Table of Contents

Preface and Conference Organization

Chapter 1: Geotechnical Engineering

Case Study of a Failed Slope of a Port in Southern China Y.H. Cao and C.Z. Huang	3
Recent Advance of Horizontal Drainage Cushion in Vacuum Preloading Method Y.H. Cao and Y.T. Chen	7
Prestressed Anchor Bolt Impact on the Deformation of Composite Soil Nailing D.Q. Wang and Y.P. Zhu	11
Study on the Tests of Soil-Water Characteristic Curves of Unsaturated Soil X.C. Zheng, F. Zhao and S.Z. Sun	16
Experimental Study on Mechanical Properties of Jurassic Soft Rock in Shajihai Mining Area of Xinjiang	20
X.L. Wang, S.X. Yan and G.C. Zhang Experimental Analysis on Microstructure and Mineral Composition of Jurassic Soft Rock in Shajihai Mining Area of Xinjiang	20
X.L. Wang, S.X. Yan and H.Q. Wen Research on Microstructure Statistical Model of Soil-Rock Mixture	24
C. Shi, K.H. Chen, S.N. Wang and H.L. Wang	28
Seepage Filed Studies on the Effect of the Proposed Underground Garage Q.X. Liu, X. Zou, K.Q. Wang, Y. Zhao and Q. Zhao	34
Elastic-Plastic Analysis of Peak Stress of Anchor in Circle Tunnel G.J. Wu, W.Z. Chen and D.S. Yang	40
Estimating Diffusion Radius Grouting into Broken Rock Mass H.F. Xu, C. Wang, C.F. Li, M. Jiang, H.S. Geng and F. Chen	44
Stability Analysis Based on a Highway Slope in Yunnan W.H. Huang, K.G. Li and J.B. Liang	50
Searching Sliding Surface of Homogeneous Soil Slope by Maxing Residual Sliding Force M.W. Zou, W. Jiang and Z.Q. Lu	55
Review of Design Methods of the Ultimate Side Shear and Base Resistance for Rock-Socketed Pile	
G.L. Dai, A. Boucheloukh and W.M. Gong The Formation of Lea Languagin Unidinational and Multidinactional Engaging Soil	60
The Formation of Ice Lenses in Unidirectional and Multidirectional Freezing Soil X.F. Zhu, X.Y. Wei, X. Huang and Y.P. Zhang	68
Study on Initial Cracking of Expansive Soil and FEM Simulation J.H. Wu and S. Yang	74
The Inclination of Bridge Pier due to Neighboring Embankment Construction and its Rectification Technique	
M.L. Shi, H. Zhang and R.K. Zhang	79
The Numerical Simulation of Effect of Parameters for Bolts on Slope Stability T. Li, L. Zeng and F. Guo	84
Method for Calculating Active Earth Pressure of Retaining Wall Based on Energy Theory D. Wang and Y.Z. Wang	89
The Numerical Analysis of Stability against Upheaval of Foundation Pit G.F. Liu and R.W. Liang	95
Analysis of Displacement Caused by Excavation at the Existing Bridge Abutment Cone Z.P. Xu and X.B. Li	100
The Advanced Destruction of Submarin Sandy Slopes X.F. Wu, G.F. Li and X.L. Wang	104
The Elasto-Plastic Waves of Solids with Dilatancy Effect S.H. Guo	108

The Analysis about Seepage of the Bank Slope under the Cycle Rising and Drawdown of Reservoir Water Level X.W. Liu, W. Wan and X.Z. Shen	112
Causes Analysis and Control Measures of Landslide on Expressway from Yangshuo to	112
Pingle in Guangxi C.J. Yu and Y.D. Peng	116
Influence of Strength Attenuation for Silt Soil on the Fatigue Life of Semi-Rigid Base X.M. Yi, S.G. Wang, X.G. Song and Z.Q. Liu	120
Experimental Study on the Time Effect of the Jacked Pile R.C. Wang, J.Y. Shi, S. Chen and H.J. Chen	125
Analysis of Reliability on Slope Stability Based on Safety Factor D.W. Lv, B.G. Shi, F. Wang and G.J. Xu	130
A Dilatancy Constitutive Modelling of Saturated Sands Based on the State Parameter C.L. Zhao, W.H. Zhang and Z.H. Gao	137
Study and Application of Displacement Back Analysis Based on CACA-SVM F. Xu, B. Li and K. Wang	142
Influences of Vehicle Loads on Braced Excavation in Soft Clay C.J. Xu, Y.L. Xu, H.H. Lin and F.M. Sun	146
Gross Error Elimination and Index Determination of Shearing Strength Parameters in Triaxial Test	1.50
F. Wei	152
Comparison and Analysis of Influence of Soil Deformation on the Speeds of Execution for Deep Foundation Pits L. Liu, H.R. Zhang and R.Y. Zhang	159
Study and Application of Slope Displacement Back Analysis Based on SVM-CTS F. Xu, B.Q. Huang and K. Wang	163
The Discussion of Issues Related to the Rock Mass Structure Classification of Dam Foundation	
L.Q. Tang, K. Tang and D.X. Nie	167
Overview on the Bearing Behavior Research of Rock-Socketed Piles Y. Luo, H. Liu and T.H. Wang	172
Numerical Investigation on Factors Influencing the Time-Dependent Stability of the Rock Slopes with Weak Structure Planes	177
L.C. Li and S.H. Li Influence of Hydroxyl Aluminium on the Engineering Properties of Montmorillonite Clay	177
S.Y. Sun, H.L. Yao and D. Cai	183
Study on the Effect of Vibration Loads Induced by Bridge Pile Foundation Construction on Adjacent Buried Pipeline Y.H. She	191
Study on the Reinforce Model of Loess Slope J.J. Wang, J.T. Deng and R.E. Li	198
Experimental Research of Soft Soil Ground Treatment in Yangpu Port by Static-Dynamic	
Drainage Consolidation Y.K. Yang, W. Yang and C.Y. Feng	203
Instability and Failure Mechanism of Slope in the Condition of Extreme Snow Hazard Z.G. Jia, F.R. Li and K. Li	208
Analysis of Foundation Non-Uniform Settlement for Building on Collapsible Loess Y.X. Li, Y.P. Zhu, S.H. Ye and Z.M. He	213
Recognition Method of Mesoscopic Medium Based on Cellular Automata Correction Method	
Z.W. Shi, H. Chen and Z.Y. Qin Investigation of the Constitutive Modes of Setunated Frager Soil Based on Demogra	217
Investigation of the Constitutive Modle of Saturated Frozen Soil Based on Damage S. Zhang, C.A. Tang, L. Li and S. Li	221
Analysis of Differential Settlement Influence on Internal Force of Box Culvert Structure F.D. He, J.P. Cui, J. Sui and Y.F. Yu	225
Security Reliability Analysis of Circulating Water Pump House Pit Excavation of Chen Jiagang Power Plant J. Pan and X.Y. Ding	229

Excavation Program and Stability Analysis of High-Steep Rock Slope Z.Y. Zou, Y.S. Zeng and Z.M. Zhu	235
Kinematic Soil-Structure Interaction Effect in Layered Liquefiable Soils on Foundation Input Motion	
L.H. Tian, G.Y. Sun, X.Z. Ling, Z.Y. Wang and J. Wan	240
Numerical Limit Equilibrium Analysis Method of Slope Stability Based on Particle Swarm Optimization	
S.N. Wang, C. Shi, Y.L. Zhang and K.H. Chen	247
Study and Application of Three-Step Supporting Design Method in Coal Roadway R.L. Shan, X.S. Kong, J.J. Zhou, W.F. Zhao, Y. Tao and Z. Wei	252
On Ground Settlement Rate Approach of Preloading Method M.L. Shi, R.K. Zhang and H. Zhang	258
The Numerical Analysis of Gravel Pile Reinforcing Liquefiable Silt D.H. Ruan, Y.M. Zhang, Z. Wang and C.X. Huang	265
Study on Deformation Property of Soft Soil Based on Neural Networks Y.J. Liu, Z.M. Li, Y. Wang, Y.M. Liu, Y.J. Chen and H. Lin	270
Effect Analysis of Soil Improvement on Mechanical and Deformation Characteristics of Supporting Structure in Soft Area Z.Y. He, L. Fu and J.F. Wang	274
Retaining and Protection Design of One Complex Building's Deep Foundation Excavation R.Y. Wu, W.B. Li and Z. Zhang	278
Effect of Damping Ditch in Dynamic Compaction J.C. Wang, H.M. Liu and G. Yan	284
Design and Test of Self-Draining Pile F.R. Li, H.C. Sun and Q. Zhou	289
Experimental Research on Coupling of Swelling Rock between Swelling and Creep Q.Y. Fan, M.Q. Wang, X. Li and B. Zhang	293
Prevention and Control Technology Research on Rock Burst of Fully Mechanized Caving Faces and Gob-Side Entry	
Z.C. Tian, L.H. Dong, M. Ma and Y.J. Liu	303
Analysis of Seepage Field and Stability of Clinosol Slope under Rainfall Infiltration X.Y. Yang and F. Guo	307
Study on Lateral Earth Pressure of Anchored Retaining Wall Y.Y. Li, L.Z. Zheng, H.B. Zhang, X.G. Song and Z.C. Xue	312
Mechanics Research on Rock Stress and Deformation of Lancang River Canyon's Large - Scale Dumping Deformation S. Ye, Y.S. Li and Q. Guo	318
Dynamic Response and Internal Force of Partially Embedded Single Pile with Distributed	
Loads H.Y. Lv and Q. Ren	324
Shape Effects on the Undrained Uplift Capacity of Skirted Suction Foundations in Clay Q.L. Fan, M.T. Luan and R. Chen	329
Effect of Ground Fissures on Subsidence in Xi'an Metro Line 2 C. Liu, L.J. Su and X.Q. Xu	333
Analysis on Bearing Capacity of CFG Pile Composite Foundation in Baotou Y.H. Wang, Y.Q. Feng and S. Li	337
Application of Mc Composite Retaining Structure in the Silt Soil Foundation Y. Cheng and A.Z. Zhou	341
Grouting Reinforcement of Governance on Detecting Evaluation of Goaf by Using GPR J.K. Li, L.J. Du and J.J. Li	347
Calculation Method of Bearing Capacity Improvement of Soft Soil Foundation under Vacuum Preloading	2.55
Y. Shen, W.J. Huang, Y.D. Li and H.D. Xu The Prediction of Blast Vibration	352
W. Zhang and S.H. Chen	357
Application of Double-Row Pile Optimization Design and Systematic Monitoring of Foundation Pit in the Main Stage Store of Jinan West Railway Station Great Theatre F. Yu, H.C. Fan, L.X. Li, G.L. Hu and Y. Wang	361

Model Tests on Force Characteristics of Reinforced Retaining Wall H.B. Zhang, J.Q. Wu, Y.Y. Li, X.G. Song and Z.C. Xue	368
Research of the Anisotropys Effect on the Deformation and Consolidation Coefficient of the Soft Soil	
H.J. Liu and G.Z. Quan	374
Study on Damage Constitutive Model of Cemented Tailings Backfill under Uniaxial Compression G.B. Yu, P. Yang and Y.Z. Chen	379
Study of Evaluation Method in Terms of Structural Planes Mechanical Characteristics in Engineering Rock Mass M.D. Guo, F.S. Zhu, S.H. Wang and X.J. Mu	384
The Studying Fabrication and Application of the Multifunctional Frozen Triaxial Test Apparatus S.Y. Zhang	388
Numerical Analysis of Soil Pressure inside the Sunken Large Diameter Cylindrical Structure Based on ABAQUS J.S. Gui, B. Zhang, Z.Q. Gao and Y. Fu	392
Geo-Stress Measurement and its Application in the Yangchangwan Coal Mine X.Y. Zhang, F.M. Liu and G. Chen	398
Finite Element Numerical Simulation Analysis on Deformation of Adjacent Building with Shallow Foundation due to Excavation Y.K. Yang, X.Y. Li, W. Yang and C.Y. Feng	403
Dam Phreatic Line Simulation on FLAC ^{3D} : A Case Study G.H. Huang, H. Wang and A.C. Adoko	407
The Application for Reinforced Concrete Piles of Marine Sedimentary Soft Soil Foundation Treatment	
Y. Du, T. Chen and S. Li	411
Research on Surrounding Rock Stability by Ideal Point-Rough Set Efficacy Coefficient Method G.R. Lu, L.W. Zhang, D.H. Qiu and X. Feng	415
Numerical Simulation Research on the Mechanical Process of Pile-Anchor Retaining Deep Building Foundation Pit B.X. Shan, L.C. Liu and C. Wei	421
A Few New Methods of Stability Coefficient Calculation of Landslides X.X. Wu, Y.F. Lu and X.D. Fu	426
Research on Static Mechanical Properties of Interface between Structure and Gravel Underlayer	
R.D. Liu, J.G. Zheng and Z.Y. Li	430
Stability Prediction of Surrounding Rocks and Optimum Design of Roof-Bolt Parameters in Deep Roadway D.S. Kong and Y.P. Chen	436
Experimental Study on Test Methods of the Intergranular Suction of Unsaturated Lateritic Soil	
H. Lu, Y. Wang, X.Y. Wang, L.J. Hou and X.Z. Jiang Analysis and Calculation of the Additional Stress in the Foundation under Trapezoid-	440
Distribution Load Y. Shao, Y. Guan and W.Z. Xing	446
Research of the Dynamic Compaction Effective Reinforcement Depth of Cohesionless Soil X.G. Song, Y. Yang, Q.D. Wu and Z.D. Zhou	450
Analysis Influence of Pile Embedded Depth and Diameter on Pile Tip Resistance Y.J. Zheng, B. Fang and L.X. Li	459
3-Dimensional Digital Image Correlation for Strains Determination in Clayey Soil O. Plé, A. Tourabi and M.S. Abuaisha	463
An Observation and Analysis of Passenger Dedicated Line Subgrade in Coastal Soft Soil Zone	167
Y.L. Yang and L.C. Yang Slope Stability Control Technology during the Horizontal Chamber Driving T.L. Zhou, O.N. Liu, C. Zhong, V.P. Wong and H.Y. Chan	467
T. Li, Z.L. Zhou, Q.N. Liu, C. Zhang, X.P. Wang and H.X. Chen	473

