

Zack Andalman
PhD Candidate, Princeton University
751 Hibben Magie Rd, Unit 215, Princeton, NJ

zack.andalman@princeton.edu
<https://www.zandalman.com/>

+1 847 208 5238
[ArXiv](#)

EDUCATION

Princeton University	Princeton, NJ	Ph.D., Astrophysics	4.00 GPA	2023 - 2028
Yale University	New Haven, CT	B.S., Physics	3.95 GPA	2019 - 2023
Evanston Township HS	Evanston, IL	Diploma	4.00 GPA	2015 - 2019

PUBLICATIONS

First-Author

Published: 2

- [1] **Andalman, Z. L.**, Teyssier, R., & Avishai, D. (2025).
On the Origin of the High Star-Formation Efficiency in Massive Galaxies at Cosmic Dawn. MNRAS.
<https://ui.adsabs.harvard.edu/abs/2024arXiv241020530A/abstract>
 - [2] **Andalman, Z. L.**; Liska, M. T. P.; Tchekhovskoy, A.; Coughlin, E. R.; & Stone, N. (2022).
Tidal Disruption Discs Formed and Fed by Stream-stream and Stream-disc Interactions in Global GRHD Simulations. MNRAS.
<https://ui.adsabs.harvard.edu/abs/2022MNRAS.510.1627A/abstract>
- In prep:* 2
- [3] **Andalman, Z. L.**; Quataert, E.; Coughlin, E.; Nixon, C. (2025)
Resolving the (Debate About) Nozzle Shocks in Tidal Disruption Events.
Planned submission to the Astrophysical Journal.
 - [4] **Andalman, Z. L.**; Fryer, C.; Fontes, C.; Mumpower, M. (2025).
Thermalization in Kilonova Ejecta with Detailed Atomic, Nuclear, and Transport Physics.
Planned submission to the Astrophysical Journal.

Co-Author

Published: 1

- [5] Kaaz, N.; et. al. incl. **Andalman, Z. L.** (2023).
Nozzle Shocks, Disk Tearing and Streamers Drive Rapid Accretion in 3D GRMHD Simulations of Warped Thin Disks. MNRAS.
<https://ui.adsabs.harvard.edu/abs/2023ApJ...955...72K/abstract>

In prep: 1

- [6] Sunseri, J.; Teyssier, R.; **Andalman, Z. L.** (2025).
Supermassive Black Hole Growth in Massive Galaxies at Cosmic Dawn.
Planned submission to MNRAS.

PRESENTATIONS

Selected Talks

Inaugural Tinsley workshop	2024
LANL Center for Nonlinear Studies Student Talk Series (1st place student talk)	2024
KITP Program - Towards a Physical Understanding of Tidal Disruption Events	2024
RAMSES User Meeting	2024
HEAD Frontiers Seminar Series	2023
HEAD-19 Conference (invited)	2022

Selected Posters

AAS-245 Conference (Chambliss honorable mention)	2025
HEAD-20 Conference (1st place undergraduate poster)	2023
Connecticut Space Grant Consortium Expo	2021, 2022
Blue Waters Symposium for Petascale Science and Beyond	2018, 2019

SKILLS

Computer languages: PYTHON, C, C++, FORTRAN, HTML/CSS/JAVASCRIPT, Unix shell
Software: HPC, OPENMPI, git, PARAVIEW, H-AMR, RAMSES, ATHENA++, CLOUDY, MESA
Languages: English (native), Spanish (conversational), Modern Greek (basic)
Hobbies: Triathlon, jazz piano

GRANTS, FELLOWSHIPS, AND AWARDS

<u>DOE Computational Science Graduate Fellowship</u> , Krell Institute	2023 - 2027
Martin Schwarzschild Fellowship, Princeton University (departmental award)	2023 - 2025
Michael Manzella Award, Yale University (leadership award)	2023
Lamat Fellowship (REU), University of California Santa Cruz	2022
Hahn Scholarship, Yale University (competative undergrad research program)	2019 - 2021
Student Project Grant, NASA Connecticut Space Grant Consortium	2020
First-Year Summer Research Fellowship, Yale University	2020

LEADERSHIP EXPERIENCE

Thunch (thursday lunch) seminar series organizer	2024
<u>Yale Undergraduate Aerospace Association</u> ; Project Leader, Director of Projects, President	2020 - 2023
Yale Club Triathlon, Captain	2021 - 2022

PROFESSIONAL SERVICE

Number of papers refereed
MNRAS: 2
Code contributions: H-AMR, ATHENA++, RAMSES
Code development: THUNDERSTORM
YouTube channel with scientific visualizations

OUTREACH AND TEACHING

Teaching assistant	2025
Peer Mentor for the Princeton Astrophysics Department	2024 - 2025
Speaker at Astronomy on Tap, Trenton	2024
Resident astronomer for solar eclipse at Littlebrook Elementary	2024
Tutor for the New Jersey Prison Teaching Initiative	2024
Teacher at <u>Yale Splash</u>	2022
Peer Mentor for the Yale Society for Physics Students	2022
Organizer of aerospace-themed educational events with New Haven public schools	2021