Special Issue

Welding and Processing in Alloy Manufacturing (2nd Edition)

Message from the Guest Editors

Welding, also known as materials joining engineering, is an important material processing technology which is widely used in petrochemical, electric power, aerospace, marine engineering, nuclear power engineering, microelectronics technology, national defense and the military, among other fields.
The metal AM process has many similarities to the conventional welding process; that is, the feedstock forms a high-temperature molten pool under the action of a high-energy density heat source. The molten metal in both processes undergoes non-equilibrium solidification, and a complex solid state phase transformation occurs with the help of in situ cyclic reheating.
This Special Issue aims to enrich the global exchange of alloy welding and additive manufacturing activities. Potential topics include (but are not limited to) alloy welds, microstructure and mechanical properties of HAZ, weldability of alloys, welding metallurgy principles, welding cracking, constitution of weld metals, development and behavior of filler metals, metallurgy of additive manufactured components and process of welding or additive manufacturing.

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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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