Special Issue

Bridging the Gap Between Cosmological Models and Observable Tensions: From Classical to Quantum Approaches to Cosmology

Message from the Guest Editors

ear Colleagues, In the realm of cosmology, the interplay between theoretical models and observations has given rise to a series of unexpected tensions. Moreover, the current understanding of the standard LCDM paradigm is lacking of something as the model seems to be in conflict also with the most recent James Webb satellite results. On the other hand, the origin of the cosmological constant does not find resolution into quantum field theories, predicting a very different value that does not align with cosmological observations. This Special Issue focuses on how to bridge the gap between divergent theoretical models, even extending the LCDM framework with some sorts of dark energy approaches, and the observable universe. Dealing with classical and quantum scenarios applied to cosmology, we expect a collection of articles exploring the various methods employed to harmonize these disparities and uncover the hidden connections that bring cosmological models and observable tensions into alignment.

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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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