Special Issue

Additive Manufacturing of Al- and Mg-Based Light Metal Alloys

Message from the Guest Editors

Light alloys and related composites are increasingly used in many industrial fields to obtain high-strength and light-weight structural components through additive manufacturing processing routes. The demand for increased performance and energy savings has pushed society towards a wider adoption of light materials, which are implemented through innovative design approaches, such as those based on topological optimization and the use of cellular structures.

This Special Issue of Metals focuses on the development of new light-alloy metals, especially those designed with optimal properties and that are easily processable through additive manufacturing routes such as laser powder bed fusion or directed energy deposition.

While the focus of this Special Issue is aluminium alloys and related composites, other relevant metals and approaches to obtain light structures will be considered.

The papers presented in this Special Issue will provide an overview of recent technological advances and the industrial state of the art for light-metal additive manufacturing from the above described perspectives.

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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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