Special Issue

Application of Symmetry in Quantum Field Theory

Message from the Guest Editors

The fundamental theory of strong interactions, i.e., Quantum Chromodynamics (QCDs), is described in the framework of quantum field theory, which is founded on symmetries like Lorentz symmetry and gauge symmetry. The applications of various symmetries, and their breaking, play key roles in understanding various aspects of particle and nuclear physics, e.g., the hadron spectrum, various effective field theories of strong interaction, dynamic chiral symmetry breaking and color confinement of QCD, color superconductivity, and various phases and phase transitions in nuclear matter and quark matter. These topics are quite important in understanding the fundamental properties of strong interaction, elementary particles, matter in extreme conditions, the early universe, and compact stars, etc. This Special Issue aims to gather original and significant contributions in these topics. Theoretical, experimental, and computational works on these topics are all welcome.

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About the Journal

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.

Editor-in-Chief

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