Special Issue

Composition Design, Structure, and Plastic Deformation of Al and Mg Alloys – 2nd Edition

Message from the Guest Editors

The microstructure and plastic deformation behaviors greatly influence the light alloys mechanical properties. Today, a lower-alloying content and short-route processing are particularly desirable, due to the pursuit of low cost and environmental friendliness. Thus, the composition design, (micro-)structure control, and plastic deformation of low-cost Al and Mg alloys with high strength-ductility synergy have attracted considerable attention in the last two decades in both the academic community and industry. This Special Issue will address and gather recent advances on composition design, structure control, and plastic deformation of Al and Mg alloys, from both experimental and theoretical (modeling and simulation) perspectives. In particular, articles including advanced microstructural and mechanical characterization techniques assessing the processing–structure–properties relationships of Al and Mg alloys with enhanced mechanical properties are welcome. Articles related to the fabrication of parts with a complex shape are also desirable.

Guest Editors

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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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