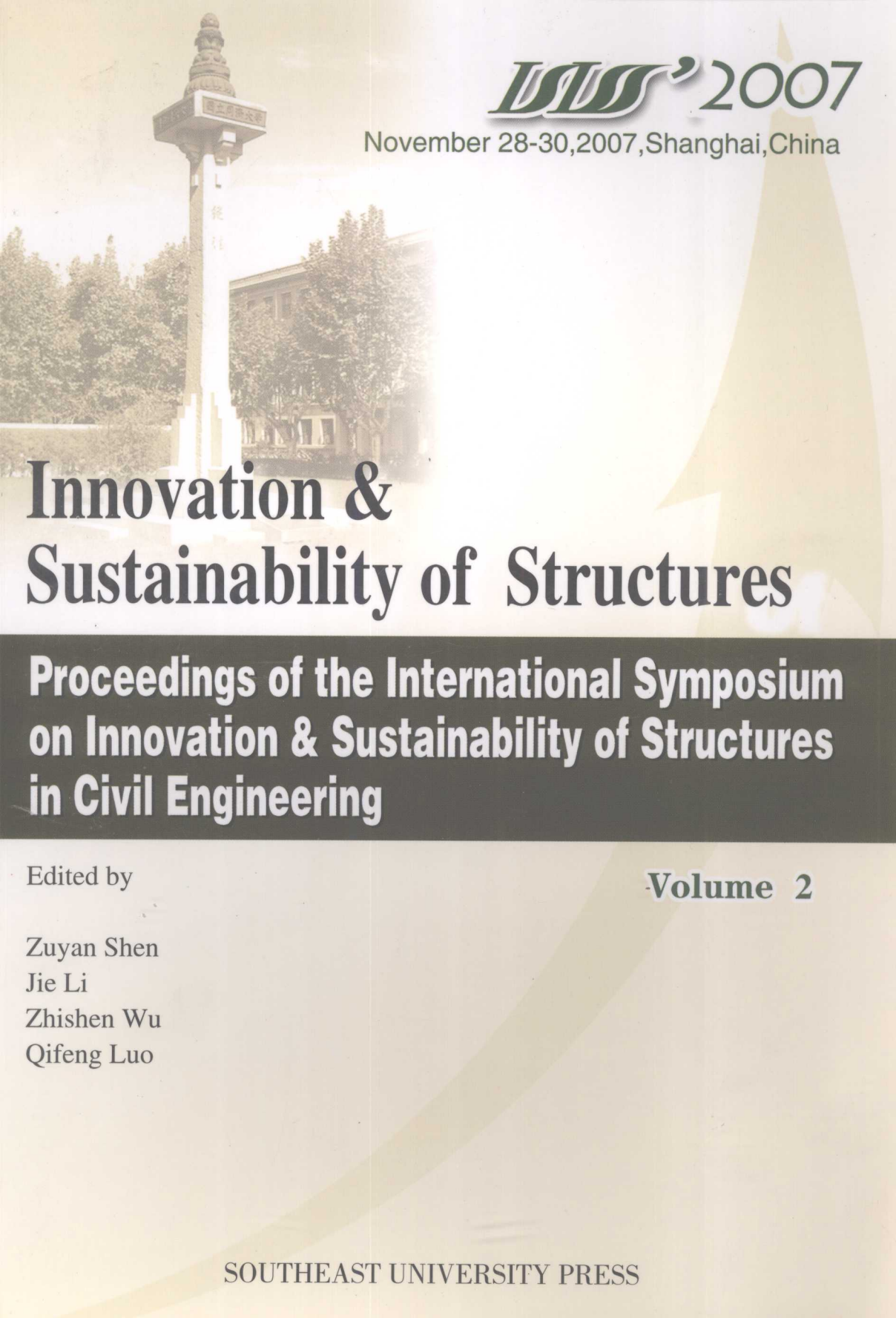




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Innovation & Sustainability of Structures

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

Edited by

Zuyan Shen
Jie Li
Zhishen Wu
Qifeng Luo

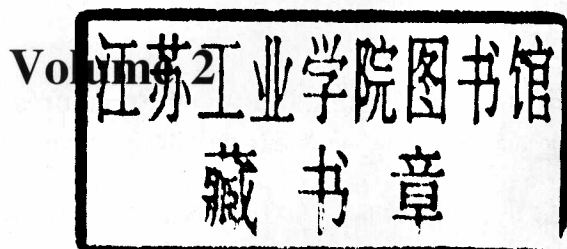
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Edited by Zuyan Shen, Jie Li, Zhishen Wu, Qifeng Luo

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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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ACI, American Concrete Institute
ASC, Architectural Society of China
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CAE, Chinese Academy of Engineering
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CTBUH, Council on Tall Buildings and Urban Habitat, USA
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