

Table of Contents

Preface and Conference Organizaion

Chapter 1: Geotechnical Engineering

3D Finite Element Analysis on Behaviour of Piled Raft Foundations A. Vu, D. Pham, T. Nguyen and Y. He	3
A Modified Method to Fit Probability Distributions of Geotechnical Parameters Using Stochastic Weighted Entropy Principle S.J. Zhang, Z.J. Xu, L. Zhong and Z.R. Xiao	9
A Research on Elastoplastic Theory Based on Full State Function Z.H. Wei, M.S. Wang and D.L. Zhang	17
Affect of Large Deep Foundation Pit Dewatering on the Neighboring Buildings K.W. Ding, F. Zhao and X.Z. Zhang	24
Analysis of Monitoring Results of a Deep Foundation Pit with Pile-Anchor Retaining Structure X.H. Yang, F.W. Wu, T. Chen and X. Liu	28
Analysis on Strengthening of Plant to Slope Soil under Orthogonal States J.B. Gu	34
Centrifuge Model Study of High Strength Piles Composite Foundation Settlement & Instability under Embankment in Different Kind Soils by Different Pile Spacing Q.J. Wang, S.J. Zhang, C. Guo and Z.R. Lu	38
Comparative Experimental Research of Soil Freezing with Pressure and Non-Pressure S.Y. Zhang	48
Discussion on Treatment Technology of Reinforcement Pile in Karst Area C.B. Zheng and J. Xu	52
Effect of Variable Permeability Coefficient on Consolidation of Ultra-Soft Ground under Vacuum Preloading B.B. Xu, A.H. Liang and M.Y. Li	56
Experimental Application of Fractal Theory into Selection of Subgrade Filling Materials X.G. Wang	61
Experimental Study of Static Disintegration on Unsaturated Soil N.Q. Wang, Q.T. Wang, Q. Xue and X.L. Liu	68
Experimental Study on Bubble Curtain Technology Applied in Underwater Blasting Damping H.Y. Hu, Y.C. Zhang, Z.M. Huang and C.X. Peng	73
Experimental Study on the Position of Balanced Point of Large-Tonnage Pile with Self-Balanced Load Method in the Northwest Region Y. Xin, F. Yue, P. Li and G.S. Wang	78
Finite Element Simulation and Stability Analysis of Composite Soil Nailing J. Zhao and L.L. Wang	83
Fuzzy Mathematical Method of Slope Reliability Analysis in Surface Mine under Seepage Conditions K. Yang, H.X. Li and H. Han	89
Influence of Density on Mechanical Properties for Coarse-Grained Soil Based on Percolation Theory Y.D. Huang, L.K. Yao and J. Wang	93
Justification for Determination of the Depth of an Active Zone Based on the II Group of Limiting States L.M. Nurumbayeva and A.N. Badanin	98
Mechanics Analysis of Semi-Rigid Subgrade Pavement Structure L.Y. Su	105
Model Test Study of Squeezed Branch Pile under Horizontal Vibration Load B. Lv and X.J. Gao	109

Model Tests of Foundation Bearing Capacity of Sandy Soil and Pile Foundation Bearing Capacity	
S.J. Lu, H.D. Chen, W. Chen, T. Xiang and X.F. Hong	113
Numerical Simulation of Load Transfer Mechanism of T-Shaped Soil-Cement Deep Mixing Column	
P.S. Xi, X.T. Zhang and B. Liu	118
One-Dimensional Consolidation Modelling for Unlayered Soil	
I. Hanafi, F. Dimane, F. Mata Cabrera and J. Tejero Manzanares	123
Practical and Experimental Study of Grouting Anchor in Slope Reinforcement Engineering	
G.R. Lu, L.W. Zhang and H.B. Wang	129
Reliability Analysis on the Foundation Bearing Capacity in Ningbo Rail Transit Engineering	
J.F. Zhu, G.B. Liu and J.N. Ye	135
Research on the Anchorage Technology of Steep Slope in Sanitary Landfill	
P. Li, H. Wang and Y. Xin	143
Study on Graphic Method for the Stability of High Loess Slopes Based on MATLAB	
J.C. Hu, J.Y. Gao and Y.X. Chen	148
Analysis about Stability of a Slope	
Y.J. Yin, G.H. Xu and Y.M. Qian	152
Analysis of Micro-Seismic Monitoring Vibration on the Adjacent Buried Pipeline Affected by Impacting of Punching Pile Construction	
Y.H. She	156
Consolidation of Unsaturated Soils due to Dissipation of Pore-Air Pressure	
H.F. Xu, W.J. Wang and Z.X. Zha	160
Determine the Shear Strength of Aeolian Sand and Bearing Capacity	
Y.Z. Yin and Y.L. Wang	165
Dynamic Response of Two-Dimensional Fluid-Saturated Porous Beam	
F.X. Zhou and Q. Ma	169
Process Simulation and Formation Mechanism of Shear Band in Soil	
S.W. Hou, J.H. Qu, Y.F. Zhang and X.L. Du	175
Research of the Shear Strength Test of the Soil on the Surface of Lop Nor Gobi	
L. Yin, S. Qiu, W.J. Li, H. Hu and Z.K. Chen	180
Study of Soil Structural Parameters Based on the Gunary Model	
X.F. Huang, Y. Kong, B.S. Yang and P.F. Zhen	185
Study on Static Strength of Aeolian Sand before and after Cyclic Loading	
D.P. Liu, X.H. Yang, J. Wang and Z.J. Mao	191
Study on the Development of Plastic Zone Based on Strain Expressed Mohr- Coulomb Yield Condition	
C. Yang and T.G. Feng	195
Testing Study on the Effects of Water Content on Permeability for Coal	
C.H. Zhang and X.P. Xu	201
The Application of Cubic Spline Interpolation Function in Determining Rock Rheological Long-Term Strength	
M.L. Zhao and Q.Y. Zhang	205
The Application of Vacuum Preloading Method in Soft Soil Foundation Underwater	
Y.Q. Feng and L. Zhang	209
The Microstructure Formation Process Research in Loading Condition of Dredger Fill	
J. Wang and P.L. Cai	213
The Research on Mean Spacing of Rock Fracture	
L. Jiang and Y.S. Zhang	219
The Research Review of Underground Continuous Wall on Deformation Characteristic	
S.M. Zhang, T.K. Yuan, Y.K. Zhou, D.H. Li and K.H. Zhuo	224
The Rheological Properties and Yield Stress Model of High-Density Slurry Added with Coarse Sands	
X.X. Zhang and D.P. Qiao	231
3-D Numerical Study of Mechanical Behaviors of Pile-Anchor System	
R.C. Liu, B.S. Xu, B. Li and Y.J. Jiang	238

A General Criterion for Complex Rocks and Soils and its Application H.N. Ruan, M.L. Luo, D. Wang and J.W. Ju	243
A Method to Determine GSI Value by Using P-Velocity and its Application in Engineering Y. Zhao, L.Q. Wang, P. Zhou, Y. Han and G.R. Chen	250
Analysis of Engineering Characteristics of Cement Soil with Low Mix Additions A.M. Liu	256
Energy Characteristics of Brittle Rock in Failure Process A.J. Tang, C.G. Shi, Y. Wang and J.H. Wang	260
Estimation Study on Shear Wave Velocity of Seabed Using GRNN S.J. Di, Z.G. Shan and X.Y. Xu	264
P-Wave Attenuation Mechanism of Calcareous Sand under Explosion X.Y. Xu, S.J. Di, W.Q. Cheng, W. Li and W.B. Du	268
Response of Non-Homogeneous Saturated Soils and Free-Field to Incident Plane SH Wave F.X. Zhou and R.X. Song	273
Study of Key Parameters in the Process of Aeolian Sand Compactibility Y.Z. Yin and Y.L. Wang	278
Construction Techniques and Mechanism of Pre-Anchoring Fissured Stope Hangingwall by Fully-Grouted Cable Bolts F.L. Zhan and P. Ye	283
Numerical Analysis of the Bearing Behavior of Single Pile under Horizontal Load D.F. Ma, G.J. Guo, X. Yang and Z.D. Zhou	287
Simplified Bishop Method Homogeneous Soil Slope Stability Analysis Based on the C# Language H.B. Wei, Q. Zhang and J.H. Zhao	291
Study on Engineering Behavior of Non-Embedded Pile-Board Structure Crossing Over-Shallow-Embedded Metro C.B. Zhou, Q. Su, H. Bai, Y. He and W.H. Zhao	296
The Analysis on Bearing Characteristic of Residue Pile Composite Foundation Formed by DDC Z.R. Liu, Q.J. Sun and Z.F. Yan	302
The Explanation of Yield Surface Rotation of Sands by Principle of Thermodynamics with Internal Variables J.Y. Chen and Y. Hai	308
The Studies of Rock Damage Softening Statistical Constitutive Model under True Triaxial Stress State H.M. Zhang, X.M. Xie and G.S. Yang	312
A New Algorithm for Computing Threshold Value Used to Image Segmentation G.Y. Chen, D.Q. Liang, Y. Zhang and H.Y. Xie	316
Comparison Analysis of Buildings Settlement, Calculated in Accordance with Rheological Properties of Soils (Based on the Geotechnical Conditions of St. Petersburg) E. Astafyeva	320
Stability Analysis of Jinghua Gypsum Mine Golf in Jingmen City C.X. Chen, K.Z. Xia, Y.B. Dong, X.M. Liu and P.L. Huang	324
Study on Deformation Property of Coarse Particles (Sulfate) Saline Soil with Field Test P. Yang, Y.F. Liu, H.Z. Mi and Y.P. Zhu	329
Study on the Value Range of Horizontal Ground Stress in Initial Geostress Field Based on the Generalized Hoek - Brown Criterion Z. Ou, C.X. Chen, H. Fu and Y.C. Zhou	334
Analysis of Long-Term Deformation of Reinforced Retaining Wall Using Optical Fiber Sensor Geotextile L. Lu, Z.J. Wang, H. Feng and K. Arai	338
Analysis of Platform on Piles Application on Deformation Control of Underground Pipe in Reclamation Areas D.N. Zhou, Q. Shang and B. Xiao	344
Research on Water Temperature Change of Hot Dry Rock Fracture Storage Layer in Shenyang J.B. Zhao, H.D. Song, D. Li and Z. Zhang	349
Studies about Creep Characteristic of Silty Clay on Triaxial Drained Creep Test Y.F. Wang, Z.G. Zhou and Z.Y. Cai	355

