

Sensor technologies for civil infrastructures. Volume 1 : sensing hardware and data collection methods for performance assessment / edited by M.L. Wang, J.P. Lynch, and H. Sohn

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Abstrak

Sensors are used for civil infrastructure performance assessment and health monitoring, and have evolved significantly through developments in materials and methodologies. Sensor technologies for civil infrastructure Volume I provides an overview of sensor hardware and its use in data collection. The first chapters provide an introduction to sensing for structural performance assessment and health monitoring, and an overview of commonly used sensors and their data acquisition systems. Further chapters address different types of sensor including piezoelectric transducers, fiber optic sensors, acoustic emission sensors, and electromagnetic sensors, and the use of these sensors for assessing and monitoring civil infrastructures. Developments in technologies applied to civil infrastructure performance assessment are also discussed, including radar technology, micro-electro-mechanical systems (MEMS) and nanotechnology.