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Papers (short authorlist)

25. Hui Tong et al. (including **Aditya Vijaykumar**)
Evidence of the pair instability gap in the distribution of black hole masses
Submitted to Nature, arXiv:2509.04151.

24. Colm Talbot et al. (including **Aditya Vijaykumar**)
Inference with finite time series II: the window strikes back
Submitted to CQG, arXiv:2508.11091.

23. Avinash Tiwari, Prolay Chanda, Shasvath J. Kapadia, Susmita Adhikari, **Aditya Vijaykumar**, Basudeb Dasgupta
Profiling Dark Matter Spikes with Gravitational Waves from Accelerated Binaries
Submitted to PRL, arXiv:2508.03803.

22. Andris Doroszmai, Isobel M. Romero-Shaw, **Aditya Vijaykumar**, Silvia Toonen, et al.
Hierarchical Triples vs. Globular Clusters: Binary black hole merger eccentricity distributions compete and evolve with redshift
Submitted to MNRAS, arXiv:2507.23212.

21. Avinash Tiwari, **Aditya Vijaykumar**, Shasvath J. Kapadia, Shrobana Ghosh, Alex B. Nielsen
A pipeline to search for signatures of line-of-sight acceleration in gravitational wave signals produced by compact binary coalescences
Submitted to PRD, arXiv:2506.22272.

20. Kanchan Soni, **Aditya Vijaykumar**, Sanjit Mitra
Assessing the potential of LIGO-India in resolving the Hubble Tension
Submitted to CQG, arXiv:2409.11361.

19. Avinash Tiwari, **Aditya Vijaykumar**, Shasvath J. Kapadia, Sourav Chatterjee, Giacomo Fragione
Profiling stellar environments of gravitational wave sources
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18. Alexandra G. Hanselman, **Aditya Vijaykumar**, Maya Fishbach, Daniel E. Holz
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17. Sreejith Nair, **Aditya Vijaykumar**, Sudipta Sarkar
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16. **Aditya Vijaykumar**, Alexandra G. Hanselman, Michael Zevin
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ApJ 969 132, arXiv:2402.07892.

15. Mukesh Kumar Singh, Shasvath J. Kapadia **Aditya Vijaykumar**, Parameswaran Ajith
Impact of higher harmonics of gravitational radiation on the population inference of binary black holes
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14. Kruthi Krishna, **Aditya Vijaykumar**, Apratim Ganguly, *et al*
Accelerated parameter estimation in Bilby with relative binning
arXiv:2312.06009.

13. **Aditya Vijaykumar**, Maya Fishbach, Susmita Adhikari, Daniel E. Holz
Inferring host galaxy properties of LIGO-Virgo-KAGRA's black holes
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12. Divyajyoti, N.V. Krishnendu, Muhammed Saleem, Marta Colleoni, **Aditya Vijaykumar**, K.G. Arun, Chandra Kant Mishra
Effect of double spin-precession and higher harmonics on spin-induced quadrupole moment measurements
Phys. Rev. D 109, 023016, arXiv:2311.05506.

11. Avinash Tiwari, **Aditya Vijaykumar**, Shasvath J. Kapadia, Giacomo Fragione, Sourav Chatterjee
Accelerated binary black holes in globular clusters: forecasts and detectability in the era of space-based gravitational-wave detectors
MNRAS, 527, 8586, arXiv:2307.00930.

10. **Aditya Vijaykumar**, Avinash Tiwari, Shasvath J. Kapadia, K.G. Arun, Parameswaran Ajith
Waltzing binaries: Probing line-of-sight acceleration of merging compact objects with gravitational waves
ApJ 954 105, arXiv:2302.09651.
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9. Adhrit Ravichandran, **Aditya Vijaykumar**, Shasvath J. Kapadia, Prayush Kumar
Rapid Identification and Classification of Eccentric Gravitational Wave Inspirals with Machine Learning
Submitted to PRD, arXiv:2302.00666.

8. Srashti Goyal, **Aditya Vijaykumar**, Jose Maria Ezquiaga, Miguel Zumalacarregui
Probing lens-induced gravitational-wave birefringence as a test of general relativity
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7. Bikram Keshari Pradhan, **Aditya Vijaykumar**, Debarati Chatterjee
Impact of updated Multipole Love and f-Love Universal Relations in context of Binary Neutron Stars
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6. **Aditya Vijaykumar**, Shasvath J. Kapadia, Parameswaran Ajith
Can a binary neutron star merger in the vicinity of a supermassive black hole enable a detection of a post-merger gravitational wave signal?
MNRAS, 513, 3577, arXiv:2202.08673.

5. **Aditya Vijaykumar**, Ajit Kumar Mehta, Apratim Ganguly
Detection and parameter estimation challenges of Type-II lensed binary black hole signals
Phys. Rev. D 108, 043036, arXiv:2202.06334.

4. Sumit Kumar, **Aditya Vijaykumar**, Alexander H. Nitz
Detecting Baryon Acoustic Oscillations with third generation gravitational wave observatories,
ApJ 930 113, arXiv:2110.06152.

3. M. Saleem et al. (including **Aditya Vijaykumar**)
The Science Case for LIGO-India
Class. Quantum Grav. 39 025004, arXiv:2105.01716.

2. **Aditya Vijaykumar**, M. V. S. Saketh, Sumit Kumar, Parameswaran Ajith, Tirthankar Roy Choudhury
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Phys. Rev. D 108, 103017, arXiv:2005.01111.
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1. **Aditya Vijaykumar**, Shasvath J. Kapadia, Parameswaran Ajith
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Phys. Rev. Lett. 126, 141104, arXiv:2003.12832.
In press: phys.org.

Papers (long authorlist, with substantial contribution)

7. Abac et al. (LIGO Scientific, Virgo, and KAGRA Collaborations) [**Paper Writing Team Lead**]
   GWTC-4.0: Population Properties of Merging Compact Binaries,
   arXiv:2508.18083.
6. Abac et al. (LIGO Scientific, Virgo, and KAGRA Collaborations)
   GWTC-4.0: Updating the Gravitational-Wave Transient Catalog with Observations from the First Part of the Fourth LIGO-Virgo-KAGRA Observing Run,
   arXiv:2508.18082.
5. Abac et al. (LIGO Scientific, Virgo, and KAGRA Collaborations)
   GW231123: a Binary Black Hole Merger with Total Mass 190-265 $M_\odot$,
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4. Abbott et al. (LIGO Scientific and Virgo Collaborations)
   Tests of General Relativity with GWTC-3,
   Accepted to *Physical Review D*, arXiv:2112.06861.
3. Abbott et al. (LIGO Scientific and Virgo Collaborations)
   Tests of General Relativity with Binary Black Holes from the second LIGO-Virgo Gravitational-Wave Transient Catalog,
   Phys. Rev. D 103 (2021) 12, 122002, arXiv:2010.14529.
2. Abbott et al. (LIGO Scientific and Virgo Collaborations)
   GWTC-2: Compact Binary Coalescences Observed by LIGO and Virgo During the First Half of the Third Observing Run,
   Phys. Rev. X 11 (2021) 021053, arXiv:2010.14527.
1. P. Virtanen *et al.* (including **Aditya Vijaykumar** as *SciPy 1.0 Contributor*)
   SciPy 1.0–Fundamental Algorithms for Scientific Computing in Python,
   Nat Methods 17, 261–272 (2020), arXiv:1907.10121.