



Asymmetric and Symmetric Study on Quantum Optics

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submissions:

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Message from the Guest Editor

Dear Colleagues,

We invite submissions to the Special Issue “Asymmetric and Symmetric Study on Quantum Optics”. Asymmetric and symmetric study in Hamiltonians, models, interactions, spectra, and dynamics are all of great importance in quantum optics and have found many unconventional Hermitian and non-Hermitian features. Hinging on the mathematical isomorphism between the Schrödinger equation and the Maxwell paraxial wave equation, the notion of parity-time symmetry in quantum mechanics has been extended to and is flourishing in quantum optics in view of the great convenience on experimental implementation. Asymmetric optical responses and consequent nonreciprocity in relation to the breaking of time-reversal symmetry have found applications for unidirectional propagation and reflectionlessness, nonreciprocal photon blockade and photon lasers, nontrivial topological photonics, and interesting characteristics of quantum entanglement and steering, etc...





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Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

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