Table of Contents

Preface and Conference Organization

Chapter 1: Structural Engineering

Analysis of Structural Design and Construction Technology of Short-Leg Shear Wall in High-Rise Buildings	
Y. Hu	3
Analysis of the Member Buckling Influence to the Stability of Single-Layer Lattice Dome T.F. Ma, J. Wang, H. Zhou, Z.W. Wang, Z.Y. Mo and Y.H. Zhang	8
Analysis on Axial Compression Ratio to Strong Column Weak Beam Effect in Framework Node	
X. Wen, Z.J. Hao and X.G. Wang	16
Analysis on Switch Node Finite Element of a High-Rise Building L. Huang	20
Application of RPC Constitutive Model in FEA K.J. Yang, Z.L. Xie and W. Li	25
Calculation on Plastic Internal Force of Reinforced Concrete Member under Axial Force E.J. Wu and X. Chen	31
Discussion on Limit Values of Axial Compression Ratio of Steel Reinforced Concrete Columns	
Y.Y. Li and B.S. Yang	37
Experimental Study on the Ductility of Beams with SIFCON Blocks K. Liu	41
Failure Mechanism Analysis of Tubular X-Joint under Lateral Impact Force S.Z. Song and J.J. Wei	45
Finite Element Analysis of Anti-Seismic Performance of Flange Connection in Circular-Pipe	
Tower Structures Z.R. Shen, C. Zhang and P. Xi	49
Finite Element Analysis of the Experiment of PC Pipe Pile with Holes Carrying Capacity Z.X. Dai, A. Zhang and G.X. Mei	53
Finite Element Analysis of Unbonded Prestressed Concrete Silos G.S. Xu and H.Q. Liu	60
Frame - Shear Design of Shear Wall Structure Y.W. Wang, H.X. Li and Y. Cheng	66
Longitudinal Stress Analysis of Local Compression on the Center of Plain Concrete Column Y. Wang	71
Multi-Objective Optimization of Composite Elliptical Submersible Pressure Hull for Minimize the Buoyancy Factor and Maximize Buckling Load Capacity	
F. Elsayed, H. Qi, L.L. Tong and M. Helal	75
Multiple Cross-Laminated Container Floor Temperature Field Based on ANSYS K.Z. Zhao and J.J. Liu	83
Optimal Design Analysis of Composite Submersible Pressure Hull F. Elsayed, H. Qi, L.L. Tong and M. Helal	89
Optimization of Steel Lattice Trusses Considering Members Stability J.J. Zhu, G.B. Zhao and Y.M. Sun	97
Performance-Based Design and Table Test Study on Hybrid Structure Combined with	
outside Steel Grid and Inner Reinforced Concrete Tube Z.Z. Guan, J.Q. Ge, B.T. Ma, L. Zhang, M.Z. Wang and M.S. Zhang	106
Pre-Test on the Behaviors of Vertical Prestressed Spacing to Composite Masonry Walls with Holes from the Aspect of Eccentrical Compression	
J. Peng, D.X. Zhang and W.B. Yu	113
Research on Jack Top-Bracing Platform in the Subway Close-Attached Undercrossing Engineering	
J.D. Li, L.J. Tao, J.H. An and B.L. Wu	121

Research on Mechanical Behavior of RC Beams Strengthened with CFRP by Anti-Arch Method	
T. Luo	127
Rigid Joints Transferring Forces outside Box Columns with Imperfect Beams – Finite Element Method Simulation G.X. Liang, Z.G. Xu, W.M. Chen and C.G. Deng	131
Seismic Performance Analysis of a High-Rise Structure with Multi-Short Columns R.R. Fu, L.W. Li, X.Y. Yuan, K.N. Liu and R. Li	137
Stability Analysis for a Latticed Shell Based on ABAQUS Y.Y. Ma, J. Duan and H. Shao	141
Stress Analysis of the Rectangular Retaining Wall under Water Pressure Based on Elasticity Mechanics Y.W. Wang and Y.Q. Guo	146
Studies on Mechanical Behavior of "Box Structure" Residence Y. Cao, Z.B. Meng, G.D. Qiao and Y.S. Zhao	151
Experimental Investigation on Steel H-Beam Prestressed with Externally High Strength Steel Bars	
P.C. Zhu, M.K. Gou and Y.Z. Zhou	155
Experimental Study on Flexural Behavior of Typical Mortise-Tenon Joints C.C. Chen, H.X. Qiu and M.G. Xu	160
Experimental Study on Shear of Reinforced Concrete Beams with High Strength Rebars as Stirrups under Different Shear Span Ratios P. Li, X.T. Zhang and M.P. Wang	164
Research on the Equivalence and the Mechanical Performance of the Model of Steel-Concrete Joint Y.D. Yao, Q.H. Pu and C.Y. Yao	168
Static Finite Element Analysis of Large Liquefied Natural Gas Prestressed Storage Tank W.L. Wang	173
Study on Wind Load about Rotary Reticulated Shell by the Wind Tunnel Experiment Z.H. Yuan, Y.C. Yuan and W. Sun	177
Temperature Distributions of Protected Cellular Beams Heated Three Sides L. Zhu, X.D. Wang and P.J. Wang	180
Temperature Distributions of Protected Cellular Composite Beams Heated Three Sides X.D. Wang, L. Zhu and P.J. Wang	184
Test Study on Size Effect Characteristics of Mechanical Performanceof Pure Bending Plastic Hinge in RC Members C.X. Zhao, H.Y. Zhou, H.G. Jiang and Y.B. Chen	188
Testing Research is about the Influence of the Diameter of the Bearing Push-Extend	100
Reamed to the Bearing Capability of the Pile of Push-Extend Multi-Under-Reamed Pile Y.M. Qian, R.Z. Zhai and X.L. Liu	192
Tests on Shear Studs Using Profiled Steel Sheeting Subjected to Cyclic Loading J.S. Fan and W. Liu	196
The Calculation Method for Moment-Rotation Curve of T-Beam Joints in Semi-Rigid Connections W. Liu and X. Zhang	201
The Development and Research of Special-Shape Pile X.Q. Wang, S.M. Zhang, J. Liao and Y.S. Huang	210
The Elastic-Plastic Time History Analysis on High-Rise Steel Structure about Main Power House of Thermal Power Plant	
H.Q. Liu, W.B. Liu and R.Y. Wu The Meticulous Analysis of Skew Beam Based on the Space Skew Beam Element Method	214
X.F. Xu, F. Zhang and G.Z. Qi	220
The Research for Moment-Rotation Curve of T-Beam Joints in Semi-Rigid Connections W. Liu and X. Zhang The Research on the Ultimate Resping Connective of Soil around the Rush Extend Multi	225
The Research on the Ultimate Bearing Capacity of Soil around the Push-Extend Multi- under-Reamed Pile at Sliding Failure State Y.M. Qian, D.P. Zhao and X.W. Xie	232

