

# Table of Contents

## Preface and Conference Organization

## Chapter 1: Geotechnical and Geological Engineering

<b>Analysis of Earth Berm on the Impact of Cantilever Retaining Structure Based on ABAQUS</b> Z.Y. Wu and Z.Y. Duan	3
<b>Analysis of Effect Factors about the Ground Settlement during Foundation Pit Excavation</b> F.F. Liang, R.W. Liang and X.H. Xiang	7
<b>Application of Back Analysis Method in Selecting Shear Strength Parameters for Hutoumao Landslide</b> Y.J. Li, C. Liu and L.J. Su	11
<b>Application of Marine Geotechnical Investigation and Analysis Techniques in Salvage Project</b> Y.N. An	15
<b>Character Analysis of Balance and Imbalance of Varying Rigidity of Rigid Pile Composite Foundation under Seismic Load</b> Z.F. Wang and K.S. Ma	19
<b>Displacement Time Series Prediction Model of Landslide Based on Phase Space Reconstruction</b> T.Y. Jiang and S.S. Wang	23
<b>Effect of Temperature on Adsorption of Di-n-Butyl Phthalate Ester in Soil Minerals</b> M.L. Gao, X.J. Ma, F. Lian, W.H. Song and K. Zhang	27
<b>Experiment Analysis on the Mechanical Properties of the Horizontally Stratified Mudstone</b> F.R. Ma and P.L. Li	31
<b>Experimental Research on Ultrasonic P-Wave Velocity Variation of Fractured Rock Mass under Different Stress Paths</b> Q. Dong, X.P. Li and H. Zhao	35
<b>Experimental Studying on Rock of HeLanKou Deformation and Failure Characteristics under Triaxial Compression Test</b> Y.Z. Yang, Z.F. Guo and H.L. Ma	40
<b>Mine 3D Geological Interface Modeling by NURBS Technology</b> Z.X. Yang and J.J. Zhou	44
<b>Numerical Analysis of Composite Soil Nailing Wall</b> S.L. Zhang and F.T. Lu	48
<b>Research on Engineering Characteristics of Underwater Neocene Sandstone Located in Lanzhou</b> Z.H. Li and M.J. Zheng	53
<b>Rheological Characteristics of Unsaturated Soil under Confined Compression Condition</b> G.F. Tian, H.W. Ma and Q.X. Wu	59
<b>Simulation of Progressive Failure Process in Rainfall-Induced Landslides</b> Y. Su, S.M. Lan, L. Xu and J.H. Ding	63
<b>Some Misconceptions in Pile Insertion Analysis of Offshore Platforms in Shengli Chengdao Oilfield</b> Y.N. An	67
<b>Study on Safe Thickness of Stope Roof and Ground Subsidence Based on Numerical Simulation</b> S. Hua, Y.A. Li, Y.W. Wang, Q.G. Wang, W. Wang, F. Hu, L.Z. Hu and Y. Lei	71
<b>Study on Shear Strength of Expansive Soil Considered Softening by Triaxial Tests</b> J.H. Wu	76
<b>The Effect of Moisture Content on the Loess Physical Properties</b> L. Ma	81
<b>The Research of the Governance of Instability Retaining Wall</b> G. Qiu and X.S. Ge	85

<b>Working Performance Analysis of Reinforced Gravel Cushion on Soft Subsoil</b> J. He, S.S. Meng, Q.G. Rao, Y.T. Wang and L.H. Tang	89
<b>A Discussion of the Stability of Foundation Pit or Slope with Soft Interlayer or with Back Berm</b> H.Y. Hu, X.W. Zhou and Z.X. Huang	96
<b>Amelioration of Cross-Anisotropy Wu-Bauer Hypoplastic Model Considering Intergranular Strain Tensor</b> B.L. Xiong and C.J. Lu	100
<b>Analysis and Research of the Stability about the Gob of Coal Mine under the Proposed Buildings</b> Z.P. Zhang, F.L. Li, Y. Cheng and W. Wen	105
<b>Application and Study on Tailing Dam Saturation-Line Detection of Based on Ground Penetrating Radar Technology</b> W. Liu, R.C. Xiao and Z.Y. Wang	109
<b>Creativity Thinks on the Significances of Geobiology about the Coal Series</b> S.F. Tian, C.J. Lu and Y. Wang	114
<b>Effect of Flexible Pile on Rigid Flexible Pile Composite Foundation with Geogrid Reinforced Cushion</b> K.F. Liu, Y. Hu, Y.J. Zhu, Z.Y. Zou and J.P. Mao	119
<b>Erosion Effects of Sodium Sulfate Solution on the Unconfined Compression Strength of Cement Soil</b> J.Y. Zhang, S.L. Chen, J.J. Shi, Y.H. Wu, Y.L. Yang and X. Wei	123
<b>Experimental Research on a New Type of Hydraulic Fill Sealed Vacuum Preloading Technology with the Sand Cushion Excluded</b> A.H. Liang, J.S. Li and Z.J. Chen	128
<b>Experimental Study on Rainfall-Induced Three-Dimensional Deformation Characteristics of a Slope</b> B. Feng, J.X. Wang, P.Z. Tian and P.F. Si	133
<b>New Method and Application of Negative Friction Resistance Monitoring for PHC Pipe Pile</b> L. Han, A.J. Yao and J.W. Han	138
<b>Numerical Analysis of Reserving Core Soil with Annular Excavation Method Used in Loess Tunnel</b> Z.J. Sun and Z.M. Su	143
<b>Numerical Simulation and Analysis of Slope Stability under Load</b> X.X. Zhang, B.S. Wang and Z.Q. Lv	147
<b>Numerical Simulation and Design Optimization Research of Slope Ratio and Platforms Influence on a High Rock Cut Slope Engineering Stability</b> L. He, Y. Ren, Z.X. Feng and Z.W. Han	151
<b>Particle Flow Simulation of Direct Shear Test of Rock Discontinuities</b> L. Xu and Q.W. Ren	159
<b>Research of Calculation Method for Final Soft Clay Ground Settlement by Preloading Method</b> D.G. Wang, Z.Q. Xie, X. Liu and J. Cao	164
<b>Research on Moisture Migration Experiment of Seasonally Frozen Zone Saline Soil</b> C.C. Niu, Q. Wang, W.H. Wang, Y.G. Zhang and C. Ye	168
<b>Research on the Safety Distance Affected by Ultrahigh Energy Dynamic Compaction</b> Z.F. Yu, S.W. Yan and S.L. Zhu	172
<b>Researching on the Theory of Horizontal Vibration of the Pile in the Radial Inhomogeneous Viscoelastic Saturated Soil</b> S.Z. Feng, J.S. Wang and H. Cui	180
<b>Stability Analysis of Soil Slope Using Discontinuity Layout Optimization</b> C.Q. Jia, Q.W. Huang and B.R. Xia	190
<b>Stability Analysis of Surrounding Rock Based on QGA-SVM</b> F.D. Xie, W.M. Yang, D.H. Qiu and Y. Li	199
<b>Study on Algorithm of Improved Modified Cambridge Model Calculation Accuracy</b> Y.H. Guo, X.Y. Zhang and X. Zhong	204
<b>Study on the Predominant Outward Joints Influence on the Stability of High Slope</b> C.P. Liu, T.L. Wang, W.Z. Hao and Z.H. Qin	208

<b>Tests on Effects of Loading Rate on Modulus and Strength of Sandstone</b> C.H. Zhang, H.L. Yue and L.G. Wang	214
<b>The Acid Modification Method to Reduce the Loess Liquefaction Potential</b> J. Deng, L.M. Wang, H. Bing and S.H. Xu	219
<b>The Analysis of Long Pile for Piled Raft Foundation Reinforcement</b> Y. Sun and M. Yang	223
<b>The Effect on the Stress Distribution of the Slope for Rock and Soil Characteristics</b> B.L. Zhang and W. Fan	227
<b>The Influence of Cross Section Geometric Shape on the Slope Stability</b> B.L. Zhang and W. Fan	232
<b>The Limit Equilibrium Method in the Application of Earth-Rock Fill Dams Reinforcement</b> Z.W. Li and D.J. Yin	236
<b>The PFC<sup>2D</sup> Simulation of the Slope Stability</b> Z.Q. Lv, B.S. Wang and X.X. Zhang	240
<b>The Review of Research on Deep Foundation Pit Excavation under Unloading Condition</b> J.Y. Wang and L.Y. Peng	244
<b>The Statistical Analysis of Gravel Soil Permeability Coefficient of the Three Gorges Reservoir Area</b> M.D. Li, G.D. Zhang and Z.H. Zhang	249
<b>Threshold Shear Strain for Dynamic Ramberg-Osgood Model in Soils Based on Thermomechanics</b> X.X. Guo and X. Sun	255
<b>Torsional Vibration of a Single Pile in Transversely Isotropic Soil Based on Fractional Derivative Viscoelastic Model</b> J.P. Shen	260
<b>Weathered Characteristics of Silty Mudstone in Hunan Province, China</b> J.H. Wang, C. An and Z. Yi	264
<b>3D Prospecting Information Mining and Quantitative Prediction of Mineral Resources Based on Geological Models</b> P.P. Yu, J.P. Chen, X. Zheng and M. Yu	269
<b>Geological Characteristics of Hydrology and Rich Water Zoning of Aquifer in a Coal Mine</b> S.Q. Wang, X.S. Liang, X. Li, L. Xue and P. Wu	275
<b>Evaluation of Source Rock in Xihu Sag in the East China Sea</b> C.G. Song, S.J. Wang, W.J. Zheng and Q. Cao	279
<b>Analysis on Selection of Tip-Structure of Steel Tubular Pile</b> X. Wang, J.C. Yang and J.H. Liang	283
<b>FEM-Based Secondary Development of Geo-Material Constitutive and its Application</b> X. Zhang, Y. Yang, M. Liang, M.F. Li and Z.P. Yang	288
<b>Correlation Analysis of Liquefaction Characteristic Parameters with Liquefaction Based on Real Testing Data</b> W.M. Wang and X.F. Li	292
<b>Reliability-Based Analysis and Global Optimization Design of Anchor Anti-Slide Pile</b> Z.Y. Xiao, Y.X. Ji, Q.F. Qu and X.G. Li	296
<b>Study on the Determination Method and Influence Factors of m Value Based on Nonlinear Finite Element Analysis</b> Z.G. Li, J.S. Gui and R.F. Zhang	302
<b>Study on the Treatment of Soft Soil Foundation Based on the Technology of Dynamic Compaction Replacement</b> Y.G. Shen	308
<b>Study on Beijing's Hutong and Siheyuan: Renovation and Development</b> Q. Guo and Y.P. Liu	312
<b>Finite Element Analysis of Hollow Cylinder Test Considering Variation of Wall Thickness</b> B.B. Xu, T. Noda and K. Nakai	317

## **Chapter 2: Tunnel, Subway and Underground Facilities**

<b>Approach Emergency Ventilation System of Long Highway Tunnel in Fire Case</b> X.J. Yang	323
---	-----

<b>Determination of Main Influence Angle of Ground Settlement Caused by Xi'an Metro Tunnel Construction</b> X.R. Zheng	327
<b>Laboratory Model Test Study of Tunnel Anchor</b> B. Shen, S.Q. Long, J. Chen and Y.B. Li	333
<b>Research on Construction Environment Control of High Altitude Cold Regions Tunnel</b> Y.W. Zhang, Y.L. Xie and Y.Y. Li	337
<b>Study on Effect of Frame Structures Crossed by Shallow-Buried and Mining Tunnelling</b> G. Wei and H.Q. Yu	341
<b>Study on the Influence of Construction of Shallow-Buried Underground Excavation Tunnel on Adjacent Masonry Buildings</b> G. Wei, T. He and Z. Yang	347
<b>Analysis the Effect of Grouting Pressure on Shallow Soil Thickness which Covered the Shield Tunnel</b> J. Liu, H. Lin and Y.W. Cao	353
<b>Application of Ground Penetrating Radar in Tunnel Concrete Lining Quality Detection</b> M.M. Zhang and X.D. Zhang	358
<b>Forward Horizontal Grouting Technology of Subway Station Ends</b> Y.H. Zhao	364
<b>Numerical Analysis of Optimization Design for Insulation Layer in Cold Regions Tunnel</b> H. Song, C.L. Ye and J.F. Mi	368
<b>Research on Chamber Earth Pressure of EPB Shield Considering Soil Arching Effect</b> J. Cao, H.X. Yang, B. Liang and H.M. Liu	373
<b>Research on Deformation Influence of Shield Undercrossing the Existing Metro Double Shield Tunnel</b> H. Peng, Z.Y. Dong and Y.L. Liu	378
<b>Research on Safety Assessment of Blasting Construction in Highway Tunnel Project</b> J. Tian, P. Guo and Z.Q. Li	383
<b>Site Test and Analysis of Vibration Attenuation Effect of Steel Spring Floating Slab Track</b> H. Zhang, M.M. Huo, L. Meng and X.S. An	388
<b>Study on Vibration Effect in Deep Underground Reservoir Blasting</b> B. Huang, J.G. Wang, H.B. Wang, H.L. Fu, R.B. Zhou and D.C. Feng	393
<b>The Forecasting of Tunnel Water Inflow in Bare Karst Area</b> Y.Z. Wu and J.W. Wan	397
<b>Study on the Improvement of Legal Systems for the Use of Subway Station during Disasters</b> E.Y. Kim, E.K. Hwang and S.H. Lim	402
<b>Research for the Load Method of the Metro Lining Segment</b> L.X. Li and J.L. Liu	406
<b>Differential Settlement due to Ground Fissures in Xi'an</b> X.Y. Wang, S.H. Mao and Y.J. Zhang	410
<b>Analysis of the Ground Surface Settlement of Metro Tunnel by Using Peck Formula</b> X.F. Yang, H. Yuan, J.Y. Wu and H.M. Zhang	414
<b>Analysis of the Effects on Metro Station's Main Structure Generated by Foundation Pit Support Structure</b> H. Wang and F.Z. Liu	421
<b>Seismic Analysis of the Entrance Section of a Nuclear Power Intake Tunnel</b> S.K. Huang and J. Zhao	426
<b>Support Optimization of 14<sup>-1</sup>103 Working Face in Zhengli Mine Based on Numerical Simulation</b> Y.W. Li, Y.Z. Qin and J.P. Liu	433
<b>Modeling Excavation Damaged Zone for Rock Mass Parameter Identification of Underground Engineering</b> H.B. Liu, Z.G. Zhang, C.G. Liu and M. Xiao	437
<b>3-D Geological Modeling of Complicated Underground Engineering by B-Rep and NURBS</b> J.J. Zhou and Z.X. Yang	442

