

# Special Issue

## Symmetry in Stellar Astrophysics: Structure, Properties, and Applications

### Message from the Guest Editors

Symmetry plays a fundamental and unifying role in the theoretical understanding of physical systems, from the smallest scales of particle physics to the largest structures in the Universe. In stellar astrophysics, symmetry principles are deeply embedded in the equations governing stellar structure, stability, and evolution. From simplified stellar models based on spherical symmetry to the more complex symmetry breakings that arise in rotating, magnetized, or binary stars, the language of symmetry offers profound insights into the nature of stellar objects. We are pleased to invite you, as experts in the field, to contribute a research paper or short review to this Special Issue. We welcome theoretical, computational, and interdisciplinary contributions that address fundamental questions, propose novel frameworks, or highlight symmetry-guided applications in stellar physics. This Special Issue aims to foster dialogue in the astrophysics and astroparticle communities, emphasizing the central role of symmetry in advancing our understanding of stars and their complex dynamics.

### Guest Editors

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### Deadline for manuscript submissions

30 June 2026



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CiteScore 5.3



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## 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.

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### Editor-in-Chief

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