Special issue on Life-cycle performance evaluation and vibration control of civil infrastructures

Preface

Long-span bridges, high rise buildings, transmission towers are all important civil infrastructures of the society, which are always subjected to various service loadings and environmental actions, such as traffic loadings, wind, temperature, and etc., throughout the whole service life. Structures are at risk of aging and deterioration which will cause unsatisfactory performance, which will endanger the structure serviceability or even safety. Utilization of recorded data to assess the structure life cycle performance is new research field in civil engineering which is attracting great attentions of researchers majored in life-cycle performance assessment to thoroughly understand structural performance deterioration process and mechanism. Besides, the vibration is also an unfavorable phenomenon for civil structures which may occur during service. Research on the vibration control has also attracted many researchers to mitigate and eliminate the structure vibration. Therefore, developing a life-cycle performance evaluation approach and vibration control method are critical for maintaining the satisfactory performance of civil structure during the whole service life, which has attracted many researcher and engineers involved in this area.

This special issue mainly covers the research on the monitoring-based performance evaluation and risk identification of civil infrastructures including bridges, high rise buildings, opera house, and transmission towers. Moreover, the research subjects of isolation rubbers bearing, vibration control, sensor fault detection and monitoring design of structural health monitoring systems are also included. A total of 10 papers have been accepted after careful review for publication in this special issue.

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