humanistic Interpretation for Green Building	
Y. Shi and J.H. Qi	2203
Kaiping Village Planning Thoughts during the Late Qing-Dynasty and the Republican Period (1900 -1949)	
J.H.T. Selia	2208
Livable Index System's Establishment and Analysis of Old Community Renovation	
M.L. Li and X. Meng	2214
Modern Architecture in Shanbei Influenced by Regional Environment	
Y.L. Lei and Y. Liu	2219
Mystification Housings Based on Mystification Cultures - Study on Mosuo Folks Housings in China	
M.B. Li, X.X. Tang, H. Fan and Z.K. Li	2223
Performance Evaluation of Affordable Housing Projects Based on Gray Correlation Analysis	
N. Liu, C.C. Liu and W. Zhang	2227
Research on a Roof Shape for Bi-Objective Optimization of Investment Value and CO₂ Emission	
M.R. Yang and J.L. Sui	2231
Research on Structure and Conservation of Ancient Bridge in Bahe River District	
Y. Liu and Y.L. Lei	2236
Research on the Indoor and Outdoor Wind Environment of University Apartment in the Hot in Summer and Cold in Winter Area	
X. Duan, W.Q. Xu and K.X. He	2240
Research on the Urban Architecture Color and Chromatography - A Proposal of Digital Environmental Color Taking Dandong City's Building Color as an Example	
Y. Li	2245
The Application of Transparency in Renovation of Historical Building	
S.Y. Zhu and B.Q. Zhai	2250
The Development of An Ancient Village - Xidi, Wannan	
R.X. Zhang and T.J. Liu	2255
The Dynamic Adaptability Research on the Residential Units and the Family Structure	
G.X. Wang	2260
The Ecological Strategy of the Pit House in Western Henan	
C.Z. Gao and W.L. Tian	2264
The Framework of the System on Architectural Design Logical Thinking and its Application	
X.P. Liu	2268
Whether Museum Spatial Experience can Synthesize its Exhibits in the Museum with Chinese Garden Configuration	
Z. Lu, W.M. Guo and X. Zhou	2278
A Review for Research on the Sino-West Hybrid Style Buildings in Early Modern China	
J. Luo, W.M. Guo and Y. Huang	2285

Discuss the Influence from the Traditional Residential Architecture Culture to the Development of Guanzhong-Tianshui Economic Zone X.W. Meng and Z.H. Liu	2290
Discussion about the Cultural Inheritance and Protection Measures Optimization in Qijiang Ancient Town X.Y. Miao, C.X. Ma, B.Y. Han, L. Yuan and Y.G. Gan	2294
NanoArchitecture and Sustainability F.F. Fouad and M.A. Ibrahim	2298
Research on Self-Updating Mode of Rural Housing S.H. Liu	2304
Research on the Contemporary Sports Architecture Creation of China under Rational Expression of Technologies S.L. Lu, X.L. Shi and S.P. Wang	2309
Shanxi Datong Mosse Memorial Hospital – Beautiful Scenery on the Northern Boundary Y.F. Liu	2313
Study on Christian Stone Architecture of Song and Yuan Dynasties in Quanzhou A.B. Yan and H.Z. Bin	2318
Study on the Space Interface Characteristics of Minimalism Architecture X.M. Gao	2324
Study on Traditional Architectural Features of JIN-Ai under the Influence of Silk Road Commerce M.H. Ye, H. Zhang and S. Zhang	2328
Tentatively Research on Responsive Design of Architectural Spaces in Cold Region of Northeastern China B. Liang and H.Y. Mei	2332
Use of Irregular Wood Components to Design Non-Standard Structures V. Monier, J.C. Bignon and G. Duchanois	2337
Preliminary Analysis of Axis Design Method in Applications of Architecture Design J. Sun, K. Zhou and S.G. Zhu	2344
Study on Traditional Stone Villages in West Hunan – Village of Lahaoyingpan as Example M.F. Zhong	2351
A Statement on the Application of Decorative Material in Building Skin Design- Visiting Three Commercial Building in Omotesando, Tokyo as an Example K. Xie and H. Shen	2355

