Special Issue

Powder Bed Fusion Additive Manufacturing: Materials, Processes, and Structures

Message from the Guest Editors

Additive manufacturing enables complex structures to be manufactured. Powder bed fusion (PBF) is the representative AM technology to fabricate complex structures with highly controllable geometries. It involves selective laser melting (SLM), selective laser sintering (SLS) and electron beam melting (EBM), depending on the heat sources and the raw materials. The influences of material types, topological types, geometric characteristics and process parameters on the mechanical properties of PBF structures are essential. Furthermore, most of the acoustic/optical/mechanical metamaterials obtained by topology optimization can be realized by PBF samples, the related design principles and implementation schemes. In addition, the reliability, which is mainly related to the long-term service performance, of complex parts manufactured by PBF is critical for the actual application. All the above mentioned, as well as other relevant contents of PBF, will be the topic of the proposed Special Issue. Contributions of analytical, numerical and experimental techniques for the study of PBF are welcome.

Guest Editors

Prof. Dr. Lei Yang
Department of Mechanical Design and Manufacturing, Wuhan University of Technology, Wuhan 430074, China

Prof. Dr. Mingkang Zhang
School of Mechanical and Energy Engineering, Guangdong Ocean University, Yangjiang 529500, China

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

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Message from the Editor-in-Chief

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

Prof. Dr. Alessandra Toncelli
Department of Physics, University of Pisa, 56126 Pisa, PI, Italy

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