## Chapter 3: Coastal and Marine Engineering

<b>Effectiveness Analysis of Promoting Deposition for Submerged Dike in Wenzhou Shoal</b> W.D. Li and M.G. Li	449
<b>Suspension-Diffusion Mathematical Model Calculation for Wenzhou Shoal in Construction Period</b> W.D. Li and M.G. Li	453
<b>A Novel Numerical Method for Water Wave Problems</b>	457
<b>Analysis of Inhomogeneity of Internal Force in Front Wall of Caisson</b> Z.J. Li, J.S. Hu, L.Q. Li and L.D. He	463
<b>Case Study on Soft Foundation of Coastal Saline Soil</b> J. Sun, H.J. Chen, S.H. Wang and H.M. Li	469
<b>Cross-Section Model Test on Shelter Effect of Pile Jetty on Revetment</b> Y.P. Jiang and F. Gao	475
<b>Discussion on the Method for Determining the Harbor Channel Design Width - Take the Proposed 250,000 ton Waterway of Panjin Harbor for Instance</b> L. Zhang	480
<b>Experiment on Incipient Motion of Different Clay Content Sediment</b> H. Xiao and Y. Li	486
<b>Load Effects Analysis and Safety Evaluation of High-Pile Pier Slideway Structure while Large Platform Dragged Horizontally to Move to Barge</b> H.B. Liu, Q. Zhang and X.P. Liu	491
<b>Load Effects Analysis of High-Pile Pier Skid-Way Quay while Offshore Platform Loaded to Barge Whose Deck Elevation Adjusted by Aided Jacks</b> B.S. Sun and H.B. Liu	495
<b>Monitoring of Inland Tide Embankment of Binzhou Port</b> J.S. Gao	499
<b>Research on Calculation Method of Internal Force Caused by Seasonal Temperature Difference in All-Vertical-Piled Wharf</b> J.J. Wang, L.D. He, Z.M. Zhang and Z.J. Li	503
<b>Sediment Siltation at Boundless Pool of Double Happiness Island Zhangzhou</b> L.F. Fu, D.A. Wu, X.J. She and J.X. Pan	509
<b>Simulation Reserch Status for the Stability of Bucket Foundation Breakwater</b> X.L. Ma, Z.Y. Wang, L.P. Yu and L. Shen	513
<b>Study Influence on Water and Sediment in Sandbank-Lagoon Harbor</b> J. He and X.S. Zhao	518
<b>Study on Water Increment by Storm Tide in the East China Sea</b> K.F. Chen	522
<b>The Method of Fundamental Solutions for Water Wave Problems</b>	526
<b>Study of the Quantitative Assessment of Rational Buoys Layout</b> T. Chai	531
<b>Research on the Stress-Strain Law of Abutment Approach Embankment Filled with Liquid Fly Ash</b> H.L. Li, C.Z. Jin, C.F. Yang and H.N. Gao	536
<b>Sea Cliff Stability in Tibau do Sul, Brazil</b> O.F. dos Santos Jr., O. de Freitas Neto, R.N.F. Severo and A. Scudelari	540

## **Chapter 4: Hydraulic Engineering**

<b>Analysis of Global Safety Degree of Arch Dam Based on Catastrophe Theory</b> L.S. Sun and Y.P. He	547
<b>Approach and Realization of Energy Saving Technology Innovating at the Pump Station</b> Z.H. Wang and C.G. Xuan	552
<b>Duncan-Chang Model Parameters and Normalized Behavior of the Huanggou Pumped Storage Power Station</b> C. Tan, R.H. Huang, Y.P. Li, D.H. Ma, Z.F. Ma and Z.X. Liu	557
<b>Effect of Accelerating on Sediment Incipient Motion over Dunes under Shallow Water Condition</b> D.G. Ma, W.L. Dong and J.F. Xu	561

<b>Fluid-Structure Interaction Analysis of Layered Water Intake Structure Considering Load Changes</b>	
M.Z. Zhou, T.C. Li, Y. Ding and X.C. Zhou	569
<b>Models of Subsidence Sinkhole in Soils around Reservoirs</b>	
F.W. Jiang, M.T. Lei, J.L. Dai, L. Jia, Y.B. Wu and W.Q. Luo	575
<b>Numerical Simulation of Seepage Control Effects at a Gravity Dam Site</b>	
H.K. Zheng, M.M. Liu, W.J. Tang and R.Z. Meng	580
<b>Seismic Analyses of 3D Fengman Concrete Gravity Dam</b>	
Z.B. Wang, F.H. Ma and Z.Y. Zhou	586
<b>The Application of Grouting Technology in the Reinforcement Project of Montenegro Reservoir in Yunnan Province</b>	
L. Zhang, J.R. Yang, Y.Z. Chen, Q. Wang, S.J. Jiang and T.T. Li	590
<b>Finite Element Analysis of Ship Lock Chamber Structure</b>	
C. Sun, Z.C.S. Guan and X.X. Wang	597
<b>Fuzzy Extension Principle of Sluice Safety Assessment Based on Game Theory</b>	
Q. Wang	601
<b>Numerical Study on Hydrodynamic Environment Effect of Channel-Narrowing Project in the Complex Tidal Estuary</b>	
Z.K. Song and X.F. Xu	606
<b>On Dredging Renovation of High-Piled Wharf by FEA</b>	
Z.H. Liu, L.D. He, Y.F. He and Y.Y. Lu	613
<b>Optimization of Seepage Prevention of Ma Erdang Hydropower Station</b>	
L.T. Qiu, Z.Z. Shen and X.H. Tao	619
<b>Optimizing Study on Navigation Condition of the Outlet of Water Diversion Navigation Project from Yangtze River to Hanjiang River</b>	
J.T. Li and W. Peng	625
<b>Research on Problems and Countermeasures for Urbanization of Reservoir Resettlement in Guizhou Province</b>	
H.B. Wang	629
<b>Study Impact on Water and Sediment from Nansha Harbor</b>	
J. He and J. Chen	634
<b>Study on Karst Features and its Influence on the Project of Wudongde Hydropower Station of Jinsha River</b>	
T.L. Wang, S.S. Ye, W.Z. Hao and C.P. Liu	638
<b>Study on the Influence of Tailrace Tunnel Outlet Bottom Slope on Water Level Fluctuation in the Tailrace Surge Tank</b>	
Z.P. Zhang, F.L. Cai, Y.L. Hua and H. Cheng	644
<b>The Calculation on Discharge Capacity of the Porous Pipe</b>	
J. Jin, H.F. Liu and T. Du	650
<b>Three-Dimensional Dynamic Visual Simulation of Slope Instability of Barrier Landslide</b>	
D.W. Tong	658
<b>Upstream Slope Ratio Effects on the Heel Stress of Concrete Gravity Dam</b>	
F.H. Li, F.X. Xu and D.H. Lu	663

## **Chapter 5: Road and Railway Engineering**

<b>Airport Runway Debris Edge Detection Algorithm</b>	
Y.Y. Guo and Z.G. Liu	671
<b>Analysis of the Surface Structure Variability of Capital Airport Road</b>	
Y.Q. An, W.H. Liu and Q. Yang	675
<b>Analysis on the Effect of Expressway Horizontal Curve Radius on the Driver's Visual Features</b>	
T. Xiao, J.S. Sun, X.T. Geng and C.Z. Jin	679
<b>Asphalt Recycling Agent Diffusion Evaluation Method</b>	
J.X. Sun	683
<b>Construction Technology Research Expressway Soft Long Pile Lakes</b>	
M.Y. He	687

<b>Quantifying SBS Content in Modified Asphalt Using Fourier Transform Infrared Spectroscopy</b>	691
Z.C. Ye, D. Chen, C. Ling and F.Y. Guan	
<b>Red Sandstone Aggregate Mixture Experimental Study of Dynamic Compaction High Fill Embankment</b>	696
Z.J. Chen, W. Li and X. Qu	
<b>Reinforcement of Railway Switch with Longitudinal and Cross Beams</b>	702
Y.S. Liu and H. Gao	
<b>Study on Performance about Hybrid Fiber Concrete of Airport Pavement</b>	706
X.J. Liu, C.F. Zhu, Y.G. Wu and Q.T. Liu	
<b>Study on Highway Alignment Conformance Verification in Plain Terrain</b>	710
S. Sha and Y.Y. Hou	
<b>Study on the Temperature Distribution Law of Thermoelastic Coupling Field in Concrete Pavement under Tunnel Fire</b>	716
Z.S. Ren, W. Wang, L. Zhang, X. Lin and P. Peng	
<b>Test and Numerical Simulation Study on Ice-Breaking of a Rubber Crumbs Asphalt Pavement</b>	721
H.W. Zhang, M.F. Chang, C.L. Xie and Z.Z. Liu	
<b>The Application Research on Three-Dimensional GPR Image Used in Grouting Effect Evaluation of Subgrade Void</b>	725
Y.Q. Yang	
<b>Analysis on the Stress of Hexagon Cement Block under Heavy Load and Overload Vehicles Based on Finite Element Method</b>	733
C. Li, Y. Feng and T. Wang	
<b>Analysis on the Technology of Highway Subgrade Disease Prevention and Maintenance in Guangdong Province</b>	737
L. Zhang and Y.M. Wang	
<b>Integrated Application of Micro Steel Pipe Piles and Soil Nailing Frame Beam for Loose Deposit Slopes</b>	744
H.J. Zhang, X.S. Mao and T.Q. Wang	
<b>Investigation on the Combustion Process and Flame Retardant Performance of Asphalt with Metal Hydroxides</b>	749
B. Wu, Z.Y. Huang and K. Zhu	
<b>Length Requirements for New Single-Arc Unsymmetrical Crest Vertical Curve for Highways</b>	755
J.C. Sun and C.F. Chen	
<b>Mixture Design and Performance Evaluation of Cold Asphalt Mixture Using Polymer Modified Emulsion</b>	760
S.F. Xu, Z.C. Zhao, Y. Xu and X.X. Wang	
<b>Numerical Analysis on the Temperature and Stress Field for Subgrade with Berms in Seasonal Frozen Region</b>	766
T.Q. Wang, X.S. Mao and H.J. Zhang	
<b>Performance Evaluation of Warm Recycled SBS Modified Asphalt Mixture</b>	771
R. Tian, S.F. Xu, Z. Suo and G.Y. Yuan	
<b>Plate Load Test Applied to Detect Bearing Capacity of the Miscellaneous Fill Subgrade Reinforced by the Dynamic Compaction</b>	778
M. Zheng, J.M. Yang, Z.L. Li and M.H. Zhou	
<b>Research on Frost Heaving of Subgrade Filling in Seasonal Frozen Soil Area</b>	783
J.F. Hou, R.Q. Zhang and J. Yu	
<b>Setting of Function Layer of Cement Concrete Pavement</b>	788
M. Hu, M.L. Zheng and R. He	
<b>Study on the Calculation Method of Light Shed on Rockfall Impact Protection</b>	792
X. Lou, Y.T. Zhou, J.R. Yang and Z.Q. Chen	
<b>Study on the Influence of Asphalt Performance for Ultraviolet Aging</b>	798
S. Ye, M.R. Ge and B. Guo	
<b>Sustainability Assessment on a Case Study of Using <i>In Situ</i> Cold Recycling Materials in Road Maintenance</b>	802
B.L. Zhu, M.M. Tian and Y.H. Cao	

<b>The Dynamic Response of Large Longitudinal Slope of Asphalt Road Pavement under Heavy Impulsive Load</b> Y.C. Li and Y.Y. Xin	806
<b>The Impact of Fine Aggregate on the Porosity of Asphalt</b> S.Z. Sun	814
<b>The Study Summery of Segregation Characters for Asphalt Mixture Based on Discrete Element Method</b> J.Y. Li	818
<b>The Summary of Warm-Mixed Flame Retardant Asphalt Acting Mechanism and Adhesion</b> T.T. Cai	822
<b>The Summery of Warm Mix Agent</b> S.G. Yao	826
<b>The Mechanical Mechanism of Hulking Force Stable Principle of Surrounding Rocks in Soft Rock Roadway</b> W.P. Xue and L.W. Jing	830
<b>The Principle and Method of the Backplane Anchor in Controlling the Overall Stability of the Surrounding Rock</b> Z.W. Li, L.W. Jing, R.S. Yang and P.W. Hao	835
<b>Pile Response Analysis with Unloading Abutment on Soft Ground and Pile Supported Reinforced Embankment Foundation</b> R. Yao, M.Y. Mao and Y. Que	840
<b>Study on the Magnitude of the Roadway-Protection Pillar in the Isolated Face</b> Y.W. Li, L. Meng and J.P. Liu	844