Chapter 13: Urban Planning and Design

Comparative Study on the Main Elements of Urban Design Control Method L. Lu and J. Gao	2361
Cultural Districts, Tourist Booster and Local Mingle a Focus on Seoul D. Pedrabissi	2365
Health-Oriented Community Slow Greenway's Planning and Design F. Lv and Y.L. Yan	2371
Space Syntax: A Neutral Tool for Inclusive Planning on Urban Renewal Z. Lu, W.M. Guo and X. Zhou	2376
Study on Chinese Small Town Design Theory and Practice Explore S. Ming	2382
Study on the “Roadside Village” Problems in New Rural Area J. Wen	2386
The Construction of Human Settlements from the Architecture Development Strategy X.J. Wang	2390
The Investigation on Strategies of Urban Three-Dimensionalization N. Zhu, Q. Gao, W.G. Wang, Y. Bai and D.Y. Jiang	2394
The Suitability Evaluation of Underground Space Development and Exploit about Shijiazhuang Zhengding Newly-Developed Area C.Y. Liu, Z.H. Yue and Y. Liu	2398
The Urban Planning Strategies Research of Decreasing Traffic Carbon Emissions F. Lv and X.C. Qi	2402

Traffic Issues and its Strategies in the View of Spatial Expansion in the Central Area of Lanzhou City H.F. Li and H.Q. Liu	2406
Urban Rainwater Infrastructure Planning in Arid and Semi-Arid Regions Based on LID Z.T. Miao	2410
A Study on Investigation and Reconstruction of Negative Spaces in an Old-Street Area in Nanning - Analysis of Thermal Environment in Negative Spaces Y. Zhang, J. He, Z.M. Zeng, Y.W. Luo and J. Zhao	2414
Controllable Factors in Urban Color Y. Zhang	2420
Evolution of Power - Development of Urban Space in Huanggang Z.M. He	2424
Research of Space Form Evolution of New and High Technology Industries Development Zones Z. Cui, T. Wen and Y. Zhang	2431
Research on the Dilemma and Measures of China's Urban and Rural Planning C. Li and Y.X. Yun	2437
Research on the Diversified Planning of Historic and Cultural Towns M.C. Tian, K.Z. Jia and A.H. Xie	2441
Study on Ancient Chinese Ecological Thoughts in Traditional Festivals and Festival Systems K.Z. Jia and M.C. Tian	2446
Study on Urban Public Security Planning J. Wu, I.S. Chang, Y. Gong, M.M. Shi and Y.X. Yang	2451
The Investigation on Residential Requirement for the Aged Based on Taking Care at Home J. Qian, Y.F. Feng and J. Zhou	2455

Chapter 13: Urban Planning and Design

The Macro Morphology Evolution Aanalysis of Jiangcheng Town in Yunnan Province J. Cui, H. Cui and Y. Duan	2463
The Methods of French Urban Design and its Inspiration for China S. Hu, J. Li and C.N. Douady	2467
Thoughts over New Countryside Eco-Community Construction - Layout of Lianhuatang New-Countryside Eco-Community, Chimagang Office, Chibi City J. Dong	2471
Urban Design Supported by "Green" Streets - Urban Design for Financial Technology Island of Beijing "TBD" J.G. Yu, J.K. Yu, H.W. Ma and L. Xu	2476
A Research on Joint Urban Design Project in Undeveloped Area C. Qian and X.H. Guo	2480
On Mode Planning and Design of Urban Complex Y.Y. Zheng and S. Gao	2484
Research on Active Disaster Prevention of Underground Space Based on City Vulnerability Analysis Z.G. Zheng and Z. Chen	2488
Study on Hierarchical Indices of Emergency Facilities in Resident Emergency Congregate Shelter J.Y. Chu and D.X. Ma	2492
Study on the Design of Urban Public Space in City Complex Y. Shi and L. Fei	2496
Study on the Construction of Commercial Centers in Communities Centered on Senior Citizens L.N. Zheng, C.A. Zuo, Y.W. He, X. Liu and M. Liu	2500

