

Table of Contents

Preface and Committees

Chapter 1: Architectural Design and its Theory

The Research on the Overseas Chinese Local-Style Dwelling Houses Building – Kaiping Watchtowers for Example S.P. Wang, S. Song and X.L. Liao	3
The Discussion of the Concept of Sustainable Development of Ecological Architectural Aesthetics S.Q. Gan and H. Zhang	8
The Architectural Style and Cultural Connotation of <i>Lu</i> Mansions in Kaiping of Guangdong J.H.T. Selia and D.H. Zheng	12
The Research of Chinese Living Space Based on Phenomenology X. Chen and H.Z. Yang	22
Research on Protection and Restoration of Colored Paintings of Huixian Taoist Temple J.H. Ye	27
Research on the Renewable Energy Hot Water System in the Subtropical Region and Comparison of their Effectiveness and Benefits in Northern Guangxi: Take Solar Integrated System Design of Higher Institutions' Dormitories as an Example L. Wang, Q.S. Zhu and Y.L. Zhou	31
The Analysis on Mistaken Concepts of the Planning and Design of University Campus Based on a Case X.G. Wu and W.F. Zhou	37
Study on the Use of Wood in the Architecture Design Z. Li and F. Liu	41
Energy-Saving Behavior of Windows for Public Buildings in Cold Region Q.X. Wang and X.T. Peng	45
Study of Exterior Window's Energy-Saving Design for the Residential Buildings in Severe Cold Region H.T. Zhou	49
Study on Situation and Development of Building Energy Saving in China Z.H. Wang	53
Green Building Design Based on LEED Standarts Y.X. Li, D.L. Tan and C.Y. Liao	57
The Post-Evaluation of the Old Industrial Buildings Based on LFA Method S.J. Fan, H.M. Li, X. Tan and Z.Q. Wang	62
Analysis of Richard Meier's Architecture Thinking J. Xue	67
Consideration about Construction of Compensation Mechanism of Green Building Healthy Development L. Ming	71
Development of a Sustainable Aged Residential Model Considering Aged-Friendly Environmental Factors K.S. So and S.W. Shin	75
A Brief Discussion on Green Architecture Design and its Application Strategy in Implementation Q. Wang	83
Smart Home: Chicago's Greenest House and Green Architecture Popularity J. Yang and J. Li	87
Research on Internal Causes of Formation of Eight-Trigram Form Gathering in Gaoyao Region in Guangdong Province Y.X. Zhou	92

Zhejiang Residential Architecture Space Protection and Development Research B. Zhao and M.F. Yu	96
Ecological Classification of the University Development L.Q. Zhong and Y.J. Wang	102
Research of Green Reconstruction of Hangzhou Arts & Crafts Museum T.H. Wei, S. Tang and W. Zhu	106
Pattern Language of Jiaozuo Beizhu Traditional Settlements Construction M. Ma and H.H. Zhang	110
Study on the Condition and Existing Problems of Building Energy Saving in Anhui Y.H. Wang and B.Z. Sheng	114

Chapter 2: Urban Planning, Design and Engineering

Study on Low-Carbon Transportation Plan in China H. Xiao	121
Case Study on Functional Optimization of Subregional Center in County Town J. Zhou and J. Wang	125
The Evaluation of Intercity Railway Train Operation Plan Based on Multi Index Cosine Decision S.Y. Qu and X.F. Xu	130
Freeway Speed Limit Considering the Traffic Efficiency Z. Yi and Y.D. Zhao	135
"Lhasa Hotel" in the Design of Regional Culture L.S. Xie, X.W. Mi and J. Ge	139
Study on Ecological and Cultural Characteristics of Human Settlement in Bali Island, Indonesia X.Y. Xiang, M.H. Zhang, Z.Y. Li and Y.Q. Li	144
Study on the Delimiting Methods of Protected Domains of Ancient Large-Scale City-Sites Y. Li and C.E. Wang	148
Comprehensive Evaluation on the Level of Central Plains Agglomeration Urbanization A.H. Li and W.T. Li	152
The Design and Development of a Child-Friendly Pedestrian Environment in School Zones K.S. So and S.W. Shin	156
Basic Satisfaction Survey on External Environment of South Huangxing Road Pedestrian Street in Changsha M. Yuan and B.A. Miao	164
The Plight of City - The Thinking on Chinese Urban Ecology J.H. Qi, W.J. Zhang and R. Li	171
Comprehensive Evaluation Method for Ecotype and Safety Performance of Building F.R. Zhang and Y.K. Xu	176
A Research on Ecological Design Strategy of Urban Open Space in Northwest Cold Area in China X.L. Bi and Q. Chen	180
Designing Measures for the Sustainable Development of the Ecological City H.L. Guo	184
Analysis of the Development Environment of Urban Intelligent Transportation Systems L.L. Qiao, W. Wang, J. Zhang, Y.K. Hu, H.Y. Gu, S.L. He and F.P. Zhan	189
Rural Industrialization, a Feasible Way towards Urbanization in China? J.T. Ma	193
Based on the Matter Element Analysis of Urban Subway Traffic Service Level Evaluation Research M.S. Yang, G.J. Xiao and J.F. Liang	202
New Rural Community Planning in the Process of Urbanization T.Y. Zhao, D. Wang and A.F. Wang	206
Analysis on the Present Condition of Typical Buildings in Urban Villages in Zhengzhou J. Wang, W. Su and C.C. Liu	211

