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Metal Additive Manufacturing, Microstructures and Properties

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Message from the Guest Editors

Dear Colleagues,

Metal additive manufacturing (MAM) is now a key component of Industry 4.0-based smart factories. This issue precisely discusses the various materials used for the MAM process, in correlation with past, present and future trends, and along with their application potential.

It has been recognized that the microstructure and mechanical properties of MAM materials are highly influenced by the process parameters, path orientations, thermal gradients and deposition atmosphere. Therefore, the details of metallurgical and mechanical influence with respect to changing various input criteria will also be covered in this issue.

In addition, this Special Issue also includes different aspects of the MAM processes in line with the modeling and optimization of mechanical and functional properties and their respective microstructural representations. The application of multi-scale modeling techniques, including integrated computational materials engineering (ICME), and applications of artificial intelligence and machine learning tools in the domain of MAM, will also be covered in this issue.

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Message from the Editor-in-Chief

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