

# Table of Contents

## Preface, Sponsors and Organizing Committee

## Chapter 1: Vibration Engineering

<b>Free Vibration Analysis on Combined Cylindrical-Spherical Shell</b> S.H. Wu, Y.G. Qu, X.C. Huang and H.X. Hua	3
<b>New Method in Suppressing Vortex-Induced Vibration of Marine Riser</b> X.F. Zhong, L.M. Lin, Y.X. Wu and S.Y. Shi	9
<b>Flow-Induced Vibration Study of Tunnel Spillway Working Gate on One Reservoir</b> X. Wang and S.Z. Luo	13
<b>Simulative Analysis of Structure Vibration of Diesel Engine Based on Finite Element Method</b> X.H. Cao and Q.Y. Kang	17
<b>Optimal Design and Test of Ultrasonic Vibration System</b> X.L. Miao and Y.W. Zhu	21
<b>Application of the Force Transferring Technique for Marine Machineries</b> X.R. Wang, X.H. Miao, C.H. Yuan, D.J. Qian and D. Jia	26
<b>Numerical Analysis for Galloping of Iced Quad Bundle Conductors</b> J.Y. Cai, X.J. Liu and S.X. Zhang	30
<b>Analysis on Tower Crane under Wind Load by ANSYS</b> Y.Q. Gu, W.F. Wang and S.D. Guo	35
<b>Influence of Support Stiffness on Free Vibration and Force Transmission Rate of Helicopter Driveshaft</b> H.J. Wang, D.W. Yu, Y.W. Yue and C. Wang	39
<b>Free Vibration of Damaged Beam Structure with a Notch Defect</b> J.Y. Chen, L.G. Fan and D.C. Qin	44
<b>Elimination of Support Effects in Modal Testing</b> J. Ren, S.S. Bi, W. Wang and G.H. Zong	48
<b>Research on Numerical Simulation Method for 3D Complex Flow in Rotating Machinery</b> G.Y. Du, Z. Tan, W. An and D.C. Ba	52
<b>Analysis on Oil Whip of Steam Turbine</b> X.L. Peng, J. Qian, B. Zhang and R.X. Peng	56
<b>Modal Identification Method Based on Natural Pulsation Excitation</b> X.J. Jiang, J.Y. Wu and J.X. Liu	60
<b>Group Delay in Digital Filter Induced Instability of a Two-Dimensional Airfoil Active Flutter Suppression System</b> M.L. Yu	64
<b>Study on Calculation Method of Dynamic Response of Structure Subjected to Harmonic Load</b> Y.X. Lu, Z.F. Lou, B. Liu and X.C. Pan	70
<b>Vibration Characteristics of Single Pile Embedded in Nearly Saturated Soils Half Space Subjected to Harmonic Vertical Loads</b> H. Zhang, Q. Gao and B. Xu	76
<b>Vibration Suppression of a Saturation Control System Using Delayed Feedback Control</b> Y.Y. Zhao	82
<b>Real-Time Calculation of Noise Radiated by Ship Structure via Machinery Exciting Force Estimation</b> D.D. Lu and L. He	87
<b>Vibration and Modal Analysis of Induction Motor</b> R. Li, Q.F. Jia and S. Zhong	92
<b>The Bionic Vibration Damping Technology and its Inspiration for the High Speed Milling Cutter</b> H.Q. Lv, W.X. Tang, Q.H. Song and S.S. Sun	98

<b>The Vibration Response Analysis about High-Speed Train's Braking Wing</b> W.Q. Zhu and Y.Y. Zhu	102
<b>A Research on the Influence of Vessel-Propeller Coupling Effect to Shaft's Lateral Vibration</b> J.C. Zhu, H.H. Zhu, X.P. Yan and P. Jiang	106
<b>Study of Vibration Characteristics of Cantilever Rectangular Plate with Side Crack</b> L.H. Chen, Y. Sun and W. Zhang	113
<b>Vibration Analysis of the Load on Helicopter Swashplate Rod</b> F. Wang and M. Chen	119
<b>The Effect of Group Number and Group Coupling Stiffness on Vibration Response Localization in Tuned Grouped Blade-Disk</b> A.L. Wang, H. Long, Q. Huang and Q.J. Wang	124
<b>Evolution of Constrained Layer Damping Using a Modified Cellular Automata Algorithm</b> X.B. Li, G. Wang, J.H. Wen and X.S. Wen	129
<b>Microvibration Model Development and Validation of a Cantilevered Reaction Wheel Assembly</b> Z. Zhang, G.S. Aglietti and W.J. Ren	133
<b>The Rapid Series Method for Solving Differential Equation of the Odd Power Oscillator</b> S.L. He and Y. Huang	138
<b>Study on the Free Vibration of Odd Power Oscillators</b> Y. Huang and S.L. He	142
<b>Numerical Simulation of the Damping Influence on Vortex-Induced Vibration</b> Z.J. Yin, Y.S. Cao, T. Han and X.S. Wang	146
<b>Transverse Vibration of Axially Accelerating Moving Fabric: Experiment and Analysis</b> H. Lin, C.L. Zhou, J. Shi and Z.H. Feng	150
<b>Modal Analysis of a Flexible Beam Attaching Multiple Absorbers</b> J. Li, C.S. Liu, F. Li and Z.X. Wang	154
<b>Galloping Characteristics of Conductor Accreted with Crescent-Shaped Ice</b> H.X. Dang, F.L. Yang, X.M. Li and J.B. Yang	158
<b>Sensitivity Analysis of 1000MW USC Units Shafting Torsional Vibration Based on ANSYS</b> S. Liu, C. Wang, B. Li, C. Chen and D.M. Xie	162
<b>On Orifice Design for Reducing Self-Excited Vibration of Aerostatic Guideway</b> Y.N. Zhang, T. Satomi and W. Si	166
<b>Vibration Propagation Characteristics of Binary Periodic Sandwich Panels</b> P.P. Ge and G.L. Yu	172
<b>Experimental Study and Numerical Analysis of Sihui Metro Depot and the Superstructure</b> J. Zhang, B. Zhang, Y.H. Liu, L.Q. Wang and Y.B. Wu	176
<b>Investigating Nonlinear Vibration of a Fully Clamped Nanobeam in Presence of the van der Waals Attraction</b> A.R. Askari and M. Tahani	181
<b>Study on Impact of Vibration Direction on Linear Vibration Screening Effect</b> Y.M. Zhao, K. Wang, L. Dong, B. Zhang, X.L. Yang and Z.S. Zhu	186
<b>Vibration Localization in a Fluid-Loaded Rectangular Plate with Rib Irregularity</b> H.H. Hu and D.J. Shang	191
<b>Analysis and Experiment of an Air Vibration Isolation System with Auxiliary Chambers</b> R.W. Wen, J.B. Tan, L. Wang and G.H. Wang	195
<b>The Design and Dynamic Analysis of High Frequency Ultrasonic Transducer for Wire Bonding Application</b> Z. Zhang, T.H. Yan, X.D. Chen, B. He and X.S. Xu	199
<b>Sound Transmission Control of a Cylindrical Structure Using Acoustic Resonators</b> D.Y. Li and L.J. Ou	203
<b>Application of Balanced Multi-Wavelet in the Fault Diagnosis of Rolling Bearing</b> S.Z. Zhang, J.Y. Zhang and Y. Yang	210
<b>Effect of Mesh Size on Structure Vibration and Acoustic Radiation</b> Z.Y. Xie, Q.D. Zhou, X.J. Lv and J.X. Duan	216
<b>Study on Nonlinear Vibration of Motor Rotor System</b> F.D. Zhang, Q.F. Jia and S.X. Zhang	221

<b>Research on Ash Removal for the Water Wall of Coal Gasifier under Impact Loadings</b> X.T. Zheng, J. Jing, J.Y. Yu, C.G. Wang and J.M. Xu	227
<b>Influence of Radial Slots on the Vibration Characteristics of Circular Saw Blade</b> Y. Li	232
<b>Threshold Noise Reduction Research of Improved EEMD Method</b> M.J. Zhang, H. Chen, C. Wang and Q. Cao	237
<b>The Contrast Experimental Study on Operational Modal Analysis of Ship Structural Model</b> J.C. Xu, M. Hong and H.Y. Cui	241
<b>An Experimental Investigation of Sunroof Buffeting Characteristics of a Sedan</b> Y.Z. He and Z.G. Yang	247
<b>Active Vibration Control of a Double-Decker Cantilever Beam Using Shape Memory Alloy</b> X. Yang, J. Hong, Y.H. Ma and D.Y. Zhang	252
<b>FEM Modeling Technology and Vibration Analysis of Flexible Rotor System</b> Z.C. Liang, J. Hong, Y.H. Ma and T.Y. He	257
<b>Traveling Wave Vibration of Rotating Thin Circular Cylindrical Shell</b> Y.Q. Liu and F.L. Chu	262
<b>Application of Support Vector Machine in the Vibration Signal Measuring-Channel Modeling</b> C.J. Li, Z.Q. Zhang, Y.P. Feng and Q. Tom	267
<b>The Modal Analysis and Modeling Study of the Spacecraft Payload Load-Bearing Floor Structure</b> S. Yang, C.C. Ma, G.F. Li and R.J. Wang	271
<b>Crucial Torsional Modal Identify on Drive-Train in a Wind Turbine</b> H.X. Li, F.M. Wu, W. Li and D. Wang	275
<b>Modal Analysis and Optimization of Spindle Box of Turn-Milling Center Based on Finite Element Method</b> L.D. Zhu, X.B. Wang, T.B. Yu and W.S. Wang	281
<b>Experimental Study on Vibrational Transmission Characteristics of a Ring-Stiffened Cylindrical Shell Model</b> H.B. Wen, Y.Y. Zuo, Z.L. Peng and H. Shen	285
<b>The Modal Analysis of the Rotor of Electric Eddy Current Dynamometer Based on ADAMS</b> X.B. An, D.W. Li, H. Wang and L. Wang	290
<b>The Design and Prestressed Modal Analysis for Megawatt-Class Wind Turbine Rotor</b> W. Gao, C. Li, Q. Liu and Y. Chen	295
<b>Finite Element Modeling and Modal Analysis of Coilable Mast</b> J. Wang, D.X. Li and J.P. Jiang	299
<b>Modal Identification Based on Hilbert Transform for Time-Varying System</b> M. Zheng and F. Shen	303
<b>Research on Vibration Control of High-Speed Press Frame Structure</b> X. Zheng, J.L. Yao and J.L. Wang	308
<b>A Detection Technology for Weak Vibration Signal Based on Independent Component Analysis</b> H.D. Guo, S.M. Li, Y.Y. Zhang, X.X. Wang and S. Ma	312
<b>Reconstruction of Sound Field Based on Mono-Poles Array Modes</b> Y.F. Nie, H.C. Zhu and R.F. Mao	316
<b>Study on the Mechanism of Vibration Reduction by Variable Speed Cutting</b> D.L. Wang	320
<b>Study on Ambulance Stretcher Vibration Isolation System</b> G.Y. Pan and Y. Zhang	324
<b>Optimized Fuzzy Neural Networks Control of a Magnetic Suspension Vibration Isolation System</b> C.S. Song and Y.F. Hu	328
<b>Selection of Optimistic Wavelet Base in Running-In Vibration Signal Denoising of Remanufacturing Engine</b> X.B. An, L. Chen, C.F. Chen, Y.C. Bai and C. Yang	335
<b>Research on Condition Monitoring of Bearing Health Using Vibration Data</b> L. Ma, J.S. Kang and C.Y. Zhao	340

