Special Issue

Laser Welding and Laser Additive Manufacturing of Metals

Message from the Guest Editors

As a highly efficient method of layer-based manufacturing using metals, laser additive manufacturing is particularly suitable for the production of complex components with high precision for a range of industries. Laser welding, laser fusion, laser sintering, and laser melting are presently regarded as the most versatile laser-based additive manufacturing (AM) processes. Laser-based AM processes generally have a complex nonequilibrium physical and chemical metallurgical nature, which is material- and process-dependent. The increasing demand for the improvement of both materials and processing warrants a Special Issue focusing on the progress in the laser additive manufacturing of metal material with improved properties. Scientific contributions are invited to disseminate recent inventions and developments in the areas of progress in the laser additive manufacturing of metal materials, including alloy design for laser additive manufacturing, laser modulation, laser welding, and metallurgical mechanisms of LAM. Manuscripts on computational aspects, including modeling/simulations and the microstructural and mechanical properties of AM processed components, are also welcome.

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.

Editor-in-Chief

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