

# Avinash Tiwari, Ph.D. Student

✉ itsmeavinasht@gmail.com  
✉ avinash.tiwari@iucaa.in  
in avinash-tiwari  
🌐 <https://avinash-tiwari-at.github.io/>  
id 0000-0001-7197-8899



## Education

- 2021 – ongoing    📖 **Ph.D.**, Inter-University Centre for Astronomy and Astrophysics, Pune.
- 2019 – 2021    📖 **M.Sc. Physics**, Indian Institute of Technology Guwahati, Guwahati.
- 2016 – 2019    📖 **B.Sc. Physics, Mathematics, and Computer Science**, University of Allahabad, Prayagraj.

## Research Publications

### Short author works

- 1 A. Tiwari, P. Chanda, S. J. Kapadia, S. Adhikari, A. Vijaykumar, and B. Dasgupta, “Profiling Dark Matter Spikes with Gravitational Waves from Accelerated Binaries,” Aug. 2025. arXiv: 2508.03803 [hep-ph].
- 2 A. Tiwari, A. Vijaykumar, S. J. Kapadia, S. Ghosh, and A. B. Nielsen, “A pipeline to search for signatures of line-of-sight acceleration in gravitational wave signals produced by compact binary coalescences,” Jun. 2025. arXiv: 2506.22272 [astro-ph.HE].
- 3 A. Tiwari, A. Vijaykumar, S. J. Kapadia, S. Chatterjee, and G. Fragione, “Profiling stellar environments of gravitational wave sources,” Jul. 2024. arXiv: 2407.15117 [astro-ph.HE].
- 4 A. Tiwari, A. Vijaykumar, S. J. Kapadia, G. Fragione, and S. Chatterjee, “Accelerated binary black holes in globular clusters: forecasts and detectability in the era of space-based gravitational-wave detectors,” *Mon. Not. Roy. Astron. Soc.*, vol. 527, no. 3, pp. 8586–8597, 2023. 🌐 DOI: 10.1093/mnras/stad3749. arXiv: 2307.00930 [astro-ph.HE].
- 5 A. Vijaykumar, A. Tiwari, S. J. Kapadia, K. G. Arun, and P. Ajith, “Waltzing Binaries: Probing the Line-of-sight Acceleration of Merging Compact Objects with Gravitational Waves,” *Astrophys. J.*, vol. 954, no. 1, p. 105, 2023. 🌐 DOI: 10.3847/1538-4357/acd77d. arXiv: 2302.09651 [astro-ph.HE].