



Fatigue Properties of Surface Modified Metallic Materials

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Message from the Guest Editors

In general, fatigue damage of mechanical parts occurs at surface defects that can play the role of stress raisers. We propose a Special Issue focused on the fatigue properties of surface modified metallic materials.

This Special Issue aims to collect papers dealing with the fatigue of materials treated/elaborated by different processes such as mechanical surface treatments (shot peening, laser peening, etc.), coating (PVD, CVD, electroplating, etc.), and machining. Based on the aforementioned techniques, some areas of interests will cover

- low cycle and high cycle fatigue properties of surface modified materials;
- effects of technological parameters of the surface treatment processes on fatigue properties;
- effects of metallurgical parameters (residual stresses, gradient microstructure...) induced by surface treatments';
- cyclic behavior of surface modified materials and their effects on fatigue strength;
- effects of mechanical external loads (complex loading, for example) on fatigue properties of materials;
- fatigue life prediction;
- surface modification (combination between different techniques, for example) in terms of improving fatigue properties.





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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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