## **Chapter 6: Bridge Engineering**

<b>Study on Surface Pressure Distribution Test of Stayed-Cable Using Aerodynamic Measure</b> S. Gong, P. Tang and C.K. Wang	851
<b>Analysis for Influence of Structural System on Nonlinear Seismic Response of Cable-Stayed Bridge</b> B.B. Chen, Z.R. Feng and X.J. Wang	856
<b>Bridge Bearing Capacity Test and the Application Research Carbon Fiber Reinforcement Technology</b> X.Q. Xie, Z.F. Chen and S.S. Guo	860
<b>Construction Monitoring Technology for Large-Span PC Continuous Box-Girder Bridge with Corrugated Steel Webs</b> Z.C. Liu, L.J. Hou, C.H. Chang, C.H. Zhou and S. Wan	865
<b>Dynamic Behavior of Cable-Stayed Bridge under Moving Vehicle and Train</b> Y.M. Park, J.H. Kang, S.H. Cho and H.S. Kim	870
<b>Dynamic Properties of Coupled Train-Bridge Interaction System</b> X.T. Si, K.J. Chen and W.H. Guo	875
<b>Prefabrication and Erection Technology of Wide Box Girders in Cross-Sea Bridge</b> Y. Huang and X.F. Wu	882
<b>Preliminary Investigation of Influence of Special Testing on Bridge Structure Durability</b> C.H. Hu, Q. Zhu, X.Z. Ma and F. Yu	889
<b>Reinforcement Design Research Study of a Double Curved Arch Bridge</b> B. Guo	894
<b>Seismic Performance Analysis of Continuous Rigid Frame Bridge with High-Piers and Long-Span</b> L. He, H.P. Hu and C.Q. Guo	902
<b>Sensitivity Analysis on the Influence Factors of Mid-Span Deflection for Continuous Rigid Frame Bridge</b> T.H. Jiang, L. Ai, L. Chen and H. Xu	908
<b>The Key Technology of Short-Line Matching Method in Precast Segment Assembling of Externally Prestressed Concrete Bridges</b> M. Wang, Y.T. Zhang and W. Tian	912



<b>The Overture and Three Dimensions Numerical Simulation of the Pile Foundation of the Mountain Superhigh Bridge</b>	
C.P. Li, G.L. Xu, F. Yu, Y. Zhao and L.F. Zhu	919
<b>A Study on Dynamic Performance of Concrete Filled Steel Tube Arch Bridges</b>	
X.W. Dong and Q.Y. Liu	926
<b>Concrete Filled Steel Tubular Arch Bridge Diseases and Protective Measures</b>	
G.B. Wang, M.T. Fan and Y. Liu	930
<b>Detection and Analysis of Bridge Load Test</b>	
G.B. Wang and Y. Liu	934
<b>Experimental Research on the Prestress and Static Behavior of a Cable-Strut Tensile Structure Model</b>	
L. Fu, L.M. Chen, B. Wu, Z.H. Zhang, X.G. Ye and Y.Y. Zhou	938
<b>Numerical Simulation Analysis of Bearing Performance of Extra-Long and Large-Diameter Single Pile</b>	
Z.M. Zhao, J.Y. Chai and C.X. Fan	943
<b>Replacement Construction Technology Analysis of Half-Through Reinforced Pipe Concrete Bridge Derrick</b>	
G.B. Wang	949
<b>Research on Disease Analysis and Maintaining Technology of Bridges for Middle and Short Span in Nantong</b>	
N. Chen, Z.H. Ma, P. Bai and Q.Y. Liu	956
<b>Seismic Design Research of Simply Supported Rail-Bridge Based on Running Safety</b>	
Y. Han and X.D. Wang	962
<b>Study on Anti-Overturning Design of Ramp Bridge Continuous Beam</b>	
J.M. Zhao	969
<b>Study on the most Reasonable Layers of Reinforcement for Stone Arch Bridge through Section Enlargement Method</b>	
J.X. Chen, M. Li, X. Liu and L.L. Tan	972
<b>Technology of Precasting and Installing for Integral Segment in Composite Girder Cable-Stayed Bridge</b>	
S. Du, X.P. You and C.M. Peng	976
<b>Temperature Field and Thermal Stresses due to Solar Radiation in Concrete Water-Conveying Box Bridge</b>	
S.H. Mao, F.S. Liu and X.Y. Wang	984
<b>The Calculation of the Nan Poping Yellow River Bridge in Lanzhou-Chongqing Railway</b>	
W.S. He, L.Z. Wu, S.M. Zhao and K. Chang	989
<b>The Verification of Geometry Control Method for Cable-Stayed Bridge</b>	
C. Huang, Y.Z. Bu and Q.H. Zhang	992
<b>Thermal-Structure Coupling Damage Analysis for the Main Tower of Long-Span Suspension Bridge</b>	
B. Wang, Q. Huang, P.M. Huang and K.H. Mei	997

## **Chapter 7: Structural Engineering, Strength and Dynamics**

<b>Structural Performance under Seismic over Predesigned Intensity</b>	
X.M. Chen, J. Duan, H. Qi and Y.G. Li	1005
<b>A Market Scene Detection and Reinforcement of Large Roof Rack</b>	
Y. Yang, X. Zhang, M. Liang, M.F. Li and Z.P. Yang	1012
<b>A New Method for Modal Parameter Identification Based on Natural Excitation Technique and ARMA Model in Ambient Excitation</b>	
C. He, J.C. Xing and X. Zhang	1016
<b>A Removable Stiffness Increasing Device of the Concrete Precast Slab and its Performance Analysis</b>	
T.F. Liu, C.G. Ding and F. Leng	1020
<b>A Simplified Transfer Matrix Method for Horizontal Seismic Response of Wall-Frame Structures Considering SSI</b>	
S.Y. Zhang and M.T. Li	1026

<b>Analysis for Pure Bending Performance of Circular Steel Tubular Columns Filled with Steel-Reinforced High-Strength Concrete</b> P. Guan and L.X. Chen	1031
<b>Test Study on Seismic Performance of Cantilevered Vertical Irregular Model Frame Structure</b> S.T. Chen, J. Xu and H.H. Xie	1035
<b>Chinese Norms and European Norms about the Beams without Stirrups Contrast Shear Capacity</b> Y.Y. Li and D.H. Zhou	1042
<b>Class B Greenhouse Model with Double Layer for Nordic European Countries</b> J. Rovira Soler, P. Martin Concepcion, A. Almerich-Chuliá and J. Molines Cano	1046
<b>Comparison of Results of Analyses the Foundation Slab Calculated by Two FEM Programs</b> R. Čajka and J. Vaskova	1052
<b>Concrete Breakout Capacity of Cast-in-Place Anchor under Shear Loading</b> D.H. Kim, Y.M. Park, H.J. Joo and M.K. Kang	1057
<b>Dynamic Response Analysis for the Frame Structure under Explosion Load</b> Y. Sun and S. Shen	1061
<b>Finite Cylindrical Cavity Expansion Model for Penetration of Steel-Tube-Confined Concrete Targets</b> Y.Y.Y. Cao, Z.G. Jiang and Q.H. Tan	1065
<b>FSI Numerical Simulation for Wind-Induced Dynamic Response of Tension Membrane Structures</b> X. Lou, Z.H. Liu and S.Y. Song	1069
<b>Influence of Wall Thickness and Concrete Grade of Shear Wall Amount</b> L. Wang, J.F. Shi and T.Q. Yu	1074
<b>Lateral Equivalent Flexural Rigidity for a Top-Hat Stiffened Composite Plate under Pure Bending</b> L.B. Zhu and X.M. Zhang	1079
<b>Nonlinear Dynamic Response of Piezoelectric Beam Reinforced with BNNTs under Electro-Thermo-Mechanical Loadings</b> J.H. Yang and W.L. Fan	1083
<b>Reliability Assessment and Reliability-Based Design Optimization of Large Scale Box-Girder Structural System</b> C.L. Yu and J.S. Lee	1087
<b>Research on Concrete-Filled Rectangular Steel Tube Stiffeners and Axial Compression Bearing Capacity</b> G. Cheng, Y.J. Liu and L. Jiang	1092
<b>Residual Bearing Capacity Numerical Simulation and Theoretical Analysis of H-Shaped Steel Column Impacted under Different Axis Pressure</b> Y. Bai, R. Wang and J.L. Cui	1097
<b>Rigid Joints Transferring Forces outside Box Columns with Deviation of Column's Location Axis-Finite Element Method Simulation</b> Z.G. Xu, G.X. Liang, W.M. Chen and C.G. Deng	1101
<b>Seismic Performances of Buckling-Restrained Braced Steel Frames in China, Japan and US</b> M.L. Huang, Z.Y. Fu and E.H. Bao	1106
<b>Seismic Response Analysis of Tower-Foundation-Soil Dynamic Interaction in Transmission Line Engineering</b> Y. Zhang, Z.B. Zhu, Z.X. Feng and X.Y. Xu	1112
<b>Seismic Testing of In-Plane Flexural Damper in Arched-Shape</b> C.S.C. Chien, W.Y. Wang, G.H. Huang and Y.P. Wang	1117
<b>Structural Finite Element Analysis of Tower Top of Landing-Type Lifting Pole with Double-Level Arms</b> J. Qin, J. Su, Y.J. Xia, H.S. Zhang, J.M. Zhang and Y.J. Hao	1121
<b>Study on Section Temperature Field of Concrete-Filled Double Steel Tubular Columns under Fire</b> S.P. Cong, T. Li and J.S. Han	1125
<b>Study on the Influence of Shear Connectors on the Shear-Bond Behavior of Profiled Steel Sheeting-Concrete Composite Slabs</b> W. Xu, R.Y. Xiao, X.B. Chang, J.Z. Wang and G.C. Li	1129

<b>The Analysis of the Stability of Elastic Bending Simply Supported Beam Steel Artifacts under High Temperature</b> Y.L. Han, D.A. Cui, D.W. Jiao, Z.H. Cai and Y. Li	1134
<b>The Mechanical Properties Numerical Analysis of Steel Plate of Coupling Beam</b> B.L. Li, D. Chen, C. Fan and L. Song	1139
<b>The Similarity Law of Internal-Blast Wave Propagation in the Concrete</b> X. Qiu, J. Ding, Z.J. Wang and P.F. Weng	1143
<b>FE Modeling of EB-FRP Strengthened RC Beams</b> K. Liu	1147
<b>Application of Flat-Panel Grid Structure with Improved Double-Tube Buckling Restrained Members</b> Z.Z. Yin, W. Chen, Z.R. Hu and S.L. Chen	1151
<b>Dominant Modals of Wind-Induced Vibration Response for Spherical Kiewitt Cable Dome</b> D.M. Wei, D. Li and Y.Q. Liu	1156
<b>Dynamic Monitoring of Concrete Structure Using Piezoelectric Sensor</b> L. Qin, E.R. Wang, K.G. Tian, X.D. Wang, Y.H. Shi, Q. Qin and Z.X. Hua	1160
<b>Evaluation of Minimum Stirrups Ratio in Reinforced Concrete Flexural Members</b> S.M. Duan, D.H. Zhou and C.X. Han	1164
<b>Experimental Investigation on the Bearing Capacity of Cold-Formed Thin-Walled Steel-OSB Composite Floor</b> B.Z. Cao, H.X. Xu, Omary and X.F. Teng	1169
<b>Experimental Research on Factors Affecting Factors of Concrete Strength in Corrosion and Expanding Areas at Initial Stages of Reinforcement</b> X.D. Zhang, Z. Zhou and G.Z. Li	1174
<b>Experimental Research on the Behavior of Concrete Columns with Chemical Bonded Reinforcement under Eccentric Compression</b> J.R. Zhang, G. Chen, Y.M. Geng and H. Chen	1181
<b>Experimental Study on Flexural Performance of Prefabricated RC Slabs with Different Rebar Forms at Seam</b> H.Y. Zheng, H.Y. Jiang, Y.Q. Wu, Z.Q. Zhao, Y.C. Zeng and X.H. Cheng	1187
<b>Finite Element Analysis of Stability Bearing Capacity in Moment Plane of Castellated Steel Components</b> Z.Y. Liang and L. Geng	1191
<b>Influence of Semi-Rigid Joints on Bearing Capacity of Hold-Welding Beams</b> G. Tang, Y.Q. Zhao, L.F. Yin and C.H. Pan	1195
<b>Overhead Floor Research of Steel Structure Building</b> C.G. Wang, D.C. Wang, G.C. Li and J.G. Wu	1199
<b>Parameter Analysis on Bearing Capacity of Concrete-Filled Square Steel Tubular Column to Steel-Encased Concrete Composite Beam Joint with through Diaphragm</b> Y. Lin, X.J. Zhou, Y.C. Liu and W.Q. Kong	1203
<b>Refined Beam Element for Second Order Analysis of Latticed Shells</b> L. Qi and H.F. Huo	1208
<b>Research of Stability of Cylindrical Steel Silos with Lap Joints</b> Z.H. Liu, T. Wang, X.B. Wang and H.Z. Shan	1212
<b>Research on Safety Evaluation System of Reinforced Concrete Structures Based on the Blasting Damage</b> G.Q. Zhu, J.L. Tao and X.L. Liu	1217
<b>Research on the Deflection of Membrane Structure under the Snow Load</b> H. Zeng, Y. Pu and J. Long	1222
<b>Research on the Nonlinearity Finite Element in the Super-Long Reinforced Concrete Frame Structure</b> Y.S. Zhang and Y.Y. Li	1226
<b>Research Precast Fool Slab of Massonry Building Roof Reinforcement Methods</b> L.X. Li, Z.Q. Zhao, S.W. Zhang and Z. Shi	1230
<b>Shear Strength of Reinforced Concrete Frame Column by Neural Network Model</b> X. Liu, H. Wei, T. Wu, B.Q. Liu and Y. Zhang	1234
<b>Stability Analysis of the Radiant Cable Suspendome</b> Z.H. Liu, H.Z. Shan, X.Y. Liu and T. Wang	1240