Chapter 14: Water and Gas Supply, Heating, Ventilation and Air Conditioning Works

An Economic Comparison between Two Types of Heating and Air-Conditioning Systems for Public Buildings in Severely Cold Regions S.H. Ren and D.Y. Li	2507
Analysis of Energy-Saving Measures on the Operation and Management of Central Air Conditioning System S.D. Gao and Z.W. Pan	2511
Optimal Control Strategy for Ice-Storage System Based on Hourly Dynamic Load Simulation X.M. Wang, Z.H. Wang and X.L. Wu	2515
Simulation of Dynamic Heat Load for Underground Structure Envelope R.H. Wang, L.J. Wang, J.M. Ma, J. Yang and X.F. Zhou	2520
Analysis of Air Conditioning Energy Saving Measures S.Q. Li and R. Li	2526
Analysis on the Daily Temperature Variation of a Concrete Slab under Environmental Effects J.P. Wang, B. Chen, J. Zheng and P.Y. Li	2530
Characteristics of the Initial Stage of CaCO₃ Crystallization Fouling on Straight Oblique Fin Tube P. Zhao, J. Sheng and H. Zhang	2535
Evaluation on the Thermal Stresses of a Concrete Slab under Solar Radiation J.P. Wang, B. Chen, J. Zheng and P.Y. Li	2542
Experimental Study of a Novel Indirect Evaporative Cooler Y.G. Wang, J.P. Liu and H. Xiang	2547
Heat Simulation Analysis of Heat Exchangers with Inclined Boreholes in Ground-Source Heat Pump Systems S.Y. Zhao and C. Chen	2551
Phenomenon of Radiation Asymmetry in The Capillary Plane Air-Conditioning Systems Y.A. Li, H. Gu, X.L. Liu and C.Y. Zhao	2555
Research on Heat-Exchange Efficiency of Buried Pipe with Numerical Method Y. Zhang, R. Zheng, Y.F. Qi and Y.Q. Zhang	2559
Analysis of Dirt Resistance Based on the Double-Pipe Device L. Bai and T. Liu	2563
Application of No-Negative-Pressure Variable Frequency Water-Supply System in Campus H.Y. Xing	2567
Membrane Separation Coupled with Photocatalysis for Water Supply and Wastewater Treatment Z.Y. Wang, L. Wang, L.F. Yao, M.L. Pei and G.L. Zhang	2571
Quantitative Study on Eco-Environmental Water Demand of Urban Water System W.J. Xu, W.G. Chen, X.P. Zhang and H.L. Gong	2575
Selection and Parameter Determination of Dehumidizer in Liquid Desiccant Air Conditioning System Q. Wang, X.Y. Hui, H.S. Sun and Z.K. Jiang	2580
Simulation Analysis of Groundwater Source Heat Pump's Underground Temperature Field Changes under Different Pumping and Injecting wells Modes S.M. Zhang and Q. Gao	2584

Chapter 15: Architectural Environment and Ecological Environmental Protection

The Research of Urbanization and Environment Problems of Shandong Province Z.J. Gao, Y. Tian, J.J. Li, X. Zhu, Y.M. Ma and S.C. Wang	2591
The Study on the Green Building's Values and it's Crucial Factor - Green Engineering Management M. Lu, Y.L. Pei and F. Li	2595
The Urban Ecological Sensitivity Analysis of Enshi city Based on GIS and Analytic Hierarchy Process Model T. Huang, S.G. Cheng and Z.X. Hu	2599