An Analytical Solution to Temperature Distribution of Single-Row-Piped Freezing with Different Pipe Surface Temperatures X.D. Hu, L.Y. Zhang and Y.G. Han	478
Application Research on Dynamic Compaction Replacement Pier Foundation Treatment	4/0
Methods Y.S. Yang and B.X. Li	482
Study on Rock Mechanics in Stability State of Kangding Substation Q. Guo, Y.S. Li and L. Wang	486
The Sensitivity and Reliability Analysis of Slope Stability Based on Strength Reduction FEM Y.X. Wu, Q. Liu and Y.J. Cang	491
Numerical Simulation and Analysis of Centrifuge Model Tests with Nonhomogeneous Materials in Geotechnical Engineering	
L.X. Tang, L.J. Guo, D.N. Zhang and J.M. Zheng Dynamic Finite Element Analysis for Contact Stress of Dynamic Consolidation F.Y. Zhang, D.Y. Zhu, S.R. Ge and X.B. Sun	495 502
DDARF Analysis on Shear Tests of Jointed Rock Mass S. Guo, W.S. Zhu, Y. Li and C. Jia	507
Study on Energy Evolution Process of Hard Brittle Rock under Uniaxial Compression S.C. Xu, Q. Jiang and C.Y. Jin	511
Main Problems and Solutions on Design and Construction of Qinghai-Tibet DC Transmission Project in Permafrost Region P. Li, Q.H. Yu, F.Z. Yan, Y.S. Huang and D.X. Cheng	515
Experimental Study on Three Dimensional Coupled Stress-Seepage Law of Single Fracture L.M. Yin, J.T. Chen and W.B. Sun	524
Impact of Rigid Pile Composite Foundation with Lateral Unloading J. Ma, W.S. Chen and X.F. Hu	529
Testing Study on Bearing Behavior of Belled Large-Diameter PHC Pipe Pile by NAKS (Nakabori Kakutei System) Construction Method W. Xu and Y.B. Hou	533
Analysis of the Reliability of Soil Nailing Supporting Structure C.Y. Hui and Y.P. Zhu	540
Experimental Research on Wetting Deformation of Laterite with Different Stress Paths D.F. Chen and L. Wu	544
Research on Natural Settlement Rule of Dredged Silt in Tianjin Binhai Region X.Q. Liu, Y.T. Zhang, Y.H. Yang and M.M. Li	548
Experimental Research on Soil-Water Characteristic Curve of Unsaturated Soils X. Xu, F.Y. Zhang and M. Gu	554
Comparative Study on Force Characteristics of Vertical and Inclined Cantilever Retaining Pile D.S. Kong and Q.H. Zhang	558
Experimental Research of Fine Sandstone Strength and Deformation Characteristics under Different Confining and Hydraulic Pressure	
Z.B. Liu Experimental Study on Fly Ash Using for the Measurement of Preventing Frost Heave of Road	562
Z.H. Lin and Y.H. Zhang	571
A Study on Constitutive Relation of Unloading Rock Mass Under Compression-Shear Stress F. Wang, X.L. Liang and G.L. Hao	575
Influence Study of Confining Pressure on the Dynamic Parameters of the Silty Clay Q. Shen, C. Cai, Q.C. Mo, Y.D. Tian and Z.Y. Zhu	579
Analysis of Engineering Application about Reinforced Earth Retaining Wall S.L. Wen and H.B. La	585
Compressive Properties of Crushed Stone-Loess Reinforced with Geogrid Y.C. Hu, J.M. Shen, G.D. Gu and H.N. Cai	589
Numerical Simulation of Post-Construction Deformation Characteristics of Storage Oil Tank Ground Y.M. Zhang and X.D. Zhang	593

An Experimental Study on the Dynamic Strength of Earth-Rock Aggregate Y. Qiang, J.C. Wang and W. Chen	597
Strength Attenuation Law of Damaged Rock Samples and its Structure Effect H.J. Su, H.W. Jing, C. Wang and B. Meng	602
Study on Strength Properties and Crack Expansion Evolution Laws of Rock Containing Multiple Fissures H.H. Zhao, H.W. Jing and H.J. Su	608
Displacement Prediction for Soil Nailing Based on ANN L. Gao, Z.W. Tang and Q.Z. Liu	614
Research on Seepage Field in Fractured Rock Mass of Underground Oil Storage Cave Using Distinct Element Method	619
S. Yu, Y.P. Zhang and W.S. Zhu Monitoring and Numerical Analysis on Displacement of High-Voltage Pole around Foundation Pit Excavation	
J. Liu, K. Hou and S.L. Feng	624
Analysis of Anti-Floating Measures and Construction Parameters of Shield Tunnel through River under Ultra-Shallow Covering X.L. Li, B.L. Wang, X. Li and C. Ji	628
Numerical Analysis of Geocell Protective Slope Stability G.Y. Wang, J.P. Zhang and J.W. Zhao	635
Deformation Monitoring and Numerical Analysis at the Top of Slope of a Foundation Pit J. Liu, H.H. Cao and X.F. Jiang	640
An Experimental Study on the Mechanical Characteristics of Sandstone-Like Material with Preset Filling Joints X.Y. Liu, A.H. Liu and B.B. Wu	644
The Analysis of Stability of Mine's Tailing Dam Based on the FLAC ^{3D} Y. Li, Y.F. Cao, X.J. Chang and Y.J. Zhang	650
Study on Slope Instability Disciplinarian on the Condition of Rainfall N.T. Zhang, X.C. Zhang, H.R. Wang and C. Yan	654
Study on the Geotechnical Engineering Properties of Polluted Soil Z.Y. Zhang, D.Z. Wu and L.J. Yan	659
The Fluid-Solid Coupling Analysis of Three-Dimensional Slope Based on ABAQUS B.B. Yang, Y. Chen and S.A. Wei	663
The Study on Failure Mechanism of 3D Cracked Rock Mass under Fissure Water Pressure W.Q. Xue, W.S. Zhu, D.F. Zhang and J.W. Fu	669
Slope Deformation Prediction Based on Chaotic-SVM L. Jia, Y. Li and Y.P. Xie	673
Sensitivity Analysis of Shear Stress between the Landslide and Pile P. Qiang and H.Z. Lei	678
Simulation and Application of Rock Fracture Mechanics Model Y.G. Wu and L.L. Zou	682
Analysis and Treatment of Landslide at the Tunnel Portal in Nanjing Road Z.W. Xiao and L. Huang	686
On Numerical Simulation of the Stepped Soil-Nail Wall C.Z. Zhu and Q.C. Gao	692
Research on the Mechanical Behavior Effect of around Composite Foundation under Soil Lateral Displacement G.F. Ren and J.S. Qiao	696
Analysis of Particle Crushing in Rolling Compaction for Rockfill Dam Using DEM Y. Liu, Y.T. Wang and X.Z. Li	702
Research Progress and Development of CFG Pile Composite Foundation S. Xing and Y.X. Wang	702
Study on Effect of Gradient of Landfill Side Slope on Tensile Force of Geosynthetic Liner M.F. Li, Y.N. Ren, H. Fan and B.K. Ning	711
Discrete Element Simulation of Rock Crushing Considering Different Shape Y. Liu, X.Z. Li and C.L. Wang	715

Relationship of Plasticity Index of Soil with Laboratory and Field Electrical Resistivity Values	
S.B.S. Osman, F.I. Siddiqui and M.Y. Behan	719
The Improvement on the Determining Method of the Proper Pile Length in the Collapse Loess	
G.S. Zhao, W. Wei, H.T. Zhou and Q. Zhang	725
Numerical Simulation of Unsaturated Evaporation and Drying Front Advancing in One- Dimensional Soil Columns	720
Z. Hua, G. Kang and X. Yi Soil Shear Strength Characteristic in Slope Disintegration Area	730
X.M. Zhang, S.W. Ding and S.X. Li	735
An Analysis of the Influence of the Temperature on the Capillary Migration of the Residual Soil	
Y. Que and J. Chen	740
Analysis and Evaluation of Stability for the Landslide of Suoertou H.J. Li and H.Q. Zhang	746
Stability and Deformation Analysis for Excavation and Backfilling of Fushun West Open- Pit Coal Mine	
Y.C. Yan, X.Z. Ling, F. Zhang and J.H. Wang	751
Research of an Slope under Rainfall and Deep Excavation Condition with UDEC L.X. Ren and N. Kai	756
Vibration Attenuation Characters in Deep Holes under Road Traffic Load Z.J. Mei	761
Displacement Prediction of Rock Slope on Genetic Neural Network Z.Q. Zhang and G.J. Zhang	768
Experimental Study on Shear Strength of West Sichuan Unsaturated Mixed-Soil K. Cui and B.W. Huang	772
Influencing Factors of Bearing Behavior of Settlement Reducing Pile Foundation for	,,2
Immersed Tunnel X.H. Huang, W.M. Gong, T. Huang, R.C. Xie and G.P. Xu	779
Soil-Water Characteristic Curve for Unsaturated Mixed-Soil Considering Physical Form and Dry Density Effect	
K. Cui and H. Huang	785
Study on Earth Pressure and Engineering Properties of Solid Waste during Foundation Pit Excavation Y. Zhang, X.L. Feng and T. Liu	790
Construction Organization Optimization for Subgrade Engineering in Tropical Rainy	170
Regions B. Yang, R. Zhang, S.P. Luo, P. He and Y.F. Qiu	795
Numerical Simulation of Mechanical Properties of Reinforced Red-Sandstone Granular Soil	
Based on 3D Discrete Element Method J.Q. Jiang	802
Evaluating the Bearing Capacity of a Soil Layer Overlying Rigid Substratum Using a	002
Modified Failure Mechanism Based on Limit State Analysis R. Afshar-Mazandaran and H. Khabbaz	806
Model Test Research of Surcharge Contribution to Ground Bearing Capacity L.Y. Chen	815
Design Scheme and Construction Technology of Combined Support for a Deep Foundation	
Pit Excavation M. Wu, X. Zhao, K. Liu, C.L. Wang and H.X. Geng	819
Finite Element Analysis of Pier Top Horizontal Displacement Caused by Newly-Built Road	
under High-Speed Railway Bridge X.C. Liu, B.L. Wang, L.C. Yang and Y. Jia	823
Study on the Deformation Forecasting for the Tunnel Surrounding Rock Using the Neural Network	
G.F. Wang, W. Zhao, Y.P. Guan and L. Liang	828
Dynamic Interaction between Reservoir and a High Concrete Face Rockfill Dam on Deep Alluvium Deposit W. L. Con, H. Sun and W. Viong	022
W.J. Cen, H. Sun and K. Xiong	833

The Modified Cam-Clay Model and the Constitutive Relation Principle of Thermodynamics with Internal Variables	
J.Y. Chen and Y. Hai	837
Highway Subgrade Dynamic Response Model Test Study on Foundation-Broaden Dynamic Compaction Consolidation X.H. Pan, Z.Y. Yao, K. Zhang and Z. Jin	842
Finite Element Analysis of One Dimention Large Strain Consolidation of Clays with Variable Compressibility and Permeability Y. Hai and J.Y. Chen	847
Geotechnical Centrifuge Modeling of Super-High Embankment Filled by Red Soft Soil in Western Yunnan Province G.X. Wu, K. Zhang and X.S. Chen	851
Experimental Study on Strength of Rock Masses with Transfixion Joint under Uniaxial Compression	
L. Wang, S.C. Li, J.X. Han and Z.Y. Zeng	856
Performance of Abutment with Geocell Reinforced Cement Soil Backfill W.M. Song, Y.M. Wang and Y.K. Chen	860
Measures and Mechanism of Reinforcement of Soft Subgrade of High Speed Railway in Operation	
J. Wang and L.C. Yang	866
Sensor Network Optimal Design of Microseismic Monitoring System at the Left Slope of Jinping I Hydropower Station	973
G. He, N.W. Xu, C. Sha and L. Tian Waterproof and Drainage Diseases of Subgrade and its Prevention Measures in Loess	872
Donga L.P. Liu	877
Prediction of Ultimate Bearing Capacity of Half-Screwed Pile by Integrated Exponential Function Model J.X. Liu, Y.Y. Gao and X.H. Li	881
Research on Detection of Breaking Rock Zone of Roadway Surrounding Rock with Ground Penetrating Radar F.J. Zhang, H.F. Cui and Y.R. Hao	886
Experimental Study on the Effect of Joint Spacing on Fragmentation Modes and Penetration Rate under TBM Disc Cutters H.S. Ma, L.J. Yin, Q.M. Gong and J. Wang	890
Upper Bound Limit Analysis of Passive Earth Pressure of Cohesive Backfill on Retaining Wall	070
X.R. Liu, M.X. Ou and X. Yang	895
On Energy Strength Theories for Geomaterials	001
S.Y. Xue Deformation and Failure Characteristics of Embankment upon the Slope in Permafrost Area under Different Foundation Slope	901
Q. Su, J.J. Huang, B. Liu and Y.J. Li	905
Soil Resistivity Measurements to Predict Moisture Content and Density in Loose and Dense Soil	011
M.H.Z. Abidin, F. Ahmad, D.C. Wijeyesekera, R. Saad and M.F.T. Baharuddin	911
Optimization Design of Coupling Beam of the Frame Double-Row Piles Y.J. Shen, H.H. Cui, B. Deng and W. Kang	918
Chapter 1: Geotechnical Engineering	
Research on Geogrid Strain of Reinforced Earth Retaining Wall by Numerical Simulation J.C. Wang, A. Liu and C.F. Yan	927
Numerical Study on Dam-Foundation-Dam Interaction H. Zhong and H.J. Li	933
Dynamic Triaxial Test Research of Stage Change of Cohesive Soil X.Y. Rong, T.H. Yang, P.T. Wang, H. Wang and Y. Li	937

