

Pranjal R. S.

pranjalrs@arizona.edu | pranjalrs.github.io
Steward Observatory, University of Arizona
Tucson, AZ 85719

EDUCATION

- **University of Arizona** 2019 - Current
PhD candidate in Astronomy
Advisor: Dr. Elisabeth Krause
Tucson, AZ
- **Indian Institute of Technology Bombay** 2015-2019
Bachelor of Technology in Engineering Physics (*with Honors*)
Mumbai, India

FELLOWSHIPS AND AWARDS

- **TAP Travel Award** 2024
Theoretical Astrophysics Program, University of Arizona
- **University of Arizona - CNRS PhD Fellowship** 2021-2024
University of Arizona
- **Newton-Bhabha Fund** Summer 2018
University of Glasgow
 - *Project title:* Using machine learning methods for burst gravitational wave detection
- **Summer Student Program** Summer 2017
Nicolaus Copernicus Astronomical Center, Warsaw
 - *Project title:* Studying quasi-periodic oscillations using GRMHD simulations

SCIENTIFIC PRESENTATIONS

- *Invited Talk:* IAP graduate student seminar, Paris, Nov 2022
- *Invited Talk:* IUCAA seminar, Pune, April 2022
- *Contributed Talk:* Cosmology on a Steep Rise, Sexten, Feb 2025
- *Contributed Talk:* Steward Science Symposium, Tucson, Nov 2024
- *Contributed Talk:* Roman PIT meeting, Pasadena, Oct 2024
- *Contributed Talk:* Understanding cosmological observations, Benasque, July 2023
- *Poster:* Statistical Challenges in 21st century cosmology, Chania, May 2024

PUBLICATIONS ([ADS](#))

First Author

1. **Pranjal R. S.**, Shivam Pandey, et al. (2025). [Testing halo models for constraining astrophysical feedback with multi-probe modeling: I. 3D Power spectra and mass fractions](#) *arXiv:2507.13317*
2. **Pranjal R. S.**, Elisabeth Krause, et al. (2024). [Impact of cosmology dependence of baryonic feedback in weak lensing](#) *arXiv:2410.21980, Accepted in JCAP*
3. **Pranjal R. S.**, Eric Huff, et al. (2025). [Kinematic Lensing Inference II: Cluster Lensing with \$\mathcal{O}\(1\)\$ Galaxies](#) *MNRAS*, 540, 2877 (2025)
4. **Pranjal R. S.**, Elisabeth Krause, et al. (2023). [Kinematic Lensing Inference I: Characterizing Shape Noise with Simulated Analyses](#) *MNRAS*, 524, 3324 (2023)
5. **Pranjal R. S.**, Dennis Zaritsky, et al. (2019). [Ultra-diffuse Galaxies at Ultraviolet Wavelengths](#) *The Astronomical Journal*, 157, 212 (2019)

Contributing Author

1. Kritti Sharma, Elisabeth Krause, Vikram Ravi, Robert Reischke, **Pranjal R. S.**, et al. (2024). [A hydrodynamical simulations-based model that connects the FRB DM–redshift relation to suppression of the matter power spectrum via feedback](#) *arXiv:2504.18745*
2. Emma Ayçoberry, **Pranjal R. S.**, et al. (2024). [Testing the thermal Sunyaev-Zel'dovich power spectrum of a halo model using hydrodynamical simulations](#) *arXiv:2409.11472, Submitted to Astronomy & Astrophysics*

3. Xiao Fang, Elisabeth Krause, Time Eifler, Simone Ferraro, Karim Benabed, **Pranjal R. S.**, et al. (2024). [Cosmology from weak lensing, galaxy clustering, CMB lensing, and tSZ - I. \$10 \times 2\$ pt modelling methodology](#) *MNRAS* 527, 9581 (2024)
4. Jennifer Kadowaki, Dennis Zaritsky, R. L. Donnerstein, **Pranjal R. S.**, et al. (2021). [On the Properties of Spectroscopically Confirmed Ultra-diffuse Galaxies across Environments](#) *The Astrophysical Journal* 923, 257 (2021)
5. V. Gayathri, Dixeena Lopez, **Pranjal R. S.**, et al. (2020). [Enhancing the sensitivity of transient gravitational wave searches with Gaussian mixture models](#) *Physical Review D* 102, 104023 (2020)

Co-author

1. Yu-Hsiu Huang, Elisabeth Krause, et al. (**Pranjal R. S.** 5 of 6) (2024). [Astrophysical systematics in kinematic lensing: Quantifying an intrinsic alignment analog](#) *Physical Review D* 110, 043509
2. Jiachuan Xu, Tim Eifler, et al. (**Pranjal R. S.** 7 of 8) (2024). [Kinematic Lensing with the Dark Energy Spectroscopic Instrument – Probing structure formation at very low redshift](#) *arXiv:2407.20867*, Submitted to *Physical Review D*
3. Jiachuan Xu, Tim Eifler, et al. (**Pranjal R. S.** 4 of 7) (2023). [Kinematic lensing with the Roman Space Telescope](#) *MNRAS* 519, 2535 (2023)