Special Issue

Advances in Friction Stir Welding Process of Metals

Message from the Guest Editor

This Special Issue focuses on friction stir welding and processing. As is well known, friction stir welding (FSW) is a relatively new technology of joining materials that has been further developed as a method to modify or improve materials, called friction stir processing (FSP). The distinctive features of FSW and FSP are their solid-state nature, high strain, and intensive recrystallization, which ensure the formation of a fine- or ultrafine-grained structure and excellent mechanical properties. Low energy consumption, high productivity, a wide range of obtained properties, the joining of "unweldable" materials, and other numerous advantages, promote the intensive development and adoption of FSW and FSP around the world. Thus, the aim of this Special Issue is to cover new advances, trends, and improvements in friction stir welding and processing.

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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