The Study of Optimization Design Numerical Simulation on Variable Spacing Pile-Raft Foundation	
W.Y. Wang and T. Zhao	941
Stability Analysis of Unsaturated Soil Slopes Based on Unified Strength Theory Y. Li, J.H. Zhao, Q. Zhu, C.G. Zhang, W.Q. Bai and J.F. Xu	946
Anti-Floating Anchor Rods and Waterproof Construction Technology for Deep Pits L.J. Chen, X. Wang and S.L. Hou	952
Analysis on FLAC Large Deformation Mode of Rock Mass due to Transform from Open-	
Pit to Underground Mining L.S. Chang, X. Li, R.P. Zhang and Y.N. Chen	957
Control on Reasonable Impact Loading in Static-Dynamic Drainage Consolidation Method Z.M. Li, X.M. Qian, W.X. Zeng and J.W. Liu	961
Dig-Hole Pile Excavation by Blasting in Cities and Towns Z.Y. Zhang, L.F. Luan, X.L. Li, L.G. Zhang and S. Guan	965
Applications of Soil Nailed Wall in Foundation Pit Support C.M. Zhang	969
Static Loading Test of the End-Bearing Pile under the Sides Friction Action X.W. Wang, N.G. Yi and S.P. Zhang	974
Response Law and Influencing Factors of the Soil under Action of Pile Driving Vibration Based on Midas/GTS D. Zhang, J.B. Su, H.D. Zhao and H.Y. Wang	979
Research on Design and Application of the CDM Pile X.G. Kong	984
The Spatial Block Stability Test in Variable Angles and Safety Evaluation J. Wang, S.H. Wang, L. Jiang and Y. Ni	992
Research on Soil-Water Characteristic Curve of Unsaturated Mixed-Soil in West Sichuan W.G. Zhou, Y.L. Bao and H.B. Zhou	996
Application Research on Geo-Filament Bolt Reinforced Earthen Site X.F. Mao, Z. Dong and Y.Q. Liu	1001
Study on the Bearing Capacity of Slime Friction Pile Based on the Double-Sheared Theory X.Q. Wang and W.T. Yang	1005
Rainfall Threshold of Rainfall-Induced Landslides Based on Laboratory Test Y. Su, J.B. Qiu and Y.T. Du	1011
The Safety Assessment of Bored Pile Retaining Wall Based on Back Analysis for Bending Moment	1015
T. Liu and Y.B. Chen Test Research on the Meso-Fabric Properties of Undisturbed Moraine Soil on the West Side	1015
of Yulong Snow Mountain S.Z. Lv, R. Wang, M.J. Hu and X.Y. Xing	1024
A Soil Stratifying Method Based on Piezocone Penetration Test X. Xu, F.Y. Zhang and M. Gu	1031
Deformation Failure Analysis and Stability Control Technology of Large Section Soft Rock Chamber in Deep Coal Mine	
C.H. An, G.B. Zhang, Z.D. Liu, K. Zhao, W. Guo and H.L. Liu	1035
Research of Hydraulic Characteristics of Cofferdam and Leaching System on Joint Way of Nanjing Second Yangtse Bridge J.Y. Shi, X.J. Yu and Y.B. Ai	1040
Deformation and Stability Analysis of Large Slope Based on ADINA Software B.Y. Yuan, W.F. Pan and Q. Wang	1047
The Evaluation of Stability of Rock Mass Slope Based on the Block Theory and DDA Numerical	1051
Q. Ma, G.J. Li and Y. Hong North China Lower Coal Surrounding Rock Failure Characteristics Study Based on ELACAD and Fiber Progg Crating	1051
FLAC3D and Fiber Bragg Grating Z.B. Liu	1057
Analysis of the Primary Consolidation Settlement Considering of the Settlement Load J.Q. Yu and X.W. Wu	1063

Numerical Analysis of Time Dependent Behavior for Celadon Clay Rock L.X. Hu, Y.L. Fan and X.D. Zhu	1067
Subgrade Slope Stability Analysis under the Condition of Rainfall Infiltration G.J. Guo, G.H. Liu, J. Sui and J.Q. Wu	1073
Study on the Rockmass Instability of Open-Pit Mine by Block Theory and Numerical Simulation Methods H.G. Li, Z.J. Yang and T.L. Han	1077
The Zonal Disintegration Law within Coal in Front of Working Face in Deep Coal Mine Q.F. Chen, Z.H. Chen, N. Ma, W. Zhang and H. Li	1082
Analysis of the Results of Pile Trial for the Subsidiary High-Rise Building of the Shandong Provincial Center for Culture and Art Q. Wei, X.D. Yang and S.L. Jiang	1090
Study on the Small-Strain Behaviors of Unsaturated Soils J.X. Wang, W.M. Liang and Y.Q. Yu	1097
Forecasting of Landslide Displacement Based on Exponential Smoothing and Nonlinear Regression Analysis W.Z. Zhang, Y.J. Li, X.S. Li and Q.R. Kang	1101
Nonlinear Consolidation Analysis of Stone Column Composite Ground under Time-	1101
Dependent Loading Y.R. Hu	1106
Relationship between Dynamic Modulus and Static Detection Index in Red Sandstone Subgrade	
C. Chen and J.L. Zheng	1112
Study on Material Physical and Mechanical Characteristics Tests on Tailing Dam S.R. Lv and Y.Y. Zhang	1116
Chapter 2: Geological Engineering	
Numerical Simulation Study on Development of Geothermal Resource in the Borehole Wall Surrounding Temperature Field Y. Xu, F.Y. Ren, Y. Fu and D.J. Zhang	1125
Microscopic Features of Mudstone Based on SEM Images L.S. Pan and R.C. Zhou	1130
Response and Test of Whole Space Transient Electromagnetic Field in Mine Goaf Water Y.G. Xue, S.C. Li, M.X. Su, H.Y. Li and H. Tian	1136
A Prediction Model of Loess Collapsibility Base on the Method of Fuzzy Information Optimization Processing Y. Ma, J.D. Wang and S.J. Peng	1140
The Microstructure Characteristic of Compacted Laterite with Acid Pollution	
Y. Huang, T.Z. Bo, Z.L. Zhang and K.S. Jin The Assessment of Risk of the Ground Fissures Based on AHP	1146
M.X. Xu, B. Li, Y.L. Xu, F.F. Yan and D. Wu	1153
3D Modeling of Ground Fissures Based on Projection-Deviation Method M.X. Xu, B. Li, Y.L. Xu, W.X. Pei and G.H. Wang	1157
Study on the Engineering Geological Properties of Drill Hole in North Yellow Sea X. Liu, X.L. Feng and J. Liu	1161
3D Fracture Network and Block Analysis of the South End-Slope of Antaibao Coal Mine M. Ming, H.J. Li and H. Lei	1165
Forecasting Major Geological Hazards about Construction Projects of Mengshan Lead- Zinc Mining	
G.D. Shi, J.J. Wang and C. Yang	1171
Nuclide u Transport in Radioactive Waste Disposal Field with Weak Permeable Media Y.E. Deng, W. Zhang and Y.Z. Chen	1175
Application of Wire-Line Coring Hydraulic Hammer Drilling in a Deviated Gold Mine Formation	
M. Tian, K.C. Yang and J.H. Cai	1179
Progress in Platinum Group Element (PGE) in Black Shale Series J. Liu, Y. Chen, Z.X. Liao, Y. Zhan and Y.F. Guan	1183

Sr-Nd-Pb Isotopic Geochemistry of the Hukeng Granite Body in Jiangxi Province, South China	
J. Liu, Z.X. Liao, Y. Chen, Y. Zhan and Y.F. Guan	1187
The Fractal Characteristic Analysis of Coal Pore Structure Based on the Mercury Intrusion Porosimetry	
N. Hao, Y.L. Wang, L.T. Mao and Q. Liu	1191
Surface Wave Dispersion Imaging Using Improved τ-p Transform Approach J.Q. Lu, S.Y. Li and W. Li	1196
Anisotropic Variation Characteristics of Pore Distribution Based on Saturated Clay Microstructure	
J. Song, L.S. Tang and R.J. Xing	1203
Study on the Relationship between Deformation and Stability of Large Landslide with the Rainfall	1207
J.H. Lu and J.H. Qin Cushing Water of a Deep Puried Long Tunnel under High Water Pressure and High	1207
Gushing Water of a Deep Buried Long Tunnel under High Water Pressure and High Ground Stress	
Y.E. Deng, T. Yuan, R.Q. Huang, X.N. Hu and X. Peng	1211
The Road Surface Collapse Geophysical Exploration and Governance Measures S.L. Wang, L. Mi, J.R. Wang and F.F. Jiang	1215
Susceptibility Forecast of Geo-Hazard under the Conditions of Earthquake and Rainfall S.J. Tian and J.M. Kong	1219
Consolidation Settlement of the Modern Yellow River Subaqueous Delta J. Liu, X.L. Feng and X. Liu	1223
Exploration of Determining the Bearing Capacity of Calcareous Concretion Soil with Static Cone Penetration	1229
Y.J. Yang, D.X. Wu, L. Li, G. Zhang and R.B. Hua Statistical Analysis the Distribution of Landslide Triggered by m 8.0 Wenchuan, China	1229
Earthquake of May 12, 2008 S.J. Tian and J.M. Kong	1236
A Study on the Differences of Mechanical Properties between CH ₄ and CO ₂ Hydrate-Bearing Sediments	
Y. Luo, Y.C. Song, W.G. Liu, J.F. Zhao, Y.F. Chen, Z.T. Shen and C.M. Ji	1240
The Application of Measurement Robot in Landslides Emergency Monitoring S.Q. Lu, Q.L. Yi and W. Yi	1245
Discussion about Gold Ores Mineralization of Collision-Type Orogeny in the East of Shandong	
H.K. Li, Y.F. Li, L.Y. Li, C.Y. Zhuo, K. Geng and T.T. Liang	1249
Three Dimensional Simulation Method of Landslide Risk Y. Hong, A.X. Lu and Q. Xu	1263
About the Unloading in Elastoplastic Inhomogeneous Bodies	1203
V.I. Andreev	1267
High Containing Fly Ash Grouting Material Performance Test of Large Channel Underlying Goaf	
Q. Yan and S.F. Qin	1271
Study on Rockburst Intensity Prediction Based on Efficacy Coefficient Method D.H. Qiu, S.C. Li and L.W. Zhang	1277
Fatigue Damage Model of Limestone Based on Dynamic Elastic Modulus Attenuation Rule K. Zhao, Z.M. Han and X.W. Yang	1281
Simulation of Electric Field Distribution in Concrete of Pulse Electro-Osmosis Technology Based on ANSYS Software J.M. Zhu, Z.X. Li and Y. Wang	1287
Characteristic Analysis of Rainfall Variation in Zhuzhaoxin River Basin	1207
X.N. Guo, C.S. Yu, Č.Q. Zheng, L.L. Liu and M.H. Song	1293
The Study of Failure Status and Treatment Methods of Open-Mining Rock Slope in Chongqing Z.G. Zhao, P.L. Zhao, X.L. Wu and C.L. Xu	1297
Z.O. Zhao, T.D. Zhao, A.D. Wu and C.D. Au	1491

Chapter 3: Tunnel, Subway and Underground Facilities

Dewatering in Thick Aquifer	
Y.J. Liu and L.Z. Shen	1305
Supporting Numerical Simulation of Roadway Surrounding Rock in Deep High Stress Based on Broken-Expand Deformation W.J. Yu, Y.S. Qu and D.Q. Deng	1310
Numerical Analysis on Minimal Safe Distance between Two Opposite Excavation Faces of Deep-Buried Tunnel W.T. Chen, Y. Huan and P.X. Fan	1315
Design of Shallow Depth Tunnel with Asymmetric Twin Arches and its Construction Procedure in Poor Rock Mass X.J. Zhou and X.F. Wang	1313
Study on Structural Design and Driving Process of a Subway Station with Large Transection by Tunneling Method X.J. Zhou and C.Y. Yang	1325
Analysis of Initial Stress-Strain State's Influence on the Collapse of Tunnels C. Chu, Y.T. Zhao and Z.H. Li	1329
Analysis of the Earth Surface Subsidence Caused By the Dewatering of Shenyang Subway in China	1225
S.H. Wang, L. Jiang and J. Wang	1335
Direct Calculation Formulae for Critical Depth of II Type Horseshoe Tunnel with Flat-Bottom F.L. Li and H. Wen	1339
Stability Analysis of Storage Caverns in Bedded Salt Rock Formation M. Zhang and Q. Yang	1345
Simplified Calculation Method of Normal Water Depth on II Type Horseshoe Tunnel with Flat-Bottom	
H. Wen and F.L. Li	1353
Study on Selection of Segment Lining Structure for Large Profile Underwater Shield Tunnel R. Guo and C. He	1359
Design of Blasting Scheme Based on Numerical Simulation Z.H. Li, Y.T. Zhao and C. Chu	1364
Risks of TBM Construction and Corresponding Measures K. Chen and H.H. Feng	1370
Finite Element Analysis of Creep Induced Volume Shrinkage of Salt Caverns M. Zhang, S.X. Zhang and Q. Yang	1379
Study and Application of PBA Tunneling Technology in Shenyang Metro Z.G. Zhu, W. Zhao, X.B. Tan and X. Xie	1386
Prediction for Long-Term Deformation of Existing Tunnels Induced by Underground Excavation in Shanghai Subway Project Z.G. Zhang, M.X. Zhang and X. Xiao	1390
Research on Mechanical Behavior of Pipe-Roof Reinforcement Applied in Tunnel Based on MATLAB	1370
Z.J. Sun, J.M. Shen, Z.M. Su and X.H. Xue	1394
Research on High-Efficiency Rock Fragmentation of TBM Cutter-Head H.H. Feng, K. Chen and Z.F. Wang	1398
Computational Fluid Dynamics Simulation of Ventilation Effect of a Large Cross-Section Cable Tunnel J.S. Chen, S.Z. Liu, Y.G. Fang and H.H. Mo	1404
Model Test Study on a Large-Section Cable Tunnel J.S. Chen, S.Z. Liu, R.G. Gu, Y.G. Fang and H.H. Mo	1411
The Crushing Mode and the Optimal Penetration of Two Disc Cutters Cutting Marble under Different Confining Stress	1 4 1 7
B. Shen, Y.M. Xia, J.J. Gu and Y.C. Tian	1417

