

Special Issue

New Materials and Concepts for Additive Manufacturing with Metals

Message from the Guest Editors

As you all know, laser powder bed-based additive manufacturing techniques for processing metals are almost established techniques for producing highly complex components and parts. The almost unrestricted freedom of geometry, for example, enables the integration of cooling channels close to the contour to minimize local hot spots so that the processing time can be shortened and the component distortion of the semi-finished product can be minimized. In addition to the high design flexibility, components can be generated close to the contour due to the layer-by-layer material application, i.e., work- and energy-intensive post-machining is often not required. Still, the limited material spectrum and low process speeds have so far impeded the breakthrough of additively manufactured components on a large scale. For this reason, new materials are increasingly being developed explicitly for the AM process employing computer-based materials design. The present Special Issue on “New Materials and Concepts for Additive Manufacturing with Metals” may become a status report summarizing the progress achieved in the last five years, as well as recent research.

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Deadline for manuscript submissions

closed (20 February 2023)



Crystals

an Open Access Journal
by MDPI

Impact Factor 2.4
CiteScore 5.0



mdpi.com/si/107218

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Welcome to *Crystals*, the journal dedicated to the fascinating world of crystallographic research! Crystals are more than mere decorative elements; they hold the key to understanding the fundamental structure of matter. Our mission is to explore the crucial significance of this research across various fields. From medicine to technology, chemistry to geology, crystals play a vital role. Their structure provides insights into new advanced materials, innovative drugs, and groundbreaking technologies. Through *Crystals*, we delve into the microscopic world to discover solutions that will shape the future. Join us on a journey through the *Crystals*, where science merges with beauty and innovation.

Editor-in-Chief

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