



ISS'2007

November 28-30, 2007, Shanghai, China

Innovation & Sustainability of Structures

**Proceedings of the International Symposium
on Innovation & Sustainability of Structures
in Civil Engineering**

Edited by

Zuyan Shen
Jie Li
Zhishen Wu
Qifeng Luo

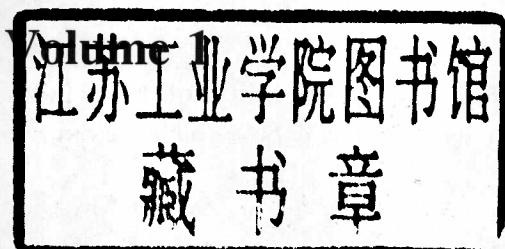
Volume 1

SOUTHEAST UNIVERSITY PRESS

ISS '2007

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Proceedings of the International Symposium on Innovation & Sustainability
of Structures in Civil Engineering, Tongji University
Shanghai, China, November 28 - 30, 2007



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SOUTHEAST UNIVERSITY PRESS

Nanjing, China

图书在版编目(CIP)数据

土木工程结构创新与可持续发展论坛论文集 = Innovation & Sustainability of Structures: Proceedings of the International Symposium on Innovation & Sustainability of Structures in Civil Engineering/沈祖炎等主编. —南京:东南大学出版社, 2008. 1

ISBN 978 - 7 - 5641 - 0999 - 8

I. 土… II. 沈… III. 土木工程—文集 IV. TU - 53

中国版本图书馆 CIP 数据核字(2007)第 169548 号

Innovation & Sustainability of Structures: Proceedings of the International Symposium on Innovation & Sustainability of Structures in Civil Engineering

Edited by Zuyan Shen, Jie Li, Zhishen Wu, Qifeng Luo

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Printed in Nanjing, China

Printing History January 2008, First Edition

ISBN 978 - 7 - 5641 - 0999 - 8/TU · 125

¥300.00(2 Volumes)

PREFACE

There are great challenges in Civil Engineering and innovation & sustainability of structures have become an increasingly important theme. There is a need for design, construction, and other aspects of practice to keep pace with the globalization pressure to harmonize across national boundaries, the regulatory pressure to harmonize with structural engineering, rising public expectations in health & environment, and increasing complexities of big projects with their associated financial.

In response to these challenges, the International Symposium on Innovation & Sustainability in Civil Engineering is dedicated to promoting related research and practice. As an on-going series, the objective of this symposium (ISSS'2007) is still to provide an international forum for researchers, specialists, professionals and public administrators and for all concerned with the promotion and exchange of information on innovation in civil engineering, especially for disaster prevention and relief. The symposium is aimed at presenting and publishing the most recent research & development on innovative materials, methodologies and technologies for the construction, safety and security, maintenance and management of building, transportation, marine, underground, energy generating structures and other civil infrastructures, structures and systems for high performance and sustainable capacity.

On behalf of the Organizing Committee of the International Symposium on Innovation & Sustainability in Civil Engineering (ISSS'2007), we would like to welcome professionals involved in civil engineering from all over the world to the city of Shanghai, China on November 28 - 30, 2007. This conference is organized by Tongji University and Shanghai Institute of Disaster Prevention and Relief, and is supported by many related international and national organization.

As a showcase for recent developments and advancements, ISSS'2007 has prepared six professional themes under the topic of Innovation & Sustainability in Civil Engineering, such as Structural Analysis and Design Method, Novel Structural System and Experiment Investigation, Investigation and Application of Structural Durability, Disaster prevention and Mitigation Engineering for Urban, High Performance Materials, Intelligent Structures

and Security Motoring. More than two hundreds papers had been submitted to the conference, and 180 full papers were accepted for published in the Conference Proceedings of ISSS'2007. The final revised paper are from 15 countries, such as Australia, Bangladesh, China, Czech, Denmark, Germany, India, Iran, Italy, Japan, Korea, Poland, Saudi Arabia, the United Kingdom (U. K.), and the United States of America (U. S. A.).