Theoretical Analysis on Flexural Behavior of Concrete Members Reinforced by Steel-Basalt FRP Composite Bars	
T.L. Xiao and H.X. Qiu	236
Analysis and Reinforcement on the Up-Floating Accident of the Basement of a Large Commercial Complex L.H. Yang, H. Wang and Z.G. Han	240
Analysis of Seismic Performance of the Joint of Cellular Steel Column and Steel Beam in Different Axial Compression Ratio Y.F. Xu, Z.L. Zhai and P.Y. Xu	244
Discussion about the Application of Pre-Stressed Concrete Pipe Pile Y.J. Yin, X.H. Wang and Y.M. Qian	248
Effects of Beam Material Strength on the Seismic Performance of Composite CFST Column and Steel Beam Connection Y.F. Xu, Q. Chen, P.Y. Xu and R. S. Aboutaha	252
Finite Element Analysis of Deep Elliptical Submersible Pressure Hull Subjected to a Side- On Non-Contact Underwater Explosion F. Elsayed, L.L. Tong, H. Qi and M. Helal	256
Finite Element Analysis of Recycled Concrete Filled Circular Steel Tubular Stub Columns under Compressive Loading B. Li, Q. Zhang and S. Meng	263
Finite Element Analysis of Recycled Concrete Filled Steel Tube in Bending State B. Li, S. Meng and W.H. Wang	269
Finite Element Analysis of Steel Frame Beam-Column Irregular Joints with a Strengthened External Diaphragm W.N. Sui, Q.Z. Shi, Z.F. Wang and X. Bai	274
Finite Element Analysis on Different Axial Compression Ratio of Composite CFST Column and Steel Beam Connection P.Y. Xu, Q. Chen and Y.F. Xu	278
Influence on Seismic Performance of Joints of Cellular Steel Column and Steel Beam due to the Opening Rate	
P.Y. Xu, Z.L. Zhai and Y.F. Xu Mechnical Characteristic Analysis of Separate Lock Chambers G.L. Tao, C. Jiang and L. Shu	282 287
Nonlinear Finite Element Analysis of the Stability of Gravity Platform X. Wang	292
Research on Structural Damage Identification of Reticulated Shell Based on Change Rate of Modal Strain Energy and Wavelet Analysis M.H. Wang, C.M. Ji and S.S. Luo	296
Seismic Behavior of the Joints of Rectangular Steel Tubular Columns Filled with Steel-Reinforced Concrete and H-Shaped Steel Beam in Different Beam Strengths P.Y. Xu, S.J. Zhu and Y.F. Xu	301
Seismic Performance Study on the Joint of Crisscross Concrete-Filled Steel Tube Column- Steel Beam in Different Axial Compression Ratios	
Y.F. Xu, S.J. Zhu, P.Y. Xu and R. S. Aboutaha Accident Treatment on Plinth Settlement of Monolayer Steel Factory H.J. Liu, Y. Qi and B. Zhang	305 309
Analysis of Wind-Induced Vibration Response for a Long-Span Double-Arch-Support Steel Structure	
L. Chen, B. Yin and Z.G. Huang Experiment on Seismic Behavior of Frame with Specially Shaped Columns Used Wide Flange in the First Floor and General on the above	313
X.H. Zhang and S.L. Ke Experiment Study on Deformation Properties of Composite Shear Wall Combined with	318
Cement Formwork and Concrete under Static Load X.R. Song, X. Zhu, X.Y. Zhang, Y.M. Wang, C. Yan and S.B. Xu Experimental Study on Anghorous Performance of Chemical Adhesive Steel Par in	325
Experimental Study on Anchorage Performance of Chemical Adhesive Steel Bar in Concrete L.Z. Shi and J.R. Zhang	331

Finite Element Analysis on Concrete-Filled Square Steel Tube Short Columns with Inner CFRP Profiles under Axial Compression G.C. Li, B. Zhou and J.H. Pan	335
Finite Element Simulation on Behavior of the High-Strength Concrete Filled High-Strength Square Steel Tube Middle-Long Columns under Axial Compressive Load G.C. Li, B.W. Zhu and Y. Liu	340
Optimum Design of CFG Pile Compound Foundation Based on Numerical Simulation Method	
H.Y. Cao and Y.F. Liu	346
Research on Safety of High Formwork Supporting System of Fastener-Style Steel Pipe in Concrete Structures G.H. Jin and D.S. Yu	351
Seismic Performance Evaluation of Steel Frame-Steel Plate Shear Wall Using Pushover and IDA	
J.H. Shao and B.J. Tang	354
Study on Fractal Characteristics of Acoustic Emission in Circular Double-Layer Stirrup Confined Concrete P.F. Geng, L.Z. Sun, F. Yang and W. Li	359
Effects of Braces on Progressive Collapse Resistance of Steel Frame L.C. Dong and L. Wang	369
Experimental Research of Corner Joints in Steel-Framed Structures under Fire Conditions Y. Wang, Y.J. Liu and L. Qi	374
Experimental Research on the Latticed Intersected Cylindrical Shell Structure M.L. Zhu, L. Huang and C. Li	378
Mechanical Behavior Experimental Study on Lattice Wind Turbine Tower KT-Type Joints of Concrete-Filled Steel Tubular	•
Y. Wen, L.L. Qu and B.F. Zhang	384
Non-Linear Analysis of Rheological Effects in Slender Composite Columns E. Fenollosa, I. Cabrera and A. Almerich-Chuliá	389
Preliminary Study on the Effect of Loading Rate on Bond Property between Corroded Concrete and Steel Bar W. Xu, Y.Z. Zhang and C.J. Liu	396
Study on Dynamic Calculation Method of Anti-Slide Pile T.Z. Ma and Y.P. Zhu	402
Finite Element Method of Corner Joints in Steel-Framed Structures under Fire Conditions Y. Wang, Y.J. Liu and J. Ma	407
Influence of High Mode Effects on Ductility Reduction Factors for MDOF Shear-Type Structures	
H.Y. Wang	412
Numerical Simulation of Prefabricated Frame-Shear Wall Structure with Keyway Connection of the Column to Wall under Unidirectional Horizontal Load W.J. Zhao, Y.N. Guo, J.X. Tong and S.M. Yuan	417
Research on Connection Method and Mechanical Performance of Column-Wall Subassembly without Keyway under the One-way Horizontal Load in Precast Frame-	.1,
Shearwall Structure W.J. Zhao, S.M. Yuan, J.X. Tong and Y.N. Guo	422
Wind Tunnel Test on Wind-Induced Aerodynamic Force of Transmission Tower W.S. Shan, B. Li, J.B. Yang and Y. Liu	427
Wind-Induced Dynamic Analysis of Rung-Shape Long-Span Tensile Cable Membrane Structure	422
F. Liang, J. Xian and J.W. Wang	432
An Experimental Evaluation of Development Length of Reinforcements Embedded in Geopolymer Concrete J.S. Kim and J. Park	441
Analysis of Structural and Non-Structural Problems by Coupling of Finite and Infinite	
Elements M. Demidem, R. Boutemeur, A. Bali and E. Benyoussef	445
Buckling Analysis of Single-Layer Reticulated Shells F. Wang, D.D. Liu and X.Y. Lan	456

