

Special issue on Structural Health Monitoring of High-speed Railway System

Preface

As an extremely complicated synthesis, the high-speed railway (HSR) system is deemed as a synergy of various technologies from different disciplines, such as high speed bogie technology, high speed braking technology, traction transmission/control technology, train network technology, and system integration technology. In consequence, establishment of a stable, durable and reliable HSR system has been a crucial yet awesomely challenging task targeting to ensure the operating safety of high-speed trains and the comfortability of passengers. Taking the opportunities of rapid development of the technology of structural health monitoring (SHM), the research efforts have been devoted by worldwide researchers to shaping a smart high-speed railway system with the self-sensing, self-adaptive and auto-control functions. This special issue aims to report the state-of-the-art and practice in structural monitoring of the high-speed railway infrastructure and high-speed trains by use of the advanced sensing technologies.

This special issue contains the extended version of selected papers that were presented at the mini-symposium (MS) “Structural Health Monitoring of Railway System” organized by the guest editors during the 2017 World Congress on Advances in Structural Engineering and Mechanics held on 28 August to 1 September 2017 in Ilsan (Seoul), Korea. A total of 16 papers have been finally accepted and included in this special issue after a rigorous peer review process. The papers presented in this issue address the MS theme-relevant topics in terms of structural monitoring and performance assessment of high-speed trains, high-speed railway tracks, high-speed railway bridges, high-speed railway tunnels, and high-speed maglev transportation systems.

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