Special Issue

Fatigue Design and Defects in Metals and Alloys

Message from the Guest Editors

For this Special Issue, we are inviting recent advances in the fatigue of metals and components with a special emphasis on the influence of different types of defects, from micro to macro scales, in the different fatique regimes and on the methods developed to account for them in the design of components. Experimental. theoretical and numerical studies aimed at incorporating the research outcomes into design approaches for the fatigue assessment of structural components and mechanical parts are welcomed. The effort to correctly understand and account for the detrimental influence of defects in the design of components undergoing in service to complex periodic loading characterizes the major part of the history of metal fatigue. The reduction of the defect's criticality, as well as the ability to account for their presence to predict the fatigue properties and service life of components, represent key factors for the successful application of any manufacturing process, from mature (e.g., casting) to emerging technologies (e.g., additive manufacturing).

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Deadline for manuscript submissions

closed (31 October 2019)



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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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