Special Issue

Optical Trapping

Message from the Guest Editor

Over the years, the optical trapping toolbox evolved from the simple manipulation to the accurate measurement and control of the position of trapped objects. The forces in the pico-Newton range, along the micrometer precision, provided by optical traps constitute a powerful tool to study various phenomena at the micron scale such as molecular physics and microrheology. Taking advantage of concepts from near-field optics, the capabilities of optical traps have been further extended to the nano-scale, offering also the possibility to integrate optical manipulation on-chip in order to develop integrated lab-on-a-chip platforms. In a completely different context, optical trapping recently received a lot of interest in the field of quantum opto-mechanics for its capacity to levitate resonators, providing a promising platform for the study of massive particles in the quantum regime. This Special Issue "Optical Trapping" aims at compiling some of the most recent work relying on the use of optical forces and their various application in physics. Keywords

- Optical forces
- Near-field optics
- Optical levitation
- Optomechanics
- Microrheology
- Lab-on-a-chip
- Sensing

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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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