Canonical Correspondence Analysis on Phytoplankton Community and its Environmental Factors in Poyang Lake	2604
C.H. Hu, W. Shi, Q. Lou, G.N. Wang and W.B. Zhou	
Characteristics and Removal Efficiency of Washing with Different Reagent for Soil Contaminated by Leads of Various Sources	2613
S.F. Cheng, Y.T. Tu, C.Y. Huang, J.R. Chen and C.Y. Lai	
Health Risk Assessment of Professional Operating Personnel in Methanol Wastewater Reinjection Stratigraphic Process	2617
X.R. Ren, Z.L. Ji, J.K. Ren, P.K. Jin and D. He	
Key Protecting Strata Criterion of Water Conservation Mining and its Application	2621
B.Q. Shi and J. Zhang	
Pyrolysis Experiment of Refuse Derived Fuel and Study on Characteristics of Semi-Coke	2626
Y.J. Li, K.W. Zou, N. Zhao, R.D. Li and Y. Chi	
Simulation of Wind Speed in Campus Based on FLUENT	2631
Y.J. Chao, X.M. Hu and T. Yu	
The Green Degrees of Single Construction Technology Assessment System Using AHP-Fuzzy	2636
C. Yi, J.Y. Huang, F.Y. Sun, M.L. Lin and Q. Liu	
Characteristics of Municipal Solid Waste Composting and Determination of Composting Maturation	2644
Y.J. Lu	
Disasters of Flood and Waterlogging Impact on Agriculture	2648
Z.H. Liu	
Measurement and Analysis of Summer Thermal Environment of Arcaded Pedestrian Space on a Pedestrian Street in the Lingnan Hot-Humid Region	2652
Y. Zhang and J. He	
Measurement and Analysis of Indoor Thermal Environment of a Library in the Hot-Summer and Warm-Winter Region of China	2659
K.Q. Liu, H.J. Liu and J. He	
Measurement and Questionnaire Survey on Indoor Thermal Environment of a Library in the Hot-Summer and Warm-Winter Region of China	2664
H.J. Liu, J. He and K.Q. Liu	
Research of Decontamination Ammonia Nitrogen from the Tiny Polluted Water by Modified Zeolite	2670
Y.J. Du, J. Wang and M.Q. Qiu	
Research on Improvement of Nitrogenase Activity of Free-Living Nitrogen-Fixing Bacteria Using DBD Plasma	2674
Y.Y. Zhu, X.L. Zhu and F.S. Yang	
Research Progress of Landfill Leachate Treatment	2679
P. Chen, L.B. Kan and M.W. Liu	
Study on the Comprehensive Consolidation and Ecological Reclamation of Coal Mining Areas in Jiaozuo	2683
J.C. Fu, R. Wang and Y.L. Chen	
Study on Washing Method of Hydrothermal Synthesis Zeolite from Coal Fly Ash	2687
H.M. Cui, D.M. Chen, M. Gao, L.B. Lu and L.F. Ke	
Synthesis of 7-hydroxy-4-methyl Coumarin with Microwave Radiation Catalyzed by Zirconium Sulfate Tetrahydrate	2692
S.J. Liu, Y.P. Li, X.M. Yang and Q.M. Jiang	
The Dynamic Response of Carbon Sink to Rainfall in Karst Area - A Case Study from Maocun Karst Ecosystem	2697
W. Tang and J.H. Cao	
The Environment Design for Square Space	2704
G.F. Hao	
The Soil Respiration Rate Difference of the Different Reclamation Types of Soil on the Freshwater-Wetland During the Non-Growth Season	2709
X.W. Xu, X.Q. He and J.F. Zhen	
Understory Light Environment of Canopy Tree Species in Urban Green Land	2715
S. Liu, J.P. Li, M.F. Xu, Y.D. Sun and W.B. Li	

