

Vikram Manikantan

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vik@arizona.edu
www.vikrammanikantan.com
GitHub: vikrammanikantan

EDUCATION

Ph.D. in Astronomy & Astrophysics

Department of Astronomy & Steward Observatory, University of Arizona

Expected: Aug 2027

Tucson, AZ

+ Advisor: Vasileios Paschalidis

+ Thesis title: Multimessenger Modeling of Supermassive Binary Black Holes with Next-generation GPU-accelerated GRMHD Simulations

B.A. in Physics w/ Minor in Computer Science

Department of Physics and Astronomy, Northwestern University

June 2022

Evanston, IL

+ Advisor: Sasha Tchekhovskoy

+ Honors thesis title: Characterizing Angular Momentum Transport within Magnetically Arrested Disks

EXPERIENCE

University of Arizona, Department of Astronomy & Steward Observatory

Graduate Research Assistant

Aug 2022 - present

Graduate Teaching Assistant

Jan 2025 - present

Graduate Coordinator of TIMESTEP Apprenticeship program

Aug 2023 - present

Graduate Coordinator of TIMESTEP Internship program

Apr 2024 - Sep 2024

Northwestern University, Center for Interdisciplinary Exploration and Research in Astrophysics

Undergraduate Research Assistant

Jun 2019 - Jun 2022

Deloitte Consulting

Solutions Engineering Summer Intern

Jun 2021 - Aug 2021

SELECTED PUBLICATIONS [ADS] [GOOGLE SCHOLAR]

Vikram Manikantan and Vasileios Paschalidis. Binary black holes gone MAD: Magnetically arrested minidisks around nonspinning black holes. *arXiv e-prints*, page arXiv:2509.18254, September 2025.

Vikram Manikantan, Vasileios Paschalidis, and Gabriele Bozzola. Effects of eccentricity on accreting binary black holes: MHD simulations in full GR reveal novel periodicities in jet power and synchrotron spectra. *Physical Review D*, 112(4):043004, August 2025.

Vikram Manikantan, Vasileios Paschalidis, and Gabriele Bozzola. Coincident Multimessenger Bursts from Eccentric Supermassive Binary Black Holes. *Astrophysical Journal Letters*, 984(2):L47, May 2025.

Vikram Manikantan, Nicholas Kaaz, Jonatan Jacquemin-Ide, Gibwa Musoke, Koushik Chatterjee, Matthew Liska, and Alexander Tchekhovskoy. Winds and Disk Turbulence Exert Equal Torques on Thick Magnetically Arrested Disks. *Astrophysical Journal*, 965(2):175, April 2024.

TALKS

Coincident Multimessenger Bursts from Eccentric Supermassive Binary Black Holes, 33rd Texas Symposium on Relativistic Astrophysics, December 2025. (Contributed talk)

Binary Black Holes Gone MAD, Event Horizon Telescope Theory Working Group Meeting, November 2025. (Invited talk)

Eccentric Binary Black Holes: MHD Simulations in Full GR Reveal Novel Periodicities in Jet Emission and

Synchrotron Spectra, American Physical Society Global Summit, April 2025. (Contributed talk)

Characterizing the Angular Momentum Transport within Highly Magnetized Accretion Disks around Black Holes, EAS2022, European Astronomical Society Annual Meeting, page 611, July 2022. (Poster)

HONORS & AWARDS

Graduate Student Award in Teaching from the Department of Astronomy	<i>May 2025</i>
Outstanding Undergraduate Thesis Research in the Physics and Astronomy Department	<i>Jun 2022</i>
College of Arts and Sciences Dean's List ($\times 7$)	<i>Dec 2018 - Jun 2022</i>

TEACHING

Mentorship Programs

Graduate Student Coordinator of TIMESTEP Research Apprenticeship Program	<i>Aug 2023 - Present</i>
Graduate Student Coordinator of TIMESTEP Internship Program	<i>Apr 2024 - Sep 2024</i>

Workshop Instructor

COMPASS Workshop :	
Computational and Mathematical Program for incoming Arizona Science Students:	<i>Aug 2023, Aug 2024</i>

Teaching Assistant

Astro 300A: Dynamics in Astrophysics	<i>Jan 2026 - May 2026</i>
Astro 202: Life in the Universe	<i>Aug 2025 - Dec 2025</i>
Astro 300A: Dynamics in Astrophysics	<i>Jan 2025 - May 2025</i>

LEADERSHIP

University of Arizona

Co-organizer and Instructor of the COMPASS Workshop	<i>Aug 2023, Aug 2024</i>
Prospective Student Visit Coordinator	<i>April 2025</i>
Graduate Student Lead of Department Social Media	<i>Aug 2023 - present</i>
Department of Astronomy Graduate Student Council	<i>May 2023 - Dec 2025</i>

Northwestern University

President of Northwestern University World Cup (Philanthropic Organization)	<i>May 2020 - May 2021</i>
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