Special Issue

Space-Time and Symmetry Properties: Classical and Quantum Descriptions

Message from the Guest Editor

The understanding of the geometrical structure of space–time via continuum or discrete representations poses challenging conceptual physical and mathematical questions. The goal of this Special Issue is to focus, in particular, on the small and large-scale geometrical/physical properties of space-time and its symmetry features, to motivate the investigation of a number of related topics arising both in the framework of the Einstein classical theory of General Relativity as well as among candidate theories of quantum gravity. The space–time transformation properties with respect to the group of local point, ... The symmetry properties of space-time related to the emergent gravity phenomenon, ... Trajectory-based dynamics of classical and quantum gravitational field and statistical foundations of quantum space-time dynamics, ... Contributing papers addressing the issues mentioned above are welcome.

Guest Editor

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Deadline for manuscript submissions

closed (30 April 2020)

Symmetry

an Open Access Journal by MDPI

Impact Factor 2.2
CiteScore 5.3

mdpi.com/si/17514

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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.

Editor-in-Chief

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