Test Study on Effects of Temperature, Sand Mix Ratios and Dry Density on Soil Water Characteristic Curves of Bentonite-Sand Mixtures X.W. Fang, C.N. Shen, C.H. Li and L. Wang	359
The Prediction of Northern Slope Deformation and Failure Caused by the Transformation of Open-Pit to Underground Mining in the Yanqianshan Iron Mine A.L. Shao and H.L. Feng	364
The Study on the Engineering Properties of Squeezed Branch Piles under Combined Load W.F. Han, B.B. Feng, J. Zhou and C.Y. Lu	371
Triaxial Test Study on Marine Sediments Sample with Simulated Combustible Ice X.L. Wang, G.F. Li and J. Du	376
Weak Form Quadrature Element Analysis of Diaphragm Walls Y. Li and H.Z. Zhong	380
A Chemo-Elasto-Plastic Coupling Model for Sandstone Considering pH Effect X.H. Li, W. Wang, Z.Y. Tian and W.Y. Xu	386
A Critical-Line-Based Predictive Model for Landslides G.T.C. Kung and Y.G. Tang	391
Analysis and Process Control of the Deformation for Deep Excavation in Soft Clay H. Liu, W.B. Li and H.T. Liu	395
Analysis of the Interaction of Foundation Pit Supporting Structure and Soil Y.Q. Feng and C.X. Liu	401
Calculation for Earth Pressure of Cavity Expansion Considering Displacement W.M. Zhang and X. Huang	405
Experimental Study on Shear Strength of Different Types of Soil H.M. Chen, F.H. Guo and X.Q. Zhou	409
Failure Mechanism of Strip Footing on Geotextile-Reinforced Soil Z.J. Wang, L. Lu and B. Zheng	415
Horizontal Displacement of GFRP Bars and PC Strand Combination of Technology Supporting Piles X.H. Li, Y.Y. Gao, C.X. Yue and C.Q. Hu	420
Numerical Analysis of Stabilization of Slopes Overlying Bedrock Using Piles and Effect of Socketed Length of Pile on Stability M. Bakri, Y.Y. Xia and H.B. Wang	424
Numerical Simulation Analysis of Bearing Characteristics on Super-Large Diameter Rock Socketed Pile C.Z. Gong, C.L. He and M.X. Zhu	432
Prediction of Displacement Time Series Based on Support Vector Machines-Markov Chain F. Xu, W.X. Xu and K. Wang	436
Project Design of Dewatering for Deep Foundation Pit in Dalian B.L. Guo and H.B. Liu	440
Reinforcement and Characteristic Analysis of Bolt Technology Applied in Bedding Rock Slope E.H. Wang, Z.D. Wang, L.M. Jiang, L. Hao and A. Ran	445
Analysis on Influencing Factors of Cement Stabilized Macadam Base of Compressive Strength in Shenyang Area Y. Xu, C.Z. Bai, Y.F. Zhang, X. Liu and D. Li	450
Experimental Study on Dynamic Characteristics of Tailings J.B. Zhao, Y.C. Ji, X. Liu and D. Li	455
Experimental Study on Engineering Characteristics of Basalt Residual Soil on High Slope K. Cui and Y. Yang	460
Influences of Cross Section Parameters on Bending Resistance of TSC Pile X.Q. Wang, S.M. Zhang, J. Liao and Y.S. Huang	464
Roadbed Treatment Research in Expansive Soil Area Z. Feng, C.J. Li and X.L. Gao	469
Simplified Method for Estimating the Inner Support and Internal Force through Stand Column Uplift of Foundation Pit in Soft Soil Y. Liu, J.Y. Liu and T. Liu	474
Slope Early Warning System Design and Preliminary Practice F. Xu, W.X. Xu and K. Wang	481

Slope Stability Evaluation Based on PSO-PP K. Wang and F. Xu	486
Stability Analysis of Tower Foundation for Transmission Line Z. Chen	490
Study on Sheltering Effect of Underground Building to Horizontal Displacement of Retaining Wall of Foundation Pit Y. Liu, J.Y. Liu and S.B. Cai	494
Study on the Stress and Strain of EPS Silt Light-Weight Soil by Laboratory Test Y. Feng and Y.B. Pei	499
The Analys of Stability of Composite Soil Nail Y. Zeng	503
The Application of Origin Software in the Data Processing of Rock Creep Experiment C.Y. Gao, J.G. Niu and Q.C. Gao	509
The Experimental Study of the Influence of the Matric Suction on the Unsaturated Soil Strength C.R. Liu	514
The Settlement Analysis of the Cement Fly-Ash Gravel Pile Composite Foundation of Baotou J. Li, Y. Xu and J. Yin	518
Three-Dimensional Numerical Analyses of Pile Response due to Braceded Excavation-Induced Lateral Soil Movement L. Li, X.X. Hu, G.H. Dong and J. Liu	524
3D Finite Element Numerical Analysis for Stability Calculation of High Steep Rock Slope X.F. Xie, Y.L. Liu, J.Y. Han and L. Xing	532
A Certain Foundation Pit Support Design and Construction in Baotou X.K. Bao and M.H. Que	539
A Study on Micro Pile Reinforcement Technology for the Accumulative Landslide of Expansive Soil H. He, Y. Xu, Z.Z. Huang and Z. Li	544
Analyses of Anti-Seepage Measure for Expansive Soil Subgrade in Hefei Y. Wei, W.Z. Xing and Y. Shao	552
Analysis on Deformation and Support Technology of Deep Soft Rock Roadway Y.S. Liu, W. Liu and X.Y. Dong	556
Analytical Solution for Contaminant Extraction Using Well Injection Depth Extraction Technology Considering the Effect of Smear Zone H.Y. Wang, X.W. Tang and P.L. Gan	560
Application of Fuzzy Set Theory to Evaluate the Stability of Slopes T. Mohamed and A. Kasa	566
Application Research on Distributed Optical Fiber Monitoring Technology in Static Load Test of Large Diameter and Post-Grouting Filling Pile J.X. Chen, T.H. Zhou and Y.C. Guo	572
Coaction Analysis on Pile-Net-Cushion-Soil R.F. Wang and K.Y. Wang	579
Cone Penetration Test Study of Ultra Soft Soil after Vacuum Preloading J.Q. Yu, H.W. Li and W.S. Wang	585
Defects Discrimination and Error Analysis of Wharf Bored Piles Detected by Low Strain Reflection Wave Method T. Li, Q.C. Qiu and J. Wang	589
Double-Row Composite Anchor Bolt Design and Construction Monitoring Analysis of Green Building H.X. Li, Y.W. Wang and G.K. Fang	596
Experiment Research of Rock Anchor Foundation on Sandstone Ground in Transmission Line Y. Zhang and W.F. Zheng	601
Experimental Studies on Acoustic Emission of Different Damaged Concrete H.G. Ji, X.R. Li and C.L. Song	606
Experimental Study on Post-Peak Failure Behavior of Rock Masses with Persistent Joint L. Wang, J. Yu and X. Hua	610

Explanation of Phenomenological Characteristics in Seepage Force Concept System Y. Shen and W.H. Du	614
Finite Element Analysis of Rock Bolt Foundation in Metallurgical Industrial Plant M.X. Tan and H.B. Liu	619
Laboratory Studies on Acoustic Emission Characteristics to Coal Dynamic Response under Variable Accelerative Load X.H. Liu, C.X. Liu, S. Zhuang, L. Wang and S.S. Lin	623
Mechanical Model of Pile-Soil Work Together S.J. Zhang	628
Mechanics Analysis of Flexible Base Pavement Structure L.Y. Su	632
Monitoring Analysis and Safety Evaluation of Deep Foundation Pit under Complex Conditions X.T. Zhang, Q.Y. Zhang, C. Wang and Y.F. Wang	636
Analysis of Coral Reef Rock Mass Integrity Based on RMDI Method J.C. Wang, C.Y. Wang and Z.Q. Han	641
Application of Curve Model Fitting Methods to Settlement Prediction M. Wu and J.L. Niu	651
Effect of Overload on Bearing Capacity of FRP Reinforced Ground C.X. Bai, X.Y. Shao and Q.P. Wang	655
Influence of Density on the Hydraulic and Mechanical Properties of Sands O. de Freitas Neto, O.F. dos Santos Jr. and R. Nascimento Flores Severo	659
Numerical Simulation of Failure Process on Soil Slope with Different Support Measures Y.W. Zhang, L.X. Tang, D.C. Bai and P. Zhou	665
Prediction of Composite Foundation Settlement Based on Multi-Variable Gray Model Y. Wang and G. Yang	669
Preparation of a New Type of Joint Filler and Study on Adhesion Performance X.W. Li and C. Sha	674
Probability Statistical Model and Network Simulation Technology of Random Fractured Rock Mass C.X. Han, D.H. Zhou, W.Y. Liao, X. Chen, L.Q. Li and K.C. Yao	679
Pullout Test Research on Interfacial Interaction of Reinforced Band and Gravelly Soil Y.L. Wang, Z.L. Cheng, W. Zhang, Y.Z. Zuo, Z.L. Yu and Y. Wang	684
Research of Soundless Crack with Different Number of Drillholes L.X. Tang, D. Zhang, Z.T. An and J.Y. Zhang	689
Research on Negative Skin Friction on Pile by a Simple Model Experiment T. Huang, J.H. Zheng and W.M. Gong	693
Research on Stability of Foundation Pit Construction H.S. Dai and T. Yang	697
Research on the Effect of One Debris Flow along Bailong River Y.Q. He, Y. Wu and S.L. Li	701
Research on the Retention Capacity of Ruins Soil under Drying Condition P. Liu, H.Y. Zhang, Y. Chen, X.X. Shao and X.Y. Fu	705
Stability Analysis on Anti-Slide Pile to Reinforce Slope Based on ABAQUS X.J. Gu, T.Q. Zhou and S.L. Lu	711
Study on Optimization of Design Parameters for Composite Foundation with Cement-Fly Ash-Gravel Piles P.F. Luo, J.X. Tong, X.H. Sun, X.H. Yang, J. Zhang and M.L. Yan	715
Study on the Design Method of Different Thickness-Diameter Ratios for Composite Foundation with Rigid Long and Short Piles J.X. Tong, X.H. Sun, P.F. Luo, N. Jia, X.H. Yang and M.L. Yan	723
Study on the Effects of the Rainwater Seepage on Slope Stability J.S. Xun, X.T. Xu and R.Q. Bai	729
Study on the Lateral Displacement of Super-Long Pile under a Asymmetrical Surcharge Load in Soft Clay Q. Li and X.L. Lu	733

Temperature Field Numerical Analysis of Different Freeze Pipe Spacing of Vertical Frozen Soil Wall Reinforcement at Shield Shaft	
J. Hu, B.S. Jiang, H. Zeng, Y.N. Chen and Y.Y. Zhu	738
The Applied Research of Underwater Vacuum Preloading Method in Soft Soil Foundation	
Y.Q. Feng and L. Zhang	742
The Bearing Characteristics and its Influencing Factors of Reinforced Soil Foundation	
Y. Jiang, X.M. Wang, W.B. Sun and Y. Dong	746
The Instability Mechanism of Soil-like Slope under the Action of Acid Corrosion in Open-Pit Copper Mine	
H.Y. Ju, G.Q. Gao, S.L. Liu, C.T. Luo and J.H. Li	750
The Optimum Design of Slope Angle Based on Critical Sliding Field	
S.G. Sun, Y.N. Yi, Q.H. Cui and L. Jin	755
Theoretical Analysis on Underwater Vibrating Compaction Technology of Scattering-Filling Rubble Stone Layer	
J.B. Fu, S.W. Yan and Z.J. Chen	760
Three-Dimensional DEM Numerical Simulation of Rock Failure Progress with Different Microscopic Heterogeneities	
H. Chen, R. Fang, Y.J. Li and F.C. Zhang	767
Analysis of Structural Soil's Shear Strength under Arbitrary Degree of Consolidation	
Y. Liu, C. Sun and S. Li	774
Stability Monitoring Analysis on Side Slope Engineering Management of Longmenhao Primary School	
L.M. Wu, Z.J. Wang and S.Y. Liu	778
The Stability of 3D-Geomat in Different Slope Gradient	
G.Y. Wang, J.P. Zhang and Y.S. Sun	782
Monitoring and Analysis on the Supporting Structure for Deep Foundation Pit	
H.X. Sun, K. Zhang and S.L. Chen	787
Numerical Analysis of Floatation Response of Buried Pipeline in Liquefied Soil	
S.N. Deng, W.T. Peng and J.Q. Lin	791
Research on the Construction Monitoring for Enclosure Structure of Working well	
Y. Liao, J.H. Zhan and C. Li	797
Experimental Study on Bearing Mechanism of Jacked Pipe Pile in Sand	
J.T. Wang	801
On Stability and Deformation of Slurry-Trench Affected by Formation Equipment	
M.Y. Shi and F.G. Song	805
Two-Dimensional Problem of Moisture Elasticity of Inhomogeneous Spherical Array with Cavity	
V.I. Andreev and A.S. Avershyev	812

Chapter 1: Geotechnical Engineering

Development of the Monitoring Guidance System for Slope Engineering	
D.H. Kong, Y.K. Ruan, Z.G. Zhang, W.F. Mao and M. Li	819
The Application of BP Artificial Neural Network in Geotechnical Engineering	
N. Zhao	823
Numerical Simulation of Slope Excavation in Highway Renovation and Expansion Project	
G.C. Luo, Z.M. He, X. Luo and Q.G. Hu	827
On Fire Severity of Flammable Gas	
W.Z. Wu	831
Study on Cover Backfilling of Open Pit to Underground Basing on Natural Classification	
C. Chen, D.Q. Gan, C.Q. Yu, A.D. Song, S. Wang, H.J. Lu and W.H. Zhang	835

