Table of Contents

Preface, Organizers and Sponsors

Chapter 1: Traditional Construction Materials

Energy Absorption of Spruce Wood under Three Kinds of Quasi-Static Compression Conditions	
W.Z. Zhong, X.C. Huang, Z.M. Hao, R.Z. Xie and G. Chen	3
Experiment on the Cement-Tailings Ratio of Cemented Filling with Tailings of Daye Iron Mine and Research on Hydration Reaction Mechanism C.F. Du, L. Chen and D. Cai	10
Experimental Study on the Dynamic Compressive Mechanical Properties of Concrete J.S. Sun, Y.M. Dou, B. Li and Z.X. Chen	17
Accelerate Thaumasite Formation in Cement-Limestone Powder Paste by Internal Adding Method C.C. Li, Y. Yao and L. Wang	22
Experimental Research on the Self-Healing Performance of Micro-Cracks in Concrete	22
Bridge L. Sun, W.Y. Yu and Q. Ge	28
Mechanical Characteristics of Concrete Exposed to External Flexural Load, De-Icing Salt and Freeze-Thaw Cycles X.L. Yuan, B.X. Li, S.C. Zhao and S.H. Zhou	33
Effectiveness and Mechanism of Fly Ash in Inhibiting Alkali-Silica Reaction of Sandstone B.X. Li, J.F. Zhang and D. Ke	40
Lime Brust of Sintering Bricks of Purple Sandy Shale: the Effect of Limestone Particle Size Z.G. Feng, Z.P. Tang and H.J. Li	46
The Strain-Energy Criterion of Iso- $\sigma_{\theta}\epsilon_{\theta}$ Line for Mixed Mode Crack in Concrete S.L. Chen, K. Qu, J.J. Shi and L.H. Lu	50
The Roles of B ₂ O ₃ and P ₂ O ₅ in the Formation of Cement Clinker X.W. Ma, J.S. Niu, P.M. Wang and H.X. Chen	58
Experimental Research about Weathering Resistance and Surface Deterioration of Two Kinds of Stone Cultural Relics	
Y. Wang, Y. Xia, J.S. Zhang, H.S. Li, S.B. Dai and Z. Tang	65
Experimental Study on Dynamic Characteristics of Sandy Pebble Soil X.Q. Chen, B. Jia, Y. Yao and D.G. Chen	70
Influence of Nitrogen on Transformation of Vanadium Micro-Alloyed Steels H. Yu, B.H. Chen, X.D. Cheng and K.H. Zhang	75
The Influence of Admixtures on the Corrosion Protection Afforded Steel Reinforcement in Seawater-and-Seasand Concrete	
J.L. Zhou, Z.W. Ou, Q. Chen and Y. Chen	81
Discussions on Fracture Factors of Brittle Materials under the Shear-Compression Condition	
Z.H. Li, J.P. Shi and A.M. Tang	90
Experimental Study on Static Characteristics of Sandy Pebble Soil B. Jia, Y. Yao, L. Cheng and D.G. Chen	95
Study on RC Short Column Strengthened Reliability Y.P. Chu, Y. Yao, B. Jia and Z.Q. Zhang	100
The Relationship between the Strength and the Pore Structures of Cement Paste with Mineral Admixtures Y. Li, J.L. Bao, C.E. Sui and X.L. Du	104
Effect of Heat Treatment on Microstructure and Mechanical Properties of 30MnSi Pre- Stressed Concrete Steel H. Cui and L.F. Zheng	109
Chloride Diffusivity in Cracked Concrete S.P. Zhang, L. Zong and J.P. Liu	113

Prediction of Cement Compressive Strength Based on Accelerated Curing Method Y.H. Luo, Z.G. Gao and G.L. Miao	118
Mechanical and Microstructure Characterization of Fresh High- and Normal- Strength Concrete with Non-Contact Electrical Resistivity Measurement Y. Tian, X.Y. Jin, Y. Zhan and N.G. Jin	122
Solubility of Phosphogypsum in Pure Water and Lime Solution M. Yang	131
Present Situation and Consideration of Rock Burst Hazard L. Deng, Y. Lv and R.G. Deng	136
A Study on Smelting Cold Heading Steel SWRCH6A Using Double-Slag Process H.C. Wang, W. Sun, J.J. Wang, J. Lie, K.Z. Wang and J. Wu	148
Influence of Cooling Methods and Standing Time on Different Aggregate Concrete Strengths after Elevated Temperature Q.Q. Zhang, G.L. Yuan and Y.N. Dong	155
Cause Analysis of the Dangerous Factors in Construction Accidents and their Countermeasures Z.G. Su, Z.A. Jiang and W.G. Dong	160
Experimental Research on the Dynamic Young's Modulus of Specified Density Concrete X.E. Zhou, Y.K. Zhang and D.M. Jiang	164
Finite Element Analysis on Mechanical Properties of Light-Weight Aggregate Concrete Composite Slab	4.50
Y.K. Zhang, S.Y. Zhang and X.E. Zhou Accelerated Carbonation Curing of Foam Concrete with Lower Density D.P. Chen, J.Y. Liu and M. Liu	168 172
Influence of Variable Temperature Curing on Mechanical Properties of Fly Ash Concrete Y.D. Zhao, X.Y. Li, L.C. Kong and W. Du	172
Effect of Naphthalene Based Superplasticizers on Performance of Ultrafine White Cement W.J. Guo, G.X. Du, Q. Xue and J.H. Liao	182
$\begin{array}{c} \textbf{Discussion on Application of Electrical Resistivity Method in Cemented Soil after Pollution} \\ X.Q.\ Dong,\ X.H.\ Bai\ and\ Y.K.\ Lv \end{array}$	188
Simulation Analysis of Surface Deformation by Strip Replacement Mining in the Short- Distance Thin Coal Seam P.S. Zhang, W. Yan and W.Q. Zhang	193
A New Approach of Steel Frames-Reinforced Concrete Shear Wall Hybrid Structure Considered Semirigid Connection J. Liu, X.Y. Huang, G.G. Zhou, Z.H. Wu, Q.B. Wang and H.Y. Zhang	198
Influencing Parameters Analysis of Chloride Threshold Value on Reinforcements Embedded in Concrete	
W.Q. Cao, X.M. Wan and T.J. Zhao Corrosion Behavior of HRB400 Reinforcing Steel Using Cyclic Potentiodynamic	202
Polarization Technique Y.Y. Xu and B.L. Lin Multiscale Modelling of Progressive Demogs in Fiber Poinforced Composites	207
Multiscale Modelling of Progressive Damage in Fiber-Reinforced Composites F. Wang, Z.Q. Chen and Q.F. Meng The Study of Convertibility of Water Cement Ratio in Recycled Water Permeable Concrete	213
Y. Li, J.R. Yang and T.T. Guo Corrosion Behavior of Hot-Dip Galvanized Reinforcing Steel Using Electrochemical	218
Impedance Spectroscopy B.L. Lin and Y.Y. Xu	222
Mechanical Analysis of Bending Accidents for Tower Crane Lifting Boom X.Y. Jiang, T.B. Li and J.M. Xie	228
Discussions on the Two Properties and Applications of Elastic Deformation and Deformation Energy Z.H. Li, J.P. Shi and A.M. Tang	232
Rolling Stones under the Action of the Numerical Simulation Research Shed Hole L. Yang, S.M. Li, D.H. Chen and Z.M. Wu	238
Behavior of Reinforced Concrete Subjected to Boric Acid Corrosion of Nuclear Power Plant Y. Zhan, Q. Li, X.Y. Jin, Y. Tian and N.G. Jin	242

Experimental Study on Strength and Abrasion-Resistance Enhancement Admixture D.J. Xu, C.Q. Fu, X.Y. Jin, Y. Tian and N.G. Jin	247
Microstructure and Durability of RC in Boric Acid	247
H.Z. Jin, Q. Li, X.Y. Jin, Y. Tian and N.G. Jin	252
Study on the Chloride Contents of Sea Sand in Ningbo J.Z. Liu, J.B. Chen, G.L. Zhang and Z.M. He	257
Study on the Strength of Sea Sand Concrete in Ningbo J.Z. Liu, G.L. Zhang, J.B. Chen and Z.M. He	262
Comparison of Post-Buckling Behaviors of a S-S FGM Beam under Conservative and Non-	
Conservative Distributed Forces Q.L. Li and S.R. Li	266
The Creep Rupture Numerical Simulation of Coal (Rock) Layered Slope F. He, L.G. Wang, Z.X. Yao, L.L. Zhang and G.C. Zhao	271
Mechanical Analysis of the Recycled Concrete Brick Masonry Wall under In-Plane Load S. Gu, G.P. Chen and S.W. Zhu	278
A New Technique to Manufacture Desalinated Sea Sand Concrete and its Properties B.Q. Sun, L.J. Wang, C.H. Chen and H. Wang	283
Discontinuous Galerkin (DG) Finite Element Method for the Improved Stokes Equations S.H. Zhang, X.J. Yuan and Q. Yin	291
The Finite Element Analysis of Coupling Law of Stress Field / Seepage Field in	
Impermeable Stratum Medium J.Y. Li	298
Chapter 2: Advanced Construction Materials	
Experimental Study on Sustainable Concrete with the Mixture of Low Calcium Fly Ash and Lime as a Partial Replacement of Cement	
M. Jayakumar and M.S. Abdullahi	307
Influence of Retarders on the Microstructure of Hardened Building Gypsum Paste and the Mechanism of its Strength Loss J.D. Qu, B.Z. Li and J.H. Peng	313
Effect of Citric Acid on the Crystal Morphology of Gypsum and its Action Mechanism J.D. Qu, J.H. Peng and B.Z. Li	321
Research on the Sulfate Corrosion-Resistance Admixture for Concrete B.J. Yang, Q.Y. Li, S. Gao and T. Li	327
Finite Element Analysis of Compressive Strength of Recycled Coarse Aggregate-Filled	52,
Concrete J. Li, Z. Liu, X.F. Qu, C.Q. Zhu and Y. Zhang	331
Numerical Experiment on Size Effect for SFRC Splitting Fracture C.Q. Fu, X.Y. Jin, Y. Tian and N.G. Jin	335
The Gray Solar Heat Reflecting Coating with Insulating Heat and Lowering Temperature	333
Q.Q. Guo, X.F. Wang, D.G. Li, X.Z. He and H.Q. Chen	340
Assessment of Government Contractor Classification System in Saudi Arabia A.M. Alsugair and M.M. Abuthnain	345
Performance Experimental Study and Energy Consumption Calculation of Hollow Glass Window Film	
D.P. Yang, J.P. He and Z.S. Zhang	356
Mechanical Properties of Concrete with Recycled Clay-Brick-Powder Z. Ge, R.J. Sun and L. Zheng	360
Modification Mechanism of SEAM-Added Asphalt Mixture and its Application in Severely Frigid Zone	
B. Žhao, S.X. Ma and P.W. Hao	365
Experimental Study on the Axial Compression Behaviors of Short Rectangular Concrete Columns Encased in CFRP Tube W.B. Sun	370
Effects of Gradation of Sand on the Mechanical Properties of Engineered Cementitious	2,0
Composites Y.Z. Yang, Y. Yao and Y. Zhu	374

Research on Flexural Behavior of Coarse Recycled Aggregate-Filled Plain Concrete Beam J. Li, L.F. Wang, J. Li, X.F. Qu and L. Jang	379
Shrinkage Cracking Resistance Property of Self-Compacting Concrete X.Y. Jin, C.Q. Fu, N.G. Jin, F. Ge and Y.B. Zhao	383
Design and Experimental Investigation of a New-Style Pultruded GFRP Mid-Beam W. Zhang, M.Y. Zhang and L.T. Gao	388
Research Status and Prospects of the Self-Repairing Concrete J. Sun and W.X. Ding	393
Interfacial Transition Zone Characteristics of Light-Burnt MgO Concrete X. Chen, H.Q. Yang, Y. Shi, K.T. Xiao and Y.Q. Lin	397
Synthesis and Dispersibility of Polycarboxylate Copolymers with Poly(ethylene oxide) Side Chain S. Li, Q.J. Yu, J.X. Wei and Z.Y. Wen	401
Study on Self-Healing Concrete with Pre-Embedded Healing Agent M. Zhang, F. Xing, H.Z. Cui and H. Lu	405
Correlations between Fresh Properties of Self-Consolidating Concrete Including Palm Oil Fuel Ash	
M. Safiuddin, M.A. Salam and M.Z. Jumaat	409
Impact Property of Concrete Containing Nano-Particles for Pavement M.H. Zhang and S.N. Yu	417
Experimental Research on the Mechanical Properties of Compacted Cement Soil in Collapsible Loess Area and Engineering Application Y.X. Yu, Y.F. Jiao, B. Liang and W. Zhang	421
Permeability of Concrete Containing Air-Entraining and Mineral Admixtures W.R. Huang, D.B. Yang, J.T. Zhou, L. Li and W.N. Zhang	425
Optimal Design of DFRCC Subjected to Fatigue Loading P.J. Chun and T. Matsumoto	430
Tensile Creep Behavior of HPC at Early Ages under Different Curing Temperatures Y. Yang, P. Li and Y.P. Wu	434
Mechnical Property Study of the Slab Filled with DEPP H. Zhang, Q.K. Xu, X.B. Zhang, L.M. Wang and D.Y. Zhang	440
Influence of the Fly-Ash Content of Concrete at Low Water-Binder Ratio on Hydration Degree of Binders and Cement L.W. Xu and J.L. Zheng	445
Preparation and Performance Research on Phenolic Insulation Foam Used Low- Temperature Foaming Technology	450
X.W. Zhuang, S.H. Li, Y.F. Ma, W. Zhang, Y.Z. Xu, C.P. Wang and F.X. Chu Experimental Research and Numerical Analysis on Fiber Reinforced Plasterboard- Reinforced Concrete Composite Floor Slabs	450
X.L. Huan and C.L. Li	455
Orthogonal Test of Characteristics of Complex Cememting Material of FGD Gypsum-Fly Ash	
Y. Zhang, X.T. Wang, M. Zhou and W.Z. Wang	460
Influencing Factors of the Fluidity and Strength of Phosphate Concrete H.T. Wang, J.H. Cao, S.M. Li and M. Xue	464
Effect of Mineral Admixtures and Chemical Activators on the Strength of FGD Gypsum- Fly Ash Complex Cementing Material X.T. Wang, M. Zhou and Y. Zhang	469
Fireproof Performance of Foam Concrete Insulation Board S.J. Yu, Y.L. Wang, B.J. Duan, J.W. Zhou, F. Yang, X.G. Wang and D.L. Liang	474
Influence of Nano-SiO ₂ and Nano-CaCO ₃ on the Mechanical Properties of Concrete with Different Strength Grades	.,.
M.Z. Huang, T. Meng, X.Q. Qian and J.J. Zhang	480
Experiment and Research on the Influence of Basalt Fiber on Cement-Based Material Performance X.H. Cong, J. Sun, F. Zhao and H.B. Liu	
	485
Research on Shrinkage and Cracking of Cement Paste Based on Environmental Scanning	485