Experimental Study on Kilometer-Deep Shaft Working Face Advancing Step and Mining- Induced Stress Distribution Law	
C.Q. Ma, B.Q. Dai and G.P. Qin	1422
Study of Tunnel Surrounding Rock Classification Based on Drifting Degree and Uncertainty Measurement L. Hu, T. Li and W.G. Qiu	1427
Field Test Study on Cutting Obstacle Piles Directly by Shield Cutters F. Wang, D.J. Yuan, R. Cai, Y.J. Mu and M.S. Wang	1433
Discussion for Displacement Control Criteria of Soft Rock Tunnel in the Seismic Area J.H. Xu, C. He, Y. Zhou and H.B. Wu	1440
Discussion of Tunnel Displacement Control Reference Group the Relevance of Factors for Earthquake Zone	1.446
Y. Zhou, C. He, H.B. Wu and J.H. Xu Stochastic Prediction for Frost Heave Effect of a Subway Tunnel T.Q. Zhou	1446 1451
Study on the Human Behavior in Metro Fire G.M. Zhao	1456
Shaking Table Test to Underground Structures in Layered Foundation W.F. Sun, L.P. Jing, Y. Zou, N.B. Yang and Y.Q. Li	1461
Study on the Influence of Pit Excavation on the Stability of Underground Openings Using Different Models	
Y.X. Yang, G.J. Shao, J.F. Yu and G.Y. Chen Numerical Simulation Method of Safe Distance between Concealed Karst Cave and Tunnel	1466
Based on Energy Catastrophe Y.B. Lai, M.S. Wang and C.G. Bai	1470
Breakage Probability Calculation of Shield Tunnel under the Effect of Foundation Pit Excavation	
Y.P. Guan, W. Zhao, X. Xie, S.G. Li and G.F. Wang	1475
Deformation Characteristics Research on Gravel Bed for Deep Buried Immerse Tunnel Y. Wang and C.H. Sun	1480
Small Spacing Tunnels the Blasting Excavation Dynamic Effect Y. Mo, B. Teng, Z.Y. Zou, L. Li and M. Zhong	1484
The Influence of Engineering Factors to Groundwater Recovery in Mountain Tunnel Z.C. Liu	1490
Engineering Feasibility Study on the Beijing East 2nd Ring Underground Road J.G. Wu, R.D. Chen, Q. Bi and H. Guo	1495
Analysis and Evaluation on Stability of the Steep Coal Seam Gob Z.P. Zhang, X.F. Liu and T. Meng	1502
The Study of Numerical Analysis about the Stability of Tunnels with Typical Planes of Fracture	
B. Huang and R.J. Liu	1507
Integrated Advanced Geological Prediction for Tunneling in Karst Area X.R. Tan, S.G. Chen, Y.B. Zhao and H. Ma	1511
Study on Influence Factors of Underground Joint Rock Cavern Displacement Z. Wang and C. Han	1515
Analysis on Ground Settlement Induced by Shallow Buried Cross Channel of CRD Method under Artificial Filling J.K. Li, J.J. Li and L.J. Du	1519
Application of Carbon Fiber Cloth in Reinforcement of Metro Tunnel Disease Y.J. Li, H.J. Xu, Y. Zhang and J.J. Yao	1525
Study on Stability of Surrounding Rock in Shallow Tunnel under Unsymmetrical Pressure S.C. Xu, T.Y. Liu and C.Y. Jin	1529
Prediction on Ground Surface Settlement Caused by Subway Shield Construction in Xi'an R.D. Liu, J.G. Zheng, K. Zhang and Z.Y. Li	1534
Study on Excavation Procedure of Dawangou Shallow Tunnel under Unsymmetrical Pressure	
S.C. Xu, T.Y. Liu and C.Y. Jin	1539

Analysis on Feet-Lock Bolt in Viscoelastic Surrounding Rock Q. Huang	1543
Application of Horizontal Jet Grouting in Qingdao Tunnel Construction J. Zhang, T. Liu and Z.W. Jiang	1547
Study on Fluid-Structure Interaction Based on Hard Rock Deterioration Theory C.Y. Jin, D. Liu, C.F. Xiang, Y.D. Wang, J. Zhang and J.L. Ren	1551
Study on the Information Processing Technology of Deformation Monitoring Data in the Underground Engineering K. Wu, K. Zhang, C.J. Wang and C. Zhao	1555
Supporting Technology Research of Concrete Filled Steel Tubular Support in Extremely Soft Rock Mining Area J. Wang, G.L. Qu, Z.Z. Wang and D.K. Sun	1559
Mechanism of Water Inflow of Subsea Tunnel Induced by Blasting Excavation Y.S. Liu, J.G. Peng, J.H. Zhang and L.X. Fu	1566
Numerical Analysis of Large Pipe Roof Support Reinforcement in Shallow Expansive Loess Tunnel	
B.S. Xu, Z.Y. Zeng, C. Chen and L. Wang Application and Study of C80 High Performance Concrete in Freezing Shaft Sinking	1572
Techniques	
Q. Wang, T.W. Lu and L. Guo Numerical Experiments of Drilling Pressure Relief Preventing Roadway Rock Burst	1577
Y.L. Wen, G.J. Zhang and Z.Q. Zhang	1583
Safety Evaluation Model for Traffic Operation Environment of Freeway Tunnel Y.Y. Guo, Y. Wu, Y. Jin and J.F. Qi	1588
Study on Superposition Impact and Hazard Control of Surrounding Environment in the Process of Complex Foundation Pit Excavation T. Liu, X.W. Wang and X.F. Pan	1592
Instability Mechanism of Surrounding Rock for Super-Large Cross Section at High-Speed Railway Tunnel Portal	
S.L. Wu, S.H. Yang and X.W. Zhang Deformation Monitoring and Data Analysis for Matra Construction with Mining Method in	1597
Deformation Monitoring and Data Analysis for Metro Construction with Mining Method in Dalian G.B. Bai, J. Zhao and L.S. Liu	1604
Static and Dynamic Analysis for Ovaling Deformation of Circular Tunnels under No-Slip Conditions	
Q.R. Lu, H.Y. Jiang, P. Andrea and D. Xie	1609
Research on Geological Safety of the Southern Section of Gouzhigou Tunnel in the Pipeline Project	1614
Z.S. Li, N.Q. Shen, Y.B. Teng, Y.S. Yan, G. Yang and W.Y. Pan Analysis of Influence of Shield Tunneling Crossing underneath Intercity Railway and Shield	1614
Tunneling Parameters Optimization X.H. Deng and B.L. Wang	1619
Influence of Soft Rock Factor and Time Dependence in Deep Tunnel Y. Chen, X.C. Zhang, H.R. Wang and N.T. Zhang	1625
Public Use Planning of Civil Air Defense Works in Residential District J.C. Shen, J. Yang and W.J. Zhu	1630
Stability Study of a Pumped Storage Power Station's Underground Powerhouse H. Huang and G.M. Ren	1635
Research on Construction Technology of Shallow-Buried and Long-Span Railway Tunnel in Soft Rock N.Q. Huang	1639
Elastoplastic Analysis of Surrounding Rocks of the Pressure Tunnel	
S. Qiong Influence of Tunnel Execution on Adjacent Digid Flexible Bile Pearing Herizontal Leads	1644
Influence of Tunnel Excavation on Adjacent Rigid-Flexible Pile Bearing Horizontal Loads S.K. Ma, Y.Z. Huang, X.B. Zhou, X. Chen and J.X. He	1648
The Triaxial Shear Test of Artificially Frozen Soils in Tunnel Construction of Hong Kong X.D. Hu and J.T. Wang	1653
Construction of Zhoutouzui Immersed Tunnel in China	

Properties of Frozen Soils for Cross Passage Construction in Line 1 and 2 of Wuxi Metro X.D. Hu and Y.G. Han	1662
Study on Seepage Field of Artificial Water Curtains for Underground Petroleum Storage Caverns in Fractured Rock Mass	
Y.P. Zhang, S. Yu and W.S. Zhu	1666
Research on Effects of Underground Roadway Arrangements for Surround Rock Bearing Capacity Q.C. Gao, J.P. Li, M. Meng and X.Y. Wang	1671
	10/1
Study on High Prestressed Anchor Beam Supporting Optimization Technology in Deep Roadway H. Li, W.J. Liu and W.G. Qiao	1675
Failure Characteristics and Support Optimal Design of Columnar Jointed Rock Mass at a	
Diversion Tunnel X.D. Zhu, L.X. Hu, J. Quan, S.J. Li and J. Li	1680
Rock Long-Term Strength Parameters Determination of a Salt Cavern Gas Storage L.N. Ran, H.B. Zhang and Z.Y. Wang	1685
Tunnel Karst Disease Risk Estimation by Advance Geological Forecast Z.G. Liu, D.H. Qiao, Y.W. Li and J.Y. Xu	1689
Study on the Mechanical Behavior of Excavation and Support Construction of Shallow Tunnel	
Z.X. Yang, L. Song, H. Wang, Y.Y. Jiao, S.C. Li, A.C. Adoko and H.Q. Zhang	1693
Research on the Temporal and Spatial Variation of Shallow Tunnel by Construction	
Disturbance Z.L. Sui, X.P. Wang, Z.G. Li and X.S. Sun	1699
Research on Fractal Crack Propagation Mechanism of Hydraulic Tunnel Concrete Lining X. Sun, Y. Qiang, M.J. Zhao and K. Wang	1704
Research on the Stability of Surrounding Rock in Shallow Tunnel under Unsymmetrical Pressure Based on RDM	
Y.H. Li, L.B. Dong, C.F. Xiang, Z.F. Xia, P.P. Zhao and D. Liu	1709
Evaluation of Supporting Structure Stability on New Fault of Xuefengshan Tunnel	
Zk97+830 H.C. Sun	1713
Dynamic Response Analysis of Xi'an Bell Tower Timber Structure under the Metro-	
Vibration Load of Line 6 T.F. Zhao, Z.B. Meng, J. Jin and X.F. Li	1718
3D Simulation of Mechanised Excavation in Brittle Rock	1704
K. Zhao, M. Janutolo and G.X. Chen	1724
Dynamic Response Analysis of Xi'an Bell Tower Timber Structure under the Metro-Vibration Loading of Line 2 and 6 Z.B. Meng, T.F. Zhao, J. Jin and X.F. Li	1732
The Reliability Theory Based Expert System Research for Subway Construction Safety	1,02
Risk Identification X.G. Wu, H.T. Liu, L.M. Zhang, B.J. Ding, H.Z. Zhai and X. Li	1739
Research to the Influence of Bolt Direction on the Surrounding Rock Y.C. Zhao, D.F. Lu and Y. Chen	1749
Research of Shed-Cable Supporting Technology & Regularity of Minig Roadway Pressure	
in Three-Soft Seam Y.W. Liu	1753
Single Opening Tunnel Hood Parameter Sensitive Research Y.X. Wang, B. Gao, Y.M. Wen and L.G. Li	1759
The Current Researches on the Piston Effect in Subway Station L. Fan, S. Pan, C. Chen, J.L. Su and X.R. Wang	1766
Characteristics of the Train Wind and Analysis of Personnel Safety in Intercity Railway	
Station C.H. Shi, Q. Liu and L.M. Peng	1770

Lateral Response of Buried Pipeline through Three-Soil Site to Random Ground Motion D. Wang, Z.B. Wei and J.W. Liang	1779
The Study on Infilled Walls Effect in RC Frame Infilled Wall Structure Q.L. Meng, C.Y. Chu and J. Chen	1783
Experimental Study on Seismic Performance of Fiber Reinforced Concrete Pier F. Lan, Q. Li, Z.Y. Chen and W.G. Ma	1791
Dynamic Compressive Test and Rate-Dependent Constitutive Model of Microconcrete H. Zhang, H.N. Li, M. Li and J.X. Tong	1796
Seismic Active Nonlinear Control of an Isolated Highway Bridge J. Ning	1800
3D Valley Site Effect on the Nonlinear Seismic Response of Earth Dam Y.Q. Li, L.P. Jing, H.A. Liang, Y. Zou and W.F. Sun	1806
Study on Characteristics of Dry Friction Plate-Reset Spring Seismic Isolation System J.Y. Chu, N. Ge, L.L. Chen and S.Y. Zhao	1811
Experimental and FEA Studies of a New Type SMA Viscous Damper W. Wang, Y.C. Tang and W.K. Xu	1815
Container Crane Seismic Isolation Device Design Method Based on Structural Dynamics P. Zheng	1819
Experimental Study for Seismic Performance of Confined Masonry Structure T.J. Qu, Y.P. Wang and X.Y. Wang	1826
A Research of the Seismic Energy Dissipation Effect of BRB under Frequent Earthquake in High Seismic Intensity Areas Z.J. Liao and C.H. Chen	1832
Implementation and Verification of a Masonry Infill Model Considering the Out-Of-Plane Behaviour	
Z.X. Chen and Y. Hu	1836
Seismic Response Analysis of Railway Continuous Curved Rigid Frame Bridges W.J. Suo, B. Zhu, N. Zhao, F. Wang and S.T. Dou	1846
Study on the Analysis Model of the Self-Centering Wall X.B. Hu, W.X. Li, H. Xiang and H.G. He	1850
Simulation of the Seismic Response of Two Different Thick Deposition Layers with Hybrid PSM/FDM Method W.J. Yan and Y.C. Shi	1858
Research on Seismic Response Estimation of Reinforced Concrete Pier under Pulse-Type Near-Fault Ground Motion	1075
Y.L. Shen, X.L. Du and Q.S. Yang Shallow Hidden Cave Seismic Wavefield Numerical Simulation Based on Gaussian Beam	1867
Method G.H. Liu and M. Xiao	1871
Performance-Based Seismic Design Research of a Super High-Rise Building L. Huang	1875
Study on Seismic Performance of Unsymmetrical K-Type Friction Energy Dissipation Brace Y.X. Xu, W. Pan and S.L. Zhu	1879
Chapter 4: Seismic Engineering	
Experimental Research on the Seismic Behavior of Enclosing Masonry Walls Simulated the Structure of an Ancient Masonry Pagoda Strengthened with Steel Straps S.C. Li, M.J. Hu and Y. Qian	1885
The Preliminary Analysis on Tower Crane by Earthquake Effect Y.Q. Gu and C.F. Mao	1892
Experimental Research on Seismic Response of Heat-Insulating Perforated Brick Full-Scale Walls with Openings	
C.Q. Liu, M.H. Li, G.C. Zhou and Z.Y. Mei Analysis for Seismic Responses of Continuous Girder Bridge under Strong Near-Fault	1896
Earthquake Level X.L. Li, H.J. Dou and D. Shen	1901