Chapter 2: Geological Engineering

A New Geometrical Model of Fluid Flow in Rock Fractures for Valid Application of the Cubic Law	
H.G. Zhu, Y.D. Jiang, C. Yi and H.P. Xie	841

Control Function of Corrosion of Calcareous Sandstone over Rock Mass Quality in One Hydroelectric Station on the Jinsha River S.Q. Lu and P. Zhu	847
Dynamic Mechanism Research on the Tectonic Activation of Anninghe Rift J.Q. Liu and Y.S. Li	851
Searching for the Shortest Seepage Path of 3D Network in Fractured Rock Masses B. Pan and Y.S. Zhang	857
Development Features and Fractal Research of Fault Structure of No.5 Coal Seam in Chenghe-Second Coal Mine X.C. Xue and J. Wang	862
The Application of Reservoir Geo-Modeling Technology in Section07, Tieleni Oilfield L.Y. Pang	866
The Classification and Quality Evaluation of Rock-Mass Based on Limited Geological Information X.G. Wu, Z.Q. Yang, Q. Gao and D.H. Ba	870
The Genesis Mechanism Analysis of Qinglong Landslide in the Central Region of Yunnan Province Water Source Diversion Reservoir Area of the Jinsha River T.J. Song, J.P. Chen, X.J. Li and J.Y. Yan	875
Experimental Investigation on the Physical and Mechanical Features of Clay Shale in Bayingobi Basin of Inner Mongolia H.A. Liang, Q.R. Lu, S.J. Chen and H.Y. Hu	879
Growth and Mechanics of Brittle Fault Systems in Rock Mass: An Example of Baihetan Hydropower Dam Area W.Q. Cheng, S.J. Di, X.Y. Xu and G. Song	883
Sleeve Valve Pipe and Steel Pipe Micropile Fractured Tensile Reinforcement in Combination with the Application of a Mined-Out Area S.L. Tang, L. Yang, L.H. Sun and X.W. Li	887
Evolution Characteristics of Permeability and Porosity of Mudding Weak Permeability Media with Nonlinear Flow Y.E. Deng, J. Yu and X. Peng	893
Stability Analysis of Gypsum Mine Goaf Surface Based on Discrete Element Method X.M. Liu, C.X. Chen, K.Z. Xia and P.L. Huang	897
Automated Analyzer, LOI and other Methods for Determination of Soil Organic Carbon Y.Y. Zhang and W.H. Zhang	903
Determination of Volumetric Joint Count Based on 3D Fracture Network and its Application in Engineering J.L. Wu and J. He	907
Relations between Paleoclimatological Conditions and Mineralogical Characteristics of Clays in Miocene Sediments at Linxia Basin, China N. Yu, H.L. Hong, Z.H. Li, K.X. Zhang and R.B. Li	912
Research about Control Factors and Early Warning System of Early Warning System in Song Fangtun Oilfield N. Lv, Y.M. Wang and H.Y. Liu	919
Stability Analysis of Puzi Landslide in Chongqing K. He and C.L. Chen	923
The Landslides Developed with the Evolution of the River Terraces in the Loess Plateau, China X.L. Xing, X.K. Hou, T.L. Li and P. Li	927
Application of Self-Drilling Anchor on Coal Gangue Slope Treatment T.L. Chen, J. Zhou, A.M. Wang and H. Li	935
Researches on Slope Treatment Technologies under Complicated Geological Conditions in High Temperature and Rainy Regions R.X. Shan and H.P. Li	940
Research on Two-Dimensional Landslide Model Control System Based on Support Vector Machine Modeling Z.T. Liu and Z.H. Feng	947
Uncertainty Analysis and Monitoring of Earth Dam L.Q. Yang, R. Gao and Y. Wang	954

Study on Rock Strength Characteristic by Point Load Test R.H. Wang, Y.Z. Jiang, J.L. Guo and T.C. Tang	958
Research on the Mechanical and Thermophysical Properties of Frozen Soil in Cretaceous Formation H.D. Dai, M.L. Yin, T.Y. He, K. Liu, T. Li and T.Q. Zheng	962
Coordinate Transformation and the Volume Covering Fractal Algorithm of Rock Surface Morphology K. Man, Y. Zhao and H.F. Li	966
Study on Control Technology of Slope in Mountainous Areas of Southwest China under Complex Geological Conditions W. Yang and H.P. Li	971
Anisotropic Bounding Surface Model in ABAQUS Software Y.Z. Qin and Q. Chen	977

Chapter 3: Tunnel, Subway and Underground Facilities

Construction Methods for Long-Span and Bifurcation Tunnel Structure C.L. Xin and B. Gao	983
Effect of Time-Varying on Shield Tunnel Lining Structure F.J. Liu and J.F. Chen	987
Analytical Hierarchy Process Based Post-Earthquake Health Diagnosis Method for Tunnel in South of China H. Huang, W. Zhang, L.F. Yang and Z. Chen	991
Numerical Analysis of Construction Method in Shallow-Buried Large-Section Loess Tunnel Z.J. Sun	997
Numerical Simulation of Effect of Foundation Pit Excavation on Underlain Shield Tunnel G. Wei, L.W. Hu and K.L. Chen	1001
On Karst Water Inrush (Gushing) Geological Environment in Pingyang Tunnel Q.Q. Zhu, Q.Q. Miao and S.P. Jiang	1008
Preliminary Ideas of the Metro Station Constructed by Shield Tunneling Method Combined with Prefabricated Method H.F. Su, W.N. Liu and F.C. Liu	1013
Pre-Stressed Reinforcement and Security Analysis of Tunnel Lining with Dislocation and Cracks J.W. Zhang	1019
Research on Layout of Measurement Points in Tunnel Lighting Experiment Q. Yang, B. Liang, G.B. Pan, S.Y. He, W. Chen, X.Y. Dang and Z.W. Wu	1024
Study of Life Safety on the Fire Accidents in the Subway Station H. Xie, Y.Y. Xu, X. Zhang and J. Chen	1029
Study on Emergency Evacuation in the Subway Fire Accidents H. Xie, Y.Y. Xu, X. Zhang and J. Chen	1033
Study on Fire Smoke Movement of Urban Traffic Link Tunnel X.L. Yao and Z.G. Zhang	1037
Research on the Regional Stress Field of Underground Powerhouse at the Right Bank of Baihetan Hydropower Station Q. Zhao, X.L. Leng and X. He	1042
Study on the Blasting Excavation Method of Urban Shallow Tunnel Z.Q. Li and Z. Li	1051
The Monitoring and Numerical Simulation Analysis on the Construction of a Shallow Underpass L.S. Liu and J. Zhao	1056
Metro Station Deformation Caused by Deep Foundation Pit Construction C.L. Xin and B. Gao	1061
New Developments and Applications in Rail Transit Construction Technology R.J. Li, R.L. Shan, Q.L. Liao and F.M. Wu	1065
Numbering Analysis of Ground Settlement by Shield Method Based on the Model of Corrected 'Equivalent Circle Zone' Z.L. Zhou and S.G. Chen	1072

Numerical Analysis on Interaction Induced by Crosswise Tunneling P.L. Gan, X.W. Tang, W.M. Shen and H.Y. Wang	1076
Research on Key Technology of Shield Machine Main Drive Sealing R.J. Li, R.L. Shan, Y.X. Gui, J.Z. Yang and J. Liu	1081
Review of Testing and Analysis on Metro-Induced Vibration J.W. Li	1088
Stability Analysis of Wall Structure which its Depth is over Thousand m Y.H. Wang, X.C. Fu and X.H. Jing	1092
Design of High Speed Railway Tunnel and its Construction Method in Abrupt Slope with Loose Rockmass X.J. Zhou, B. Jiang, R. Yang and C. Ning	1096
Numerical Simulation for Construction Process Large-Span Flat Tunnel under the Condition of Shallow Buried J.J. Li, L. Tuo and G.J. Zhang	1100
Study on FEM Numerical Simulation and Strain Monitoring of Tunnel Secondary Lining Y.N. Li, M. Liu, S. Wu, H. Liu, J.K. Su, Z.L. Zhang and C. Li	1105
Study on Simulation Analysis of Excavation Deep Foundation Pit in Qingnian Road Station of Tianjin Subway Line 2 Y. Bai, P.B. Cui, J.B. Wu and L. Wu	1112
The Application of Getting R_c Value from Point Load Test and Rebound Test by Tunnel Surrounding Rock Classification System R.X. Wang and Z.C. Yuan	1116
The Dynamic Response of Shallow Buried Structure under the Action of Explosion Load Q. Zhang, H.B. Wei and J.H. Zhao	1122
Discussion on Highway Tunnel Monthitoring Measurement Control Standards L.J. Tan, H.Q. Zhou and K.S. Chen	1127
Research on early Concrete Crack Control of Shijiazhuang Subway Construction in Winter X.M. Yu, L.J. Cao and D.Y. Geng	1134
Response of the Spiral Conveyor Spewing in Water-Rich Sand Y.R. Song, J. He, G.F. Chen, M. Hong and P.B. Li	1138
Study on Deformation Prediction of the Tunnel Surrounding Rocks Based on Non-Equal Time-Interval Grey Model P.F. Geng, C.M. Yang, W.D. Guo and P. Wang	1143
Mechanical Calculation for Collapse Mechanism of Surrounding Rock on Shallow Tunnel Y. Peng, J.S. Yang, Y.H. Shen and J.H. Liu	1148
The Research on Environment Vibration due to Subway with Rail Pads of Frequency-Dependent Stiffness F. Yang, K. Wei and Y.C. Song	1153
Tunnel Collapse Treatment Technique Research in Xinjiang Tianshan High-Altitude, Low-Temperature Mountain C.S. Zhu and X.H. Yang	1161
Tunnel Lining Microstructure and Mechanical Properties of Evolutionary Analysis Y.D. Ma and S. Liang	1168
BIM Technology Used in Underground Subway Station Planning Simulation H.K. Pu and Q.C. Wei	1174
Comfortable Quality Analysis of Subway Station Vibration Induced by Multiple Trains B.Q. Zhang	1178
Optimization of Tunnel Support Type through Fault Zone K. Li and H. Guo	1184
Force Analysis of the Middle Wall in Multi-Arch Tunnel under Central Hole + CRD Method J. Li and Z.L. Wang	1188
Force State of Country Rock and Supporting Structure in Multi-Arch Tunnel under Central Hole + CRD Method J. Li, Z.L. Wang and J.F. Zhong	1192
Key Construction Technology of Shield Machine Passing through the Airport Apron in Shallow Soft Soil R.J. Li, R.L. Shan, R.S. Li, J.Y. Lv and Y.W. Song	1197