<b>Vibration Modeling and Sensitivity Analysis of Printed Circuit Board</b> F. Xu, C.R. Li, T.M. Jiang and L.T. Liu	345
<b>Natural Vibration Period Analysis of Multi-Storey Reinforced Concrete Frame Structure</b> L.N. Hao and Y.S. Zhang	351
<b>Wind-Induced Vibration Analysis of Wind Fence Structure</b> G.F. Ma and T.G. Chen	355
<b>Influence of Rib Strengthening on Structure Vibration and Sound Radiation of Cylindrical Shell</b> H. Zheng, Q.D. Zhou and G. Ji	359
<b>Monorail Truss Structure Selection Based on Modal Analysis</b> J.P. Wang, Y.L. Zhou, F. Wan, T. Huang and H. Liang	364
<b>The Effects of the Jet-Flow on Sound Propagation in Low-Speed Wind Tunnel</b> Y.G. Wang, J.S. Yang, Y. Yang and Z.G. Yang	368
<b>Excitation Source Function of Ground Vibration from Urban Railway Traffic by an Inversion Procedure</b> X.X. Tao, X. Zheng and F.T. Wang	374
<b>Analysis on Vibrations due to High-Speed Railway Tunnel and Control Measures</b> X.J. Quan, K. Shi and Y.B. Yan	381
<b>The Characteristic Analysis of Vibration for High-Speed Train-Ballastless Track-Bridge System Base on A Hybrid FE-SEA Method</b> W.J. Luo, X.Y. Lei, S.L. Lian and L.Y. Liu	387
<b>An Explanation on Mechanism of Local Amplification in Attenuation of Ground Vibration from Rail Traffic in Urban Area</b> H.M. Liu, X.X. Tao, X. Zheng and F.T. Wang	392
<b>Technology and Application for Modal Testing of Cable-Stayed Bridge</b> Y.S. Zou, Q.H. Chang and W. Peng	396
<b>Numerical Simulation of the Vibration and Structure-Borne Noise of the Viaduct</b> J. Li and N. Zhang	401
<b>Analysis on Vibration Reduction Characteristics of Ladder Track Structure on Metro Viaduct under Measured Track Irregularities</b> X.Z. Liu, S.L. Lian and H.L. Wei	406
<b>Simulation and Analysis for Environment Vibration Induced by Urban Rail Transit with Ground Line</b> H.N. Zhang, Q.Y. Sun and G.J. Sun	411
<b>Comparative Study on Aerodynamic Noise of Dimensionally Similar Locomotive Models of High Speed Trains</b> Y.G. Wang, Y. Yang, J.S. Yang and Z.G. Yang	417
<b>Application of Dynamic Vibration Absorber in Noise Control of Whole Vehicle</b> X.Y. Xu, G.H. Han and Z.G. Ma	423
<b>Noise Decreasing Methods of Gearing Vibration for a Idling Construction Machine</b> C.Y. Mu, C.M. Gao and Z. Ge	427
<b>Experimental Modal Analysis of Vehicle Body in White</b> S.M. Chen, C.L. Shen, X.W. Song, D.F. Wang and W. Li	431
<b>Thickness Optimization Study of Constrained Damping Plate</b> H.C. Wan, L. Zheng and Y.N. Li	436
<b>Research on Vibration Angle of Six Degree-of-Freedom</b> C.Z. Li, Y. Chen and Q.L. Liu	440
<b>The Study of Sound Quality for Car Compressor</b> Y.F. Hou, G.H. Han and X.Y. Xu	444

## **Chapter 2: Dynamics of Mechanisms and Systems**

<b>Dynamics of A Single Elastic Bodies under Large Rigid Rotation</b> Z.F. Liu and S.J. Yan	451
<b>An Experimental Study on the Effect of Submergence on a Vertically Oscillating Hydrofoil at Zero Translational Velocity</b> R. Fernandez and K. Alexander	459

<b>Discussion on Commonly Methods for Analysis of Drill String Acoustic Spectral Characteristics</b>	
Y.W. Liu, Z.C. Guan, G.S. Zhao and Z.Q. Long	466
<b>Numerical Simulation Method of Acoustic Wave Propagation Based on Semi-Symplectic Theory</b>	
Z.F. Li and W.Z. Ma	470
<b>Dynamics of the Oscillative Solution for a Non-Linear Ecosystem with Impulsive Perturbation</b>	
Y.S. Tan and H. Zhang	474
<b>Fluid-Structure Interaction Analysis of Flexible Marine Propellers</b>	
H.T. Sun and Y. Xiong	479
<b>Analysis of Bearing Loads for Scroll Compressor Considering Phase-Angled Counterweights</b>	
Y. Yu, C. Li, M. Zhao and S.S. Zheng	483
<b>The Research of Cylindrical Noise Source Distribution Using Near-Field High-Resolution Location Methods Based on MVDR Algorithm</b>	
H. Chen, F. Xu and S. Su	487
<b>The Near-Field Correction Method of the Basic Array Error Based on a Single Auxiliary Vector Hydrophone</b>	
H. Chen, F. Xu and D.H. Yu	493
<b>Aeroelastic-Acoustics Numerical Simulation Research</b>	
X. Pei, M. Xu and D. Guo	500
<b>Complex Dynamics in the Kummer-Olsen Model of Calcium Oscillations</b>	
Z.F. Wu and Y. Zhou	505
<b>Hopf Bifurcation and Numerical Simulation in a Calcium Oscillation Model</b>	
H.K. Zuo, Q.B. Ji and Y. Zhou	510
<b>Analysis of Attitude and Dynamics Characteristic of a Kind of Submerged Buoy</b>	
J.X. Wang, H.B. Gui, X. Chen and Q. Fu	516
<b>Dynamical Analysis of a Calcium Oscillation Model in Non-Excitable Cells</b>	
Y. Zhou, Z.F. Wu and Y.H. Huo	521
<b>Simulation Research on Defects Detection in Straight Pipes Using Guided Waves</b>	
A.Q. Cui, S.P. Zhou, W.C. Lv and C.L. Liu	526
<b>Bifurcation Induced by Mass Variation in Piecewise Linear System</b>	
Y.H. Li and S.D. Chen	531
<b>Simulation on Shock Wave Propagation in Metallic Foams Subjected to Impact Loading</b>	
Y.F. Zhang	536
<b>Nonlinear Dynamics of Simple-Supported Beam under Concentrated Moving Load</b>	
D.X. Cao, B. Chen and W. Zhang	541
<b>Dynamic Testing and Analysis of Inflatable Beams</b>	
J.Z. Wei, H.F. Tan, J.X. Yu and X.W. Du	546
<b>Prediction of Wave Attenuation across Multiple Joints with an Improved Elastic Nonlinear Model</b>	
B.X. Song, J. Yu, Y.Y. Cai and X. Chen	553
<b>An Improved Mixed-Radix FFT Technique and its Application in Frequency Spectral Analysis</b>	
J.B. Li, J.D. Wang, B. Fu and G. Lin	560
<b>Chirp Signal Time-Frequency Analysis Characteristic Comparison</b>	
J.L. Zhou and F. Wang	568
<b>Fault Diagnosis of Grinding Machine Using Choi-Williams Distribution Based on COM Module Technology</b>	
M.Z. Sun, C. Wang and Y.L. Xu	572
<b>Analysis of Orbiting Scroll Overturning for Scroll Compressor</b>	
M. Zhao, S.R. Yu, C. Li and Y. Yu	576
<b>The Frequency Veering Phenomena of the Beams of Cantilever Screen</b>	
M.M. Li, F.Z. Song and C.G. Ding	580
<b>Research on Semi-Active Suspension System with Variable Stiffness and Damping</b>	
G.Y. Pan and F.Q. Fan	584

