Special Issue

Geometrization of PDEs and Their Solution by Means of Symmetries

Message from the Guest Editors

In recent years, a large number of studies have related PDEs with geometric objects, mainly with a metric tensor. For each PDE, a metric tensor can be defined, i.e., Riemannian or non-Riemannian space, which acts as the “phase space” of the PDE. The Lie symmetries defined by the geometric elements defining the geometry of that space are related with the first integrals and the invariants of the PDE. The last elements can be used to facilitate the solution of the PDE and, if there are enough of them, even to solve the PDE. This Special Issue offers an opportunity to collect a large amount of work and the obtained results on this topic existing so far in the literature and, at the same time, present new avenues and ideas for future steps in this topic.

Guest Editors

Prof. Dr. Michael Tsamparlis

Faculty of Physics, Department of Astronomy, Astrophysics and Mechanics, University of Athens, Panepistemiopolis, 157 83 Athens, Greece

Dr. Andronikos Paliathanasis

Institute of Systems Science, Durban University of Technology, Durban 4000, South Africa

Deadline for manuscript submissions

closed (31 October 2020)

Symmetry

an Open Access Journal by MDPI

Impact Factor 2.2
CiteScore 5.3

mdpi.com/si/39055

Symmetry
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
symmetry@mdpi.com

mdpi.com/journal/symmetry

Symmetry

an Open Access Journal by MDPI

Impact Factor 2.2
CiteScore 5.3

mdpi.com/journal/symmetry

About the Journal

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.

Editor-in-Chief

Prof. Dr. Sergei Odintsov
1. ICREA, 08010 Barcelona, Spain
2. Institute of Space Sciences (IEEC-CSIC), C. Can Magrans s/n, 08193 Barcelona, Spain

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within SCIE (Web of Science), Scopus, CAPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

Journal Rank:

JCR - Q2 (Multidisciplinary Sciences) / CiteScore - Q1 (General Mathematics)

MDPI