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Microstructure based Modeling of Metallic Materials

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closed (31 January 2018)

Message from the Guest Editors

Dear Colleagues,

This Special Issue aims to consider integrated computational materials engineering (ICME) research focusing on the influence of microstructural characteristics on properties of metallic materials. For this purpose, the Special Issue covers all microstructure-based material processing models, evolution of microstructures, precipitation, and defect formation in casting, powder processing, semi-solid and solid state processing including thermomechanical processing and additive manufacturing. Additionally, it focuses on development of micromechanical models, taking into account various approaches, such as dislocations dynamics and crystal plasticity, to study the local mechanical properties, as well as damage initiation and propagation at the micro-scale.

Dr. Ali Ramazani

Prof. Veera Sundararaghavan

Guest Editors

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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.

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