A Simple Method of Calculating Safety Vibrating Velocity for Single-Layer Masonry Structures in Blasting Construction	
X.Y. Ai, L.H. Xu and J.L. Yu	1907
Economic Evaluation and Analysis of the Isolated Structure H. Gan, Y.Z. Yang and Z.Y. Lv	1914
Analysis on Attenuation-Amplification Effect and Vibration Monitoring of Pier-Beam of Continuous Beam Bridge under Near Blasting F.W. Huang, D.Y. Liu, H. Luo and B. Liu	1919
Synthesis of Strong Ground Motions at Two Rock Stations during the Great Wenchuan Earthquake from a Hybrid Source Model X.X. Tao, H.M. Liu, L.Y. Wang and J. Wei	1923
Under the Action of Earthquake Ancient Timber Building Column Small Feet Slip Phenomenon Analysis W.D. Tan, L. Zhu and T.L. Yan	1930
Synthesis of Strong Ground Motions at Two Dam Sites during the Great Wenchuan Earthquake	1934
H.M. Liu, X.X. Tao, L.Y. Wang and W. Jiang Study of Influences of Soil-Structure Interaction on Seismic Response of Extradosed Cable-	1934
Stayed Bridge G.J. He, H.T. Zhang and J. Lu	1941
Low-Damage Earthquake-Resisting Systems Using Sandwiched Buckling-Restrained Braces and Dual-Core Self-Centering Braces C.C. Chou, Y.C. Chen, P.T. Chung, D.H. Pham and J.H. Liu	1946
ARX Model Identification of Shui-Kou Concrete Gravity Dam Based on Seismic Response	1740
Data W. Qiao, G.M. Liu and J.W. He	1959
Ancient Commercial Buildings Seismic Performance Analysis and Study of Protection Y. Wang, F. Yang, J.L. Zhang, Y.N. Zhang and Y. Gao	1965
Study on Similarity of Hysteretic Loops and Characteristic Parameters of Viscoelastic Dampers with Test Verifications Y. Zhou, S.M. Gong and X.L. Lu	1970
Study on the Seismic Performance of Shear Wall Structure with Unidirectional Wall Frames Based on Pushover Analysis K. Yuan, Y.M. Li and S.B. Zhang	1976
Seismic Response Analysis of Tower Crane in Consideration of the Building-Crane Interaction	1001
B. Ai, J.L. Yang and Z.Z. Pei Experimental Study on the Influence of Slab's Reinforcement on Seismic Bearing Capacity of Beam's Cross-Section in Cast- <i>In Situ</i> Frame Structure	1981
J.S. Guo and X.Y. Xie	1986
Study on Seismic Behavior of the L-Shape Steel Reinforced Concrete Short-Pier Shear Wall with Different Concrete Strength Y.S. Su, E.C. Meng, Z.L. Xiao, Y.D. Pi and Y.B. Yang	1990
Seismic Performance Research of Steel Girder Bridge with Isolation Bearings and	1990
Restrainer Cables P. Zhang, C.P. Pang, M. Yuan and W.W. Wang	2000
Experimental Study on Seismic Failure of High Arch Dam with Scale Model Test on Shaking Table P.F. Gao, X. Feng and J. Zhou	2004
Research of Multi-Movement Parameters Iterative Control of Multi-Degrees-of-Freedom Earthquake Simulation	
P. Tian and Z.W. Chen Optimization Design of Large Span Cable-Stayed Bridge in High Seismic Risk Zone	2008
Z.H. Xiong, Y.C. Feng, S.L. Song and J.B. Wang	2015
Seismic Risk Analysis of an Arch Dam H. Zhong, H.J. Li and Y.L. Bao	2020
The Vibration Control Research of Steel Frame Structure with Shape Memory Alloy (SMA) Cables	
W. Wang, W.K. Xu and D.W. Zhang	2024

Probabilistic Seismic Capacity Models for RC Bridge Columns W.D. Zhuo and W.H. Zeng	2028
Seismic Performance Assessment of Long Span Continuous Rigid Bridge Q.W. Jin, T.N. Wang, Y.L. Sun and Z.T. Hu	2033
Dynamic Buckling of 50000m³ Vertical Storage Tanks under Seismic Excitation S. Ying, J.G. Sun and L.F. Cui	2039
Site 2D Velocity Structure Imaged by Microtremors Method L.J. Shi, X.X. Tao and X. Su	2043
Seismic Performance of Inclined-Column Transfer Structure of Frame-Supported Short- Leg Shearwall with Varied Ratio of Short-Leg Shearwall Section Height to Thickness Y. Qi, F. Wang and X.F. Liu	2047
Seismic Performance Analysis of Fill Slope with Pre-Stressed Anchors Q.W. Jin, Q. Xu, T.N. Wang and F. Geng	2052
Study on the Strengthening Effect of a Typical RC Frame in Wenchuan Earthquake with Attached Substructures	
S.N. Huang, X.Z. Lu and L.P. Ye	2057
Hysteretic Behavior on Connection Node between Partially Encased Concrete Column and Steel Beam	2065
G.T. Zhao, C. Feng and L.Y. Wang Seismic Performance of Steel Beam-Column Joint under Low Cyclic Loading with Multiple	2003
Cycles H. Ma, X.W. Zhang, Z.B. Li, W.J. Wang, F.L. Zhang and J. Fu	2069
Study of Seismic Design Method for Slope Supporting Structure of Soil Nailing	
T.Z. Ma, Y.P. Zhu, C.J. Lai and D.J. Meng	2073
Reviews Research and Development of Reinforced Concrete Column Seismic Performance Evaluation V. D. Vio J. Figure C. Sur	2070
Y.P. Xie, L. Jia and G. Sun Seismic Analysis of an Intake Tunnel of Different Tunnellining Programs for a Nuclear	2079
Power Plant G.Z. Wang, Y.M. Li and Z.P. Lu	2084
Review on Seismic Behavior of RC Columns Y.P. Xie, L. Jia and G. Sun	2092
Research Review of Lateral-Torsional Coupling Considering Soil-Structure Interaction M.L. Wang, X.L. Jiang, Y.H. Wang and X.J. Shen	2097
Seismic Performance Study on Buckling-Restrained Brace E.X. Gao and Y.G. Wang	2101
Damping Effect of Story Isolation Structure Considering Different Positions of Isolation Layer	
G.C. Zheng and H.L. Xu	2105
A Review of the Seismic Performance for FRP Reinforced RC Frame Joints Z.H. Xie, J.H. Zhang and L.S. Liu	2110
Research about Efficiency for Double Slipping-Surfaced FPS Seismic Isolating System Y.X. Yan, X.G. Wang, Q. Liu and N. Ge	2114
The Seismic Behavior of Pseudo Strain-Hardening Cemetitious Composites Coupling Beams with Polyvinyl Alcohol Fiber W.S. Park, N.Y. Eom, S.W. Kim, Y.I. Jang and H.D. Yun	2119
Comparison on Seismic Responses of Different Caisson-Soil Interaction Models of a Single	2117
Tower Structure T.B. Peng, X. Xie and L. Han	2123
The Impact of Infilled Wall on Seismic Performance of Frame Structure X.P. Liu	2127
The Initial Stress Effect on Seismic Performance of Frame Structure F.L. Liu and C.H. Chen	2131
Influence of Different Earthquake Excitations on Dynamic Stability of Single-Story Steel Frame	
Y.C. Liu, W.F. Zhang, J. Ji, J. Du and Y.W. Ren	2134
The Seismic Performance Analysis of Different Forms Beam in High Conversion Structure X.J. Cheng, S.Q. Wang and P.P. Niu	2138

Material Nonlinearity Effects on Dynamic Second-Order Effects of Slender RC Columns under Seismic Load	
F.X. Han, L. Qing and H. Xia	2145
Analysis of Viscous Dampers for Continuous Bridge in Meizoseismal Area H. Zhang, X.D. Zhang and J.T. Wang	2149
The CMP Cross-Correlation Method and its Limitation J.Q. Lu, S.Y. Li and W. Li	2153
Analysis on Seismic Behavior of Gravity Dam Based on ANSYS Y.B. Zhang, F.S. Liu, C. Lin and L. Zhang	2159
Definition of Strain Amplitude for Cyclic Model to Simulate Actual Damping of Soils under Irregular Loadings F.C. Liu, J. Yang and W. Zhang	2163
Offshore Sea Airport Revetment Structure Foundation Liquefaction Analysis J. Zhao, G.J. Yun and G.X. Wang	2171
Calculation and Analysis of a Tall Building Seismic Isolation Design H.M. Cai, Z. Tao and X.L. Cao	2177
Research on Tuned Mass Damper for Vibration Control of Tower under Multi-Dimensional Seismic Excitations Y.W. Dai, C. Liu, W.F. Li and L. Tian	2181
Effects of Epicentral Distance and Seismogenic Fault Distance on Seismic Damage of Dams in Wenchuan Earthquake	2101
H. Liang, L.P. Jing, Z.P. Yang and Y.Q. Li	2187
Effects of Friction Force at Movable Supports on Seismic Performance of a Continuous Beam Bridge C.F. Wang and Y.J. Bao	2191
Research of Earthquake Resistance Performance on the Mega-Sub Controlled Structure Z. Wei and J.J. Ye	2196
State-of-the-Art of Seismic Response of Utility Tunnel L.Z. Jiang	2202
Study on Seismic Performance of Steel Tube Filled with Steel Reinforced High-Strength Concrete Column	
B. Wang, L. Ma and X. Liu	2206
Seven Mega Floor MSCSS Modal Analysis J.J. Wang and L.L. Yi	2210
Shaking Table Test of Multi-Tower Self-Anchored Suspension Bridge C. Zhang and Z.Z. Fang	2216
Study on the Suitability of Seismic Isolation Technologies for Rural Buildings G.H. Zhang	2221
Research on Analysis Method of Seismic Response of Long Span Cable-Stayed Bridge X. Li, S.P. Wu and Z.Z. Fang	2228
Research on Seismic Resistance Performance of Continuous Prestressed Concrete Girder Bridge at Strong Earthquake Zone Z.M. Zhao, C.X. Fan, Z.J. Wang, Z. Li, J.X. Wang and Y.J. Yang	2233
Seismic Behaviors of Prestressed Concrete Continuous-Beam Bridge Affected by Pile-Soil	
Action F.L. Li, C.X. Song and S.M. Liu	2239
Chapter 5: Disaster Prevention and Mitigation	
Safety Evaluation Technology for Waste Dump Landslide of Open-Pit Mine Based on Fuzzy Mathematics Z.H. Xie, T.T. Luan and N. He	2245
Study on Methods of Urgent Refuge Planning Based on GIS Z. Wang, X.H. Wang, Y.J. Liu and J.Y. Chu	2243
Research on the Disaster-Prevention Transformation Strategies for Existing Urban High-	2231
Rise Housing W.D. Kong, J. Zeng and J. Zhong	2256

Bridges in Fire: State-of-the-Art and Research Needs Y.J. Liu, Q. Liu and F.C. Song	2263
Numerical Calculation Methods of Wind Load X.H. Meng and Q.Y. Zhao	2269
Research on Key Technologies of Mining Accident Early Warning, Supervisory Control and Contingency Plan Q. Wang and J.Z. Li	2273
Classification of Hazardous Area and Selection of Explosion - Proof Equipment in Iron Steel Company L.Z. Fu, Y.F. Li and G. Li	2277
Utilizing GIS and Infoworks RS in Modelling the Flooding Events for a Tropical River Basin	2211
F. Othman, N.F. Muhammad Amin, L. Mi Fung and A.E. Mohamed Elamin Study of Disaster Prevention Design Criteria in Typhoon-Rainstorm Prone Regions of	2281
China L. Pang and Z.Q. Li	2286
Theory Study on Similitude Design of Shaking Table Tests of Earthquake-Induced Landslide	2204
C.J. Lai, Y.P. Zhu, C.Q. Wang and T.Z. Ma	2294
Building Seismic Vulnerability Study for China High Rises F. Wu, M. Wang and X.Y. Yang	2301
Assessment of Connection Ductility in Fire Y. Hu, Z.X. Chen, M.K. Xiao, Y.M. Li and Y.J. Liu Fire Resistance of Web-Slotted Cold-Formed Channel Columns with Non-Uniform	2305
Temperature Distributions Q.J. Ma, P.J. Wang and Q. Huang	2313
Influence of Pendulum on Vibration Response of Transmission Tower under Wind Load Y.X. Lin, X. Fu and H.N. Li	2319
Experimental Study on Silt Liquefaction Characteristics of Different Fines Content Q. Luo, C.Y. Wang and X.W. Li	2323
Research of Comprehensive Measures of Cooling in Capital Construction Mine M.G. Zhang	2327
Measurement and Analysis for Gas Emission Characters in Fully Mechanized Caving Face X.J. Li, S.S. Guo, J. He and X.F. Mi	2331
Structural Isolation and Mitigation Technology under Multi-Dimensional Earthquake Excitations	2337
L.H. Lu, Z.D. Xu, S.C. Zhao and Y. Pan The Research of Pavement Preventive Maintenance Y. Song, L.Y. Wei and P. Liu	2337
Emergency Management and Planning Framework of Transportation Evacuation for Urban Flood Calamity	2341
H. Yu and S. An	2345
Research on Risk Management of City Underground Space Based on Emergency Z.G. Zheng and Z. Chen	2349
Trend Study on Economic Loss Induced by Typhoon Disaster in Chinas Southeast Coast B.L. Xu, L.D. Liu and B.F. Ji	2353
Multi-Type Finite Elements Hybrid Model for Simulating Global Behavior of Reinforced Concrete Frames in Fires Y.J. Liu, Y.Y. Liu, R. Bi and J.H. Zhou	2357
The Method to Remove Water Vapor in InSAR - GPS Detect Method P.F. Tu, L. Xia and H.T. Li	2362
Shanxi Highway Earthquake Disaster Risk Division Based on GIS P.L. Li, W.P. Tian, M. Han and R. Peng	2367
Geological Hazard Tendency Analysis of Room and Pillar Mining Method Based on Energy	_501
Index S.C. Xu, Q. Jiang and C.Y. Jin	2373
Prediction of Hard Brittle Geological Disasters in Metal Mine from Microseismic	
Monitoring S.C. Xu, B.R. Chen and C.Y. Jin	2377

