Special Issue

Laser Processing of Metallic Materials

Message from the Guest Editor

At present, the use of laser beam in manufacturing can be considered a versatile and diffuse precise tool, thanks to the high-quality features which can be realized. The extreme flexibility of this advanced technology of manufacturing, based on thermal energy, allows different processes to be carried out on all engineering materials. In particular, the laser emission mode, the emission wavelength, and the pulse durations are process parameters able to switch from one process to another, like cutting, welding, surface modifications, additive manufacturing, and micromachining. On the other side, the mechanism of material interaction depends on the thermophysical properties of the metallic materials; therefore, the correlation between the material and the process needs to be well known for the best performances of the final device and the entire production route. Last but not least is the requirement of the numerical simulation of these processes, which can strongly support the diffusion and knowledge regarding the use of lasers in manufacturing.

Guest Editor

Dr. Carlo Alberto Biffi

Consiglio Nazionale delle Ricerche, Istituto di Chimica della Materia Condensata e di Tecnologie per l'Energia, CNR ICMATE, Unit of Lecco, Italy

Deadline for manuscript submissions

closed (31 December 2021)

Metals

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.3

mdpi.com/si/40083

Metals
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
metals@mdpi.com

mdpi.com/journal/metals

Metals

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.3

mdpi.com/journal/metals

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.

Editors-in-Chief

Prof. Dr. Hugo F. Lopez
Department of Materials Science and Engineering, College of Engineering & Applied Science, University of Wisconsin-Milwaukee, 3200 N. Cramer Street, Milwaukee, WI 53211, USA

Prof. Dr. Yong Zhang
Beijing Advanced Innovation Center of Materials Genome Engineering, State Key Laboratory for Advanced Metals and Materials, University of Science and Technology Beijing, 30 Xueyuan Road, Beijing 100083, China

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), Inspec, Ei Compendex, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Metallurgy and Metallurgical Engineering) / CiteScore - Q1 (Metals and Alloys)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 18 days after submission; acceptance to publication is undertaken in 2.6 days (median values for papers published in this journal in the first half of 2025).

MDPI