



## Symmetry in Dark Matter and Cosmology

Guest Editor:

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### Message from the Guest Editor

Dear Colleagues,

Strong astrophysical and cosmological evidence on many scales indicates the existence of non-baryonic dark matter content in our Universe, which constitutes approximately 85 percent of the Universe's matter density and 26 percent of its total energy density. Dark matter is generally believed to be new particles in new physics beyond the Standard Model, and these must be stable or have a much longer lifetime than the age of the Universe. Understanding the nature of dark matter and the search for dark matter signals are the most important tasks for particle physics and cosmology today.

In this Special Issue, we will focus on both the theoretical and experimental aspects of dark matter, including new proposals/candidates to explain the dark matter puzzle, the general theory and analysis of dark matter, the direct and indirect detections of dark matter particles, the constraints of DM from colliders, the connection of the DM to baryon asymmetry, dark matter related phenomenology, 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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