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Compact Astrophysical Objects in Extended Theories of Gravity

Guest Editor:

Dr. Behzad Eslam Panah
1. Sciences Faculty, Department of Physics, University of Mazandaran, Babolsar 47415-416, Iran
2. ICRANet-Mazandaran, University of Mazandaran, Babolsar 47415-416, Iran
3. ICRANet, Piazza della Repubblica 10, I-65122 Pescara, Italy

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Message from the Guest Editor

Compact astrophysical objects probe extreme gravitational fields and may be the key to understanding unanswered questions in fundamental physics. The neutron and quark stars, gravastars, and massive white dwarfs are categorized as celestial objects with a high mass and small radius (high density), and, therefore, they are called compact astrophysical objects. Therefore, we must take into account the effects of space–time curvature for investigating their structures. On the other hand, the recent discovery of massive compact objects (such as pulsars, neutron and quark stars, and white dwarfs) contributes to the motivation to study these compact objects in extended theories of gravity, since apparently these massive objects cannot be predicted within general relativity formalism. Potential topics include, but are not limited to, the following: the structure and properties of neutron, quark and boson stars, and (massive) white dwarfs in extended theories of gravity; the properties of gravastars in extended theories of gravity, black hole solutions, and study of the parameters of extended theories of gravity in these solutions.

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Editors-in-Chief

Dr. Margo Aller
Department of Astronomy, University of Michigan, Ann Arbor, MI 48109-1042, USA

Dr. Jose L. Gómez
Instituto de Astrofísica de Andalucía (IAA-CSIC), Glorieta de la Astronomía S/N, 18008 Granada, Spain

Message from the Editorial Board

Galaxies provides an advanced forum for studies related to astronomy, astrophysics, and cosmology, including all of their subfields. Different formats, such as specialized research articles, reviews, communications and technical notes are welcomed. Manuscripts containing original and creative research proposals and ideas are especially appreciated.

We encourage scientists to publish their astronomical observations and theoretical results in as much detail as possible. There is no restriction on the paper length and full experimental and methodological details, as applicable, should be provided. All papers will be peer reviewed promptly. On behalf of the distinguished members of the editorial board, I extend my welcome to all researchers working on these subjects to contribute to *Galaxies*.

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Contact Us

Galaxies Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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galaxies@mdpi.com
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