Calculation and Analysis of Composite Wall Frame by Finite Element X.Q. Hou	460
Compressive Strength of Artificial Sand Recycled Concrete with Different Content of Stone Powder	
W.W. Lan, R.F. Zhong, B. Lv, J.Y. Gan and J.W. Ying	464
Computing Method Based on Compound Boundary Conditions for Short Cable Force B. Lei, Y.Z. Lv, R.F. Chen and W. Ren	469
Design of Concrete Voided Slab of Highway Bridge Pretensioned with CFRP Tendons P. Wang, D. Shi and P.L. Sun	477
Dynamic Characteristic Analysis of Prefabricated Houses of Light-Weight Steel Structure H.M. Xu, Y.Y. Li and W. Xu	483
Experimental Study on the Mechanical Behavior of Truncated Hip Structure Y. Yang, H.Y. Li and Y.P. Wu	488
Finite Element Analysis on Temperature Field of Inorganic Polymer Concrete Pouring	
Process X.C. Fan and C.Z. You	493
Finite Element Modelling for Lateral Behaviour of Infilled RC Frames with Openings J.C. Kong, Q.G. Zhang and C.H. Liu	497
Improvement of Impact Resistance of Synthetic Macro-Fiber Reinfored Concrete G.C. Wang and B.X. Wang	501
Numerical Analysis of the Influence of the Padding-Plate on the Extended End-Plate	
Connection S.Q. Zhang and L. Wu	505
Numerical Simulation Analysis of Mechanical Properties of Square Steel Tubular High- Strength Concrete Inner Set CFRP Round Pipe Flexural Members under Reciprocating Loads	
D.B. Ren, S. Li, S.M. Chang and W. Pei	509
Optimization Design and Elastic Analysis on Shell Type Foundation for Wind Turbo-	
Generator S. Yan, H. Wang, H. Yan and D. Deng	517
Progress in Study on Elastic-Plastic Time History Analysis of Tall Building F. Wang, X.Y. Lan and D.D. Liu	523
Research and Engineering in the Design of Building Walls Q. Zhang and N. Zheng	527
A Shape Optimization Based on Strain Energy for Framed Structures B.S. Jiang and J. Hu	532
Analysis on Structural Problems in Building Decoration X.F. Zhao and Q. Wang	536
Comparative Analysis of Different Modeling Methods for Sandwich Plates Based on LS-	
DYNA Z. Zhu and J.J. Wang	540
Effects of Shape Parameters on Deformation Characteristics of Carrier Pile H. Li, H.X. Ding and S.Y. Han	546
Experimental and Theoretical Studies On High-Rise Building Structure With New Special-	
Shaped Shear Walls J.X. Liu, P. Li, J. Shen and M.C. Zhu	550
Experimental Research on Integral Structures of Mobile Steel Buildings Z. Zhang, X.F. Cai, Y.C. Ma and J.Z. Zhou	555
Interaction Analysis of Infilled Frame Structures under Lateral Loads S. Gu, Z. Zheng, X.L. Chang, Z.K. Wang, Z.M. Liao and Z.X. Liao	559
Methods for Determination of Residual Mortar Content Adhered to Recycled Aggregate C. Jia, J.C. Yan, Q. Hu, C.Y. Zou and F.X. Chen	568
Resist the Wind Load of Jacking System in High Buildings F. Wang, S.H. Mo and Z.F. Luo	572
Restriction Effect of Structural Steel to Ultra High Strength Concrete in the Joint Core	
Area C.W. Yan, Y. Yang, J.C. Zhu, J. Zhang and S.G. Liu	576

Strength Degeneration of SRUHSC Column to RC Beam Joint Subjected to Reversal Cycle Load	
C.W. Yan, J. Zhang, S.G. Liu and Y. Yang	580
Study on the Analysis and Pre-Control Technology of Vertical Deformation in Construction Process of the Super High-Rise Steel-Concrete Composite Structure S.B. Cai, J.Y. Liu and H.Q. Cao	584
Study on the Wind-Induced Control of Tensile Membrane Structure G. Zhao and H.H. Zhu	589
The Study on the Temperature Effect on Steel Reinforced Concrete Girder of Transfer Story in the Construction Process Y.D. Sun and B. Niu	593
Thermal Buckling Analysis of Cyclic Symmetry Mounting Structure Y.B. Ma, T.H. He and B.D. Gu	598
Ultimate Bearing Capacity Analysis of Oblique Beam System Supported by Knee Brace L.H. Xu, F. Liu and S.S. Meng	602
Wind Load Analysis of Large Temporary Stand with Variable Upwind Structure L. He, X.X. Zou and D.B. Xin	606
A Joint of Ceramic Granite Mount by Threaded Anchor Studs in a Suspended Ventilated Facade	
V. Tusnina, A. Emelyanov and O. Tusnina	615
Analysis of Influencing Factors on Mechanical Behavior of Laminated Slab with Shear Connectors with Four-Terminal Fixed Constraints W.J. Zhao, L.G. Wang, J.G. Chen and M. Li	619
Analysis of Influencing Factors on Outer Annular-Stiffener Type Steel Castellated Beam-	019
Concrete Filled Steel Tuber M. Li, Y.T. Wen, M. Zhao, H.Y. Zhang and Q.X. Yu	623
Analysis of Static Strength for Tubular Joint Reinforced with Collar Casing Pipe S.Z. Song, J.J. Wei and W. Sun	627
Analysis on Creep Characteristics of PC and RC Cylinders with Different Loading Ages G.H. Cao, Y.M. Chen and J.X. Hu	631
Application Research of <i>In Situ</i> Axial Compression Method on Brick Masonry R.Q. Xie, J.W. Chen and J. Zhang	637
Calculation of Cross Beam in Continuous Box Girder Bridge Based on Modified Shear Method	(12
Y.F. Gong, X.B. Sun, H.L. Wang and H.P. Bi Characteristic Analysis of Prestressed Concrete Frame Joints with Spread-Ended Beams	642
Q.W. Liu and F.Q. Wu	648
Comparison Analysis of Evaluation Criterions for Vibration Serviceability Induced by Wind Load	
H. Lin, J. Liu, M. Liu and G.B. Wang	653
Computational Method on Axial Tension of Secondary Loaded RC Members Strengthened with Carbon Fiber Reinforced Plastic Sheets D.Q. Liu, Q.X. Ren and W.Q. Yu	659
Contrast Analysis about the Result of Static Load Test and High Strain Testing for the Bearing Capacity of Screw Pile Foundation	
Q.H. Wu, Q. Xu and S.M. Wan	663
Contrastive Research on the Influence of Eccentricity for Autoclaved Fly Ash Solid and Perforated Brick Masonry C.Y. Xu, C.L. Xu and L. Yan	667
Design of a Suspended Ventilated Facade with Composite Facing V. Tusnina, D. Emelyanov and O. Tusnina	671
Design of Fastening Tube High-Formwork Supporting System W. Sun, S.Z. Song, Q.L. An, F.M. Chen and Y.H. Mao	675
Dynamic Stability Analysis of Functionally Graded Plates Subjected to Complex Loads S.F. Yang, H. Chen and C. Ran	679
Experimental Study of Bending Properties of CFRP Bars Concrete Beam and Crack	
Analysis X.Q. Yao and X.S. Xu	687

Failure Modes-Based Searching and Optimizing of Steel Reinforced Concrete Frame Structures	
Y.F. Zhu, B. Xiong and Z.Q. Li	691
Finite Element Analysis of Concrete-Filled Rectangular Tubular Frame X.L. Li and L.H. Niu	695
Finite Element Analysis of Friction Coefficient on Recycled Concrete Wall-Beam Interface M. Zhang, C.L. Zou and X.J. Fu	699
Finite Element Analysis on Steel Frame Structure of Mobile Buildings X.F. Cai, Z. Zhang, Y.C. Ma and J.Z. Zhou	703
Force Behavior of Parallel Double Coupling Beams with Different Width M. Li, J.G. Chen, W.J. Zhao and L.G. Wang	707
Influencing Factors Analysis on Comfort of New-Type Precast Assembly Diaphragm C.F. Sun, S.T. Liang and X.J. Zhu	711
In-Plane Stability Bearing Capacity of Variable Section Column M. Chen and X.F. Ma	717
Management Practice for Steel Structure Work of the Wide Span Aerial Corridor in Tobacco Construction Project M.D. Shan	723
Mechanical Behavior Research on the Double Angle Bolts Tube-Plate Joints of Concrete-	123
Filled Steel Tubular Lattice Wind Turbine Tower Y. Wen, S.T. Liu and G.K. Xia	727
Node Additional Bending Moment's Influence on Plane K Shape Steel Tube Tubular Joint Ultimate Bearing Capacity X. Liao, J. Yong and Z.Q. Wang	732
A Kind of Swinging Bumper in the Rear of a Truck and its Performance Research J.F. Xie and Y.Q. Cheng	736
A New Kind of Modular Assembly Steel Structure System Z.H. Zhang, X.P. Shu and R. He	741
Design and Application of Rock Bolt Foundation in Mountain Cable Crane J.S. Lei, X.T. Cao, Y.W. Zeng and F. Liu	745
Numerical Simulation on the Mechanical Performance of the Wind Generator Latticed Concrete-Filled Steel Tubular Tower B. Li, Q.H. Zhang and C.Y. Gao	751
Numerical Study of Damage Model for Reinforced Concrete Beam under Complex Boundary Condition Subjected to Air Blast Load D. Li, J.T. Li and J.L. Tao	757
Numerical Study of Damage Model for Reinforced Concrete Slab under Complex Boundary Condition Subjected to Air Blast Load	131
D. Li, S.B. Yang and J.L. Tao	762
Pile Foundation Antifreezing Measures Research in Seasonal Frozen Soil Region J.Q. Song	767
Preliminary Analysis of Concrete Filled Steel Tube Reinforced Concrete Columns under Axial Compression after Exposure to Fire W.Q. Yu, Q.X. Ren and L.G. Jia	772
Prestressed I-Beams Made of Ultra-High Performance Concrete for Construction of Railway Bridges	
P. Tej, J. Kolísko, P. Bouška, M. Vokáč and J. Čech	776
Progressive Collapse Analysis of CFST Frame with Semi-Rigid Connection Y. Ma and L. Wang	779
Research and Application on the Movable Protective Frame Scaffolding in the Overpass Demolition Work X. Jin, D.H. Li and A.H. Wang	784
Research Progress on Wind-Resistant and Seismic Performance of Glass Curtain Wall	, 01
Supported by Plane Cable Net M. Li, Y.O. Wang, W. Tao, R. Wang, O.X. Yu, L.L. Wu, and R.L. Shan	790