Experiment Study on the Durability of Dry-Mixing Self-Compacting Concrete L. Zong, S.P. Zhang and P.X. Liang	493
Experimental Study on Thermal Expansion Properties and Micro-Pore Texture of High Strength Concrete in Early Age	
A.K. Wang, Y.D. Xue, R. Wang, S.X. Lv, X.K. She, B. Li and H.J. Tian	497
A New Binding Agent of Na ₂ O-B ₂ O ₃ -SiO ₂ Syetem Sol for Expanded Perlite Thermal Insulation Board	
J.X. Gao, X.S. Wang, L.B. Li, H. Ruan, H.C. Tu, Z.S. Wang and Z.Y. Wang	502
A Novel Building Thermal Insulation Material: Expanded Perlite Modified by Aerogel Z.S. Wang, H.C. Tu, J.X. Gao, G.D. Qian, X.P. Fan and Z.Y. Wang	507
High Performance and Low Cost Compound Admixture of Expanded Perlite Powder/Redispersible Polymer Powder for Dry-Mixed Mortar H.C. Tu, X.S. Wang, L.B. Li, H. Ruan, J.X. Gao, Z.S. Wang and Z.Y. Wang	513
Study for Aeolian Sand Characteristics by Static Experiment Y.L. Song, Y.W. Zhang and J. Yu	519
The Influence of Formaldehyde/Phenol Ratio on Properties of Foamable Phenolic Resin and Phenolic Foam	
W. Zhang, Y.F. Ma, F.X. Chu and C.P. Wang	523
Microstructure of Alkali-Activated Granulated Blast Furnace Slag-Based Geopolymer Y.J. Zhang, H.H. Li, Y.L. Zhao, Y.C. Wang and D.L. Xu	528
Compressive Properties of Steel Fiber Reinforced Ultra High Strength Concrete J. Su, J.L. Tao, T. Li and Y. Yin	532
A Study of Thermal Performance on Cool Colorful Water-Based Reflective Coatings for	
Building P. Wang, W.Y. Lv, Z.Y. Wei, X.Z. Zhang, L. Liu and W.X. Zhang	536
High Performance Thin-Bed Dry-Mix Mortar for Autoclaved Aerated Concrete Blocks Z.M. Huang, Y.F. Yuan and Z.Y. Wen	540
Study on the Corrosion Resistance of Polymer-Modified Reactive Powder Concrete D. Lin, Y.F. Yuan and Z.Y. Wen	548
Preparation and Properties of MgO-MgAl ₂ O ₄ -FeAl ₂ O ₄ Bricks in Cement Kiln S.L. Ma, Y. Li, J.L. Sun, Y. Li and W.B. Xia	554
Defects in ZrO₂-Reinforced Aluminum Foam Prepared by Infiltration Process F. Wang, J.G. Wu and L.C. Wang	561
Influence of Silane Treatment on the Freeze-Thaw Resistance of Concrete X.J. Gao, H.W. Deng and Y.Z. Yang	565
Study on High-Efficiency Complexed Foaming Agent for Lightweight Foamed Concrete X.M. Liu, L.Y. Wang, S.L. Li and J.P. Wang	569
Experimental Study on the Mechanical Properties of Q460C Construction Steel at Low Temperature	
Y.Q. Wang, Y. Lin, Y.N. Zhang and Y.J. Shi	574
Research on the Properties and Application of Spheroidizing Pumice Concrete Block W.S. Weng, Z.Y. Liu and L.W. Wang	580
New Type Spherical Pores Al Foam and its Properties Z.G. Wang, P. Cai and Z.W. Wang	584
Optimizing Performance of Magnesia-Spinel Brick Used at Cement Rotary Kiln D. Wang, Y. Li, Y. Li, R. Li and Y. Li	588
Investigation on Application Performances of Chrome-Free MgO-Al ₂ O ₃ -ZrO ₂ Bricks for Sintering Zone in Cement Kiln Y. Li, Y. Li, W.B. Xia, W. Zhou, S.L. Ma and D. Wang	595
Study on Test about the Impermeability of Magnetic Water Concrete Y.X. Wang, X. Wang and Y.K. Wang	601
Experimental and Economic Analysis of Airport Crumb Rubber Concrete (CRC) Pavement Y.R. Li, H. Zhu and C.S. Liu	605
Statistical Evaluation for Impact Resistance of Steel Fiber Reinforced Lightweight Aggregate Concrete H.W. Song and H.T. Wang	609

Application of Capillary Absorption on Characterization of Structure of Cement Compacts Containing Micro Silica Fume	
Y.Q. Shen and M. Deng	614
The Impact of Barium Aggregate on the Microstructure of Sand-Lime Products R. Dachowski and A. Stępień	618
Linear Analysis and Strength Prediction of Experiment on Lightweight Heterogeneous Soil Mixed with Expanded Polystyrene X.L. Sui, M.S. He and X.J. Fu	622
Research on Improving the Durability of Fly Ash Concrete H.Z. Quan	626
Bonding Force Investigation between C-S-H Clusters in the C ₃ S Pastes and AFM Tip H.Y. Sun, A.M. Gong and Y.L. Peng	630
Study on the Simulation of Damage Constitutive Relationship for High Strength and High Performance Concrete	62.6
S.S. Zheng, Y. Hu, B. Liu, M. Xie and Q.L. Tao Research Progress on the Mechanical Property of High Strength Structural Steels H.V. Ben, G. Shi, Y. L. Shi, and Y. O. Wang.	636
H.Y. Ban, G. Shi, Y.J. Shi and Y.Q. Wang Study of CaCO ₃ Whiskers: Preparation and Applicability in Construction Materials J.Q. Wei and M.L. Cao	640 649
Experimental Study on Mechanical Properties of New Self-Compacting Concrete for Strengthening Engineering	049
K.X. Hu, Y.B. Zhang and K. Xu	657
Effect of Clay Dosage on Mechanical Properties of Plastic Concrete Q.Y. Guan and P. Zhang	664
Configuration and Pyrological Performance of Self Thermal Insulating Blocks X.W. Ma, L.X. Yang and Y.Y. Ji	668
Comparative Experiment on Frost Resistance of Different Kinds of Polymer Fibrous Concrete Z.W. Shi, S. Liu and R.R. Zhang	673
Studies on Improving PP Fiber Reinforced Concrete L.H. Chou, C.K. Lu and M.T. Lee	678
Application and Analysis on Polypropylene Fibrous Concrete Y.H. Wang and X.D. Liu	682
Study on the Ultra High Performance Concrete Containing Limestone Powder S.H. Liu, Z.Y. Gao and M.J. Rao	686
Effect of Air Plasma Treatment on Property of PET Fibers Used in Conductive Asphalt Concrete	600
F.T. Ruan, X. Jin, W.Y. Wang, C.F. Xiao and C. Xie Synthesis and Water Absorbency of Poly(acrylic acid-co-acrylamide)	690
T.X. Li, N. Kong, S.S. Gao, P. Sui, Y.H. Zhao and C.Q. Yuan	695
Mechanical Properties Analysis of the Microstructure of Rubber Modified Concrete L. Kou, F.T. Pan and C.Y. Wang	699
High Temperature Rheological Characteristics of Brucite Fiber Modified Asphalt Mastics B.W. Guan, S.F. Chen, R. Xiong, Y.P. Sheng and L.L. Ma	703
Utilization of Desulfuration Residues in Non-Autoclaved Aerated Concrete F.X. Li, Y.Z. Chen, Q.J. Yu and J.X. Wei	707
The Compounding and Application Mechanism of Polycarboxylate-Based Superplasticizers in the Self-Compacting Concrete M.M. Gui, Y.H. Fang, Z.D. Lan, F.Y. Yu, T.X. Lin, Z.J. Jiang and Q.R. Wen	711
The Impact of Lithium Polysilicate on the Microstructure of Sand-Lime Products R. Dachowski and Z. Owsiak	718
Research on Durability Performance of Novel Double Solution Grouting Material with	,10
Metakaolin C. Yan, Q.J. Ding, J.P. Xu and H.X. Wang	722
Performance Study on Alumina Red Mud-Cement Stabilized Macadam Base M. Qin, N.X. Liang and Z.F. Lu	728
Effects of Nickel on Structure and Properties of Ferro Superalloy H.T. Wang, C.L. Chen and D.C. Kang	733

Study on Carbonation and Corrosion Resistance of Reinforced Recycled Concrete Y.L. Sun, F. Tian, X.S. Xie and Y.Y. Chen	737
Failure Load Prediction of Bolted Single-Lap Composite Joint Based on XFEM Z.Q. Wang, S. Zhou, J.F. Zhang and X.Q. Wang	742
Test of Thermal Capability to Rubber Concrete L.Q. Yang, L.W. Zhang and R. Gao	746
Optimization Study of Expansive Agents of Shrinkage-Compensating Concrete Q.Y. Ma, W. Huang and P.B. Cui	750
Effect of Fly Ash and Lime Treatment on Mechanical and Swell Properties of Dunkirk Dredged Sediments D.X. Wang, R. Zentar, N.E. Abriak and W.Y. Xu	755
Defects of Conventional Concrete and Developments of Self Compacting Concrete along with its Applications Z.Z. Wang and F.X. Supartono	761
Study on the Flexural Property of PVA-High Toughness Cementitious Composites W.L. Tian, L. Xu and X.W. Wang	765
Synthesis and Properties of Mn-Doped Alumina Red Pigment Prepared by Low- Temperature Combustion-Calcination Process S.X. Wang, J. Yang, X.Q. Ouyang and D.H. Han	769
Research on Superplastic Zn-22Al Alloy with a Large Size to a New Seismic Damper L.J. Kong, X.H. Dong, Y.B. Chen, X.L. Ning, J.T. Wang and J.Q. Liu	773
Chapter 3: Green Building Materials	
Carbonation Behavior of Recycled Aggregate Concrete under Loading P.H. Zhu, X.J. Wang and J.C. Feng	779
Fuzzy Synthesis Method for Evaluating Quality Class of Coarse Recycled Concrete Aggregate P.H. Zhu, J.C. Feng and X.J. Wang	783
Research about the Effect of Polypropylene Fiber on Mechanical Properties of Curing Sludge S.L. Zhan, S.S. Gao and J.Y. Lai	788
Preparation of a New Kind of Ultra-High Performance Water Reducer and its Application Study	700
G.R. Duan, X. Wang, G.H. Huang and Y. Gong Discussion on Application Prospect of Starch-Based Adhesives on Architectural Gel	795
Materials Y. Wang	800
Syntheses of Ethyl Cellulose Acrylate Hybrid Latex via Mini-Polymerization R.Q. Chen, F.X. Chu, C.P. Wang, E. Bourgeat-Lami and M. Lansalot	804
Fly Ash-Desulfurization Gypsum Mortar and Concrete Part I: Mix Proportions and Hydration Y. Chen and Y.L. Gao	809
Freeze-Thaw Model and Service Life Prediction of Hybrid Fiber Reinforced Lightweight Aggregate Concrete	809
J.F. Huo, D.P. Liu, X.D. Shen, J.J. Chu and D.T. Song Study on Frost Resistance Durability of Lightweight Aggregate Concrete Improved by	817
Fiber J.F. Huo, H. Yang, Y.L. Hou, J.J. Chu and W.L. Li	822
Research on Contributing Factors of Gypsum-Based Composite Material Performance Y.P. Ai, L.J. Liu, Y.Y. Zeng and T.P. Zhou	828
Properties of Cement-Based Materials Containing Melting Incinerator Bottom Ash A. Cheng, H.M. Hsu, S.J. Chao, W.T. Lin, H.H. Chen and C.T. Lin	834
The Effect of Hyperdispersant on the Mechanical Properties and Morphology of Sisal Fiber/Polypropylene Composites	020
C.H. Yu, S.R. Lu, Z.Y. Yang, K. Liu and X. Fan	839

Mechanical Properties of the Ecological Filling Blocks of the New Composite Wall Based on the Unified Strength Theory	
	843
A Study of the Mixing Ratio and Mechanical Properties of Clay-Carbide Slag-Fly Ash Unfired Brick W.X. Hu	849
Experimental Study on Aerated Concrete Produced by Iron Tailings	853
Evaluating the Influence of Mix Proportion Parameters on Anti-Permeability of Green High Performance Concrete with Grey Relational Analysis Q.Y. Guan and P. Zhang	857
Research on Influences of Activity Mineral Admixture on Workability and Mechanical Properties of High Strength Lightweight Aggregate Concrete	861
Study on Properties of Self-Compacting Concrete with Recycled Powder	866
Utilization of Ground Granulated Blast-Furnace Slag Seed Crystal in Eco-Cement	870
Study on Interface Properties of EVA-Modified Cement Mortar Y.Y. Wu, B.G. Ma, J. Wang, F.C. Zhang and S.W. Jian	875
The Effect of Process Conditions on the Preparation of α-Calcium Sulfate Hemihydrate from FGD Gypsum Using the Hydrothermal Method under Atmospheric Pressure	881
Property of High Volume Industrial Residue Concrete K.L. Li, Z.Z. Yang, G.H. Huang and X.S. Tang	890
The Application of Glazed Hollow Beads in Thermal Insulation Structure of Gallery and its Energy Conservation Effect X.H. Guo, Z. Li and G.Q. Zhu	895
Experimental Study on Application Properties of Macroporous Ecological Concrete without Sand	
Z.X. Xing and Y. Xing	901
Exploration on Feasibility of Preparing Cement Clinker with Artificial Aggregate Concrete J.B. Wang, Z.H. Zhou and D.Y. Xu	906
,	910
Strength Characteristics of Recycled Concrete after Freezing and Thawing W.B. Xu, Y. Hu, T.F. Liu and X. Li	914
Studies about the Initial Curing Conditions on the Carbonation Resistance of Fly-Ash Concrete	020
Research on Light-Duty and Energy-Saving Characteristic of Membrane Structure and its	920
Development Prospect J.R. Sheng and T.J. Zhang Effect on Structure and Early Hydration Activity of Steel Slag Modified by Adjusting	925
Materials and Temperature	931
Study on Determination Method of the Volatile Organic Compounds Emissions from Particleboards for Indoor Finishing S.J. Sun, J. Shen and Z.Y. Zhao	935
Modulus of Rupture Test and Numerical Fitting of Plybamboo Form	939
Volatile Organic Compounds Emissions of Particleboards in Response to Processing Parameters	/
Y. Liu, J. Shen and X.D. Zhu	943
Effect of Processing Parameters on Properties of Wheat-Straw Boards with FRW X.D. Zhu, F.H. Wang and Y. Liu	947
New Light Flame-Retardant Materials of Reinforced Melamine-Urea-Formaldehyde (MUF) Foam with Wood Pulp Fiber: Preparation and Properties Evaluation S.H. Li, X.W. Zhuang, Y.F. Ma, C.P. Wang and F.X. Chu	951

