Special Issue

Recent Achievements in Rotary, Linear and Friction Stir Welding of Metals Alloys

Message from the Guest Editor

Rotary, linear, and friction stir welding of metals alloys are solid-state joining processes in which a joint between two metals can be formed by a combination of frictional heating and applied force. While linear and rotary friction processes have been established as niche technologies in aero-engines and dissimilar metals circular parts, respectively, friction stir welding is fast becoming the process of choice for manufacturing lightweight transport structures. The desired papers would report on the effect of frictional heating and applied force on metals microstructure and mechanical properties. Numerical and analytical models would explore the complexity of the thermal and mechanical phenomena interactions during the welding process. Quality solutions would warrant the reliability and reproducibility of the weld. Therefore, contributions on weld characterization, quality solutions and process modeling of "Rotary, Linear and Friction Stir Welding" are encouraged and welcomed from academic and industrial experts and researchers.

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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