

Table of Contents

Preface, Committee, Sponsor

Chapter 1: Structural Engineering and Geotechnics

Interaction of a Circular Cylindrical Shell with an Elastic Foundation V.I. Andreev and A.N. Leontiev	3
Research on Separation Reliability and Shock Response of a Non-Fracture Super-Zip Separation Device F. Peng, Z.G. Yang, L.P. Wang and J. Sun	8
Experimental and Numerical Analysis of Wood-Framed Buildings J. Malesza and C. Miedziałowski	13
Theoretical Analysis of Reinforced Beams of UHTCC H.Q. Yu	18
Experiment Study on Degradation Laws of Sulfuric Acid Corrosion Reinforcements M.Q. Lin, F.J. Dai and J.T. Li	23
Evaluation of Fresh Properties of Controlled Low-Strength Material Produced from Water Treatment Sludge-Fly Ash-Slag Mixture Using Alkaline Activation C.L. Hwang, C. CHIANG, T.P. Huynh and B.J. Jhang	28
Research on Attenuation of Shock Induced Stress Wave in Multi-Layered Thin Cylindrical Rods F. Peng, Z.G. Yang and L.P. Wang	35
Potential External Strengthening of Reinforced Concrete Beam Using Natural Fiber Composite Plate S.C. Chin, F.S. Tong, S.I. Doh, J. Gimbun, Y.K. Foo and J.P. Siregar	41
Skew Reduction Factors for Moment in NEXT Beam Bridges with Integral Abutments J.W. Huang and J. Davis	49
Nonlinear Behavior of Circular Concrete Storage Tanks: History Pushover and Dynamic Loadings by Providing an Innovative Technique to Reduce the Seismic Response of Semi-Buried Tanks O.R. Baghchesaraei, H.H. Lavasani and A. Baghchesaraei	54
Energy Absorption Capability of Composite Hexagonal Array Systems: Numerical Analysis F. Alkhatib and E. Mahdi	61
The Wind Flow Characteristics Measuring Simulations of Soundproof Tunnels on Expressways J.Y. You, S.Y. Paek, D.K. Kim and K.P. You	70
Analysis on the Wind Flow Measuring of Surrounding Areas in Accordance with Installation of Road Facilities J.Y. You, B.H. Nam, H.K. Park and K.P. You	76
Application of Cast Steel Joint in Steel Structure Project of Big-Span Space E.L. Wang	84
Construction Monitoring on Steel Truss Bridge's Maintenance and Reinforcement E.L. Wang	89
Numerical Study of Oil Storage Tanks during Planar Settlement J. Wisnugroho and Sutomo	95
Application Experience of Bored Micropiles in the Conditions of Permafrost Soil G.D. Fedorova, O.I. Matveeva and R.B. Prokopiev	104
The Effect of Wave Propagation on Seismic Response at Transmitting Boundary of Discrete System S.H. Lee, T. Endo and R. Kawana	110
Using of Plastic Hinges in the Calculation of Buildings against Progressive Collapse under Fire Exposure L.A. Avetisyan	115

Structural Performance of a Precast Beam to Column Connection Strengthened with FRP under Monotonic Loading C.K.S. Moy	121
On Deformation Charting for Concrete Filled Steel Tube Columns Concrete Core and Steel Shell A.L. Krishan, E.P. Chernyshova and R.R. Sabirov	126