<b>Dynamic Modeling for a Thin Plate with Large Deformation</b> T. Zheng, D.G. Zhang and J. Zhu	590
<b>The Study of Reliability in MDO of Aircraft</b> Q. Xia, M. Li, Z.J. Cao and H.W. Wang	598
<b>Dynamical Sensitivity Analysis on Blades in Turbine Machines</b> D.Y. Zhang, Y.H. Ma and J. Hong	602
<b>Simulation Modeling of Ball Screw Feed Drive System Based on MRAS</b> Y.Q. Wang, C.R. Zhang and Y. Zhang	607
<b>The Research of Strain Rate of Common Bolt Materials</b> X.H. Gao, Y. Wang and J.Y. Du	613
<b>Analysis on Static Characteristic of HTC100 NC Lathe Bed</b> M.W. Lu and G.M. Zhang	617
<b>A Study on Dynamic Performance of Deviation-Based Sliding-Door in Closed State</b> G.P. Chu and P.F. Liu	621
<b>Research on Fatigue Life Prediction of Gear Box in Caterpillar Based on Running Simulation Test</b> Z.W. Dong, J. Wu and X.J. Du	627
<b>The Dynamic Analysis of High-Speed Cam with Considering Damping</b> L.Y. Su	632
<b>NN-PID Adaptive Control for 6_PUS Parallel Mechanism</b> X.Q. Tan and G.Y. Li	636
<b>A Dynamic Analysis of Reciprocating Compressor Transmission Mechanism with Joint Clearance</b> H.Y. Zhao, M.Q. Xu, J.D. Wang and G.J. Chen	641
<b>Identification of Quadratic Volterra System Using Random Multi-Tone Excitation</b> L.N. Tan, L.B. Lu, G.D. Jin, P. Li and J. Liang	646
<b>The Rotor Dynamic Analysis and Optimization in Turbocharger</b> N.N. He and H. Zhang	651
<b>The Assessment on the Accuracy of Chart Datum Transfer Algorithm</b> X.X. Sun, F.M. Xiao, W. Xia, G. Bian and S.H. Jin	656
<b>Modeling and Simulation of Hydraulic Turnover Device for Large Bearing House</b> X.C. Zhu, L. Guo, Y.Q. Ding and S.H. Lin	660
<b>Dynamic Analysis of the Rotor System with a Semi-Elliptical Fronted Crack on the Shaft</b> Y. Di, C.L. Liu, Q.D. Zhang, W. Cheng and S.P. Zhou	665
<b>The Performance Analysis of Vertical Automatic Tool Changer System</b> H.Y. Dong, Y.H. Zhang, Y.S. Li, H.X. Sun and Y. Zou	672
<b>Investigation of Human Masticatory Movements Using ADAMS and MATLAB/SIMULINK</b> M.D. Lei, S.L. Xu, J.J. Lu and W. Li	677
<b>Study on the Time Lag between Steering Input and Vehicle Lateral Acceleration Response under Different Key Vehicle Parameters</b> G.M. Dong, J. Chen and N. Zhang	681
<b>Impact Dynamics of Multi-Link Robots with Link and Joint Flexibility</b> Z.J. Qian and D.G. Zhang	685
<b>A Linear Stepping Piezoelectric Motor Using Inertial Impact Driving</b> W.H. Liu, Y. Wang, W.Q. Huang and Q.J. Ding	693
<b>The Discretization Methods of a Rotating Flexible Cantilever Beam</b> J.H. Fan and D.G. Zhang	697
<b>A Hybrid Finite Element-Analytical Approach for Dynamic Analysis of a Micro-Resonator Driven by Electrostatic Combs</b> M.T. Song and D.Q. Cao	708
<b>Analysis on Axial Displacements of an Engine Main Shaft in Complex Temperature Environments</b> J.Z. Pan, D.Q. Cao and S.M. Chu	714
<b>Dynamic Performance Test and Analysis of Spindle System of High Speed Grinding Machine Tools</b> M.X. Guo, B.Z. Li and J.G. Yang	720

<b>Anti-Noise Simulation of the Hysteresis Mathematic Model Using Computationally-Efficient GA</b>	
X.M. Xue, Q. Sun and X.H. Wu	725
<b>Variable Weight Fuzzy Comprehensive Evaluation Method for Health Condition of Warship Electromechanical Device</b>	
G.Y. Zhang, Q.M. Li and E.S. Ge	729
<b>Study on System for Monitoring Mine Belt Conveyor Fire</b>	
M. Huang	734
<b>Aeroengine Rub-Impact Fault Diagnosis Based on Wavelet Packet Transform and the Local Discriminate Bases</b>	
Y.H. Wu, M.X. Shan, Y.N. Qian, X.L. Li and R.Q. Yan	740
<b>An Automaton Fault Diagnosis Based on Shock Response Analysis</b>	
H.X. Pan, M.Z. Pan, R.P. Zhao and H.F. Ren	745
<b>Fault Diagnosis of Railway Axlebox Bearing Based on Wavelet Packet and Neural Network</b>	
X.F. Li, Y.X. Fu and L.M. Jia	749
<b>Fault Feature Extraction Method of Large Rotating Machinery</b>	
Z.L. Jiang, X.L. Xu and P. Chen	756
<b>Blind Extraction of Correlated Fault Sources Based on Constrained Non-Negative Matrix Factorization</b>	
N. Li and H.T. Chen	760
<b>Compound Fault Feature Separation of Rolling Bearing Based on Complex Wavelet and Energy Operator Demodulation</b>	
Y. Yang, J.Y. Zhang and S.Z. Zhang	765
<b>The Current Situation and Recent Advances of Deep-Water Floating Wind Turbine</b>	
Y. Chen, C. Li, W. Gao and J.B. Nie	772
<b>Analysis of Underwater Projectile Experiment Using One Stage Light Gas Gun and Numerical Simulation</b>	
B.Q. Wang, C. Wang, H.L. Huang, Y.J. Xing and J.Z. Zhang	776
<b>Mechanical Analysis on Destruction of Coal Cutters Guide Shoes</b>	
Z.J. Yang and W.N. Zhang	780
<b>A Dynamic Optimization Design Method for the Turbine Engine Frame Foundation</b>	
Z.J. Li and X.C. Wang	784
<b>Time-Accurate Simulation of Longitudinal Flight Mechanics with Control by CFD/RBD Coupling</b>	
D. Guo, M. Xu and S.L. Chen	788
<b>Analysis and Simulation of Two Hinged Ends Micro-Beam Relaxation Process</b>	
X.W. Zhu and W.F. Wang	793
<b>The Comparison of Two Processing Methods of Sliding Bearing in Impact Dynamics Analysis of Finite Element Software</b>	
X.H. Gao, Y. Wang, J.Y. Du and X.P. Gao	798
<b>Effect of Service Speed on Dynamic Response of Heavy-Load Depressed Center Flat</b>	
S.X. Zhou, T. Long, Y.Y. Xie and J.L. Xie	802
<b>Optimization of Refrigerator Door Structure Based on ABAQUS</b>	
H.Y. Zhu, C.L. Zhang and W.X. Wang	807
<b>Analysis of CFD for Design Method of Swirl Atomizer</b>	
L. Yu, S.S. Yuan, Z.B. Pang and Y.L. Wang	812
<b>Rotary Kiln Drive System of Kinematics Modeling Analysis Based on ADAMS</b>	
Z.H. Jiang and G.P. Cai	816
<b>On the Basis of Double Fuzzy Control of Honing Machine Reciprocating Motion</b>	
C.B. Hu, Y.Z. Wang, S.S. Chen, J.L. Zhao and J. Gong	820
<b>Numerical Simulation of Natural Cavitating Flow over Axisymmetric Bodies</b>	
Q.K. Liu and Y. Gao	825
<b>Prediction of Nonlinear Contact Force of Piston Skirt and Cylinder Liner under the Function of Clap Force</b>	
Z. Jin, Z.Z. Yu and L.S. Yang	831
<b>Reduced-Order Model for Unsteady Compressible Flow Based on POD-Galerkin Projection</b>	
Y.B. Dou and M. Xu	835

<b>Fast Terminal Fuzzy Sliding Mode Control for a Three-Links Spatial Robot</b> S.B. Hu, W.H. Lu, D.M. Cao and H.R. Xu	840
<b>CPG-Based Movement Control for Bionic Flapping-Wing Mechanism</b> Y. Hou and F. Wang	844
<b>Fatigue Strength Analysis of the Actuator for the Steering Gear Based on DFR</b> G. Duan and H.J. Yuan	850
<b>Research on the Damage of Warship Structure Subjected to Mixed Explosion Load</b> H.J. Wang, C. Wang, Y.W. Yue and D.C. Sun	855
<b>Research on Fatigue Life Prediction of Planetary Cage in Caterpillar Base on Running Simulation Test</b> X.J. Du, C.Z. Jia and J. Wu	862
<b>Study on the Effect of Dynamic Wheel-Rail Contact Geometry Relationship in Turnout Region by the Track-Distance Roughness</b> K.Z. Xie, P. Wang, L. Wang, B. Wang and S.X. Quan	867
<b>Analysis of Influence Factors of Switching Force and Inadequate Displacement of Switch Rail of NO.9 Turnout</b> B. Wang, P. Wang, K.Z. Xie, L. Wang and S.X. Quan	872
<b>Dynamic Property Analysis of Rubber Absorber in Rail Fastenings of Different Force Condition</b> S.W. Wang, Y.Y. Luo, L. Li and Y. Liu	877

### **Chapter 3: Geotechnical and Structural Engineering**

<b>Rehabilitation of Strength of Steel Plate with a Corroding Hole Bonded by Composite Patches</b> X.M. Zhang, L.W. Chen, Z.L. You, M.Y. Hu and S.H. Yang	883
<b>Lessons Learnt from Seismic Damage Induced by the 2008 Wenchuan Earthquake</b> D.P. Guo and M. Hamada	889
<b>Seismic Risk Assessment of Structures Using Multiple Stripe Analysis</b> P.P. Ni, S.H. Wang, L. Jiang and R.Q. Huang	897
<b>Influence Analysis of Layout of Braces on Structural Dynamic Properties of Large Space Multi-Storey Buildings</b> J.Z. Yu, P.Z. Cao, K. Wu and M.B. Min	901
<b>Analysis of Influence of Material Damping on the Dynamic Response of Concrete-Filled Square Steel Tubular Columns</b> Y.F. Wang and X.R. Li	905
<b>Tunnel Surrounding Rock Classification Forecast Based on the Geological Advanced Prediction System in Seismic Area</b> T. Ren, D.Y. Jiang, J. Chen, W. Guo and S. Ren	910
<b>Influence of Transition Layer Position on Seismic Performance in Multi-Story Buildings of SRC-S Vertical Hybrid Structures</b> H. Huo, P.Z. Cao, K. Wu and M.B. Min	916
<b>Damage Detection of Concrete Structure Based on Approximate Entropy</b> Z.K. Xie, G.H. Liu and Z.H. Zhang	920
<b>Study on Earthquake Resistant Performance of a Large Span Structure Strengthened with HADAS</b> Y. Yao, Y.J. Deng, D.G. Chen and H.J. Wang	926
<b>Dynamic Reliability Analysis on Arch Dam by Considering Random Elastic Modulus</b> H.J. Chen, Q.X. Wu and H.F. Zhen	931
<b>Effect of Crack-Depth Ratio on Double-K Fracture Parameter of Reinforced Concrete</b> S.W. Hu, Z.X. Mi and J. Lu	937
<b>Design Guidelines on the Ultimate Strength of Retrofitted Deep Concrete Coupling Beams by Laterally Restrained Side Plates</b> B. Cheng, R.K.L. Su and J. Luo	942
<b>Experimental Study on Seismic Performance of Non-Dispersible Underwater Concrete Short Columns</b> D.M. Sun, H.G. Kang, Y.F. Lu and W.Q. Zhong	949



