

# Table of Contents

## Preface and Conference Organizaion

## Chapter 1: Geotechnical Engineering

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

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

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

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

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

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

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

## **Chapter 1: Geotechnical Engineering**

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

## **Chapter 2: Geological Engineering**

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

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



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

### **Chapter 3: Tunnel, Subway and Underground Facilities**

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

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

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

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

## **Chapter 4: Seismic Engineering**

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

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

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

## Chapter 4: Seismic Engineering

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

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

## **Chapter 5: Hydraulic Engineering, Water Resources and Hydrology**

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



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

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

## **Chapter 6: Coastal Engineering**

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

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

## **Chapter 7: Construction Technology**

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

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

## **Chapter 8: Water Supply and Drainage Engineering**

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

<b>Research on UV/TiO<sub>2</sub> Photocatalytic Oxidation of Organic Matter in Drinking Water and its Influencing Factors</b> J.H. Zhao	2358
<b>The Development of Prestressed Concrete Cylinder Pipe in China</b> H.Y. Zhang, H. Peng and X. Chen	2363
<b>The Single-Sludge Denitri-Nitrification System in Reconstruction of Wastewater Treatment Plants in the Russian Federation</b> E. Gogina and I. Gulshin	2367
<b>Study on the Treatment of Compound Micro-Polluted Groundwater by Contact Oxidation Process under Different Filtration Rates</b> Y.H. Zhao, J. Cheng, X. Yan and D. Wang	2370
<b>Ultra-High-Rise-Building Water Supply and Drainage System Design</b> Y.N. Si, M. Zhou, Y.H. Liu and L. Deng	2374
<b>Treatment of Raw Water in Yangtze Chenhang Reservoir by Diatomaceous Earth Precoat Filtration</b> W.Q. Zhou, D. Zhang, H. Ye, Z. Wang, Z. Yang and C.L. Zhang	2380
<b>Choosing an Optimal Trenchless Renovation Method for Pressure and Non-Pressure Pipes</b> V. Orlov and I. Averkeev	2384
<b>Design and Development of the Urban Water Supply Pipe Network Information System Based on GIS</b> X.H. Wang, Y.J. Liu, Z. Wang and W. Zhang	2389
<b>Model Precision Assessment of Water Distribution System Based on Uncertainty Analysis</b> S.H. Shu, X.M. Zheng and J.L. Ruan	2394
<b>The Selection of Priority Pipe Sections for Sewer Network Renovation</b> V. Orlov and A. Andrianov	2398
<b>Hydraulics of Looping</b> J. Zolotova	2403
<b>The Water Usage Method and Spatial Structure Type of Spring Village in Northern China</b> Y.W. Kong	2408

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

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

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

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

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

## **Chapter 10: Oil, Gas and Mineral Exploration**

<b>Optimization of Acid Fracturing Design in Yubei Fractured Reservoir</b> L.Y. Song, X.R. He and J.C. Zhang	2495
<b>Optimization of Black Oil Model-CO<sub>2</sub> Flooding in Low Permeability Reservoir</b> L.Y. Song, J.C. Wei, X.M. Xu and T. Gao	2502
<b>Experimental Study of Self-Suction Spraying with Pressure Gas and Water</b> Z.F. Ma, G.R. Lin, Z. Zhang and H.L. Xie	2508
<b>Study on Surface Deformation Law of Western Chengchao Iron Induced by Underground Mining</b> Y.C. Zhou, C.X. Chen, X.M. Liu and K.Z. Xia	2513
<b>Adsorption Research of Polymer on Oil Sands in Qidongyi Block of Xinjiang Conglomerate Reservoir</b> X.B. Nie, Y. Guo, Q.X. Lou, W.D. Liu, L.H. Sun and J.Y. Li	2518
<b>Analysis on Permeability of High Permeability Layer-Penetration Oil Influencing Factors</b> Y. Fang	2524
<b>Industry Clusters Innovation Action Model Based on the CAS Theory – Shanxi Magnesium Industry</b> F.Z. Luo and S.L. Liu	2528
<b>Research on Construction Technology of the High Permeability Type Layer-Penetration Oil Production</b> G. Hu	2533
<b>Research on High Permeability Layer-Penetration Oil Production</b> Q. Guan	2539
<b>The Influences and the Mechanism of Action of Grinding Aid Agent during Micro Fine Particle of Lean Hematite Ore of Grinding Operation</b> B. Liang, J.R. Zhang, M.M. Han and L.B. Zhao	2545
<b>Rapid Excavation Technical Research of Blasting Mining Face in Liangzhuang Mine</b> Z.B. Yan, X. Xu, T.T. Li, S. Wu and S.Y. Ma	2550
<b>Numerical Simulation Study on Setting Stopping Line of Working Face in Shuguang Mine</b> H.J. Xue, J. Chen, B. Liu, J. Kong and Z.J. Hao	2554
<b>The Research of Gas Drainage Technology in Daning Coal Mine</b> Z.M. Zhao and G. Wang	2558

## **Chapter 11: Disaster Prevention and Mitigation**

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

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

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

## **Chapter 12: Cartography and Geographic Information System**

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

## **Chapter 13: Surveying Engineering**

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



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

## **Chapter 14: Applied and Computational Mechanics**

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

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

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

<b>Three-Parameter Damage Evolution for Quasi-Brittle Solids</b> J. Zhang	3119
--	------

## **Chapter 15: CAD/CAE/Computer Technology**

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