Optimization of Construction Method for Shijiazhuang Xinbai Subway Station C.Y. Gao, J.G. Niu and D.Y. Geng	1203
Study on Classification and Regulation for Defects on Railway Tunnel J.W. Zhang, S. Wang and H.X. Huang	1207
The Dynamic Response of Zhengyangmen Gate Tower Induced by Beijing Metro Line 2 Q. Song, J.Q. Guo, W.H. Chen and P. Guo	1212
Study on Investigation and Analysis of Existing Railway Tunnel Diseases D.P. Zhao, X.R. Tan and L.L. Jia	1218
Development States and Existing Problems Research of Nondestructive Testing of Bolt X.K. Bao, H.H. Liu and L.J. Liang	1223
Identification of Surrounding Rock Parameters Based on MSVR X.L. Li, J.J. Zhang, F.M. Wang and B. Zhang	1227
Kinematics Analysis of Working Edge Point for Gauge Disc Cutter in Cutterhead of Tunneling Machine Q.X. Wu, G.F. Tian, L. Chen and H.W. Ma	1232
Mechanism Analysis and Prevention Method for Tunnel Fire J. Wu, F.M. Shen and P. Jiang	1238
Metro Construction Safety Risk Assessment Based on the Fuzzy AHP and the Comprehensive Evaluation Method X. Zheng and F.H. Ma	1243
Monitoring and Analysis for the Deformation of SMW Retaining Structures in Subway Station J.T. Xia, S.F. Zhang, H.R. Shen, Z.J. Liu and S.Q. Huang	1249
Approach on Pollution Gases Diffusion Path of Small Spacing Tunnel Entrance Based on CFD Y.Y. Xing	1254
Influence of Foundation Pit Excavation on Existing Shield Tunnel and its Protection Range X. Wen and C.R. Pang	1258
LS-SVM-Markov Model for Tunnel Deformation Prediction G.T. Cai and S.J. Hu	1264
Optimization of Stope Structural Parameters in Phosphorite Mine and its Stability Analysis X.X. Li and K.G. Li	1268
Research of the Key Control Parameters Standard for Shield Tunnel Under-Crossing High Speed Railway Z. Liu and P. He	1273
Research on Defects of Tunnel Portals during the Operation K.Z. Zhu and J.H. Luo	1279
Study on Risk Trend Assessment of Metro Tunnel Crossing Underground Pipeline Based on Partial Connection Number H.T. Xie, B. Li and Y.S. Zhao	1283
Water Inrush Risk Evaluation into the Tanjiaba Tunnel Y.B. Sun and M.Y. Feng	1288
Numerical Analysis of Two Structural Schemes of the HK-Zhuhai-Macau Immersed Tunnel Y.J. Dai, M.J. Zhou, Y.F. Kong, X.D. Liu and Z.G. Zhang	1293
The Deformation Characteristics Analysis of Metro Tunnel in Complicated Geological Conditions D.H. Qiu, S.C. Li, Y.G. Xue and F.D. Xie	1297
Auger Bored Piles Application Works in the Subway Y. Wu	1301
Impact of Urban Rail Transit on Residential Property Values in Hangzhou L.F. Ruan and J.P. Yin	1306
Dynamic Accumulation Damage Characteristics of Initial Cracks for the Lining of High-Speed Railway's Tunnel X.Q. Wang and B. Cai	1311
A Numerical Investigation on Time-Dependent Failure of Tunnels Based on the Long-Term Strength Characteristics of Rocks L.C. Li and M. Xing	1315

Measurement and Research on Broken Zone of Surrounding Rock in Cha Zhen Tunnel R. Wang, Y. Liang and W. Qin	1321
Numerical Simulation Study on Three-Step Method Construction for Neighborhood Tunnel L.L. Cai, X.Y. Yang and N. Guo	1327
Study on Pressure Observation of Fully Mechanized Caving Faces in Coal Seams with Rock Burst Danger in Xiagou Coal Mine Z.C. Tian, Y.J. Liu, W.C. Wang and Y.H. Ren	1331
Research on Geostatic Stress and Optimization of Bolt Support for Tilted Strata Roadway R.L. Shan, L. Tian, W.F. Zhao, J.Y. Lv, Y.H. Xiao, L.F. Wei and X.Y. Hao	1335
Construction Monitoring Technology Analysis for Railway Tunnel J.F. Hou, J. Chen and R.L. Wang	1342
Application of Grouting Reinforcement Technology in Pingshan Shaft Station L. Tian, J.Y. Xi, J. Liu, X.D. Liu, F. Shang and X. Dong	1347
Research Status and Development Trends of Roadway Surrounding Rock Stability Classification R.L. Shan, X.S. Kong, J. Liu, J.F. Li, Y. Bai and Y.W. Song	1352
Analysis on Changes of Mechanical Properties of Lining of Tunnels in Huangtu Regions Taking Account of Loess Cavity by Using ADINA H.P. Zhou, E.Y. Wang, Y.X. Hu, Z.Q. Liu and J.B. Cui	1358
Research of Fractured Surrounding Rock Physical and Mechanical Characteristics in Shuguang Mine No.2 Mining Area H.J. Xue, J.L. Xue, M.L. Yin, J. Kong and Z.M. Gao	1364
Finite Element Analysis on Causes of Crack in Large Underground Garage B. Shu and J.H. Peng	1369
The Application of Fracture Mechanics in Highway Tunnel Lining Cracking S.Z. Chen	1377
Studies on Damage Distinguishing of Underground Tunnel Structure Based on BP Neural Network X. Zuo, G.X. Chen and W.Q. Li	1382
Non-Linear Free Vibration of Submerged Floating Tunnel Tether Z.B. Su and S.N. Sun	1388
Numerical Simulation Method Utilization in Water Gushing Yield Forecasting of Paoziling Tunnel in Hunan Province, China Y.N. Yang, Q. Zhang and M. Xu	1392
Reliable Design and Study on Highway Tunnel Lining Structure Z.L. Niu, Y.B. Qi, J.S. Huang, C. Wang and J.L. Li	1398
The Example Analysis of the Transfer Stations of Subway L.J. Yu, Y.L. Li and K.M. Chen	1402
Subway Station Group Decision and Evaluation of Fire Emergency L.J. Cao, X.M. Yu and D.Y. Geng	1408
Based on Effect Coefficient Method of Metro Tunnel Collapse Risk Evaluation Model and its Application P.L. Cai, J. Wang and S.W. Tian	1412

Chapter 4: Seismic Engineering

Application of FEM Strength Reduction Dynamic Analysis in the Seismic Design of Reinforced Earth-Retaining Wall with Geo-Grid X.S. Tang, Y.R. Zheng and L. Jie	1419
Damage Mechanism of Yiliang Earthquake on September 7, 2012 Z. Lin, M. Tian, D.B. Chen and C.F. Li	1426
Deformation and Energy-Based Seismic Damage Evaluation of Steel Reinforced Concrete and Reinforced Concrete Piers J.J. Lin, A.R. Liu, Q.C. Yu and J.D. Deng	1430
Experimental Study on Dynamic Mechanical Properties of Galvanized Iron Wire under Seismic Strain Rate H. Zhang, J.H. Zhang, D.B. Wang and X. Li	1435

Peak Story Drift of a Building Structure Subjected to Earthquakes J.H. Lin	1439
Research Advances in Seismic Behaviors of Shear Wall with Opening L.Y. Gong, J.W. Chen and Y.P. Su	1443
Response Modification Factor for Y-Eccentric-Braced Steel Frame Structures Designed Based on Chinese Code W.X. Yang, Q. Gu, P.Z. Cao and R.J. Shi	1449
Seismic Performance of the Reinforced Concrete Frame Structures with Infilled Walls of Different Configuration M.S. Guan, H.B. Du, W. Chen and Y.H. Wu	1458
Shaking Table Test Analysis of Bottom-Business Multi-Story Masonry Structure in Small and Middle Towns in the Southward Y.D. Liang, X. Guo, H.W. Yi, Y.Z. Li and J.Z. Jiang	1463
Shaking Table Test of Reinforced Concrete Frame-Wall Model H. Zhang, B. Li, X. Li and D.B. Wang	1467
Analysis on Self-Centering Capacity of Prefabricated Frame Joints Y. Zou, H. Lin and W.Q. Ma	1471
The Effect of Damping on Seismic Performance of Steel Frame X.W. Wang and C.J. Hu	1477
The Influence Analysis of Mechanical Behavior between Pile and Soil on End Bearing Pile Foundation's Dynamic Characteristic W. Hu, Y.H. Zhang and Y. Zhang	1481
The Present Situation of Rural Housing and the Seismic Performance Analysis H. Li	1486
Geotechnical Seismic Isolation System - Further Experimental Study W. Xiong, M.R. Yan and Y.Z. Li	1490
Seismic Response Analysis of Deep Water Bridges with Pile Group Foundations D.X. Zhao, J.J. Wang and J.S. Su	1494
Analysis of Strong Ground Motion Characterization in the 2013 Lushan Earthquake T. Yu, M. Lu and X.J. Li	1499
Development and Prospect of China's Bridge Seismic Bearing L. Zhang, C.H. Zhao, L. Li and B.B. Fan	1506
Feasibility Analysis of Applying Biomechanical Properties of Human Body to Seismic Design of Building Structure S.S. Wu, G.C. Kang, S. Wang and J.Y. Lian	1511
A Method for Checking Eccentricity of Solid Concrete Piers with Low Longitudinal Reinforcement Ratio under a Minor Earthquake X.C. Chen, Z.W. Liu, Y.L. Zhang and L. Pei	1515
Application of the Jerk Feedback on the Shaking Table F.F. Li, J.B. Ji, X.J. Li and N. Li	1521
Data Processing and Preliminary Analysis of Strong Motion Records from the Ms7.0 Lushan, China Earthquake H.Y. Yu, B.F. Zhou, W.X. Jiang, C. Yang, Q.C. Xie, P.Y. Tan, S.M. Xu and X.F. Zhao	1528
Permanent Displacement Identification Analysis in 2011 Mw9.0 Tohoku Earthquake, Japan B.F. Zhou, T.S. Song, R.Z. Wen and L.L. Xie	1533
Research on Shaking Table Control Parameter Tuning Technology Based on System Identification J.B. Ji, L.J. Sun, P.Y. Zhan, J.K. Wang and L.L. Song	1538
Research Summary of Vibration Reducing Performance for Infilled Wall M.S. Sun, S.Y. Qu, F.B. Meng and C.L. Li	1545
Analysis on Seismic Performance of Beam and Plate Converter Floor G.T. Zhao and X.T. Kou	1551
Ultimate State of Bridges with Rocking Isolation under Extreme Earthquakes T.Y. Lee, M.Y. Huang and K.J. Chung	1555
Verification of LSSRLI-1 Applicability on Soft Sites Using Exact Solution R.S. Li and X.M. Yuan	1559
Controls on Material and Mesh for Structural Nonlinear Time-History Analysis X.M. Chen, J. Duan, H. Qi and Y.G. Li	1564

Influence of Saturation Degree on Deamplification of P_1 Wave through Multilayered Porous Media	
M.Y. Mehiaoui Hadjebar, M. Hadid and M. Berrah	1570
Precise Integration Method of Pseudo-Dynamic Testing of Structures	
H.B. Wang and R. Liu	1574
Reliability Analysis in Performance-Based Earthquake Engineering	
A. el Ghoulbzouri, Z. el Alami and S. el Hannoudi	1581
An Energy Dissipation Device Based on Shape Memory Alloys for Frame Structures	
Y. Chen, N.L. Zhu and S. Gao	1591
Analysis of the Influence of Mortise-Tenon Joint Damage on Seismic Performance of Ancient Timber Structure	
X.L. Wang and L. Jin	1595
Demand Diagrams Based on Inelastic Spectra: A Proposal for the Implementation of the Capacity Spectrum Method in the Romanian Seismic Design Code	
I.G. Craifaleanu	1600
Research of Soil Layers Amplification Effect Based on Strong Seismic Records and Calculations	
L. Wang and Y. Su	1604
Research on Performance-Based Seismic Levels of Nonstructural Components	
H.H. Zhu and G. Zhao	1609
Research on Seismic Damage of Buildings in the Beichuan Earthquake	
F. Wang and C. Ning	1613
Seismic Analysis of 5-Span High-Speed Railway Continuous Girder Bridge	
J.H. Guo and M.Q. Lu	1618
Seismic Performance Analysis of Steel Frame with Wedge Devices Based on the Energy Dissipation	
J.S. Lei, W.X. Luo, J.L. Jiang and W. Zhang	1624
Seismic Performance Analysis on Single-Storey Masonry House with Sliding Damping Technology	
K. Yuan, Y.M. Li and B. Kang	1629
Seismic Reduction and Control Analysis of Hybrid Structure with Viscous Dampers under Strong Earthquake	
S. Qiu, S.C. Deng and Z.Q. Zhu	1633

