Special Issue

Structural Health Monitoring and Nondestructive Evaluation with Ultrasonic Guided Waves

Message from the Guest Editor

This Special Issue will focus on original research involving the use of sensors for structural health monitoring and nondestructive evaluation with ultrasonic guided waves. Many types of waveguides exist including plates, pipes, laminates, surfaces, rail, and human bone. Structural health monitoring may employ on- or off-board modalities with stay-in-place sensory systems aimed at assessing structural integrity. Likewise, nondestructive evaluation may entail quality assurance testing of new parts or periodic inspection of parts already in service with the aim of identifying defects or damage. This Special Issue will encompass aspects of sensors on topics including, but not limited to, actuation and reception methods, signal processing, imaging, defect detection and classification, as well as the modeling and simulation of sensitivity to defects and material degradation. Keywords include but are not limited to:

Ultrasonic guided waves
Structural health monitoring
Nondestructive evaluation
Structural integrity
Harsh environments
Phased array transducers
Noncontact transducers
Signal processing
Machine learning
Corrosion
Fatigue cracks
Porosity
Delaminations

Guest Editor

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Message from the Editor-in-Chief

Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. Sensors organizes Special Issues devoted to specific sensing areas and applications each year.

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