Special Issue

Quantum Optics for Fundamental Quantum Mechanics

Message from the Guest Editors

The purpose of this Special Issue is attracting publications that report theoretical and/or experimental works on the use of quantum optical systems for investigating the fundamental properties of physics and, in particular, of quantum mechanics. Topics include the study of quantum correlations and their application (quantum-enhanced measurements, etc.), the specific quantum properties of optical fields (as squeezing, entanglement, etc.), quantum thought experiments, emergent properties from entanglement, quantum causality, Planck scale physics and quantum mechanics, the simulation of physical phenomena (such as black holes, closed time-like curves, etc.) with quantum optical systems, the search for Planck scale effects (or other "new physics") with quantum optical set-ups, quantum mechanics in space, and new fields of research prompted by quantum optical methods. Keywords

- Quantum correlations
- Entanglement
- Tests of the foundations of quantum mechanics
- Simulation of physical systems
- Quantum gravity phenomenology
- Search for new physics with high-precision quantum optics experiments

Guest Editors

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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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