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Study of Grinding Processes for Metals and Alloys

Guest Editor:

Dr. Rosemar Batista da Silva
Faculty of Mechanical Engineering, Federal University of Uberlandia, Av. João Naves de Ávila, 2121, Uberlândia 38400-902, Brazil

Deadline for manuscript submissions:
closed (28 February 2023)

Message from the Guest Editor

Dear Colleagues,

Grinding aims to achieve a combination of tight dimensional tolerances and low surface roughness (Ra parameters) to uncountable type of parts. Cutting is performed by the action of thousands of hard abrasive particles with undefined geometry and randomly distributed throughout the wheel volume. Additionally, grinding wheels work at a high cutting speed, and the radial depth of the cut is generally on a micrometric scale. The presence of cutting fluid is quite indispensable in grinding because of the great amount of heat that is generated in the grinding zone as a result of numerous grit edges in contact with the workpiece. Compensating for the increase in the material removal rate with low temperatures in the grinding zone, in order to reduce the portion of heat that is transferred to the workpiece during grinding and avoid the occurrence of thermal damage to the workpiece, is perhaps the biggest challenge today.

This Special Issue aims to address the latest research in grinding metals and alloys, which can really bring contributions to academics, engineers, and machining professionals from various industries.

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

Contact Us

Metals Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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