<b>Seismic Fragility Analysis of Reinforced Concrete Frames Based on the Service Age Variation</b>	953
N.J. Wang, J.M. Wang and W.T. Jiang	
<b>Improvements on Technologies of Shield Tunnel Construction in Sandy Soil</b>	957
Z. Wang, G.S. Liu, F. Long and F. Zheng	
<b>Experimental Study on Bending Behavior of the Wood Beams in Historic Building with CFRP Sheets</b>	963
N.Q. Meng, C.L. Deng, Z.W. Jia Ding and B. Jia	
<b>Seismic Behavior of Super High-Rise Frame-Core Wall Structure</b>	967
J.X. Yuan and Q. Zhang	
<b>Studies on Aseismic Performance of a Typical Subway Tunnel with Initial Defects Caused by Construction of New Down-Through Tunnels</b>	972
W.Z. Sun, J. Dong, Y.P. Cui and F. Dong	
<b>The Corrosion of Concrete Shaft Lining of Mine and its Related Research Progress</b>	976
Y.T. Yang and H.G. Ji	
<b>Nonlinear Finite Element Analysis of the Temperature Field of Special-Shaped Concrete-Filled Steel Tubular Column under Standard Fire Condition</b>	980
Y.W. Wang, Y.B. Li, Z.H. Chen, X.D. Wang, B. Song and G.H. Wang	
<b>Blasting Demolition Technology and Vibration Testing of 210m Reinforced Concrete Chimney</b>	986
S.X. Xu and D.Z. Chen	
<b>Material Strain Analysis of CFRP Reinforced RC Columns Subjected to Combined Action of Force by Finite Element Method</b>	991
Y.Z. Liu, Z. Liu, J. Li and X. Chen	
<b>A Fatigue Analysis Method Research for Main Frame of the Large-Scale Wind Turbine</b>	995
L. Wang, F.M. Wu, X.M. Lv and D. Wang	
<b>Researches on the Structural Influencing Coefficient of Steel Frames under Different Sites Based on the Energy Concept</b>	1000
H.J. Jia, H. Dai and R.Q. He	
<b>Studies on Dynamic Response of Subway Tunnels with Initial Defect under Long-Term Train Loads</b>	1005
F. Dong, J. Dong and W.Z. Sun	
<b>Analysis of Strong Ground Motion Caused by Blasting Demolition of a 22-Storey RC Building</b>	1010
Y.S. Wang and X.J. Li	
<b>Study on Strength and Stiffness of Special-Shaped SRC Columns</b>	1015
M.Z. Luo, J.Z. Du and W.L. Cao	
<b>Numerical Simulation of Pile-Soil Interaction Considering Sand Liquefaction under Earthquake</b>	1019
P.Z. Li, D.Y. Ma, D.M. Zeng and X.L. Lu	
<b>Tilt Response of Multi-Storey Building of Different Types due to Progressive Collapse of the Adjacent Underground Structure under Internal Blast Loading</b>	1023
L. Tian and H.X. Song	
<b>Precipitation Characteristics of CaCO<sub>3</sub> Scaling on Stainless Steel in Cooling Tower Condition</b>	1029
J. Sheng and H. Zhang	
<b>Numerical Simulation for Progressive Collapse and Protection of a Multi-Storey Building due to an Explosion in its Basement</b>	1034
L. Tian and Z.L. Li	
<b>Numerical Analysis for Progressive Collapse and Protection of Underground Structure under Internal Blast Load</b>	1039
L. Tian and Q. Wang	
<b>Experimental Study on Shear Behavior of Prestressed Concrete Beams</b>	1045
G.L. Wang and W.S. Ding	
<b>A Fire Disaster Intelligence Alarm System Applicable to Underground Space</b>	1049
Y. Zhang	
<b>The Marine Derrick Test Tool Design and Optimization</b>	1055
J. Liu, J.P. Wang, F. Wan, Y.L. Zhou and S. Xia	

<b>Pushover Analysis of Eccentric High-Rise Single-Tower Building's Frame-Shear Wall Structure</b>	
X.J. Cheng, Y.C. Tai and L.L. Jia	1060
<b>Analysis of Brick Wall's Failure Modes under Earthquake Effect</b>	
K. Qin, W.F. Zhang and L.J. Niu	1066
<b>Statistics and Analysis of Typhoons Landing and Failure Mechanism of Coastal Low-Rise Buildings in China</b>	
Y.M. Dai, X.G. Yan, X.J. Wang, H.X. Sun and Y.G. Li	1072
<b>Seismic Damage Evaluation of Recycled Concrete Frame Using Wavelet Transform</b>	
B. Hu, B.K. Liu and C.G. Wang	1076
<b>Study on Influence of Infilled Wall of RC Frame Structures</b>	
Y.N. Liu, L.B. Wang and Y.S. Zhang	1081
<b>The Bottom-Up Underpinning Construction Technology for Base Isolation Reinforcement of the Existing Masonry Structure</b>	
F.Y. Zhang, M. Pei, L.J. Mao and Y.Y. Dong	1085
<b>A New Method for Dynamic p-y Curves of Pile-Cap Structure in Layered Soil</b>	
Y.R. Li, Y. Liang, X. Wei and Y.L. Wang	1089
<b>Deep Well of Coal Roadway Bolt-Cable Mechanism Analysis and its Engineering Application</b>	
B.X. Tang and Y.W. Wang	1094
<b>Discussion of Different Methods of Strengthening Masonry Walls with Constructional Column</b>	
C. Wang, Y.K. Luo and X.L. Xu	1098
<b>Based on the Test of Dynamic Characteristics of the Structure Retrofit Design</b>	
P. Li and F. Ma	1102
<b>Study on Determining Safety-Monitoring Index for Concrete Dam Based on Cloud Model</b>	
D. Qin, X.Q. Zheng and S.L. Wang	1106
<b>Application Research of the Dynamic Compaction Method with Precipitation in Foundation Treatment Dredger Fill</b>	
F. Xuan, C.Q. Peng and Y. Jia	1111
<b>Study of Performance Levels of Masonry Buildings Based on Damage</b>	
W. Liu, P. Xu and B. Zhang	1115
<b>Identification of Nonlinear Parameters of Rubber-Bearing in Base-Isolated Building</b>	
Y. Lei and M.Y. He	1119
<b>Nonlinear Behaviors of Submerged Floating Tunnels under Seismic Excitation</b>	
C.X. Shi, M. Domaneschi and L. Martinelli	1124
<b>Deflections of Steel Reinforced Concrete Beams Considering the Bond-Slip Effects</b>	
X.L. Cao, G. Ye and H.G. Gou	1128
<b>Performance-Based Seismic Analysis of Infilled Wall Frames Structure</b>	
S.H. Wang, J.L. Wang, Z.G. Mu, J.B. Zhang and Y.T. Liu	1132
<b>Seismic Behavior Analysis and Earthquake Damage Prediction of Buildings in Langfang</b>	
Q.Y. Li, P.P. Zhao and G.D. Xu	1136
<b>A Framework of Assessing Remaining Fatigue Life of Aged Crane Structures</b>	
K. Qi, W.X. Wang, X.H. Wang, A.H. Jiang and B.Q. Liu	1141
<b>Research on Prestressed Concrete Cable-Beam Structure System</b>	
X.Y. Xie and X.S. Yin	1145
<b>Shaking Table Test Study on Mid-Story Isolation Structures with Viscous Damper</b>	
J.M. Jin, P. Tan, F.L. Zhou and X.Y. Huang	1149
<b>Temperature Control Measures Optimization of RCC Gravity Dam</b>	
S.P. Huang, J.Y. Fu and Y.C. Li	1153
<b>Research Progress of Smart Concrete Structures Reinforced by Shape Memory Alloy</b>	
D. Cui, Y. Zhang and P. Guan	1157
<b>Failure Characteristics of Transmission Towers Subjected to Downbursts</b>	
J.W. Wang	1161
<b>Behavior of New Type of Semi-Rigid Joints under Moment and Tensional Force</b>	
M. Xu, S. Gao and Y.Y. Wang	1165
<b>The Study on Environmental Evolved Characteristic of Sandy Coast</b>	
Q.P. Zhang, X.Q. Han, J. Li, J.J. Zhao, W.B. Zhou and W.M. Gao	1170

