Special Issue

Fatigue and Fracture of Mg Alloys

Message from the Guest Editors

Magnesium and its alloys have been long known for their low density and high specific strength, resulting in them being ideal candidates for the lightweighting of structures, vehicles, and aircraft. Over the past few decades, considerable efforts have been invested into understanding how to effectively process Mg and predict its behavior. More recently, wrought processing methods have been developed, resulting in a favorable combination of strength and ductility, which can offer superior performance to other more conventional metals such as steel and aluminum. Understanding the complex nature of magnesium's deformation mechanisms and their influence on fatigue and fracture will facilitate its successful adoption into the mainstream high-volume production of structural components. In this Special Issue, articles with a specific focus on the fatigue and fracture of Mg alloys are desired, with content traversing the metallurgy, production/processing technologies, materials characterization, material modelling, deformation mechanisms, damage mechanisms, life prediction, corrosion protection, and performance in the finished products of Mg alloys.

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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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