Chapter 4: Seismic Engineering

Simplified Dispersion Curves of Earthquake Love Wave for Rotational Seismic Motion Estimation	
Y.W. Liu and H.N. Li	1639
Study on Seismic Behavior of Self-Centering Precast Frame	
H. Lin, T.Q. Li and Q. Wang	1645
Study on Seismic Detection Applied in Mine Advance and Side	
Y.B. Hu, Y. Wang, Y.Q. Wu and Z.X. Liu	1649
Study on the Anti-Seismic Performance of New Swing Structure System Based on PUSHOVER	
D. Liu	1653
Study on the Seismic Safety of the Qinghai Traditional Dwellings	
M.J. Zhang, L.X. Liu and Y.A. Shi	1658
A Suggestion on Uncertainty Correction of Ground Motion Attenuation in Probabilistic Seismic Hazard Assessment	
C.F. Wang, X.X. Tao, A. Z, K. Zhao and W. Jiang	1662
Average Damage Ratio and Earthquake Damage Matrix of Non-Engineered Building in Seismogenic Provincial Regions in China	
J.H. Xing, M. Lu, Y.M. Zhao and Y. Yu	1667
Collapse-Resistance Measure for the Bottom Frame Structure under Earthquake	
D.Z. Wang, J.W. Dai and R.C. Shan	1676

Dynamic Analysis of Artificial Boundaries in Gravity Dam-Foundation Rock Interaction System W. Qiao and G.M. Liu	1680
Dynamic Analyses of a Self-Anchored Suspension Bridge under Seismic Excitations C. Wang and Y.X. Wang	1687
Inertial Coefficient Adopted in Pile-Pier Structure under Deep Water G.S. Sun, C. Liu, J. Xie and F.J. Ma	1692
Numerical Analysis of Seismic Behavior of a Concealed Bracing Connection for Precast Concrete Shear Walls Q. Jin, W.N. Guo, W.J. Zhao, B. Zhang and D.P. Zhang	1696
Seismic Performance of Base-Isolation Building Subjected to Near-Fault Ground Motion with Velocity Pulse Q.M. He, Y.Q. Li, Y.M. Zhao and Y. Yang	1700
Seismic Response Analysis of Free Long-Span Submarine Flexible Pipelines under Earthquakes Y.L. Deng, Y. Bian and F. Lei	1704
SRC Frame-RC Core Wall Hybrid Structures Collapse-Resistant Design Y.Y. Wu, Z.K. Cui, Q.Q. Gong and L. Zeng	1708
Study on Seismic Performance of Irregular RC Frame with Specially Shaped Columns J. Tang and L. Wu	1712
Study on Seismic Response Characteristics of Step-Terrace Frame Structure on the Slope L.P. Liu, J.J. Liu, A.L. Li and M.Z. Tan	1718
Study on Simplification Conditions of Curved Regular Bridges under Seismic Effect T.Y. Song, Y. Shen and G.P. Li	1723
Study on the Characters of Seismic Response Spectra Based on China Financial Information Mansion M. Li, Y.Q. Wang, W. Tao, B. Wang, Q.X. Yu, L.L. Wu and R.L. Shan	1729
Time-Frequency Analysis of Non-Stationary Ground Motions via Multivariate Empirical Mode Decomposition Y.W. Su, G.Q. Huang and L.L. Peng	1734
Study of Intake Tower under an Earthquake Using the Power Spectral Method Based on ANSYS X. Hua, C.Q. Yu, W.H. Zhu, K. Zhao and C.L. Huang	1742
Studies on Seismic Measures to Improve Masonry Infilled Wall Y.J. Zhang, X.S. Duan, X.Y. Wang, C.L. Zhou and Y. Sun	1746
A Suggestion to the Vertical Earthquake Action Stipulated in Seismic Design Specification H.M. Liu, X.X. Tao and J.Y. Wang	1750
Seismic Response Analysis for Assembled Precast Concrete Residence Z.B. Meng, Y. Cao, G.D. Qiao and Y.S. Zhao	1755
Study of Ultimate Displacement of Timber Structures in Chinese Ancient Buildings M.G. Xu and Z.W. Ding	1759
Expected Annual Earthquake Loss Analysis Based on CMR of Structures L.N. Xian and X.Y. Ou	1763
Earthquake Mitigation Effect Analysis of Hysteretic Dampers in Steel Frame C. Xu, Y.F. Niu and Y.X. Zhao	1767
Analysis of Earthquake Damages and Seismic Reinforcement of Bridges B.B. Fan, C.H. Zhao, L. Zhang and L. Li	1771
Research on Shaking Table Test of Base and Story Isolation Structures G.C. Zheng and H.L. Xu	1776
Vulnerability Analysis of Existing Buildings under Seismos X.H. Meng and G.Z. Yang	1782
Finite Element Analysis of Seismic Responses of a Large-Cantilever Stadium Structure Z.Y. Sun, Q. Jin, L.G. Jia, Q. Wang, Y. Ma and C. Xu	1786

Chapter 5: Hydraulic Engineering, Water Resources and Hydrology

A Two-Dimensional Numerical Model for Shallow Water Flows over Variable Topographies B. Lv and S.X. Li	1793
An Inversion Method of the Material Parameters for Gravity Dams D.D. Zhang, X. Feng and J. Zhou	1799
An New Approximate Formula for Contracted Depth in Quadratic Parabola Shaped Channels F.L. Li	1803
Analysis of the Influence of Bottomland Change on Waterway Conditions in Liyushang in Middle Reaches of the Yangtze River Y.D. Zhu and J. He	1807
Analysis on Hydrodynamic Load that Induces High Dam Body Vibration C.T. Wang, H.X. Ding and H. Lv	1812
Analysis on Seepage Effects of Plastic Concrete Cut-Off Wall in Construction and Operation Period of Hydropower Station Tail Channel G.X. Yan and W. Wu	1816
Application of MIKESHE Model in Water Environmental Management for Guishui River Basin Z. Zheng, J. Zhang, H.L. Gong and J.W. Huang	1823
Design of a Pressurized Trapezoidal Shaped Conduit Using the Rough Model Method (Part 2) B. Achour and A. Bedjaoui	1828
Evaluation of the Effects of Channel Regulation Engineering Works in Typical Braided Reach J.Q. Han and L.Q. Li	1842
Experimental Study on Engineering Properties of Cemented Sand and Gravel H. Fu, J.G. Feng, H.Q. Han and H. Ling	1846
Finite Element Analysis of Stress Deformation of Earth-Rock Dam on Narrow Valley F.Y. Chu	1852
Philosophical Reflections on Chinese Water Resource Management Y.F. Liu, B.Q. Ruan and C.C. Xie	1856
Research and Discussion of Impervious Wall Construction Based on Continuous Vertical Slotting Technology L.X. Zhang, Y. Li, Z. Zhang, J.T. Niu and H.Y. Yu	1860
Research of Eco-Compensation among Basin Cascade Hydropower Station Development and Management X.M. Zhou and M. Zhao	1864
Research on Channel Regulation Parameters of Daijiazhou Reach in Middle Yangtze River W.L. Liu	1870
Research on the Feasibility of Water Diversion Project L.H. Zhang, G.H. Wang and X.H. Hao	1874
Simulation Method of Particle Size Scale for Fine Sand Model W.L. Liu, X.F. Liu and P.J. Yue	1878
Study on Navigation Technology of Waterway at Hub Downstream and Bridge Area Overlapping X. Liu	1883
Study on Sandy Pebble Reach Riverbed Erosion and Deposition Basic Law after the Three Gorges Reservoir X.F. Liu, M.L. Zhang and Z.W. Ye	1888
Study on the Horizontal Velocity Distribution in Natural Rivers H. Ge, L.L. Zhu and X.B. Zhang	1893
Study on the Uplift Force of Plunge Pool Slab C.T. Wang, B.H. Xie and W.H. Zeng	1897
The Direct Solution on Normal Depth of an Egg-Shaped Section Tunnel H. Wen	1901
The Study of Available Water Resources in Northern Shaanxi X.J. Wu	1906

Mechanical Characteristics Analysis on Flexible Mattress in Downstream Sinking Based on Lumped Mass Method Z.H. Sun and M.L. Cheng	1910
Research on Navigable Ship Model Test in Curved Waterway C.H. Wang and X.B. Cheng	1918
Data Assimilation of River Networks Using Extended Kalman Filter Y.F. Chen and J.L. Qian	1923
Numerical Analysis of the Influences of Water Level on Seepage Stability of Tailing Dam F.D. He, X.F. Cao, X. Yang and Z.D. Zhou	1928
Experimental Study on the Air-Cooling of Concrete Aggregate M. Zeng, C.H. Guo, Z.M. Kang, W. Guan, F. Lu, G. Wang and D.W. Tang	1932
Sensitivity Analysis of Concrete Face Rock-Fill Dam Parametric Based on the Intelligent Algorithm Q. Yan, Z.H. Gao and Z.C. Song	1940
Study on the Present Situation and Development of Groundwater Monitoring Technology Q.H. Guan, F.L. Li, X.Q. Chen, Y.F. Zhang and C.J. Tian	1946
Impact of the Cascaded Reservoirs and the Tributaries Confluence on the Eco-Hydrology of the Reserve in the Upper Reaches of Yangtze River L. Zhao, Q.D. Peng, Q.C. Chen, C. Li and Z.J. Yin	1953
Shape Optimization for Arch Dam with Sequential Quadratic Programming Method Y. Duan, W. Yuan and H.B. Liu	1961
Unsteady Flow Impact on Downstream Waterways and Control Measures Research of Pingban Hub in Nanpanjiang River of Guizhou X. Liu	1966
3D Dynamic Numerical Simulation of Water Flow in Stilling Basin with Flaring Gate Pier C. Qiu and C.L. Liu	1971
Finite Element Analysis of Seismic Response of Exposed Steel Penstock in Hydropower Station Y. Liu, C.Z. Shi and H.G. Wu	1975
Joint Regulation and Storage of Surface Water and Groundwater in Rushan River Basin M.H. Niu, Z.H. Xu and X. Wang	1981
Comprehensive Evaluation for Utilization Efficiency of Rain-Flood Resources in Rushan River S.F. Zhou, Z.H. Xu, S.S. Yang, K. Kong and Y. Xiu	1985
Study on Tidal Current and Sediment for Dredging Project in Yamen Channel J. He, L.P. Shi and Y.J. Sun	1989
Analysis of Monitoring and Settlement Prediction of Wenzhou Shoal Seawall H.Y. Wei, G.Q. Liang and C.J. Zhang	1993
Comparative Study on Design of Exposed Penstock Laid on Ground Using Chinese and American Specifications L. Hu, H.G. Wu, C.Z. Shi and Y.H. Xie	2000
Current Situation and Development of SHPF Project in China C.M. Guan	2007
Geo-Stress Direction Evaluation Method Based on Numerical Simulation S.C. Xu and C.Y. Jin	2011
Influence of the Bridge on the Flood Controlling in the River X.Z. Zhang, X.P. Dou, Z.X. Jiao and Y.Y. Song	2015
Monthly Rainfall Analysis in West Part of Chongqing L. Qin, J.Y. Jin, Q. Zhang and D.K. Wang	2019
Optimization Study on Drainage System for Canal of Middle Route Project of SNWT in Expansive Soil Area with High Groundwater Level H.d. Cui, J.F. zhang, G.S. zhu, D.X. Wu, W. Zhang and J.L. Wang	2023
Precipitation Characteristics and Trend in the Hsiao-Ching River Basin of Jinan City during the Past 50 Years L. Lin, J. Liu, J.W. Huang, X.Q. Chen, Q.H. Guan and Y. Tang	2029
Research on Structure Design of U Type Canal of Seepage-Proofing J.L. Sun, B. Zhang and S.J. Zhang	2033

