

Special Issue

Laser Treatment for Surface Layers

Message from the Guest Editors

By applying new engineering materials or protective coatings, it is possible to improve the functional properties of machine parts so that they are resistant to corrosion, abrasion, and erosion, as well as possess high fatigue strength.

A number of modern surface-processing methods use an energy flux. The examples include laser treatment. Interest in its utilization has increased due to the specific properties of laser radiation. As it is possible to construct radiation sources with appropriate parameters, such as wavelength, lateral beam mode, emission power, impulse energy, impulse duration, etc., lasers are being applied to various tasks with increasing frequency. This has been made possible because investigations into the utilization of laser technologies are now being carried out on a large scale. As a result, a number of laser-based systems have been constructed and produced. Laser application to surfacing is negligible. This is mainly owing to the high cost of laser systems. Moreover, researchers find it difficult to develop technologies that would take into account the absorption of a laser beam by surfaces.

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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.

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