The Implementation of Statistical Inference to Study the Bending Strength of Sustainable Hybrid Sandwich Panel Composite	
J. Fajrin, Z.G. Yan, F. Bullen and H. Wang	956
Properties of Fly Ash Based Geopolymer Concrete Exposed to Sustained Elevated Temperatures M.S. Sudarshan and R.V. Ranganath	962
Experimental Study of the Effect of Water Reducer on the Plaster Board Production in Low Energy-Consumed Way	
J. Sun, X.H. Cong, H.B. Liu and L. Sun	969
Review of Study on Polyurethane Foams from Biomass M. Zhang, Y.H. Zhou, X.H. Yang and L.H. Hu	974
Dynamic Simulation of the Pile-Soil Interaction in the Vibratory Pile Driving Process X.P. Li, Z.L. Duan, T. Li and B.C. Wen	980
Study on Preparation and Dispersion Effect of Polycarboxylate Superplasticizer with Broken Dentiform Structure Z.Y. Liu, C. Cui and L. Li	984
Effect of Cement Clinker on the Properties of Flue Gas Desulphurization Gypsum-Steel Slag Cementitious Composites	000
Z. Wang, L. Zhang, L.Y. Fan and G.P. Shi Experiment Research on Basic Mechanic Property of Recycled Concrete with Different Ratio of Recycled Aggregate	990
Y.D. Sun and X. Xiao	994
Evaluation Indexes System for Assessing Road Construction with Recycled Waste Materials to Achieve Better Environmental Impacts D.Z. Chen, C.J. Geng and W.Z. Sun	1001
Preliminary Research on Waste Incineration Bottom Ash Concrete	1001
R. Zhang and T. Zhang	1007
Preparation of Cement Water-Reducer by Sulfonation Modifying of Wheat Straw Hydroxymethyl Ethanol Lignin J.B. Li, M.Y. Zhang, H.J. Xiu and J.W. Cao	1011
Effect of Iron Ore Tailings as Fine Aggregate on Pore Structure of Mortars L. Yu, J.S. Tian, J.X. Zhang and R.J. Yang	1017
Use of P-Wave Velocity to Estimate the Strength of Hardened Self-Consolidating Concrete Y.C. Lin, Y.C. Lin and Y.F. Lin	1025
Influence of Fly Ash as Cement Replacement on Chloride Penetration and Frost Resistance of Recycled Concrete X.H. Wu, P. Yuan and Y.T. Jiao	1031
Experimental Investigation on Slip-In Connection for Cold-Formed Steel Double Channel	1031
Sections T.C. Siang, M.M. Tahir, P.N. Shek and A.B.H. Kueh	1038
Applying Research on Microwave Promoting Curdle of Cement Concrete Appending UNF-5 Water-Reducing Agent	
Z.J. Wang, X.O. Jin and D.M. Sun Discuss on Trust Level Evaluation Indexes of the Owner to the Controlling Based on Project	1042
Controlling Mode J.D. Sun, D.W. Wang and H. Guo	1046
Modeling Alkali-Silica Reaction Using Image Analysis and Finite Element Analysis J.H. Shin, N.Y. Jee, L.J. Struble and R.J. Kirkpatrick	1050
Effect of Desulfurization Ash with Different Calcium Sulfite Content on Performance of Cement Based Materials X.D. Wen, D.D. Xie, Y. Yi and Z.J. Xu	1054
Experimental Study on Drying Shrinkage and Water Absorption Rate of Recycled Concrete Hollow Block	1050
Z.X. Zeng and L.X. Su The Stone Chips and Using in PHC Pipe Piles	1058
Y.H. Jiang	1062
Night Ventilation Research of Office Buildings Part 2: Cooling Potential of Continental Climate Zone in China X.R. Zhu, L. Yang and J.P. Liu	1066
A.A. Zhu, D. Tung unu J.T. Diu	1000

Experimental Method and Research Evolution of Strength Prediction of Cement Concrete Z.J. Wang, X.O. Jin, G.Q. Fu and D.M. Sun	1071
Elimination of Debonging of FRP Strips in Shear Strengthened Beams Using Grooving Method	
D. Mostofinejad and A. Tabatabaei Kashani	1077
Damage Assessment of a Prestressed Simply Supported Bridge Using Microwave Interferometer	
C.C. Cheng, C.P. Yu and K.T. Hsu	1082
How Human-Computer Interface Redefines Original Lifestyle in Architecture? Y.C. Huang	1088
Assessment of Diaphragm Wall's Structural Impact on Groundwater Hydrology T.H. Chang	1098
A Global Damage Indicator Based on the Modal Parameters in the FE-Simulation of the Structures	
S.Y. Noh and E.M. Sin	1105
Flexural Behavior of Beam Reinforced by Deformed Bars and Untensioned Wire Strands in Combination	1100
M.J. Jo and S.Y. Noh	1109
The Purpose and Main Basis of House Layout Analysis in Interior Design C.Y. Liu	1113
Embedded Sensor for Detecting Corrosion of Reinforcement in Concrete M. Ismail, A.R. Siti Fatimah, B. Muhammad, N. Norhazilan Md. and H. Bakhtiar	1118
Technical Viability Analysis for the Use of Milk Residue in the Consolidation of Taipa in	
Historic Constructions M.D.A. Cocco and G.P.X. Gonçalves	1124
High Strain Low Cycle Fatigue and Anti-Seismic Behavior of HRB400 QST Reinforced Steel Bars	1124
Y.K. Lv, G.M. Sheng and H.F. Xue	1128
Analysis of Testing Methods for Volume Stability Evaluation of Steel Slag Sand Y.X. Lun, S.S. Liu, M.K. Zhou and X.F. Liu	1134
Numerical Simulation on the Compound Crack Propagation Process in Concrete P.X. Xia, G.P. Zou and L.Q. Tang	1139
Juniper Timber: Potentiality of a Vernacular Raw Material J.R. Ruiz Checa and V. Cristini	1143
Development of Non-Autoclaved Aerated Concrete by Alkali Activated Phosphorus Slag X.J. Jiang, Y. Yun and Z.H. Hu	1147
Precast Lightweight Foamed Concrete Sandwich Panel (PLFP) Tested under Axial Load: Preliminary Results	
N. Mohamad, W. Omar and R. Abdullah	1153
Chapter 4: Civil Engineering Structures	
Load Carrying Capacity of Hybrid FRP-Concrete Composite Pile	
J.S. Park, S.S. Lee, J.H. Nam, I.K. Kang, D.J. An and S.J. Yoon	1165
The Research on the Airflow Organization of Residential Kitchen and how to Introduce Make-Up Air	1172
S.W. Shang, X.Y. Li and H.F. Guo	1173
Research on FRP-Reinforced Concrete Exposure Test Y.F. Chen, C.H. Chen, H. Wang and C.M. Zhang	1177
Study on Application of Mortar Splint in the Reinforced Masonry Structure Z.J. Liao and C.H. Chen	1183
Analysis of Elastic Beam Subjected to Moving Dynamic Loads R.Z. Wang, S.K. Chen, C.Y. Wang and B.C. Lin	1187
Numerical Investigation into Rockburst Proneness of Deep-Buried Tunnels with Arch-	
Shaped Wall X.Y. Wang, Z.S. Shao and Y.M. Cui	1192
Research on Shaking Table Test of Masonry Building with Rowlock Cavity Walls Z.F. Chen, F. Lu, Y. Yuan and S.S. Miao	1196

The Study of the Railway Tunnel on the Area of Wall Rock Pre-Injection H.F. Su and W.N. Liu	1206
Construction Techniques of Deep Diaphragm Wall in the Yellow River-Crossing Project in South-to-North Water Transfer	1010
D.H. Rui, Q.H. Wu, Z.F. Cao, Y.X. Zhao and G.F. Li	1212
Quality Monitoring for Waterproof and Drainage of Loess Road Tunnel J.X. Lai, J. Sun and C. Liu	1217
Large Deflection of Cantilever Beam with Uniformly Distributed Load Using Homotopy Analysis Method	1222
Y. Xiao	1222
Field Test and Analysis on Impact Factor Spectrum for a Continuous Bridge under Random Traffic Flow W.S. Han, T. Wang and S.J. Yuan	1226
Large Deflection of Tip Loaded Beam with Differential Transformation Method Y. Xiao	1232
Study on Geomorphologic Spatial Information Mining and Application L.H. Liang, L.X. Xing, T.L. Li, H.Y. Jiang and L.J. Jiang	1236
Study on Simulation and Stability Analysis of Subway Station Excavation from the Vertical Construction Well	
J.S. Xie, M.Z. Bai and Z.Y. Xu	1243
Structural Damage Detection Using Curvature Mode Difference Curve H. Jing, L.L. Jia and Y. Zhao	1248
Research on the Application of Compound Admixture in the Freezing Mine Shaft Lining	
Concrete X. Zong	1252
Geological Disasters Induced by Wenchuan Earthquake and Site Selection for Post- Earthquake Reconstruction W.B. Jian and R. Li	1256
In Situ Test and Mechanical Analysis of Multi-Arch Tunnel with Large Section in Soft and	
Weak Rock Mass T. Liu, Z.C. Dong and H.Y. Yang	1262
Model Test on Soil Stress and Displacement Changes Induced by Active Ground Fissure Y. Liu, Q.B. Huang and J.B. Peng	1266
Behaviour of Composite Beam with Trapezoid Web Profiled Steel Section in Sub- Assemblage Frame	
S. Anis, M.M. Tahir, A. Sulaiman, P.N. Shek, T.C. Siang and A.B.H. Kueh	1271
Experimental Investigation on the Strengthening Composite Beam by Shaped-Steel under R.C Beam Jointed with Short Welding Rebar L.T. Gao, Q.Y. Shan and T.W. Wu	1275
A Smart Base-Isolation Using Piezoelectric Friction Damper	12/3
N.X. Dai, P. Tan and F.L. Zhou Experimental Study of Seismic Performance on Three-Story Prestressed Fabricated	1281
Concrete Frame M.R. Song, B.K. Liu, S.J. Huang and A. Zhou	1287
Prediction Model for Cementing Efficiency of Fly Ash Concrete by Statistical Analyses H.B. Cho and N.Y. Jee	1293
Elasto-Plastic Behavior of Doubler Plate Reinforced Tubular T-Joints W.N. Sui and Z.F. Wang	1297
Is Gypsum External Rendering Possible? The Use of Gypsum Mortar for Rendering Historic Façades of Valencia's City Centre C. Mileto, F. Vegas and V. La Spina	1301
Study on Seismic Performance of Light Wall Modular Composed of Oriented Structural Straw Board and Tennon-and-Mortise Connection Frame Q.F. Xie, H.B. Xiong and X.L. Lu	1305
Effect of Steel-Concrete Interface on Reinforcement Corrosion in Marine Environment R.J. Zhang	1311
Dynamic Numerical Simulation for the Problem of Tunnel Rock Mass Large Deformation of a Hydropower Project in the Upper Reaches of Lancang River	1,311
Y.S. Li, G.P. Cao and J. Bao	1315

Survey on Factors Affecting Impermeability of Waterproof Concrete Y.J. Li, Y.L. Gong and J. Yin	1320
Discussion on the Cohesive Strength of Sand Q.H. Huang, J.N. Huang and Y.H. Zou	1324
Establishment of Vibration Differential Equation and Analysis of Dynamics Characteristics for Curved Beam	
Y.M. Song and D.J. Wu Taizhou Bridge South Anchor Caisson Construction Drainage System Optimization Model	1329
of Settlement and Deformation as Constraint Conditions Y.R. Zhao and Z.F. Zhou	1334
A New Elastic-Plasticity Yield Criterion for Rock and Soil J.H. Liu and W.S. Zhu	1342
Analysis of the Effect of Stopping Dewatering on Group Piles Foundation J.F. Zhang, L. Tao, J.J. Wen and W.X. Liu	1348
Finite Element Numerical Simulation Analysis on Strengthening High Gravity Abutment Using Carbon Fiber Sheet	1256
Z.L. Wang and L.H. Qin Evaluation for Dynamic Performance of Simple-Continuous Bridge	1356
K.J. Sheng and Z.L. Wang	1360
Laboratory Triaxial Test Study on Soil Reinforced with Roots of Manilagrass K.F. Liu, X.R. Yang, X.Y. Xie, C.F. Wu and Y.H. Liu	1366
Experimental Study on the Uplift Resistance of Plate Anchor in Sand X. Zhang and J.C. Yue	1371
Numerical Simulation Algorithm for the Forming Process of Tensile Cable-Strut Structure J.Z. Zhao, W.J. Chen, G.Y. Fu and R.X. Li	1375
Study on Seismic Behavior of Vertical Connection in Prefabricated Reinforced Concrete Structures G.H. Song, D.W. Wang and B.K. Liu	1385
Formation and Evolution of Chaancun Landslide in Dalian City, China Y. Xu, L. Nie, S.L. Dai and M. Zhang	1395
Study on Stability of Explicit Finite Element Method for Wave Motion of Fluid-Saturated Porous Media L. Li, X.L. Du, L.Y. Li and W. Zhai	1400
Strait Crossing Cable Stayed Bridge Girder Evolution L. Guo, A.R. Chen and L.P. Xu	1407
Analysis on Surrounding Rock Deformation of Shallowly-Buried Portal Part of Double-Line Tunnel	
L.M. Ma, L. Wang and L.X. Xu	1418
Study on the Load Test of Old Bridge P. Zhang, L. Wang and D.X. Li	1422
Experimental Research on Instability Activation Mechanism of Old Goaf Overburden Rock Y.B. Zhang	1426
Nonlinear Finite Element Analysis of Concrete Continuous Beams with External CFRP Prestressed Tendons X.Q. Zeng, X.D. Wang and Q.H. Tang	1433
Study on Rock Salt Dissolving Characteristics without Stress Effect Y.C. Tang, J.N. Fang and H. Zhou	1440
Wave Induced Hydraulic Pressure by Wave Conditions of Pontoon Typed Floating Structures	
Y.J. Jeong, Y.J. You and Y.K. Hwang	1444
A New Direct Tension Machine and its Application Z.H. Zhao	1448
Experimental Study on the Influence of Temperature on Shale Mechanical Properties under Conventional Triaxial Compression	
L.B. Meng, T.B. Li, L.W. Jiang and H.M. Ma	1452
Progress of the Durability of Concrete Structure of the Subway M.Q. Wu	1456

