Special Issue

Friction Stir Welding and Processing: Materials, Processes and Applications

Message from the Guest Editor

Friction stir welding and processing (FSW&P) are solid-phase joining/processing technologies. FSW is arguably the most important welding innovation in the last few decades, and produces joints through local thermal-mechanical processes followed by material recrystallization. Based on the same physical and metallurgical principles, FSP was derived from FSW and can be classified as many technologies, such as friction stir surface treatment, friction stir cladding, friction stir extrusion, friction synthesis, and friction stir additive manufacturing. Because of the solid-phase metallurgical process and material recrystallization, welded/processed materials after FSW&P generally possess equiaxed fine-grain microstructures and excellent mechanical properties. Moreover, FSW can effectively join some materials which were traditionally categorized as having poor weldability by fusion welding. This Special Issue intends to collect the newest developments in friction stir welding and processing.

Guest Editor

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