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Structure and Phase Transformation in the Al Alloys

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Message from the Guest Editor

Dear Colleagues,

Aluminum alloys are widely used in automobile, aircraft, shipbuilding, and other industries because of a good combination of technological parameters, such as being light weight, their mechanical properties, and having corrosion resistance. Products from aluminum alloys are obtained by casting and pressure treatment. The microstructure; phase composition, which is formed during casting; heat treatment; and thermomechanical treatment define the final properties and application of the materials.

The current pace of industrial development requires materials with higher levels of mechanical and technological properties, specified by a complex of characteristics. The optimization of the structure and phase composition of alloys and the search for promising alloying systems and elements for the development of new materials with enhanced operational and technological properties is an urgent task, including for expanding the use of aluminum alloys and improving the level of technology.

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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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