Simulation Research for Bar-Type Composite Wall under Certain Bias Loads C.B. Li and Z.F. Zhan	797
Single Beam Load Test of Continuous Beam Y.X. Yang and W.Y. Fan	801
Study on Seismic Behavior of Joint with Exterior Diaphragms between Concrete-Filled Square Steel Tubular Column and H-Type Steel Beam N. Li	805
Study on Wind Load Characteristics of a Super Tall Building Based on Numerical Simulation	
L.H. Zhi, S.Y. Jiang and C.L. Lu The Best Position to Determine the Hinge in the Cantilever Bridge	810
C.L. Liu and S.J. Dai	814
The Connection Form of the Beam and Column in Prefabricated Concrete Structure M. Li, H.Y. Zhang, W.J. Zhao and Y.T. Wen	818
A Refined Theory of Moderately Thick Plates According to Exposition of the Classical Technical Theories, Theoretical Aspects J.M. Martinez Valle	822
Analysis on Bearing Wall with Opening Transfer Beams Subjected to Vertical Loads M.Z. Lv, D.Q. Liu and X.Y. Sun	830
Analysis on the Seismic Performance of RC Frame Beam-Column Joints Strengthened by	050
Sprayed FRP Z. Yang and C. Wu	835
ANSYS-Based Study in the New Composite Beam for Effective Flange Width M.Z. Lv, H.C. Guo and F. Tian	839
Research of the Influence of Snow Load Distribution Factor on Mechanical Performance of Portal Frame	
Y. Liu, L.J. Guo, H.L. Wang and F. Wang	846
Study on the Structural Dynamic Characteristics of Sand Washing Tower Based on ANSYS K. Zhao, W.H. Zhu, F. Zhu, C.L. Huang and X. Hua	850
Study the Structure of the Vibration Characteristics of Sand Washing Water Tower Based on ANSYS	
C.L. Huang, W.H. Zhu, F. Zhu, K. Zhao and D.L. Yin	854
The Finite Elements for Design of Frame of Thin-Walled Beams V. Lalin, V. Rybakov and A. Sergey	858
The Influence of Slab on Yield Mechanism of RC Frame Structure M.Z. Lv, T.P. Pan and X.B. Wu	864
The Research of Box Beam Warping Displacement Function Y.P. Yue and R.Z. Cui	868
The Research of Gantry Crane Girder Damage Problem by Modal Analysis Method X.P. Nie, X.G. Li, H.W. Fan, K.Q. Ding and L.B. Xu	872
Research on Dynamic Characteristics and Response of Double-Tower Connected Structures	
Q. Liu Numerical Study on the Static Response of Grouting-Sleeve Reinforcement-Connection	877
Component with Different Sleeve-Rib Space F. Gu, P. Zhang, W.J. Zhao and D. Zhang	882
Seismic Response of Ductile Cast Iron Buried Pipeline with Socket Joint F. Gu, D. Zhang, J.H. Zhou and W. Wang	886
Free Vibration of Shallow-Spherical Shell X.Q. Hou	890
The Temperature Stress Analysis and Design of Changge Stadium Body Structure H.D. Zhang	895
Thermal Responses of a Thin Plate under Periodic Heat Flux Oscillation Q.N. Li	902
Parametric Modeling and Stability Analysis of Temporary Grandstand L. He, C. Liu and Z.Y. Wu	907
Study on the Static Performance of Sand Washing Tower Based on ANSYS J.H. Lv, J.P. Shi, W.H. Zhu, F. Zhu and C. Yan	917

