Zack Andalman

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https://www.zandalman.com/ 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: 2

[1] **Andalman, Z. L.**, Teyssier, R., & Avishai, D. (2024).
On the Origin of the High Star-Formation Efficiency in Massive Galaxies at Cosmic Dawn.
Submitted to 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`)

Co-Author: 1

[1] 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

[1] **Andalman, Z. L.** & Fryer, C. (2024).
Relativistic Electron Transport in Kilonova Ejecta with Better Atomic Physics. Currently in prep with plans for submissions to the Astrophysical Journal.

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 talk) 2022

Selected Posters

AAS-241 Conference 2023
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++, HTML/CSS/Javascript, Unix shell

Software: HPC, OpenMPI, git, `ParaView`, `H-AMR`, `RAMSES`, `CLOUDY`

Languages: Spanish (conversational), Modern Greek (basic)

GRANTS, FELLOWSHIPS, AND AWARDS

DOE Computational Science Graduate Fellowship, 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 — 2019 - 2021
Using Ultracold Strontium to Investigate the Quantum Many-Body Problem

Student Project Grant, Connecticut Space Grant Consortium — 2020
Active-Adjustment Ornithopter, Federal FTE Award P-1643

First-Year Summer Fellowship, Yale University — 2020
Using Ultracold Strontium to Investigate the Quantum Many-Body Problem

LEADERSHIP EXPERIENCE

Thunch (thursday lunch) seminar series organizer — 2024

Yale Undergraduate Aerospace Association, President — 2022 - 2023

Yale Undergraduate Aerospace Association, Director of Projects — 2021 - 2022

Yale Club Triathlon, Captain — 2021 - 2022

Yale Undergraduate Aerospace Association, Project Leader — 2020 - 2021

PROFESSIONAL SERVICE

Lead developer of the open-source Monte Carlo electron transport code `Thunderstorm` — 2024 - present

Contributor to the open-source cosmological hydrodynamics code `RAMSES` — 2024 - present

YouTube channel with cutting-edge visualizations — 2021 - present

Contributor to the open-source GRMHD code `H-AMR` — 2021 - 2023

Referee for MNRAS — 2021
Number of papers refereed: 2

OUTREACH

Tutor for the New Jersey Prison Teaching Initiative — 2024 - present

Teacher at Yale Splash — 2022

Peer Mentor for the Yale Society for Physics Students — 2022

Organizer of aerospace-themed educational events with New Haven public schools — 2021

HOBBIES

Jazz piano, triathlon