A Study on the Treatment Process of Coalbed Methane Wastewater J.K. Li, D. He and P.K. Jin	2722
Removal of the Endocrine Disrupting Chemical Bisphenol A from Water by Activated Carbon X.D. Wang and Y.F. Xiao	2726
Membrane Bio-Reactor Process for the Expressway Service Center Wastewater Treatment L. Wu	2732
Assessment of Environmental Quality of Soil Fertilized Grapefruit Trees with Municipal Sewage Sludge Y.A. Ming and T. Tao	2736
Removal of Congo Red from Dyeing Wastewater by Biodegradation with Myriophyllum Z. Fan, B.S. Lv, J.W. Zhang, J.Z. He and G.L. Zhang	2742
Research on the Treatment of Oily Sludge P. Chen and L.B. Kan	2746
Research on Treatment of Oily Wastewater by Membrane Filtration P. Chen, L.B. Kan and M.W. Liu	2750
Study on the Treatment of Surfactant Wastewater by Anaerobic Biological Filter W. Han and G.F. Zhou	2754
Influences of Environmental Variations on Water Resources A.J. Shao, Z.G. Li and Y. Huang	2760
Research of the Flood Control Rainfall and Flood Regime Information System for Poyang Lake Region Based on GIS Q. Sun and X.W. Zhan	2765
The Technical Study on Photo-Catalytic Oxidation Treatment of Low Concentration Methanol Wastewater in Gas Field M. Zhao, J.H. Jiang, L.H. Zhou, P.K. Jin and D. He	2769
Effect of Preparing Conditions on the Tensile Strength of Bamboo Carbon-Polyvinyl Formal Biological Carrier S.W. Wu, G.D. Li and N. Li	2773
Research on Ecological Regression Process of Sustainable Architecture J. Hou, P.V. Genovese, H. Man and Y.Z. Wang	2777

Chapter 16: Landscape Planning and Design

Research on Landscape Design and Tourism Spatial Layout in Mountainous Towns F.F. Yu, G.Y. Li and Y. Li	2783
The Organic Evolution of Chinese Traditional Urban Waterfronts: A Case Study of the Landscape of Slender West Lake M. Du and Y. Zhang	2788
The Perception to the Symbolic Meaning in Landscape Designing Y. Li	2792
The Probe into the Multi-Objective Landscape Design of Urban River Based on Ecological Security - With the Planning of the Weihe River Landscape Zone in Xi'an-Xianyang as an Example X.X. Dang, D.Q. Zhang and R.Q. Zhou	2796
The Rainwater Artful Design of the Ecological Farm in Fumin County of Yunnan Province J.D. Guan, J.W. Ma, Q. Zhang and L.C. Zhang	2802
The Type and Spatial Characteristics of Landscape Prototype in Entrance Space of Traditional Blocks in Jiangnan Area M. Shi, L. Chen and J. Luo	2806
A Study on Children's Participation in Rural Primary School Campus Landscape Planning and Design: Taking the Renewal Design of Huangtu Town Center Primary School Campus Landscape as Case of Study B.Y. Hu and W. Wang	2813
Analysis on Landscape Tree Species Composition in the Gardens of the West Lake Scenic Area, Hangzhou, China S. Lu, B. Chen and S.Q. Hu	2819

Brand Construction of Kaifeng Cultural Industry Park for Ancient Capital of Song Dynasty H.Z. Liu	2825
Some Reflections on Legibility of the Cityscape Z.L. Dong	2831
Chongqing City Wanzhou Area Contrary Space Sequence Landscape Analysis and Protection Z.C. Zhang, L. Yuan, S.W. Cao and K. Jiang	2836