Numerical Modeling Research of Rectangle Pipe-Jacking Construction X.K. Bao and L.J. Liang	921
Mechanical Plate-Shell Structure Vibration Analysis Based on ANSYS L. Cai, Y.G. Tan, L. Fan and Y. Xie	925
Numerical Analysis and Calculation of Internal Forces of Steel Box Continuous Girder Bridge Construction Process T. Liu, Q. Su, W.C. Zhang and H. Bai	929
Nonlinear Numerical Analysis of Transfer Column in SRC-RC Hybrid Structure Q.Q. Sun, Y. Zou and Q. Wang	936
An Improved Method of Bridge Finite Element Model Update by Stepwise Regression Y.P. Luo, F.L. Huang, Z.P. Tang and J.L. Xie	940
Cracking Simulative Analysis of Reinforced Concrete Columns with ANSYS Software G.J. Zhang, Y.B. Jia and X.L. Lu	946
Limit Analysis of Frame Structure Based on the Elastic Modulus Reduction Method Q.H. Duan, Y.Q. Guo, D.D. Zeng and Y.J. Luo	950
Space Stability Analysis of Inclined Thin-Walled Steel Box Ribs H.J. Ma and X.C. Chen	954
Elasto-Plastic Mechanical Behavior of Steel Box Stub Column under Cyclic Uniaxial Tensile and Compressive Load	
Z.F. Wang, L. Ge, B.Y. Sun, Y. Ma and K. Liu	960
Reasonable Strength Criterion Research of High Arch Dam Based on Brittle Failure Constitutive Relation Z.Q. Wang and W.B. Liu	964
Analysis and Experimental Study on Mechanical Performance of the Extruded Forming Channel Type Embedded Part	
Q. Tan, C.G. Jia, Y.M. Li and L. Liu	968
Semi Empirical Equation for Peak Shears Strength of Rectangular Reinforced Concrete Walls with Aspect Ratio Less or Equal to One A. Kezmane, S. Boukais and M. Hamizi	974
Chapter 2: Monitoring and Control of Structures	
Chapter 2: Monitoring and Control of Structures About Test Methods of Corrosion State of Reinforced Concrete Structures A.V. Ulybin and A.V. Puzanov	981
About Test Methods of Corrosion State of Reinforced Concrete Structures	981 987
About Test Methods of Corrosion State of Reinforced Concrete Structures A.V. Ulybin and A.V. Puzanov Analysis on the Nondestructive Testing Method of Concrete Strength	
About Test Methods of Corrosion State of Reinforced Concrete Structures A.V. Ulybin and A.V. Puzanov Analysis on the Nondestructive Testing Method of Concrete Strength J.B. Gu Analysis to Causes of Concrete Transfer Crossbeam Cracks in the Basement L. Li, Z.J. Jiang, Q. Zhang, S.T. Peng and H. Li Autoexcitation-Based Accelerometer Array for Interface Separation Detection of Concrete-Filled Steel Tubular Arch Bridge	987 991
About Test Methods of Corrosion State of Reinforced Concrete Structures A.V. Ulybin and A.V. Puzanov Analysis on the Nondestructive Testing Method of Concrete Strength J.B. Gu Analysis to Causes of Concrete Transfer Crossbeam Cracks in the Basement L. Li, Z.J. Jiang, Q. Zhang, S.T. Peng and H. Li Autoexcitation-Based Accelerometer Array for Interface Separation Detection of Concrete-Filled Steel Tubular Arch Bridge S.S. Pan, X.F. Zhao and Z. Zhang	987
About Test Methods of Corrosion State of Reinforced Concrete Structures A.V. Ulybin and A.V. Puzanov Analysis on the Nondestructive Testing Method of Concrete Strength J.B. Gu Analysis to Causes of Concrete Transfer Crossbeam Cracks in the Basement L. Li, Z.J. Jiang, Q. Zhang, S.T. Peng and H. Li Autoexcitation-Based Accelerometer Array for Interface Separation Detection of Concrete-Filled Steel Tubular Arch Bridge	987 991
About Test Methods of Corrosion State of Reinforced Concrete Structures A.V. Ulybin and A.V. Puzanov Analysis on the Nondestructive Testing Method of Concrete Strength J.B. Gu Analysis to Causes of Concrete Transfer Crossbeam Cracks in the Basement L. Li, Z.J. Jiang, Q. Zhang, S.T. Peng and H. Li Autoexcitation-Based Accelerometer Array for Interface Separation Detection of Concrete- Filled Steel Tubular Arch Bridge S.S. Pan, X.F. Zhao and Z. Zhang Coupled Vibration Control of Tuned Mass Damper in Both Horizontal and Torsional Direction	987 991 995
About Test Methods of Corrosion State of Reinforced Concrete Structures A.V. Ulybin and A.V. Puzanov Analysis on the Nondestructive Testing Method of Concrete Strength J.B. Gu Analysis to Causes of Concrete Transfer Crossbeam Cracks in the Basement L. Li, Z.J. Jiang, Q. Zhang, S.T. Peng and H. Li Autoexcitation-Based Accelerometer Array for Interface Separation Detection of Concrete- Filled Steel Tubular Arch Bridge S.S. Pan, X.F. Zhao and Z. Zhang Coupled Vibration Control of Tuned Mass Damper in Both Horizontal and Torsional Direction H.X. He, E.Z. Han and Y.W. Lv Cracking Analysis and Reinforcement Method for a Thin-Wall Plain-Concrete Pier	987 991 995 1000
About Test Methods of Corrosion State of Reinforced Concrete Structures A.V. Ulybin and A.V. Puzanov Analysis on the Nondestructive Testing Method of Concrete Strength J.B. Gu Analysis to Causes of Concrete Transfer Crossbeam Cracks in the Basement L. Li, Z.J. Jiang, Q. Zhang, S.T. Peng and H. Li Autoexcitation-Based Accelerometer Array for Interface Separation Detection of Concrete- Filled Steel Tubular Arch Bridge S.S. Pan, X.F. Zhao and Z. Zhang Coupled Vibration Control of Tuned Mass Damper in Both Horizontal and Torsional Direction H.X. He, E.Z. Han and Y.W. Lv Cracking Analysis and Reinforcement Method for a Thin-Wall Plain-Concrete Pier W.Y. Ye and X.Q. Wu Design and Experiment of the Frictional Sensor for Underground Structure Monitoring	987 991 995 1000 1007
About Test Methods of Corrosion State of Reinforced Concrete Structures A.V. Ulybin and A.V. Puzanov Analysis on the Nondestructive Testing Method of Concrete Strength J.B. Gu Analysis to Causes of Concrete Transfer Crossbeam Cracks in the Basement L. Li, Z.J. Jiang, Q. Zhang, S.T. Peng and H. Li Autoexcitation-Based Accelerometer Array for Interface Separation Detection of Concrete- Filled Steel Tubular Arch Bridge S.S. Pan, X.F. Zhao and Z. Zhang Coupled Vibration Control of Tuned Mass Damper in Both Horizontal and Torsional Direction H.X. He, E.Z. Han and Y.W. Lv Cracking Analysis and Reinforcement Method for a Thin-Wall Plain-Concrete Pier W.Y. Ye and X.Q. Wu Design and Experiment of the Frictional Sensor for Underground Structure Monitoring J. Wang, W.P. Lian and H. Hua Impact on Ultrasonic Level Test Method of Concrete Crack Depth J.M. Chang, J.H. Yuan and Y.Y. Zhao Research for Structural Damage Identification Method Based on Stable Time Series and	987 991 995 1000 1007 1012
About Test Methods of Corrosion State of Reinforced Concrete Structures A.V. Ulybin and A.V. Puzanov Analysis on the Nondestructive Testing Method of Concrete Strength J.B. Gu Analysis to Causes of Concrete Transfer Crossbeam Cracks in the Basement L. Li, Z.J. Jiang, Q. Zhang, S.T. Peng and H. Li Autoexcitation-Based Accelerometer Array for Interface Separation Detection of Concrete- Filled Steel Tubular Arch Bridge S.S. Pan, X.F. Zhao and Z. Zhang Coupled Vibration Control of Tuned Mass Damper in Both Horizontal and Torsional Direction H.X. He, E.Z. Han and Y.W. Lv Cracking Analysis and Reinforcement Method for a Thin-Wall Plain-Concrete Pier W.Y. Ye and X.Q. Wu Design and Experiment of the Frictional Sensor for Underground Structure Monitoring J. Wang, W.P. Lian and H. Hua Impact on Ultrasonic Level Test Method of Concrete Crack Depth J.M. Chang, J.H. Yuan and Y.Y. Zhao Research for Structural Damage Identification Method Based on Stable Time Series and Principal Component Analysis J.Z. Lu, J.C. Wang and X. Zhu	987 991 995 1000 1007 1012
About Test Methods of Corrosion State of Reinforced Concrete Structures A.V. Ulybin and A.V. Puzanov Analysis on the Nondestructive Testing Method of Concrete Strength J.B. Gu Analysis to Causes of Concrete Transfer Crossbeam Cracks in the Basement L. Li, Z.J. Jiang, Q. Zhang, S.T. Peng and H. Li Autoexcitation-Based Accelerometer Array for Interface Separation Detection of Concrete- Filled Steel Tubular Arch Bridge S.S. Pan, X.F. Zhao and Z. Zhang Coupled Vibration Control of Tuned Mass Damper in Both Horizontal and Torsional Direction H.X. He, E.Z. Han and Y.W. Lv Cracking Analysis and Reinforcement Method for a Thin-Wall Plain-Concrete Pier W.Y. Ye and X.Q. Wu Design and Experiment of the Frictional Sensor for Underground Structure Monitoring J. Wang, W.P. Lian and H. Hua Impact on Ultrasonic Level Test Method of Concrete Crack Depth J.M. Chang, J.H. Yuan and Y.Y. Zhao Research for Structural Damage Identification Method Based on Stable Time Series and Principal Component Analysis	987 991 995 1000 1007 1012 1016
About Test Methods of Corrosion State of Reinforced Concrete Structures A.V. Ulybin and A.V. Puzanov Analysis on the Nondestructive Testing Method of Concrete Strength J.B. Gu Analysis to Causes of Concrete Transfer Crossbeam Cracks in the Basement L. Li, Z.J. Jiang, Q. Zhang, S.T. Peng and H. Li Autoexcitation-Based Accelerometer Array for Interface Separation Detection of Concrete- Filled Steel Tubular Arch Bridge S.S. Pan, X.F. Zhao and Z. Zhang Coupled Vibration Control of Tuned Mass Damper in Both Horizontal and Torsional Direction H.X. He, E.Z. Han and Y.W. Lv Cracking Analysis and Reinforcement Method for a Thin-Wall Plain-Concrete Pier W.Y. Ye and X.Q. Wu Design and Experiment of the Frictional Sensor for Underground Structure Monitoring J. Wang, W.P. Lian and H. Hua Impact on Ultrasonic Level Test Method of Concrete Crack Depth J.M. Chang, J.H. Yuan and Y.Y. Zhao Research for Structural Damage Identification Method Based on Stable Time Series and Principal Component Analysis J.Z. Lu, J.C. Wang and X. Zhu Research on Recognition Methods of Crack Damage from Beam Based on the Vibration	987 991 995 1000 1007 1012 1016