<b>Stairs Effect on Steel Frame Structure under Seismic Loading</b> Z.J. Zeng, J.P. Wang and Y.X. Li	1245
<b>Study on the Influence of Infilled Wall on the Seismic Performance of Bottom Frame Structure</b> H.Y. Deng and B.T. Sun	1249
<b>Study on the Seismic Performance of the Braced Controlled Rocking Reinforced Concrete Frame Structure System</b> P. Li and J.X. Liu	1254
<b>The ABAQUS Standard Layer Assembly Modeling Approach of Building Structure</b> D.Y. Wu, S.T. Liang and Z.X. Guo	1260
<b>The Analysis of Comparison of the 1000KV UHV Electrical Equipment and Circuit</b> P. Gao, Z.C. Lu, Z.B. Zhu and S. Lin	1267
<b>The Experimental of Shearing Mechanical Properties on the Connectors of Sandwich Insulation Wallboard</b> X.H. Meng and Z. Sun	1273
<b>The Finite Element Analysis of a New Type Reinforcement Form of Light Steel Ceiling</b> Z.N. Zhang, Z.D. Tan and G.C. Li	1277
<b>The Finite Element Analysis of Mechanical Behavior of New Connection</b> C.G. Wang, X. Wang, G.C. Li and J.G. Wu	1281
<b>The Finite Element Analysis of Temperature Effects on Large Flat-Bottom Squat Steel Silos</b> H.Y. Si, Z.H. Liu, H.W. Guo and T. Wang	1285
<b>The Response of Somatotype Characteristics of Circular Underground Diaphragm Wall Structure</b> Y.D. Liu, W. Hu and D.X. Huang	1290
<b>The Structure and Properties Research for Sealing Capsule</b> Y.H. Luo, Z.L. Feng, J. Liu and H.F. Guo	1296
<b>Top and Bottom Ring Beam Strengthening Research on Gravity Abutment of Plain Concrete</b> F. Guo, H.F. Zhu and F.C. Huang	1300
<b>Research on Bearing Capacity of Explosive Expansion Steel Piles</b> S.F. Shan, Y. Du and S.L. Huang	1305
<b>Research of Masonry Shear Strength under Shear-Compression Action</b> Y. Cai, J.L. Shi, W.C. Yang, X.Y. Lv and D.J. Li	1309
<b>Deflection Change Analysis of Bending Steel Beam under High Temperature and Uniform Loads</b> Y.L. Han, X.L. Zhang, D.W. Jiao, Z.H. Cai and Y. Li	1319
<b>Properties of Recycled Aggregate Concrete Filled Steel Tubes</b> Y.J. Huang and H.S. Sun	1323
<b>Round Timber Joints under Tensile Loading Perpendicular to the Grain</b> K. Klajmonová and A. Lokaj	1327
<b>Analysis Theory of the Bearing Capacity and Deformation Process of Load-Bearing Column Subjected to Fire</b> J.S. Han, K.W. Chu, G.C. Lv and S. Li	1331
<b>Comparison and Analysis of the Calculation Formulas for the Bearing Capacity of Concrete Filled Steel Tubular Columns</b> J.S. Han, X.W. Wang, L.Y. Wang and M. Ji	1337
<b>Dynamic Behavior of Concrete Filled Double Steel Tube under Impact with Simply Supported</b> G. Lei and R. Wang	1341
<b>Flexural Behaviour of Stainless Steel-Concrete-Carbon Steel Circular Concrete-Filled Double Skin Steel Tubes</b> M. Cao and R. Wang	1345
<b>Research of the Stainless Steel-Concrete-Carbon Steel Circular Concrete-Filled Double Skin Steel Tubes under Axial Compression</b> Z.K. Duan and R. Wang	1349
<b>The Numerical Simulation for Steel Plate Reinforced Concrete Coupling Beams Based on Abaqus</b> D. Chen, C. Fan and L. Song	1354

<b>Practical Calculation Method for the Bearing Capacity at High Temperature of Concrete Filled Steel Tubular Columns Subjected to Fire</b> J.S. Han, H.R. Liu and S.P. Cong	1358
<b>Research on the Synchronous Lifting Process Control of Large-Span Pre-Stressed Double-Layer Suspended Cable Roof</b> C.Q. Yao, H.B. Ma, R. Bai and S.X. Jiang	1363
<b>The Mechanical Properties of Barite Concrete Subjected to Impact Loading</b> Z.F. Chen and T. Li	1369
<b>Application of Neural Network in Analyzing Torque Coefficient of Hot-Dip Galvanized Fasteners</b> H.Y. Yu, R. Li, M. Qian, G.Y. Li, M.B. Yu, Z.H. Zhu and Z.X. Li	1374
<b>The Marine Environment Impacts on the Supporting Structure of the Offshore Wind Turbines and Discussions on the Protective Measures</b> Y.X. Wu, H.Y. Li, H.M. Chi, L.Y. Liu, A.M. Cai and H.C. Ning	1381
<b>A Structural Damage Warning Process Based on Frequency Abnormal Development</b> Y.S. Song, C.Z. Ma and Z.G. Sun	1390

## **Chapter 8: Seismic Engineering**

<b>A Simple Design Procedure of Seismic Reinforcement Structure with Mild Steel Dampers</b> Z. Huang, Z.W. Qin and P. Wu	1397
<b>Analysis for Collapse Process of Multi-Layer RC Frame Structures under Earthquakes</b> J.M. Gao, C.Q. Zhou, B.L. Liu and B.Q. Liu	1402
<b>Earthquake Damage Forms of Multi-Story Brick Masonry Structure and their Mechanical Analysis</b> H.B. Liu	1408
<b>General Laws of Dynamic Responses of the High Slope Construction under Earthquake</b> Y. Li and R.H. Jin	1412
<b>Seismic Experimental Study on Masonry Structure Strengthened by Ring-Beam and Constructional Column</b> T.J. Qu and R.H. Xu	1418
<b>Seismic Parameter Research of Marine Soil</b> D. Li, X.Y. Wang, X.F. Lv and X.L. Chen	1423
<b>Structure Seismic Analysis on Intake Tower of Spillway Tunnel</b> Y.Z. Yan, C.X. Xiong, X.C. Wen and W.H. Li	1427
<b>Study on Characteristics of Seismic Ambient Shear Stress in Gansu Province</b> X.F. Tian, X. Zhang and J. Pu	1433
<b>Study on Ground Motion Intensities and Modification for Seismic Analysis of Reinforced Concrete Frames</b> D. An and T.J. Qu	1438
<b>The Seismic Finite Element Analysis of Tianjin Western-Style Dwellings</b> X.Q. Yao, B.T. Sun, Q. Zhou, Y.K. Chen and X.L. Yang	1443
<b>Analysis on Seismic Performance of Rectangular Thin-Walled Hollow Pier</b> X. Xiao, S.B. Liu, Q. Xu and L. Meng	1451
<b>Frequency Domain Analysis of Multi-Degree of Freedom in Series Model SSI Effect with Translation and Rotation Input</b> L. Fang and Q.F. Wang	1457
<b>Investigation and Preliminary Analysis of Rural and Town Building Damages of Yunnan Ludian Ms6.5 Earthquake</b> Y.K. Lu, H.F. Chen, H.Y. Zhang, X.C. Lin and H. Chen	1464
<b>Kappa(<math>\kappa</math>) from Records of Small Earthquakes in North China</b> Z.R. Tao, X.X. Tao and W.Q. Li	1469
<b>Progress in Seismic Research on Electrical Equipments in Substations</b> Z.C. Lu, S. Li, Z.B. Zhu and M. Zhong	1474
<b>Shaking Table Test on 145 kV HV Reactor Composite Bushing</b> Y.H. Sun, W.Y. Liu, Z.G. Su and Z.L. Liu	1480

<b>Some Remarks on Single-Channel and Multi-Channel Seismic in Offshore Engineering Geological Exploration</b>	
Q.S. Meng, H.L. Li and T. Liu	1485
<b>Study of Shaking Table Test on Seismic Performance of 750 kV Post Insulator</b>	
S. Lin, Z.C. Lu, Z.B. Zhu, P. Gao and S. Li	1491
<b>Study on Seismic Fortification Level of Electrical Equipment</b>	
M. Zhong, Y.H. Sun, Q. Zhang and Z.L. Liu	1497
<b>Study on Seismic Response of the Structure Based on New-Style Isolation Bearings</b>	
F.M. Xu, S.H. Chen and P. Li	1503
<b>Study on Slope Stability Evaluation Methods under Seismic Load</b>	
N. Men and Y.W. Sun	1508
<b>Study on the Performance-Based Aseismic Design for RC Frame with Mild Steel Shear Damper</b>	
Z. Huang, R.Q. Li and L.Z. Yang	1513
<b>The Simplified Model and the Critical Angle of the Curved Bridges with Multi-Dimensional Earthquake Excitation</b>	
X.M. Li and Y.F. Du	1518
<b>Research on the Seismic Performance of Brick-Concrete Structural Buildings in Indonesian Rural Areas</b>	
M.L. Huang, Z.Y. Fu and E.H. Bao	1525
<b>Determination of the Spatial Distribution Function of Bohai Seismic Tectonic Area</b>	
Z.J. Xie and Y.J. Lu	1530
<b>Novel Linear Implicit Integration Method and its Application to Linear/Nonlinear Structural System</b>	
C.G. Jia, Y.X. Liu, Y.M. Li and M.M. Liao	1535
<b>Studies on Liquefaction Failure Forms and its Damage to Engineering</b>	
X.L. Chen, X.Y. Wang and D. Li	1540
<b>The Research of Forward Modeling about Seismic Attributes in Rich Oil Reservoir Segment of Enping Sag</b>	
Q.Q. Ma and Y.C. Wang	1547

## **Chapter 9: Construction Technology**

<b>Application of Waste Dumping Technology in Foundation Construction at Home and Abroad</b>	
J.M. Zhang, Y.J. Xia and W.M. Mei	1553
<b>Comprehensive Evaluation on Testing Quality of Cement Mixing Pile of Weak Subgrade by Core Drilling Method</b>	
Y.B. Hou, Y. Liu and Y.J. Li	1559
<b>Construction Technology of Long Spiral Bored Piles</b>	
Y.H. Zhao	1564
<b>Process of Tower Erection in Sections with Internal-Suspended and External-Guyed Holding Pole of Pivot Strut of Iron Tower's Main Members</b>	
D. Ni, H.W. Yang, X.Y. Chen and Y.J. Xia	1568
<b>The Construction Technology of the High-Rise Shear Wall Angles of the Concave and the Convex</b>	
X.F. Cheng and M.S. Li	1573
<b>Research on Application of New Concrete Silo Construction Technical System</b>	
G.L. Tian	1577
<b>Tests and Researches on Post Grouting Cast-in-Place Piles of Power Transmission and Transformation Project</b>	
P. Chen and Q. Cui	1586

## **Chapter 10: Building Technology Science**

<b>Relationship between Modern Architecture and Interior Space</b>	
P. Wang	1593

<b>Study on the Development of Green Building Industry in Anhui New Urbanization</b> Q. Wang and L. Chen	1597
<b>The Research Progress of BIM Technology from International View and the Development Experience</b> Y.H. Zhang and Q. Yan	1602
<b>Intelligent Building</b> A. Volkov, V.O. Chulkov and D. Korotkov	1606
<b>The Modern Green Technology Innovation of Bayu Traditional Wooden Building</b> L.L. Dong, Y.H. Lu and G. Chen	1610
<b>A Comparative Study on the Horizontal-Evacuation-Related Criteria in Buildings</b> S.J. Woo and E.K. Hwang	1618
<b>Keys and Tactics of Existing Barracks Spatial Layout Optimization</b> L. Yan and W.R. Zhou	1622
<b>Evaluation Model to Exterior Wall Assemblies</b> X.L. Hu, S.C. Li, H.L. Yan and G. Meng	1626
<b>Research on Improving Room Sound Field of Exhibition Building</b> Q. Li and D.S. Liu	1634
<b>Strain Transfer Analysis of FBG Sensors Bonded on the Surface of Structure</b> H.W. Song, L.K. Qin, X.Y. Zuo and Y. Li	1638
<b>Exploration of Modular Building Materials Based on the Idea of Sustainable Development</b> P. Xun, S. Huang and N.B. Liu	1643

## **Chapter 11: Building Environment and Equipment Engineering**

<b>A Management System about Prevention and Maintenance for Construction Equipment</b> N.J. Du	1651
<b>Comparative Analysis on Built Environment between Ground and Underground Shopping Malls in Chongqing in P.R. China</b> W.J. Li, X.X. Liao, Z. Meng and G.Y. Miao	1656
<b>Study of Architecture and Environment Design Based on the Fold Theory of Deleuze</b> P. Xun, S. Huang and N.B. Liu	1661
<b>Study on Tree Planting Technology on Large-Scale Roof Gardens – Case Study of Nanhaifanyin Square</b> X.S. Fang, W. Deng and M.X. Liu	1665
<b>Survey Analysis on Construction Pattern of Low Carbon Building in New Countryside of Nanbu County</b> Z.H. Guo, Y. Wei, M.X. Gao, X. Yao and J. Deng	1673
<b>Application of BIM-Based Collision Detection in Pipeline Layout</b> L. Zhang	1678
<b>A New Routing Algorithm Based on Adjacent Matrix in Pipeline Laying</b> W. Liu, F.Q. Sun, H.L. Yuan and J.B. Cao	1683
<b>Research on Water Pump Isolation Parameters Based on Power Flow</b> X.J. Kong and C.Z. Chen	1687
<b>Bursts Detection in Water Distribution Networks Based on Real-Time State Simulation</b> H. Zhang, T.L. Huang, M.H. Cao and J.L. Xu	1692
<b>Development of the Management Information System on Pipe Bursts in Water Distribution Networks</b> H. Zhang, T.L. Huang and J.L. Xu	1699
<b>Modelling Construction Dust Safety Distance</b> M. Wu, W.C. Tang, G.W. Chen, S. Chen, Z.D. Qin, Y. Zhou, Y. Wang, P. Davis and W. Sher	1704
<b>Application of RFID Technology in Asphalt Pavement Construction</b> L.Z. Han and S.L. Li	1710

## **Chapter 12: Construction and Building Materials Engineering**

<b>Advances in Modification of Polymer Membranes with Inorganic Nanoparticles</b> W.F. Huang, J. Liang, X.D. Li and X.F. Wang	1717
--	------

