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Additive and Subtractive Manufacturing of Metallic Materials: Process-Structure-Property-Performance Relationships

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Message from the Guest Editors

The integration of additive manufacturing (AM) and subtractive manufacturing (SM) processes with in situ monitoring and feedback is a cutting-edge approach in the field of advanced manufacturing.

The integration of these two processes aims to overcome these limitations by leveraging the strengths of each technique. Additionally, in situ monitoring and feedback systems using digital twins are incorporated into the manufacturing process to ensure high-quality control, detect defects, and make necessary adjustments during manufacturing. The key benefits of this integration include an improved part quality, reduced material waste, shorter lead times, and enhanced design flexibility, thereby also supporting industry 4.0 and digital factories.

The primary purpose of this Special Issue is to deliver an intercontinental forum for ground-breaking research on experiments and modelling using additive and subtractive manufacturing processes, in situ monitoring and feedback via manufacturing processes, the development of new materials and their parameters optimization, and the development of sophisticated data-driven models and their implementation in manufacturing processes.

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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.

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