



Numerical Methods Applied to Fatigue and Fracture Phenomena

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Message from the Guest Editors

The development of modern numerical methods has led to significant advances in the fields of fatigue and fracture. Due to the increasing complexity of current mechanical and structural components, an accurate assessment of structural integrity is pivotal to avoid unexpected failures and define maintenance intervals. Because of the permanent tendency to shorten time-to-market periods and the development cost, the use of the finite element method, extended finite element method, or meshless methods, among others, has been a viable alternative to experimental methods. This Special Issue aims to focus on new trends on numerical methods and computational approaches to address fatigue and fracture problems. Examples of innovative and successful industrial applications, as well as nonconventional numerical approaches, are encouraged. Research and review papers are also welcome.

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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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