Study on Damage Identification of Simple Beam Bridge Based on the First-Order Curvature Mode Ratio	
Y. Qin	1032
Study on Strain Transfer of Substrate Encapsulation FBG Strain Sensor L. Sun, B. Zhang, C. Li and C.Y. Yue	1037
The Defect Diagnose Method of Piles with Lateral Excitation Based Wavelet Transform H.J. Zhou, X.Q. Wang, S.M. Zhang, J. Liao, Y.S. Huang and R.G. Lin	1042
The Defect Diagnosing Method of Existing Bridges Based on Acceleration Responses X.Q. Wang, S.M. Zhang, J. Liao, Y.S. Huang and X.K. Wang	1047
Accuracy Enhancement of Videogrammetrey for Structural Dynamic Displacement Measurement with Adaptive Filtering L. Z. Oin, H.E. Zhou, Z.L. Vio and C.Y. Lu	1053
L.Z. Qin, H.F. Zhou, Z.L. Xie and C.Y. Lu Optimal Wavelet Basis Selection for Wavelet Denoising of Structural Vibration Signal C. He, J.C. Xing and Q.L. Yang	1055
Health Monitoring System Design of Coastal High-Piled Wharf H.B. Liu and H.N. Li	1064
Optimal Sensor Placement Based on Tabu Search Algorithms J.Z. Zhan and L. Yu	1069
Structural Damage Identification Based on Dynamic Analysis of the Scale Model Q.Y. Liu, Y. Gong and Z. Xu	1073
Application Study on GPS Positioning Technology for Gravity Wharf Deformation	
Monitoring H. Zhang, M. Ji, X. Shi and S.L. Zhou	1079
Grid Structure Damage Location Base on Cross-Correlation Function Z.F. Yu, L.S. Huo and L. Zhang	1083
Ultrasonic Cleaning Device with Adjustable Power for Submerged Structure Q. Wu, C.P. Zhu, C. Yao, B. Wang, Y.Z. Yin, B.Y. Chen, Q.G. Ren, Q.B. Han, Y.B. Tang, Z.B. He, G.C. Chen, Z.X. Li and J. Chen	1087
A Two Step Damage Prognosis Method for Beam-Like Truss Structures H.K. Jia and L. Yu	1092
Damage Identification of the Arch Bridge Based on the Difference of Deflection with Moving Load Z. Zhao, Z.H. Nie and H.W. Ma	1096
Optimization Study of Stepwise Regression and Partial Least Squares Regression Models for Dam Security Monitoring	1101
W.L. Hu, N.W. Deng and Q.S. Liu Experimental Research of Rebound Detection in Steel Fiber Concrete J.F. Ye, H.Y. Chen and X.S. Bi	1101 1108
Study on Probabilistic Identification Method of Structural Physical Parameter Based on	1100
Bayesian Estimation M.S. Gong, X.H. Li, Y.B. Gao and Q.F. Liu	1113
Study on Self Judgment of Location Lave Speed of Acoustic Emission on Concrete Members Q. Li, Q.Y. Shi, Z.Y. Jin, F. Yang and B.B. Liu	1118
Study on Structural Damage Detection Using RBF Network J.S. Fan, Y. Yuan and X.L. Cao	1125
The Establishment of Ultrasonic-Rebound Curve in Steel Fiber Concrete C.S. Luo, H.Y. Chen and X.S. Bi	1129
The Monitoring Method for Crack Damage of Concrete Structures Based on Piezoceramics Transducers	
H. Zhang	1134
A Bridge Health Monitoring System Based on Wireless Smart Aggregates S. Yan, H.Y. Ma, X.L. Jiang, B.H. Qi and F.X. Liu	1138
A Study on Steel Fiber Influence to Rebar Corrosion in Concrete X.E. Zhu, X.J. Chen and M.X. Dai	1145
Acoustic Emission in Protected and Non-Protected Concrete During the First 24 Hours L. Topolář and L. Pazdera	1149

Application of Frequency Ratio in Structural Damage Detection H.B. Liu and Q. Zhang	1153
Construction Monitoring Method of Gui Dan Intercity Bridge in Guang Zhou X.H. Zhu and Z.B. Jiang	1157
Integration, Application and Analysis of the SHM System for Continuous Rigid Frame Bridge	
L. Wang, W.M. Yan, H.X. He and W. Wang Application of Health Monitoring Technology in Steel Structure Engineering of Jinan	1161
Olympic Sports Center X.J. Zhou, R.Q. Yang, X. Ma and Y. Xu	1170
Estimation of Overall Reliability for Zero-Failure Batch Production Monitoring Instrument Based on E-Bayes Method W.H. Fang and N. Zhang	1177
Health Monitoring Technology in Steel Structure Engineering of Jinan Grand Theatre Concert Hall	1102
X.J. Zhou, R.Q. Yang, X. Ma and Y. Xu Non-Structural Cracking Analysis of Early Age of Basement Structure Based on Field	1183
Monitoring T. Yao, J.P. Liu, Q. Tian, W. Xu and Y.J. Wang	1190
Parameter Identification for Underground Powerhouse of Pumped-Storage Power Station Based on ARMA Time-Series Model	1106
F. Han, D.W. Zhong, J.Y. Mo and H. Chen Safety Control and Site Monitoring on High Formwork Support System of Fastener-Style	1196
Steel Pipe W. Sun, Q.L. An, S.Z. Song and X. Huang	1200
Study on Damage Identification of Simply Supported-Beam Based on Modal Strain Energy Method Y.Q. Gu and C.F. Mao	1204
Wind Tunnel Test of Tall Buildings with Irregularities of Elevation	
J.G. Zhang and H.M. Zhuang Research on the Application of Information Technology in the Dynamic Monitoring of	1208
Masonry Structure	1212
C.X. Yu, X. Yu, N. Xu and B.Y. Pan Vertical Deformation Prediction Method for Bridges Based on Grey System-BP Neural	1212
Network Model M.J. Li, H.H. Wu and X. Feng	1217
Crack Identification of Plane Frames Based on Wavelet Transform of Rotation Modes Y. Huang	1224
Damage Detection Method Based on Fractal Correlation Dimension for Steel Truss Structure	
S.J. Du, L.B. Shi and L.M. Zhang	1228
Damage of Basement and Foundation under Low-Temperature Environment and its Analysis	1222
G.Y. Liu, Q. Wang and H.X. Wang Crack Control Technology for Concrete of Super-Large Section Precast Immersed Tube	1233
J.H. Li, K.X. Liu, L.Q. Tu and Y.P. Jiao	1240
Vibration Test of Hangzhou East Railway Station under Pedestrian Load Y.L. Yu, W. He and W.P. Xie	1247
Experimental Study on Behavior of the Channel-Masonry-Concrete Composite Structures K.Z. Zhao and Z.F. Zhu	1251
Identification and Treatment Suggestion of a Building Safety C. Yu	1257
Reinforced Grouting Material Member Force Performance Research X.G. Cui, S.L. Zhao, W. Yang, X.Y. Tong and J. Geng	1262
Experimental Study on Reinforcement of Failure Reinforced Concrete Beams Q. Chen, L.Y. Liu and Y.J. Meng	1266
Experimental Study of CFRP Reinforced Concrete Beams L. Xu, X. Yu and Z.Y. Di	1271