<b>Alumina Extraction from Alumina Rich Fly Ash Generated from Inner-Mongolia Chinese Coal</b>	
X.T. Liu, B.D. Wang, Y.F. Xiao, X.H. Wang, L.J. Zhao, G.Z. Yu and Q. Sun	1725
<b>Analysis of Increase Reason on AC-13 Asphalt Mixtures Voids</b>	
S.T. Tian, S. Ye and Z.Y. Zhao	1732
<b>Application and Feature Analysis of some Kinds of New A-Class Fire Protection Exterior Insulation and Finish Systems in Hot-Summer and Cold-Winter Area</b>	
S.J. Zhang and X.G. Wang	1739
<b>Application of Fibres in Xiluodu Hydropower Station and Assessment on its Cracking Resistance</b>	
X. Chen, H.Q. Yang and J.F. Zhang	1743
<b>Carbonation Life Prediction of Concrete Railway Bridges</b>	
T.Y. Mei, J.W. Wang and L. Wu	1748
<b>Conduct Research for Thermal Aging Reaction of SBS Modified Asphalt by Applications for DSR</b>	
S.T. Tian and F. Tang	1752
<b>Durability of Bond Interface between CFRP and High Strength Concrete under Wet-Dry Cycling and Sustained Loading</b>	
S.Y. Wang, L.X. Li, S.D. Zhang and L. Hong	1756
<b>Effect of Mineral Powder on Performance of Unaged and Aged Asphalt Mortar</b>	
R.S. Peng, H. Tian and L.Q. Liao	1761
<b>Experimental Study on Carbonation Resistance of Waste Rubber Concrete</b>	
Q. Yu and J. Wang	1766
<b>Experimental Study on <i>In Situ</i> Inspection of Existing Steel Structure's Steel Strength by Leeb Hardness</b>	
Q.Z. Sheng, C.C. Li, H.S. Sun and L.Q. Yu	1770
<b>Freeze-Thaw Damage Model for Different Types of Concrete</b>	
S.P. Chen	1776
<b>Influence of Polymer Latex on the Interlayer Bonding Performance of Cement Concrete</b>	
T.X. Yang and J. Zhu	1780
<b>Investigation of Glass-Ceramics Based on Steel Slag under Various Sintering Atmospheres</b>	
Y.B. Zong, Z.B. Liu, J.J. Hou and H.X. Li	1784
<b>Non-Destructive Characterization of Cement Materials Using Ultrasonic Method - Application to the Study of Carbonation</b>	
S.T. Pham	1791
<b>Numerical Simulation of CSG Concrete Compressive Strength(I)</b>	
Y. Wang and L.Q. Yang	1795
<b>Numerical Simulation of CSG Concrete Compressive Strength(II)</b>	
L.Q. Yang and Y. Wang	1799
<b>Numerical Simulation of Internal Defects in CSG Concrete (I)</b>	
L.Q. Yang and Y. Wang	1804
<b>Numerical Simulation of Internal Defects in CSG Concrete (II)</b>	
Y. Wang, L.Q. Yang and R. Gao	1809
<b>Numerical Simulation of Internal Defects in CSG Concrete (III)</b>	
J. Ma, Y. Wang and L.Q. Yang	1813
<b>Numerical Simulation of Internal Defects in CSG Concrete (IV)</b>	
J. Ma, Y. Wang and L.Q. Yang	1817
<b>Portholes Die Extrusion Process Numerical Simulation and Optimal Die Design</b>	
Y.J. Zhang, Y. Su, R. Wei, S.Z. Yi and B. Wan	1821
<b>Research on Nickel Slag Powder as Concrete Mineral Admixture</b>	
D.Y. Yang, H. Li, H. Yue, L.J. Ge and W.H. Wang	1825
<b>Research on the Influence of the Steel Fiber on RPC Performance</b>	
Z. Wang, Q.F. Wang and L. Zhang	1833
<b>Research on the Relationship between Thermal Conductivity and Porosity during Carbonation of Cement Materials</b>	
S.T. Pham	1838
<b>Study on Modified Asphalt Foaming Characteristic Basing on Energy Analysis</b>	
F.C. Wang and X.F. Nan	1842



<b>Study on Physical and Mechanical Characteristics of Q<sub>2</sub> Loess and Micro-Structure Properties in Li-Shan</b>	1846
Y. Wang and P.P. Yang	
<b>Study on the Influence of Fiber Type on Mechanical Properties of Synchronization Plus Fiber Stone Layer</b>	1850
M. Chen, Y.H. Li, J. Chen and X.H. Zhao	
<b>Study on the Properties of Sea Sand Concrete with Fly Ash</b>	1854
Y. Jiang, J.Z. Liu, W. Sun, C.Y. Zheng and S.Y. Wu	
<b>The Research of Mechanics Based on Reinforced Steel Concrete Structures</b>	1858
W.L. Li	
<b>Experimental Study on Steel Slag-Limestone Powder Concrete after Freezing and Thawing Cycles</b>	1862
M.Z. Han, Z.Y. Zhou, F. Yang and Y.W. Zhan	
<b>Adsorption Mechanism of Attapulgite for Cu(II) in Aqueous Solution</b>	1867
J. Ren, Y.Q. Zhao, D.D. Gou, L. Tao and M.W. Zhang	
<b>Degradation Phenomenon of Basic Mechanical Properties of Plain Reactive Powder Concrete with Time</b>	1871
X.F. Wang, Y.P. Wang and L.C. Wu	
<b>Discussion on Forming Reason of Concrete Cracks</b>	1875
Z.N. Tong	
<b>Effect of MgO/Al<sub>2</sub>O<sub>3</sub> Ratio on Properties and Crystallization of Glass-Ceramics</b>	1879
J.J. Hou, Y.B. Zong, Z.B. Liu and D.Q. Cang	
<b>Experiment of Freezing-Thawing Cycles and Analysis of Damage Characteristics for Argillaceous Dolomite</b>	1884
J.H. Deng, X.C. Wang and A.J. Wu	
<b>Experimental Research on Pervious Concrete Mixed with Polypropylene Split Fiber(PPSF)</b>	1894
R.D. Gao, Q.F. Xu, X.M. Li and M.S. Du	
<b>Experimental Study on Compressive Strength and Flexural Strength of Combined Aggregate Concrete</b>	1899
Y.K. Zhang, Y.C. Wang and X.L. Wu	
<b>Experimental Study on Flexural Properties of Steel Fiber Combined Aggregate Concrete</b>	1903
Y.K. Zhang, X.L. Wu and Y.C. Wang	
<b>Influence of Dehydrating Solution Types on Technological Properties of Alpha-Hemihydrate</b>	1907
M. Fridrichová, K. Dvořák and I. Hájková	
<b>Numerical Simulation Study of Erosion for Fracturing Sandblasting in Elbow</b>	1911
B.R. Xu, M.H. Jiang, L.X. Zhao, F. Tan and X.G. Zhang	
<b>On Fire-Proof Paint Thickness for Steel under Transient Fire</b>	1916
W.Z. Wu	
<b>Preparation and Properties for Solid Solution Ce<sub>0.8</sub>Pr<sub>0.2-x</sub>Nd<sub>x</sub>O<sub>2-δ</sub>(x=0.02, 0.05, 0.1)</b>	1921
L.L. Zhu, X.M. Lin and L.J. Qi	
<b>Recent Development of Nano Titanium Dioxide to Be Used in the Field of Building Materials</b>	1926
Y.H. Zhan and X.H. Yu	
<b>Research on the Working Performance of Self-Compacting Concrete at Different Substitution Rates of Iron-Tailings</b>	1930
P.X. He, B. Liu and S. Hu	
<b>Simulation on the Thermal Stress of Super304H Oxidation Scale at 600°C</b>	1934
J.W. Chen, Z. Jiang, H. Mu, Q. Wan, L. Hu and B. Yang	
<b>Study on Optimal Mix Proportion of PVA-ECC Based on Strength-Deformation-AHP</b>	1939
Y.G. Zheng, W.N. Wang, Y.D. Cui, S.M. Liu and Y. Zhang	
<b>Study on the Durability of Concrete in the Northwest Alpine Region</b>	1945
Y. Li, J.W. Liu, X.L. An and J.J. Li	
<b>Study on the Mix Proportion Design of C30 Supersulphated Phosphogypsum-Slag Cement (SSC) Concrete</b>	1950
S. Ding, G.Z. Zhang and F.X. Chen	
<b>The Impact of Concrete Cover Thickness and Chemical Alkalinity on Reinforcement Corrosion</b>	1957
X.J. Zhou, J.M. Shu, J.D. Zhang, Y.X. Yan and W.Z. Gan	

<b>The Mechanical Behavior of Reactive Powder Concrete with Different Steel Fiber Volume Contents</b>	
X.F. Wang, L.C. Wu and Y.P. Wang	1964
<b>The Research Progress on New Adsorbent of Dealing with Heavy Metal Pollution in Water</b>	
L. Zhu, M.N. Liang and D.L. Huang	1969
<b>An Experimental Research on the Pavement Performance of Regenerated Materials under Heavy Load</b>	
L. Yu, D.Y. Zhu and L.S. Bao	1973
<b>Bond Strength between Steel and Concrete Experiment Analysis at Different Temperatures</b>	
T. Zou and Y.L. Han	1977
<b>Early Age Behavior of Thin Porous Concrete Pavement for Bicycle Road due to Environmental Loading</b>	
Y.S. Jung, S.Y. Shin, W.G. Lin, C. Jabonero and Y.H. Cho	1981
<b>Influence the Carbonation Resistance and Mechanical Properties of Shotcrete by Accelerated Carbonation Test</b>	
J.B. Wang, D.T. Niu, R. Ma and Z.L. Mi	1985
<b>Mass Concrete Crack Control Technology</b>	
Y.L. Cheng	1990
<b>Experiment on the Fatigue Behavior of Bare Optical Fiber</b>	
Z.Y. Pan	1995
<b>Experimental Research on Durability of Concrete of Transmission Lines in Wuhu Area</b>	
Z.Q. Zhu, L. Xu, J. Chen and Z.W. Han	2001
<b>The Reasonable Amount of Polypropylene Fiber on Low-Intensity Manufactured Sand Concrete in the Case of Fixed Powder Paste</b>	
H. Lu, G.H. Li, J.W. Yang, L. Zhang, Z.J. Sun and J.Y. He	2005
<b>The Study of the Factors Effecting Bond Strength of Masonry</b>	
T. Zhang and Q. Wang	2011
<b>Shape Optimization and Mix Proportion Design of Innovative Interlocking Mortarless Block</b>	
G. Chen, M.Q. Zhu and Y.D. Cai	2017
<b>Study on Measurement of Group Velocity of Lamb Waves in Shape Memory Alloy Sheets</b>	
K.S. Wang and W.C. Zhang	2021

## **Chapter 13: Computational Mechanics, Biomechanics and Applied Mechanics**

<b>A Large Rotation Matrix for Nonlinear Framed Structures, Part 1: Theoretical Derivation</b>	
J. Duan and Y.G. Li	2027
<b>A Large Rotation Matrix for Nonlinear Framed Structures, Part 2: Numerical Verification</b>	
J. Duan and Y.G. Li	2034
<b>A New Method to Calculate Damage Variable with Unload/Load Response Ratio</b>	
J. Zhang, Y. Zhang, K.Q. He and W.G. Chen	2040
<b>Analytical Solution for Solving Bending Problem of Orthotropic Beams</b>	
Y.Z. Yang, H.L. Ma and H. Wang	2044
<b>Calculation Methods of Orienter Torque and Drag in Coiled Tubing Drilling</b>	
L. Hu and D.L. Gao	2049
<b>Calculation of Internal Force on Arbitrary Cross Section Based on Direct Force Method with Finite Element</b>	
H.F. Li, Y. Li and B. Yang	2053
<b>Design of Key Process Parameters Test-Bench for 1250mm<sup>2</sup> Large Cross-Section Conductor Tension Stringing</b>	
Y.J. Xia, W.M. Mei, C.H. Hu and J.M. Zhang	2058
<b>Research on the Mechanical Response of a Bolt Connection by Experimental and Numerical Method</b>	
L.L. Guo, Z.F. Chen and J.R. Luo	2063
<b>Simulation of a Cantilevered Thin-Elastic Plate with Large Deformation Subjected to Axial Flow</b>	
W.B. Hong, C.Q. Guo and Y.Z. Sheng	2069

<b>Stability of Cracked Fluid-Conveying Pipeline on Elastic Foundation under Distributed Follower Forces</b>	
Y.Z. Sheng, C.Q. Guo and W.B. Hong	2076
<b>Static Torsional Stiffness Computation of Circumferential Arc Spring Dual Mass Flywheel</b>	
C. Wu, Y.F. Peng, C. Xiang, X.Y. Mao, J.H. Hu and Y.O. Liu	2080
<b>Study on Model of Meso-Scale Simulation for Aircraft Structure Material Based on Voronoi Algorithm</b>	
K. Zhou, H.D. Wang, G.X. Bian, Z.Y. Wang and S.L. Zhang	2086
<b>The Numerical Simulation Research of the Dynamic Response of RC Frame Structure under the Internal Explosion</b>	
B. Jia, X.W. Zhu, Z. Wen and Q. Jiang	2090
<b>Finite Element Analysis of Concrete-Filled Rectangular Steel Tubular Y-Connections under Tension</b>	
G. Cheng, Y.J. Liu and P. Tang	2095
<b>Multi-Axial Concrete Models for Nonlinear Analysis</b>	
H. Qi and Y.G. Li	2099
<b>Stability Analysis of Elastic Plate in Axial Subsonic Flow</b>	
Y. Dong, Y.R. Yang and L. Lu	2104
<b>Stress Wave Truncation Experimental Research Based on Dynamic Photoelasticity</b>	
J.Q. Wu, H.Y. Li, F. Ye, X.Y. Zhang and K. Ma	2108
<b>Virtual Realization of Shaking Table Test of Structure in Sine-Swept Vibration by Multi-Support Excitation</b>	
M.Y. Xu, H.B. Liu and M.Y. Li	2113
<b>The Effects of Fluid Boundary Types on Flow around and Heat Transfer from an Elliptical Cylinder</b>	
H.Y. Zhai, Q.L. Li and L. Huang	2117
<b>The Displacement Distribution of Plane Beam with Simply Supported under the Force Couple with Load and Thermal</b>	
Y.Z. Yang, H. Wang and H.L. Ma	2123