Simulation Study on Deposition Downstream Floodgates in Estuarine X.Z. Zhang, Y.Y. Song and S.M. Chen	2037
Study on Time Effect of Rock Fill Dam Seepage Line X.Y. Tao, D. Xiang, W. Sun and Y. Li	2041
Temperature Rebound Influenced by Environment Temperature Analysis of the Irrigated Area of a High Arch Concrete Dam under Constuction X.H. Chen, Y.Y. Huang, B.L. Xu, D.D. Liu and X.B. Wei	2045
The Numerical Simulation of the Flow Field in the Micro-Pressure Inner Loop Reactor J.C. Liu, Z.G. Yin and W. Ji	2050
Vibration Analysis and Human Comfort Evaluation of Underground Hydropower House D. Fu and H.G. Wu	2055
Working Performance of Anti-Arch Segments on the Left Bank Slope of Xiangjiaba Gravity Dam Q.J. Zhou, P. Gao, Z.G. Gong and H.F. Li	2063
Main Engineering Geological Problems and Evaluation on the Reservoir Engineering of Yellow River Water Diversion and Irrigation Area Z.Q. Huang, T.L. Chen and A.M. Wang	2071
Research on the Calculation Method of Earth Pressure on the Back Side of Large Cylinders J.L. He	2074
Utilizing GIS in the Development of Water Quality River Modeling for Penchala River, Malaysia F. Othman, A.E. Mohamed Elamin, S.A. Hezza Azahar and S.A. Muhammad	2078
Data Mining Model in Regional Target Decomposition of Water Resources Utilization Efficiency H.W. Chen, J.W. Huang, B. Li, S.D. Fu and X. Zhang	2082
The RCC Arch Dam Analysis during Overload Y. Xia, Y.Y. Yu, X.L. Zhao and Z.Q. Zhang	2088
Study on Damage of Concrete Dam Subjected to Combined Action of Earthquake and Slide Surge J. Li, Q. Xu, J.Y. Chen and G.S. Lu	2092
Research on the Dam Foundation Stability and Reinforcement Measures of the 12th Sluice Section of Xiangjiaba Hydropower Station X.J. Wang and X.X. Zhao	2096
Experimental Investigation on the Segregation of Landslide Dam Materials M. Zhang, F. Wang, G.J. Mouse, W.T. Luo, H.W. Zhang and Y.R. Liu	2103
Relaxation Analysis of the Arch Dam Foundation Rock Masses of Jinping I Hydropower Project B. Xiao, D.N. Zhou and Z.H. Min	2108

Chapter 6: Coastal Engineering

Research on the Influence of Diking in Shallow Sea of Tangdao Bay on Marine Environment Y.H. Xu, X.H. Hao and X.M. Dong	2115
System Analysis of Construction Quality Control Measures of Coastal Levee X.Q. Wang, H. Li and S.Y. Han	2120
Experimental Study on Mooring Manner and Safety Operation for 450,000DWT Supertanker B. Jiang, X.J. Huang, Y.X. Lv and X.B. Zhang	2124
Experimental Study on the Offshore Positioning and Installing of Large Caisson X.J. Huang, W.Z. Zhang, B. Jiang and Y.X. Lv	2129
Two-Dimensional Finite Element Analysis of Laboratory Seawall Model J. Zhang, J.F. Zhai, X.M. Wang and J. Chen	2134
Accuracy Comparison for the Ocean Tide Models in Estuarine Tidal Prediction, the Pearl River Estuary L. Zhu, X.L. Yin and L. Jiang	2141
Numerical Model on Hydrodynamic Impact from HZM Bridge J. He, Y.J. Sun and X.S. Zhao	2146

The Research of Flow Resistance Property in the Tugging and Mooring of Tube Segment Z.Z. Qiu and M. Dong	2150
Tieshan Port Development Plan: Evaluation of the Long Wave Induced Resonance Using a Numerical Mild-Slope Model H.J. Zhao, J. Yang and G.P. Chen	2154
Wave Kinematics and Pressure Field of Third-Order Theory for Bichromatic Bi-Directional Waves in Water of Finite Depth H. Huang and G.L. Li	2166
A Kind of Floating Breakwater Sheltering Deep Water Aquaculture X.F. Cheng	2170
Analysis of Gravity Foundation for Offshore Structure under Cyclic Loads R. Gao, L.Q. Yang and Y. Wang	2177
Application Status and Development Trend Research of Ecological Revetment in Jiangsu Inland Waterway J. Zhang, J.F. Zhai, X.M. Wang and J. Chen	2181
Computation and Analysis of Buttressed Quay's Floor Q.C. Ning, X. Yang, Y. Shi and L. Li	2185
Research of Sediment Transport Trend and Erosion-Deposition Characteristic of Yangma Island Sea Area Y. Wang, W. Ye and M.C. Li	2189
Study on the Evolution of Artificial Beach in Xiamen G.L. Wang	2194
Three Dimensional Physical Model Study on Penang Fishing Port Project C.H. Zhang and B.L. Geng	2198
Study on the Panel of the High-Pile Wharf Near Estuary Based on the Finite Element Method X. Yang, Q.C. Ning, Y. Shi and G.X. Xia	2202
Appropriate Jackup Selection in Disturbed Wellsite by Pile Inserting and Pulling in Offshore Oilfield Y.N. An, Q.F. Song and J. Li	2206

Chapter 7: Construction Technology

Complementary Use of Inductive Test and Bending Test for the Characterization of SFRC L. Liao, S. Cavalaro, A. de la Fuente and A. Aguado	2213
Research on New Type Quantitative Nondestructive Pre-Stress FRP Sheet Tension Fixture G.S. Zhu, L.S. Bao and C. Guo	2220
Analysis on Impact of the Node Connection Pattern for Fastener-Style Steel Pipe Formwork Support L. Liu, B. Wang, J.C. Wang and Y.N. Liu	2224
Analysis on Lateral Deformation of High-Formwork in Different Column's Spacing of Bridging L. Liu, B. Wang, Y.N. Liu and J.C. Wang	2228
Influence of Bridging Arrangement Location on the Mechanical Characteristics of the High-Formwork Support System L. Liu, Y.N. Liu, B. Wang and J.C. Wang	2232
Research on Influence of Concrete Pouring Sequence on Stability of High-Formwork Support System L. Liu, J.C. Wang, B. Wang and Y.N. Liu	2235
The Integration of New Technology Research on Composite Inorganic Fiber Acoustic Insulation Spray in Engineering Construction J.Y. Shao and D. Wang	2239
The Technology Innovation of Green Soft Ground Handling Based on Squeezing and Consolidation Compositied J.Y. Shao and X. Zhang	2244
Causes and Solutions for the Common Problems in Rotary Drilling Cast-in-Place Pile Construction Z.Y. Zhou and C.Y. Zhang	2249

Determining the Degree of Mobility of Building Systems P.P. Oleinik, L.S. Grigoryeva and V.I. Brodsky	2253
Engineering Application of Precast Assembly Integral Shear Wall Structure on Housing Industrialization Y. Wang, Y.N. Zhang, F. Yang and X.X. Xia	2257
Features and Construction of Prefabricated Buildings Y.H. Zhao	2262
Connecting Passage Construction for the Foundation Pit under Existing Optical Fiber Cable H.Q. Cao, N. Lou and W.J. Cui	2266
Experimental Study of Effects of Operation Parameters on Efficiency of Vibratory Pile Driving H.P. Zheng, L. Chen, W. Wang, L.Q. Peng and J.Y. Zhang	2272
The Study about Anti-Seismic Structures Stirrup Construction Blanking Length Theory Calculation H.L. Li, X.X. Cui and Y.H. Zhao	2277
Components and Guidance for Constructional Rearrangement of Buildings and Structures within Reorganization Cycles A. Volkov, V.O. Chulkov, R.R. Kazaryan, M. Fachratov, O. Kyzina and R. Gazaryan	2281
Mold-Unloading-Lifting and Lifting-Transportation's Construction Checking of Composite Wallboard in Industrial Production C.Y. Xu, L. Yan, C.L. Xu and S.K. Jiang	2285
Discussions on Foundation Pit Construction Scheme of Large Building in Mountain Area M.J. Lin	2289
Outstripping Engineering Preparation of Construction Sites P.P. Oleinik, L.S. Grigoryeva and V.I. Brodsky	2294
Research on the Problems and Countermeasures for Steam Curing of Assembled Composite Wallboard C.Y. Xu, L. Yan, C. Li and Z.W. Cao	2299
Temperature Cracks of Concrete Engineering Analysis and Treatment Measures G. Zhang	2303
The Double-Layer Nonstationary Heat Conduction Measures to Prevent the Formation Ice-Dams on the Roof M. Petrichenko, D.V. Nemova, D.S. Tarasova and A.A. Staritsyna	2308
Construction Technology of High-Rise Building Structure P. Cheng, X.F. Chen and L. Wu	2316
Research on the Characteristics and Status of Recycled Concrete Filled Steel Tube B. Wang, X. Liu and X. Yu	2320
The Countermeasures on Temperature and Shrinkage Crack of Mass Concrete X.C. Zheng, P.F. Li and S.Z. Sun	2324
Reinforcement Method Choice of Deep Soft Soil Foundation C.M. Zhang, L.J. Liang and C. Huang	2328
Bending Resistance of a Slender Plate Girder with Longitudinal Stiffener S.I. Gutiu and C. Moga	2332
Processing Status and Utilization of Construction Waste in China and the West F.J. Liu and F.F. Suo	2336

Chapter 8: Water Supply and Drainage Engineering

Effects of Different Irrigation Amount on Yield and Quality of Greenhouse Tomatoes Z. Chen and M.A.M. Abdalhi	2343
Emergency Supply of Drinking Water M. Teichmann, F. Kuda and Z. Proske	2346
Integrated Fuzzy Evaluation of Raw Water Eutrophication Based on GIS J.P. Liu, J.W. Shao, F.L. Dong and X.Y. Ma	2350
Research of Hydrodynamics of Biofilter with Surface Feed E.S. Gogina, O.V. Yantsen and O.A. Ruzhitskaya	2354

Research on UV/TiO₂ Photocatalytic Oxidation of Organic Matter in Drinking Water and its Influencing Factors J.H. Zhao	2358
The Development of Prestressed Concrete Cylinder Pipe in China H.Y. Zhang, H. Peng and X. Chen	2363
The Single-Sludge Denitri-Nitrification System in Reconstruction of Wastewater Treatment Plants in the Russian Federation E. Gogina and I. Gulshin	2367
Study on the Treatment of Compound Micro-Polluted Groundwater by Contact Oxidation Process under Different Filtration Rates Y.H. Zhao, J. Cheng, X. Yan and D. Wang	2370
Ultra-High-Rise-Building Water Supply and Drainage System Design Y.N. Si, M. Zhou, Y.H. Liu and L. Deng	2374
Treatment of Raw Water in Yangtze Chenhang Reservoir by Diatomaceous Earth Precoat Filtration W.Q. Zhou, D. Zhang, H. Ye, Z. Wang, Z. Yang and C.L. Zhang	2380
Choosing an Optimal Trenchless Renovation Method for Pressure and Non-Pressure Pipes V. Orlov and I. Averkeev	2384
Design and Development of the Urban Water Supply Pipe Network Information System Based on GIS X.H. Wang, Y.J. Liu, Z. Wang and W. Zhang	2389
Model Precision Assessment of Water Distribution System Based on Uncertainty Analysis S.H. Shu, X.M. Zheng and J.L. Ruan	2394
The Selection of Priority Pipe Sections for Sewer Network Renovation V. Orlov and A. Andrianov	2398
Hydraulics of Looping J. Zolotova	2403
The Water Usage Method and Spatial Structure Type of Spring Village in Northern China Y.W. Kong	2408

Chapter 9: Heating, Gas Supply, Ventilation, Air Conditioning Works and Daylighting Design

Simulation and Analysis of Thermal Performance of Internal Recycle Double Skin Facades C. Hui, Y.Q. Wang, B. Wang, W. Tao and S.L. Zheng	2415
Analysis and Evaluation for the Economic Performance of Ground Source Heat Pump System with Waste Heat Recover Z.C. Zhao, W.X. Feng, H.J. Mi and Y. Xue	2421
Experimental Investigations on Effect of Particles Removal in Cleanroom with Non-Unidirectional Airflow Y. Wang	2428
Calculation and Analysis of Gravity Head Coefficient in Hot Water Heating System W.W. Xie and Y.Z. Fu	2432

