Special Issue

Advance in Friction Stir Processed Materials

Message from the Guest Editors

Friction stir processing (FSP) is a promising new technique for the grain refinement of many engineering materials. This technology is derived from FSW technology, but differs because it is not used to join materials, but to shape the microstructure and properties of the surface layer. The microstructure evolution in friction stir processed materials is the result of the processing parameters, shape and dimensions of the tool, as well as, for example, the method of sample cooling. FSP technology has numerous potential applications and now competes with other grain refinement techniques. FSP is used, among others, to modify the surface layer of metals and their alloys, polymers, composites, plasma sprayed coatings, and so on. Bearing in mind the dynamic development of FSP technology, numerous methodological innovations and the growing importance of this method in shaping the microstructure and properties of engineering materials, we cordially invite everyone to present their own results of research on the production, characteristics and properties of friction stir processed materials or to present the results indicating new trends and development directions of FSP technology.

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Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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