## **Chapter 14: Ventilation and Air Conditioning Works**

<b>Study on the Installed Position Determination Method of the Air Condensers in High Temperature Mine</b>	
P. Chen, F.F. Li and Y.T. Li	2129
<b>Half-Online Identification Algorithm for Parameter Estimation of Fan Energy Consumption Model</b>	
X.F. Zhou, X.P. Miao, F. Jiang, D. Zhang and J. Yang	2133
<b>Natural Ventilation Design and Optimization of Large-Scale Industrial Workshop</b>	
X.H. Yang, Y. Long, L.Z. Meng and Y.H. Jin	2137
<b>Numerical Simulation of Axial-Flow Fan with Adjustable Vanes in the Pant</b>	
Y.Y. Li, Z.N. Zhao and Z.Q. Wen	2141
<b>Experiment on the Spray Humidification System among Different Relative Humidity</b>	
L.N. Han, Y.Z. Shi and D.Y. Li	2147

## **Chapter 15: Energy Efficiency and Applications, Ecological and Energy Saving Building, Lighting**

<b>A Study on the Design Characteristics and Methods of Application of an Environment-Friendly Daylight Control System</b>	
W.D. Seo and K.G. Lee	2155
<b>Energy Efficiency and Energy Audit: The Experience of the Russian Federation and the Republic of Belarus</b>	
N. Vatin and O. Gamayunova	2159
<b>Research on Process Control Theory and Strategy of Green Building Design</b>	
X. Wei	2163

<b>Selection of the most Appropriate and Energy-Efficient Scheme for Russia between BREEAM and LEED</b>	
A. Benuzh and V. Telichenko	2169
<b>Singapore, Leader of Global Green Buildings</b>	
X. Chen and C.L. Meng	2173
<b>Green Building Implementation through Integrated Project Delivery System</b>	
Y.H. Yang	2177
<b>Green Building Movement Opportunity &amp; Challenge in China</b>	
Y.H. Yang	2182
<b>10On Similarity Laws of Solar Thermal Technology</b>	
W.Z. Wu	2186
<b>Research of Low-Energy Consumption Technology about Residential Buildings in Inner Mongolia Cold Area</b>	
G.H. Jin and H.Z. Wang	2191
<b>Research on Residential Energy Efficiency Technologies under the Intermittent Energy Mode in Hot Summer and Cold Winter Zone</b>	
J. Li, F. Wang, W.Y. Qu and W.Z. Li	2195
<b>Research on the Weighting Coefficients of the Lighting Evaluation for the Target Lane</b>	
G.W. Zhang and X.T. Zhang	2199
<b>Study on the Energy-Saving Design of Underground Building</b>	
N. Li	2205
<b>The Application on Ecological Architecture of Fiber Optic Lighting</b>	
Z.J. Zhu, J.H. Xiao and G.X. Shao	2209
<b>The Research on the Influential Factors of Civil Building Energy Consumption in Shaanxi Province</b>	
W. Zhen	2213
<b>Discussion on the Humanistic Factors in Green Building Design</b>	
L.T. Jiang	2219
<b>Study on the Influence of Climatic Factor in the South of Liaoning Province on China's Manchu Building Construction</b>	
J. Xiao, H. Zeng, M.F. Lin and X.M. Lin	2223
<b>Primary Study on Ventilate Design for Atrium as a Central Ecosystem</b>	
X. Luo, Q. Yan and L. Gao	2227
<b>Research on Energy-Saving Design of Building Exterior Pattern for Cold Regions</b>	
C. Hui	2232

## **Chapter 16: Surveying Engineering, Cartography and Geographic Information Systems**

<b>An Orientation Method Fit for the Photogrammetry of the Excavating Face in a Coal Mine</b>	
J.H. Yang, G.X. Zhang, Y.F. Mao, H. Li and B. Yang	2239
<b>Application of Polarization Remote Sensing to Identify Activity of Yitong-Shulan Fault, Jilin Province, China</b>	
J. Sheng, G.Y. Yu, Y.M. Wang and H. Lv	2246
<b>Application of Total Station Instrument in the Installation and Measurement of High-Precision Steel Structure</b>	
F.R. Gui	2251
<b>Bootstrapping Added Partial Search Strategy for GNSS Integer Ambiguity Resolution</b>	
Z.M. Wu, S.F. Bian, D.F. Jiang and C.B. Xiang	2255
<b>Comparisons and Direct Transformation Formulae between Azimuthal Conformal and Gnomonic Projections</b>	
Q. Liu, S.F. Bian and Z.M. Li	2259
<b>Study on Construction of 3D Virtual Campus Based KML and Google SketchUp</b>	
J.F. Suo	2265
<b>The Methods of Bridge Deformation Measurement</b>	
Y.B. Zhang, C.P. Liu, P. Liang, X.X. Liu and B.Z. Tian	2270
<b>Effect Analysis of Statistical Unit on Relief Amplitude in Chongqing, China</b>	
B.B. Zhao, X.Y. Xu and W.H. Ou	2273

<b>Introduction to the Rail Line Laying Base Standard Setting</b> F.R. Gui	2278
<b>Remote Sensing Monitoring Research of Multi-Temporal Desertification Based on Spectral Mixture Analysis: A Case Study of Wuda, Inner Mongolia, China</b> F. Li, H.D. Liang, F.G. Wang and P. Song	2282
<b>The Effects of Interior Orientation Elements upon the Accuracy of Bundle Method Based on Non-Metric Image</b> P. Zhao, H. Li, S. Wang and M.F. Wu	2287
<b>The Research of Temporal Application Problems in Cadastral Information System</b> M.H. Liu, M. Han and J.J. Wang	2293
<b>The Study for the Spatial Distribution Pattern of NDVI in Western Jilin</b> S.J. Yang, X.D. Li and S.G. Yan	2297
<b>Research on Application of GIS Technology for Protection of Pre-Qing Architectural Heritage Area in Liaoning</b> X.Y. Wang, J.Z. Meng, B. Xu and X.H. Wang	2304
<b>Explore the Airport Terminal Construction Survey</b> X.Y. Xie	2309

## **Chapter 17: Disaster Prevention and Mitigation, Safety Engineering**

<b>A Summary Review of Progressive Collapse of Reinforced Concrete Frame Structure under Fire</b> Y. Wang, Y.J. Liu and T.B. Wang	2315
<b>Evaluation on Safety of In-Service Structures Concerning Earthquake Resistance Based on Fourth-Order Moment of Limit State Function</b> Y.Y. Wang, Y.Z. Sun and L.Y. Feng	2319
<b>Research Progress of Shear Behavior of Reinforced Concrete Column with Rectangular Section in Fire</b> Y. Yao, Y.J. Liu and X. Wang	2323
<b>Review and Prospect of Study on External Vertical Fire Spread up High Rise Buildings in China</b> Y.J. Liu, H. Hai, L.M. Fan and J.W. Zhang	2328
<b>A Study on the Improvement of Domestic Evacuation Safety Assessment through Case Analysis</b> S.R. Park and E.K. Hwang	2333
<b>An Approach to the Forecasting of Debris Flow Hazard by Storms from Large Waste-Dump at Open Pit Mines</b> X.F. Jing, K.H. Liu, Z.Y. Cai and X. Zhou	2337
<b>Loess Slope Instability Assessment Based on PS-InSAR Detected and Spatial Analysis in Lanzhou Region, China</b> Y.T. Xue, X.M. Meng, K. Li and G. Chen	2342
<b>Multiple Regression Prediction Model on Economic Loss under Typhoon</b> B.L. Xu, L.D. Liu and B.F. Ji	2353
<b>Safety Evaluation of the Post-Earthquake Reconstruction Site in Wangjiagou, Minxian County, Gansu Province</b> G.F. Che, Y.J. Chen, H.M. Liu, X.M. Zhong and Z.J. Ma	2357
<b>Study on the Plan of Earthquake Elusion and Dispersion - A Case Study of Weifang Street</b> Y.M. Zhai and F.Z. Wang	2362
<b>What Contributes to Fireworks-Related Injuries: Risk-Based Supervision Model</b> X. Wang, G. Tao and L.J. Zhang	2368
<b>A Study on the System Improvement for Ensuring Evacuation Safety of People Vulnerable to Disasters in Case of a Fire in the Building</b> E.K. Hwang	2372
<b>Countermeasures and Scheme in Preventing Zhaohe River Debris Flow Disaster in Erlong Town, Zhenping County in Henan Province</b> W. Zhang	2377
<b>Study on Urban Flood Control and Drainage in Beijing</b> S.G. Zhan, B.H. Men, J.J. Wu and Z.D. Duan	2381

<b>An Analysis on the Fire Model and the Safety Evacuation Based on BIM</b> T. Wang, M.H. Du, Y.F. Tang and Q. Zhang	2386
---	------

## **Chapter 18: Project Management**

<b>Projects Decision-Making for Construction Enterprise under the Carbon Tax Policy</b> L. Ming	2393
<b>Methodology to Develop the Early Warning System for Residual Value Risk of Public Private Partnership Projects</b> T.L. Teng, Q.M. Li and J.F. Yuan	2397
<b>Qualities of Documentation Management Chain (Part 1)</b> A. Volkov, V.O. Chulkov, G.O. Chulkov, R.R. Kazaryan and O. Kyzina	2401
<b>Qualities of Documentation Management Chain (Part 2)</b> A. Volkov, V.O. Chulkov, G.O. Chulkov, R.R. Kazaryan and O. Kyzina	2405
<b>Qualities of Documentation Management Chain (Part 3)</b> A. Volkov, V.O. Chulkov, G.O. Chulkov, R.R. Kazaryan and O. Kyzina	2409
<b>Research on Analysis and Suggestions of the Construction Project Safety Accident</b> Y.F. Wu and M.H. Yuan	2413
<b>Analysis of Network Technology Application in the Project Construction Management Process</b> Z.N. Tong	2420
<b>Application of Value Engineering in Construction Project Management of Hydraulic and Hydroelectric Engineering</b> X.F. Chen, P. Cheng and L. Wu	2424
<b>Adaptability Analysis of Partnering Management Mode in Grouting Works</b> X.F. Chen, P. Cheng and L. Wu	2428
<b>Brief Study on the Quality Control of Civil Engineering Construction</b> A.L. Wang and N.N. Li	2432

## **Chapter 19: Engineering Management, Civil and Construction Industry Management, Infrastructure Demand and Supply, Engineering Education**

<b>A Supervision Model Study of Non-Profit Government Investment Project under Information Asymmetry</b> Y.N. Wu, Z.S. Hu and J.Y. Zhang	2439
<b>A Survey of Learning Strategies for Engineering Students with Different Personality</b> Y.H. Sun, F. Xiao, X.W. Jiang and Y. Liu	2445
<b>Analysis of the Current Situation of the Development of Chinese Industrial Structure</b> S.R. Liu and L.L. Xu	2449
<b>Determination of the Optimum Variant of the Material Solution of Building Constructions from the Aspect of Effectiveness of the Real Estate Development</b> V. Somorová	2454
<b>Education in the Field of Construction of Unique, High-Rise and Long-Span Buildings and Constructions</b> O. Gamayunova and N. Vatin	2459
<b>Integration of Environmental Education and Research for Multi-Disciplinary Studies</b> M.Q. You	2463
<b>Location Strategies of Outward Direct Investment for Chinese Technology-Seeking Enterprises</b> D. Wang and Y. Liu	2467
<b>Measurement of Equipment Manufacturing Industry Linkage in Shaanxi Province</b> X.X. Li and Y. Zhou	2472
<b>Research on the Evaluation Index of Service Quality in Logistics Enterprise</b> X.M. Zhang and S.H. Wei	2476

<b>Safety Evaluation of Human Psychological Factors for Bridge and Tunnel Front-Line Builders Based on SPSS</b>	2480
Y.Z. Jiang, Z.Q. Li and L.S. Wu	
<b>The Advantage of Fuzzy Linear Regression Model and the Application of Enterprise Manufacturing' Estimation</b>	2485
H. Kang, M.Q. Wang and T. Ai	
<b>The Efficient Way of Project Quality Supervision for Government</b>	2491
J.H. Ma, Q. Li, L.H. Ma, D.X. Li, Z.Y. Ni and S.J. Wang	
<b>The Empirical Analysis of Technological Innovation Efficiency of Small and Medium-Sized High-Tech Enterprises in Xi'an High-Tech Zone Based on DEA</b>	2495
Y.Y. Wang and Y. Zhou	
<b>The Research and Choice of Leading Industry Based on Factor Analysis of Shaanxi Province</b>	2500
S.R. Liu and N. Wang	
<b>Dynamic Optimization of Project Schedule Based on Life-Cycle Economic Benefits</b>	2504
W.J. Liu, Z.X. Zhang and T. Meng	
<b>An Analysis of Structural Defects in the Existing Agricultural Supervision Mode and Research on Optimal Path of Jilin Province</b>	2509
W.D. Xi, Q. Qiao and S.F. Sun	
<b>Evaluation to Enterprises' Comprehensive Strength of Patent Based on Fuzzy Comprehensive Evaluation</b>	2514
Z.J. Xu and Y.K. Song	
<b>Influence of Parameters of Building Design to Effectiveness of Real Estate Development</b>	2520
V. Somorová	
<b>Research on Flow Capturing Location of Commercial Complex Based on Double Design Variable Constraint</b>	2525
B. Yuan, Z.X. Zhang and J. Zheng	
<b>Research on Prediction of Urumqi City Real Estate Supply and Demand Based on Gray System</b>	2530
B.L. Shao, T. Meng and W.J. Liu	
<b>The Development of Moscow Office Real Estate Market and Key Features for System Approach Application</b>	2534
A. Volkov, L. Kievckiy and O. Kyzina	
<b>The Impact of Training on the Program "MBA in Construction" on the Style Activity Managers</b>	2538
N.G. Miloradova and A.D. Ishkov	
<b>The Real Estate Industry and Economic Development Issues Discussed</b>	2542
Z.N. Tong	
<b>Study on the Effectiveness Evaluation System of Construction Enterprise Management Based on TOPSIS Model</b>	2545
B. Liu and L.R. Bao	
<b>Valuation of Life-Cycle Cost - Reserve for State Funding of "Green" Economy</b>	2550
A. Benuzh and D. Podshivalenko	
<b>Diversion System Scenarios Optimization Considering Indicators Correlation</b>	2554
L.Z. Luo, X.H. Yang, W.Z. Yu and S.H. Pan	
<b>Benchmarking as one of the Facility Management Tools for Reduction of Life Cycle Costs of Building</b>	2561
F. Kuda and E.W. Berankova	
<b>The Specificity of the City Target Programs on Reorganization of Construction and Demolition Waste</b>	2566
V.O. Chulkov, A. Volkov, O. Kyzina and R. Gazaryan	
<b>Analysis of Environmental Factors Impact on Urban Underground Pipelines</b>	2570
D. Xu	
<b>Life Cycle of a Building</b>	2577
A. Volkov, V.O. Chulkov and D. Korotkov	
<b>Model of the Information-Energy Process of Activity</b>	2581
A. Volkov, V.O. Chulkov, G.O. Chulkov and I. Grinberg	

