Special Issue

A Comparative Analysis of Fatigue Behavior between Superalloys and Ceramic Matrix Composites under Extreme Conditions

Message from the Guest Editors

This Special Issue seeks contributions that address the comparative analysis of fatigue behavior between superalloys and CMCs under extreme conditions. We encourage original research articles, reviews, and case studies that encompass a wide range of topics, including, but not limited to, the following:

- Experimental investigations and observations of fatigue behavior in superalloys and CMCs;
- Analytical modeling and simulation techniques to assess fatigue life and predict failure probability;
- Anisotropic modeling approaches accounting for the orientation characteristics of single crystals;
- Progressive damage modeling for CMCs, considering material processing and manufacturing defects;
- Applications and case studies in aerospace, defense, automotive, energy and power, and electrical and electronics industries;
- Advanced non-destructive evaluation (NDE) techniques for fault identification and characterization;
- Comparative studies on the performance and durability of superalloys and CMCs under extreme conditions.

Guest Editors

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Deadline for manuscript submissions

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About the Journal

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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