

<<STRUCTURAL CONDITION>>

图书基本信息

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(全两册)>>

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## 前言

Despite significant advances in the field of structural condition monitoring, assessment and improvement, failures of civil engineering structures without warning, in particular bridges, under normal operation conditions occur occasionally. The recent collapse of the 1—35W Mississippi River bridge in Minnesota on 1 August 2007 has drawn a lot of attention and publicity. Just about two weeks after the collapse of the Minnesota bridge, a highway bridge in Feng-Huang county in Hunan Province, only a few hundred kilometres from Changsha, collapsed on 13 August 2007, killed 64. Three days later on 16 August, a 38 m long highway bridge in Shanxi Province in China collapsed because of overloading. Collapse of these structures claim life, cause enormous economic loss and significant psychological impact to general public. The objectives of research into structural condition monitoring, assessment and improvement are to provide scientific basis for structural asset management for the ultimate goal of prevention of sudden structure collapse for life and economy protection. The first International Conference on Structural Condition Assessment, Monitoring and Improvement ( SCAMI-I ) was held in Perth, Western Australia in December 2005, launched and chaired by Prof. H. Hao. It attracted more than 50 participants. 48 technical papers were presented in the conference, including four keynote papers presented by Prof. M. S. Cheung, A. De Stefano, R. E. Melchers, and Y. L. Xu. In the last two years, many research progresses have been made in the area of structural condition monitoring, assessment, and improvement. It is the right time to bring the researchers and engineers together again to exchange the advancement in this area. Compared to the SCAMI-I, the organizing committee of the SCAMI-II had decided to extend the conference themes by including the topic of vehicle-structure interaction. More than 330 abstracts were received. All the abstracts were reviewed by the organizing committee members. About 290 abstracts were accepted and 40 rejected. All the 250 full papers, except the keynote papers, were subjected to rigorous peer review by the International Advisory Committee members. Finally about 220 full papers were accepted to be included in the conference proceedings. These papers describe the recent advances in the area of structural condition monitoring, assessment and improvement, and in the area of vehicle-structure interaction. They reflect the enormous research effort and significant research achievements of the authors. The conference is jointly organized by the School of Civil Engineering and Architecture, Central South University in China, and the School of Civil and Resource Engineering, the University of Western Australia in Australia. The editors would like to thank the sponsorship and help from these two engineering schools in organizing the conference, and thank all the members in the International Advisory Committee for publicizing the conference and for reviewing the full papers. The editors would also like to thank National Natural Science Foundation of China ( NSFC ) , Guangdong Provincial Communication Group Testing Center, Beijing Pi-Optical Co. Ltd. and Changsha University of Science and Technology for financial supports. Finally, the editors wish to thank all the authors for your contribution to the conference and proceedings. Without these supports, the conference would not have been possible.

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### 内容概要

《Structural Condition Assessment , Monitoring And Improvement》 Despite significant advances in the field of structural condition monitoring , assessment and improvement , failures of civil engineering structures without warning , in particular bridges , under normal operation conditions occur occasionally. The recent collapse of the 1—35W Mississippi River bridge in Minnesota on 1 August 2007 has drawn a lot of attention and publicity. Just about two weeks after the collapse of the Minnesota bridge , a highway bridge in Feng-Huang county in Hunan Province , only a few hundred kilometres from Changsha , collapsed on 13 August 2007 , killed 64. Three days later on 16 August , a 38 m long highway bridge in Shanxi Province in China collapsed because of overloading. Collapse of these structures claim life , cause enormous economic loss and significant psychological impact to general public.

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