Tejaswi Venumadhav Nerella — Curriculum Vitae

Assistant Professor, Department of Physics
Broida Hall
University of California, Santa Barbara
Santa Barbara, CA 93106-9530

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Education

California Institute of technology 2010-2015
Ph.D. in Physics,
Advisor: Christopher Hirata

Indian Institute of Technology, Kanpur 2005-2010
M.Sc (Integrated) in Physics

Academic Honors

Sloan Research Fellowship 2023
Alfred P. Sloan Foundation

John Bahcall Fellowship 2019
Institute for Advanced Study

Schmidt Fellowship 2015 - 2018
Institute for Advanced Study

Robert A. Millikan Fellowship 2010
California Institute of Technology

International Fulbright Science and Technology Award 2010
Bureau of Education and Cultural Affairs, U.S. Department of State

President's Gold Medal for the best academic performance in the graduating class in all disciplines, IIT Kanpur 2010

General Proficiency Medal for the best academic performance in the graduating class in Physics, IIT Kanpur 2010

Summer Undergraduate Research Fellowship 2007, 2008
California Institute of Technology

Academic Excellence Award 2007, 2008, 2009, 2010
IIT Kanpur

Silver Medal, 36th International Physics Olympiad 2005

KVPY Fellowship 2004
Department of Science and Technology, Govt. of India

NTSE Fellowship 2003
National Council of Educational Research and Training, Govt. of India

Work Experience

Assistant Professor Jul 2020-present
University of California, Santa Barbara

Visiting Professor 2020-present
International Center for Theoretical Sciences, Bangalore

Member Sep 2015-Jul 2020
Institute for Advanced Study, Princeton

Associate 2019-2020
International Center for Theoretical Sciences, Bangalore

Graduate Student Sep 2010-Aug 2015
California Institute of Technology, Pasadena
Advisor: Christopher M. Hirata

Visiting Scientist May-August 2009
Max-Planck-Institut für Physik komplexer Systeme, Dresden
Advisor: Roderich Moessner

Summer Undergraduate Research Fellow May-August 2008
California Institute of Technology, Pasadena
Advisor: Re'em Sari

Summer Undergraduate Research Fellow May-August 2007
California Institute of Technology, Pasadena
Advisor: Andrew Lange

Refereed publications

1. Yu, H., Weinberg, N., Arras, P., Kwon, J., **Venumadhav, T.**, (2022), Mon. Not. R. Astron. Soc., 519, 4325
   Title: Beyond the linear tide: impact of the nonlinear tidal response of neutron stars on gravitational waveforms for binary inspirals
2. Roulet, J., Olsen, S., Mushkin, J., Islam, T., **Venumadhav, T.**, Zackay, B., Zaldarriaga, M., (2022), Physical Review D, 106, 123015
   Title: Removing degeneracy and multimodality in gravitational wave source parameters
3. Olsen, S., **Venumadhav, T.**, Mushkin, J., Roulet, J., Zackay, B., Zaldarriaga, M., (2022), Physical Review D, 106, 043009
   Title: New binary black hole mergers in the LIGO–Virgo O3a data
4. Olsen, S., Roulet, J., Chia, H.S., Dai, L., **Venumadhav, T.**, Zackay, B., Zaldarriaga, M., (2021), Physical Review D, 104, 083036
   Title: Mapping the Likelihood of GW190521 with Diverse Mass and Spin Priors
5. Roulet, J., Chia, H.S., Olsen, S., Dai, L., **Venumadhav, T.**, Zackay, B., Zaldarriaga, M., (2021), Physical Review D, 104, 083010
   Title: Distribution of Effective Spins and Masses of Binary Black Holes from the LIGO and Virgo O1-O3a Observing Runs
6. Chia, H.S., Olsen, S., Roulet, J., Dai, L., **Venumadhav, T.**, Zackay, B., Zaldarriaga, M., (2021), Physical Review D, 106, 024009
   Title: Signs of Higher Multipoles and Orbital Precession in GW151226

20. Hirata, C. M., Mishra, A., **Venumadhav, T.**, (2017), Physical Review D, 97, 103521
Title: Detecting primordial gravitational waves with circular polarization of the redshifted 21 cm line: I. Formalism

21. **Venumadhav, T.**, Dai, L., Miralda-Escudé, J., (2017), Astrophysical Journal, 850, 49
Title: Microlensing of extremely magnified stars near caustics of galaxy clusters

Review D, 95, 083011
Title: A new probe of magnetic fields in the pre-reionization epoch: II. Detectabili

23.1**Venumadhav, T.**, Oklopčić, A., Gluscevic, V., Mishra, A., & Hirata, C. M. (2017
D, 95, 083010 . Formalism

24. Dai, L.,
Title: A new probe of magnetic fields in the pre-reionization epoch: I. Formalism

13. Dai, L., **Venumadhav, T.**, Sigurdson, K. (2017), Physical Review D, 95, 044011
Title: The effect of lensing magnification on the apparent distribution of black hole me

25.1**Venumadhav, T.**, Cyr-Racine, F.-Y., Abazajian, K. N., & Hirata, C. M. (2016), Phys
94, 043515
Title: Sterile neutrino dark matter: A tale of weak interactions in the strong coupling

26.

veak interactions in the strong coupling epoch

Hirata, C. M. (2015), Astrophysical Journal, 826, 116
etry to measure the global 21 cm signal

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1. Islam, T., Roulet, J.,

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1. Huang, Y., Haster, C-J., Vitale, S., Zimmerman, A., Roulet, J., **Venumadhav, T.**, Zackay, B., Dai, L., Zaldarriaga, M., (2020), arXiv:2003.04513
Title: Source properties of the lowest signal-to-noise-ratio binary black hole detections

2. Zackay, B., Dai, L., **Venumadhav, T.**
Title: Factorized Parameter Estimation for Real-Time Gravitational Wave Inference

2. Dai, L., Zackay, B., **Venumadhav, T.**, Roulet, J., Zaldarriaga, M., (2019), arXiv:2007.12709
Title: Search for Lensed Gravitational Waves Including Morse Phase Information: An Intriguing Candidate in O2

3. Coleman, M.,

tational Waves With Disparate Detector Responses: Two New Binary Black

hav, T., Roulet, J., Dai, L., Zaldarriaga, M., (2019), arXiv:1908.05644
ational Waves in Data with Non-Gaussian Noise

ckay, B., Roulet, J., Dai, L., Zaldarriaga, M., (2019), arXiv:1904.07214
k Hole Mergers in the Second Observing Run of Advanced LIGO and Advanced

Professional Service

Referee for Astroparticle Physics

- Referee for the Astrophysical Journal
- Referee for Monthly Notices of the Royal Astronomical Society Letters
- Referee for Monthly Notices of the Royal Astronomical Society
- Referee for Physical Review D

Talks and presentations