Special Issue

Advances in Laser Processing of Metals and Alloys

Message from the Guest Editor

Laser processing of metals and alloys enables high precision, efficiency, and flexibility. At the same time, it enables innovative functionalities of workpieces that meet the current requirements of ecology and digitalization. These include welded lightweight car bodies, the welding of copper-based electrical components, the microstructuring of surfaces for high-strength and airtight hybrid components, and many others. This Special Issue aims to present research and development results in the fundamentals and applications of laser processing of metals and alloys. Topics of interest include laser processing of advanced materials for electromobility, energy storage, tribology, and medicine. It covers a wide range of technologies, such as proven welding, cutting, and drilling, as well as advanced laser-based 3D printing, micro- and nanostructuring, and cleaning processes. In addition, the development of new laser processing systems, process monitoring, and real-time control are also very welcome.

Guest Editor

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About the Journal

Message from the Editorial Board

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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