We would like to express our sincere thanks to all the members of the International Advisory Committee, the International Scientific Committee as well as the Organizing Committee, whose dedication is considered to be the key for the success of this symposium. Moreover, the support for the symposium, received from all the organizations listed in the proceeding page, is also very much appreciated. Thanks are due to all the contributors for their careful preparation of the manuscripts and all the keynote and invited speakers for their special support. We gratefully acknowledge the generous funding support from our sponsors. We really hope that all participants will have a good opportunity to meet colleagues from all over the world for technical, scientific, and discussions, and enjoy the life in Shanghai.

Zuyan Shen Jie Li
Zhishen Wu Qifeng Luo

October 30, 2007

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Sponsored by

ACI, American Concrete Institute

ASC, Architectural Society of China

ASCE, American Society of Civil Engineers

CAE, Chinese Academy of Engineering

CCES, China Civil Engineering Society

ICE, Institution of Civil Engineers, UK

CTBUH, Council on Tall Buildings and Urban Habitat, USA

IFHS, International Federation for High-rise Structures, India

IIFC, International Institute for FRP in Construction, Hongkong, China

ISHMII, International Society for Structural Health Monitoring of Intelligent Infrastructure, Canada

JCI, Japan Concrete Institute

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CONTENTS

CONFERENCE LECTURES

ASSESSMENT OF A GLOBAL RESISTANCE FACTOR FOR REINFORCED CONCRETE COLUMNS BY PARAMETRIC ANALYSIS	1
<i>D. L. Allaix and G. Mancini</i>	
NEAR SURFACE MOUNTED REINFORCEMENT TO STRENGTHEN CONCRETE STRUCTURES	10
<i>B. Täljsten</i>	
NEW ADVANCES ON STRUCTURAL HEALTH MONITORING FOR RUN-YANG YANGTSE RIVER BRIDGE	27
<i>A. Q. Li, Y. L. Ding and J. Sun</i>	
DURABILITY MECHANICS FOR LIFE-CYCLE ASSESSMENT OF CONCRETE STRUCTURES	40
<i>K. Maekawa and E. Gebreyouhannes</i>	
STATE-OF-THE-ART OF ADVANCED FRP APPLICATIONS IN CIVIL INFRASTRUCTURE AT IBARAKI UNIVERSITY	58
<i>Z. S. Wu, X. Wang and K. Iwashita</i>	
PDEM-BASED STOCHASTIC RESPONSE AND RELIABILITY ANALYSIS OF STRUCTURES	76
<i>J. Li and J. B. Chen</i>	

THE INNOVATION AND SUSTAINABILITY OF ENGINEERING STRUCTURES

STRUCTURAL ANALYSIS AND DESIGN METHOD

EFFECTS OF RESIDUAL STRESSES ON FLEXURAL BUCKLING BEHAVIOR OF STEEL COLUMNS FIRE	84
<i>P. J. Wang and G. Q. Li</i>	
SUSTAINABILITY OF TIMBER BRIDGES-THE MAGIC TRIANGLE DIRECTIONAL DRAWINGS- MAINTENANCE COSTS-LIFETIME	92
<i>M. Gerold</i>	
STUDY ON NON-LINEAR EARTHQUAKE RESPONSE OF MULTI-RIB-BED COMPOSITE SLAB STRUCTURE WITH THE MICRO-ANALYSIS MODEL	102
<i>Q. Yuan, Q. F. Yao and S. Peng</i>	
ANALYSIS OF DYNAMIC RESPONSE AND VEHICLE RUNNING SAFETY IN LIM TRAIN—BRIDGE SYSTEM	111
<i>X. H. Gu, H. Xia, W. W. Guo and S. Y. Chen</i>	
ANALYSIS OF CABLE-STAYED CONCRETE FILLED STEEL TUBE ARCH BRIDGE	119
<i>Y. Yan, H. Y. Xu, G. X. Shang and L. Ren</i>	
RESEARCH AND ESTIMATION OF BEARING CAPACITY OF THE EXISTING STONE ARCH BRIDGE	125
<i>Y. Yan, H. Y. Xu, G. X. Shang and Y. C. Liu</i>	
ANALYSIS ON THE STATIC BEHAVIOR OF CABLE-STAYED SUSPENSION BRIDGES	131
<i>H. J. Wang, H. Wei and A. Hasegawa</i>	
ABILITY AND DESIGN OF INCLINED STIFFENER IN PANEL ZONE	139
<i>G. B. Liu and Q. Gu</i>	

