

**Anthony M Flores**  
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EDUCATION	<b>Stanford University</b> Major: Physics (PhD) GPA: 3.93 Expected Graduation: Spring 2025	Stanford, CA Sep 2019 – Present
	<b>Johns Hopkins University</b> Majors: Physics (B.S.), Applied Mathematics and Statistics Minor: Mathematics GPA: 3.96 Major GPA: 3.98 Graduated: May 2019	Baltimore, MD Aug 2015 – May 2019
RESEARCH EXPERIENCE	<b>Graduate Student Researcher</b> <i>Researcher, Astrophysics and Cosmology</i> X-ray imaging and spectroscopic analyses of the Intracluster Medium within galaxy clusters to determine dynamic, thermodynamic, and chemical properties and evolutionary history	Stanford University Jan 2020 – Present
	<b>Graduate Student Research Project</b> <i>Rotation Project, Cosmology</i> Calibration of photometric redshifts using the DESI spectroscopic mock sample. Applicable for future analysis in DES/LSST	Stanford University Sep 2019 – Jan 2020
	<b>Undergraduate Student Research Project</b> <i>Research Internship, Astroparticle Physics</i> Developed neural network reconstruction techniques for IceCube Neutrino events	TU Dortmund May 2018 – August 2018
	<b>Undergraduate Student Research Project</b> <i>Research Project, Extragalactic Astronomy</i> Identification of weak or obscure AGN, measured spatially-resolved galactic kinematics using optical IFU spectroscopy from SDSS-IV MaNGA	Johns Hopkins University 2016 – 2018
WORK EXPERIENCE	<b>Stanford University</b> <i>Teaching Assistant, PHYS 100/301 (Obs. Astro. Lab)</i> <i>Teaching Assistant, PHYS 41 (Mechanics)</i> <i>Grader, PHYS 160/260 (Intro to Stel. and Gal. Astrophysics)</i>	Stanford, CA Spring 2022, 2023, 2024 Spring 2021 Winter 2021
	<b>Johns Hopkins University</b> <i>Learning Assistant, Classical Mechanics I</i> <i>Teaching Assistant, Introduction to Statistics</i> <i>Teaching Assistant, Lin. Alg./Diff. Eq.</i> <i>Learning Assistant, General Physics Laboratory I</i>	Baltimore, MD Fall 2018 Spring 2018 Spring 2017 Fall 2016
	<b>Summer Science Program</b> <i>Teaching Assistant (Student in 2014)</i> Teaching assistant at intensive High School research program to calculate orbital characteristics of near-Earth asteroids	Socorro, NM Summer 2019
AWARDS & HONORS	<b>NASA FINESST Award</b> <i>Future Investigator in NASA Earth and Space Sciences and Technology - The Rise of Giants: Tracing the Evolution of Galaxy Clusters from Their Cosmic Origins</i>	July 2023
	<b>Paul H. Kirkpatrick Teaching Award</b>	Spring 2022

Stanford University Dept. of Physics

**Honorable Mention, NSF GRFP**  
*National Science Foundation*

April 2019

**Sigma Pi Sigma National Honor Society**

Spring 2018 – Present

*Nominated by the Johns Hopkins University Dept. of Physics and Astronomy*

**DAAD RISE Scholar**

Summer 2018

*Awarded by the German Academic Exchange Service (DAAD)*

Stipend and travel subsidy to conduct Astrophysics research at TU Dortmund

OUTREACH &  
COMMUNITY  
ENGAGEMENT

**SSP Connect Mentoring Program**

2020 – Present

*Committee Member, Volunteer Mentor*

Online High School mentorship program focusing on relationship building, professional networking, and application assistance, particularly for underrepresented and first-generation students. Design and lead mentor/mentee development workshops, conduct one-on-one and group mentoring.

**KIPAC Stargazing Committee**

2022-Present

Organize and lead stargazing and outreach events at the Stanford Student Observatory.

Develop programming for scientists, members of the public, and college/pre-college students to increase engagement in Astronomy and STEM. Train and certify new observers.

**Stanford PIE Program**

2020-2022

*Student Mentor, Stanford Physics, Identity, and Equity Program*

Engagement and mentoring program designed to mitigate barriers for underrepresented students looking to pursue doctoral degrees in Physics. Participated in panels and workshops for students and conducted one-on-one mentoring.