The Analysis of Stress Distribution of Hammer Bottom during Dynamic Compaction on Sandy Soil Foundation	
J.Q. Wu, J.H. Deng and X.P. Wang	1460
Risk Evaluation of Environmental Monitoring Indexes for Deep Excavation J. Zhang	1464
Deformation Mechanism of Plate Anchor in Sand X. Zhang and J.C. Yue	1469
Field Test Study of the Blast-Resistance Performance of Optimal Composite Anchorage Structure	
L. Zhao, X.M. Zeng, S.M. Li and D.L. Lin	1474
Experimental Research on Flexural Behavior of FRP-Reinforced Concrete Beams Z.J. Sun, C.H. Chen, M.J. Chu and P. Feng	1478
A Method for Determining the Value of m Based on PLAXIS Nonlinear Finite Element Analysis	1.402
J.S. Gui, Z.G. Li, Q. Meng and B. Zhang The Optimization Design and Parametric Analysis of Photonic Crystal Fiber in Transverse-	1483
Stress Sensing System Q. Cao and L. Liu	1489
Finite Element Program Design of Bridge Structures with Internal and External Prestressing	
J.Y. Sun, Y.C. Yuan and K.P. Li	1493
Cushion Impact on Bearing Capacity Exerting Degree of Soil between Piles for Rammed Cement-Soil Pile Composite Foundation Z.X. Guo, J. Liu and Y.S. Qi	1498
Numerical Simulation of Land Subsidence Caused by High-Rise Building, Applied in Tanggu, China	
F.S. Ma, A.H. Wei, D.M. Ding and J. Guo	1503
Influences on Asphalt Pavement Performance of Graded Broken Stone Sub-Base Based on Cross-Anisotropy L.M. Duan, J.C. Yue and X.F. Niu	1510
The Eigenfrequency Analysis of a 3D Fluid-Structure Acoustic Vibration with Numerical and Experimental Simulations	
Z.X. Yang	1514
Study on Shear Properties of Rock Structural Plane by Grouting Reinforcement Y.J. Zong, L.J. Han and G.L. Han	1520
Parametric Study of Static Strength of Multiplanar KK-JointsSquare Chords and Circular Braces	
A.G. Chen, W.L. Huang, R.Z. Shan and Q.S. Yang	1527
Application of Lead Rubber Bearing in Curved Continuous Bridge Z. Liu and T. Wang	1533
Analysis on the Karst Foundation Collapse Caused by Groundwater Flow Z.K. Liu, B.J. Zhao, Z.F. Gu, C.M. Mu and B.C. Liu	1537
Study on Confined Consolidation Test of Natural Loess D.Q. Kong and R. Wan	1543
Research on Expanding Properties of Limestone under High Temperature Y.J. Luo, B.D. Qin and Y. Liu	1547
The Control Technology on Continuing Displacement of Tunnel in Coal Seam with High Stress Surrounding Rocks M.X. Lu, Z.G. Li, Y.T. Tian, P. Song, Y.S. Huai, T.Y. Lin, C.Y. Liu, D.Z. Tong and S.P. Qiao	1552
Study on Searching the Best Rise of Truss String Structure by Using Fibonacci Method H.B. Zhou, P. Liu and G.Z. Hou	1556
The Alignment Control Analysis of Cantilever Construction for Large Span Composite Continuous Box-Girder Bridge with Corrugated Steel Webs M. Li, J.M. Lu and J.Y. Song	1561
Study on Sublevel Open Stoping with Subsequent Backfilling Mining Method Stope Parameters Optimization	
W.D. Song, D.X. Wang and Y.N. Tang	1567
Calculation of Unlimited Passive Earth Pressure in the Model of RBT Movement T.H. Yang and H.J. He	1572

Experiment Study of the Uplift Mechanism of Disk Piles C.Y. Lu, S.N. Lai and F.L. Meng	1578
Experimental Research on Relationship of Load and Displacement of Universal Testing Machine	1570
J. Xu, L.F. Lu, H.W. Yang, J.N. Wang and Y. Zhang	1582
Experimental Study on Compressive Bearing Capacity of Disk Pile under the Influence of Horizontal Load	
F.L. Meng, X.P. Zhai and C.Y. Lu	1588
Study on the Relationship between Stress-Deformation and Space-Time in Hejiagou Tunnel	
Construction L. Fu, Q. Li, L. Qiao and Z.Q. Li	1592
Study on Destructive Modes of RC Frame Columns in Wenchuan Earthquake C.Q. Liu, W.X. Shi, S.C. Zhao and Y. Pan	1597
The Statistical Laws of Surficial Deformation of Loess Ground during Dynamic	
Compaction S.H. Luo, Y. Wang, J.Y. Yang and T.F. Deng	1602
Experimental Study on the Torsional Behavior of RC Composite Core Walls with Steel	
Tube-Reinforced Concrete Columns and Concealed Steel Trusses Subjected to the Combined Action of Multi-Directional Stresses	
H.Y. Dong, W.L. Cao and J.W. Zhang	1612
Evaluation on Effects of Strengthening High Gravity Abutment Using Carbon Fiber Sheet Z.L. Wang and L.H. Qin	1618
The Structure Selection Analysis on the Support Tower of H-Type Vertical Axis Wind	1010
Turbine	1.000
C.S. Bao and Y. Zhang Seismic Response Analysis for Hong Kong-Zhuhai-Macau Bridge	1622
T. Wang, J. Ning and Y. Li	1628
Statistics Analysis of the Bridge Dynamic Response in the Survey of Expressway Traffic	
Loads T. Wang and W.S. Han	1633
Calculation of the Interfacial Tensile Stress of CFST Members under Axial Pressure Y.H. Huang, R.H. Wang and X.F. Huang	1638
Analytical Hierarchy Process Applied to Risk Analysis of Deep Excavation J. Zhang	1646
Experimental Study on Bond-Slip between Steel Bar and Recycled Aggregate Concrete Q.F. Huang and D.F. Wang	1651
Experimental Investigation on Fire Resistance of CES Columns Subjected to 3-Side Heating X.Y. Mao, W.H. Guo and L.L. Li	1657
Amount of Leachate Generated Factors and Control Measures	1667
Y. Li and A.J. Guo Analysis on Infulence of Pile Spacing Acting on Bearing Capacity of Pile and Soil under Pile	1667
Cap Together G.H. Yang and H.Q. Li	1671
Data Envelopment Analysis Used in Taiwan Performance Evaluation of Highway	
Maintenance K.Y. Wei, J.H. Peng, J.D. Lin and C.R. Ciou	1675
Response of Soil Suction to Heavy Rainfalls in a Tailings Dam	1075
R. Chen, B.Z. Zhang, W.D. Lei and W.B. Luo	1681
Application of Composite Foundation in Reinforcement Treatment for a Highway Existing Culvert	
J.H. Deng, J.Q. Wu, W.B. Li and D.H. Jiang	1686
Internal Force Analyzing of Plane Frame Structure Based on Interaction Theory X. Chen and W. Hou	1691
Behavior of Reinforced Concrete Columns with 'T'-Shaped Cross Section after Exposure to Fire	
Y.Y. Xu, B. Wu, R.H. Wang and M. Jiang	1696
Study on Capillarity Water Rise in Subgrade Soil Y.C. Deng, P.W. Hao and L. He	1702

Study on Strength Forming Process of Cement Stabilized Soil H. Chen, H. Yan and J. Zhang	1707
The Stability Analysis on Reservoir Bank Slope of Granite Stained Subgrade L.C. Wang and P.G. Zhou	1711
Flexural Behavior of Reinforced Concrete Beams Strengthened with Steel Wire Mesh and Polymer Mortar Y. Pan	1717
Seismic Analysis of Immersed Tube Tunnel for Hong Kong-Zhu Hai-Macao Bridge Project X.Y. Hu, X.X. Zhang, Y.L. Qiu, W.H. Dong and B.W. Kou	1723
Theoretical Analysis of SSCC Floor System of through Truss High-Speed Railway Bridges Y.Z. Zhang and L. Chen	1728
Predicted Behaviour of Partially Restrained Connection with Cold Formed High Strength Steel by 3D Finite Element Modelling S. Taufik, S. bin Baharom and R.Y. Xiao	1734
Groundwater Dynamics Analysis of Sanmashan Side Slope in the Three Gorges Reservoir Region, China	1744
J.G. Wang and Z.F. Zhou	1744
Properties of Phosphate Cement Mortar Used as Rapid-Repair Material H.W. Deng, Y.Z. Yang and X.J. Gao	1752
A New Approach to Model Asphalt Pavement Overlay Cracking M. Hsie, C.T. Lin and Y.F. Ho	1757
Research on the Swelling Characteristics of Expansive Soil W. Fu, W.P. Wu, S. Wu, B. He and Y.B. Ruan	1761
Effects of Humidity Field on Creep of Reinforced Concrete Beams S.L. Du, B. Han and Z. Zhang	1765
The Impact Analysis of Grouting Effects to the Settlement of Subway Tunnel Construction W.L. Ding and T. Liu	1769
Performance of Cross Bracings under Reverse Cyclic Loading Z.Z. Zhao, Q.Z. Liu and J.R. Qian	1774
Study on the Maximal Critical Velocity of Pressurization in Subway Station W. Zhong, J.P. Yang, B.A. Pei and Z.H. Gao	1781
Study on T-Section Aluminium Beam-Columns with Web in Compression Z. Zhang and G.Y. Yan	1786
Analysis of Influencing Factor of Super-Long Single Pile's Effective Pile Length T.W. Lai and Q.Y. Zhou	1790
The Bearing Capacity Analyses of Soil beneath the Blade of Circular Cassion F.Y. Yan, Y.C. Guo and S.Q. Liu	1794
Experimental Research on Determining the Geotechnical Parameters with CPTU Methods Y.Y. An and B.T. Wang	1798
Effects of Large Rock Particles on Permeability of Soil and Rock Mixture X.C. Xiang and G.S. Jiang	1804
Selection and Analysis on the Foundation of Long-Span Spatial Arch Structure X.Y. Xiong and Y. Wang	1808
Fractal Research on Cracks of Reinforced Concrete Beams with Different Aggregates Sizes H.Q. Sun, J. Ding, J. Guo and D.L. Fu	1818
Recovery Execution in Landslide at the Portal of Highway Tunnel K. Wang, H.G. Kang and H.T. Wang	1823
Strategy on Improving Lateral Driving Stability of the Automobiles Passing by the Vicinity of A-Shaped Pylon of Zhengxin Yellow River Highway-Railway Bridge in Cross Wind D.L. Wang, A.R. Chen and H.L. Ai	1827
A Case Study of Effect of Horizontal Drains on Rainfall-Induced Landslide L. Tang, X.W. Tang and W. Liu	1834
Uncertainty of One-Dimensional Consolidation of Multi-Layered Soft Clay Soils X.Y. Li	1838
Study on Physical-Mechanical Properties of Xiamen Coast Silt X.C. Xiang and C.Q. Zhu	1842

Fractal Approach on Quantitative Analysis of Micro Pore Structure of Isotropic Consolidated Clay	
X.X. Liu and J.R. Zhang	1846
Detection of Groundwater Aquifer Using Resistivity Imaging Profiling at Beriah Landfill Site, Perak, Malaysia M.H. Zawawi, Syafalni and I. Abustan	1852
The Calculation of Stress Intensity Factors and the Analysis of Propagation Characteristic of Crack at Hole	1076
L.J. Lu, J.P. Liu and Z.M. Li	1856
Study on Seismic Performance of Raw-Soil Structure in China Y.H. Bu, Y.H. Wang and Y. Yin	1862
Performance of a Rigid Frame Arch Bridge under Near-Fault Earthquake Ground Motion Y. Huang, J.J. Wang and D.Y. Jin	1869
Numerical Simulation of Grout Curtain in a DEWPR Tunnel J.X. Wang, B. Feng, P. Wang, Y.Q. Tang and P. Yang	1873
Environmental Isotopic and Hydrochemical Approach of Groundwater in Kerian Irrigation Scheme, Perak	
M.A. Ahmad Nazri, Syafalni, I. Abustan, N. Dor, M.T. Abdul Rahman, L. Mejus and R. Mostapa Experimental Research on Integral Large Span Prestressed Concrete Roof	1877
K.C. Zhao and L. Xie	1883
Calculation of Consolidation Coefficient and Percent Consolidation from Measured Pore Water Pressure of Soft Clay	1000
Y.M. Zhang and J.C. Zhao	1889
The Analysis of Impacting Urban Expressway Operating Speed Factors Z.M. Jiang and H. Wang	1893
Element-Free Spline Method for the Vibration Analysis of Functionally Graded Material Plate	
S.B. Li, C.F. Jia, L.J. Jiang and R. Qin	1899
Simulations on Expansive Strain of Concrete Caused by Ettringite Growth under Sulfate Attack X.B. Zuo and W. Sun	1906
Dewatering Preloading Test and Ground Subsidence in a Project Y.M. Zhang and J.C. Zhao	1912
Observation and Numerical Simulation on Post-Construction Settlement of Dynamically Consolidated Foundation Y.M. Zhang and J.C. Zhao	1917
The Influence of Corrosion Types on the Deterioration of Shear Strength of Corroded RC	191/
Beams Z.H. Lu and Z.W. Yu	1922
Research on Fully-Enclosed Composite Cable Made with CFRP and High-Tensile Steel	1922
Wire Y.G. Chen, Z.X. Guo and H. Chang	1927
Constitutive Model of Strain Softening for Soft Rock	
S. Li, H.J. Liao and H.Z. Li Numerical Simulation of Stability to Muzhuping Slope Failed by Impoundment in Shuibuya	1932
Reservoir J.J. Zhou, T.Y. Zheng, Z.P. Gong and Z.L. Fu	1936
Durability Based Indexes of Coarse Aggregate for Cement Concrete	-,-
S.C. Zhao and J.L. Xia	1941
Effects of Soil Properties Uncertainty on Reliability Index of Slope B. Han, H.J. Liao, H.Z. Li and Z.H. Xiao	1947
Study of the General Form of 3D Limit Equilibrium C.L. Zhang, X.F. Lei, T.L. Li and P. Li	1951
Study on Time-Variant Robustness Assessment Method of Complex Bridges J.S. Zhu and J. Song	1962
Seismic Performance Analysis of a Continuous Girder Bridge with Precast Segmental Pier J.P. Ge	1966

