

Special Issue

Matter and Antimatter Asymmetry in Cosmology and Particle Physics

Message from the Guest Editors

Several lectures by specialists in the fields of cosmology and particle physics in terms of phenomenology are presented in this Special Issue. Special attention is given to the main subjects in modified theories of gravity such as Einstein–Cartan theory with topological terms and the determination of the loop quantum gravity Barbero–Immirzi parameter and dynamical fields, as well as dark matter and dark energy. This subject presents several ramifications in physical science such as modified gravity, TeV-scale particle physics, and pulsar astronomy. Neutrinos and antineutrinos can be emitted from pulsars as matter–antimatter pairs. In this Special Issue, we have gathered several specialists in the fields of QED, QCD, and loop quantum gravity.

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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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