Special Issue

Gravitational Waves and Symmetry

Message from the Guest Editor

Gravitational waves have transformed our view of the universe, revealing dynamic processes from black hole mergers to neutron star collisions. Symmetry principles lie at the heart of both theoretical predictions and experimental breakthroughs in this field. In this Special Issue of *Symmetry*, we invite you to share original research, comprehensive reviews, and experimental reports that leverage symmetry to deepen our understanding of gravitational wave sources, propagation, and detection. We welcome submissions on theoretical, computational, and experimental fronts, including, but not limited to, the following:

- Symmetry groups in exact and perturbative solutions of Einstein's equations;
- Design and characterization of interferometric detectors exploiting symmetry;
- Calibration and noise mitigation methods based on symmetry properties of test masses and optics;
- Role of conformal, CPT, and duality symmetries in gravitational wave emission;
- Symmetry breaking during early-universe phase transitions and their gravitational wave imprints;
- Numerical relativity techniques that preserve or reveal underlying symmetries.

Guest Editor

Dr. Lorenzo Aiello

- 1. Dipartimento di Fisica, Università di Roma Tor Vergata, Via della Ricerca Scientifica 1, 00133 Roma, Italy
- 2. Istituto Nazionale Fisica Nucleare (INFN), Sezione di Roma Tor Vergata, Via della Ricerca Scientifica 1, 00133 Roma, Italy

Deadline for manuscript submissions

30 June 2026



Symmetry

an Open Access Journal by MDPI

Impact Factor 2.2 CiteScore 5.3



mdpi.com/si/250500

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



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)