Research on the Vibration Attenuation Rules and Wave Propagation Law under Impacting Drill on the Deep Soil Layer B. Zhang, L.J. Tao, W.P. Wang and J.D. Li	1971
Research on the Earthquake Dynamic Responses of Tunnel under Changing Tunnel Lining Rigidity	17/1
X.P. Cao	1978
Deformation and Internal Force Analysis of Deep Foundation Pit Excavation with Outrigger-Type Diaphragm Wall A.F. Hu, H. Rao and J. Yuan	1983
Research on Factors of Flutter Critical Velocity in Suspension Bridge Stiffened with Steel Truss J.H. Bi and C.S. Shu	1988
Full-Scale Model Test and Numerical Modelling for Behaviour of Saddle Segment of a Extradosed Bridge C. Liu, D. Xu and Y. Sun	1996
Geological Expedition and Analysis on Formation and Evolvement of Erosive Karst Tiankeng: A Case Study of Xingwen World Geopark	2002
Simplified Model of High-Rise Isolated Structure for Earthquake Response Analysis	2007
Study on System Reliability Updating through Inspection Information for Existing Cable-Stayed Bridges J.S. Zhu and J.H. Wu	2011
Simulation and Field Test for Local Acceleration of an U-Shaped Girder	20112016
Research on Mechanical Properties of Molded Products Using Building Waste	2024
Research of Polyocarboxy Acid Water-Reducer with Modified Ployether and its Effect on Concrete's Workability L.F. Pang and X.X. Zhou	2032
Shaking Table Test of Isolated Structure Model with Small Scale	2036
Biological Clogging in Tangshan Sand Columns under Salt Water Intrusion by Sporosarcina pasteurii C. Rusu, X.H. Cheng and M. Li	2040
Safety Problems of Engineering Structures at the Ground Fracture Sites Taking Xian's for the Example	2047
G.Y. Fu, F.S. Zeng and M. Tian Study on Pressure-Bending Stress Transfer in the Joint of the Steel-Concrete Composite Arch Bridge	2047
	2053
č	2057
	2068
Study on the Hoek-Brown Parameters under Loading and Unloading Triaxial Laboratory Tests J.Z. He, Z.Q. Wang, J.S. Bai and L.M. Zhang	2074
Study on the Evaluation of Fatigue Life of RC Beams Strengthened with FRP Laminates	2079
6	2085
A Simple and Practicable Approach on Implementing for the Reduced Triaxial Extension by the Conventional Triaxial Apparatus R.J. Li, X.A. Li, G.F. Che, W. Zheng and W.J. Chen	2089
Mechanical Characteristics of Ningbo Marine Deposit Soft Clay under Different Stress Paths C. Bin, J.N. Ye and G.B. Liu	2093

Simplified Calculation Model of Eco-Composite Wall Structure Based on Composite Y.X. Tian, W. Huang, D. Zhao and C.H. Zhang	2098
Field Survey of Mw8.8 Feb. 27, 2010 Chile Earthquake and Tsunami R.Z. Wen, B.T. Sun and B.F. Zhou	2102
Research Protecting Methods to Perilous Rock Landscape: Taking an Example of Protecting Elephant Trunk Hill in Dragon Tiger Mountain, China F.W. Jiang and F.S. Guo	2107
Vibration Control of Serially Connected Isolation System Using Piezoelectric Actuator Y.H. Liu, P. Tan, F.L. Zhou, Y.F. Du and W.M. Yan	2112
Research on Deformation Forecasting of Deep Foundation Pit Supporting Structure Based on BP Neural Networks Y. Xue, L. Xu and Z.Z. Cao	2116
Numerical Simulation and Field Test of Broken Zone in Geologic Unsymmetrically Loaded Tunnel	
D.Y. Jiang, W. Guo and Y.K. Zheng	2120
Experimental Study on Unconfined Compression Strength of Compacted Granite Residual Soils D.X. Chen, K. Yang and Y. Yang	2124
The Influence Coefficient Method and its Linear Increment Calculation Research of the Creep Effect for an Un-Cracked Concrete Beams Reinforced with FRP G.D. Zheng	2129
Numerical Simulation of Inclined Multi-Seam Mining Subsidence of Considered the Impact by Faults Z.B. Wu, S.H. Oiy and Y. Li	2135
Z.P. Wu, S.H. Qiu and Y. Li Ontimization Passarch on the Corrugated Web of H. Ream with Transzoidal Webs	2133
Optimization Research on the Corrugated Web of H-Beam with Trapezoidal Webs Z. Zhang, L.H. Zhang and D.H. Luo	2141
Dynamic Characteristics Analysis and Optimization for Hydraulic System of a Self-Propelled Steel Bridge Based on AMESim W.P. Peng, H.F. Liu, Z. Liu and R. Xia	2146
Application of Thermoelectric Generation Technology in Building-Integrated Photovoltaics (BIPV) C.G. Wei, Z.Q. Liu and X.Y. Deng	2153
Density Influence on Matric Suction of the Eolian Sand under the Condition of Loop of Dehumidifying and Humidifying Process	
Y.X. Song, Q. Xu, X.A. Li and H.Z. Lin	2157
Ecological Highway Slope Stability Analysis by Inversion Method J.Z. Gao, G.F. Xiao and H.Q. Miao	2161
Experimental Study on the Splitting Tensile Strength of Recycled Sintered Brick-Tile Concrete	
L.J. Xie and A.L. Zhai	2167
Direct Displacement Based Seismic Design of High Rise Structures with Strengthened Stories (I) - Theory	2176
K.J. Yang, X.W. Liang and L.Z. Sun Direct Displacement Based Seismic Design of High Rise Structures with Strengthened	2176
Stories (II) - Application K.J. Yang, L.Z. Sun and L.M. Chen	2186
Semiactive Wind Response Control of 76-Story Benchmark Building with Smart Piezoelectric Friction Dampers	2106
P. Dong and J. Fan Fatigue Investigation of High-Strength Concrete Members Reinforced with CFRP	2196
H. Hai, L. Sun and Y.H. Zhao	2202
Reinforcement Maintenance Method about Chinese Ancient Architectural Structure S.B. Luo	2206
Dynamic Response Analysis of Bridge Pier Subject to Earthquake and Ice Loads F.Q. Qi	2211
Comparative Analysis on Seismic Response of Tall Building on Soft and Rigid Foundation X.Y. Ni, Y. Zhang, S.B. Zhang and W. Huang	2216
Vertical Dynamic Impedance of Fracture Pile B. Yan, L.T. Sun and Y. Xu	2221

Simple Method for Dynamic Interaction between Two Rigid Foundations B. Yan, Y.H. Lv and P. Hu	2225
Analysis of Collapsed Chimney of Balco Power Plant in India Y.F. Zhang and C. Li	2229
Experimental Research and Nonlinear Finite Element Analysis of CFRP-Strengthened High-Strength Concrete Structure H. Hai and Y.H. Zhao	2234
Research on Deformation Localization of Double Notched Concrete Beam under Four-Point-Shear Loading L. Yang, X.P. Shen, H. Zheng and D.H. Chen	2238
The Experimental Research and Theoretical Analysis of Unbonded Prestressed Concrete Flat Beams at High Temperature Z.Q. Wang and Z.W. Yu	2242
Numerical Analysis of RC Shear Walls under Cyclic Loading by PERFORM-3D H.J. Jiang and L.E. Liu	2253
Improving Steel Beam-Column Connection with Enlarged Weld Access Hole J. Li, Z. Yu, Y.S. Yu and R. Li	2258
Experimental Study on Flexural Behavior of Damaged RC Beams Strengthened with Prestressed CFRP Plate	
R. Zhou, M.Z. Zhang and Z.H. Zong Prediction of Vertical Ultimate Bearing Capacity in Piles Based on the Improved	2263
Hyperbolic Model C. Wang and Q. Zhang	2271
Observed Performance of a Deep Multistrutted Excavation in Hangzhou Soft Clays with High Confined Water X.C. Zhang and X.N. Gong	2276
A Nonlinear Force Method Model for Dynamic Analysis of Cable Trusses X. Ma	2281
Response Modification Factor for Y-Eccentric-Braced Steel Frame Structures W.X. Yang, Q. Gu and Z.S. Song	2285
Finite-Infinite Element Dynamic Analysis of Pile-Soil-Structure System Considering the Change of Groundwater Level W. Hu, G.F. Li and J. Du	2291
Indoor Experimental Research on the Unconfined Compressive Strength of Lime Improving Expansive Clay A.J. Chen, J.S. Zhang, L.Y. Peng and Z.H. Ren	2296
Preparation and Basic Performance of Anti-Seepage Slurry for Domestic Waste Landfill Site	
G.Z. Dai, G.C. Shi, X.F. Wu and Y. Wang Test and Evaluation of Seaside Silt Soil Foundation Reinforced by Dynamic Consolidation	2302
Y.B. Chen and D.Q. Peng Making Good Use of Suspension Bridge Health Monitoring System	2307
X.X. Li, W.X. Ren and J.W. Zhong The Detection Study on the Section Outline of Tunnel	2312
Q. Feng and B.S. Jiang Simulation Experimental Research for the Influence of Embedded Ratio on SMW's	2317
Working Traits W.Z. Chen, Q.C. Gao and J.S. Jiang	2322
Study on the Measuring Instruments and Strength Size Effect of the Surface Shape of Rigid Structure Plane F. Ji and Y.C. Shi	2327
Seismic Performance of Arc-Shaped Wall K. Du, J.J. Sun and X.Y. Gong	2333
Prestressed Concrete Covering Layer System Depth Zonation in Marine Environment F. Chen, Y.L. Sun and D.L. Hu	2337
Study on Interaction between Soil and U-Shaped Subway Tunnel in the Environment of Ground Fissures	
Y. Liu, K.L. Li, Y.M. Men, G.Y. Weng and H.J. Liu	2342

Analysis of Accumulated Damage Effects on the Roof of Mined-Out Areas under Blasting Vibration S.R. Wang, H.H. Jia and M.S. Chang	2346
The Stability Reliability Analysis about Gravity Retaining Wall H.M. Yang	2352
The Structure Design of Steel Structure Resident Building H.M. Yang	2356
Hydraulic Analysis of Immersed Tunnel Element's Immersion and its Application L.W. Su and L. Kang	2360
Study on Blasting Vibration Effects of Shallow Tunnel Excavation W.X. Gao, W.L. Sun, H.L. Deng and X.M. Sun	2366
Seismic Performance Study of Concrete Porous Brick Wall H.W. Zhao, X.Q. Cui and T. Hao	2371
Research on New Type of Prestressed Concrete Double Tee Floor Slabs W. Zhou, J.X. Zhang and W.Z. Zheng	2376
Analysis on Dynamic Response of Building Structure in Blasting Vibration Z.Y. Zhang	2382
Study on the Variation Regularity of Shear Strength of Saturated Soft Clay under Cyclic Loading	2200
X.P. Wang and J.Q. Wu Research Progress on Steel-Concrete Composite Bridge Towers O. Wang, C.S. Wang and Y.Y. Wang	2388 2392
Q. Wang, C.S. Wang and X.X. Wang An Analytical Model to Predict the Push-Out Capacity of Mortar from Rock Block S.T. Yang	2392
Experimental Investigation on Damage Behavior of RC Shear Walls H.J. Jiang, Y. Ying and B. Wang	2407
Experimental Study on Shear Capacity of Broad-Limb Special-Shaped Columns T.C. Wang and X.S. Chen	2412
A Study of Beijing's Suburban Residential Areas X.J. Li	2418
Study on Finite Element Model of Infilled Walls of Steel Frames X. Zhao, M. Wu, D.D. Kong and S.W. Chen	2424
Durability Research on Masonry Structures of Historical Buildings in Xi'an Beilin Museum Z.P. Dong, C.X. Hou, X.G. Liu and Q.L. Wang	2428
Experimental Study on Development Characteristics of Dynamic Pore-Water Pressure of Anti-Filter Material in High Earth-Rock Dam F.L. Meng, L.S. Pan and C.Y. Lu	2435
Research on Incentive Equilibrium Mechanism of Agent-Construction Relationship Based on Multitask Principal-Agent Model Z.B. Wu, B. Yao, Y.S. Liu and S.J. Jiang	2440
Application of Wavelet Transform to Modal Parameter Identification of the Concrete-Filled Steel Tube Arch Bridge W. Huang and G.J. He	2446
LQG Modal Control on Spatial Structures Using MR Damper W. Lin, S.H. Chen and L.Q. Deng	2451
Online Identification with Least Square Method for Pseudo-Dynamic Tests T. Wang, B. Wu and J. Zhang	2455
Shear Stiffness of Segmental Joints in Cantilever Casting Concrete Bridges W. Zhang, Z.L. Wang and A.F. Naser	2460
Analysis of Pitted Courtyard Cave Dwellings Stability in Baishe Village when Rainfall Infiltration J.M. Han and S.Q. Su	2468
Multi-Degree of Freedom Vibration Theory and Engineering Application M.Y. Huang	2473
Experimental Research on Fire Performance of Reinforced Concrete Beam-Column Joints G.Y. Wang and Y.M. Li	2477

Definition of the Ultimate State of the Scooted Head Pile Bearing Uplift Load in Soil Foundation Based on Failure Approach Index	
Z.H. Zhang, M.L. Yuan, Q. Cui, X.L. Lu and S.Q. Liu	2481
Excavation Type Optimization of High Cutting Slope at Reservoir Bank H.F. Deng, Y. Wang, M. Zhu and J. Guo	2486
Study on the Minimum Rock Covers of Xiamen Xiang'an Subsea Tunnel Y. Zhang	2490
Load-Transfer Properties of Extra-Long Piles Embedded into Deep Hard-Rock and High-Pressure Grouting Piles Set into Fragmental Rock J.H. Huang, J.X. Zhang and Z. Chen	2501
Shrinkage and Creep Analysis of a Continuous Rigid-Frame Bridge with Density Gradient Concrete Z.F. Lu and M.Y. Liu	2506
Finite Element Analysis of Strain Localization under Static and Dynamic Loading Conditions Based on Cosserat Continuum Model H.X. Tang and C.H. Song	2510
Damage Identification Research of Axial Vibration Modal Shape H.W. Teng, T. Wang, M.Y. Su and D. Huo	2515
Comparative Research on Mechanical Behavior of Column-Bracing System between Fixed- Ended and Pin-Ended Column Base	2010
J.Y. Zhao, Y.C. Zhang and X. Guo	2519
Study on Mechanical Performance of Corroded High-Strength Steel Bars Y.H. Shi, S.F. Chu and D.H. Yu	2524
Pit Bearing Capacity Effect to Status of Soil Plug during Pile Driving in Ocean Engineering P. Zhu and S.W. Yan	2530
Bending Behavior Analysis of Composite Girders with Concrete Filled Tubular Flange C.S. Wang, X.L. Zhai, L. Duan and B.R. Li	2534
Research and Application of Composite Girder with Concrete Filled Tubular Flange C.S. Wang, X.L. Zhai, J.W. Zhu and S.J. Zheng	2538
Real Truck Loading of a Full-Scale Orthotropic Steel Deck Model C.S. Wang, T. Zhang, B.N. Fu, L. Tang and L.J. Huang	2542
Identification of Near-Field Pulse-Like Ground Motions Recorded at Bajiao Station during the Mainshock of the Great Wenchuan Earthquake C.F. Li and Y.B. Li	2546
Directivity Effect in the Peak Ground Acceleration Fields and Attenuation Relations - A Case Study of the Ms 8.0 Wenchuan Earthquake J.J. Hu, L.L. Xie and Y.Q. Yang	2554
Study on a Simple Self-Resetting Sliding Isolation J.M. Jin, P. Tan, Y.H. Ma, X.Z. Zhuang and C.Y. Shen	2558
Comparative Study on Fracture Behavior of the Reinforced Jointed Rock M.T. Li, S.C. Li and N. Zhang	2562
Substructure Pseudo-Dynamic Testing of a Full-Scale Confined Masonry Building X.J. Tan and B. Wu	2566
Calculation Method of the Initial Strains of Cables in Pretensioning Construction of Prestressed Space Reticulated Structures Y.J. He, X.H. Zhou and J.W. Zhou	2571
Practical Method for the Pile Composite Ground under Flexible Foundation Based on Super-Substructure Interaction Y.F. Peng, J.L. Yu, X.N. Gong and W.Z. Lv	2575
Regression Analysis of Observed Foundation Settlement by Modified Logistic Growth Model	2010
Y.Q. Li, H. Zhang and Y.R. Liu	2583
Stability Analysis of Slope with Arbitrary Sliding Surface on Multi Strata Using Minimum Potential Energy Principle S.J. Wen, Y. Li and X. Chen	2588
Random Process Description on Short-Term Deformation Behavior of Endangered Earthen Heritage Slope under Natural Conditions J.K. Zhang, W.W. Chen, F.G. He, G.P. Sun and Q.L. Guo	2592

