Sanika Khadkikar

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EDUCATION

The Pennsylvania State University, *State College, PA* 2022

Ph.D. in Physics
Exploring the fundamental physics of neutron stars using astrophysics and gravitational waves, advisor Bangalore Sathyaprakash

Birla Institute of Science and Technology, *Pilani, India* 2017 - 2022

M. Sc. (Hons) in Physics
B.E. (Hons) in Mechanical Engineering
Quasi-stationary sequences of hyper-massive neutron stars with exotic equations of state, advisor Sarmistha Banik

The Pennsylvania State University, *State College, PA* 2021 - 2022

BITS Pilani Master's Thesis exchange program
Binary neutron star post-merger signal analysis using wavelet transforms, advisor Bangalore Sathyaprakash and Sujith R.

RESEARCH INTERESTS

Gravitational-wave data analysis, black holes, neutron stars, multimessenger astronomy, compact-object binaries, stochastic gravitational-wave backgrounds, next-generation gravitational-wave detectors

SELECTED FELLOWSHIPS AND HONORS

Homer F. Braddock Scholarship in Biology, Chemistry, and Physics	2022
Off-Campus International Master's Thesis Fellowship	2021
Charpak Indo-France Research Scholarship	2021
Caltech Summer Undergraduate Research Fellowship	2020
BITS Pilani Merit Scholarship	2018- 2021
INSPIRE Award by the Govt. of India	2014

Publications

- Gupta, I., et al. (2023). Characterizing gravitational wave detector networks: From A# to Cosmic Explorer. arXiv. https://arxiv.org/abs/2307.10421
- Evans, M., et al. (2023). Cosmic Explorer: A submission to the NSF MPSAC ngGW Subcommittee. arXiv. https://arxiv.org/abs/2306.13745
- Khadkikar, S., Mangat, C. S., and Banik, S. (2022). Quasi-stationary sequences of hyper-massive neutron stars with exotic equations of state. Journal of Astrophysics and Astronomy, 43(2), 57. https://doi.org/10.1007/s12036-022-09849-0
- Khadkikar, S., Raduta, A. R., Oertel, M., and Sedrakian, A. (2021). Maximum mass of compact

stars from gravitational wave events with finite-temperature equations of state. Physical Review C, 103(5), 055811. https://doi.org/10.1103/PhysRevC.103.055811

CONTRIBUTED PRESENTATIONS

- LIGO -Virgo Collaboration Meeting, *virtual*
- American Physical Society April Meeting , *Sacramento, CA*
- Penn State Primordial Universe and Gravity Seminar, *State College, PA*

TEACHING AND MENTORSHIP

Graduate Teaching Assistant 2022-2024
Department of Physics, Pennsylvania State University
Quantum Information and Computing
Introductory Electromagnetism
Introductory Mechanics

Undergraduate Teaching Assistant 2020
Department of Physics, BITS Pilani
Statistical Mechanics

SERVICE AND OUTREACH

GAPP Graduate Student Liaison 2024
Department of Physics, Pennsylvania State University

Instrumental in arranging and managing the Gravity, Astrophysics and Particle Physics (GAPP) seminars at Pennstate along with faculty

PAW Pals Volunteer 2023-2024
Physics and Astronomy for Women+, Pennsylvania State University

Instrumental in arranging and managing the Gravity, Astrophysics and Particle Physics (GAPP) seminars at Pennstate along with faculty

Gravi-tea Time Podcast 2024
Institue of Gravitation and the Cosmos (IGC), Pennsylvania State University

Creator of the podcast aimed towards bringing the latest breakthroughs in gravitational physics and astrophysics straight from the researchers, explained in a nuanced yet accessible way for advanced undergrads and grad students