



Processes, Properties and Applications of Metal Additive Manufacturing

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Message from the Guest Editors

Additive manufacturing (AM) and three-dimensional (3D) printing, based on the innovational principle of the incremental addition of a material to build a part directly in its final or near-final geometry, have been accelerating the development of advanced manufacturing technologies. In recent years, after the long-term contribution of metal AM research in improving component densification and forming quality, it has entered a new stage of development where more attention is being paid to the enhancement and breakthrough of mechanical properties and the functionalization of components. At present, this work has gradually developed several prominent research hotspots including the multi-scale modeling and in situ monitoring of AM process, AM of nanoparticle-reinforced metal matrix composites, AM of graded functional materials, innovation design and the AM of function-driven porous structures, etc.

In this Special Issue, we welcome articles that focus on the novel designs, metallurgical process controls, property characterizations and particular applications of additive manufactured metals.





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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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