Special Issue

Laser Cooling of Solids: Novel Advances and Applications

Message from the Guest Editor

The laser cooling of solids, also known as optical refrigeration, is one of the most interesting and promising areas of laser physics. This area of laser physics has attracted widespread attention from researchers because of the wide range of its applications including optical cryocoolers for airborne and space-based applications, heat suppression in high-power lasers, and the cooling of nanoparticles for biological and mesoscopic physics. The purpose of this Special Issue is to provide an overview of recent experimental and theoretical achievements in the laser cooling of solids and its applications. Potential topics include, but are not limited to:

- Laser cooling rare-earth-doped solids;
- Laser cooling of semiconductors;
- Radiation-balanced lasers and amplifiers;
- New materials for laser cooling;
- New methods of laser cooling;
- Thermodynamics of laser cooling of solids;
- Optical cryocoolers;
- Laser cooling of rare-earth-doped photonic crystals;
- Laser cooling of nanoparticles;
- Thermometry techniques for laser cooling.

Guest Editor

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Message from the Editor-in-Chief

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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