ENTIRE ANALYSIS OF HIGH-RISE BUILDING STRUCTURE IN PRE-LIMINARY DESIGN STAGE	148
<i>J. G. Shi, L. L. Hua and S. Z. Lin</i>	
ANALYSIS AND DESIGN OF STEEL REINFORCED CONCRETE BEARING WALL GIRDER TRANSFER FLOOR	158
<i>J. B. Wu, J. Y. Xue, H. T. Zhao and M. R. Cheng</i>	
THE RESPONSE SPECTRUM DESIGN METHOD BASED ON STIFFNESS DEGRADATION FOR FRAME-CORE WALL HYBRID STRUCTURE	166
<i>L. S. Chu and G. L. Bai</i>	
SPACE BEAM ELEMENT MODEL CONSIDERING PLASTIC STIFF INFLUENCE OF SHEAR DEFORMATION IN PLASTIC REGION	175
<i>J. X. Liu and M. J. Fang</i>	
RESEARCH ON LOCAL BEARING CALCULATION OF MIDDLE CONCRETE COLUMN UNDER THE BILATERAL STEEL CORBEL	183
<i>X. H. Huang, X. J. Zhu, S. T. Liang and S. P. Cong</i>	
ANALYSIS ON CONSTANT-STRENGTH DUCTILITY DEMAND SPECTRA FROM THE DIFFERENT RESTORING FORCE MODELS	190
<i>J. G. Ding and W. Chen</i>	
NUMERICAL SIMULATION FOR EFFECTS OF CANTILEVERED PARAPETS ON WIND PRESSURES OF LOW-RISE BUILDING DOUBLE-SLOPE ROOF	198
<i>X. Q. Peng, S. Zhang and Y. Jia</i>	
NON-LINEAR RANDOM RESPONSE ANALYSIS OF EARTHQUAKE-EXCITED STRUCTURES	205
<i>Z. J. Liu and J. Li</i>	
SIMULATIVE ANALYSIS ON ELASTIC-PLASTIC PROPERTY OF T-SHAPED SHOT-LEG SHEAR WALL	213
<i>S. J. Zhang, Q. N. Li and R. Li</i>	

