

Special Issue

Asteroseismology: Probing Stellar Interiors Through Oscillation Modes

Message from the Guest Editors

Asteroseismology is a transformative tool: decoding oscillation frequencies, amplitudes, and phases enables precise mapping of stellar internal structures (e.g., convective core, electron degenerate helium core, acoustic speed profiles, rotation profiles, and chemical profiles) and probing of stellar evolutionary states. Recent advances in space missions and ground-based observatories have expanded its reach to diverse stars across the HR diagram, yet challenges like modeling complex oscillations in peculiar stars and integrating data with exoplanet studies persist; It is time to address these advances stellar physics and its galactic/planetary role. The Special Issue aims to collect several contributions dealing with the latest asteroseismology advances. Potential topics include, but are not limited to, the following:

- Observational studies of stellar oscillations across different stellar types;
- Theoretical modeling of stellar interiors/oscillations;
- Synergies between asteroseismology and space missions or ground-based facilities;
- Asteroseismic constraints on stellar rotation, magnetic fields, mass loss, evolutionary states, and so on.

Guest Editors

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About the Journal

Message from the Editor-in-Chief

The multidisciplinary journal *Universe* is aiming to follow and, hopefully, to lead to the largest extent as possible the ever-self renovating threads which weave mathematical theories with our understanding of the magnificent natural world. On behalf of all the distinguished members of the Advisory and Editorial Boards, I extend my welcome to this journal and look forward to hearing from the interested contributors and learning about their valuable research.

Editor-in-Chief

Prof. Dr. Lorenzo Iorio
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