Special Issue

Structural Health Monitoring of Composite Materials

Message from the Guest Editors

Since their inception, structural health monitoring (SHM) and damage diagnosis have had a multidisciplinary aim, applying data-driven and machine-learning-based approaches to a vast range of mechanical systems and civil structures and infrastructures. However, we should not forget the specificities of the materials included in the monitored system. Due to nonlinear material properties, manufacturing imperfections, and other peculiarities, the static and dynamic response of the target structure may differ from its expected behaviour. Thus, the unique characteristics of complex materials should be accounted for when designing the most appropriate SHM strategy. This is particularly true for composites. This Special Issue aims to provide a broad view of material-specific issues and solutions in SHM applications to composite materials. Studies from all research fields, in particular aerospace, biomedical, civil, and mechanical engineering, are welcome. Any other relevant work concerning advanced composite materials will also be gladly considered. These can include theoretical, numerical, and (especially) experimental studies.

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Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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