Special Issue

Development, Deformation, Fracture and Phase Transformation of New Generation Metallic Structural Materials

Message from the Guest Editor

Metallic materials are a major workhorse of modern society due to their excellent performance cost synergy. Modern technologies and industries not only significantly depend on current metallic materials, but raise higher demands for high-performance structural materials to withstand more arduous operating conditions and aggressive environments. The mechanical properties of metallic materials to a large extent depends on the microstructure features, which can be optimized by chemical composition and development process. Therefore, studies on the process microstructure properties relationship are of great significance for both the fundamental understanding of the deformation mechanisms as well as the industrial application of metallic materials. The aim of the Special Issue is to deliver the latest achievements in theoretical and experimental investigations of alloying and processing design, phase transformation behavior, and the deformation and fracture mechanisms of new generation metallic materials. Investigations about the mechanical behaviors of various metallic materials under special environments are also welcome.

Guest Editor

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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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