

# Aditya Vijaykumar

aditya.vijaykumar@icts.res.in • Website • International Centre for Theoretical Sciences, Bengaluru, India.

PAPERS  
(SHORT  
AUTHORLIST)

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*  
Submitted to *MNRAS*, [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*  
Accepted to *Astrophysical Journal*, [arXiv:2302.09651](#).
9. Adhrit Ravichandran, **Aditya Vijaykumar**, Shasvath J. Kapadia, Prayush Kumar  
*Rapid Identification and Classification of Eccentric Gravitational Wave Inspirals with Machine Learning*  
Accepted to *Physical Review D*, [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*  
Accepted to *Physical Review D*, [arXiv:2301.04826](#).
7. Bikram Keshari Pradhan, **Aditya Vijaykumar**, Debarati Chatterjee  
*Impact of updated Multipole Love and f-Love Universal Relations in context of Binary Neutron Stars*  
*Phys. Rev. D.* 107 (2023) 2, 023010, [arXiv:2210.09425](#).
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*  
Submitted to *Physical Review D*, [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  
*Probing the large scale structure using gravitational wave observations of binary black holes*,  
Submitted to *Physical Review Letters*, [arXiv:2005.01111](#).  
In press: [Astrobites](#).
1. **Aditya Vijaykumar**, Shasvath J. Kapadia, Parameswaran Ajith  
*Constraints on the time variation of the gravitational constant using gravitational wave observations of binary neutron stars*,  
*Phys. Rev. Lett.* 126, 141104 (2021), [arXiv:2003.12832](#).  
In press: [phys.org](#).

PAPERS  
(LONG  
AUTHORLIST,  
WITH  
SUBSTANTIAL  
CONTRIBU-  
TION)

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](#).