Special Issue

Microsctural and Corrosion Aspects in Additive Manufacturing of Alloys and Steel

Message from the Guest Editors

Metal Additive manufacturing (AM) is rapidly transforming key industrial sectors—including biomedical, energy, and aerospace—by enabling exceptional design flexibility and material efficiency. Despite these advances, there remains a significant gap in our understanding of how the unique microstructural characteristics introduced by AM processes influence the corrosion behaviour of materials. While considerable efforts have been made to investigate the mechanical properties of additively manufactured materials, the complex relationship between microstructure and corrosion performance remains underexplored. This critical knowledge gap limits the broader adoption of AM technologies in environments where corrosion resistance is essential. As , I am pleased to announce a forthcoming Special Issue, and I Would Like To Personally Invite You To Contribute Your Expertise. This Special Issue aims to bring together original research and review articles that explore the fundamental mechanisms, characterization techniques, modelling approaches, and experimental findings related to corrosion and microstructure in AM materials.

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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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