

Special Issue

High-Performance Additive Manufacturing and Welding of Metals and Alloys

Message from the Guest Editors

Additive manufacturing (AM) is a key technique driving Industry 4.0. In the era of Industry 4.0, AM/Welding is emerging as a valuable digital technique that offers virtually limitless possibilities for manufacturing (from tools to mass customization) in all industries. To date, AM and welding have been extensively researched. Various fusion-based AM/welding techniques that feature electric arcs, lasers, or electron beams as the heat source to build objects through material melting/solidification have become mainstream. In order to minimize solidification-related problems, in recent years, many solid-state AM/welding techniques (e.g., based on cold spraying or friction processing) have been proposed, attracting great attention from both scientific and industrial communities. Moreover, AM/welding focusing on the metals and alloys is also of great interest. There is an increasing focus on the research and development of novel die attach materials that exhibit high-temperature reliability and can be specifically tailored to the unique requirements of WBG devices. This Special Issue will consist of high-quality original research papers related to the overlapping fields.

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Deadline for manuscript submissions

closed (20 February 2025)



Materials

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Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed



mdpi.com/si/186964

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Message from the Editorial Board

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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