Special Issue

The Applications of Laser-Based Manufacturing for Material Science

Message from the Guest Editors

Laser-based manufacturing has revolutionized material science by offering precise, efficient, and versatile techniques for the processing of a wide range of materials. It is used in many industries, including the automotive, aerospace, medical, electronics and tool and mold production industries. This technology offers precise and effective processing methods that can significantly improve the performance and durability of materials.

Key applications of laser-based manufacturing in material science include:

Additive manufacturing (3D printing);
Laser surface modification;
Micromachining;
Laser welding and cutting;
Laser-induced plasma spectroscopy (LIBS);
Laser-assisted chemical vapor deposition (LCVD);
Laser annealing;
Laser-induced forward transfer (LIFT);
Bioprinting;
Laser marking and engraving;
Laser ablation;
Laser patterning (texturing).

Guest Editors
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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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