Research on the Method of Working-Out near Ground Air Temperature Based on Low Altitude Remote Sensing Aerial Data X. Yuan and Q.L. Meng	215
The Studies of the Concept Plan of the Fengcheng Industrial Park towards the Circular Economy F.J. Xu	220
Discussion on Land Use Planning of Modern Mixed-Use Industrial Parks - A Case Study of Sino-Singapore Guangzhou Knowledge City (SSGKC) W. Wu and Y. Zheng	224
Study on Urban Fringe Area Planning and Design under the Background of New Rural Construction Y. Jin	229
Study on Modern Design Elements of City Context J. Yan	233
The Study of Renewal Strategies for Urban Public Space J. Luo and W.M. Guo	237
Research on the Low-Carbon Land Use Pattern Y.L. Luo and C.X. Zhang	241
Thinking of Layout Planning and Construction of New Rural Primary and Secondary Schools — Taking Xinzhou District, Wuhan City for Example Q.Y. Hua and Z.M. He	247

Chapter 3: Landscape Planning and Design

Numerical Simulation Studies of Plant Communities' Effects on Outdoor Thermal Environment in Residential District B. Hong and Y.J. Qu	255
Applications of Visual Characteristics in Highway Alignment Landscape Design S.N. Hu, Q.D. Fan, Z.H. Hu and X.H. Xiao	260
An Exploration of Road Planning and Design in Wetland Parks X.Y. Li and H. Wang	264
Research on Ecological Rehabilitation and Landscape Planning of Wetland Resort T. Wu and J.J. Ding	268
Eco-Design of Resort Landscape —Take the Design of Yangmei Island Resort as an Example Z. Gao and Y. Wu	273
Design Principles of the Water Landscape of Cold Regions X.L. Meng	279
Combination of Landscape Water and Wetlands for Wastewater Treatment in Scattered Areas H. He and G. Liang	283

Chapter 4: Novel Constructional Materials and Functional Materials, Analysis and Technology

Design of Decorative Glass Handicraft Products in Qinhuangdao X.G. Yang and B. Zhou	289
Experimental Study on Creep Life of Granite under Direct Uniaxial Tension J.X. Wang, K. Zhang, W.M. Liang and Y.Q. Yu	293
Study on Dynamic Properties of Semi-Active Seism Isolator for Building W.X. Yu and S.C. Yang	299
Traditional Building Materials and Application in the Modern Church Architecture of Northern Shannxi L. Wang and H.Z. Yang	303
Possibilities of Alpha Gypsum Preparation in Chloride Salt Solutions K. Dvořák, M. Fridrichová and D. Gazdič	310

