Special Issue

Wire Arc Additive Manufacturing of Metal and Alloys

Message from the Guest Editors

Wire arc additive manufacturing (WAAM) uses an electric arc as the heat source, such as gas metal arc, tungsten inert gas arc and plasma arc, to build up a metal component through the deposition of wire materials layer-by-layer. WAAM is a promising alternative for fabricating complicated components made of expensive materials such as high strength steel, titanium alloys, nickel alloys and intermetallic alloys. During the WAAM process, the arc and molten pool behaviors determine the processing stability, and the thermal cycling of the layers have great influences on the residual stress distribution, deformation and metallurgy of the metal component. In this Special Issue, we welcome articles which focus on the computational fluid dynamics simulation of the arc and molten pool, finite element simulation of the residual stress, metal metallurgy and deformation and fracture in WAAM of metal and alloys.

Guest Editors

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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.

Editor-in-Chief

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