**MASS Student Leader**

2021-2023

*Meeting of Astrophysics Students at Stanford*

Student-initiated Astrophysics journal club designed exclusively for pre-PhD students.

Specific activities include paper discussions, workshops on developing professional or scientific skills, mentoring undergraduate Summer researchers, and engaging with students across the natural sciences (supported by Stanford interdisciplinary student grants)

NATIONAL  
CLUBS &  
SOCIETIES

**Treasurer, Vice President, President, JHU SPS**

2016 – 2019

*Society of Physics Students, Johns Hopkins University Chapter*

**Founding Member, Treasurer, JHU SEDS**

2018 – 2019

*Students for the Exploration and Development of Space, Johns Hopkins University Chapter*

### Publications

1. **Flores, A. M.**, et al., The History of Metal Enrichment Traced by X-ray Observations of High-Redshift Galaxy Clusters. Nov 2021. *Mon. Notices Royal Astron. Soc.*, 507, 5195.
2. Russell, H. R, **et. al.**, The Evolution of Galaxies and Clusters at High Spatial Resolution with AXIS. July 2024. *Universe*, 10, 273.
3. Wylezalek, D., **Flores, A. M.**, Zakamska, N. L., Greene, J. E., and Riffel, R. A., Ionized Gas Outflow Signatures in SDSS-IV MaNGA Active Galactic Nuclei. Mar 2020. *Mon. Notices Royal Astron. Soc.*, 492, 4680.

4. Klein, M., **et al.**, SPT-SZ MCMF: An extension of the SPT-SZ catalog over the DES region. July 2024. *Mon. Notices Royal Astron. Soc.*, 531, 3973
5. Bocquet, S., **et al.**, SPT Clusters with DES and HST Weak Lensing. I. Cluster Lensing and Bayesian Population Modeling of Multi-Wavelength Cluster Datasets. May 2024. *Phys Rev D*. Accepted. arXiv:2310.12213
6. Bocquet, S., **et al.**, SPT Clusters with DES and HST Weak Lensing. II. Cosmological Constraints from the Abundance of Massive Halos. May 2024. *Phys Rev D*. Accepted. arXiv:2401.02075

### **Proposals**

1. **Flores, A.**, et al., Completing the Observation of High Mass, High Redshift SZ Survey Clusters with Chandra and XMM-Newton. Sep 2024. Chandra X-ray Observatory Cycle 24. ID #26800300
2. **Flores, A.**, et al., Chandra and XMM-Newton Observations of the Most Extreme  $z > 1.25$  ACTPol Survey Clusters. Sep 2022. Chandra X-ray Observatory Cycle 24. ID #24800278
3. McDonald, M., **et al.**, SPT-CLJ2223-5015: RUNAWAY COOLING IN THE ABSENCE OF FEEDBACK?. Sep 2024. Chandra X-ray Observatory Cycle 24. ID #26800314
4. Mantz, A., **et al.**, Completing Observations of the Highest-Redshift Planck SZ Clusters. Sep 2022. Chandra X-ray Observatory Cycle 24. ID # 24800082
5. Somboonpanyakul, T., **et al.**, Deep X-ray Observations of a new, highly luminous cool-core galaxy cluster at  $z$  0.6. Sep 2022. Chandra X-ray Observatory Cycle 24. ID # 24800293

### **Presentations and Posters**

1. **Flores, A. M.**, et al., (Apr 2024) Clusters over Cosmic Time: ICM Evolution probed by Joint X-ray Observations. Oral presentation at the 21<sup>st</sup> Meeting of the High Energy Astrophysics Division, Horseshoe Bay, TX
2. **Flores, A. M.**, et al., (Mar 2023) A Tale of Two Telescopes: Joint X-ray Analyses of High Redshift Galaxy Clusters. Poster presented at the 20<sup>th</sup> Meeting of the High Energy Astrophysics Division, Waikoloa, HI
3. **Flores, A. M.**, Wylezalek, D., and Zakamska, N. L. (Jan 2018). *The Prevalence of Ionized Gas Outflow Signatures in SDSS-IV MaNGA Active Galactic Nuclei*. Poster presented at the 231<sup>st</sup> meeting of the American Astronomical Society, Washington D.C.