Commercially Used Sulphate Binders Based on Anhydrite D. Gazdič, M. Fridrichová and K. Dvořák	314
Controlling Thermal Radiation by Defect Mode of one-Dimensional Photonic Crystals Containing Negative-Index Materials C. Wang, N. Yang, J. Du, L.X. Wang and W.X. Zhu	318
Interactive Effects of Super Absorbent Polymer and Nitrate Nitrogen J.Z.L. Li, Z.B. Huang, Y.Y. Feng and W. Chen	323
The Experimental Study on Microbe Corrosion Resistance Performance of Cement Based Composite Material Y.B. Jiang	328
Study on the Effect of Fly Ash to Modified Bitumen G.J. Yang and X. Luo	332
Experimental Study on HMPE Fiber Reinforced Concrete H.H. Lee, Y.S. Chen and C.W. Cheng	336
Research on Composite Modification Technology for Cement Based Composite Material to Resistance Microbiological Corrosion Y.B. Jiang	341
Micro-Macro Characterization of Granular Materials Y.Q. Zhang, X.M. Xu and D.S. Ling	345
Research on the Flexural Behavior of BFRP Concrete Beams B.R. Huo, G.N. Yang and X.D. Zhang	351
Numerical Simulation of Combined Aggregate Concrete Cube Compression Test Y.K. Zhang, H.Y. Wu and S.S. Zhao	356
Importance of Sustainable Concrete Formwork System M. Taher Ahmed, R. Zakaria, M.Z.A. Majid and I. Mohd Affendi	360
Numerical Simulation of Crack Growth of Composite Structure Based on XFEM Y.Q. Zhong	366
Flow Characteristics of Viscoelastic Polymer Solution in Contraction Micro-Pores of Different Pore-Throat Ratio E.G. Tang, H.J. Yin, H.Y. Zhong and S.Y. Meng	370
An Overview of the Study and Application of Rubberized Portland Cement Concrete W. Li, X.C. Wang and J.P. Zhang	374
Monitoring of Thermal Degradation of Fireproof Coating T. Chrebet, J. Martinka, K. Balog and I. Hrušovský	379
Bearing Capacity Analysis of Masonry Wall Reinforced by Boards Wall Considering Stress-Lag Effect J.T. Jiang, Y.W. Jin, H.Q. Guo, S. Yang and D.R. Du	384
Research on Mechanical Properties of C100 High-Strength Concrete Used for Frozen Shaft H.Q. Chu, L.H. Jiang, N. Xu and C.S. Xiong	388
Numerical Dynamic Simulation for Three Phase Random Aggregate Model of Concrete C.G. Zhong and F. Wang	393
Effect of Sliding Speed on Friction and Wear Behaviors of Copper Rubbing against Carbon Material with Electric Current T. Ding, Y.M. Li, Q.D. He and W.J. Xuan	400
Study on Properties of Modified Asphalt by the Thermoplastic Elastomer (TPE) Compound Z.R. Chen, D.W. Cao, W.Z. Zhao, B.X. Wang and H.Y. Zhang	404
Application of New Lacquer Putty N.B. Huang	409
Study on the Interaction Mechanism between Screw Conveyor and Asphalt Mixture D.C. Ma, H.H. Liu and Z. Chen	413
A Study on Damage Properties of Explosive Internal-Blast of Concrete Q.T. Wang, J. Ding, M.K. Ying and B.L. Zhang	420
Unloading Behavior Study on FRP-to-Concrete Interface S.X. Liu and H. Yuan	425
Study on Frost-Salt Resistance of Fly Ash Concrete C.T. Sun, W.H. Li and B.R. Hou	432

