

## Special Issue

# Astrophysics, Cosmology with Gravitational Waves and Symmetry

### Message from the Guest Editors

This specific issue is broadly inclined to both theoretical and observational sides of gravitational waves. We hope that through this issue, people can think and understand more deeply about gravitational waves. The specific themes include (but are not confined to):

- Primordial gravitational waves generated from quantum fluctuations in the very early universe;
- Induced gravitational waves generated from either enhanced scalar perturbations (over low scales) in the context of primordial black holes or primordial magnetic field (over all scales) in the context of magnetogenesis;
- Identifying the reheating era more through primary and secondary GWs;
- Narrowing the window of modified gravity theories through the observation of PGWs;
- Modification of standard cosmology to be consistent with NANOGrav data;
- Other aspects that can be connected with gravitational waves.

We also welcome reviews on the progress we have reached so far and what more we can achieve within the upcoming 5–10 years.

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### Guest Editors

Dr. Tanmoy Paul

Prof. Dr. Soumitra SenGupta

Dr. Debaprasad Maity

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### Deadline for manuscript submissions

closed (31 March 2024)



## Symmetry

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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

Prof. Dr. Sergei Odintsov  
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