Special Issue

Fatigue Life Prediction of Welded Joints in Metallic Materials

Message from the Guest Editors

Fatigue life prediction of welded joints in metallic materials is a very important topic since it covers the most frequent failure case and the most critical component of welded structures. Prediction by using experimental methods is based on ASTM e647-15e1 with the aim of establishing the whole data for all different zones in a welded joint. Simple engineering formulas, based on Paris' law, enable the analytical evaluation of fatigue life, either by direct or numerical integration. Bearing in mind the conservative of the stress intensity factors, the complexity of geometry, and the difference in fatigue crack growth rate by zones, it is often necessary to apply numerical simulations to achieve greater precision. Therefore, in this Special Issue, the focus is on the experimental, analytical, and numerical prediction of the fatigue life of metallic welded joints, keeping in mind the differences by zones of welded joints. It is my pleasure to invite you to submit a manuscript for this Special Issue. Full papers, communications, and reviews are all welcome. To find more information, please click this link.

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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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