



buildings



Special Issue Reprint

Advances in Research on Structural Dynamics and Health Monitoring

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Civil structures today are facing unprecedented challenges brought on by their modern design and more frequent natural disasters. The rapid development of engineering materials makes it possible to design and construct more slender structures with longer spans and taller heights. These structures' vulnerability to various dynamic excitations and the control of the resulting large-amplitude vibrations have become predominant issues. In addition to this, intensive research effort is urgently needed to examine the dynamic behavior of structures under extreme loading conditions such as damaging wind and devastating earthquakes. To ensure the safe performance and serviceability of structures during their lifespan, in addition to properly addressing the characteristics associated with loading and structural response, and evaluating the effectiveness of implemented vibration control solutions, monitoring actual structural parameters to accurately assess the health of a structure during its service life is imperative.

This Special Issue “Advances in Structural Dynamics and Health Monitoring” aims to collect and disseminate the latest developments in the dynamic analysis and health monitoring of civil structures to reflect current research trends and challenges in these fields. We invite original research, in terms of analysis and design methods, numerical modeling, experimental testing, field measurements, and case studies, as well as state-of-the-art review papers.



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