<b>Statistical Analysis of Fundamental Periods of Frame Structures</b> Y.Q. Gao and W.F. Liu	1174
<b>Finite Element EMI Model for Cracked Portal Frame and Parameter Study</b> W. Yan, W.C. Li and W. Wang	1181
<b>Stability Analysis of the Radiant Cable Suspendome</b> J. Kang and X.Y. Liu	1185
<b>Quasi-Static Analysis of Stiffened Plate under Axial Pressure</b> G.M. Ji, G. Sun and G.Y. Zhang	1190
<b>Component Modeling of Steel Bolted End-Plate Joints under Bending and Shearing Loads</b> J.F. Zhang, Z.Y. Wang and J.Q. Jiang	1194
<b>Nonlinear Finite Element Analysis of Steel Frame with Semi-Rigid Connections</b> G.H. Li, C.Z. Qi and J. Luo	1199
<b>Structural Safety Monitoring during Retrofit of Shanghai Expo Puxi Entertainment Hall</b> M. Zhao and J. Liao	1203
<b>Simulation Study on Construction Process of Complex Spatial Steel Structure Based on the Construction Mechanics</b> W.L. Zhang, Z.X. Wu and B.H. Chen	1209
<b>A Structural Damage Alarm Index Based on the Statistical Probability of Abnormal Frequency Offset</b> Y.S. Song, Z.G. Sun and L.Y. Sun	1214
<b>Reduced Equivalent Static Wind Loads for Tall Buildings with Tuned Liquid Dampers</b> A.S. Ross, A.A. El Damatty and A.M. El Ansary	1218
<b>Tall Building Subsidence Data Regression Analysis Methods and the Final Settlement Value Prediction</b> Z.Y. Xu, S.J. Liu and L.X. Wu	1228
<b>Design of Cold-Formed Thin-Walled Steel Fixed-Ended Channels with Complex Edge Stiffeners under Axial Compressive Load by Direct Strength Method</b> C.G. Wang, P. Ma, D.J. Song and X.Y. Yu	1232
<b>The Research on the Nonlinear Stability of the Steel Spatial Arch Truss with 120m</b> J. Liu, H.W. Li, Y.N. Sun and X.F. Shu	1236
<b>Effect of Geometric Nonlinear Behaviour of a Guyed Transmission Tower under Downburst Loading</b> C. Ladubec, A.A. El Damatty and A.M. El Ansary	1240
<b>Force Analysis of Ring Gate Based on ANSYS</b> X.C. Hu	1250
<b>Numerical Simulation of Wave Overtopping of Breakwater Armored with Porous Layers and Water-Structure Impaction</b> Z.L. Huang and P.Z. Lin	1255
<b>Numerical Simulation of Mean Wind Pressure on the Roof of Yantai Gymnasium</b> X. Meng, R. Gao and H.J. Zhang	1260
<b>The Structure Statics Analysis and Optimal Design of Hydraulic Support</b> K.M. Xue, P. Huang, P. Li, L. Chen and W. Liu	1265
<b>Application of Root Pile to Reinforce High Embankment</b> P.C. Jiang, L.H. Zou and X. Wang	1269
<b>Experimental Study on the Strength and Deformation Quality of Granite with Effect of High Temperature</b> X.L. Xu and F. Gao	1275
<b>The Experiment to Research the Mudstone Interbeds which Affect the Mechanical Characters of the Layered Rock Salt</b> D.Y. Jiang, X.Q. Fan, T. Ren, J. Chen and S. Ren	1279
<b>The Analysis of Dynamic Characteristics for the Powerhouse Structure of the Riverbed-Hydroelectric Station</b> X.M. Peng, Z.X. Song and L. Jiang	1285
<b>Affecting Slope Stability Condition of Structure and Engineering Geology Overview in Xiao-Wan Project Region</b> D.S. Zhang	1289
<b>The Calculation of Landslide-Thrust Based on Reliability Theory</b> Y.X. Wu, D.S. Liu, L. Wang and Q. Xin	1293

<b>Model and Application on Displacement Calculation of Abutment by Considering Earthquake Effects</b>	
H.K. Chen, L. Tang, X.Y. He and R.C. Liu	1297
<b>Effect of Wetting on the Pullout Resistance of Grouted Soil Nails</b>	
J.Y. Wu and J.M. Chang	1304
<b>The Study of Environmental Characteristic by Coastal Engineering in Rock Coast</b>	
C.H. Zhang, X.Q. Han, J. Li, W. Zhang, K. Wu and W.M. Gao	1308
<b>Characteristic of Development of the Fractured Zone in Mining under Medium Hard Overburden Using Fully-Mechanized Top-Coal Caving Method</b>	
W. Zhu and Y.H. Teng	1312
<b>Comparative Study on Landslide Hazard Deformation Forecast Method</b>	
H. Fu, J.L. Yang, J.H. Zhang and M.W. Liu	1318
<b>Study on Impact of Reservoir Leakage on the Proposed Tunnel Project in Metamorphic Region</b>	
Y.H. Du and Q.H. Zhao	1322
<b>Block Element Analysis for Earthquake Response of Joint Rock Slope</b>	
D.S. Yin, W.X. Qing and C.S. Li	1326
<b>Reliability Analysis of Arch Dam Considering Temperature Change Field</b>	
M.Z. Yang, Q.X. Wu and J. Lu	1332
<b>Experimental Research on Failure Mode of Micro-Pile in Landslide Reinforcement</b>	
S.F. Wang, Y.P. Fu and X. Zhao	1338
<b>Two-Dimensional Numerical Wave Simulation for Port with Submerged Breakwater</b>	
N. Zhang, K. Guo and W.Z. Zhang	1343
<b>Based on Crack the Second Expansion the Variation and Generalized Variation Problem of Fractured Rock Mass under Unloading</b>	
L. Yu, M.F. Fu and B. Tu	1348
<b>Dynamic Response Analysis of Jacket Wharf Structure under Wave</b>	
Y. Zhang and T.G. Chen	1353
<b>Application of Vacuum Preloading for Soft Foundation Treatment in Grain Storage</b>	
Q.X. Liu and Y. Zhao	1359
<b>The Records of Slope Reinforcement Engineering in a Loess City</b>	
Q.X. Liu and L. Fan	1365
<b>Research on the Concrete Dam Damage and Failure Rule under the Action of Fluid-Solid Coupling</b>	
K.M. Sun, Z. Li and M.R. Bagale	1371
<b>Dynamic Response Simulation of SCR in TDZ Considering the Soil Property</b>	
G. Li and X.P. Huang	1377
<b>Research on Factors Influence of Vegetation Slope Protection Based on Grey Incidence Analysis Theory</b>	
F. Chen, X.B. Xiong, Z.M. Zhai, C. Gu and X.B. Zhang	1382
<b>Study on Construction Parameters of Cement Deep Mixing Piles</b>	
W.T. Rong	1386
<b>Analysis of the Surrounding Rock's Stability Based on Fuzzy Comprehensive Evaluation Model</b>	
X.Z. Zheng, Q.L. Chen, H.F. Li and P.F. Shi	1390
<b>The Application of Compaction Sand Pile in the Yellow River-Crossing Project for South-to-North Water Diversion</b>	
Q.X. Liu and Y. Bai	1396
<b>Study on Deformation-Based Seismic Performance Index of Arch Dams</b>	
X.W. Yao and J.Q. Jiang	1401
<b>Seepage-Stability Analysis of a Mine Tailings Dam in Yunnan Province Based on ANSYS</b>	
S.Q. Ma, S.J. Cai and M. Guo	1406
<b>Splitting Criterion of Grouting Bore-Hole Wall and Study on Numerical Simulation of Crack Propagation</b>	
P.L. Su and S.C. Gu	1411
<b>Application of Improved Threshold's Lifting Wavelet to the Analysis of the Dam's Displacement</b>	
X.Q. Zheng, D. Qin and H.Z. Liu	1415

<b>Distribution of Lateral Pressure in Large Diameter Squat Silos under Eccentric Discharge</b> Y.Z. Zhu, S.P. Meng, W.W. Sun, W. Wang, Y.L. Feng and C.H. Jin	1420
<b>Stability Analysis of Sinkhole Considering Groundwater Level Fluctuation</b> S.M. Huang, Y.C. Liu and C.C. Wang	1426
<b>Damage Identification Research of Cantilever Truss Based on the Principle of Strain Mode</b> J.H. Zhang, N.J. Du and Y.G. Shen	1432
<b>Research on Damage Status of the Reinforced Concrete Ground Floor Columns</b> L.J. Gao, Y.S. Zhang and Q. Li	1436
<b>Analysis for Eccentrically Loaded of Steel Bolted Group</b> W.T. Hsu, D.M. Lue and C.Y. Liao	1441
<b>Analysis on Mirror Lateral Displacement and Steel Frame Connection Strength of Collector</b> J.B. Gu and J.G. Zhu	1445
<b>Slope Stability Analysis Based on the Element-Free Galerkin Method</b> F.H. Qin and L.B. Wang	1449
<b>Rocking Response of a Surface-Supported Strip Foundation under a Harmonic Swaying Force</b> J. Wang, D. Zhou, W.Q. Liu and S.G. Wang	1453
<b>Numerical Simulation on Forming Dynamics Mechanism and Stress State of Qianning Basin</b> S.R. Su, Y. Zhang, H.J. He and X.J. Wang	1458
<b>Stability Analysis of Unloading Slope by Interface Element Method</b> Y.X. Sun, S. Chen and S.R. Cheng	1462
<b>Research on the Selecting Control Sections of Internal Force Envelope by Simulation</b> H.X. Lu, J.H. Diao and Z.Z. Li	1467
<b>Study of Fire Smoke Flow of Tunnel at Different Longitudinal Ventilation</b> P.P. Yang, X.L. Shi and B.M. Shi	1472
<b>A Study on Micro-Seismic Monitoring of Rock Failure during the Excavation of Tunnel</b> D.D. Ding and S.C. Wu	1476
<b>Fracture Mechanics-Based Fatigue Behavior of Jointed Concrete Pavement</b> Y. Wei	1481
<b>The Numerical Analysis and Field Measurements of the Shield Tunnel Passing through the Pipeline Groups</b> G.S. Liu, L.W. Sun, B. Wang, S.M. Wu, C.P. Hong and Q. Hong	1488
<b>Tunnel Support Parameters Optimization Based on Micro-Seismic Monitoring</b> D.G. Pan, Y.X. Xiong and J. Li	1495
<b>Experiment Study on Air-Deck Divided Decoupling Charge in the Subway Construction</b> R.S. Yang, Y.L. Che, Q. Sun, S.M. Zhang and C. Huo	1500
<b>Study on the Method of Construction of Large Section Tunnel Crossing the Ancient Great Wall</b> A.B. Jin, L.F. Li, F.G. Deng and M.Z. Zhang	1504
<b>Test Study on the Influence of Interface of Soil and Rock on the Stability of Sandy Soil Tunnel Face</b> J.J. Tong, M.N. Wang and H. Jin	1509
<b>Research Advances in the Interaction among Stratum-Ground Fissure-Tunnel under Subway Dynamic Loading</b> L.Q. Yuan, H.J. Liu and Y.M. Men	1513
<b>Monitoring of Large Section Tunnel Crossing Qiantang River during Operation Period</b> G.S. Liu, Z.L. Li, S.M. Wu and L.Q. Yu	1517

## **Chapter 4: Road and Bridge Engineering**

<b>Numerical Analysis on Dynamic Behavior of Damping Fasteners in Rail Transit Viaduct System under Wheel Load Drop</b> X.D. Zheng, C.Z. Geng and T.F. Qu	1527
<b>Design and Construction of Locking Steel Pile Cofferdam of South Tower Pile Cap for Taizhou Bridge</b> Z.H. Wu, Y. Xun, Y.N. Gan, C.H. Wang, Y. Li and S.C. Tang	1531

