Special Issue

Research Progress in the Microstructure and Mechanical Properties of Light Alloys

Message from the Guest Editor

Due to the upcoming energy crisis and environmental pollution, lightweight alloys, such as aluminum, magnesium, and titanium, are attracting more attentions for potential applications in aerospace and transportation industries. The strengthening of lightweight alloys becomes more important, which has definite benefits for the safety of aircrafts and vehicles. Materials science reveals that bridging the relationship between microstructure and mechanical properties is crucial for developing new technologies and theories. An in-depth understanding of the fundamental issues of materials science is very important for the engineering application of high-performance materials. In this Special Issue, we will publish a set of articles on the microstructure and mechanical properties of lightweight alloys. We encourage authors to submit their latest research on wide aspects, such as interesting microstructures, novel strengthening technologies, in-depth mechanisms, advanced processing for productions, etc. Articles on the metallurgy, production methods, microstructure characterizations, corrosion resistance, and performance in final products of lightweight alloys are desired.

Guest Editor

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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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