Special Issue

Use of Modern Materials in Technological Processes Accompanied by Frictional Heating (3rd Edition)

Message from the Guest Editors

Friction is widely used in grinding, welding, cutting, and other technological processes. Thermal phenomena accompanying friction have a decisive influence on both the course of these processes and on the quality of the result. Due to extensive industry use of alloys, as well as new marks of steel and other materials sensitive to thermal effects, the thermal processes of friction are extremely important. In particular, it is necessary to note the use of friction during braking. The frictional materials used in brake units should provide the necessary friction coefficient values and stability.

The physical and mechanical state of the surface layers of rubbing elements is determined not only by the contact temperature, but by the entire space–time temperature field. These factors have unambiguous functional relationships with the kinematic and dynamic parameters of the friction mode, material properties, cooling intensity, and many other parameters. There is a need for comprehensive studies, using all available methods, to investigate temperature fields and resulting stress states.

We welcome original research papers, short communications, and review articles.

Guest Editors

Prof. Dr. Aleksander Yevtushenko

Department of Applied Mechanics and Informatics, Faculty of Mechanical Engineering, Bialystok University of Technology (BUT), 45C Wiejska Street, 15-351 Bialystok, Poland

Dr. Katarzyna Topczewska

Department of Mechanics and Applied Computer Science, Faculty of Mechanical Engineering, Bialystok University of Technology, Bialystok, Poland

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

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

Editor-in-Chief

Prof. Dr. Maryam Tabrizian
1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada
2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

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