Special Issue

Laser-Assisted Ultra-Precision Machining

Message from the Guest Editors

This Special Issue aims to present the latest advances regarding laser-based micro- and nano-machining techniques, as well as their impact on the surface and bulk properties of a wide range of materials, including metals, ceramics, organic polymers, and composites. Contributions are particularly encouraged that explore the effect of laser processing on the chemical (e.g., corrosion resistance, wettability, and adhesion) and physical (e.g., hardness, mechanical properties, wear, and friction resistance) properties of the material. In addition to these topics, studies investigating the effect of laser assistance on the electrical properties of the materials are also welcome. Additionally, manuscripts focusing on laser hybrid machining processes, where the laser is employed in conjunction with other advanced technologies, are considered relevant and appropriate for this Special Issue. The scope includes. but it is not limited to, the following topics: laser polishing; laser dressing; laser surface texturing; laser shot peening; laser cutting; abrasive jet polishing assisted by lasers; electrochemical discharge machining assisted by lasers; water jet machining assisted by lasers.

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