Special Issue

Additive Manufacturing of Stainless Steels

Message from the Guest Editor

The highest annual production growth rate of stainless steels among all metallic materials within the last three decades has been also witnessed in the additive manufacturing (AM) industry, primarily driven by the rapid development of new stainless steels' feedstock materials. In recent years, the nascent AM technology has opened up new manufacturing opportunities with reduced production time, customized designs, and efficient materials consumption. This Special Issue aims to disseminate the recent innovations and research works relevant to the additive manufacturing of stainless steels. Topics on AM process development, modeling and optimization, fabrication challenges, microstructural investigation, mechanical properties, corrosion performance, post-printing operations, heat transfer, solidification, and thermal cycles associated with the 3D-priting of stainless steels, and novel methods of stainless steels' AM are of particular interest to this Special Issue.

Guest Editor

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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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