Special Issue

Progress and Perspectives in Metal Laser Additive Manufacturing

Message from the Guest Editors

Laser-based additive manufacturing (AM) of metals has emerged as a transformative technology in advanced manufacturing, offering unprecedented capabilities in producing complex geometries, reducing material waste, and enabling rapid prototyping to final-part production. Over the past decade, significant progress has been made in both fundamental understanding and industrial adoption of metal laser AM technologies, including laser powder bed fusion (L-PBF), directed energy deposition (DED), selective laser sintering (SLS), and beyond. This Special Issue aims to highlight the latest advances, unresolved challenges, and future opportunities in the field. Key topics include, but are not limited to, process modelling and simulation, microstructure investigation and property optimisation, development of novel alloys for AM, real-time process monitoring and control, as well as strategies for post-processing, feedstock recycling and quality assurance. Contributions addressing scalability, sustainability, and application-driven innovations are also highly encouraged.

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Message from the Editor-in-Chief

Journal of Manufacturing and Materials Processing (*JMMP*)(ISSN 2504-4494) is a new MDPI peer-reviewed, open access venue with a focus on the scientific fundamentals and engineering methodologies of manufacturing and materials processing. We offer an online platform facilitating effective exchange of innovative scientific and engineering ideas and the dissemination of recent, original, and significant research and developmental findings. On behalf of the Editorial Board, I extend an invitation to our scientific and engineering colleagues to contribute high-quality, innovative, and ground-breaking research articles to *JMMP.*

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