INSIGHTS INTO STRENGTH OF ARC-TRANSITION REGION IN TRACKS OF HYDRAULIC STEEL GATES	219
<i>R. B. Bai, P. Z. Cao, M. S. Cao and J. S. Wang</i>	
ANALYSIS OF HELICOIDAL STAIR SLAB WITH INTERMEDIATE LANDING AT MID SPAN USING THICK SHELL FINITE ELEMENTS	229
<i>M. A. R. Bhuiyan, M. R. A. Mullick and A. U. Ahmed</i>	
EXPERIMENT OF HIGH STRENGTH COLD-FORMED THIN-WALL STEEL AXIALLY COMPRESSED COLUMNS AND ITS ANALYSES BY DIRECT STRENGTH METHOD	238
<i>L. Jiang, B. K. He, Y. M. Wang, Y. J. Liu and F. F. Liao</i>	
NEW BRIDGE STRUCTURE—SELF-ANCHORED CABLE-STAYED SUSPENSION COMBINED BRIDGE	248
<i>Z. W. Zhang and Q. N. Li</i>	
PUSHOVER ANALYSIS FOR SRC FRAME	256
<i>G. L. Bai, L. S. Chu and J. W. Jiao</i>	
THE ADVANCED ANALYSIS THEORY AND PROGRAM OF 3-DIMENSIONAL STEEL FRAME STRUCTURES	265
<i>J. P. Hao, L. K. Wang, M. H. Wang and J. F. Zhang</i>	
NONLINEAR ANALYSIS TECHNIQUE OF IMPROVED PLASTIC HINGE METHODS FOR STEEL FRAMES	274
<i>J. F. Zhang, J. P. Hao, L. K. Wang and W. L. Li</i>	
RESEARCH AND APPLICATION OF THE ULTIMATE LOAD FOR PLANAR STEEL FRAMES IN SAP2000	283
<i>J. F. Zhang, J. P. Hao, E. G. Xiong and L. K. Wang</i>	
THE NONLINEAR FEM ANALYSIS ON THE CORRODED REINFORCEMENT CONCRETE BEAMS	292
<i>D. J. Shen and S. X. Wu</i>	
RESPONSE ANALYSIS OF POWERHOUSE OF HYDROPOWER STATION UNDER HIGH-HEAD WATER PRESSURE	298
<i>S. X. Wu, X. J. Wang and L. J. Xiao</i>	

APPLICATION OF FIXED POINT THEORY IN THE SOLUTION TO BI-FURCATION BUCKLING LOAD	304
<i>W. H. Zhong, J. P. Hao, L. Lei and X. L. Yan</i>	
NUMERICAL STUDY ON SEISMIC RESPONSE ANALYSIS OF REINFORCED CONCRETE AQUEDUCT	312
<i>M. Y. Hu, W. Li and Y. X. Hou</i>	
THE DEDUCTION OF GOVERNING DIFFERENTIAL EQUATIONS FOR MODERATELY THICK RECTANGULAR PLATES WITH FOUR FREE EDGES	324
<i>C. H. Wu and Q. F. Yao</i>	
NON-LINEAR FINITE ELEMENT MODELING OF A MULTI-RIBBED COMPOSITE WALL STRUCTURE	331
<i>M. S. He and Q. F. Yao</i>	
DESIGN METHOD STUDY OF THE MASONRY STRUCTURE BUILT ON THE GROUND OF THE COAL MINING SUBSIDENCE	338
<i>Y. D. Sun, F. Gao, H. S. Sun and X. Xiao</i>	
FRACTURE PERFORMANCE ASSESSMENT OF SERVICE SAFETY FOR THE AGING STEEL TRUSS BRIDGE	345
<i>H. Chen, R. Gao and L. C. Jiang</i>	
ANALYSES OF THE VERTICAL RESISTANCE AND INFLUENCING FACTORS OF THE BOREHOLE CAST-IN-PLACE CONCRETE PILES IN XI'AN	352
<i>G. Li and X. R. Chen</i>	
ON ISOTROPIC AND ANISOTROPIC UNILATERAL DAMAGE MODEL FOR CONCRETE	360
<i>J. Y. Wu</i>	
MODAL ANALYSIS OF CIVIL STRUCTURES BASED ON OUT-PUT ONLY DATA	372
<i>Y. Lei, Y. H. Liu, Y. Lin and Q. Huang</i>	