<b>Research on the Bridge Safety Monitoring System Based on Wi-Fi Network Technology</b> G.M. Jiang and J.B. Song	1535
<b>Calculating Analysis of Reinforcing Layer Utilization on Stone Arch Bridge Strengthened by Composite Main Arch Circle Method</b> W.J. Qiao, Y.F. Song and W.Y. Zhang	1539
<b>Studies on Dynamic Characteristics of a Typical Model of Asymmetric Continuous Rigid-Frame Bridge under Different Ratio of Middle Span to Side Span</b> T. Liang, J. Dong and X.J. Xiang	1543
<b>Field Test and Analysis for the Static and Dynamic Behaviour of Multi-Box Steel Concrete Composite Girder Bridge</b> Y.L. He, Y.Q. Xiang, H.X. Ke and L.S. Liu	1547
<b>Analysis of Seismic Response for an Extradosed Cable-Stayed Curved Bridge Based on Different Design Parameters</b> H.S. Liu, J. Dong, Y. Yang and J.Q. Gao	1551
<b>Dynamic Response of Vehicle-Bridge Coupled Oscillation Subjected to Velocity-Varied Moving Loads</b> F.L. Mei and G.L. Li	1555
<b>Evaluation of Strength and Ductility of Thin-Walled Stiffened Box Sectional Steel Bridge Piers Using Fiber Model</b> J.D. Zhang, H.B. Ge and C.L. Wang	1561
<b>Research and Analysis about the Effects of Curved Bar-Tied on Arch Bridge's Structural Performance</b> S.Q. Zhao	1567
<b>Red Clay Subgrade Settlement Calculation Methods in Ballastless Track Design on High-Speed Railway</b> X. Yang and G.L. Yang	1571
<b>Numeric Analysis on Seismic Performance of RC Round-Ended Piers with HRBF500 Steel Bars</b> H.J. Jia and H. Dai	1577
<b>Existing Concrete Girder Bridges' Bending Stiffness Assessment Based on Crack Characteristics Parameters</b> D.L. Tan and W.H. Yan	1581
<b>Design Application in Suspender Tensile Force of Tied-Arch Bridges Based on Inversion Optimization Method</b> X.X. Sun, Y. Wang and F. Chen	1586
<b>Photogrametry-Based 3D Modeling and Measurement for Scale Model of an Arch Bridge</b> P. Li, J.Q. Zhang, J.G. Nie, J.M. Lu, W.H. Li and M.H. Yuan	1591
<b>Experimental Study of Stress Corrosion of High-Strength Wires Affected by Four Typical Ions</b> J.G. Yin, C.H. Deng, Y.G. Fu and L.C. Li	1597
<b>Study on Model Experiment of Long-Span Steel Truss Arch Bridge</b> X.L. Jiang, D.B. Zhang and H.B. Yi	1604
<b>Finite Element Model Updating of Existing T-Girder Bridge by Field Quasi-Static Generalized Influence Line</b> J.B. Liao, G.W. Tang and F. Pan	1609
<b>The Research of Road Profile Estimation Based on Acceleration Measurement</b> Y.C. Qin, J.F. Guan and L. Gu	1614
<b>Studies on Mechanical Model of Geometrically Pre-Eccentric Optimization Based on a Small Radius Ramp Curved Bridge with Single Column in City</b> Z.G. Qi, J. Dong and D. Hu	1618
<b>Application Study of GIS and GPS in Bridge Structural Health Monitoring</b> Y.L. Yang, X.H. Dang, Y.M. Wei and X.P. Wang	1622
<b>Mechanical Mechanism Analysis of Longitudinal Cracks Appeared in a Large Cable-Stayed Bridge Cable Tower</b> L.L. Yang, J. Dong, J. He and T. Liang	1626
<b>Mitigation of Wind-Rain-Induced Cable Vibration in Cable-Stayed Bridges: Measurement Error</b> L.Y. Wang	1630

<b>Analysis of Error Control Techniques for the Urban Bridge Cluster Monitoring System</b> Y. Li, Z. Guo and B.C. Chen	1634
<b>Identification of Loads on Suspenders in Bridges Based on Measured Response Data in Time Domain</b> L.T. Zhang and Y.F. Zhang	1640
<b>A New System for Dynamic Deflection Measurement of Highway Bridge</b> X.L. He, T.L. She and L.Z. Zhao	1645
<b>Comparison and Analysis of Permafrost Railway Subgrade Settlement Deformation Monitoring</b> Q.L. Tan and C. Xie	1651
<b>Settlement Control and Impact Analysis of the Subway Shield Under-Passing Beijing-Shanghai High Speed Railway Bridge</b> H. Peng, J.C. Wei and B. Zhang	1655
<b>The Bridge Health Monitoring System Based on SCM</b> X.L. Zhu, X.L. Chen and Y. Yao	1661
<b>Remote-Controlled Visual Inspection Machine for Bridge Supports</b> S. Tokuomi, K. Mori and A. Miura	1665
<b>Effect of Eccentric Pounding on Elasto-Plastic Behavior of a Simply Supported Bridge under Transverse Earthquake</b> Y. Shi, H.G. Qin and F.Q. Liu	1669
<b>Damage Assessment and Repair Design and Implementation for Underpass Bridge Based on Fire Effects</b> Z.L. Li, H.L. Wu, Z.Y. Liu, D.J. Xu, X.D. Zhu and H.J. Gu	1674
<b>Study on Reliability Evaluation Method of Existing CFST Arch Bridge</b> Y.S. Zou, H.T. Hou and W. Peng	1679
<b>Effectiveness Analysis on the Protection Measures for the Mountain Bridge Piers against Rockfall</b> Z.X. Yu, L.Y. Zhang, Y.N. Zhao and T. Wei	1683
<b>Damage Identification of Multi-Box Steel-Concrete Composite Bridges Based on Modal Curvature Difference Method</b> Y.Q. Xiang, L.S. Liu and Y.L. He	1689
<b>Experimental Study on Seismic Isolation Bearing of Large Aqueduct</b> Y.J. Jiang, Y.G. Zhou and Y.L. Song	1693

## **Chapter 5: Building Materials**

<b>The Application of Thermal Insulation Glazed Hollow Bead Concrete in Tunnel Cooling Structure</b> K.J. Li, Z. Li, X.H. Guo and Y.Z. Liu	1699
<b>Research on the Thermo Physical Properties of Lauric Acid-Capric Acid Binary Mixture Phase Change Materials</b> Q. Zhou, Y. Zhang, H.B. Guo, Q.H. Li and D.X. Li	1704
<b>The Influence on High-Temperature Mechanical Properties of Hybrid-Fiber-Reinforced High-Performance Concrete and Microscopic Analysis</b> L. Yan, Y.M. Xing and J.J. Li	1709
<b>Analysis on Potential Alkali Reactivity of the Aggregate and its Inhibiting Method in Dam Concrete of a Hydro Project</b> W. Ye, Y.M. Yang and H.C. Wang	1714
<b>Experimental Research on Tensile-Shear Behavior of Spot-Welded Lap Joints of Ultra-High Strength Steel</b> Y.H. Liu, H.P. Yu, W.W. Wang, X.Y. Li and S.J. Chen	1720
<b>Analysis of Deflections and Stresses for Laminated Composite Plates Based on a New Higher-Order Shear Deformation Theory</b> X.J. Lan and Z.H. Feng	1725
<b>Study on Failure Criterion and Yield Criterion of Early-Age C20</b> H.Y. Ding, C. He and P.Y. Zhang	1730
<b>Polyamide 6 Microfiber Reinforced Porous Polyurethane Composites</b> L. Wang and S.T. Cao	1735

<b>Effect of Ultraviolet and Moisture Aging on the Mechanical Properties of Hemp Fibers Composites</b>	
S. Jin and X.L. Gong	1739
<b>Analysis on Freeze-Thaw Cycling Damage of Layered Hybrid Fiber Reinforced Concrete</b>	
D.Q. He and B. Liu	1743
<b>Adsorption of Naphthalene-Based Water Reducer on Alkali-Activated Slag Cement</b>	
C.H. Yang, Q. Pan and J. Zhu	1747
<b>The Iron Ore Dosage of Cement Base Composite Material Mechanics Effect on the Performance of the Experimental Research</b>	
Z.Q. Huang, X.M. Pi and F. Liang	1751
<b>Study on the Dynamic Performance of Asphalt Concrete under Passive Confined Pressure</b>	
H. Zhang, F. Li and Y.W. Gao	1755
<b>Experimental Research on Small Diameter Concrete-Filled Steel Tubular by Ultrasonic Detection</b>	
R. Xiong, Z. Lu, Z.G. Ren and C.W. Xu	1760
<b>Ultimate Flexural Bearing Capacity Research Based on Carbon Fiber Sheet to Reinforce Rough Sleeper Beam</b>	
Z.L. Li, H.L. Wu, Z.Y. Liu, D.J. Xu, H.J. Gu and X.D. Zhu	1766
<b>Experimental Study on Mixed-Mode Fracture for Concrete</b>	
Z. Luo	1771
<b>Experimental Study of the Foam Agent in Lightweight Aggregate Concrete</b>	
Y.W. Wang and B.X. Tang	1776
<b>Numeric Analysis of Size Effect on Mesol Concrete Random Aggregate Model</b>	
X.Y. Liang and F.N. Dang	1780
<b>Experimental Studies on Loads Acting on Two Piles of Side-by-Side Arrangements in the Uniform Flow</b>	
Z.Q. Zhu and G.L. Dai	1785
<b>Fractal Characteristics of Sandstone Cutting Fracture under Mechanical Shock Loading Conditions</b>	
S.R. Wang, P. Hagan and Y. Cheng	1789
<b>A Comparative Experiment on the Bond-Slip of Reinforced Concrete</b>	
C.G. Cai and G.L. Chen	1795
<b>Load Stress Analysis on BFRC-RCC Composite Pavement</b>	
D.Q. He, Y.M. Wang and C. Lu	1800