Laboratory Investigation of Moisture Damage in Asphalt Rubber Hot Mixes Using Warm Mix Technology J.H. Liu	438
Experimental Study of Injured RC Beam–Column Joints Strengthened with CFRP Z.Y. Yang, Z.F. Chang, M.X. Fang, J. Hu and G. Wang	444
Numerical Simulation on the Behaviors of Post-Embedded Bars in Reinforced Concrete J.H. Yang	454
Analysis and Application of Concrete’s Aesthetic Characteristics Y. Chu and Z. Zhen	459
An Experimental Analysis of Reinforced Mechanism of Polypropylene Fiber Reinforced EPS Concrete Y.C. Liu, W.J. Hou and H.T. Wang	463
The Research of the Basic Properties of Ceramisite Concrete D.Y. Yang, J.B. Yu, C. Gao, L.L. Wang and T. Shen	467
Dynamic Viscoelastic Properties of SBS Modified Asphalt Based on DSR Testing Y.M. Guo and W. Chen	473
Cracking Simulation of Asphalt Mixtures Using a Finite Element Micromechanical Model J.H. Liu	477
A Numerical Investigation on Delamination Buckling Behavior in Laminated Composites under Compressive Load Z.H. Xu, R.G. Wang, W.B. Liu, C.Q. Dai, L. Zhang and X.D. He	484
Characteristics of Component of Steel Slag Sand Y.X. Lun and K. Li	488
Strength Analysis of BFRP Rebar Based on Kolmogorov–Smirnov Test and ANOVA Method M.L. Ma, G.L. Wang, D.M. Miao and B.Y. Lian	492
Research Advancement of C/C Woodceramics W.L. Zhang, J. Zhu, P. Wang, K.L. Li, M.J. Lei and Y. Su	497
Thermal Stress Analysis on Steel Bridge Deck with Epoxy Asphalt Concrete under Low Temperature Based on Viscous-Elastic Method H.Y. Zhou and Y. Liu	504
Experimental Research of Engineering Properties and Improvement Measures of Ginger-Stone Soil H.L. Mao, P.Z. Zhuang and Y.W. Feng	511
Computational Simulations of Dynamic Compaction of Dry Sand Y.Q. Ding, W.H. Tang, X.W. Ran and X. Xu	516
Research on the Anti- Corrosion Performance of Two Hot-Dip Coatings Z.M. Cao, G.X. Li, H. Lian and D.W. Hu	520
The Effect of Surface Hydrophobation Silane Treatment on Chloride Ion Penetration Resistance for Concrete Structures in Marine Environments H.C. Yang, Z.Z. Wang and J.B. Xiong	524
Numerical Analysis of Micro-Mechanics on Emulsified-Asphalt Cement Concrete Y. Qin, J. Fu and X. Pan	531
Effect of Phosphorus Slag and Fly Ash on Mechanical Properties of High Belite Cement D.M. Liu	535
Performance Comparison of Beams with Different Stirrups H.T. Wan and L. Li	539
Design and Research on the Warm-Mix Rubber-Modified Asphalt Mixture Based on the GTM Method Z.Z. Li, D. Wu, X.Y. Song and H. Zhu	543
Breakage Characteristics of Granular Micascist and its Fractal Description K.G. Li, W. Liang and D.P. Zheng	552
Exploring Research on Raschig Rings/Ceramic Double-Packed BAF X.M. Lv, J. Li, Z.J. Zhang and X.L. Gao	556
Anti-Corrosion Performance of Four Zinc-Rich Coatings Z.M. Cao, G.X. Li, Y.L. Peng and D.W. Hu	561
The Strength and Stress-Strain Behavior of the Cemented Rockfill Q.W. Zheng, C. Wang and J.W. Zhang	565

Experimental Study at Chloride Erosion in Laterite Dam G. Chen, H.S. Yang, J.Y. Li and L. Shao	569
Comparative Experiment Research on Different Material Improvement to the Influence of Expansive Soil Expandability J. Yang, J.L. Wang, G.D. Zhang, Y.W. Tang and Z.G. Xie	574
Study on Test and Influence of Anti-Shear Strength of Asphalt Mixture Y. Wang, N.X. Zheng and X.P. Ji	580
Experimental Research on Solidifying Sediment in Irrigation Districts along the Lower Yellow River L. Ma, X.M. Li and R.J. Zhang	585
The Influence of the Corn Straw Content on the Physical Properties of Magnesium Oxychloride Cement-Based Board Materials X. Ma	590
The Research on the Effect of the same Curing Agent for Different Types of Dredged of Mud W.B. Liu, X.Y. Yang, J.J. Wang, W.H. Shi, J. Su and J.K. Ma	594
The Triaxial Test Research of Asphalt-Rubber Mixture L. Wang, X.H. Meng, L.Q. Pan and J.Q. Zhang	603
Frost Resistance of Low Antifreeze Design Level Hydraulic Concrete C.R. Lu, X.L. Ge, G.X. Mei, W.B. Liu and H. Wang	608
Influence of Mixing Method of Mineral Admixture on Performance of Recycled Concrete Y. Li and D.H. Dai	612
Experimental Study on Mechanical Properties of PVA Fiber Reinforced Tailings Cementitious Composites W.B. Bao, C.H. Wang, S.F. Zhang and Z.Q. Huang	618
Analysis of Phase-Change Gypsum Board Used on the Wall of Hot Summer and Cold Winter Regions H.B. Guo, Q. Zhou, Q.H. Li and J.P. He	622
Analysis on Mechanical Properties and Durability of the Chopped Basalt Fiber Reinforced Concrete Z.B. Kan and Y.R. Li	627
The Mechanical Characteristics of the under Layer of Pavement of Large-Stone Asphalt Mixes H.X. Li and S.J. Tong	631
Experimental Study on Mix Proportion and Fundamental Properties of Recycled Concrete Z.H. Du and J. Wang	635
Experimental Study on the Compressive Mechanical Performance of Bamboo Strip Plywood under Static Loads W.Q. Wu, X.Y. Ma and S. Chen	640
Research Progress of Concrete Corrosion in Acid Environment X. Yun and J. Xiao	647
Influence of Fine Aggregate on the Performance of Asphalt Concrete X.H. Hao, A.Q. Zhang and Z.G. Liu	655