Chapter 2: Architecture and Urban Planning

Transformation of Dom-Ino Structures from the Architect's Point of View Y.C. Han and F.C. You	135
The Interpretation and Inheritance of Green Local Building Material System in Modern Architecture - Case Study of Century Fishing Village Eelgrass Cottage Resort in Dayu Island, Shidao Bay, Jiaodong Peninsula Y. Ding and H. Zhang	140
The Consecrated Sohpetbneng Peak (Navel of Heaven) - The Meaning and the Need for Protection, Preservation and Conservation B. Swer	146
The Influence of Sunspaces on the Design of Thermal Envelopes in Energy Demand in Southern Chile M. Carpio, J. Hubner and E. Osorio	152
The Analysis of the Slow-Traffic and Lingerin Space System of the Bridges and both Banks - Taking the Estuary Area of Suzhou Creek in Shanghai as an Example C.X. Yang, Y. Liang and H.Z. Geng	159
Study on Urban Bridge Layout Oriented by Slow-Traffic and Lingerin Space - Taking Shanghai Suzhou Creek as an Example C.X. Yang, C.Z. Lyu and H.Z. Geng	166
Thermal Comfort of the Elderly in Public Health Service Buildings of Thailand C. Panraluk and A. Sreshthaputra	173
Optimization of Multi-Layer Dome Structures for Enhanced Performance and Comfort of Protector Pads C.H. Yang, Y. Chang, D.C. Lee and J.Y. Park	179
The Study on the Relationship between Spatial Network Structure of Teaching Architecture and Students' Flow Behavior Based on Complex Network Analysis K. Xie, F. Wu, J.L. Wu, S. Li, J.H. Wang, Y.F. Wu, Z.Y. Bao, L.X. Bao and Y.D. Chen	183
Application on the Contingent Valuation Method for Accounting of Social Benefits of Environmental Education Based on the Cultural Landscape at the Miaoli County, Taiwan K.Y. Wu and S.C. Lu	197
The Green Building Environment of the Gymnasium F. Qian and L. Yang	202

Chapter 3: Engineering Management in Construction

Cooperative Innovation Evolutionary Game Analysis of Industrialized Building Supply Chain Y.Y. Wang, H. Ren and F.R. Ji	213
The Overview of Technical State of Unfinished Building Made of Large Panel Elements C. Miedziałowski and M. Baszeń	219
Material and Cost Solutions Used for Construction of Upper Layers of the Road Pavement Structures E. Oldakowska	224
A Holistic Energy Pattern in Green Building Y.L.X. Li	229
General Green Building Energy Efficiency L. Yang and F. Qian	236
Ensuring the Radiation-Related Ecological Safety of Buildings I. Stefanenko and O.P. Sidelnikova	243

Chapter 4: Dust Contamination in Urban and Industrial Areas

Research of Aerodynamic Characteristics of Asbestos-Cement Dust in the Ventilation Emissions to the Atmosphere V.N. Azarov, I. Stefanenko and R. Burkhanova	251
Fine Dust Concentration PM₁₀ in the Atmosphere of the City of Kabul, Afghanistan, in Spring Months I. Stefanenko, T.V. Solovyeva, M.H. Nasimi and V.N. Azarov	255
The Impact of Dust Particles on Cultural Heritage Objects in the Field of Environmental Mechanics A.A. Kuzmichev, V.N. Azarov and I. Stefanenko	259
Dust Dispersion Modeling of the Urban Environment Air nearby the Potash Production G.V. Seimova, I. Stefanenko and M.S. Kalashnikova	263
Dust Collecting System for the Cleaning of Atmospheric Ventilation Emissions I. Stefanenko, V.N. Azarov and N.M. Sergina	269

Chapter 5: Engineering and Materials

Development of Epoxy Grout Containing Fine Waste from Production of Mineral Wool Board Insulation J. Hodul, T. Žlebek and R. Drochytka	275
Thermal Conductivity and Mechanical Properties of the Rubber Stopper Filled with ZnO Nanograins R. Suntako	281
Rapid Detection of Ara h2 Using Single Walled Carbon Nanotube Based Biosensor for Peanut Allergen Control A. Sobhan, J.H. Oh and J.Y. Lee	286
New Identification Method for Power Transformer and Phase in Distribution Systems H.J. Byun, Y.P. Zheng, S.J. Choi and S.G. Shon	291
Quadrilateral Shape Rib Forming by Roll Forming Process D.W. Jung	296
Finite Element Analysis for the Roll Forming Process of Rib D.W. Jung	302
New Type Multi-Footed Wheel Machinery Design and Analysis C.K. Xi, D. Zhao, D.M. Cai, Z.Z. Fan, Y. Zhou and L.X. Qin	308
Influence of Salts on the Spinnability of Poly(Ethylene Glycol) T. Blomberg, N. Borgmeier, L.T. Kramer, P. Witzke, T. Grothe and A. Ehrmann	313
Research on Calculation and Analysis of Clamping Force of Power Cut Self-Locking Device C.K. Xi, D. Zhao, D.M. Cai, Z.Z. Fan, Y. Zhou and L.X. Qin	318