<b>Possibility Quantitative Appraise Components and Guidance for Constructional Rearrangement of Buildings Attached to their Confrontation</b>	
A. Volkov, V.O. Chulkov, R.R. Kazaryan, M. Fachratov and O. Kyzina	2585
<b>Approaches of the Czech Republic to Methodologies for Determination of Life Cycle Costs of Building Assets</b>	
F. Kuda and E.W. Berankova	2589
<b>The Analysis of China's Previous CPI Fluctuation Cycle</b>	
S.F. Qian	2593

## **Chapter 20: Architectural Design and its Theory**

<b>Analysis of the Layout Axis of Jinci in Taiyuan, Shanxi Province</b>	
R. Xiao	2601
<b>Analysis of the Sparrow Brace Culture of Traditional Wooden Architecture</b>	
X.Y. Tang and C. Zhong	2605
<b>BIM-Technology in Architectural Design</b>	
O. Gamayunova and N. Vatin	2611
<b>Design Analysis of Commercial Complexes of Modern Urban Architectures</b>	
Y. Yan, X. Wu, J. Lu and Y.L. Xi	2615
<b>Modern Architecture of World's Libraries</b>	
N. Vatin and O. Gamayunova	2622
<b>Research on Characteristics and Structural Arts of Gannan Hakka Building</b>	
J.G. Yao, X.Q. Huang and L. Wu	2626
<b>Structure Methods and Anti-Seismic Mechanism of Palace Type Timber Frame System Building in Tang and Song Dynasty in China(I)</b>	
L.Q. Yang and Y. Wang	2630
<b>Structure Methods and Anti-Seismic Mechanism of Palace Type Timber Frame System Building in Tang and Song Dynasty in China(II)</b>	
Y. Wang and L.Q. Yang	2634
<b>Study on the Vernacular Dwellings' Characteristic and Preservation in Ancient Towns of West Sichuan Plain</b>	
Z.Q. Wang, X. Liao and J. Yong	2638
<b>The Analysis of Veranda Style Architecture on Modern Times in Qinhuangdao</b>	
K. Feng, H. Gao, G. Meng and Q. Li	2642
<b>Analysis of Beijing Sanlitun Village Business District and Space-Oriented Factors</b>	
Y. Zhou and S.P. Fu	2646
<b>Architectural Programming and Architectural Design</b>	
J. Ma	2650
<b>Discussion on "Green Design"</b>	
M. Zhou	2654
<b>Research on Analysis and its Adaptability to the Ancient City of Ecological System</b>	
M.Y. Wang, R. Wang and X. Wang	2657
<b>The Research of Column Base Culture in Chinese Traditional Architectures</b>	
X.Y. Tang, C. Zhong and L. Wu	2661
<b>Neogothic Public and Industrial Buildings in the Russian Empire XIX Century</b>	
I. Yamshanov, V. Goryunov, V. Murgul and N. Vatin	2669
<b>Russian Sections at World and International Fairs</b>	
Y. Nikitin, V. Goryunov, V. Murgul and N. Vatin	2674
<b>The Liberty Style-Italian Art Nouveau Architecture</b>	
V. Goryunov, S. Goryunova, V. Murgul and N. Vatin	2681

## **Chapter 21: Outdoor and Indoor Decoration Design and Environment**

<b>Analysis on Color Application in Modern Architecture</b>	
X.B. Wang	2689
<b>Information System Design of High Residential Wall Advertising</b>	
Y.X. Rong	2693



<b>Research on Outdoor Advertisement Design and Setting of China's Famous Historical Cities - A Case Study of Yangliuqing</b> M.T. Zhou and T.W. Gong	2697
<b>Strategy Research on the Enhancement of Wuhan Public-Art Interactivity in Digital Times</b> Y.Y. Guo and T.T. Guo	2702
<b>The Dissemination of the Visual Image of Wuhan Tianhe Airport Terminal under Urban Cultural</b> D. Jiang	2706
<b>The Integration and Regeneration of Metro Visual Communication Design and Urban Culture both at Home and Abroad</b> Z. Xin	2710
<b>The Relationship between the Visual System and Environment of Visual Factors</b> Y.J. Tong	2714
<b>Design of Mobile Living Room in Field</b> X.G. Zhao, F. Niu, C. Su, Z.H. Gao and X.D. Ren	2718
<b>Analysis of Conveying Visual Information in Exhibition Place Based on Method of SD</b> C.F. Li and L.Y. Chen	2722

## **Chapter 22: Urban and Regional Planning, Land Resources Planning**

<b>Analysis on Regional Culture Expression of the Landscape in Heilongjiang Province</b> L.J. Guo, M.H. Shao and S.T. Li	2731
<b>Industrial Park Reflection and Planning Model Research of Small and Medium-Sized Cities in Central China</b> W. Wei and W. Chen	2735
<b>Ecological Research on Public Facilities of the New City Region</b> D.P. Jiang	2740
<b>Evaluating Land Use Type Change and Ecosystem Services in Peixian County</b> J.Q. Yu, H. Zhao, Y.T. Wang and J.X. Xu	2744
<b>Investments in Land – Protection of Agricultural Land and Connection to Urban Planning</b> B. Vojvodíková, J. Česelský and M. Ferko	2749
<b>Landscape Design of City Road</b> Y. Zhang	2753
<b>Modeling the Impact of Territorial Investments on Land Development</b> M. Ferko, J. Česelský, Z. Proske, B. Vojvodíková and J. Kucera	2757
<b>Planning of Botanical Garden on Saline-Alkali Soil</b> S. Sun	2761
<b>Planning of Fishing Village in Dou-Long Port</b> Y. Chen and D.W. Wang	2765
<b>Research on Cultural Ecosystem Protection and Recovery in Ecological Resettlement of Poverty Relief</b> H.B. Wang	2770
<b>Research Status and Trend Analysis of Urban Space Development</b> T.W. Gong, J. Shi, F. Li and Y. Zhang	2775
<b>The Research on Dragon Kiln Ecotourism in Wanyao Village, Lincang City Based on Cultural Preservation</b> Y.L. Peng and W. Ye	2779
<b>Three Dimensions of the Ecological Connectivity of Fluvial Greenway</b> S. Sun	2785
<b>Tourism Complex Development Exploration of Small and Medium-Sized Cities in China</b> W. Wei and X. Guo	2789
<b>A Study for the Purpose of Establishing an Industrialization Residence Activation Plan through Interviews with Professionals</b> E.K. Hwang and S.H. Lim	2793
<b>Discuss the Design of City Square to the Old Age Humanities Care - Wuhan Northwest Lake Square Public Space Investigation Enlightenment</b> T.T. Guo and Y.Y. Guo	2798

<b>Conditions of Independent Movement and Orientation of Blind People in Public Space</b> L. Jurnickova, D. Kuta and R. Zdarilova	2803
<b>Construction on Evaluation Index System of Urban Livability</b> F.X. Hu and X.J. Hu	2808
<b>Function, Barriers and Policies of Green Infrastructure Construction in Urban Environment</b> X.S. Dou, Z.F. Wang, H.M. Yuan and P. Jing	2814
<b>Study on the Development of Smart Service Platform for Small Neighborhood Park Network</b> U. Kim, J.W. Yun and S.Y. Kim	2819
<b>The Types and Updating Modes of Old Residential Area in Yichang</b> K.Q. Mei and R. Yu	2825
<b>Theoretical Research Analysis and Evaluation of Urban Sprawl - A Case Study on the Overall Planning of Kunming</b> J.Z. Qin	2832

## **Chapter 23: Landscape Planning and Design**

<b>A Discussion on Feasibility of Improving Using of Rain in Residential Area Waterscape</b> S. Yue and Y.A. Yang	2839
<b>Design on Dynamic Urban Landscape System</b> Y. Sun and G.L. Gao	2843
<b>Research on Construction Situation and Design of Tropical Modern Tourism Agriculture in Hainan</b> J.J. Huang, L.L. Wang and X.Y. Gao	2847
<b>The Research about Optimal Configuration of Economical Plant Community in the Green Housing Community</b> H.D. Ji and J.X. Zhao	2851
<b>A Discussion on the Energy Saving Waterscapes in City's Residential Communities</b> H.L. Xu and Y.A. Yang	2857
<b>Analysis of Villa Landscape Design</b> Y. Zhang	2862
<b>Brief Analysis on Design of Experiential Business Landscape</b> Y.F. Lv and Q.S. Fan	2866
<b>Impact of Rural Land Consolidation on the Changes of Landscape Pattern: Take Haiyan County as an Example</b> J.B. Xue and B. Zhang	2870
<b>Spatial and Temporal Changes of Landscape Pattern in Li River Basin</b> J.L. Jing and Y.F. Wang	2878

## **Chapter 24: Sustainable City and Regional Development**

<b>Research on Impacts of the Financial Crisis on Consumers' Behavior - A Case Study in Wuhan, China</b> J.M. Huang, C.L. Tu, X.J. Wang and Z.S. Wang	2885
<b>The Investigation about the Foundation and Current Situation of Lanzhou Circular Metropolitan</b> G.R. Wang, K.F. Wang and N. Wang	2894
<b>Study of Economic Space Development Evolution Features of ESDA Technique in JingJinji Metropolis Circle</b> Y.K. Feng, J.M. Wei and H. Jin	2898
<b>Improved Set Pair Analysis Model for Urban Water Security Assessment</b> F.S. Yang, C.J. Xu, X.M. Huang and J.R. Shao	2903
<b>Water-Urban Harmony Index System: A New Evaluation Model of Urban Water Resources Management</b> J.X. Zhang, D.S. Tang and M. Wang	2909

<b>The Promotion Policy of Solar Energy Application and its Research Progress for Technical Standard System in China</b> G.Y. Li	2915
<b>Promoting Urbanization Process in ShanDong Province with the Green Development Idea</b> L.Y. Chen and P. Fang	2920
<b>Shading Effect on Outdoor Thermal Comfort in High-Density City a Case Based Study of Beijing</b> B.C. Ma, Q. Sang and J.F. Gou	2927

## **Chapter 25: Hydrology, Water Resources, Flood and Drought Management**

<b>A Friendly Model for Water Resources Allocation in the River Basin</b> C. Xiao, F. Yang and Z.P. Ma	2933
<b>Comparative Analysis of the Huaihe River Flood and the Mississippi River Flood and Treatment of the Huaihe Flood</b> Y. Chen, J. Liu, L. Ma and N. Sun	2937
<b>Human-Water Relationship Evaluation Based on Cloud Model for Arid Area in Northwest China</b> M. Wang, D.S. Tang, W.S. Hu and Y.F. Bai	2942
<b>Hydrodynamics in the Luanhe River Alluvial Fan of the Piedmont Plain Zone, China</b> Q.N. Guo and Z.F. Zhou	2948
<b>Stormwater Suspended Solids Reduction in Sand-Zelbrite Filter Media</b> M. Carbone, G. Garofalo, S. Malomo and P. Piro	2952
<b>Evaluation on the Health of River Ecosystem Based on the Cascade Development of Reservoirs</b> J.X. Chen, G.H. Fang, R.F. Jiang, X.F. Huang and Y. Chen	2956
<b>Expounding the Application of Analysis Method about Nonlinear Hydrological System of Rainfall-Runoff</b> P.L. Wu and H.J. Wang	2964
<b>Potentialities Evaluation of Rainwater Utilization in Xianing Port of Changsha</b> Y.J. Wei and G.Y. Li	2970
<b>Rainwater Treatment and Reuse in Harbor Yard</b> Y.J. Wei and G.Y. Li	2974
<b>The Numerical Simulation of Hydrodynamics in the Sancha River Mouth</b> J.R. Chen and S.F. Xu	2978
<b>Short-Term Water Level Prediction in Middle Stream of Yangtze River</b> H.Q. Hou, X.L. Liu, W.X. Xu and H.H. Liu	2983
<b>Virtual Simulation Modeling and Visual Analysis of Sediment Erosion and Deposition Change in River Basin</b> Y.T. Ye, L.L. Liang, Y. Cao, H.L. Zhao and Y.Z. Jiang	2989
<b>Study on Multi-Subject Analysis of Water-Saving Society Construction</b> H.H. Zhu, X.F. Huang, Y.M. Wang and X.C. Li	2993
<b>Application of Set Pair Analysis in Water Resources Carrying Capacity Assessment</b> Y.Q. Chen	2999
<b>Analysis on Features of Hydrological Variation in the Seasonal Stagnant Lower Reach of Xiangjiang River</b> X.G. Pu, Z.H. Xu and X.X. Feng	3004

## **Chapter 26: Environmental Engineering and Environmental Protection**

<b>A Research on Information Management System about the Field Environment of Tropical Crop</b> J.H. Cao, L.L. Wang, H.X. Luo and S. Chen	3013
<b>An Environmental-Friendly Al-Cu Alloy Material for Electric Power Grounding Grid</b> F.J. Yan, X.G. Li, Z.W. Yue, X.G. Wang and K. Guo	3017

