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# **Symmetry and Problems in Modern Cosmology**

Guest Editor:

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## Message from the Guest Editor

Dear Colleague,

The notion of "'symmetry" is fundamental for the whole theoretical physics. Modern cosmology, which is based on gravity, quantum theory, thermodynamics, and statistical mechanics, is no exception. In the recent decades, cosmology has stopped being a pure theoretical science, acquiring the experimental status as a result of the data obtained by means of WMAP, Hubble Space Telescope, Planck Space Observatory, and so on. Besides, considering that the potentialities for energy increase of modern and future colliders are rather limited, experimental studies for a high-energy physics are becoming increasingly prominent in cosmology in an effort to establish the «new physics», beyond the Standard Model.

Taking this into account, in experimental cosmology, a model of Lambda-Cold Dark Matter naturally becomes a problem of top priority, especially in regard to the selection of the adequate inflation scenario and to solutions of the Dark-Energy and Dark-Matter problems.

Prof. Dr. Alexander Shalyt-Margolin Guest Editor







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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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