Chapter 17: Transportation Engineering

Lane Change Trajectory Planning and Simulation for Intelligent Vehicle C. Wang and C.Q. Zheng	2843
A Design of Automatic Bus Station Reporter Based on VS1003 and SD Card X.M. Deng, Q.W. Liu, D.S. Yang, Y.F. Zhang and K.J. Fu	2847
A Kind of Car License Plate Location Based on Color Feature and Mathematical Morphology H.P. Hu and Y.P. Bai	2851
A New Data Aggregation Model for Intelligent Transportation System J. Wu and L. Zhong	2855
A Research of the Green Traffic Planning Strategies in Liangjiang New Area B. Xia, C. Zhang and F.Y. Kong	2860
An Approach for Short Term Traffic Flow Forecasting Based on Genetic Neural Network L. Yang and W.D. Dai	2866
Apartitioned Approach to Real Time Lane Detection at Different Weather Conditions W.W. Zhang and X.L. Song	2870
Application of Ecological Footprint Theory to Passenger Traffic in Wuhan J. Li, G.J. Hu, Y.A. Ming, F. Wang and M.H. Jin	2875
Calculation Method of Spatial Value Added for Commodity to Transport X.D. Ma, L.Y. Cao and X.M. Xia	2881
Evaluation for BRT Operation Effect Based on Dynamic Bayesian Networks J.H. Yang, G.W. Chen and Y.L. Yao	2885
Hierarchical Regression Model for Truck Collision Severity Analysis H.L. Wang and Z.K. Shi	2889
Intelligent Vehicle Navigation System Based on Multi-Visual Cognition Information J.B. Yang, G.W. Zhang, C.L. Song and Z.H. Shen	2893
Passenger Traffic Plaza Layout Planning Research under the Influence of Integration in City Z.M. Wei, Y.W. Jia, H.F. Jia and C.B. Li	2899
Prediction Models of Short-Term Traffic Flow Based on Neural Network C.J. Dong and A. Cui	2908
Research of Air Traffic Flow Forecasts Based on BP Neural Network M.Q. Chen and J.H. Feng	2912
Evaluation on Leading Order Vortex Decay behind an Aircraft Using an Analytical Model J.G. Kong	2916
Research on the Integrated Planning of Urban Passenger Transit Network Z.Y. Wang, J.L. Tian, Y.W. Jia and C.B. Li	2920
Study on Layout Planning of Transfer Hub Integration of Urban Passenger Transit Z.Y. Wang, W.D. Chen, H.F. Jia and C.B. Li	2928
The Characteristic of Viewpoint's Time-Transients in Traffic Operation H.Z. Xu, H.B. Li and Y. Zhang	2937
The Design of Intelligent Street Lighting Control System J. Rong	2941
Traffic Parameters Prediction Method Based on Rolling Time Series G.Y. Jiang and C.L. Kong	2946
Prediction for Traffic Flow of BP Neural Network based on DE Algorithm Y. Hou and H.Y. Li	2951

The Research of Optimal Allocation of Port Berth and Quay Crane Based on Heuristic Algorithm	
Q. Li, X.L. Fang and D.F. Chang	2956
Analysis on Important Parameters Design of Aircraft	
Y.F. Shang	2961
Study on Safety Evacuation Time for Passengers in Subway Station and Its Application	
X.J. Zhou and X.Y. Yu	2965

