Special Issue

Microstructure and Properties of Laser Welded Metal Composite Materials

Message from the Guest Editor

Metal composite materials can greatly improve the thermal stability, strength, fracture toughness, impact toughness, wear resistance, electrical properties, magnetic properties, and many other properties of single metal materials, so they are widely used in petroleum, chemical industry, ship, metallurgy, mining, machinery manufacturing, electric power, water conservancy, transportation, environmental protection, pressure vessel manufacturing, food, brewing, and pharmaceutical and other industrial fields. With the progress of laser technology, laser welding technology has become an important method of metal composite material connection, which promotes the development and engineering application of metal composite material. Aiming at typical metal composites, the laser welding process and microstructure and properties analysis of welded joints are carried out, while attention is paid to the matching characteristics of the interface welding zone of the metal composites material, the inhomogeneity of the microstructure and mechanical properties, and the influence of welding process parameters on the microstructure and properties.

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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