## Chapter 6: Measurement

<b>An Energy-Efficient Cluster Head and Router Selecting Protocol for Wireless Sensor Networks</b>	
S.Z. Huang and X.Z. Zhao	1807
<b>The Discussion of Acoustic Seabed Sediment Classification Methods</b>	
H.B. Zheng, P. Yan and J. Chen	1811
<b>Research on Precision Measurement and Fitting Method for Sliding-Shoe's Inferior Concave Spherical Surface</b>	
W.G. Zheng, C. Tang, M. Dai, H.B. Huang and X.X. Ma	1817
<b>The Use of Synthetic Aperture Radar Interferometry to Study Geohazards</b>	
M.L. Jiao	1821
<b>Design of New Attitude Measuring Method of Non-Spinning Projectile Based on Magnetic Sensors</b>	
C. Xiang, X.Z. Bu and Y.P. Zhu	1825
<b>Numerical Analysis of Flow Field Characteristics in Three-Z-Shaped Ultrasonic Flowmeter</b>	
J.Y. Tang, J.M. Chen, H.B. Ma and G.Y. Tang	1829
<b>Research on Fruit State Discrimination Method for Harvesting Robot</b>	
J.D. Lv, D. Zhao, W. Ji, Y. Zhang and Z.K. Ma	1835
<b>The Urban Objects Classification Based on LiDAR 3D</b>	
Z.W. Huang, S. He and L. Qiu	1840
<b>Risk Fuzzy Measurement and Early-Warning of the Project in Material Supply Chain</b>	
X.F. Fu, J.J. Li and L.X. Li	1844



<b>The Determining Method of Background Light Attenuation Coefficient in Discerning of High Temperature Forgings</b> Z.H. Yin, C. Li and J.B. Nie	1848
<b>Measurement of the Transient Velocity of Nanoparticles in Flowing Nanofluids by Using the Method of Dynamic Laser Speckles</b> Q. Yan, J. Lu and X.W. Ni	1852
<b>Research on Image Identification of D.Huoshanense with Joint Transform Correlation Using the Electronic-Addressing Spatial Light Modulator</b> Y.S. Bao, R.D. Lu, Y.X. Ren, Q. Zhang and X.Y. Ding	1858
<b>Model-Based GA Evolutionary 3-D Position Measurement Method</b> X. Liu, W. Song, Y.N. Zhang and X.L. Li	1866
<b>A Passive Ranging Algorithm Based on Imaging Detection</b> X.M. Chen and X.N. Fu	1872
<b>FPGA-Based Image Processing System for Target Locating</b> L. Wang and X.N. Fu	1878
<b>Air Quality Analysis and Evaluation in Jinan Based on Field Measurement</b> L. Lei, H. Zhang, J.Z. Wang and X.G. Wu	1882
<b>Design of Three-Phase Multi-Function Energy Meter Based on Measurement Chip RN8302</b> X.H. Zhang, J. Liu and Z.J. Cheng	1888
<b>Development on Filtering Algorithms of Airborne LiDAR Point Clouds</b> J.Q. Shi, T.C. Jiang and M.L. Jiao	1892
<b>Research on Integrated Diagnosis of Contact and Non-Contact Method for Analog Circuit</b> Y.H. Hao and J.L. Wang	1899
<b>Method to Detect Bolting Devices Based on Ultrasonic Guided Wave</b> M.H. Xu, Q.Q. Lan and W.J. Jin	1906
<b>The Effect of Abscission of Insulation Lining of Electromagnetic Flowmeter on Output Signal</b> S. Gao, B. Li, S.Y. Yin and X.J. Li	1910
<b>The Realization of Communication Interface Module for Dynamic Belt Weighting Device in Transporting Unit of Biomass Pyrolytic System</b> J.H. Wu, Q. Zhou, J. Chen, H.P. Si, K.Y. Lin and C.B. Zhang	1916
<b>A Scheme for Excavation Displacement Monitoring Based on Image Processing</b> M.H. Sun, Y.X. Zhao, W. Jiang and T.T. Feng	1923
<b>The Application of Multi-Wavelet in GPS Deformation Signal Processing</b> Y.H. He, H.Y. Wen and P.W. Jin	1927
<b>The Achievement of the Algorithm of the High Precision Dynamic Rail-Weighbridge System</b> X. Tian and W. Hou	1932
<b>Three-Dimensional Scanning System with Double Structured-Light Sensors</b> B. Peng, H.S. Tan and F.Q. Zhou	1938
<b>Methods for Testing Micro-Dose X-Ray Radiation</b> C.X. Liu, J. Huang and W. Zheng	1942
<b>Local Quasi-Geoid Refinement Based on Spherical Cap Harmonic Model</b> J.Y. Guo, S.Y. Wang, G.W. Li, W.H. Mao and Y.M. Ji	1947
<b>Calculations on Optical Path Difference of a Reflecting Scanning Fourier Transform Spectrometry Based on Cube Reflector</b> X.J. Zhang, X.X. Yang and W.F. Wang	1951
<b>Evaluation of 3D Geo-Positioning Based on Bias-Compensated RPCs for Across-Track QuickBird Stereo Imagery</b> W. Wang, S.Y. Xu and G. Qiao	1958
<b>Experimental Research on Shrinkage Deformation Measurement of Light-Cured Composite Resin Using ESPI</b> Q.R. Zhu, W.L. Shen, M.R. Xie and G.B. Yang	1965
<b>Research on Application of Hall Integrated Sensors</b> Q.T. Li	1971
<b>Vibration Testing Parameters Measured by Sampling Moiré Method</b> Z.K. Lei and Z.L. Wang	1975

<b>Multi-Axis Load Cell Designs Employing Multiple Shear Beams</b> R. Fernandez	1981
<b>A Monocular Vision System Based on the Equidistance Pseudo Binocular Feature Recognition</b> J. Zhang, M. Zhong and B. Huang	1987
<b>Research on the Technology of Flexible Tactile Type Sensor</b> Y.X. Zhang and B. Li	1993
<b>Slope Adaptive Based Filtering for Airborne LIDAR</b> X.Y. Yang, M.Y. Cen and X. Liang	1999
<b>Development and Application of Velocity Collection in River Model Based on ZIGBEE</b> H. Chen, L.M. Tang, H.M. Zhang and H. Wang	2005
<b>Design of Automatic Level Control for Microwave Signal Source</b> S. Li, T.L. Bai and Y. Han	2009
<b>The Research of Surface Residual Stress about Glass Ceramics</b> J.H. Wang, K. Wang, X. Wang, W. Song, X.L. Song and S.Z. Li	2014
<b>The Measurement of Compressible Elasticity Modulus and Poisson Ratio of Ziziphus Montana Wood</b> J.X. Duan, Q.D. Zhou, G. Ji and L.C. Wang	2019
<b>Non-Intrusive Measurement of the Temperature and Size Distribution of Water Droplets in a Flat Fan Spray</b> Q. Pan and Z.J. Zhang	2024
<b>Research on Verification and Analysis of Micro-Gyroscope Measuring System Based on Dynamic Response</b> H.G. Sun and Y. Zhou	2029
<b>Testing and Analysis of Actuator Parameter Identification of Heavy Load Stewart Platform</b> R. Ren, C.C. Ye and G.B. Fan	2036
<b>Study on Far-Field Scatter of Ship Wake for Micro-Bubbles Based on CST</b> J. Tian, H. Chen and X.X. Qu	2042
<b>The Research of Measurement System Based on Linear CCD in Industrial Line</b> J.H. Wang, L. Zhang, W.J. Chen and H.D. Chen	2046
<b>Real-Time Measurement Method of Doppler Based on GPS Carrier Signals</b> S.F. Dong, B.Q. Du and W. Zhou	2050
<b>Compressed Sensing Technology Applied to Fault Diagnosis of Train Rolling Bearing</b> X.F. Li, X.C. Fan and L.M. Jia	2056
<b>Real Time Monitoring of Structural Health Using Fiber Bragg Grating Sensors Based on Arrayed Waveguide Grating Demultiplexing</b> L.X. Chen, W. Xu and X.G. Huang	2062
<b>Case Studies of LDV-Aided Dynamic Testing</b> K.S. Dai, X.S. Ren, Q.J. Chen and B. Zhao	2066
<b>The Diagnostic Method of Concrete Dam Monitoring Information Valid Interval</b> D. Qin, X.Q. Zheng, F.M. Wang and H.Z. Liu	2072
<b>Analysis and Research of Deep Foundation Pit Pars Horizontal Displacement Prediction Method</b> J.B. Sun and D. Wang	2078
<b>Assessment on Pore Structure of Western Sichuan Reservoir through Mercury Intrusion Porosimetry</b> C. Guan, Z.H. Lou and H.J. Xie	2082
<b>An Innovative Approach of Drilling Process Monitoring for Slope Characterization in Mountainous Regions</b> J. Chen, Z.Q. Yue and S.J. Liu	2088
<b>Application Research of Geological Radar in Volcanic Lava in the Geological Survey</b> Q.L. Xiao and F. Lü	2093
<b>Analysis and Mechanism of Impact of GPR Detection Effect Result from Soil Water Content</b> X.J. Wang, Z.Q. Hu, Y.L. Zhao, Y.M. Guo and P.J. Wang	2098
<b>Research on Extracting Residential Information from ETM+Images - A Case Study of Jiaxing City</b> J.N. Xiong, S. Liu, Y.M. Yang and Z.G. Wang	2103

<b>The Design of New Low Cost Ocean Bottom Seismometers</b> H.S. Guo, B. Yan and Z.D. Wu	2107
<b>Research the AVG Curve Based on the Method of Flat Bottom Hole</b> X.R. Wang, X.Q. Zhang and S.S. Jia	2111
<b>The Application of GPS for High Rise Building Deformation Monitoring During the Servicing Stage</b> H.T. Zhang and L. Hu	2115
<b>Research on Using WSInSAR to Monitor and Analyze Deformation Wenchuan Earthquake</b> T.C. Jiang	2120
<b>Derrick Stress Monitoring System Based on Fiber Bragg Grating Sensor Technology</b> J.P. Wang, F. Wan, J. Liu, H.X. Sun and H. Zhang	2124
<b>Stress Real-Time Monitoring of Marine Derrick Based on Environmental Loads</b> T. Huang, J.P. Wang, F. Wan, S.W. Chen and Y. Dong	2128
<b>Experimental Research of Distributed Optical Fiber Sensor Monitors the Embankment Hidden Hazard</b> H. Lei, P.Y. Zhu, H.Q. Liang and G.Q. Hou	2132
<b>Experiment of Underwater Acoustic Produced by Single Drop Impacts</b> Z.R. Meng, W.Q. Zhang and H. Sun	2137
<b>Research on Water Pipeline Leak Location</b> J.R. Zhang, D.H. Nie and C. Wang	2143
<b>Distribution of the Stray Current of Rebar in the Ballast Bed</b> Z.J. Dong, X.Y. Li, P.Y. Yan and F. Xing	2147
<b>Research on <math>\text{Fe}_{(100-x)}\text{Ga}_x</math> Alloy Applied to Magnetostrictive Displacement Sensors</b> X.Z. Zhou, C. Yu, Y.Q. Xiong and Q. Ning	2154

