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Application of Diamond Burnishing to Improve the Performance of Materials

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Deadline for manuscript submissions:
20 March 2023

Message from the Guest Editors

Potential topics include the following:

- Correlation between diamond burnishing (DB) process parameters and surface integrity (SI) characteristics;
- Correlation between the SI characteristics obtained through DB and the operational behavior of the corresponding component (fatigue, wear, corrosion resistance and others);
- Development of novel processes for modifying surface layers based on combining DB with other surface engineering (SE) processes;
- Development and research of novel diamond and other structures as materials for deforming elements in slide burnishing processes;
- DB application for processing complex surfaces and novel materials;
- Development of novel slide burnishing tools and devices and novel strategies for the processing of slide DB deforming elements and tools;
- Exploring the physical nature of slide DB processes:
    - Wear resistance of the deforming element;
    - Friction coefficient between the deforming element and the processed material;
    - Energy exchange in tool–workpiece system.
- Development and application of optimization procedures in slide DB process.

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Message from the Editor-in-Chief

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