Special Issue

Fatigue Crack Growth in Metals: From Experiments to Predictive Models

Message from the Guest Editor

It is our pleasure to welcome contributions in the field of fatigue crack growth in metals. All approaches will be considered, including theoretical, numerical, and experimental techniques. Topics addressed in this Special Issue may include, but are not limited to:

- Fatigue crack paths in 3D;
- Analysis and simulation of fatigue crack growth mechanisms, crack tip plasticity and damage;
- Improvement of metals' resistance to fatigue crack growth;
- Proportional or non-proportional mixed-mode I + II + III loadings;
- Bifurcation criteria and crack path prediction;
- Influence of non-singular stresses and residual stresses;
- Crack closure effects, crack face friction and wear, effective stress intensity factors;
- Measurement and inverse analysis of the displacement and strain fields near a crack tip;
- Influence of temperature and environment on fatigue crack growth in metals;
- Advanced experimental techniques applied to fatigue crack growth.

Guest Editor

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Deadline for manuscript submissions

closed (30 November 2023)

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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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