Structural Damage Presence Detection from Time-Varying Modal Parameters in Earthquake M.S. Gong, J. Sun and L.L. Xie	2601
A Loading Test Method of Prototype Structure for Nanjing Changjiang Tunnel K. Feng, C. He, J.M. Zhou and Z.X. Su	2605
Numerical Simulation Analysis on Explosion Stress Field of Different Charge Construction Q. Zong, L.P. Yan and H.B. Wang	2612
Experimental Study on Highway Tunnel Surrounding Rock Reinforced by Small Pipe Pre-Grouting H.B. Wang, P.J. Lu and Q. Zong	2617
Research on Stability Analysis of Rock Bolt Crane Girder Needed H.X. Zheng, R. He and X.Y. Huang	2622
The Durability Measures of the Lining of Newly Built Tunnels from Lining Disease of the Existing Tunnels	0.00
J.M. Feng, W.G. Qiu and M.Q. Li Study on the Deformation and Strength Characteristics of Geotechnical Grille Reinforced Sand-Gravel under Low Confining Pressure	2626
B. Xu, D.G. Zou, J. Bi, X.J. Kong and T. Gong The Numerical Simulation of the Triaxial Test of Cemented Coarse-Grained Soils B. Xu, W. Luo, D.G. Zou, X.J. Kong and Y. Zhou	2632 2640
Lateral-Torsional Buckling Strength and Design of Steel Arches Y.H. Yang, C.X. Chen and M.J. Fang	2645
Mechanism Analysis and Criterion for Avoiding Risk of Karst Water Burst Flood Illustrated in Maluqing Tunnel M. Huang, X.D. Zhang, M.K. Xu and L.Q. Cai	2650
The Increasing Laws of the Foundation Strength and Civil Engineering Z.H. Qin and T.D. Li	2662
Longitudinal Seismic Response Analysis of MSSS Bridge in Qinghai-Tibet Railway Y.B. Li, H.R. Zhang and C.F. Li	2667
Optimization Design of High-Performance Concrete Based on Genetic Algorithm Toolbox of Matlab X.S. Xie, D.J. Yan and Y.Z. Zheng	2672
Application of Proper Orthogonal Decomposition Technique in Wind Engineering of Structures	
M.Y. Chen, J.S. Zhang and G.G. Zhou An Analysis of Rainfall-Induced Landslide in Colluvial and Eluvial Soils Overlying Xigeda Strata, Southwestern Sichuan, China	2678
B.L. Zhu and X.Y. Wu	2682
Chapter 5: Architectural Environment & Equipment Engineering	
Shallow Discussion on Measures for Improving Indoor Air Quality L. Tang and Z.H. Tang	2691
The Central Air-Conditioning Energy-Saving Control Technology D.B. Lei, Z.H. Tang and K. Zhao	2695
Low Carbon Community Planning Research - To Sun Xing Village Community for Example X.J. Jiang and Z.J. Guo	2700
Analyzing Hierarchy Spatial Structure of Chinese Ancient Town K. Wei	2704
Study on Regional Urban Design G. Li and S.G. Wu	2708
Research on the Crack Stability of Dam Concrete Based on the Measured Monitoring Data J.F. Guan, Y. Hu, S.B. Zhao, L.B. Qing, Q.B. Li, L.H. Zhang and D.N. Luo	2713
Investigation and Research of Biological Contamination of HVAC in Public Places X Li Y Wei and L Li	2719

Research on Urbanization Development of Mountainous Area - Take in Yichang for Example	
G.Y. Li, F.F. Yu, J. Chen and Z.Y. Duan	2723
Preliminary Research on Behavior of CFST Columns after Exposure to Overall Stage of Fire	
J.X. Wang, P.P. Zhang and W.D. Wang	2729
Explore and Analyse of Urbanization Based on the Residential Environment Scientific Perspective	
G.Y. Li, J. Chen and F.F. Yu	2734
A New Method to Select Seismic Records for Time-History Analysis to Hydro-Structure H.X. Zheng, Z.M. Zhang, J.S. Liu and R. He	2740
Experiment Study on Reinforced Concrete Spatial Joints Subjected to Cyclic Loading C.Y. Liu, Z.B. Li, H. Ma, J.Q. Han and S.C. Chen	2744
Study on Moment-Curvature Hysteretic Model of Steel Reinforced Concrete Column L.X. Zhang, P.C. Wu and G.H. Ni	2749
Numerical Test of Crack Propagation Path in Asphalt Beam Using Coupled Extended Finite Element with Field Variable Method P. Cao, D.C. Feng, H.Y. Ma and W.X. Zuo	2754
Experimental Research on Dielectric Constant Model for Asphalt Concrete Material B. Zhang, Y.H. Zhong, H.X. Liu and F.M. Wang	2760
Numerical Simulation of GPR Electromagnetic Wave Propagation in Rigid Pavement with	
Voids Based on FDTD Y.H. Zhong, B. Zhang, X.L. Xie, F.M. Wang and C.C. Guo	2765
Response Analysis of Surface Crack in Asphalt Pavement under Moving Loads Y.H. Zhong, B. Zhang, Y.M. Zhong and C.C. Guo	2769
The Circle Renovation of the Cultural Forms of Urban Space Y. Yu, S.B. Ren, H.M. Lu and H.M. Kang	2773
Temple's Life in City-Heterogeneous System C.L. Li and Y. Zhou	2777
Relationship between Sea Temperature Change and Tropical Cyclones Based on Argo J. Zhu and J.C. Kang	2782
A Setting Pre-Angle Method in Multi-Steps Construction of Long-Span Steel Structures D.Z. Pan and D.M. Wei	2787
Decision Making on Glass Selection in Building Facade Q. Du, J. Yang and T.H. Zhou	2792
3D Traffic Noise Mapping in City Central Area M. Zhou	2796
Corroded Mechanism and Repair Technology of Concrete Buttress of Irrigation District C.D. Xu, Y. Wang, L.X. Zhai, H.M. Hou and Y.W. Sun	2800
Study on Integrated Model of SCR-Spar System Affected by Soil Suction	2800
X.L. Bai and R.C. Gao	2807
Experimental Study of Dynamic Properties for Serially Isolated System D.B. Zhang, X.L. Jiang and Y.H. Liu	2814
The Influence of Basin Excavation on the Sheet Pile Structure J.S. Gui, Q. Meng, Z.G. Li and B. Zhang	2818
Numerical Simulation for Progressive Collapse of Underground Structure under its Internal Blast Load L. Tian and X.H. Feng	2824
A New Shape of Snaked-Lay Pipeline Y.X. Liu, T. Ge, X. Li and J. Zhou	2829
Contact Simulation of CFRD Based on Nonlinear Contact Friction Coefficient D.J. Zheng, L. Cheng and J.L. Wang	2833
Thoughts and Countermeasures on Adjustment of the Regulatory Detailed Planning Z. Wang and J. Xiong	2839
Influencing Factors Analysis for Failure Risk of Upstream Revetment of Existing Levees Y.H. Gao and J.Z. Zhang	2843
Periodic Change of River Runoff Based on EMD-MES X.H. Zhao and L.L. An	2848

Surveying and Mapping the Technology and Management Analysis of the Whole-Process in Real Estate Development	
C.L. Dong	2852
Calculation of Ultimate Bearing Capacity of Prestressed Steel Reinforced Concrete Structure under Fire	
Y.Z. Wang and C.G. Fu	2857
Test Study on Water Problems after Barrier Construction in the Jinjiang Estuary X.N. Zhang, C.Y. Chen, S.H. Zhang and Q. Ying	2861
Experimental Study on Blast Resistant Structure with Composite Protection Layer R.L. Yang and H. Guo	2866
Periodical Urban Morphology Evolution Research of Representative City in Songhua River	
Basin X.D. Cai, H.B. Guo and M. Huang	2872
Analysis and Design Recommendations for the Collapse of a Concrete Silo	
G.L. Yuan and L.D. Tian	2877
Research on Dynamic Characteristics of Penstock and Expansion Joint Structure in Hydropower Station H. Gu and G.H. Yan	2881
Research on Time Series Analysis Based Deformation Prediction Model	2001
H. Zhang, X. Shi and L.F. Lai	2888
Analysis on Dynamic Response and its Optimized Design of Penstock and Expansion Joint	
Structure in Hydropower Station H. Gu and G.H. Yan	2892
Study of a New Type SMA Damper	2092
J.Y. Šui, C.M. Xu and W.F. Liu	2897
A New Algorithm for Normal Water Depth of the Ordinary Arched Tunnel H. Wen and F.L. Li	2902
Decoration Project Cost Control and Management Based on Process Approach Q.W. Xu and C.L. Gong	2906
CBD Construction in Sub-Regional City: a Case Study on Changzhou in Yangtze River	
Delta Y. Yuan, Y.K. Li and X.X. Zhu	2910
A Study of Guide Rules and Genre Studies of Urban Underground Space Development	2710
from the Perspective of Compact City	
J.W. Zhao	2915
Numerical and Experimental Investigation on Smoke-Buffer Effect of Different Smoke- Control Combination in Corridor	
J.X. Li and J.P. He	2919
Test and Research on Frost Resistance Durability of Elastocoast® PUR-Stone L.J. Liu, B. Zhang and J.L. Sun	2923
Study on Site Construction Technology of Four-Graded RCC	2923
Y.Q. Lin, Y. Shi, D.M. Guo, J.Z. Li and H.Q. Yang	2927
Contact Analysis on the Longitudinal Joint of Gravity Dam J.H. Cui, H.J. Xiao and L. Shan	2931
The Impact of Vegetation on Mitigating Heat Island Intensity in Four Major Cities in China J. Liu, F. Ma and Y. Li	2935
The Practice and Thinking on the Coordination between Urban Plan and Land Use Plan -	
Take Yicheng City as an Example Y. He	2939
Forest Pests and Diseases Forecasting Based on GIS	<u> </u>
S.Z. Luo and C. Wang	2945
Assesment of a Tropical Urban River Using GIS-Based Modeling F. Othman, M.E. Alaa Eldin and M.K. Mohd Nor	2949

Chapter 6: Building Energy Saving Technology

Finite Element Analysis of Air Cooler Using Equivalent Static Method and Response Spectrum Method Respectively S.Q. Hu and B.T. Sun	2955
Reserch of Horizontal Dynamic Stress Distribution on Dynamic Consolidation of Discarded Iron Slag	
X.G. Song, Z.G. Dou, K. Yao and Y. Yang Study on Gravity Dam Foundation Stability Combining with Dam Foundation Deformation Behavior	2959
X.J. Wang Research on the Thermal Property of Lightweight-Aggregate-Concrete Hollow-Block Wall D. Li, J.L. Tao and J. Yu	2965 2970
The Effect of Anthropogenic Heat on Local Heat Island Intensity and the Performance of Air Conditioning Systems J. Liu, F. Ma and Y. Li	2975
Analysis on the Flow Process of Hot Oil in the Organic Heat Transfer Material Heater Based on Finite Time Thermodynamics W.L. Gu and Y.Q. Liu	2979
Key Performance Indicators for Infrastructure Sustainability - A Comparative Study between China and the United States	
H. Zhou and D. Castro Lacouture Computational Analysis of Performance of Smoke Exhaust System in Atrium Buildings with Nonuniform Spaces	2984
J.M. Li, Y.F. Li, J. Sui, S.S. Liu and X. Wang Summarization of Pedestrian Flow Characteristic	2993
J. Li, D.F. Zhao, D.D. Liu and P. Zhuang Night Ventilation Research of Office Buildings Part 1: Sensitivity Analysis of Ventilation Parameters	2998
X.R. Zhu, W. Liu, L. Yang and J.P. Liu The Connection Form of New-Built and Existing Bridge Effect on Transverse Distribution of Vehicle Load	3002
J. Chen, S.B. Zhao and J.T. Yao Experimental Study on Pavement Performance for Sandy Soil Stabilized by Soil Stabilizer	3008
R.D. Li, J.C. Yue and X.D. Yue The Research of Pollutant Multiple Exergy Intensity Distribution in a Kitchen under Different Control Schemes	3012
X. Jia, Y.A. Ao, L. Wang and C. Gu A Novel Window Type Air-Conditioner with Energy Recovering Q.H. Luo, P.F. Zhang, X.F. Yang and J. Zou	3017 3021
Effects of Temperature on Mechanical Performance of Elastocoast® PUR-Stone B. Zhang, L.J. Liu and G.Y. Liu	3025
Research on Elastocoast Revetments Frost Heave Adaptability Model Test H. Zhong, B. Zhang and E.L. Wang Design Largest and Containst to Parilling Frances of Photocoltain Paril	3029
Design Issues and Contribution to Building Energy of Photovoltaic Roof Z.Q. Liu and Y.W. Bao Study on the Action Mechanism of Bitumen Emulsion and Aggregate	3035
H.Y. Liu and Y.Q. Jia Effect of Different Initial Moisture Contents on the Characteristics of Coupled Heat and Moisture Transfer of a Reinforced Concrete-EPS Thermal Insulation Composite Wall in	3039
Harbin Y.G. Xu, M. Lu and Z.L. Jia	3044
Analysis on the Tidal Current Characteristics of the Caofeidian Sea Area C.P. Kuang, K.H. Yao, J. Gu, H. Jing and X. Liu Influences of External Windows on Energy Consumption of Industrial Buildings in Cold	3050
Areas H.W. Wang, Y.D. Zheng and F.W. Tu	3055
The Multi-Resolution Watershed Model Based on DEM X.G. Li, Z.Q. Huang, T. Jiang and A.M. Wang Optimal Layout of Pipe Network of District Cooling System in Shanghai EXPO Park	3059
X.P. Feng, H.M. Wu and W.D. Long	3064

