



metals



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Advanced Process Technologies Based on Friction Stir Welding and Linear Friction Welding

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Message from the Guest Editors

Dear Colleagues,

In recent years, the increasing need to reduce fuel consumption and enhance performance has fostered research on structural alloys with increased specific properties and their related processing technologies. In this context, many advanced techniques have been developed on the basis of solid state welding processes, namely friction stir welding (FSW) and linear friction welding. Among such new techniques, it is worth mentioning friction stir processing (FSP), surface cladding (FSSC), additive manufacturing (FSAM) and riveting (FSR).

The aim of this Special Issue is to disseminate the latest research on the abovementioned applications of techniques based on advanced friction stir welding and linear friction welding, applied both to metals and metals matrix composites. Progress in the comprehension of the microstructure–process–mechanical relationship will be addressed; particular attention will be given to advanced characterization techniques, and a critical discussion of the benefits and drawbacks of these advanced techniques in comparison to traditional techniques is also encouraged.



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Special Issue



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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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