Special Issue

Advances on Welded Joints: Microstructure and Mechanical Properties

Message from the Guest Editors

Advances in welded joints continue to play a critical role in various industries. Researchers and engineers continue to innovate to further enhance the microstructure and mechanical properties of welded joints in order to meet the evolving demands of modern applications.

Additionally, in recent decades, new welding technologies (e.g., FSW, hybrid techniques, etc.) that allow dissimilar or “non-weldable” materials to be joined have been developed. These innovative joints require in-depth study in order to evaluate their reliability and durability under real service conditions.

The aim of this Special Issue is to collect original contributions focusing on the microstructural assessment and mechanical properties characterization of welded joints, the procedure used to design them, and the development of new materials that expand the applicative potential of welding. Topics of interest include, but are not limited to, the following: the characterization of welded joints, fatigue performance, crack propagation, experimental investigations, simulations and analyses of welded joints, the effect of residual stresses, non-destructive testing (NDT) and in situ monitoring.

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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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