<b>Analysis of the Influence Factors and Countermeasures of Construction Waste Recycling Industry's Development in Haikou</b> L. Yan, C. Hua, T.Y. Fu and F. Yan	3024
<b>Cost Analysis of Carbon Emission Based on Carbon Finance</b> N.P. Zhu, Q. Zhao and Y. Shen	3030
<b>Current Efficiency and Polarization Factors in the Electrolytic Process of Seawater Pretreatment</b> J. Nie and S.Z. Yi	3035
<b>Development of Assessment Method for Riparian Physical Environments</b> J.H. Kim	3041
<b>Eco-Design Study on Vegetable Technological and Ecological Farm at Dangwu Town of Gui'an New Area in Guizhou Province</b> L.C. Zhang, J.W. Ma and F. Lu	3045
<b>Experimental Study on Nitrogen Removal of Domestic Sewage Using Two-Stages Soil Aquifer Treatment System with Pre-Denitrification Process</b> G. Tan, H.D. Zhang, Y.T. Wang and X.W. Duan	3049
<b>Human Toxicity Impact of Polycyclic Aromatic Hydrocarbons Emitted from Lignite Burning</b> J. Zhao, J.L. Hong, C.Y. Ma and Q.S. Wang	3055
<b>Impacts on Herbaceous Plant Communities of the Tourism Exploitation in the Yellow River Wetland of Zhengzhou City, China</b> H.L. Yu, C.L. Yu and S.S. Jiao	3059
<b>Incidence of Adsorption Process on the Reduction of Trihalomethanes Precursory in Algerian Surface Water</b> S. Guergazi, K. Yahiaoui and S. Achour	3065
<b>Inhibitory Effect of Three Heavy Metal Pollutants on Antioxidant Enzymes of <i>Paramecium caudatum</i></b> D. Wu, Y. Yan, S.Y. Pei, M. Zhang, Q. Wang, Z.L. Gong and Y. Chen	3071
<b>Isolation and Characterization of the Algicidal Bacterium DCJ-2</b> T.T. Liu, Y.F. Peng, L. Liu and X.S. Xia	3077
<b>Monitoring and Analysis of Benzene Derivatives and Ammonia in a Water Analysis Laboratory</b> Q.Y. Cao, W.L. Gu and L.L. Wang	3083
<b>Numerical Analysis of Temperature Influence on Evaporation of Liquid Propellant Leaking Jet</b> J.Z. Chen, Y.X. Zhang and C. Ning	3087
<b>Removal of Copper from Vineyard Soil by Washing with Biosurfactant</b> D. Zhao, Y. Zhao and S.B. Tao	3091
<b>Speciation Analysis of Harmful Elements in the Scheelite Tailings</b> Z.Q. Gu, X.Q. Liu, K. Xiang, X. Qin and Y.Y. Li	3096
<b>Study on the Cyclic Voltammetry Curve of Electrode in the Electrolytic Process of Seawater Pretreatment</b> J. Nie and S.Z. Yi	3100
<b>The Calculation of Air Pollutants Emission from Ships in Ports</b> Y.Q. Zhao, W. Wang and X.J. Feng	3105
<b>The Correlation between Nitrogen Phosphorus Nutrients and the Growth of <i>Microcystis Aeruginosa</i></b> J.S. Wu, C.C. Liu, R.B. Jia and B. Li	3110
<b>The Variation of Nitrate in the Soil Profile for Continuous Spring Maize System under Different Soil Fertilities in the Northeast of China</b> L. Yan, H.G. Cai, Z.D. Zhang, Q. Gao, W.X. Lu, G.Z. Feng and Y. Chen	3114
<b>Adsorption of Dye from Wastewater by Modified Sawdust</b> G.C. Zhu, J.X. Shou, J.W. Qian, H.Z. Xin and M.Q. Qiu	3123
<b>Degradation of Methylene Blue by Fenton-Like Reaction</b> G.C. Zhu, J.X. Shou, J.W. Qian, H.Z. Xin and M.Q. Qiu	3127
<b>Effects of Sludge Concentration on EPS and Membrane Fouling in Anoxic/Aerobic Membrane Bioreactors</b> Y.Z. Wang, X.Y. Zhu, B.G. Su, Z.Q. Liu and H. Liu	3131

<b>Electrospinning Using Solution of Waste Polyacrylonitrile</b> C.X. Zhang and B. Sun	3136
<b>Enhanced Phytoremediation on PAHs in Soils and Laboratorial Technics</b> Y.X. Wu	3140
<b>Fate of POPs and its Laboratorial Technics under Combined Plants Cultivation</b> Z.H. Lei	3146
<b>Intercomparison between Spatiotemporal Distribution of PM2.5 Concentration and Transportation in Beijing</b> L.Y. Jin, Q. Li, H. Karimian and J.X. Hou	3151
<b>Investigation and Evaluation of Land Ecological Status of Coal Mining Subsidence in Huang Huai Hai Area</b> J.Y. Zhang, X.M. Guan and R. Xia	3157
<b>Literature Review of Land Ecological Security</b> J.C. Fu	3161
<b>Magnetic Flocculation for Advanced Treatment of Vitamin E Production Wastewater</b> S.H. Lan, X.Q. Liang, Z.C. Liu, C.L. Wang, H.J. Li, J. Zhang and H. Zhang	3168
<b>Odor Abatement in Biotrickling Filters for Wastewater Treatment Plants in Petrochemical Industries: Determination of Main Components of VOCs and Assessment of REs</b> J. Zhai, C.H. Jiang and J. Zhou	3172
<b>PM10 Measurement and Analysis of Urban Public Spaces Indoor Environment</b> H.Y. Tan, D.Z. Zheng, L.L. Ma and Y.J. Chu	3177
<b>Research on Diffusion Effect from Different Angles of Yangkou Sewage Marine Discharge Engineering Phase I</b> H. Yu	3182
<b>Safety Problems and Management of Municipal Solid Waste Landfill</b> D. Yang and Q. Xie	3187
<b>Sea Oil Spill Detection Method Using SAR Imagery Combined with Object-Based Image Analysis and Fuzzy Logic</b> T.F. Su, H.Y. Li and T.X. Liu	3192
<b>Strengthening Effects of Cleaner Papermaking Additives WEC on Papermaking with Second Fiber</b> Y.Q. Zhu, D. An, W.H. Xia, P. Cao and Z.J. Zhang	3201
<b>Study of the Influence of External Environment to Arc Channel in Argon with Laminar Flow</b> B.A. Xu, B. Chen and Q. Chen	3206
<b>Study on the Influence of Meteorological Conditions on Particles Distribution in Residential Environment</b> Y. Cao, J.N. Wang, J. Liu and D. Yu	3211
<b>The Horizontal and Vertical Distribution of Particulates in a Near-Road Environment</b> Y. Cao, D.D. Zhang, J. Liu and D. Yu	3215
<b>The Research of High-Salt Organic Liquid Waste Incineration Technology</b> X. Li and G.Y. Li	3219
<b>The Response of the Spawning of the Four Major Chinese Carps to the Flow Re-Operation of the Three Gorges Reservoir in the Yangtze River, China</b> Q.H. Yang, Q. Wei, Y. Qiao, L. Zhang, J.S. Wang, J. Dai, K.X. Zhu and L.Y. Li	3223
<b>Treatment of Coking Wastewater by a Submerged Membrane Bioreactor with Suspended Carriers</b> Q.Y. Gu and M.Y. Li	3235
<b>Application of Bio-Char from Sewage Sludge Pyrolysis</b> F.M. Chang, Q.B. Wang and K.J. Wang	3239
<b>Analysis on Factors Influencing Sludge Composting</b> T.Y. Gao, G.R. Dong, Y.H. Wang and J.D. Wang	3246
<b>Value-at-Risk Estimation of Carbon Spot Market Based on the Combined GARCH-EVT-VaR Model</b> J.J. Jiang and B. Ye	3250
<b>Modeling the Impact of Three Gorges Dam on the Cooling Energy Consumption of the Reservoir Cities</b> M. Wu, W.C. Tang, Y. Zhou, S. Chen, G.W. Chen, Z.D. Qin, Y. Wang, P. Davis and W. Sher	3254

<b>Development and Application of Improved Double Layer Snow-Melting Model in Changing Environment</b>	
Y.J. Bi, Y. Zhao, W.H. Xiao, S.P. Zhang and X.N. Zhou	3260
<b>The Characteristics of Runoff and Sediment Yield in Different Land Use Types in Southwest Mountains of Henan Province</b>	
G.Z. Wang, Y.C. Tian, J.G. Qu, J.Z. Xu, Z.X. Liu and D.F. Yan	3267
<b>The Evaluation of Angu Hydropower Station Habitat and Analysis on its Influencing Factors</b>	
X.Y. Deng, L.J. Deng and Y.F. Hu	3272
<b>Test of Constructed Rapid Infiltration System Efficiency via Single Variable Sand Factor</b>	
P. Fang, L.Y. Chen, L.J. Zhu, B. Zhou, Y.L. Zhang and J.F. Zhao	3277
<b>Study on Impact Factors of Reducing U(VI) by <i>S. oneidensis</i></b>	
J.X. Liu, S.B. Xie, Y.H. Wang, S.Y. Li and B. Li	3287
<b>The Characteristic of Algal Reef Carbonate Sedimentary and Pore Structure in the Xisha Islands: Evidence from Halimeda</b>	
X.W. Zhao and H.Z. Hao	3291

## **Chapter 27: Transportation Planning, Traffic Control and Information Technology, Carrying Tools and Operation Engineering**

<b>Design Car Warning System Based on Wireless Communication</b>	
Y. Wang	3297
<b>The Impact of China's Passenger Turnover Quantity on Farmer Income Increase</b>	
C. Zhang	3301
<b>The Optimization Study of Passengers Stop Security in Railway Station</b>	
J.J. Chen, B.W. Yu and Y. Wang	3306
<b>A Study on Operational Model of Container Multi-Modal Transport Virtual Enterprise Based on Multi-Agent Technology</b>	
H.B. Liu, X.F. Wang, H.S. Sun and W.Y. Zhang	3310
<b>Conception and Design of the Launched Transport Mode</b>	
G.L. Zhou, D.X. Wu, L.N. Mao and Y.R. Zhu	3314
<b>Intersection Safety Evaluation Model Based on Traffic Conflict and Accident Data</b>	
R. Li and Z.P. Ge	3320
<b>Large Sections Peak Traffic Flow Subway Station Simulation Modeling</b>	
X.H. Zhang, S.H. Xu, L.L. Wu, Y.H. Du, Z.J. Duan and J.P. Chen	3325
<b>Optimization Model of Bus Station Based on the Largest System Benefit</b>	
J. Qian, F.Q. Jia, Y. Liu and B. Wei	3329
<b>Research on the Last Train Connection in the Urban Mass Transit System</b>	
C.J. Cai, L.S. Zhou and Y.F. Shang	3334
<b>Simulation on Urban High Occupancy Vehicle Lanes - A Case Study in Nanjing</b>	
D.X. Wu, W. Deng, Y. Song and X. Luan	3339
<b>Study on Signal Warrant of Intersection Based on Traffic Efficiency</b>	
R. Li, D.W. Bao and Y.C. Li	3343
<b>Transport Practices in Metropolitan District Development</b>	
C. Li, X.G. Wang and X.N. Sun	3348
<b>Your the way to Solve City Traffic Jams – Based on the Concentric Circle Theory</b>	
G.W. Feng	3353
<b>Braess's Paradox in Day-to-Day Model</b>	
Q. Li	3358
<b>Application Scheme Organization of Arrival-Departure Line at Jinan West Railway Station</b>	
J.J. Liu	3362
<b>Capacity Assessment of a Cross Intersection with Cranked Priority</b>	
V. Krivda, I. Mahdalova, J. Petru and V. Skvain	3366
<b>Comprehensive Safety Assessment Model of Highway Section Based on the Accident Rate Prediction</b>	
E. Lu and J.L. Xu	3372

<b>Transshipment Equipments for Road-Rail Intermodal Transport</b> C. Li, G. Yang and X.N. Sun	3377
<b>The Culture of Evaluation to Improve the Airport Competitiveness of the Metropolitan City of the Strait: Analysis of Alternative Scenarios of Connection</b> L. Della Spina, R. Scrivo, C. Ventura and A. Viglianisi	3381
<b>The Land Occupation Analysis of the Loop-Ramp Patterns of Freeway Trumpet Interchanges</b> J.C. Sun, H.X. Lu and C.F. Chen	3388

## **Chapter 28: Electricity Infrastructure and Power Transmission**

<b>A New Method of the Touch/Leakage Protection without Dead-Zone Considering the Phase Characteristics</b> Z.J. Yuan	3395
<b>Modal Parameter Identification of 500kV SF<sub>6</sub> Current Transformer Based on Natural Excitation Method</b> Q. Zhang, Z.C. Lu, Y.H. Sun and M. Zhong	3400
<b>Monitoring and Analysis of Transmission Line Tower Base Deformation of some Coal Mine Goaf</b> Z. Chen	3406
<b>Regulation Right Trading Considering DSM in Shanghai Power Grid</b> D.N. Liu, Y. Zhao, L. Li, R.Z. Liu and Y.J. Xu	3410
<b>Wind Turbine Grounding Resistance Numerical Calculation</b> C. Li, K.J. Huang, X.Q. Zhang and N.W. Hu	3414

## **Chapter 29: Computer Applications and Intelligent Algorithms**

<b>A New Variant Harmony Search Algorithm with Random Mutation Strategy</b> X.H. Zhao	3425
<b>Data Storage Architecture of Maintenance Support System Based on Hadoop</b> L.Y. Han, W. Wang and N.W. Hu	3429
<b>Harmony Search Algorithm with Opposition-Based Learning for Power System Economic Load Dispatch</b> Y.N. Zhang	3434
<b>Hybrid Harmony Search Algorithm for Global Optimization Problems</b> G.J. Li	3438
<b>Joint Optimization Combining Genetic Algorithm and Numerical Algorithm Based on MATLAB</b> Y.H. Guo, F.F. Liu, N. Zhang and T. Wang	3442
<b>The Application of the CORS in the Research of Digital Urban Municipal Supervision and Management</b> M. Li, M.X. Liu and X.G. Feng	3446
<b>The Equilibrium Existence for Constrained Multiobjective Games in GFC-Spaces</b> K.T. Wen and H.R. Li	3450
<b>Crane Location Optimization Method for Substation Construction</b> W.J. Li, Z. Leng, C.G. Jia, P. Lu and Y.X. Liu	3455