Special Issue

Welding and Joining of Dissimilar Materials

Message from the Guest Editors

The increasing demand for multimaterial hybrid structures as high-performance and multi-functional components in diverse areas, including automobiles, aerospace, civil engineering, etc., has greatly stimulated the enthusiasm of researchers in welding and joining dissimilar materials. With the rapid development of science and technology, novel welding and joining technologies for obtaining sound dissimilar materials joints, including metallic/metallic and metallic/non-metallic materials joints, have been proposed. Nevertheless, the successful development of high-quality welding and joining techniques cannot be realized without an in-depth understanding of the bonding mechanisms, especially at the welded/joined zone. This Special issue aims to provide an excellent opportunity for those who are studying and working on advanced welding or joining of dissimilar materials to present their cutting-edge research progress. Research papers, review articles, and communications relating to the process, theory, simulation of welding or joining processes of dissimilar materials and the related practice of dissimilar materials joint structures are all very welcome.

Guest Editors

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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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