## Chapter 7: Related Themes

<b>Design and Implementation of Optimal Noise Shaping Filters</b> J.L. Zhou and Z.Y. Zhu	2163
<b>Realization and Comparison of System Identification Based on Different Least Squares Methods</b> X.D. Zhang, J.F. Guan and L. Gu	2167
<b>Damage Detection in a Cracked Rod Using High-Frequency Electro-Mechanical Impedance Signatures</b> W. Wang, W. Yan and W.C. Li	2171
<b>Design and Analysis of Flexure Hinge in the Double Crystal Monochromator</b> X.G. Zhao, S.Z. Zhou, B. Jiang, K. Jiang and C. Mei	2175
<b>An Investigation of Interpolation Scheme Based on Indirect Radial Basis Neural Networks</b> H.T. Sun	2181
<b>Molecular Dynamics Simulation of Crack Propagation for Leak Before Break (LBB)</b> H.J. Yu, J. Liu and Y.Y. Wang	2189
<b>Cushion Surface Modeling Based on Body Pressure Distribution and Subjective Rating</b> Z.L. Yang, Y.M. Chen and Z. Liu	2193
<b>Numerical Simulation of the Impact between the Front-End-Coated Projectile and the Substrate Coated by Ceramic Film</b> Z.L. Wu and X.M. Wang	2198
<b>A Real Electronic System to Control Virtual Machine in NC Machining Simulation</b> Q. Wang, Q.M. Wang and X.F. Zhang	2203
<b>A Comparison of Characteristics of Improved Total Contact Insoles</b> Q. Wang and Q.M. Wang	2207
<b>Application of the FTA in the Risk Management of Refined Oil Pipeline</b> L.L. Zhang, G. Fu and X.F. Wang	2211
<b>BIM-Based Real-Time Monitoring of the Equipment Maintenance of Property</b> C.S. Sun and Q. Che	2217
<b>Set Pair Analysis Method of Containing Target Constraint Mixed Interval Multi-Attribute Decision-Making</b> W.S. Lü and B. Zhang	2222

<b>An Entropy Function Implementation of Quadratic Programming</b> X.G. Wang and C.J. Hou	2227
<b>Nonlinear Iterated Difference Inequalities</b> W.S. Wang and L.J. Zhao	2231
<b>Study on Instrumental Intensity Using Wenchuan Earthquake Records</b> M. Zhang, Y. Zhang and G.C. Zhou	2235
<b>Heat Transfer and Thermal Load Analysis of Exhaust Manifold</b> S.L. Xu, Y. Shi and S.C. Li	2240
<b>The Evaluation and Research of Disasters Emergency Shelter in Laoshan District, Qingdao</b> W.H. Zhang and H.Y. Gao	2245
<b>Sound Radiation of Underwater Structure Based on the Arithmetic of Coupled Acoustic-Structural Analysis with ABAQUS</b> D.J. Qian, X.H. Miao and X.R. Wang	2249
<b>The Evolution Model of Emergency Response System for Sudden Accidents of Construction Projects</b> R.H. Liu and B. Yu	2253
<b>On Evaluation Methodology for the Performance of Engineering Project Management Based on 5-Element Set Pair Analysis</b> Y. Zhao and Y. Wang	2258
<b>Research on the Land Decision of Real Estate Enterprises Based on Fuzzy AHP</b> R. Zuo	2263
<b>Research on Quality Management System of Wuxi Taihu International Expo Center Project</b> H.Z. Chen, A.J. Wu and L. Shen	2268
<b>External Factors Influencing the Ethical Responsibility of Construction Project</b> L.F. Wang and P. Mao	2273
<b>Study of Erosion Mechanism by Modelling Abandoned Yellow River Delta</b> J. Liu and T. Gao	2278
<b>Application of Extension Theory Based on Optimal Combination Weighting Method in Risk Assessment on Geological Hazards</b> X.L. Wang and B.W. Yan	2284
<b>Numerical Simulation of Velocity Attenuation of Aerated Jet Flows</b> W.R. Wei and J. Deng	2292
<b>An Experimental Study on the Performance of Wave Dissipation of Artificial Sand Bar</b> D.C. Zhao, B. Shi, L.P. Yang and Z.Y. Zhang	2299
<b>Application Research of Support Vector Machine Based on Particle Swarm Optimization in Runoff Forecasting</b> L.X. Wang, L.N. Wang, G.F. Li, C. Luan and F.F. Sun	2303
<b>Reliability Study of Excavation Safety in Underground Space of Chen Clan Academy Square</b> J. Pan and J. Gao	2308
<b>Study on Critical Conditions of Scour-and-Siltation in Flood Seasons of Ningmeng Reach in the Upper Yellow River</b> Y.S. Zheng, X.H. Zhang and H. Peng	2313
<b>Effects of the Large-Scale Reclamation Project on Hydro-Dynamic Environment in the Estuary</b> J.B. Mu, S.C. Huang and H.F. Lou	2317
<b>The Riverbed Evolution and its Influence on Channel in Tunaozi Reach after Three Gorges Water Storage</b> H. Fu, X. He, Y.C. Ma and Y.Y. Yang	2323
<b>Taking Fangcun District of Guangzhou as an Example to Discuss the New Joint Repair Technology of Water Distribution Network</b> D. Gao, Z.H. Wang, G. Ren, Z.H. Long and Y.L. Chen	2328
<b>Influence of Radius of Horizontal Curve on Driver's Psychology and Physiology on the Two-Lane Mountain Highway</b> L. Zhao and M.L. Zhang	2335
<b>ITS - The Key of Traffic Transportation Sustainable Development</b> H.W. Yuan and J.T. Zhang	2340

<b>Application of Differential Transform Method to Buckling Problems at Clamped-Clamped Boundary Conditions</b>	
L.F. Han, K.Q. Cheng and S.Y. Wu	2344
<b>An Algorithm for Connecting Suburban Rail Line to Urban Rail Transit Network</b>	
F. Wu and B.N. Gu	2349
<b>Synchronous Transfer Model of Bus Timetabling for Regional Public Transit</b>	
J. Zhang, W. Wang, B. Ran and W.Q. Li	2356
<b>Study on the Highway Speed Limit at the Days of Snow and Ice</b>	
J.D. Liu, T.T. Peng, J. Zhuang and Y.J. Deng	2362
<b>Road Traffic Safety Assessment Based on the ADAMS/Car under Snow and Freezing Weather</b>	
T.Q. Li, R.G. Ma, F.C. Wu and Y.J. Deng	2366
<b>Real-Time Risk Assessment Model of Freeway Traffic in Rain and Fog Weather</b>	
F. Guo, W. Gu and F. Yuan	2370
<b>Application of Unmanned Aerial Vehicle Remote Sensing for Geological Disaster Reconnaissance along Transportation Lines: A Case Study</b>	
J.P. Hu, W.B. Wu and Q.L. Tan	2376
<b>Freeway Construction and Management Technology Research Based on the Data Net Toll-by-Weight Fees</b>	
J.F. Zhu, Z.Q. Li and K.Q. Zhou	2380
<b>Load Dependent Hysteresis Model for GMM and its Parameter Identification</b>	
G.H. Chang, S.J. Zhu and J.J. Lou	2385
<b>Study about the Recycled Construction Wastes for Landscape Design</b>	
M.F. Lin and Y. Chen	2390
<b>Application of Western Surrealistic in Design of Landscape Architecture</b>	
D. Huo and F. Yang	2394
<b>Research on Energy Saving Supervision System of Colleges and Universities Heating Based on Control Theory of Time &amp; Temperature Sharing</b>	
H.Q. Yang, F. Xi, H.G. Zhang and H. Li	2398
<b>Experimental Study on a Shower Waste Water Heat Recovery Device in Buildings</b>	
Y.X. Guo, Y.L. Cai, S.Q. Liang and W. Chen	2402
<b>Studies on Building Entrance Cold Adaption Design and Structure in Cold Region - Take Harbin Institute of Architecture as Example</b>	
P. Cui and M. Huang	2407
<b>The Evaluation of Design for Energy Efficiency of Buildings Based on Analysis Hierarchical Process and Grey Theory</b>	
Q. Feng, B. Wu and W. Jiang	2412
<b>Theory Landscape Architecture Skit the Flower Window Design Culture</b>	
Y. Xu	2418
<b>Brief Analysis of Landscape Architecture Sculpture Sketch</b>	
S.H. Xiong	2422
<b>Developing a Framework for Evaluating Architectural Style Based on GEP</b>	
K. Su and X.L. Li	2426
<b>A Brief Analysis on Technological Expression of Contemporary Architecture</b>	
R.L. Liu and H. Jin	2430
<b>Study on Energy Conservation in Rural Residential Buildings in China</b>	
L. Hu and H.T. Zhang	2434
<b>The Research of the Development of Architectural Surface</b>	
X. Chen and H.Z. Yang	2438
<b>Study on the Evaluation of Urban Industrial Land Intensive Use</b>	
Z.H. Lu, J.L. Zhang, X.W. Li, X.L. Wang, X.F. Bai and J. Zhang	2442
<b>Analysis of Methods of Creating Microclimate for Waterfront Residential Areas in Tropics of South Asia</b>	
Y.Z. Huang and S.F. Jiang	2450
<b>Implementing a New Urbanization Strategy, Enhancing Tai'an's Tourist Soft Power and Quickening Economic Development</b>	
S. Han and X.F. Han	2454

<b>The Elaboration of Five "Perspectives": Application to Traditional Landscape Idea in Modern Landscape Design</b> S. Feng and K.Y. Xu	2458
<b>Planning of Disaster Prevention Space System Based on Urban Morphology - Take Suzhou Old Urban Area as an Example</b> Y. Zhu, Y.Z. Huang and J.Y. Jiang	2462
<b>A New Continuous Model of Shape Memory Alloys</b> W. Wang and S. Yan	2467
<b>The Freeway Energy Conservation and Emission Reduction Guarantee System Research</b> Z.Q. Li and Z. Li	2471
<b>Data-Driven Tracking Based on Kalman Filter</b> X.B. Jin, J.J. Du and J. Bao	2476
<b>Design of High Frequency Program-Controlled Filter</b> Q.Q. Lan, M.H. Xu and W.J. Jin	2480