System Dynamics Model of Coalmine Safety Management Y.J. Liu, Z.C. Tian and D.M. Huang	2381
A Review of Rockfall Control Measures along Highway Y.C. Chen, J.K. Li and L.G. Ran	2385
Wind-Induced Progressive Collapsed Performance of Cup-Type Transmission Tower-Line System Z.Q. Zhang, Y.X. Lin and H.N. Li	2392
Study on the Seismic Performance of Rural Buildings in Beijing Area C.B. Liu, Y.L. Ou, X.C. Dong, Y.K. Zhang, X.X. Zhang, K. Deng, L.Y. Deng, L. Chen, S. Huang and M.Y. Ren	2392
Comprehensive Mitigation and Control of Rockfall Hazard X.H. Shen, L.X. Zhang, D.G. Chen, Q. Lü and F.J. Wang	2402
The Designing of City Earthquake Refuge for Coastal City W.D. Tan, L. Zhu and T.L. Yan	2408
FDS Simulation and Consequences Forecasting of LPG Storage Tank Pool Fire and Explosion	2412
M. Zhang, W.H. Song, Q.G. Li and Z. Chen Numerical Simulation of Liquefied Propane Gas Storage Tanks Full-Size Pool Fire Based	2412
on FDS Q.G. Li, W.H. Song, M. Zhang and Y. Lei	2419
Fire Risk Assessment and Numerical Simulation of the Pool Fire in the Epoxy Propane Tank	
Q.G. Li, W.H. Song, M. Zhang and Z. Chen Analysis and Application of the Dynamic Stability of Overlying Multilayer Spatial	2424
Structures in Deep Coal Mine H. Shi, Y.H. Ge and J. Li	2433
Study on the Security Survey of Rural Housing K.Z. Zhao and L.L. Liu	2437
Chapter 6: Hydraulic Engineering and Hydrology	
Field Monitoring and Analysis of Hydraulic Soil Slope Frost Heaving Damage X.M. Qu, H. Zhong, X.F. Wang and B. Zhang	2445
X.M. Qu, H. Zhong, X.F. Wang and B. Zhang Effects of Abundant-and-Low-Flow Property of Annual Rainfall on Multi-Source Water Intake System Allocation	
X.M. Qu, H. Zhong, X.F. Wang and B. Zhang Effects of Abundant-and-Low-Flow Property of Annual Rainfall on Multi-Source Water Intake System Allocation H.X. Lu, G.W. Ma, X.D. Wang, F. Ping and F.W. Li Monitoring Model for Dam Seepage Based on Lag Effect	2450
X.M. Qu, H. Zhong, X.F. Wang and B. Zhang Effects of Abundant-and-Low-Flow Property of Annual Rainfall on Multi-Source Water Intake System Allocation H.X. Lu, G.W. Ma, X.D. Wang, F. Ping and F.W. Li	
X.M. Qu, H. Zhong, X.F. Wang and B. Zhang Effects of Abundant-and-Low-Flow Property of Annual Rainfall on Multi-Source Water Intake System Allocation H.X. Lu, G.W. Ma, X.D. Wang, F. Ping and F.W. Li Monitoring Model for Dam Seepage Based on Lag Effect S.W. Wang and T.F. Bao Study on Model Tests of Desilting Tunnel of Longkou Power Station M. Wang and Y.X. Wu The Experimental Research of Stabilize Water Delivery on Varying Water Head and Non Pressure Water Tunnel	2450 2456 2463
X.M. Qu, H. Zhong, X.F. Wang and B. Zhang Effects of Abundant-and-Low-Flow Property of Annual Rainfall on Multi-Source Water Intake System Allocation H.X. Lu, G.W. Ma, X.D. Wang, F. Ping and F.W. Li Monitoring Model for Dam Seepage Based on Lag Effect S.W. Wang and T.F. Bao Study on Model Tests of Desilting Tunnel of Longkou Power Station M. Wang and Y.X. Wu The Experimental Research of Stabilize Water Delivery on Varying Water Head and Non Pressure Water Tunnel B. Yang Comparing Simulation for Turbulent Dispersion and Coalescence of Droplets within a	2450 2456
X.M. Qu, H. Zhong, X.F. Wang and B. Zhang Effects of Abundant-and-Low-Flow Property of Annual Rainfall on Multi-Source Water Intake System Allocation H.X. Lu, G.W. Ma, X.D. Wang, F. Ping and F.W. Li Monitoring Model for Dam Seepage Based on Lag Effect S.W. Wang and T.F. Bao Study on Model Tests of Desilting Tunnel of Longkou Power Station M. Wang and Y.X. Wu The Experimental Research of Stabilize Water Delivery on Varying Water Head and Non Pressure Water Tunnel B. Yang	2450 2456 2463
X.M. Qu, H. Zhong, X.F. Wang and B. Zhang Effects of Abundant-and-Low-Flow Property of Annual Rainfall on Multi-Source Water Intake System Allocation H.X. Lu, G.W. Ma, X.D. Wang, F. Ping and F.W. Li Monitoring Model for Dam Seepage Based on Lag Effect S.W. Wang and T.F. Bao Study on Model Tests of Desilting Tunnel of Longkou Power Station M. Wang and Y.X. Wu The Experimental Research of Stabilize Water Delivery on Varying Water Head and Non Pressure Water Tunnel B. Yang Comparing Simulation for Turbulent Dispersion and Coalescence of Droplets within a Spray with Two Models	2450 2456 2463 2468
Effects of Abundant-and-Low-Flow Property of Annual Rainfall on Multi-Source Water Intake System Allocation H.X. Lu, G.W. Ma, X.D. Wang, F. Ping and F.W. Li Monitoring Model for Dam Seepage Based on Lag Effect S.W. Wang and T.F. Bao Study on Model Tests of Desilting Tunnel of Longkou Power Station M. Wang and Y.X. Wu The Experimental Research of Stabilize Water Delivery on Varying Water Head and Non Pressure Water Tunnel B. Yang Comparing Simulation for Turbulent Dispersion and Coalescence of Droplets within a Spray with Two Models S.Y. Deng Analysis on the Flow Passed a Pervious Cubic-Blunt Body Based on Large Eddy Simulation E.L. Ye, Y.H. Zhou and L. Ren Transport Mechanism of Water and Sediment in Yangtze River Estuary North-South Branch Bifurcation	2450 2456 2463 2468 2473 2477
Effects of Abundant-and-Low-Flow Property of Annual Rainfall on Multi-Source Water Intake System Allocation H.X. Lu, G.W. Ma, X.D. Wang, F. Ping and F.W. Li Monitoring Model for Dam Seepage Based on Lag Effect S.W. Wang and T.F. Bao Study on Model Tests of Desilting Tunnel of Longkou Power Station M. Wang and Y.X. Wu The Experimental Research of Stabilize Water Delivery on Varying Water Head and Non Pressure Water Tunnel B. Yang Comparing Simulation for Turbulent Dispersion and Coalescence of Droplets within a Spray with Two Models S.Y. Deng Analysis on the Flow Passed a Pervious Cubic-Blunt Body Based on Large Eddy Simulation E.L. Ye, Y.H. Zhou and L. Ren Transport Mechanism of Water and Sediment in Yangtze River Estuary North-South Branch Bifurcation Y.P. Yang, Y.T. Li and D. Wang Numerical Simulation for Hydraulic Characteristics of MLIS Hydropower Station	2450 2456 2463 2468 2473
X.M. Qu, H. Zhong, X.F. Wang and B. Zhang Effects of Abundant-and-Low-Flow Property of Annual Rainfall on Multi-Source Water Intake System Allocation H.X. Lu, G.W. Ma, X.D. Wang, F. Ping and F.W. Li Monitoring Model for Dam Seepage Based on Lag Effect S.W. Wang and T.F. Bao Study on Model Tests of Desilting Tunnel of Longkou Power Station M. Wang and Y.X. Wu The Experimental Research of Stabilize Water Delivery on Varying Water Head and Non Pressure Water Tunnel B. Yang Comparing Simulation for Turbulent Dispersion and Coalescence of Droplets within a Spray with Two Models S.Y. Deng Analysis on the Flow Passed a Pervious Cubic-Blunt Body Based on Large Eddy Simulation E.L. Ye, Y.H. Zhou and L. Ren Transport Mechanism of Water and Sediment in Yangtze River Estuary North-South Branch Bifurcation Y.P. Yang, Y.T. Li and D. Wang Numerical Simulation for Hydraulic Characteristics of MLIS Hydropower Station Y. Ding, T.C. Li and M.Z. Zhou	2450 2456 2463 2468 2473 2477
Effects of Abundant-and-Low-Flow Property of Annual Rainfall on Multi-Source Water Intake System Allocation H.X. Lu, G.W. Ma, X.D. Wang, F. Ping and F.W. Li Monitoring Model for Dam Seepage Based on Lag Effect S.W. Wang and T.F. Bao Study on Model Tests of Desilting Tunnel of Longkou Power Station M. Wang and Y.X. Wu The Experimental Research of Stabilize Water Delivery on Varying Water Head and Non Pressure Water Tunnel B. Yang Comparing Simulation for Turbulent Dispersion and Coalescence of Droplets within a Spray with Two Models S.Y. Deng Analysis on the Flow Passed a Pervious Cubic-Blunt Body Based on Large Eddy Simulation E.L. Ye, Y.H. Zhou and L. Ren Transport Mechanism of Water and Sediment in Yangtze River Estuary North-South Branch Bifurcation Y.P. Yang, Y.T. Li and D. Wang Numerical Simulation for Hydraulic Characteristics of MLIS Hydropower Station	2450 2456 2463 2468 2473 2477

The Design and Application of Permeable Groynes Y.T. Cao, P.Q. Liu and E.H. Jiang	2502
The Numerical Simulation Research about the Deformation and Stability of Cut-Off Wall's Foundation Trench Zhikong Hydropower Station, Tibet, China Q.S. Huang, Y.S. Li and S. Ye	2506
Evaluation of a Distributed Hydrological Model for the Guishui River Basin J. Zhang, Z. Zheng and H.L. Gong	2511
Influences of Flow Discharge Processes on Morphological Evolutions in an Experimental Channel: A 3-D Numerical Study	
D.D. Jia, X.J. Shao, X.N. Zhang and C.Y. Chen	2515
Study on the Impounding Process Optimization of Cascade Reservoirs in Upper Changjiang River D. Wang, J.Y. Deng, Y.T. Li and J.J. Fang	2520
Study on the Simulation of Anti-Flood Spiral Pile-Driven Process H.C. Pang, Y.X. Wang, Y.Q. Tang and H.D. Huang	2527
Study on the Capacity Increasing and Dam Heighten of Plain Reservoirs X.G. Song, Z.D. Zhou, H.B. Zhang and H.Y. Yue	2531
Characteristics and its Inner Mechanism of the Non-Uniform Sediment Erosion and	
Deposition H. Ge, L.L. Zhu and X.B. Zhang	2537
The Rationality Analysis of Water-Intaking and Recession about the Integration of Hongfa Coal Mine	
C. Han and Z. Wang Numerical Simulation on Undulatory Flow of Swimming Fish	2541
X. Zhang and X.B. He	2545
Stability Analysis of Green Revetment Media Using Hydraulic Model B.H. Koo and K. Hyojin	2550
Experimental Study on the Aerator's Air Hole Area, Cavity Length and Backwater in the	
Cavity Y. Rong, Y.M. Xu, L. Qiao, G.B. Ma and C.Y. Shen	2555
Prevention and Control of Surface Water Hazard in Coal Mine E.T. Guan	2559
Application of Internet of Thing Technology in Ecological-Environmental Protection of Long-Distance Water Diversion Project	2339
D.F. Wu, L.Q. Dai and H.C. Dai	2563
Hydrodynamic Characteristics in a Valley Type Tributary Bay during the Raising and Falling Temperature Periods	25.67
Z.Z. Yu, L.L. Wang, L. Zhang, Y.X. Yang, L. Yan, J.J. Zhang and Y. Yang	2567
Macro Analysis on Alluvial Process of Typical Long Reach in the Lower Yangtze River W.L. Liu	2572
Onset of Triply Diffusive Convection in a Maxwell Fluid Saturated Porous Layer M.L. Zhao, S.W. Wang and Q.Y. Zhang	2580
Analysis on Sensitivity of Permeability Coefficients of Factors in Non-Uniform Seepage Field	
S.J. Zhu and G.X. Yan	2586
Analysis on Flood Control Unified Regulation of Baiyangdian Wetland and its Upstream Reservoir Group X. Meng and X.B. Wu	2591
Research on Water Migration Characteristics of Hydraulic Soil Slope during Freeze-Thaw Process	
X.F. Wang, H. Zhong and B. Zhang	2595
Contrastive Analysis between Shifosi Reservoir Impoundment Test and Numerical Simulation Results	2600
J. Pan, T. Leng and Y. Liu	2600
The Transient Flow Characteristics Analysis of Pump System X.N. Yang, Y.Y. Li, R.F. Li and X.H. Sun	2604
Model Test Research on Soil-Landslide Surge by River Channel Reservoir L. Chen, P.Y. Wang, T. Yu, F. Zhang and Y.Q. Men	2610

Hydraulic Model Study on a Special CSO Chamber Y.M. Chen	2614
Experimental Study on the Flow Characteristics of Fish-Bone Type Dividing Dike L. Chen, P.Y. Wang, T. Yu, F. Zhang and L. Li	2620
Analysis of the Zero-Pressure-Difference Point and Determination of the Pump Head in Distributed Power System Y.Z. Fu, M.L. Xu and Y. Jiao	2625
Study on Water and Sediment Diversion Variations in Songzikou after the Three Gorges	2023
Reservoir Storage D. Wang, Y.T. Li, J.Y. Deng and Y.P. Yang	2631
The Flow Simulation Based on SWAT Model in Wohushan Reservoir Basin S.S. Yang, Z.H. Xu and K. Kong	2637
Study on Flood Control Pre-Discharge Dispatching Scheme of Reservoir Based on Fuzzy Optimum Selection X. Meng and X.B. Wu	2641
Seismic Response of Dam-Sediment-Water on Fluid-Solid Coupling Y.Z. Yan, C.X. Xiong and Z.M. Su	2645
Study of Numerical Modeling for Reduction Rate of Porosity of Sand under Equal Amplitude Cyclic Loading	
X.T. Meng, W.L. Li, X. Wang and X.Y. Wei	2652
Chapter 7: Coastal Engineering	
The Research Progress upon Study of Sand Wave L. Li and E. Juncheng	2661
Response of Typhoon-Induced Water Level to Different Typhoon Tracks in Haizhou Bay C.Y. Zhang	2666
Design and Comparison of Catenary and Taut Mooring Systems for New Concept FPSO IQFP in Shallow Waters T.Y. Wang, L.J. Yang, Z.G. Xu and J.K. Liu	2670
Improvement of Absorbing Boundary Conditions for Non-Hydrostatic Wave-Flow Model SWASH	
G.L. Zou and Q.H. Zhang	2676
Prediction of Salinity in Qiantang Estuary Based on Wavelet Neural Network Optimized by Particle Swarm Optimization G.H. Li, Z.L. Sun and S.X. Hu	2683
Dynamic Simulation of High-Pile Wharf Slab under Action of Irregular Waves O.Y. Feng, C. Fang, H.L. Huang and N. Zhuang	2688
Research on Elastocoast Revetment Wave Model Test H. Zhong, B. Zhang, Y. Wang and J.L. Sun	2693
Recent Evolution and Future Prediction of the Delta at the Yangtze River Mouth M. Li, Y.P. Yang and Y.T. Li	2699
Experimental Study for Irregular Wave Uplift Force on Upper-Structure of Offshore High- Piled Wharf under Wave-Current Interaction	2705
S.C. Yan, X.T. Chen, G.P. Chen and Y.F. Ye Experimental Device and Study on Interfacial Shear Stress of the Laminar Soil C.Y. Zhang, G.H. Xu and G. Wang	2703
A Study of Turbulent Shear Stress on Fine-Grained Suspended Sediment Flocs Size in the	2/13
Yangtze Estuary J. Cheng, W. Pan and P.J. Du	2720
Three-Dimensional Wave Basin Model Test for General-Purpose Wharf in Jinghai District of Jieyang Harbor S.C. Yan, S.F. Lin and G.P. Chen	2724
Numerical Simulation Study on the Submerged Pipe Depth of Air Bubbles Breakwater	
C.X. Zhang Nonlinear Analysis of Vortex Induced Dynamic Response of Marine Riser	2732
L. Lin and Y.Y. Wang	2736

