Special Issue

Study on Cyclic Mechanical Behaviors of Materials

Message from the Guest Editors

The increasing demand for high-performance construction materials evokes the development of adequate constitutive modeling, as well as the appropriate predictions of the overall failure mechanisms under complex thermo-mechanical loads. Fatigue, resulting from cyclic loading, is one of the most common and important phenomena encountered in mechanical structures for different industrial applications. A correct prediction of this phenomenon is usually closely related to safety in addition to economic aspects. Cyclic loads apply to a majority of structural elements. At the same time, the analysis of fatigue problems is much more complicated than the research related to monotonic loads. Difficulties arise from the large number of cycles resulting in the accumulation of various effects and tedious numerical calculations. This Special Issue aims to present the latest achievements in the field of fatigue. We invite researchers to submit original research papers and review articles on the cyclic behaviors of various materials, including metals and geomaterials. Both experimental and theoretical studies related to different aspects of fatigue are warmly welcome.

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Message from the Editor-in-Chief

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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