Analysis on the Expansion of Surface Crack in Asphalt Pavement P.J. Lu, J. Yang and C.B. Huang	3069
Influence of Boundary Conditions on Modeling Seawater Intrusion into Coastal Aquifer Y. Liu and X.M. Mao	3074
Inspection and Analysis for IAQ at the Waiting Room in Lingui Bus Station Z.P. Zhou, R. Wang and C. Huang	3079
A Method for Simulating Heat Recovery Systems Using AirModel in Implementations of the ASHRAE Simplified Energy Analysis Procedure C.G. Liu, G.H. Wei and H.L. Bruner	3083
Application of Extension Theory in Evaluation of Energy Efficiency Reformation of Existing Building N. Li, L. Li, S. Li and J. Xiao	3090
The Impact on the Flow of Fire Smoke when Rail Transit Hub Fans Delayed Open H.M. Fan, K.Y. He, D. Zhang and Z.F. Yin	3098
Application of Radar Technology on Concrete Water Content Testing J. Zhang, B. Han and P. Liu	3103
Transient Numerical Simulation for Air Distribution of Air Conditioning and Ventilation in Subway Island-Platform	2105
H.M. Fan, K.Y. He, Z.F. Yin and D. Zhang Numerical Analysis for Progressive Collapse of a Multi-Storey Building due to an Explosion	3107
in its Basement L. Tian and H. Wang	3115
Influences of Change of Plasma on CBR of Eolian Sand C.N. Jin and Y.H. Zhang	3120
Mechanism and Application on Extra-Long Sand Wells for Deep Soft Foundation Treatment in Highways H.C. Liang, L.J. Chang and A.G. Zhou	3128
Experimental Study on PV Solar Wall D.H. Wang, X. Guan and S.Y. Zhang	3134
The Optimization of Temperature and Relative Humidity Control in Cushing Library C.G. Liu and H.L. Bruner	3139
Optimization and Analysis of HVAC Systems for a Multi-Functional Institutional Building C.G. Liu and H.L. Bruner	3144
Integrated System of Life Cycle Management of Large Stadium Projects B.Q. Geng	3150
Temperature Crack and Control Measure of Long-Span Beam Type Conversion Layers S.B. Luo	3155
An Experimental Study on the Luminance Perception of Lighting Environment L.Y. Sun, G. Liu and H. Hai	3159
Road High Cutting Slope Stability Analysis under the Influence of Blasting for Excavation W.X. Gao, Z.C. Zhuo, B.H. Hou and N.N. Chen	3163
Analysis of the Water Intake Technology of Open-Lakes Water Source Heat Pump System in Chongqing	
G.D. Fan, Z. Zhang, J. Luo, X. Wan and C. Liu CCHP and Reliability of Electricity Supply	3168
Y.D. Qi, Z.G. Liu and G.M. Song Research on the Relationship between Allowable Tensile Stress and Fatigue Life of Cold-	3173
Recycled Material for Pavement Base Layer H. Zhang, J. Ma and L. Jiao	3177
Dynamic Stress-Strain Relationship of Saturated Clay by Dynamic Triaxial Test J.Y. Yuan	3183
Numerical Simulation of the Natural Ventilation in Workshop with Different Air Inlet Openings	
Y.X. Su and X. Wan	3187
Evolution of Passive Technology in Lhasa Residential Building F. Wang, J.P. Liu, J. Chen, D.J. Wang and L.J. Wang	3191

Finite Element Analysis on Instantaneous Deformation and Consolidation Deformation of Saturated Soft Clay Foundation X.Y. Shao, X.Z. Ling, W. Zhang, L. Tang, L.N. Wang and M. Wang	3198
A Study on the Urban Community Planning Based on the Idea of Life Quality X.X. Liu, X.Z. Wang and X.H. Zou	3204
Experimental Study of Wet-Screened Aggregate Concrete under Biaxial Compression after Freeze-Thaw Cycles Y.P. Song and X.J. Xu	3210
Analysis on Low Amplitude Loading Fatigue Life Strengthening of the Rear-Axle Housing in a Farm Transport Vehicle Y.S. Wang, Y.H. Zhang and K.J. Hu	3218
Shear Test on Reinforced Clay A. Chegenizadeh and H. Nikraz	3223
Numerical Simulation of IAQ under Up-Suction Exhaust Hood in Commercial Kitchen D.H. Jiang, A.G. Li, F.E. Shi and Z.H. Wang	3228
A Survey of Aesthetic Value in the Development of Modern Urban Design - The Comparative Analysis of the Six Dynasties Nanjing and Beijing Urban Design Cases N. Li and J. Xiao	3232
Identification of Building Envelope Overall Coefficient of Heat Transfer Using Recursive Least Squares Algorithm G.Q. Yu, G.F. Gao and X.F. Lin	3239
Numerical Study on the Flow Characteristic in Periodical Variable Cross-Section Channel L. Li and X.Z. Du	3239
The Study on Inverse System Decoupling and PDF Control Used in Power Magnetic Pump J. Wang and L. Zeng	3249
Comparison of Several Methods for Optimal Sensor Placement in Structural Health Monitoring X.M. Sun, Z.C. Yan and D.Y. Zhu	3254
Stiffness Analysis and Determination of the Most Reasonable Height for Flat Vierendeel Structures	3258
C.X. Wei, S.J. Du, z.q. SUN and K.R. Ma Secondary Evacuation Systems for Skyscrapers: Post 9/11 Tall Building Safety Research C.A. Liu, Y.W. Kong and J.L. Zhao	3263
Studies on an Integrated Energy-Saving System Combining Architectural Energy-Saving Features and Renewable Energy in Taiwan W.P. Sung, W.S. Ou, J.M. Chang and Y.D. Kuan	3271
Probe into the Problem of Water-Saving and Energy-Saving in Building J. Yang, Z.H. Tang and Y. Song	3271
Experimental Research on Constitute Relation of Concrete under Uniaxial Tension and Compression with Different Strain Rate	2270
H.B. Chen, Y.P. Su, J.W. Xing and Y.M. Zhang	3279
Chapter 7: Ecological Architecture	
Technology and Application of Landscape Ecological Replacement and Repair of Urban River	2207
S.X. Zhang, J.M. Zhang and S.M. Zhang How Green Technic and Poetic Issues in Eco-Architectural Practice Y.W. Kong, C.A. Liu, J.L. Zhao, B. Zhao and X.D. Li	3287 3292
Experimental Research on Mixture Ratio and Mechanical Properties of Unburned Brick with Shell Ash and Fly Ash	
Z.J. Sun, M.L. Tian and Y.F. Fang Study on Cold-Formed Steel of Thin-Walled Housing for Dynamic Performance	3299
Y. Yao, Y.P. Chu, L. Wang and R. Zhao Spark Plasma Sintering TiAl Alloy from Mechanically Activated Powders	3305
Z.W. Wang, H. Cheng and H.M. Cheng	3309

Preparation of Mullite Nanocomposites Powders from Coal Fly Ash via Hydrothermal Crystallization	
L.X. Tong, J.H. Li, J. Shen and X.Q. Jiang	3313
The Finite Element Analysis of Fatigue Performance of Precracked Concrete Beams Strengthened with Prestressed CFRP Q.S. Li and S.P. Meng	3320
A Study on Optimizing the Water Conservancy Landscape Design by Applying AHP Y.J. Song, L.G. Tian, X.Y. Han and S. Feng	3328
Exploration on the Design of Mobile Ecological Building in the Qinliang Mountain Area J.H. Yu, Y. Liu and Y.D. Zhu	3334
Earthships-Scrap Tires Recycling in Building Design Z.Z. Kang, X.J. Li and C.H. Liu	3338
Sustainable Construction Project under Lean Construction Theory G.B. Wang, G.Y. He and L. Bian	3345
Experimental Investigation of Structural Steel Welds at High Temperature H.X. Yu	3350
The Analysis of Influencing Factors of Multi-Ribbed Composite Wall's Skeleton Curve P. Chang and H. Zeng	3355
Study on Flexural Performance of RC Beams Strengthened with Prestressed CFRP Plates H. Chen, K. Kang, L.N. Deng and P. Zhang	3361
Research on the Jing-Wei River System's Ecological Corridor in Metropolitan Area of Xi'an	2277
F. Wang, C.M. Wang and Q. Wang Effect of Curing System on Mechanical Property of Slag-Based Geopolymer	3367
Q. Wang, X. Tu, Z.Y. Ding and Z.T. Sui Numerical Simulation Effect of Lateral Pressure Coefficient in Solid Material 7. Thong Y.E. Eong Q. Li and S.L. Thong	3372 3377
Z. Zhang, Y.F. Feng, Q. Li and S.J. Zheng Mechanical Characteristics Analysis of Sensitive Parameters of Long-Span Steel Truss Suspension Bridge	3311
D. Wang and Y.Z. Zhu	3381
The Some Concept Design's Typical Characteristics of Building Structure T. Ding, Q.W. Li and S.G. Ding	3387
Mechanism Analysis and Experimental Research on the Interception of Nitrogen and Phosphorus Pollutants by Gullies in Northern China Y.J. Song and H.Q. Liu	3392
Structure Response of Cable-Stayed Bridge that Is Used with a Known Earthquake Spectrum	•••
Y.B. Ma and Y.F. Du	3397
Characteristics of University Landscape Planning and Design S.Y. Wang	3401
Concept and Practice of Landscape Planning and Designing on Ancillary Buildings in Kizil Reservoir in Kuqa, Xinjiang	
Y.J. Chen, X.H. Hu, X.L. Xia, J.J. Mu and H. Zhao	3405
Planning and Design Concept of 'Diversion Enter City' and 'Landscaping by the Water' in Wujiaqu City in Xinjiang X.H. Hu, Y.J. Chen, H. Zhao, J.J. Mu and Y.X. Wang	3410
Study on Deformation and Stress of CRCP under Concentrated Vertical Load with Hollow Foundation	
X.B. Chen, X.M. Huang and J.H. Tong	3415
Environmental Protection Experience of the Golmud-Lhasa Section, Qinghai-Tibet Railway Construction	
S.H. Liu, Z.Y. Xu and L.J. Wang Formation of HAAs during Chlorination of Aspartic Acid in Drinking Water	3421
Z.L. Chen, A. Li, S.J. Wang, Y. Han, F. Liu and J.M. Shen	3425
Runoff Quantity Dynamic from an Extensive Green Roof during Individual Rainstorms J.J. Ye, H. Zhang, S.X. Yu, S.B. Guo, W.N. Xu and H.W. Li	3429
The Application and Research of Rural Landscape Element in Environmental Design of Small Towns	
Q.Q. Liu and L. Yuan	3436

The Application of BP Neural Network in Settlement Prediction of Highway Soft Foundation	
Y. Xue, Z.Z. Cao and S. Liu	3440
Performance Improvement of Soft Rock as Filling Material for Subgrade X.S. Mao, L.G. Zhou, X.Z. Zheng, B. Ma and J. Liang	3444
Laboratory Study on Cold Recycling with Foamed Asphalt L.Y. Yang, Y.Q. Tan, H. Liu and E.G. Li	3449
Improvement of High Algae-Laden Water Treatment by Coagulation Aid of Chitosan Y.H. Wang, Y.H. Wang, X.Y. Zhou and N. Li	3454
Recycled Technology of Urban Road Construction Waste and Miscellaneous Fill Used as Subgrade Fillings B.K. Liu, J.S. Fan, H.M. Hu and L.H. Fu	3460
A Research into the Regional Characteristics of Log Construction in Changbaishan Area W. Yu and S.D. Liu	3465
Application of the Water Poverty Index at the Districts of Yellow River Basin X. Li, J. Wan and J.L. Jia	3469
Experimental Study on Properties of a Kind of New Concrete M. Xiong	3475
Dynamic and Static Load Testing and Analysis for Dutou Major Bridge A.M. Wang, Y.M. Zhang, H. Li, J.C. Jia and X. Feng	3479
Analysis of the Sediment Characteristics of the Caofeidian Sea Area C.P. Kuang, Y. Hu, J. Gu, J. Huang and X. Liu	3484
Numerical Analysis of Sea Ice-Bridge Pier Interaction Y.P. Liu, S.C. Li and F. Zhang	3489
Analysis on the Development Mechanism and Failure Modes of Rainstorm-Induced Road Hazards	2402
L.S. Tang, P.Y. Lin, Z.Q. Wang, X. Li, K. Wu and H. Hu Experimental Study of Recycled Concrete Aggregate for Cement-Stabilized Macadam	3493
H.F. Wang, H.Y. Liu and Z.R. Xiao	3502
Strength of Interior Reinforced Concrete Beam-Column Assembles J.Y. Lee, J.W. Park and S.A. Cha	3506
Composites in the Spanish Heritage: Designs and Rehabilitations in Prototipical Models as "Las Aguzaderas" Castle J.I. Pérez Calero	3510
Elasto-Plastic History Analysis of Reinforced Concrete Frame Structure Based on Fiber Beam-Column Model	2517
C.M. Tang and Q. Nie Numerical Analysis of Punching Shear Failure of Reinforced Concrete Slabs by Ansys	3517 3521
Analysis of the Crack Fracture Morphology of the Asphalt Mixture under Tensile Stress Effects	3321
L.H. Zhao, J.Y. Chen and S.W. Wang	3533
Chapter 8: Other Related Topics	
Research and Application of Thermal Storage with Phase Change Materials G. Chen and L.X. Wan	3541
Study on Disease Detection and Reinforcement of Bridge Pier Column J. Tan, L. Wang and C.Y. Wang	3545
Monitoring of Curing Temperature of Early-Age Cement Paste Using Biconical Tapered Fiber Sensor	
D. Lou, Z. Ibrahim and Z. Ismail Studies on the Evolution of Use Patten of Lakeshores in Wuhan	3549
J. Wu	3554
Effect of Shield Tunneling on the Nearby Pile Foundations Y.J. Wu, D.M. Zou and G. Li	3559
Design Consideration of the Nonuniform Stress Distribution of Pultruded Structural Member under Compression	
J.W. Choi, S.S. Lee, H.J. Joo, C.W. Kim, D.M. Ok and S.J. Yoon	3564

