Special Issue

Laser-Assisted Additive Manufacturing of Metals and Alloys

Message from the Guest Editor

The number of published works on additive manufacturing (AM) is ever-increasing, especially regarding laser-based AM techniques. The topics addressed are as follows: (1) the physics of laser absorption, melt pool hydrodynamics and process instabilities; (2) the optimization of process parameters to limit defects generation and ensure optimum parts' densification; (3) the detailed analysis of microstructures of as-built or thermally treated AM materials, complex materials and most of all the capability of tuning microstructures with adapted building conditions; (4) the thermo-hydrodynamical or thermo-mechanical modelling of AM laser process; (5) the fatigue, wear or corrosion properties of manufactured parts; (6) the post-processing (heat treatments, hot-isostatic pressing, dedicated surface finishing) of nearly dense or architectured laser-built structures; (7) the hybridization of AM processes (additive + subtractive techniques, additive + finishing processes). Please feel free to submit your work and contribute to a very high quality second session.

Guest Editor

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About the Journal

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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