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Fatigue Failure Assessment of Metallic Materials

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Message from the Guest Editors

We live in a world where new ideas arise very quickly, causing new challenges, which in turn force science and industry to take new steps. The results of these activities are new structures, new technologies, and new materials. These, in turn, require proper understanding, knowledge of their behavior, and determination of the scope of their applicability. Therefore, after checking the fundamental static properties, the behavior of materials and structures under fatigue and dynamic loads is checked. Methods and algorithms for estimating durability are sought out and then developed to give engineers the opportunity to design an optimal structure.

More and more advanced testing tools allow for the analysis of increasingly complex load cases and the identification of damage mechanisms. The extensive application of advanced experimental methods allows for various damage accumulation models, but also their observation in multiple scales, from the nano to the macro level.

Authors are invited to publish their research results on the subject of fatigue failure assessment of metallic materials.

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Message from the Editor-in-Chief

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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