Chapter 18: Engineering Management in Construction and Industry

An Automated Progress Tracking System for Industrial Facility Construction Projects	
J.Y. Choi and K.S. Lee	2973
Analysis and Application of BIM Technology in the Project Goal Control	
D.T. Wang	2978
Analysis of Electrical Engineering Project Management in Construction	
Y.B. Wang and L.J. Chen	2982
BIM Application Analysis in Transportation Project	
C. Zhang, K. Zhao and J.Q. Li	2986
Construction Engineering Bidding Risk Analysis	
F.J. Yu and J.J. Li	2990
Cost Control and Management of the Project in the Design Phase	
W. Li, J. Yu and J.P. Zhang	2995
Economic Evaluation of a New Type of Reinforced Concrete Structure with Fabricated Concrete Tubular Columns	
H.Y. Ding, X. Chen, P.Y. Zhang and C. He	2999
On the Existing Problems in the Supervision of Reflection	
Z.N. Tong	3003
Research of Building Pavement Maintenance Management System of Downtown Area - Zhongli City, Taoyuan County for Example	
J.D. Lin, C.T. Hung, J.H. Peng, J.H. Tsao, M.C. Ho and C.J. Shen	3007
Research on Cold Chain Logistics of Subsidiary Agricultural Products in Chongqing Based on SWOT Analysis	
J. Peng	3011
Research on Public Safety-Based Construction Organization Design Specification of City Comprehensive Transportation Hub	
Y.H. Liu and T. Liang	3016
Research on Service Modes of Steel Processing and Distribution Centers in China	
G.R. Liu and J. Liu	3020
Selection of Ready-Mixed Concrete Supplier Based on Entire Process Management System	
G.L. Wang, M.L. Ma, D.M. Miao and H.J. Ma	3028
The Analysis about Reliability Factors in Management System and Their Application for Reliability Allocation Theory	
Q. Tong, J. He and L.P. Shen	3032
The Establishment of Prophase Innovative Management System in Nuclear Power Project	
Y.N. Wu, M. Naren, Q. Wang, H.P. Wang and J. Chen	3040
The Evaluation Model of Dangerous Reservoirs Treatment	
J.W. Huang, J.M. Qin, D.L. Lu and R. Luo	3044
The Influencing Factors Analysis of Implementing Green Supply Chain Based on the Investigation Data in Shandong Province of China	
C. Qian, X.J. Quan and Y.Y. Wang	3049
The Total Life-Cycle Management of Building Engineering Systems	
W. Huang	3055
The Total Life-Cycle Risk Assessment of a Harbor Highway BT Project	
C.Y. Liu and M.Z. Li	3059
Value Engineering-Based Selection Strategies of Construction Scheme	
M. Cheng, G.X. Ma and J.K. Sun	3065

A Comparative Analysis of the Safety Education Awareness between Site Managers and Foreign Laborers in Construction Site D.H. Won, K.T. Kwon, K.H. Jung, G.H. Kim and Y.S. Shin	3069
A Power-Dilemma Model for Demolition Conflict Analysis From the Perspective of Social Psychology Z.F. Qin and Y.T. Shu	3073
An Analysis of Stress Factors for Estimators in Construction Companies G.H. Kim, H.M. Song, K.G. Kim and Y.S. Shin	3079
An Analysis of the Safety Education for Foreign Laborer in Construction Site Y.S. Shin, S.H. Nam, T.Y. Kim and G.H. Kim	3083
Application of Fuzzy Comprehensive Evaluation Method in Engineering Project Risk Management L. Gao and X. Li	3087
Comparative Study of Old City Transformation Project Management Mode Based on Full Life Cycle for China and Britain - A Case Study of Shanghai Little Lujiazui and London Canary Wharf Y.X. Sai, W.R. Wang and J.G. Cai	3091
Computer Simulation Forecast of the Markov Chain for Payback Period of Construction Projects Investment M.F. Zhang, L. Huang and L.Y. Shan	3096
Practical Application Study of Gaussian Process Model in Construction Project Cost Estimation X.L. Liu, T. Yin and G.D. Wu	3100
Research on Application of SIM in Project Investment Environment Analysis of International Engineering Consulting Company X. Li and L. Gao	3107
Research on Project Cost Management Based on the Strategy of Sustainable Development Q.R. Huang and C.M. Liu	3112
Study on Saving-Energy Product's Application in Residential Building based on the Product's Life Cycle Y. Peng and Y. Chen	3116
Optimized Construction Equipment Allocation Method for Highway Construction Projects J.Y. Choi and H.J. Song	3120
Analysis of Influencing Index System of Human Error in Dam-Break Risk D.D. Li, D.W. Zhang and L. Li	3126
Study on the Design of Project Controlling Information Management System for Large-Scale Hydraulic Engineering Q.Y. Shuai and Y.B. He	3130
Combined Impacts of Sand Mining Activities: The Nandu River Downstream Segment S.W. Jiang, A. Haibier and Y.X. Wu	3134
Performance-Based Fire-Protection Partition Study of a Commercial Center Project X.N. Xue and W.H. Song	3138
Analysis of Vicious Price Competition in Logistics Park Based on Game Theory J.C. Ke, H. Dai and L. Gan	3142
Based on the Fuzzy Multi-Objective People Decision Method of Engineering Bidding Evaluation Y.N. Wu, C. Liu, M. Naren, H.P. Wang and J. Chen	3147

