Special Issue

Smart Sensing Systems in Aerospace

Message from the Guest Editors

Health monitoring of aircraft structures is crucial in order to ensure their safety during service. The key to achieving this is developing online advanced sensing systems, including hardware and software. The former contains smart sensors, sensor arrays, and corresponding integrated measurement equipment to capture the responses of aircraft structures, i.e., vibration, strain, elastic/guided wave, electromechanical impedance, eddy current, and so on. The latter extracts the intrinsic features of the captured signals with advanced signal processing methods and synthesizes signal features for damage identification algorithms to evaluate the health status of structures. Moreover, the evaluation of the system's uncertainty in terms of its stability and reliability in different environments is also highly required in this discipline. This Special Issue is, therefore, dedicated to recent advances in novel smart sensing systems for structural health monitoring in aerospace applications.

Keywords:
novel smart sensors
sensor array design
integrated measurement equipment
advanced signal processing methods
damage diagnosis algorithms
uncertainty evaluation

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Deadline for manuscript submissions
closed (30 August 2023)

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/si/167974

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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