Finite Element Analysis of the Influence of Weld Size on the Combined Connection with Bolts and Welds	
J.S. Ma, R.S. Bai, M.F. Li, Y.Q. Wang, L. Wang and Y.J. Shi	1276
Investigation Study of Damaged Factors of Brick Structure Buildings in ZhengZhou W. Su, J. Wang and R.F. Song	1281
Research Progress and Overview of Pile Foundation Model Test X.Q. Wang, S.M. Zhang, J. Liao and Y.S. Huang	1285
Application of Digital Speckle Correlation Method in Observation of Conrete Micro-Crack Damage	4.500
Z.Q. Wang and Y. Liu Study on Influence of Freeze-Thaw for Chlorion Penetration	1290
Z.Q. Wang, Y.N. Zhang and Y. Liu	1295
To Explore the Causes and Prevention of Cracks in Brick Masonry Z.N. Tong	1299
Cable Corrosion Analysis and Damage Monitoring Y.L. Guo	1302
Strain Measuring Techniques of the Geogrid X.J. Feng, Z.Y. Zuo and W. Tong	1306
Dynamic Characteristics Test and Analysis of Long-Span Cantilevered Floor Systems in Shenyang Culture & Art Center	
Q. Jin, Z.Y. Sun, L.G. Jia, Q. Wang, G. Yang, Y. Ma and C. Xu	1311
Chapter 3: Structural Rehabilitation, Retrofitting and Strengthening	
Experimental Study on Fatigue Stiffness of RC Beams Strengthened with CFL under Variable Amplitude Overloading Z.W. Li and P.Y. Huang	1317
Several Common Methods of the Old Bridge Reinforcement L. Li, C.H. Zhao, X. Yang and B.B. Fan	1323
Simulation Analysis on Shear Behavior of RC Beams with Near-Surface Mounted GFRP Bars	
H.X. Zhang, L.Y. He and H. Liu Strengthening Design of an Existing Old Masonry Building	1327
Z.J. Li	1332
Study on Flexural Performance of RC Beams Strengthened with Bonded Prestressed CFL J.L. Huang, P.Y. Huang and J.H. Xie	1338
Study on Cracking Load of Normal Section for Concrete Beams Strengthened with BFRP Sheet	12.42
X.J. Chen, X.E. Zhu and Z. Yang Study on Punching Resistance of Slab-Column Nodes Strengthened with CFRP Sheets by	1343
Nonlinear Finite Element Methods X.H. Yang, Z.Q. Yang, F.W. Wu and X. Liu	1347
Finite Element Analysis on FRP Retrofitted RC Frame Structure Progressive Collapse Performance	
L.L. Shen, Q.G. Hu and F.Z. Zhang	1353
Experimental Study on Cracking Load and Ultimate Load of Masonry Walls with Window Openings Strengthened with Sprayed GFRP C.F. Sun, X.Y. Zhang and Q. Gu	1357
Seismic Isolation Retrofit of an Office Building Using Friction Pendulum System L. Liu, X.M. Li and W. Tian	1361
Study on the Calculation Method for Flexural Capacity of Pre-Stressed Concrete Hollow-	1501
Core Slabs Strengthened with CFRP X.P. Yang, Y. Yao, Y.P. Chu and T. Yang	1366
Application of Carbon Fiber Reinforcement Technology in Humidity Environment for Weave and Power Plant	
X.Y. Guo	1370