Time Domain Simulation of Wave Action with Three Cylinders B.L. Geng and X. Zheng	2741
The Three-Dimensional Dynamic Characteristics on the South of Subei Radiation Shoal Waters	
B. Zhang, P.J. Du, H. Zhang, Y.J. Fei, W.J. Xiao and M.X. Gong	2746
Influence Analysis of Phy-Oceanography Processes for Distribution Characteristics of Dissolved Oxygen in Fujian and Zhejiang Waters H. Zhang, Y.Y. Liang, B. Zhang, P.J. Du and Y.J. Fei	2755
Retrieval and Analysis on the Sediment Concentration of the South Branch of the Yangtze Estuary Based on TM J.L. Hao, T. Cao, Z.J. Zhang and L.P. Yin	2763
Air Entraining Agent Effects Research on Concrete Performance	2103
B. Li, S.F. Dong and Y. Wen	2769
Chapter 8: Construction Technology	
The Design on Bearing Platform Dewatering Well Location of the Main Pier in the Songhua River Bridge	
H.J. Wang and Y.X. Li	2777
The Leaking Protection Technology of Structural Deformation Joint after Cracking Y.M. Zhang, H.W. Li and D.H. Jin	2782
Construction Skill of a Special-Shaped Column with Gradient Section in a Certain Project X.F. Cheng	2787
Construction Technology of 7 Meters Long Deep Rock-Socketed Pile P.Z. Lu, B.B. Feng and L. Zhao	2791
Reality Capture in Construction Engineering Applications Using Close-Range Photogrammetry F. Dai and W.B. Peng	2795
A Case Study of Reinforced Self-Supported Retaining Wall (RSW) G.H. Kim, H.W. Joh, Y.D. Lee and Y.S. Shin	2799
Construction Technology for Improving Concrete Surface Quality S.T. Cheng and I.T. Liu	2803
Comprehensive Life-Cycle Assessment of SIP Building Q. Du, H.F. Zhang, N. Liu and X.S. Yin	2808
Structure and Construction Technology of New-Type External Thermal Insulation in Outer Wall	
H.H. Cui Modern and Traditional Smart Improvements of the Traditional Tibetan Architectural	2813
Materials and Security C.P. Hou and H.R. Wu	2817
Study on the Relationship between Ergometer and Tensioning Force of Pre-Stressed Pier Anchor Cable	2017
J. Xing and Z.X. Fan	2822
Model of Deep Foundation Pit Supporting Technology - Hanging Pit Q.M. Gao and K.C. Jin	2827
Discussion about Strength of Pre-Stressed Pipe Pile Welded Joints in Common Construction Activities X.L. Zhou and F. Xiao	2021
Innovation on Commercial Concrete Floor Slab Construction Technology	2831
Y. Li and C.S. Guan	2836
Chapter 8: Construction Technology	
Development of Concrete Construction Technology in Winter T. Zhang, S. Tian and H.Y. Chen	2843
Construction Technology of the New Cast-in-Place Concrete Pile with Half-Screwed X.H. Li, Y.Y. Gao, C.X. Yue and C.W. Wang	2847

Design and Application of Lightweight Steel Residential House H.T. Hou, Y.F. Sun, J. Zhou, Z.L. Lv and J.J. Li	2851
Study on Precision Measurement Technique for Cableway Tube of High Tower Column D.J. Wang and Z.M. Yan	2857
Construction Technology and Quality Control of Dry Hanging Method for Stone Material K. Sun and J.Y. Li	2862
Construction Safety Accident Prevention Research Based on 3E Principle X.R. Zhong	2867
Application of Double-Sided Heat Flow Meter in Testing of Overall Heat Transfer Coefficient of Building Envelope H.R. Dong and S.M. Qi	2872
Research on Crack Prevention Technology for Filler Wall of Concrete Block D.T. Wang	2872
Transformers in Architectures-Applicability Study on the Architecture with Mobile Roof J.W. Li and Y.B. Gao	2881
The Test Study of H-Section Steel Reaction Column Mechanical Performance in the Integral Lifting of Yuzhen Palace	2005
Z.H. Bian, W.M. Qiang, S.Y. Zhao and S.F. Li Study on Planning Strategy of Urban Villages: With Lujiazhuang Urban Village as an Example	2885
J.B. Zĥao and X. Zhao	2891
Preparation and Application of a Self-Thermal and Insulation-Ribbed Floor S.X. Zhou	2896
Analysis of Common Problems with Insulation Technology Sticking Polystyrene Board H.Y. Chen and F.W. Tan	2900
Intelligent Building Problems and Countermeasures X.R. Chen and X. Liu	2904
Study on Physical Characteristics and the Optimal Moisture Content Control Technology of Compacted Silt Subgrade L. Wu, Q.L. Ju, H.D. Wang, J.Q. Wu and C. Li	2908
On the Investigation of Protection Technique for the Old City Wall of Ming Dynasty-Xian 4th Tube Line Construction J.Z. Li and J. Xu	2913
Chapter 9: Water Supply and Drainage Engineering	
Effects of Backwashing on the Characteristics of Sand Filtration Effluents: Organic and Microbial Analyses	
J.L. Lin, C.M. Kao, J.J. Chen, S.W. Liao, C.Y. Chung and W.L. Lai Numerical and Physical Model Study of Tangential Vortex Dropshaft	2921
R.Y. Jia	2926
Study on Rural Water Security Problem and the Construction of New Countryside in Hebei Province X. Meng, X.B. Wu and W.Y. Zhang	2930
The Optimal Choice of Water Saving Irrigation Mode Y. Liu	2934
Application of Ant Colony Algorithm in Optimized Design for Drainage Systems C.H. Peng, Z.H. Pang, Y.Z. Zhu and K.H. Tang	2938
Water Supply and Consumption Structure Change and Water Demand Forecast in Northern Shaanxi Y. Dong and X.J. Wu	2943
Spatial Analysis and 3D Simulation of Underground Pipe Network Based on ArcGIS Z.Z. Wu, J.P. Liu, J. Jin and H. Wang	2943
Measures of Systematic Improving the Urban Drainage Ability B.Y. Liu, J. Yu, B.J. Li, X. Xu and R.W. Guo	2953
Risk Assessment Modeling for Water Distribution Systems in Mega Cities J. Sun and G.P. Yu	2957

Procedural Warning System Study on Irrigation Reservoirs X. Guo, C.S. Yu, S.L. Cao, C.Q. Zheng, S.W. Song, H.B. Zhuang and G.Q. Chen	2961
Detection of an Existing Local Loss in a Water Distribution System D. Xiao and J.W. Liang	2965
Research on the Optimal Construction Scale for Rural Safe Drinking Water Projects in Qingdao Based on GA and GIS Q.G. Li, L. Jin and J.Q. Liu	2969
Optimal Design of Branch Distribution Network in Rural Drinking Water Safety Project W.F. Wang, J.L. Cheng and H.G. Zhu	2973
Development and Application of Water Supply Network Simulation Analysis Platform S. Dong, M. Lv and J.G. Fei	2978
Soil Water Infiltration and its Affecting Factors Z.Y. Zhang, T.T. Sa, X.Q. Tie, H. Lan and W.H. Zhang	2983
Research on the Water Culture of Ziquejie Terrace and how to Protect and Utilize it J. Deng and X.M. Tan	2987
Chapter 10: Heating, Gas Supply, Ventilation, Air Conditioning Works and Daylighting Design	
Numerical Simulation of Cross-Ventilation in Buildings Affected by Surrounding Buildings with Different Separation Distances	
T.T. Shui, J. Liu and F. Ma	2993
Research on the Room Temperature Distribution of Experimental Classroom in Summer G.W. Chen	2997
Analysis of Natural Cross-Ventilation in Buildings Driven by Wind and Buoyancy Forces J. Liu, T.T. Shui and F. Ma	3001
Study on Effect of the External Wall and Windows Heat Load Ratio to the Total Heat Load on the Indoor Heat Comfortability G. Wang	3005
Global and Local Stability Checking Method of Natural Draft Cooling Towers during Construction M. Zhang and H.L. Wang	3009
Thermal Comfort Estimation on Indoor Space Using Computational Fluid Dynamics - A Case Study of Small Office Room Y.T. Chou and S.Y. Hsia	3015
Numerical Analysis on the Influence of Thermal Insulation Way of Closure on Smoke Flow Properties in Building Fire X.W. Peng	3020
Test and Analysis on the Thermal Environment of Island Subway Platform in Frosty Area P.H. Zhang, L.X. Yu and J. Wang	3025
The Minimum Ventilation Intensity Research Using Selected Parameters R. Nagy and D. Košičanová	3029
Analysis on Optical Characters of a Seamless Prism Light Guide W. Li, Y. Bai and B. Dong	3034
Design of Terminal Controller of VAV Air-Conditioning System Based on BAS3000 DDC Y. Yu and Y. Jia	3038
Optimization Research on Ventilation Modes of Anatomy Laboratory C.H. Zhou and Y.M. Zeng	3044
Discussion of Hydraulic Calculation Methods for Hot Water Heating Direct Return System Y.Z. Fu, Y. Xiong and H.H. Liu	3049
Application of Water Pump Proportionality Law to Heating and Air Conditioning Systems Y.Z. Fu, X.B. Zhou and H.D. Zhou	3054
Application of Solar Thermal Utilization in New Rural Construction in Lanzhou Region C.Q. Hou, H. Hou and C.E. Li	3062
The Research on Leak Detection System of City Gas Network J.N. Jiao and J.J. Yu	3067

Optimization Settings Application Analysis of Peak-Shaving Heat Source in Large Scale Flow Loop Heating Network	
H.J. Guo, C.H. Sun, C.Y. Qi, F.Y. Jin and L. Zhang	3072
Influence of Geometry Parameters on Critical Heat Flux in Helically Coiled Tubes: Development of Correlation C.L. Ji, J.T. Han, C.N. Chen, X. Dong and L.J. Kong	3077
Study on the Numerical Simulation of Surface Flow and Heat Transfer in Inclined Wave Fin-and-Tube Heat Exchanger J. Zhai, M. Qin and F.G. Liu	3081
Underground Coal Mine Ventilation Monitoring System Research L. Zhen	3085
An Experimental Study on the Application of Seamless Prism Light Guide W. Li, G.K. Zhao and Y.L. Na	3089
An Office Building Energy-Saving Design of Ground Source Heat Pump System W. Yu, C.Y. Zhu and M.H. Gao	3093
Experimental Study on Thermal Characteristics of the Radiator with On-Off Heating Mode H. Yang, C.L. Chen, G.Q. Xia, C.H. Sun, K.R. Chi, X.H. Li and X.X. Sun	3097
The Experimental Study on Fresnel Lenses Concentrator Solar Cell Cooling by a Novel Micro Flat Plate Heat Pipe	2101
N.N. Guo, Z.H. Quan, Y.H. Zhao, H.M. Liu, W.F. Guo and D. Yu The Impact of Double Skin Facade on Building Energy Consumption in Daylighting	3101
Control Mode H. Yang, X.X. Sun, G.Q. Xia, C.H. Sun and C.L. Chen	3105
The Research on Influence of Different Forms of Window on Indoor Natural Ventilation in Residential Building X.P. Huo, J.Y. Hu and D. Li	3109
Experimental Research on the Parameter Optimization of a Radiant Floor Heating System with Reflective Modules J. Yu and J.F. Feng	3114
Analysis on the Indoor Temperature in Households of Heating Metering with Work Mode C.L. Chen, C.H. Sun, G.Q. Xia, H. Yang and C.Y. Qi	3120
Ecotect-Based Light Environment Simulation for Supporting House Design T.T. Zheng and J.M. Zou	3125
Passive Ventilation Cooling Strategies on Modern Architecture J. Qiu and Y. Qiu	3133
Research and Development of the Terminal Heating Machine under the Mode of Central Heating D. Liu	3137
The Design of New Technology System in the Intelligent Building's Lighting J.X. Cai, Z.J. Zhu, J. Chen and M.R. Fan	3141
Method for Mapping from Thermal Comfort Requirements to Energy Design Factors of Air-Conditioning	
Y. Wang, G.F. Liu, L. Zhang and D. Zhou	3145
Chapter 11: Computational Mechanics	
Elastic Flexural-Torsional Buckling of Beam-Column with Equal-Leg Angle Cross-Section J. Qin, Y.J. Xia, J.M. Zhang and C.H. Hu	3151
Reliability-Based Structural Optimization Using Hybrid High Dimensional Model Representation W.T. Zhao, C.K. Niu and L. Jia	3155
Parallel Cellular Element Method in Soil-Rock Mechanics	
J.N. Yang and X.J. He Improved Moment Distribution Method and its Application	3159
S.Z. Liu Research on Influence Factors and Formulae for the Bearing Capacity of Twin-PBL Shear	3163
Connectors Z.H. Zhang, P. Liu, S.H. He and T.G. Ji	3167

