



Friction Stir Welding and Processing in Alloy Manufacturing

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Message from the Guest Editor

The computational modeling and numerical simulation of friction stir welding processes has been a very active field of research in the last few decades. Significant advances in this field have been achieved as a result of interdisciplinary research on related fields of computational mechanics, constitutive modeling, materials characterization, mathematical analysis, and numerical methods. On the other hand, also during this period, industry has shown a growing interest in incorporating numerical techniques as a valuable tool for design and process optimization.

This Special Issue on “Friction Stir Welding and Processing in Alloy Manufacturing” intends to collect the last developments in the field, written by well-known researchers who have contributed significantly in the computational modeling, numerical simulation, or material characterization of friction stir welding processes in alloy manufacturing.

Topics addressed in this Special Issue may include, but are not limited to:

- Computational modelling and numerical simulation
- Thermomechanical formulation
- Material properties
- Metallurgical characterization
- Numerical methods
- Industrial applications





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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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