Chapter 9: Heating, Gas Supply, Ventilation, Air Conditioning Works and Daylighting Design

Study on the Current Situation of Economic Analysis of Ice Storage Air-Conditioning System Y.N. Li, S.F. Wang, T.Z. Lv and S.F. Lang	2441
A CFD Simulation of Indoor Natural Ventilation of a Residential District in Zhuzhou Z.Y. Wang, S.F. Yang, C.R. Liu, T.Y. Zhang and N. Cui	2447
Analysis of Influence Factors on the Internal-Melt Ice-on-Tube while Melting Y. Liu	2452
Effect of the Circulation Flow Velocity in Ground Heat Exchangers on System Operation Z.S. Qi, Q. Gao, Y. Liu, Z.H. Gao and L. Bai	2457

Energy Saving Design of a Training Center in Dongguan X.J. Lai, Z.H. Du and Z.Q. Zhang	2461
Calculation of the Maximum Length of the Directly Buried Cooling Pipes Applied in the District Cooling System (DCS) C.Y. Tan, H.H. Hu, M.M. Wang, Z.Z. Pan and H.Q. Wang	2466
Discussion on Ventilation Requirement for Meeting Indoor Air Quality M.J. Lin, Q.Q. Liu and Z.M. Peng	2471
Simulation Study on Characteristics of Ultra-Low Temperature Heat Pump Air Conditioning System for Pure Electric Vehicles H.J. Li, G.H. Zhou, A.G. Li, X.G. Li, J. Chen and T. Chen	2475
The Effectiveness of Implementing Automated Ventilation System in Premises Intended for Public Using S. Shilkina and A. Trusov	2480
“Breathing House” – New Air System for Healthy Residential Buildings T.X. Dong and Z.Y. Yan	2484
Research on the Construction Technology of Radial Underground Heat Exchanger and its Heat Exchange Performance R.H. Wang, Q.H. Wang and Y. Feng	2488

Chapter 10: Oil, Gas and Mineral Exploration

Optimization of Acid Fracturing Design in Yubei Fractured Reservoir L.Y. Song, X.R. He and J.C. Zhang	2495
Optimization of Black Oil Model-CO₂ Flooding in Low Permeability Reservoir L.Y. Song, J.C. Wei, X.M. Xu and T. Gao	2502
Experimental Study of Self-Suction Spraying with Pressure Gas and Water Z.F. Ma, G.R. Lin, Z. Zhang and H.L. Xie	2508
Study on Surface Deformation Law of Western Chengchao Iron Induced by Underground Mining Y.C. Zhou, C.X. Chen, X.M. Liu and K.Z. Xia	2513
Adsorption Research of Polymer on Oil Sands in Qidongyi Block of Xinjiang Conglomerate Reservoir X.B. Nie, Y. Guo, Q.X. Lou, W.D. Liu, L.H. Sun and J.Y. Li	2518
Analysis on Permeability of High Permeability Layer-Penetration Oil Influencing Factors Y. Fang	2524
Industry Clusters Innovation Action Model Based on the CAS Theory – Shanxi Magnesium Industry F.Z. Luo and S.L. Liu	2528
Research on Construction Technology of the High Permeability Type Layer-Penetration Oil Production G. Hu	2533
Research on High Permeability Layer-Penetration Oil Production Q. Guan	2539
The Influences and the Mechanism of Action of Grinding Aid Agent during Micro Fine Particle of Lean Hematite Ore of Grinding Operation B. Liang, J.R. Zhang, M.M. Han and L.B. Zhao	2545
Rapid Excavation Technical Research of Blasting Mining Face in Liangzhuang Mine Z.B. Yan, X. Xu, T.T. Li, S. Wu and S.Y. Ma	2550
Numerical Simulation Study on Setting Stopping Line of Working Face in Shuguang Mine H.J. Xue, J. Chen, B. Liu, J. Kong and Z.J. Hao	2554
The Research of Gas Drainage Technology in Daning Coal Mine Z.M. Zhao and G. Wang	2558

Chapter 11: Disaster Prevention and Mitigation

Analysis on Wind-Induced Vibration of Tall Buildings in Hilly Terrain Y. Sun, N. Deng and Z.L. Li	2567
---	------

Energy Absorption Numerical Analysis of Mine Impingement Thin-Walled Components with Different Configurations Z. Tang, Y.S. Pan and X.J. Zhu	2572
Freezing Damage Analysis of Jintaizi Fishing Floor Engineering in Fuyu L.J. Dou, W. Wang and M.Y. Xu	2579
Mechanical Properties and Calculation Method for Monolayer Cable Net Glass Curtain Wall under Fire Conditions L.F. Gong, Y. Bai and S.Q. Li	2583
Pregnant Mechanism and Mechanical Model of Rock Landslides in Chair-Shaped Cataclinal Bank Slopes X.C. Ma, X.C. Chen and Y.J. Feng	2589
Research on Method for the Weight Definition of Evaluation Indicator in Dump Landslides Based on Rough Set T.T. Luan, Z.H. Xie and S.S. Liang	2600
Study on Ignition Time of Radiation Cargo in Irradiation Room under Stuck Radioactive Sources X.L. Yao	2607
The Coupling Interaction in the Rankine Method for Concrete Filled Steel Tube Columns under High Temperatures Y. Yao and X.X. Hu	2612
The Design of Unascertained Fire Risk Evaluation System for High-Rise Civil Building Based on VB L.N. Zhang, J. An and Q. Zhang	2616
A Study of Storm Surge Risk Index System Q. Liu and Z.Z. Yuan	2622
Review of Different Methodologies and Risk Assessment Models Instorm Surge Disaster Management Q. Liu and S. Yang	2628
A Forecast and Risk Assessment Model for Storm Surge Impacts L. Zhang, Q. Liu and S. Yang	2635
Survey of Fire Load in Building Furniture Store J.P. Wang	2642
The Research on Structure Fire Resistance Test of Fire Retardant Rigid Polyurethane J.P. Wang	2646
Tornado Hazard Loss of Nuclear Power Plant Building during Design Service Period T. Song and L.Y. Lu	2649
Comparative Analysis of Wind Load for Transmission Tower between Chinese and American Codes Z. Xu, Y.J. Zeng, D.J. Cao, X.J. Lang and L. Tian	2654
Landslide Susceptibility Zonation Based on the Analytic Hierarchy Process and Information Method D.D. Qiu, R.Q. Niu and Y.N. Zhao	2658
Modelling of the Human Behavior in Evacuation L. Wei, C.Y. Zhao and W.F. Yuan	2663
Numerical Simulation on Ghosting Fire in the Confined Underground Space P.H. Zhang, X.W. Lu and X.M. Zhang	2667
Research on Concrete Columns Seismic Performance of Super Early-Strength Composite Fibers after High Temperature C.Z. Sun, R.X. Wu and H.N. Zhao	2671
The Analysis of Hysteretic Behavior of Concrete Filled Double Skin Steel Tubular after Exposure to Fire X. Liu, J.T. Bao and B. Wang	2675
The Construction of Emergency Logistics System Framework and Information Platform System W.K. Chen and C. Hua	2679
Vulnerability Assessment of Truss Structure Based on Strain Energy and Damage Scenarios Y. Xu, X.C. Yu and W.B. Li	2686

Deformation Monitoring and Prediction of a Reservoir Landslide in Sichuan Province, China	
B. Han, S.S. Hou, B. Zhu, L.C. Wang, A. Li and H.J. Ye	2694
Mechanical Performance Calculation of Single-Layer Cable Mesh Point-Supported Glass Curtain Wall under Fire Conditions	
L.F. Gong, Y. Bai and S.Q. Li	2702
Design and Realization of 3S Technology-Based Geological Disaster Database System in Liaoning Province	
H. Ding, L.S. Sun, J.L. Wang and X. Wang	2708
Monitoring of Flooding Water under Coal Mine Based on Improved Fuzzy Clustering	
M.Y. Nie, M.R. Zhou and X.Q. Fu	2713
Review on Study of Fire Behavior of Bridges in China	
Y.J. Liu, Y. Yao, X.X. Li and X.D. Chen	2717
Risk Assessment of Debris Flow Based on Multi-Objective Fuzzy Pattern Recognition Method in Mountain Highway Construction	
Y. Wang	2722
Case Study of Fire Risk Management of Tourist Hotels	
R.J. Shiu, S.T. Cheng and I.T. Liu	2727
Multivariate Geometric Factors Contributing to Crashes and Injuries in Mountainous Freeways: A Case Study from Jiangxi, China	
M. Li, Y.G. Wang and X. He	2731
The Analysis of Safety Investment Behavior of the Long-Term Incentive Mechanism in Construction Enterprise	
Y.B. Shui, Q. Li and H. Li	2735
Research on Functional Adaptation of Sport Venues as a Disaster Prevention Refuge	
L.D. Huang and T.Y. Zhang	2740

Chapter 12: Cartography and Geographic Information System

A Research on Digital City Three-Dimensional Visualization System Based on Skyline	
H.B. Dai, X.J. Yue and J.Y. Xu	2745
A Study on Informatization Construction of Sharing “One Map” between Land and Planning Departments	
G. Yang and T.T. Zhou	2749
The Visualization of Health Monitoring System for Bridge Using CORS and GIS	
Q.L. Kong, Y.H. Li, L.T. Han and J.Y. Guo	2756
Research on the 3-D Scene Quick Build Method of Virtual City and Implementation Method of Basic GIS Function	
C. Yang, H. Li, P. Gao and R.C. Zhang	2760
Application of Three-Dimensional Visualization Technology in Real Estate Management	
J. Cui, J.J. Ma, D.L. Ma and N.N. Yang	2765
Calculation of Land Consolidation Potential Based on GIS	
Y.H. Liu and W.Q. Chen	2769
Information Management of Maritime Work Based on GIS	
J.P. Liu, F.L. Dong and J.W. Shao	2774
Design and Fabrication of Dynamic Thematic Maps Based on Flash	
Y.X. Xu and J.W. Yang	2778
Development of Topographic Maps Symbols Library	
C.M. Sun and Y.X. Xu	2782

Chapter 13: Surveying Engineering

Application of Total Station in the Measurement of Transmission Line	
F.R. Gui	2789
Chinese Geodetic Coordinate System 2000 and its Comparison with WGS84	
H.P. Li, S.F. Bian and Z.M. Li	2793

Discussion on the Measurements in Cantilever Construction with Guyed Hanging Basket F.R. Gui	2797
Error Analysis of the Settlement Observation L. Wang, L. Fang, B. Zhang and C.C. Huang	2801
Application of Stereo Vision Measurement Technology in the Detection of Round Hole Q. Wang, X.M. Cui, C. Li, J.J. Cui and L.J. Li	2805
Application of Model GM (1,1) to Settlement Forecast of High-Fill Airport Y.P. Wu, J.B. Wang and C.T. Wang	2810
Research and Extended of Semi-Parametric Model Additional System Parameter Y.P. Wu, C.T. Wang and J.B. Wang	2815
Research on Control Methods of Measuring Super High-Rise Buildings X.Y. Xie	2820
Correction of Atmospheric Effect in EnviSAT ASAR Repeat-Pass Interferometry with MODIS Water Vapor G.T. Sun, P. Song and X.Y. Liu	2824
Analysis of Underground Space Azimuth Measuring and Data Processing in a Tunnel T. Wang, H.R. Duan, L.T. Jiang and S. Liu	2828
Study on Application of Terrestrial 3D Laser Scanning Technology in the Calculation of the Fine Earthwork X.G. Feng, M. Li and J.X. Liu	2833
Application and Research of 3D Laser Scanning Technology in Steel Structure Installation and Deformation Monitoring D.L. Ma, J. Cui and S.Y. Wang	2838
Discussion on the Application of GPS Technology in Bridge Construction Plane Control Net and in Survey of Bridge Axis Lofting S.Y. Jiang	2842
Improved BP Neural Network Model Applied in Settlement Analysis L.B. Gao	2848
Multi-Scale Classification Based on Remote Sensing P.L. Li, W.P. Ti and J.C. Li	2853
Research on GPS Height Partition Fitting Method C. Wang	2860
GPS RTK Techniques for Construction Monitoring of Super Deep-Water Open-Caisson Y.G. Hao, X.L. Liu and J.B. Liu	2865
Triangle Interpolation on Discrete Point Set H.F. Jiang	2872

