List of Publications

In Refereed Journals

- *Astrophysical Fluid Dynamics and Accretion Phenomena*

1. Bagchi, M., et al., along with Mukherjee, A., **Mukhopadhyay, B.** (in alphabatic order) and 24 others, Astrophysics with Compact Objects: An Indian Perspective, Present Status and Future Vision - Journal of Astrophysics and Astronomy **46**, 62, 2025; arXiv:2505.18238.
2. Pathak, M., and **Mukhopadhyay, B.**, Simulating ULXs and blazars as GRMHD accretion flows around a black hole - Astrophysical Journal **981**, 162, 2025; arXiv:2502.03538.
3. Das, A. R., and **Mukhopadhyay, B.**, QPOs in compact sources as a non-linear hydrodynamical resonance: Determining spin of compact objects - Astrophysical Journal **955**, 86, 2023; arXiv:2308.09759.
4. Raha, R., **Mukhopadhyay, B.**, Chatterjee, K., and Gopika, S. M., Magnetized Advective Accretion Disks and Jets: Harmpi Simulation - Astronomy Reports **67** (Suppl 2), S189, 2023.
5. Ghosh, S., and **Mukhopadhyay, B.**, The competition between the hydrodynamic instability from noise and magnetorotational instability in the Keplerian disks - AIP Advances **12**, 055228, 2022; arXiv:2205.13230.
6. Datta, S. R., Mondal, T., and **Mukhopadhyay, B.**, Angular momentum transport and thermal stabilization of optically thin, advective accretion flows through large-scale magnetic fields - MNRAS **513**, 204, 2022; arXiv:2203.11965.
7. Ghosh, S., and **Mukhopadhyay, B.**, Forced linear shear flows with rotation: rotating Couette-Poiseuille flow, its stability and astrophysical implications - Astrophysical Journal **922**, 161, 2021; arXiv:2107.04012.
8. Ghosh, S., and **Mukhopadhyay, B.**, Origin of hydrodynamic instability from noise: from laboratory flow to accretion disk - Physical Review Fluids **6**, 013903, 2021; arXiv:2012.13417.
9. Ghosh, S., and **Mukhopadhyay, B.**, Hydrodynamical instability with noise in the Keplerian accretion discs: Modified Landau equation - Monthly Notices of Royal Astronomical Society **496**, 4191, 2020; arXiv:2006.10075.
10. Mondal, T., and **Mukhopadhyay, B.**, Role of magnetically dominated disc-outflow symbiosis on bright hard-state black hole sources: ultra-luminous X-ray sources to quasars - Monthly Notices of Royal Astronomical Society **495**, 350, 2020; arXiv:1910.08564.
11. Mondal, T., and **Mukhopadhyay, B.**, FSRQ/BL Lac dichotomy as the magnetized advective accretion process around black holes: a unified classification of blazars - Monthly Notices of Royal Astronomical Society **486**, 3465, 2019; arXiv:1904.05898.
12. Mondal, T., and **Mukhopadhyay, B.**, Ultra-luminous X-ray sources as magnetically powered sub-Eddington advective accretion flows around stellar mass black holes - Monthly Notices of Royal Astronomical Society Letters **482**, L24, 2019; arXiv:1808.10461.

13. Dhang, P., Sharma, P., and **Mukhopadhyay, B.**, Magnetized SASI: its mechanism and possible connection to some QPOs in XRBs - Monthly Notices of Royal Astronomical Society **476**, 3310, 2018; arXiv:1712.02367.

14. Mondal, T., and **Mukhopadhyay, B.**, Magnetized advective accretion flows: formation of magnetic barriers in Magnetically Arrested Discs - Monthly Notices of Royal Astronomical Society **476**, 2396, 2018; arXiv:1802.01594.

15. Nath, S. K., and **Mukhopadhyay, B.**, A pure hydrodynamic instability in shear flows and its application to astrophysical accretion disks - Astrophysical Journal **830**, 86, 2016; arXiv:1608.00980.

16. Singh Bhatia, T., and **Mukhopadhyay, B.**, Exploring nonnormality in magnetohydrodynamic rotating shear flows: application to astrophysical accretion disks - Physical Review Fluids **1**, 063101, 2016; arXiv:1609.01841.

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18. Bhattacharya, D., Sreekumar, P., **Mukhopadhyay, B.** and Tomar, I, Does black hole spin play a key role in the FSRQ/BL Lac dichotomy? - Research in Astronomy and Astrophysics **16**, 54, 2016.

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- *Stellar Physics and Gravitation*

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• *Investigation of Spinor and Electromagnetic Fields in Curved Space-time*

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- *Astrophysical Data Analysis*

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- *Field Theory in Curved Space-time and Related Particle Physics*

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