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Structural Health Monitoring versus Techniques and the Civil Engineering Applications

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Abstract
All structures, even critical infrastructure such as bridge, highways etc., deteriorate with time. Any structure which is serving its design life will need regular maintenance to maintain the integrity and complete the design life without much structural distress. The distress in the structure maybe due to external loading, internal changes or sudden natural calamity. According to ASCE 2017 infrastructure report card, nearly 10% bridges in US have some structural deficiencies. In such cases, means of continuous monitoring of structure to have an assessment of changes in the function of time and to provide an early warning of an unsafe condition in real- time helps mitigate disasters, this process is called as STRUCTURAL HEALTH MONITORING (SHM). Different structures require different types of maintenance due to changes in material, configuration and connection etc. This paper attempts to review the available techniques of structural health monitoring applicable to civil engineering along with its applicability, merits and demerits.

Keywords
Structural sensors, Sensors, Data acquisition systems, Data transfer and storage mechanism

The full length manuscript can be sought from the corresponding author or upon requesting the editorial office with due intensions for usage and implementation.