Chapter 14: Applied and Computational Mechanics

Effect of Ring Support Position and Geometrical Dimension on the Free Vibration of Ring-Stiffened Cylindrical Shells X.W. Liu and B. Liang	2879
Increment-Dimensional Precise Integration Method of Oil-Water Coupling Flows in a Low Permeability Reservoir with Capillary Pressure F.L. Mei and G.L. Li	2883
Influence of Vertical Vibration on Surface Velocity of a Liquid Bridge R.Q. Liang, Z.H. Zhang, T.Y. Gao and F.S. Yan	2890
Linear Analysis of the Constitutive Relation of Concrete Elastoplastic Disturbance J.M. Liu, W.N. Wang and S. Liu	2894
Method of Extended Domain and General Principles of Mesh Approximation for Boundary Problems of Structural Analysis P.A. Akimov and M.L. Mozgaleva	2898
Numerical Simulations of the Internal Fluid Field for Porous Scaffold Used in Tissue Engineering Q.G. Liu, J.Z. Jiang, H.T. Cui, X.Q. Yu and P.Y. Peng	2903
Preliminary Application of Software Package GPPS to Spare Linear Systems from Meso Scale Simulation of Concrete Specimen J.P. Wu, H.F. Ma, J. Zhao and S.C. Wang	2907

Mechanical Behavior Analysis of Concrete Short Columns Pushed out from Over-Thick Steel Tube	
J.M. Liu, J.L. Yang and S. Liu	2912
Study on Numerical Simulation of Explosion in Soil Based on Fluid-Solid Coupling Arithmetic	
J. Song and S.C. Li	2916
Study on Stability of Functionally Graded Cylindrical Shells Subjected to Hydrostatic Pressure	
X.W. Liu, B. Liang and R. Li	2920
Theoretical Foundations of Correct Wavelet-Based Approach to Local Static Analysis of Bernoulli Beam	
P.A. Akimov and M. Aslami	2924
Theory Analysis of Functionally Graded Materials Cylindrical Shell Buckling under Pure Bending	
W. Cheng, Z.G. Wang and S.C. Long	2928
Numerical Decision of Problems of Structural Mechanics with Nonideal Unilateral Constraints	
A. Lukashovich and L. Rozin	2932
Some Recent Developments in Coupling of Finite Element and Boundary Element Methods - Part I: An Overview	
W. Elleithy and L.T. Leong	2936
Some Recent Developments in Coupling of Finite Element and Boundary Element Methods - Part II: Dynamic Procedures for Determining the Relaxation Parameters for the Mixed Dirichlet-Neumann Domain Decomposition FEM-BEM Coupling Method	
W. Elleithy and L.T. Leong	2943
State Space Solution of Response for Piles Subjected to Lateral Loads	
F.L. Mei and G.L. Li	2948
Study on Downburst Wind Field Characteristics under Mountainous Terrain	
H.T. Shi, Y.Z. Wu, S. Yi and B.F. Ji	2954
Study on Downburst Wind Load under Characteristic Topography	
Y.Z. Wu, Y. Sun, H.T. Shi and B.F. Ji	2958
The Study on Differential Equations Method for Solving Column-Pile Structural System Internal Forces	
D.C. Fu, Y.H. Wen and L. Wang	2962
Theory of Duality Disturbance of Elastoplasticity	
J.M. Liu, S. Liu, J.L. Yang and Y.Z. Sun	2966
Thermocapillary Convection of Low Prandtl Number Fluids under Uniform Magnetic Fields	
R.Q. Liang, D. Bei, F.S. Yan and D.Q. Geng	2970
Two-Dimensional Problem Moisture Elasticity for Inhomogeneous Flat Annular Area	
A.S. Avershyev and V.I. Andreev	2974
Application of Energy Method for Determining Loss Factor in Dynamic Systems with Hysteretic Damping	
V. Smirnov and V. Mondrus	2978
Hexahedron-Dominant Mesh Generation for Blocks with Constrained Triangulated Boundary Surfaces	
X.B. Pei and N.X. Xu	2983
High-Precision Structured Finite Volume Model for Numerical Simulation of Dam-and Dyke-Breach Flow	
Y.T. Ye, L.L. Liang, S.H. Zhang and Y.Z. Jiang	2990
Novel Partitioned Integration Method Based on Newmark's Scheme for Structural Dynamic Problems	
C.G. Jia, Y.M. Li, H.L. Xia and L.P. Liu	2996
Subgrade Limit Bearing Capacity Calculation Using Slip Line Method	
Q.Q. Sun, T.Q. Zhou and X.J. Gu	3003
3-D Numerical Simulation of Flow Structures in a Sharp Bend of the Lower Yangtze River	
D.D. Jia, Y.J. Lu, X.N. Zhang and X.B. Zhang	3007

About Verification of Correct Wavelet-Based Approach to Local Static Analysis of Bernoulli Beam P.A. Akimov and M. Aslami	3013
Determining the Frequency of Free Oscillations Geometrically Nonlinear Shell Using the Mixed Finite Element Method L. Stupishin and K.E. Nikitin	3017
Dynamical Analysis on Underground Powerhouse of Yixing Pumped-Storage Power Station F. Han, D.W. Zhong, J.Y. Mo and G.J. Chen	3021
Experimental and Finite Element Study on the Fatigue Growth of a Semi-Elliptical Surface Crack in a X80 Pipeline Steel Specimen Q. Jin, Z.Y. Sun and W.N. Guo	3026
Finite Element Analysis on Negative Wind Pressure Stress of External Wall Insulation Layer Y.H. Zhang, L.P. He, Y.J. Zhang and C. Li	3030
Mechanics Analysis of Tower Crane Z.J. Yang, Z.D. Ai and H.W. An	3034
Mixed Time Integration Parallel Algorithm for Nonlinear Dynamic Analysis C.J. Fu	3038
A Comparison between the Matrix Displacement Method and the Finite Element Method in Solving Frame Structure with SM Solver Software L.J. Cheng and X.C. Yan	3042
Crack Extension Calculation under Tensile and Shear Load by XFEM M. Yu, Z.H. Dai and G.J. Hu	3046
Finite Element Solution in Fluid Mechanics Using Exponential Function Based Interpolation S.W. Fang, X.F. Yuan, R.J. Qian and S.H. Jiang	3051
Numerical Simulation of Flow around High-Rise Buildings Based on Reynolds Stress Model Z.P. Zhang, W. Zhang and G.P. Chen	3057
Reconstruction of Shallow Shells for Increase Bearing Capacities and Operating Characteristics L. Stupishin and A.G. Kolesnikov	3062
Study on Reduced Order Model in Large-Span Roof Vibration under Wind Actions F.J. Sun and D.M. Zhang	3066
The Coupling of Pseudo-Spectral Method and Domain Decomposition Method for the Elastostatic Problem R. Ding, F.J. Chen, Q. Shen and L. Liu	3071
The Foundation of Nonlinear Finite Element Model B. Wang, X. Liu and B.D. Zhao	3075
Properties and Moving Time Average for Lévy Walks with Power-Law Waiting-Time Distributions K.Y. Deng and J.W. Deng	3079
The Scattering of Circular Cylindrical Cavity with Time-Harmonic SH Waves in Infinite Strip Region L.M. Cai, H. Qi and X.N. Pan	3083
Numerical Simulation of the Wind Load on the Mast at Different Wind Angles R.S. Cao, Y.Y. Fang and L. Wang	3089
MIDAS-Based Finite Element Analysis of the Short Line Method of the Precast Segmental Bridge Construction L.K. Guan, X.D. Zhang and H. Lei	3093
Simulation of Acoustic Cavitation Bubble Motion by Lattice Boltzmann Method X. Zhou, M.L. Shan, C.P. Zhu, B.Y. Chen, C. Yin, Q.G. Ren, Q.B. Han and Y.B. Tang	3098
Research and Development on Similarity Principle of Model Pile X.Q. Wang, S.M. Zhang, J. Liao and Y.S. Huang	3106
Study on the Downburst Field Characteristics under the Influence of Two-Dimensional Continuous Mountains at Different Distance Y. Sun, Y.Z. Wu, H.T. Shi and B.F. Ji	3111
Investigation on the Wind Pressure Asymmetric Coefficient of Transmission Line W. Hao, B. Li, J.B. Yang and F.L. Yang	3115

Three-Parameter Damage Evolution for Quasi-Brittle Solids J. Zhang	3119
--	------

Chapter 15: CAD/CAE/Computer Technology

An Integrated Simulation System for Building Structures J. Duan, X.M. Chen, H. Qi and Y.G. Li	3127
Simulation Analysis of Built Environment Based on Design Builder Software L. Zhang	3134
Simulation on SHTB Apparatus Design Based on ANSYS/LS-DYNA G.F. Xiao, X.Q. Jiang, Y.C. Zhou and J. Yan	3138
Numerical Simulation of SHPB Test for Concrete under Confining Pressure H. Zhang, A.Y. Xie and Y.W. Gao	3144
Engineering Practice of Elasto-Plastic Time-History Analysis on Super High-Rise Using ABAQUS Y. Zhou, S.R. Hong and Y. Chen	3149
Calculation on Internal Force Effect of a High-Speed Highway Prestressed Concrete Extra-Dosed Cable-Stayed Bridge X.Z. Chen	3154
Establishing the Digital Model of Hydraulic System in Simulation Vibration Table R. Li, X.S. Li and H. Xu	3158
Research on SketchUp Application in Graphing of Civil Engineering Q. Dong and Y.S. Yang	3163
Analysis of the Flow Characteristics of Multiphase Flow Fields in the Mixing Agitator X.B. Wang	3167
Building Information Modeling (BIM) and Analysis of more Traditional CAD J. Li	3171
From CAD to the Rapid Development of BIM J. Li	3175
Model Reuse Technology in Building Electrical Parameters Design H.K. Pu and Q.C. Wei	3179
Normally Consolidated Subgrade Limit Bearing Capacity Calculation Using Slip Line Method M. Chen and T.Q. Zhou	3183
Numerical Simulation and Testing of 45 Architecture Steel Welded Based on Gaussian Heat Source J.B. Ji, J.Z. Zhang and L. Zhang	3187
Research on Tunnel Construction Quality Based on Visualization Management Q. Li	3192
Analysis on Application Prospect of BIM Technology in Granary Designing G.X. Chen, B.H. Hao and Y.Q. Zhao	3196
Intelligent and Complex Monitoring in Intelligent Buildings A. Volkov and K. Latyshev	3204
Numerical Analysis of Bridge Expansion-Induced Rail Deformation of Ballast Truck Z.W. Xiong, X.L. Liang, X.X. Dai and P. Wang	3208
Real-Time Dynamic Simulation System for Tunnel Construction Based on OpenGL Q. Li	3215
Study on Multiple Points Matching in Different Images of Intelligent Building Z.L. Lin, E.Z. Dong and P. Ju	3219
The Soft Soil Foundation Consolidation Numerical Simulation Based on the Model of Modified Cam-Clay X.J. Gu, T.Q. Zhou and S. Cheng	3223
3D Models as Vista Information Management Governance in the Field of Development of Underground Space in Cities V. Belyaev	3227
Using CAD for Selecting Different ACS Engineering Systems of Buildings and Structures in the Presence of Interference and Restrictions A. Volkov, A. Sedov, P. Chelyshkov and A. Doroshenko	3231

