Special Issue

Arc-based Additive Manufacturing

Message from the Guest Editor

Over the past few years, additive manufacturing has gained enormous attention in terms of research, and also from industry. Metallic structures, especially beam-based processes, have been extensively investigated and validated, machinery has been developed, and in many cases implemented in industrial production. On the other hand, a large variety of arc-based processes has been used for decades to join and generate structures of various metals. Under the rise of additive manufacturing, several newly-named processes, based on arc welding such as Wire+Arc Additive Manufacturing (WAAM) or 3D Plasma-Metal-Deposition (3DPMD), have been introduced. This Special Issue of *Metals* is devoted to the science of all arc-based additive manufacturing processes and their generated structures. These shall include wire-, strip- and powder-based variants and include topics such as design strategies, manufacturing-related issues, metallurgical details, tailored microstructures, functionally-graded structures or the investigation of properties of AM structures.

Guest Editor

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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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