Preliminary Study on Vibration Absorption of Nonlinear Beam Bridge under Long-Time Moving Loads	
X.W. Yang, H.T. Li and X.Y. Guo	3172
A Simulative Method on Gas Seepage in Coal Seam around Borehole G.Q. Cheng and Y. Wang	3176
Solution for a Class of Quasilinear Elliptic Equation with p-Laplacian Z.H. Xiu	3182
Extended Finite Element Analysis of Crack-Void Interaction Problems in Viscoelastic Materials	
H.H. Zhang and D.F. Zhou	3186
Study of Flow Characteristics of Oil and Water in the Process of Stirring Z.R. Hao, J. Xu, H.Y. Bie and Z.H. Zhou	3190
Pseudo-Spectral Domain Decomposition Method for the Dynamic Elastoplastic Torsion Problem P. Ding, L. Lingard W.O. Li	2104
R. Ding, L. Liu and W.Q. Li An Inverse Mode Problem for the Rod on Elastic Foundation	3194
X. Tian and C.X. Li	3198
Estimation Method of Cable Tension Based on Iterative Algorithm and Optimization Algorithm	
Y.H. Huang, D.Q. Luo and R. Rao	3202
Analytical Method for Plate Theory-Based Calculation of Bridge Transverse Load Distribution Coefficient B.Y. Wang, H.B. Liu, P. Zhang, Y.F. Niu and Y.B. Jiao	3207
The Calculation and Judgment of Critical Connections of the Outer-Shell Connections X.L. Cao, Z. Tao and H.M. Cai	3211
A Quasi-Greens Function Method for the Bending Problem of Simply Supported Polygonal	3211
Shallow Spherical Shells on Pasternak Foundation S.Q. Li and H. Yuan	3215
The Study of Explicit Scheme of Hybrid Stress-Function Element with Rotation Degrees of Freedom	
L.N. Ge, G. Tian, M.W. Yuan, M.Y. Song and X.R. Fu	3220
Correct Wavelet-based Multilevel Discrete-Continual Methods for Local Solution of Boundary Problems of Structural Analysis P.A. Akimov and M.L. Mozgaleva	3224
Modeling Unstressed State of Kinematic Indeterminate Systems Z.B. Lin, X.F. Yuan and R.J. Qian	3228
A New Solution to the Height of the Compressive Area of Reinforced Concrete Beams during Service Stage J.J. Zheng, L. Zong and E. Guo	3232
Relationship between Bending Solutions of FGM and Homogenous Circular Cylindrical Shells	
Z.Q. Wan and S.R. Li	3236
The Non-Planar Nonlinear Dynamic Model of the Inclined Cable with Lumped Masses X.J. He, S.Y. Zhang and K. Wei	3243
The Two-Order Quasi-Linear Singular Perturbed Problems with Infinite Initial Conditions H. Xu	3248
Numerical Triaxial Apparatus and Application X.L. Wang and J.C. Li	3251
Thermal Stress Analysis Based on Equivalent Age of Heterogeneous Mass Concrete P.F. Su and X.L. Lu	3256
Multi-Domain Analysis by FEM-BEM Coupling and BEM-DD Part I: Formulation and	
Implementation W. Elleithy	3263
Multi-Domain Analysis by FEM-BEM Coupling and BEM-DD Part II: Convergence W. Elleithy	3269
Analysis on Displacement and Stress of the Solar Collector Brackets under Wind Load Z.H. Fang, W.N. Zhang and Y.Q. Yuan	3276
Wounding Composite Pipeline with Internally Pressurized Conditions Z. Mustaffa, M.B. Taufiq and T.M.B. Albarody	3280

Methods & Prospects of Research on Flexible Multi-Body Dynamics	2204
L.X. Yao, L. Yang and L.J. Shangguan Vibration of Long-Span & High Pier Continuous Rigid-Frame Bridge due to Traffic Load D.H. Yan, S.W. Hong and M. Yuan	3284 3288
Comparison of Analytical Solutions with Finite Element Solutions for Ultimate Bearing Capacity of Strip Footings Z.H. Dai and X. Xu	3294
Dynamic Characteristic Analysis of the 3D Spring Model of Column with Triangular Section	327.
M.Y. Song, G. Tian, M.W. Yuan, L.N. Ge, J.J. Song and X.R. Fu	3304
An Inverse Eigenvalue Problem for Spring-Mass Systems with Partial Mass Connected to the Ground X. Tian and C.X. Li	3308
Numerical Study on the Static Response of Grouting-Sleeve Reinforcement-Connection Component under Axial Tension Load F. Gu, T.G. Wu, W.J. Zhao and X. Dui	3312
Bending and Moment Stability in Reel Mechanisms Z. Mustaffa, M.B. Taufiq and T.M.B. Albarody	3316
Application of the R-Function Theory and Variational Method for Torsion Problem with Complicated Cross-Section S.Q. Li and H. Yuan	3320
A Global Residue Harmonic Balance Method for a Class of Nonlinear Jerk Equation X. Xue, P.J. Ju and D. Sun	3324
Dynamic Stress Analysis of Coupled Vehicle-Suspension Bridge System in Cross Wind Z.W. Chen and Q. Li	3328
The Internal Stress Optimization of Structural Model Based on Super Finite Element Calculating Software Y.Q. Hao and S.Q. Wang	3334
Numerical Study on Airfoil Diversion Technology Used in Saving Energy by Air Injection on Large Ship Y. Qing, W.C. Dong and Y.P. Ou	3341
Numerical Analysis of Viscous-Spring Artificial Boundary Element for Underground Explosion J. Song and S.C. Li	3345
Another Solving Equation of Elastoplastic Problem Based on Stress Strain Relation Y. Li and Y. Peng	3350
Empirical Likelihood Inference for a Partially Linear Model under Longitudinal Data Y.Y. Jiang	3355
An Improved Dynamic Programming Method for Solving the Problem of Nonlinear Programming	2250
Y. Zhou and R.X. Chen Energy Flow Finite Element Analysis of L-Shaped Plate Including Three Types of Waves J.C. Niu and K.P. Li	3359 3365
A Coupled SBFEM-FEM Approach for Evaluating Stress Intensity Factors M.G. Shi, C.M. Song, H. Zhong, Y.J. Xu and C.H. Zhang	3369
The Finite Element Model Updating Based on Multi-Case Displacement Measurement Y.Y. Liu, J. Xiao and Y.X. Zhang	3378
Yield Displacement Calculation Method of High-Strength Concrete Shear Wall H.J. Zhao, X.W. Liang and C. Song	3382
Large Deflection of a Cantilever Nanobeam under a Vertical End Load M. Chen	3387
Refined Member Calculating Model for Dynamic Damage Process Simulation of Single Layer Latticed Shell	
L. Qi, Z.W. Huang, X.Y. Hu, X. Huang, T. Liu, H.L. Cai and X.D. Zhu	3391
Comparison of Different Grid Structures for the Hydrocyclone Flow Field Simulation G.D. Guo, S.S. Deng and W.X. Hua	3399

Chapter 12: Surveying Engineering

Application of 3D Laser Scanner in Surveying of Traditional Architecture: Case Study on Surveying Practice of Hangzhou Haichao Temple L. Shen, H.X. Tai and T.Y. Ni	3405
Analyzing the Precision of Chebyshev Polynomial Fitting GPS Satellite Ephemeris S.F. Xie, P.F. Zhang and L.L. Liu	3410
Program Design of Leveling-Network Conditional Adjustment Based on Transferring	3110
Matrix C.M. Sun, W.G. Zhou and G.Q. Sun	3414
Multi-Wavelet Application Based on Engineering Building Deformation Monitoring Y.H. He and P.W. Jin	3420
The Application of the TM30 Measuring Robot in the Open Pit Slope Monitoring M.L. Xu and L.Y. Li	3424
Accuracy Assessment of Nonlinear Least Squares Adjustment Parameters G.L. Li and F.L. Mei	3428
Application of Hybrid Genetic Algorithm in Control Network Adjustment W. Chen	3434
A Regional Zenith Tropospheric Correction Model Based on the Guangxi CORS Network L.L. Liu, L.K. Huang, T.X. Zhang, M. Zhou and C.L. Yao	3438
The Understanding, Definition, Redress and Application Based on the Figure Symbol "∞" of Probability Theory	
J.T. Zhu, C.Y. Sun and X. Wu	3444
Ambiguity Resolution with Single Epoch for GNSS Reference Network Based on Atmospheric Delay Information	
Q.Y. Guo, H.X. Guo, B.M. Han and Y.S. Zhang	3448
Analytical Solution of Linear Intersection Based on Jacobi Algorithm and its Comparison with Least Squares Solution H.E. Zeng	3452
Simulation of Orbit Determination of HaiYang-2 Satellite on DORIS Q.L. Kong, J.Y. Guo and L.T. Han	3456
Study on Construction Measurement of Chongqi Bridge Pier X.Y. Xie	3460
Data Processing of IGS Station in China and Analysis of Crustal Movement of Eurasian Plate	
Y.S. Chen, Q. He, J.Y. Chen and H.B. Ma A Direct Calculating Method and Experiment of Absolute Orientation for Unmanned	3464
A Direct Calculating Method and Experiment of Absolute Orientation for Orimanned Aerial Vehicle Photograph J. Wang and L.F. Duan	3468
Discussion on the III-Conditioned Problems in Geodesy T.H. Sun and G.Q. Yan	3473
The Application of 3D Laser Scanning Technology in Ancient Architecture Protection J.L. Zhao, R. Wu, L. Wang and Y.Q. Wu	3476
Attitude Measurement Method of GPS Compass F.L. Yang, Y.Y. Chen and Z.M. Liu	3480
Chapter 13: Cartography and Geographic Information System	
Landslide Susceptibility Mapping and Model Performance Assessment C.C. Xiao, Y. Tian, K.P. Si and T. Li	3487
Empirical Study on Farmland Qulity Grading of County Based on GIS X.L. Jiao	3494
Spatio-Temporal Change of Land Use and Land Cover in Chao River Basin Based on GIS Z.J. Li and C.J. Gong	3498
Research on Geographic Information System of Natural Zoning for Highway	3502

3D GIS Model Building Based on SketchUp Y.L. Gao, B.L. Hu and Y.H. Jia	3507
Identifying the Stay Point Using GPS Trajectory of Taxis H. Xiao, W.J. Wang and X. Zhang	3511
Construction of Urban Traffic Information Service System Based on WebGIS F. Cai, N. Ding and X.X. Qu	3516
Research on Image Retrieval Method Based on Shape Feature N. Ding, F. Cai and X. Cai	3520
Application of GIS to Iron Tailing Investigation and Exploitation S.X. Yan, X.L. Wang and Y. Zhang	3524
Chapter 14: CAD/CAE/Computer Technology	
Numerical Simulations of Regular Wave Impact on Horizontal Plate Based on SPH Methods	
K. Zheng, Z.C. Sun, C.P. Chen and F. Zhou	3531
PSO-BP Combined Artificial Neural Network Method Research G.L. Liu and F. Gao	3537
Modal Analysis of Coal Preparation Plant Based on ANSYS Z.F. Nie and X.L. Li	3541
Numerical Simulation of Surface Wind Pressures on Low-Rise Buildings P. Zhao, H. Dong and J. Sui	3545
A New Robust Algorithm for Identifying the Orientation of Polygons Containing Arc Y. He	3549
The Application of ABAQUS in a Spiral Staircase Analysis D.W. Liu, J. Liu, X.X. Li, Z.T. Zhang, L.K. Liu, C.J. Fang and Z.D. Pan	3555
Construction Simulation and Construction Speed Analysis of Natural Draft Cooling Towers M. Zhang and H.L. Wang	3559
Influence of Air Leakage of the Overburden Layer on Pit Temperature from Open Pit to Underground Mining H.J. Liu, Y.B. Zhang and Y.L. Chen	3566
Different Heights of Upstream Buildings on Wind Pressure Distribution of the Downstream Low Building	
C.J. Wang, S.W. Wang and Q.X. Yang	3574
An Assessment of Damage to Large-Scale Basement Slab Caused by Groundwater and Expansive Soil J.H. Peng, P.K. Xie and B.Y. Dong	3579
Curvature Connection of Surface Patches around a Common Vertex	20,7
Q.X. Meng and H.H. Meng	3585
Numerical Analysis of Seismic Behavior of a New-Type Horizontal Wall-to-Wall Connection for Precast Concrete Shear Walls Q. Jin, X. Dui, W.J. Zhao, T.G. Wu and W.N. Guo	3589
Study on Bond-Slip Behavior of the Channel Steel Connectors at the End of Novel Prefabricated Prestressed Concrete Beams	
J.C. Wu, J.W. Zhang and D. Yang	3593
Compared Analysis of Deformation Monitoring with Numerical Simulation on Pile-Anchor Supporting System of Deep Foundation Pit in Soil-Rock Dualistic Area X.D. Yi, P. Huang and Z.C. Wang	3598
The Numerical Analysis of Suction Port Position under the Stress and Velocity Field D.Y. Li, P. Wang and W.L. Man	3606
Flow Characteristics for High Prandtl Number Fluid under Zero Gravity R.Q. Liang, S. Yang, J.H. Ji and J.C. He	3611
Numerical Study of Crack Propagation Path in Three-Point Bending Beam Using Extended	
Finite Element Method C. Fan and X.Q. Jing	3615
Sketch Simulating Based on Non-Photorealistic Rendering Y. Zhao, W.H. Qian, J. Xu and Z.M. Chen	3619

Numerical Analyses of Axial Load Effect on Shear Strength of Concrete and Gypsum Composite Walls	
K. Liû	3623
Numerical Simulation of the Gas-Power Electromechanical Switch J.Y. Cai and H.J. Chen	3630
Design and Implementation of Construction Engineering Teaching System Based Virtual Reality R. Zhang	3634
Analysis on Stability of the Short-Pylon Cable-Stayed Bridge H.Y. Wen, Y. Liu and G. Yang	3640
A Re-Parameterization Transformation of Bézier Curve F.H. Guo	3645
Research on Hydration Heat Temperature Stress of the Pier by Finite Element Method L. Zhao, L.L. Zhang and Z.Y. Yang	3649
Study on the Fracture Mechanism of Suspension Insulator String Subjected to Large Wind and its Vibration Control	2654
X.Y. Zou, C. Xia and W.Y. Long Numerical Simulation and Parameter Analysis of Building Vibration Caused by Ground Line of Rail Transit	3654
J. Zhang, B. Zhang and X.H. Li Geometric Nonlinear Analysis of Low-Pylon Cable-Stayed Bridge Based on Finite Element	3658
Method X. Li, Y. Liu and A.F. Zhang	3664
The Exploration about Support Constraints of Rectangular Statically Indeterminate Beam in the ANSYS Model	2.660
Z.X. Gao, H. Cheng and X.F. Cui	3669
An Integrated Accurate Collision Detection Algorithm and its Applications in Construction Y. Wang, D. Li, P. Liu and J.P. Zhang	3673
Numerical Simulation and Analysis of NTP and Catalytic Reactor J.L. Liu, Y.H. Chu, H.Q. Wang and H.P. Zhang	3683
A Comparison of Numerical Simulation and Scheme for Hull Painting Plant Ventilation Airflow	
S.W. Shang, H.F. Wang and X.Y. Lu	3691
Study on Project Design Process of Aircraft Y.F. Shang	3695
Numerical Simulation of Advanced Small Pipe in Tunnels during Excavation by Steps C.Y. Jin, Z.F. Xia, C.F. Xiang, L.B. Dong, P.P. Zhao and D. Liu	3699
Research on Optimization of Excavating Seguence for Dawangou Tunnel C.Y. Jin, P.P. Zhao, C.F. Xiang, Z.F. Xia, L.B. Dong and D. Liu	3703
Numerical Simulation on Deformation Features and Filling Efficiency of Channel Goaf Foundation	
Z.D. Zhou, H.B. Zhang, X.G. Song and H.Y. Yue	3707
Study on Effect of Resonance on the Motion of Floating Body L.S. Zhu, Y.G. Wang and Y. Liu	3713
Simulation of Wind Environment around a Commercial Complex Building in Shenyang	
China X.M. Zhang, B. Li and X. Zhang	3717