Special Issue

Microstructure, Deformation and Fracture of Lightweight Metals and Alloys

Message from the Guest Editors

Lightweight metals and alloys (e.g., aluminum, titanium, and magnesium and their alloys, low-density steels, lightweight high-entropy alloys, etc.) have been widely applied in aerospace, transportation, vehicle manufacturing, etc., thanks to their low densities and high specific strengths. Thus, special attention will be provided to the following three aspects (though consideration will not be restricted to submissions on these): (1) material design and processing to develop new lightweight materials; (2) microstructural control to improve mechanical properties; (3) characterization and analysis of the evolution of deformation microstructures to reveal the deformation and fracture mechanisms. The aim of this Special Issue is to collect the latest scientific achievements in materials development, microstructure-related deformation, and fracture behavior of lightweight materials. All approaches will be considered, including theoretical, numerical, and experimental contributions. Reviews, regular articles, and technical notes are all welcome.

Guest Editors

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About the Journal

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.

Editor-in-Chief

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