Special Issue

Laser Cladding Technology: Process and Application

Message from the Guest Editors

Laser cladding technology is a new in situ manufacturing/repairing technology with high economic benefits, in that it can prepare high-performance alloy surfaces on cheap metal substrates without affecting the properties of the substrate, reducing costs and saving precious and rare metal materials. Compared with built-up welding, spraying, electroplating and vapor deposition, laser cladding has the characteristics of small dilution, dense structure, good combination between coating and substrate (which are more suitable for cladding materials), and can change particle size and content to a great extent. Therefore, the world's advanced industrial countries attach great importance to the research and application of laser cladding technology.

In this Special Issue, we welcome articles that focus on laser cladding technology, including but not limited to: microstructure evolution, products' mechanical performance, fatigue life, numerical modelling methods, optimization processing design, novel materials design methods and new application fields, etc.

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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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