Modified Gravity, Supergravity and Cosmological Applications

Guest Editor:

Dr. Lucrezia Ravera
1. DISAT, Politecnico di Torino, Corso Duca degli Abruzzi 24, 10129 Torino, Italy
2. INFN, Sezione di Torino, Via P. Giuria 1, 10125 Torino, Italy

Deadline for manuscript submissions:
closed (31 December 2022)

Message from the Guest Editor

Dear Colleagues,

The term "modified gravity" has now become standard for gravitational theories differing from general relativity, whose rigorous mathematical formulation resides in Riemannian geometry. This gives rise to the framework of non-Riemannian geometry, in which several modified (alternative) theories of gravity going beyond general relativity have been developed over the years.

The objective of this SI is to address diverse aspects of gravity theories beyond general relativity under different perspectives, in the direction of a deeper understanding of open questions regarding gravitational interaction, also in relation to other fundamental forces. Both research and review papers are welcomed.

Potential topics covering, but not limited to, the following subheadings are deemed suitable for submission: modified (alternative) theories of gravity, supergravity models, group theoretical aspects and solutions; gravity in dimensions other than four and in non-relativistic regimes; spacetime symmetries, supersymmetry in superspace, and cohomological properties of the latter; gauge/gravity duality and applications; and gravitation and cosmology.

Special Issue

Editor-in-Chief

Prof. Dr. Sergei D. Odintsov
1. Institució Catalana de Recerca i Estudis Avançats (ICREA), Passeig Luis Companys, 23, 08010 Barcelona, Spain
2. Institute of Space Sciences (ICE-CSIC), C. Can Magrans s/n, 08193 Barcelona, Spain

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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