Chloride Penetration and Aging Behaviors of Surface Protected Concrete with Silicone Material	
W. Wang, S.C. Li, H.S. Wang, R. Wang, W.B. Wang, L. Li and Q. Tian Contrastive Analysis on Hinge Joint Reinforcement Measures of Hollow Plate and	1374
Deduction Design Parameter H.J. Ni, Y.S. Ni and J. Tian	1379
Experimental Tests on Strengthened Masonry Vaults Ł. Hojdys and P. Krajewski	1396
Nonlinear Finite Element Analysis on Shear Bearing Capacity of Masonry Wall Strengthened by SGFRP	1370
Z. Zhang and Q. Gu	1400
Seismic Evaluation and Strengthening Design for a Historic Structure H.N. Wang, H.B. Liu and J.X. Liu	1405
Experimental Study and Recommendation on Concrete Cover Thinkness of GFRP Y.Y. Gao, J.X. Liu, C.X. Yue and X.H. Li	1410
Research for Project on Adding Layer of Building C.M. Zhang, L.J. Liang and C. Huang	1415
The Application and Research of Performance-Based Fire Protection Design on Reconstruction Project	
P.F. Wang Experimental Method of Corrosion Fatigue Behaviors for Steel Strand under Corrosive	1419
Environment and Cycle Loading	1.40.4
G.W. Yao, L. Zhong and D.X. Jiang Cement-Free Mortar Using Ground Granulated Blast-Furnace Slag with Different Alkali-	1424
Activators J.W. Park, S.I. Hong, H.J. Yang, T.T. Lima and K.Y. Ann	1430
Propagating and Reconstructing Cracks in 3D in Cement-Based Materials G.G. Liu, A. Ma, H.G. Qin and P. Zhang	1441
Chapter 4: Reliability and Durability of Structures	
Chapter 4: Reliability and Durability of Structures Comparison of Monte Carlo Simulation and Response Surface Method by Using ANSYS PDS	
Comparison of Monte Carlo Simulation and Response Surface Method by Using ANSYS PDS C.X. Song, Y. Zhang and Y.Y. Cao	1449
Comparison of Monte Carlo Simulation and Response Surface Method by Using ANSYS PDS C.X. Song, Y. Zhang and Y.Y. Cao Effectiveness of Amino Alcohol-Based Corrosion Inhibitor and its Influence on Concrete Properties	
Comparison of Monte Carlo Simulation and Response Surface Method by Using ANSYS PDS C.X. Song, Y. Zhang and Y.Y. Cao Effectiveness of Amino Alcohol-Based Corrosion Inhibitor and its Influence on Concrete Properties Z.Y. Li, L.Q. Tu and M.Q. Qin	1449 1454
Comparison of Monte Carlo Simulation and Response Surface Method by Using ANSYS PDS C.X. Song, Y. Zhang and Y.Y. Cao Effectiveness of Amino Alcohol-Based Corrosion Inhibitor and its Influence on Concrete Properties Z.Y. Li, L.Q. Tu and M.Q. Qin Reliability Analysis of Offshore Structures with Consideration of Seasonal and Directional Effects	
Comparison of Monte Carlo Simulation and Response Surface Method by Using ANSYS PDS C.X. Song, Y. Zhang and Y.Y. Cao Effectiveness of Amino Alcohol-Based Corrosion Inhibitor and its Influence on Concrete Properties Z.Y. Li, L.Q. Tu and M.Q. Qin Reliability Analysis of Offshore Structures with Consideration of Seasonal and Directional	1454
Comparison of Monte Carlo Simulation and Response Surface Method by Using ANSYS PDS C.X. Song, Y. Zhang and Y.Y. Cao Effectiveness of Amino Alcohol-Based Corrosion Inhibitor and its Influence on Concrete Properties Z.Y. Li, L.Q. Tu and M.Q. Qin Reliability Analysis of Offshore Structures with Consideration of Seasonal and Directional Effects C.X. Song, Y. Zhang and Y.Y. Cao Research for Computing the Structure Reliability Index J. Zhao and C.H. Li The Research on Computation of Researchers Certainty Factor of Bridge's Durability Evaluation Based on the Indeterminate AHP	1454 1459 1464
Comparison of Monte Carlo Simulation and Response Surface Method by Using ANSYS PDS C.X. Song, Y. Zhang and Y.Y. Cao Effectiveness of Amino Alcohol-Based Corrosion Inhibitor and its Influence on Concrete Properties Z.Y. Li, L.Q. Tu and M.Q. Qin Reliability Analysis of Offshore Structures with Consideration of Seasonal and Directional Effects C.X. Song, Y. Zhang and Y.Y. Cao Research for Computing the Structure Reliability Index J. Zhao and C.H. Li The Research on Computation of Researchers Certainty Factor of Bridge's Durability Evaluation Based on the Indeterminate AHP X.Z. Chen and X.J. Zhang	1454 1459
Comparison of Monte Carlo Simulation and Response Surface Method by Using ANSYS PDS C.X. Song, Y. Zhang and Y.Y. Cao Effectiveness of Amino Alcohol-Based Corrosion Inhibitor and its Influence on Concrete Properties Z.Y. Li, L.Q. Tu and M.Q. Qin Reliability Analysis of Offshore Structures with Consideration of Seasonal and Directional Effects C.X. Song, Y. Zhang and Y.Y. Cao Research for Computing the Structure Reliability Index J. Zhao and C.H. Li The Research on Computation of Researchers Certainty Factor of Bridge's Durability Evaluation Based on the Indeterminate AHP	1454 1459 1464
Comparison of Monte Carlo Simulation and Response Surface Method by Using ANSYS PDS C.X. Song, Y. Zhang and Y.Y. Cao Effectiveness of Amino Alcohol-Based Corrosion Inhibitor and its Influence on Concrete Properties Z.Y. Li, L.Q. Tu and M.Q. Qin Reliability Analysis of Offshore Structures with Consideration of Seasonal and Directional Effects C.X. Song, Y. Zhang and Y.Y. Cao Research for Computing the Structure Reliability Index J. Zhao and C.H. Li The Research on Computation of Researchers Certainty Factor of Bridge's Durability Evaluation Based on the Indeterminate AHP X.Z. Chen and X.J. Zhang Simulation on Composition and Mechanical Properties of Concrete H.J. Mu Analysis of Concrete Corrosion and Damage Mechanism under the Actions of Multiple Salts and Dry-Wet Cycles	1454 1459 1464 1469 1473
Comparison of Monte Carlo Simulation and Response Surface Method by Using ANSYS PDS C.X. Song, Y. Zhang and Y.Y. Cao Effectiveness of Amino Alcohol-Based Corrosion Inhibitor and its Influence on Concrete Properties Z.Y. Li, L.Q. Tu and M.Q. Qin Reliability Analysis of Offshore Structures with Consideration of Seasonal and Directional Effects C.X. Song, Y. Zhang and Y.Y. Cao Research for Computing the Structure Reliability Index J. Zhao and C.H. Li The Research on Computation of Researchers Certainty Factor of Bridge's Durability Evaluation Based on the Indeterminate AHP X.Z. Chen and X.J. Zhang Simulation on Composition and Mechanical Properties of Concrete H.J. Mu Analysis of Concrete Corrosion and Damage Mechanism under the Actions of Multiple Salts and Dry-Wet Cycles X.P. Su Application of SAP2000 API and .NET Framework for Reliability Assessment of RC	1454 1459 1464 1469
Comparison of Monte Carlo Simulation and Response Surface Method by Using ANSYS PDS C.X. Song, Y. Zhang and Y.Y. Cao Effectiveness of Amino Alcohol-Based Corrosion Inhibitor and its Influence on Concrete Properties Z.Y. Li, L.Q. Tu and M.Q. Qin Reliability Analysis of Offshore Structures with Consideration of Seasonal and Directional Effects C.X. Song, Y. Zhang and Y.Y. Cao Research for Computing the Structure Reliability Index J. Zhao and C.H. Li The Research on Computation of Researchers Certainty Factor of Bridge's Durability Evaluation Based on the Indeterminate AHP X.Z. Chen and X.J. Zhang Simulation on Composition and Mechanical Properties of Concrete H.J. Mu Analysis of Concrete Corrosion and Damage Mechanism under the Actions of Multiple Salts and Dry-Wet Cycles X.P. Su	1454 1459 1464 1469 1473
Comparison of Monte Carlo Simulation and Response Surface Method by Using ANSYS PDS C.X. Song, Y. Zhang and Y.Y. Cao Effectiveness of Amino Alcohol-Based Corrosion Inhibitor and its Influence on Concrete Properties Z.Y. Li, L.Q. Tu and M.Q. Qin Reliability Analysis of Offshore Structures with Consideration of Seasonal and Directional Effects C.X. Song, Y. Zhang and Y.Y. Cao Research for Computing the Structure Reliability Index J. Zhao and C.H. Li The Research on Computation of Researchers Certainty Factor of Bridge's Durability Evaluation Based on the Indeterminate AHP X.Z. Chen and X.J. Zhang Simulation on Composition and Mechanical Properties of Concrete H.J. Mu Analysis of Concrete Corrosion and Damage Mechanism under the Actions of Multiple Salts and Dry-Wet Cycles X.P. Su Application of SAP2000 API and .NET Framework for Reliability Assessment of RC Structures	1454 1459 1464 1469 1473

Effect of Different Environments on Durability of PPF Concrete C.F. Wang and J. Liu	1498
Influence of Splitting Load and Polypropylene Fiber on Permeability of Chloride Ion in Concrete	
S.M. Liu, X.J. Liu and L.H. Xu	1504
Analysis of the Implied Reliability Index and Load and Resistance Coefficients for China's Current Highway Bridge Load-Carrying Capacity Evaluation Code Y.L. Leng, J.Q. Zhang and R.N. Jiang	1512
Experimental Study and Analysis of the Structural Behavior of Steel-Concrete Composite Beam after Shear Connector Corrosion Y.C. Kuang, J.R. Feng, Z.W. Yu and X.J. Liu	1522
Modelling Pore Structure of Cement Based Material According to Continuous Network System S.I. Hong, J.W. Park, Y.H. Jung and K.Y. Ann	1531
Non-Probabilistic Reliability and Slope Stability Analysis H.S. Mu	1538
Reliability Assessment for the Balanced Cantilever Construction Phases of Super Long- Span Cable-Stayed Bridges with Steel Box Girder B. Bai, Q.H. Zhang and Q. Li	1542
Seismic Fragility Analysis of Hill Buildings Sited on Slopes L.P. Wang, C.L. Ning and L.Q. Huang	1551
Study on Mechanical Properties of Corroded Reinforced Concrete Using Support Vector Machines	
S. Yang, C.Q. Fang and Z.J. Yuan The Method Research for Appraisal of Reliability of Existing Lightweight Steel Structures	1556
Z.Y. Liu, W. Chen and L.J. Zhang	1562
Device for Time-Varying Mechanical Performance of Columns under Coupling Effects of Load and Environment Q. Li, J. Jiang and J. Tong	1567
Ultimate Strength Analysis of Open Box Girders under Bending Moment and Lateral Pressure	
V.T. Vu and W.G. Wu	1571
Out-of-Plane Stability Analysis of Plane Tubular Trusses Z.H. Huang and Q.L. Zhang	1575
Bending Strength Calculation without Axial Force in Case of Annular Section X. Chen, D.H. Zhou, C.X. Han and Y.Y. Wang	1580
Variational Criteria for Critical Levels of Internal Energy of a Deformable Solids L. Stupishin	1584
Analysis on Safety Assessment of Reinforced Concrete Members Z.N. Tong	1588
Study on the Structure Safety Appraisal of Sluice Frame Structure on the Yellow River X.L. Sun, J.C. Yang, Y.Z. Wang, K.L. Zhang and Y.B. Zhao	1591
Deformation Behavior of Corroded Steel Bar Based on Viscoelastic Theory W.H. Guo, T.N. Wang and G.B. Tang	1595
The Research on the Stability of the Steel Tube Filled with Steel-Reinforce Concrete Subjected to Axial Compression after High Temperature B.D. Zhao, X. Yu and P.C. Chen	1601