

Special Issue

Mathematical Modelling of Physical Systems 2021

Message from the Guest Editor

The majority of fundamental discoveries in physics have been obtained through a process of mathematical modelling—namely, the formulation and application of theoretical models and analytic methods for the description of a certain phenomenon. Mathematical modelling is used to address the foundations of potential disagreements between background knowledge and observed data. For example, this is the case of dark matter and dark energy, whose mysterious natures are challenging the standard model of particle physics and/or general relativity. Additionally, in the case of severe conflicts between two or more well-established formulations, a process of the model building must be invoked. For instance, this is the case for the combination of quantum mechanics with gravity. Due to the focus on physical theories, mathematical modelling is based on mathematics that can be understood and used by theoretical physicists. Mathematical modelling can also consist of the application of such methods to hard sciences, including biology, finance, geology, climatology and engineering.

Guest Editor

Prof. Dr. Piero Nicolini

Frankfurt Institute for Advanced Studies and Institute for Theoretical Physics, Goethe University, 60323 Frankfurt, Germany

Deadline for manuscript submissions

closed (31 January 2023)



Symmetry

an Open Access Journal
by MDPI

Impact Factor 2.2
CiteScore 5.4



mdpi.com/si/80700

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

[mdpi.com/journal/
symmetry](https://mdpi.com/journal/symmetry)





Symmetry

an Open Access Journal
by MDPI

Impact Factor 2.2
CiteScore 5.4



[mdpi.com/journal/
symmetry](https://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. 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

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)