EXPLICIT INTEGRAL SCHEME OF A NEW PRECISE INTEGRATION METHOD AND APPLICATION	385
<i>Z. Y. Guo and Q. N. Li</i>	
THE DEVELOPMENT OF RESEARCH ON THE LONG-PERIOD WAVES OF GROUND MOTION	393
<i>D. Wu and Q. F. Luo</i>	
APPLICATION OF DAMAGE CONSTITUTIVE MODEL FOR CONCRETE TO THE MACROSCOPIC SHEAR WALL MODEL	403
<i>J. Li and Z. Y. Kuang</i>	
RATIONAL STIFFNESS OF OUTRIGGERS IN HIGH RISE STRUCTURE WITH STRENGTHENED STORIES	412
<i>K. J. Yang, X. W. Liang and B. Li</i>	
MECHANICS ANALYSIS OF MULTI-BIBBED COMPOSITE WALL STRUCTURE UNDER TRANSVERSE LOADS	421
<i>Q. F. Yao, M. S. He, W. Huang, X. F. Lao and P. Tian</i>	
MECHANICS ANALYSIS OF LIGHTWEIGHT AGGREGATE CONCRETE-FILLED THIN-WALL STEEL BOX COLUMNS UNDER AXIAL PRESSURE	429
<i>M. S. He and X. Y. Liu</i>	
THE MODEL OF NON-LINEAR ANALYSIS OF RC STRUCTURE WALLS	437
<i>J. M. Zhou and J. Li</i>	
COAL PILLAR & STIFF ROOF SYSTEM INSTABILITY	448
<i>G. L. He, Q. M. Li, F. Hong and S. Y. Peng</i>	
DISCUSSION ON THE TORQUE OF SPANDREL BEAM OF LONG-SPAN FLOOR BEAM STRUCTURE	456
<i>Y. B. Zheng and Y. M. Zhai</i>	
PROBABILITY DENSITY EVOLUTION METHOD AND PSEUDO EXCITATION METHOD FOR RANDOM SEISMIC RESPONSE ANALYSIS	462
<i>Y. B. Peng, J. B. Chen and J. Li</i>	

STATIC ANALYSIS ON WOOD SHEARWALL WITHOUT HOLD-DOWNS USING ANSYS SOFTWARE	472
<i>S. D. Zhang and G. X. Hu</i>	
ESTIMATION OF PROBABILITY-CONSISTENT SCENARIO EARTH-QUAKE	481
<i>Q. F. Luo and Z. T. Wan</i>	
COMPARISON BETWEEN ALGERIAN AND MOROCCAN EARTH-QUAKE RESISTANT CODE	490
<i>B. Keltoum and Q. F. Luo</i>	
STOCHASTIC RESPONSE AND SEISMIC RELIABILITY ANALYSIS FOR UNDERGROUND STRUCTURES	500
<i>X. Q. Ai and J. Li</i>	
THE DESIGN AND RESEARCH OF 500 kV RPC POLE	508
<i>Y. Z. Ju, X. A. Meng and G. N. Zhou</i>	
<u>NOVEL STRUCTURAL SYSTEM AND EXPERIMENT INVESTIGATION</u>	
CONCRETE EARLY-AGE CRACKING CONTROL IN ENGINEERING STRUCTURES	518
<i>Y. F. Li and Z. J. Qu</i>	
STUDIES ON SEISMIC BEHAVIOR OF CAST IN-SITU FRAME STRUCTURE WITH CONSTRUCTION JOINTS	526
<i>C. M. Wei, X. H. Zhao and Y. P. Song</i>	
EFFECTS OF ULTRA HIGH STRENGTH REINFORCEMENT ON SEISMIC BEHAVIORS OF HIGH STRENGTH CONCRETE COLUMNS	534
<i>X. Xiao, F. L. Guan and S. Yan</i>	
RELIABILITY ANALYSIS ON ECCENTRICALLY LOADED REINFORCED CONCRETE COLUMNS COVERED WITH CARBON FIBER SHEETS	543
<i>M. Zhang, J. Zhao, A. H. Tang and T. Zhu</i>	

