Special Issue

Laser Welding and Cladding of Metallic Materials

Message from the Guest Editors

Laser welding is already an important joining technology nowadays with the advantages, such as high welding speed, large aspect ratio, small deformation, and high flexibility, etc.. In reality, the joining of same or dissimilar metals together using laser welding is an extremely complicated process, which contains a large number of physical and metallurgical effects. In addition, laser cladding is widely used in the repair and strengthen of machine parts and functional coatings due to its advantages such as low dilution rate, small heat-affected zone, and good metallurgical bonding between the coating and the substrate. In this Special Issue, we welcome articles that focus on physical process characteristics, optimization and performance of joint or cladding layer during laser welding or cladding of metallic materials, Laser welding or cladding processes using novel laser sources for difficult to weld metallic materials especially remain of interest.

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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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