

Special Issue

Symmetry and Asymmetry in Mechanical Engineering

Message from the Guest Editors

Symmetry plays an essential role in simplifying mathematical models, improving computational efficiency, and obtaining qualitative properties in mechanical-engineering-related problems. The Special Issue on “*Symmetry and Asymmetry in Mechanical Engineering*” will feature original research articles with innovative mathematical modeling, experimental or numerical case studies, methodologies and theoretical frameworks, or reviews of recent advances in all aspects of symmetry or asymmetry in mechanical engineering. By comprehensively bringing together perspectives from system dynamics, mechanical design, control theory, and other areas of mechanical engineering, this Special Issue endeavors to highlight the significance of investigating the symmetry-related phenomena in various mechanical engineering applications and applying symmetry-based methods to numerical simulations and analysis.

- Group theory and its application in mechanical engineering.
- Symmetry-based model reduction for computational efficiency.
- Parity-time (PT) and anti-parity-time (APT) symmetry in optical, acoustic, and diffusive systems, among others...

Guest Editors

Dr. Xiaofan Li

Assistant Research Scientist, Department of Naval Architecture and Marine Engineering, University of Michigan, Ann Arbor, MI, USA

Dr. Bin Dong

School of Mechanical, Aerospace, and Materials Engineering, Southern Illinois University Carbondale, Carbondale, IL 62901, USA

Deadline for manuscript submissions

closed (28 February 2025)



Symmetry

an Open Access Journal
by MDPI

Impact Factor 2.2
CiteScore 5.3



mdpi.com/si/197383

Symmetry
Editorial Office
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 5.3



[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. 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)