Special Issue

Advances in Manufacturing and Machining Processes of Metals

Message from the Guest Editors

Metal manufacturing and machining are undergoing a remarkable transformation, driven by demands for higher efficiency, precision, and sustainability in modern industry. As a key manufacturing process, metal machining remains crucial for achieving near-perfect surface finish and surface integrity, as well as the within-tolerance geometric accuracy in component interactions. Emerging technologies are reshaping these fields: additive manufacturing, along with hybrid approaches combining additive and subtractive techniques, enables the creation of complex geometries while cutting material waste. Sustainability is a core focus. Industry 4.0 elements are also being increasingly integrated.

This collection compiles the latest advancements, offering a comprehensive view of the current progress and trends in these areas. It highlights innovations that will define the future of metal manufacturing and machining.

- manufacturing
- machining
- machine tools
- cutting tools
- additive manufacturing
- sustainable manufacturing
- Industry 4.0
- high-precision machining

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Metals

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CiteScore 5.3

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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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