

Pradyumna Sadhu

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Education

► **University of California, Riverside**

Ph.D. in Astronomy

Advisor: Prof. Laura Sales

Ongoing

CGPA: 4/4

► **Indian Institute of Technology, Hyderabad**

Bachelors in Technology with Honors in Engineering Physics

Research Advisor: Prof. Shantanu Desai

2018 - 2022

CGPA: 9.5/10

Publications

1. **The Baryonic Faber Jackson Relation in Galaxy Groups**

Pradyumna Sadhu, Yong Tian 2024

MNRAS, Volume 528, Issue 4, March 2024, Pages 5612–5623. doi.org/10.1093/mnras/stae343

2. **A test of Radial Acceleration Relation for the Giles et al Chandra cluster sample**

Pradyumna Sadhu, Shantanu Desai 2021

Physics of the Dark Universe 33. [doi:10.1016/j.dark.2021.100854](https://doi.org/10.1016/j.dark.2021.100854)

3. **Yet another test of Radial Acceleration Relation for galaxy clusters**

Pradyumna Sadhu, Sajal Gupta, Sowmya Seeram, Shantanu Desai 2021

Physics of the Dark Universe 31. [doi:10.1016/j.dark.2020.100765](https://doi.org/10.1016/j.dark.2020.100765)

Minor contributions

1. **A test of galaxy cluster fundamental plane for the X-COP sample**

Pradyumna Sadhu, Shantanu Desai 2022

Journal of Cosmology and Astroparticle Physics 2022. [doi:10.1088/1475-7516/2022/01/058](https://doi.org/10.1088/1475-7516/2022/01/058)

2. **Characterization of the GRB prompt fundamental plane using Fermi-GBM data**

Pradyumna Sadhu, Shantanu Desai 2022

Journal of High Energy Astrophysics 35, 77–82. [doi:10.1016/j.jheap.2022.06.003](https://doi.org/10.1016/j.jheap.2022.06.003)

3. **SN 2023ixf in Messier 101: Photo-ionization of Dense, Close-in Circumstellar Material in a Nearby Type II Supernova***

Jacobson-Galán, W. V. et al. 2023

The Astrophysical Journal 954. [doi:10.3847/2041-8213/acf2ec](https://doi.org/10.3847/2041-8213/acf2ec)

*contributed to this work by being a part of the observation team while getting trained at Lick observatory.

Technical Skills

Python: Bayesian analysis, pandas, matplotlib, object oriented programming.

Others: C, ssh, Latex, Linux, Git and GitHub.

Astronomy observations: Attended Observational Astronomy Workshop at Lick Observatory, CA in May 2023.

Conference Presentations

I attended and presented at the following symposia during my undergrad, all online (due to Covid):

- **Aug 2021:** 10 minute talk & poster presentation at Innovation in Appalachia: Undergraduate Symposium, West Virginia University
- **Sept 2021:** Flash one minute talk & poster presentation at ESO Cluster Mass 2020
- **Sept 2021:** 15 minute talk at Presision 2021, Presidency University, Kolkata, India.

Awards

- Dean's Distinguished Fellowship
UC Riverside 2022
- Silver medal
for the highest CGPA in the graduating class at IIT Hyderabad 2022
- Research Excellence Award
IIT Hyderabad 2022
- Academic Excellence Award
IIT Hyderabad 2018, 2020

Teaching experience

- Serving as a Teaching Assistant for Physics labs (PHYS 02LA, 02LB and 02LC)
taken by pre-meds at UC Riverside 2023 - current
- Served as a TA for Special Relativity and Mathematical Physics courses
taken by sophomores at IIT-H 2021-2022
- Taught high school students Math and Physics online during Covid
as a part of Akshardaan and National Service Scheme, IIT-H 2022

Outreach and other activities

- Editor at CosmicVarta
a platform for promoting Indian astronomy research to the public 2023 - current
- Volunteer for several public telescope observations at UC Riverside 2023 - current
- Physics Content Developer at Embibe May 2020 - June 2020
- General Secretary at SPIC MACAY IIT-H subchapter
a voluntary movement to promote Indian Classical art forms among youth 2020-2021
- Served as a judge at the Riverside Unified Science and Engineering Fair Jan 2024