Chapter 19: Information Technologies in Construction and Industry

A Tree-Structured Traffic Model of Mobile POS Service Applied in Cellular Network R.D. Liu, W. Wu, J.D. Du, W. Xin and D.C. Yang	3155
Chinese Date Detecting and Grading Method with Computer Vision F.J. Wang and Z.W. Xia	3161
The Application of Multifractal Theory and LVQ Neural Network in Maize Disease Intelligent Identification Z.W. Xia and F.J. Wang	3165

Uncertainty Analysis for One Direction Singular Rough Sets System Z.L. Guo	3170
Network Security Management for Railway Out-of-Gauge and Enhanced-Load Goods Dispatching System Y.G. Zhang, D.Y. Lei and Q.F. Zeng	3174
Application Research Based on FlexRay Bus for All-Electronic Computer Interlocking System of Railway Signal G.W. Chen, J.H. Yang and F. Zhang	3179
Application of Google Maps API with Grails Services for Mapping Highway Construction Sites I.A. Bahrudin, M.E. Abdullah, R. Mohd Hanifa, M. Surip and A.A. Abdul Latiff	3185
Method of Rectangular Angle Vectorization and Restriction Used in Auto-Forming Board and Application L. He, Q. Wen, H. Zhang, J. Yuan, Y.B. Tian, J.X. Gen, S.J. Wang, Y. Jin and Y.H. Wang	3189
The Generation of a Three-Dimensional Aggregate Model for Concrete Based on Unity3D B.G. Luo, H.Y. Qin and C.X. Huang	3196
FEM-Based Modeling and Deformation of Soft Tissue Accelerated by CUSPARSE and CUBLAS B. Yang, X. Chen, X.Y. Liao, M.L. Zheng and Z.Y. Yuan	3200
Numerical Simulation of Explosion in a Confined Box-Shaped Structure F. Yang, L. He, X. Liu and B. Jia	3204
Study on Effective Classifier for Software Engineering Data Sets Y.H. Gao	3208
Study on Sink Node Design for Wireless Network N. He	3212
Research on the Application of Animation Technology in Three Dimensional City Modeling D.M. Yang, J. Yu, F.H. Liang, X.W. Wu and G.D. Bao	3216
A Security Framework for the Internet of Things Based on Public Key Infrastructure N. Hong	3223

Chapter 20: Engineering Education and Other Related Topics

Establishment of 'Urban Tunnels' in the Major 'Civil Engineering' G. Wei, J.C. Ye and X.J. Wei	3229
The Construction of Characteristic Specialty of Water Supply and Drainage Engineering in Local Universities S.Y. Li, S.B. Xie, L.S. Rong and J.X. Liu	3233
Application of Microsoft Agent in Humanized Courseware Y.F. Chen, W. Zheng and H.T. Chen	3239
Reinforcing Practice Teaching and Cultivating Applied Talents in Civil Engineering L.Q. Huang, T.Q. Wu, Z.Y. Zhou and M.Z. Chen	3243
Research Experimental Teaching System Based on Innovative Practice Ability T.Q. Wu, N.C. Xu and L.Q. Huang	3248
Study on the Safeguard Measures of Civil Engineering "Outstanding Engineers" Training for New Colleges and Universities B.Y. Zhao and L.Q. Huang	3253
The Research of the Multimedia Technology Application in the Enhancing Oil and Gas Recovery Teaching W.G. Ma, K.L. Wang, J.H. Zhang, W.X. Wu, J.C. Wu and W.L. Song	3257
The Discuss on Step-Voltage and Risk of Down-Conductor When Lightning Strikes a Building B.S. Bao and W.Q. Zhong	3261