A SOUNDNESS EVALUATION METHOD FOR DAMAGE IDENTIFICATION OF BRIDGE SUBSTRUCTURES	552
<i>J. W. Zhan, H. Xia, J. B. Yao and N. Zhang</i>	
EXPERIMENTAL STUDY ON THE PERFORMANCE OF SP PRESTRESSED HOLLOW SLABS UNDER HIGH TEMPERATURE	560
<i>C. F. Lu, Y. Liu and G. L. Yuan</i>	
THE EXPERIMENTAL INVESTIGATION ON THE EFFECT OF LATERAL RESTRAINT ON EXTERNALLY PRESTRESSED CONCRETE BEAMS	566
<i>J. Z. Jin, T. Chang, M. Zhang and Y. L. Xie</i>	
STRESS INCREMENT ANALYSIS ON EXTERNAL STEEL BAR OF EXTERNAL PRESTRESSING REINFORCE CONCRETE FRAME BEAM	573
<i>X. Cao, S. Y. Wang and F. J. Chen</i>	
EXPERIMENT STUDY ON SHEAR BEHAVIOR OF COMPOSITE STEEL-CONCRETE BEAMS	580
<i>G. Fu, J. Y. Xue and H. T. Zhao</i>	
EXPERIMENTAL RESEARCH ON MECHANICAL PROPERTIES OF UNBONDED PRESTRESSED CONCRETE SIMPLE BEAM AT HIGH TEMPERATURE	588
<i>G. L. Yuan, Y. Q. Jia and Y. Y. Xu</i>	
EXPERIMENTAL STUDY ON BEARING CAPACITY OF STEEL PIPE PILE WITH CFT TIP	597
<i>H. J. Wang, H. Wei and Y. Y. Hu</i>	
EXPERIMENTAL INVESTIGATION ON THE BEHAVIOURS OF RC FILLED CIRCULAR STEEL TUBULAR BEAMS	604
<i>H. Wei, J. H. Wei, Y. F. Feng and H. J. Wang</i>	
EXPERIMENTAL AND THEORETICAL INVESTIGATION ON STRENGTH OF CONCRETE FILLED CIRCULAR STEEL TUBULAR COLUMN	612
<i>H. Wei, H. J. Wang and J. H. Xu</i>	

- COMPARISON BETWEEN THE BEHAVIOURS OF REINFORCED CONCRETE FILLED CIRCULAR AND SQUARE STEEL TUBULAR SHORT COLUMNS** 624
H. Wei, H. J. Wang and H. X. Sun
- EXPERIMENTAL STUDY ON THIN STEEL PLATE SHEAR WALLS WITH SLITS** 631
J. P. Hao, C. H. Cao, Feng Li, Y. C. Wang and T. Sun
- SHEAR BEHAVIOR OF HSC BEAM REINFORCED WITH DIFFERENT SHEAR REINFORCEMENTS** 639
J. M. Yang, K. Y. Kwon, H. S. Choi and Y. S. Yoon
- STUDY ON SEISMIC RESPONSE OF REACTIVE POWDER CONCRETE AQUEDUCT** 649
Z. W. Gu, T. Y. Zhong, G. P. Yan and Q. Chu
- EXPERIMENTAL STUDY ON SEISMIC PERFORMANCE OF MULTI-RIBBED COMPOSITE WALL** 656
J. Zhang, Q. F. Yao, C. G. Wu and S. Peng
- THE STATE OF ART ON COLUMN TO BEAM CONNECTIONS OF CONCRETE FILLED SQUARE STEEL TUBE** 666
J. B. Wu, J. Y. Xue and H. T. Zhao
- EXPERIMENTAL STUDY OF SEISMIC BEHAVIOR FOR BOND-ANCHORAGE PROPERTIES OF BARS EMBED IN CONCRETE BY CHEMISTRY ADHESIVE** 674
J. Ouyang
- EXPERIMENTAL STUDY ON SEISMIC BEHAVIOR OF AIR COOLED CONDENSER PLATFORM IN LARGE THERMAL POWER PLANTS** 682
L. H. Zhu, G. L. Bai, C. L. Zhao and H. X. Li
- EXPERIMENTAL STUDY ON SEISMIC BEHAVIOR OF REINFORCED CONCRETE PIPE COLUMNS UNDER LOW-REVERSED CYCLIC LOADING** 690
L. H. Zhu, G. L. Bai, C. L. Zhao, Z. Rong and F. Tu