Loading Rate Effect on FRP-to-Concrete Bond Behaviour X.Q. Li, Z.J. Yang, J.F. Chen and Y. Lu	3571
Quantitative Comparisons of Construction Productivity of Curtain Wall Operations in High-Rise Buildings by Means of Simulation Techniques T.H. Lee, H.M. Kim, Y.H. Ko and S.W. Han	3577
Effect Evaluation on CFG Pile Consolided Foundation of the Red Clay Being Polluted by Organic Matter	
C.M. Mu, B.C. Liu and Z.K. Liu	3581
Illumination Design for Shaping Lighting Culture in the Room J.H. Zhang	3586
On the Nonlinear Effect of Joint Work of the Basis, Foundation Slab and the Structure V.I. Andreev, E.V. Barmenkova and A.V. Matveeva	3591
Analysis of the Problem of Construction Enterprise's Human Resources Structure Optimization Y. Ou	3595
Investigation and Analysis on the Evolovement of Mixed-Use Settlements: A Study on Work-Live Paradigms in Yiwu City Z.Z. Tang, X.Q. Zhu and Y.W. Yu	3600
A Case Study on the Design of Green Building in Expo 2010 Shanghai J.J. Fan	3605
Numerical Simulation of Temporal Evolution of Local Scour in Bridge Pier with Nonuniform Sediment	
M.J. Aarabi, M.R. Chamani, A.A. Dehghani and K. Asghari Measuring Apparent Gravity Effect to Characterize the Magnetization of Ferro-Fluid	3610
J.E. Ho	3615
Study on the Effects of Natural Pozzolan and Limestone Powder on Mechanical Properties of Roller Compacted Concrete Pavements M. Madhkhan, A. Hamidi and N. Salehi	3619
The Research of Navigation Flow Conditions and Improvement Measures on Entrance Area and Connecting Reach of Dahua Lock in Hongshui River D.G. Ma, X. Liu, J.Q. Zhao, X.F. Liu and S.X. Li	3624
Simulation of Crater's Formation Mechanism on Target GH3536 Surface Irradiated by High Intensity Pulsed Ion Beams C.L. Mo and C.Y. Wang	3630
Numerical Simulation of Single Box Floating Breakwater in Time Domain Y.N. Zheng, G.H. Dong, B.C. Guo and C.P. Chen	3634
The Integrative Application of GAHP and FCE Method in Real Estate Investment Decision J. Feng	3638
Study on the Investment Options Worth and Decision of Real Estate Enterprise under Limited Investment Time Limited	
J. Feng	3642
Evaluating on the Skid Resistance of the Aggregates Based on Mineralogy D.W. Wang, C.E. Yin, X.H. Chen and B. Steinauer	3646
Correct Method of Analytical Solution of Multipoint Boundary Problems of Structural Analysis for Systems of Ordinary Differential Equations with Piecewise Constant Coefficients	
P.A. Akimov and V.N. Sidorov	3652
The Hot Development and Cold Thinking of Current Arts and Crafts Industry H. Li, X.G. Rui and L. Hou	3656
The Symplectic System for Thermo-Viscoelastic Cylinders W.X. Zhang and Q.X. Liu	3662
Analyzing Space and Psychology Rules for Designing the Senior Apartments of Old Urban People	2666
H. Xu Experimental and Numerical Modeling of the Destroying of Brick Masonry for the Analysis	3666
of Buildings Accident G. Kashevarova, A. Zobacheva and I. Leschev	3670
Features of Water Landscape of Ancient Villages in Huizhou N.L. Jin	3674

Simulation of Welding Residual Stress to the Fracture Strength of Steel Moment-Resist Frame Connection	
T.W. Fan	3682
Practice Analysis of Urban Road Pavement Roughness and Detect of Destruction J.H. Peng, P.H. Sung, J.D. Lin and K.Y. Wei	3688
Disposal Status and Recycle Policy of Construction Waste Y. Li, J.R. Yang and J. Zhou	3692
The Fehleranalyse Error Analysis of Fully Characteristic Curve of Pump to Be Nominalization and Study for the Influence on Result of Hydraulic Transients Calculation Y.S. Yang, R. Dong and J. Gao	3696
Building Equipment Life Cycle Cost Studies Z. Zhang	3702
Performance of Reinforced Concrete Beams Strengthened with CFRP Composite in Corrosive Environment	
P. Chotickai and W. Chimmanee	3706
Research on the University Inventory Control of Diet Low Maintenance Materials Q. Lu, J.Z. Lin and Q.H. Liu	3715
Application of Rapid Prototyping Technology in Urban Planning and Architectural Model L. Guo and R.P. Xu	3719
Study on the Performance and Application of Interior Moisture Buffering Materials for the Typical Housing in Taiwan Y.C. Yeh, Y.S. Tsay and C.M. Chiang	3723
Experimental Investigation of End-Plate Connection with Cruciform Column Section	3123
P.N. Shek, M.M. Tahir, T.C. Siang and A.B.H. Kueh	3730
Comparison for Different Circumferential Weld-Induced Imperfections on Steel Silos X.R. Chen, Y.Y. Jiang and Z.Y. Zhao	3734
Tensile Properties of GFRP Bars after Exposure to Harsh Laboratory and Field Environmental Conditions	2720
S. Alsayed, T. Almusallam, Y. Al-Salloum and S. El-Gamal	3738
Effect of the Interfacial Transition Zone on the Migration Behavior of Cations under the Accelerated Lithium Migration Technique C.C. Liu and W.C. Wang	3743
Maximum Local Thermal Effects Carpet Plot for Symmetric Laminated Composite Plates A.B.H. Kueh, W.W. Seh, P.N. Shek, T.C. Siang and M.M. Tahir	3748
EFG Virtual Crack Closure Technique for the Determination of Stress Intensity Factor X.P. Chang, J. Liu and S.R. Li	3752
Study on the Engineering Characteristic of California Bearing Ratio (CBR) of Expressway Subgrade Material	
G.Q. Yang, B.L. Xiong and B.J. Zhang	3759
Study on the High Bench Cast-Blasting Effects Influenced by Explosive Specific Charge X.L. Li, D.S. Liu, L.F. Luan, Y. Yang and Z.Y. Zhang	3763
Model Reliability Assessment: A Hydrodynamic Modeling Approach for Flood Simulation in Damansara Catchment Using InfoWorks RS A.N. Awang Ali and J. Ariffin	3769
Seasonal Distribution of Nitrate in Kuroshio of East China Sea C. Liu and J.C. Kang	3776
A Study on the Development Trend of Sustainable and Healthy Residence P. Wang and Y.J. Cao	3781
Experiment Study on One Dimensional Vertical Soil Pole Seeper Infiltration of Unsaturated Clayey Sand	3,01
Q.Q. Miao, Z.H. Chen, Q.Q. Zhu, Z.H. Yao and J.H. Zhang	3785
Experimental Study on Reinforcement Ratio of RCFT Columns under Axial Compression A. Xiamuxi and A. Hasegawa	3790
Study on Design Strategies for Improving Outdoor Thermal Comfort in the Cold Regions of China	
J. Li and Y. Liu	3798
The Laboratorial Study of Fracture Energy Release Rate of the Reservoir Ice Layer X.Z. Liu and P. Liu	3802

P-Wave Onset Detection Based on the Spectrograms of the AE Signals J. Xu	3807
Numerical Simulation and Wind Tunnel Studies of the Wind Load on Wind Turbine	3007
Structures C.H. Chang, J.M. Wang and C.M. Cheng	3811
Numerical Simulated Method on Wind Environmental of Outdoor C. Li and T.F. Deng	3815
Comparison on General Track Spectrum for Chinese Main Railway Lines and Track Spectrum of American Railway Lines	2022
X.M. Chen, X.X. Tao, G.H. Cui and F.T. Wang Development and Application of Eco-Friendly Concrete	3822
Z.G. Li	3827
Inhibiting Sulphate Attack on Concrete by Hydrophobic Green Plant Extract A.S. Abdulrahman, M. Ismail and M.S. Hussain	3837
Research of Treating High Ammonia-N Wastewater by CASS Process Y. Li, A.J. Guo and J. Zhou	3844
Concrete Structure with Random Material Properties Undergoing Thermal Loading M. Kowalik	3848
Precaution Policy and Investigation on Pollution Status of Rural Domestic Waste in Beijing Y. Li, S.H. Xv and J. Zhou	3854
The Research of Growth Model of the Pecan Tree Height, Trunk, Crown Diameter and DBH	
W.B. Yao and X.L. Li	3858
Influence of Hollow Electrode Ar-CO ₂ Injection on Carbon Content in Ladle Furnace D.P. Zhan, H.S. Zhang, Z.H. Jiang, W. Gong, H.B. Li and Z.P. Chen	3864
The Study on Chemical Weapons Abandoned by Japanese in China: Aim to Ascertain the Burial Sites and Pollution Disposal F.C. Zhang, Y.S. Wang, F.H. Shi, X.F. Li and M.N. Zhang	3868
The Influence on Lining Moment of Tunnel under the Local Weakening of Structural	
Strength of Loess R.J. Li, W. Zheng, J. Fang and G.F. Che	3872
Buckling Analysis of Sway Steel Frames with Semi-Rigid Connections W.Z. Wang, J.X. Xu and F.Y. Chen	3876
Field Estimates of Hydraulic Resistance of Ice-Covered Rivers S. Li	3880
The Research of Developing and Constructing Tourist Attactions in Dong Jiahe R.B. Hu, R.P. Xu, K.Q. Wang and X.R. Mao	3884
Mathematical Modeling of Heat Transfer through Clothing System Y.C. Sun and Z.H. Cheng	3889
On Campus Communication - Take South China University of Technology for Example J. Xue	3893
Thought on Architecture Specialty Course Construction of China Three Gorges University J. Xue	3898
Urban Ecological Territory Model: Discussion and Application	
M.L. Qin, W. Zheng and B. Bushman Dynamic Characterization of Cement-Treated High-Speed Railway Subgrade G.Q. Yang, X.Z. Wang and B.J. Zhang	3902 3909
Numerical Simulation of Operating Performance of Heat Exchangers in a Residential Split	3909
Air-Conditioner S.Y. Su, T. Tian and J. Chen	3913
Study on Cognizing Disaster Prevention Signs in Public Buildings B. Song and K. Ma	3919
Dynamic Responses of Arch Dams Considering Different Reservoir Models	
S.Q. Hu and B.T. Sun Numerical Limit Equilibrium Method of Three-Dimensional Stability for Landslide	3923
W. Zhong, X.Q. Chen and T. Yang	3927
Reliability Analysis on Yuwangbian Slop Based on Monte-Carlo Simulation Y.F. Feng, H.Z. Zhang, Y. Wang and Q.J. Zuo	3934

Study on a Landscape-Designed Ecological Barrier for Remediation of Micro-Polluted Water	
X.Q. Chen, H.L. Wang and X.J. Zhu	3941
Applied AVSWAT 2000 for Assessment of Pollutant Load in Brantas River Basin,	
Indonesia M. Sholichin, F. Othman, S.M. Shirazi, S. Akib, D. Harisuseno and D. Sisinggih	3945
Critical Flow Theory on Nonlinear Penetrating Mechanism of High Energy Beam Drilling J.E. Ho and D.C. Chen	3949
A New Edge Detection Method for Seismic Fault Image Y.X. Song, Z.J. Yao, J.S. Yang and Q.B. Tong	3953
Nonlinear Forced Vibration for Shape Memory Alloy Spring Oscillator Z.J. Shang and Z.M. Wang	3958
An Algorithm for Force-Closure Grasping of Three-Fingered Hand Q.Y. Liu, B. Jiang and X.L. Yu	3965
Study on Antioxidative Effect of Lycopene to the Photosensitized Oxidation of Soybean Oil X.H. Li, J. Du, C. Liu, S. Wan, Y. Tang and T. Xue	3971
Study on Nonlinear Finite Element Analysis Method of Multi-Ribbed Composite Slab Structure Containing Steel Fibers J.S. Qiu	3975
Study on the Impact of the Construction Industry by the Development of Globalization	3713
Low-Carbon Economy and the Changing Pattern of International Competition H.J. Jia	3983
Research on the Mechanism of Tourism Industry Association-Oriented Crisis Management Q. Wu, X. Hu and M. Wan	3988
Vibration Characteristics of Composite Thin-Wall Beams J.M. Ma, Y.S. Ren and T. Tan	3993
Study on the Effect of Fly Ash or Silica Fume to Hydration Heat of Cement L.G. Ma and Y.S. Zhang	4001
The Civic Apartment for the Aged in the Background of Chinese Population Ageing Q.F. Shi	4005
Research on the Electrochemical Behaviour of H05MnNiMo and H06H1 Submerged Arc Welded Seam in the S ²⁻ Medium Z.Y. Bi, L.J. Feng and A.L. Lei	4010
A Model of Batch Grinding of Talc Powders H.Y. Xie, H. Yuan and J. Guan	4016
An Analysis of Seepage Prevention Wall Behaviours of Deep Overburden Dam with Clay Core	
B. Zhang The Evaluation of Ambitactonic Acathetics in the Context of Clabelination	4022
The Evolution of Architectonic Aesthetics in the Context of Globalization B.L. Zhou	4026
Estimation and Stochastic Convergence Test of China's Transportation Technical Efficiency	
J.X. Zhu and Q.M. Tan	4030
Organic EL Devices with Bis-Diphenylquinoxaline as ET Material T.X. Li, S.S. Gao, P. Sui, N. Kong, S. Wu and S.T. Li	4034
	4038
Wellbore Stability Research to the Direction Well in the Salt Layer H.M. Wu, Y.S. Lou, Z.H. Li, L. Zhu and W.L. Huang	4042
Numerical Simulation of Extrusion Pressure of Non-Plug Flow Solid Conveying in Feeding Section C.H. Liu, D.L. Shi, Y.Y. Wu and J.H. Qin	4046
Activity Model Calculation in Slag Based on Artificial Intelligence and its Application in the	4040
Ternary Slag System Z.H. Jiang, W. Gong and L. Wu	4052
An Empirical Study of Regional Differences of Chinese Construction Industry J.R. Cui	4057

The Improvement of Newton Method and the Validation of Optimization Idea of Blind Walking Repeatedly	
C.L. Zhang	4061
The Effect of Explosive Material on the Formation of Explosively Formed Penetrator Q.S. Miao, X.M. Wang, W.B. Li, W.B. Li and Y. Zheng	4065
A 4-Order Polynomial Movement Law of the Cam Mechanism without Shock C.M. Li, J. Chen and C.L. Zhang	4070
The Creation of Contemporary Public Art - Five Elements Concept W.L. Lv and S.S. Xu	4074