Special Issue

Fatigue Behavior Analysis of Metals and Alloys

Message from the Guest Editors

Understanding the fatigue behavior of metals and their alloys still is a major concern when applications subjected to dynamic loadings are envisaged. Challenges are raised either from materials side, with new alloys and processing technologies being continuously developed, as well as from the loadings side, where multiaxiality, mechanical-thermal interactions, complex variable amplitude loading, extreme cyclic loadings become very often in real applications. The understanding of the physics of the fatigue phenomena in the referred background and its accurate modeling are essential factors for the safe, efficient and resilient design of new mechanical components of structures. This Special Issue intends to gather original contributions aiming the investigation on the fatigue behavior of metals and alloys covering the related topics.

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Message from the Editorial Board

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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