Special Issue

Symmetry in Field Theory, Gravitation and Cosmology

Message from the Guest Editor

Symmetry plays an important role in fundamental physics. This was already clear in the last century. All major scientific breakthroughs were made on the basis of this concept. Approaches within this paradigm have been changing over time (in particular, global symmetry in many cases gave way to local symmetry), but the fundamental principle (different symmetries and their breaking are the key to understanding processes in the Universe) remains unshakable. It is no exaggeration to say that the 20th and 21st centuries demonstrate the triumph of this principle: the development and experimental confirmation at the LHC of the standard model in high-energy physics and the confirmation at space observatories of the standard model of cosmology are the most striking facets of this triumph. The present Special Issue is devoted to the investigation of symmetry and its breaking in field theory, (including quantum field theory), gravitation, and cosmology (including their quantum aspects).

Guest Editor

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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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