



Exact Solutions in Modern Cosmology with Symmetry/Asymmetry

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Message from the Guest Editors

Exact solutions are important for a correct understanding of the content of physical theories and the models built within the framework of physical theories. Fundamentals of the modern assumptions about the evolution of the universe and the origin of its large-scale structure were obtained on the basis of Friedmann's exact solutions of the Einstein equations, with the baryonic matter as the source of the gravitational field. The use of symmetries is one of the main methods of analysis in modern physical theories and their applications. Methods for constructing exact cosmological solutions include the use of the Noether point symmetry, Hojman symmetry, the use of nonlocal conservation laws, different form-invariant transformations, etc. Additionally, many other methods can be used to construct and analyze exact cosmological solutions. The present Special Issue is devoted to the application of various methods for constructing exact solutions of cosmological dynamics equations to the analysis of actual models of the universe.





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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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