

# Vikram Manikantan

(Updated Nov 2025)

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## EDUCATION

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### 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

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### 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](#)]

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**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

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*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

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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

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### Mentorship Programs

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

### Workshop Instructor

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

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### University of Arizona

Co-organizer and Instructor of the <a href="#">COMPASS Workshop</a>	<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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