Amanda Stricklan, M.S.

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Education

(Expected) 2025 **Ph.D., New Mexico State University,** Astronomy
Dissertation (working title): *A new explanation for coronal rain formation*
Advisor: James McAteer

2019 **M.S., University of Georgia,** Physics
Thesis: *Isolated Molecular Clumps at the CO-boundary of a Diffuse Molecular Cloud.*
Advisor: Loris Magnani

2017 **B.S., University of Georgia,** Phyiscs and Astronomy
Minor: *Archaeological Anthropology*.

Employment History

2024-present **Los Alamos National Laboratory (LANL), Graduate Research Assistant**
Develop magnetohydrodynamic (MHD) models of coronal loops and thermal instability using Athena++, also maintaining and developing the MHD capabilities of lab hydro codes.

2020-2023 **New Mexico State University, Graduate Research Assistant**
Combining space and ground-based observations to study fine scale solar structures and trace them through the solar atmosphere. This research utilizes image alignment and processing of large data sets, spectral and polarimetric analysis, and comparing results with numerical simulations.

2019-2020 **Los Alamos National Laboratory, Post-Master's Graduate Assistant**
Used high energy particle data from GPS satellites for tracing particle trajectories to study their reaction to Earth's magnetosphere and simulate geomagnetic storms, used machine learning techniques to create a geomagnetic cutoff model.

2017-2019 **University of Georgia, Graduate Fellow**
Ran introduction to Newtonian Mechanics/Electrodynamics/Stellar and Galactic Astronomy Labs – created labs, gave lectures, created and graded final exams, provided mentoring/tutoring outside of lab hours, among highest rated lab instructors in the department, Head Teaching Assistant for astronomy labs 2018-2019

Research Publications and Conferences

Publications

1. **A. Stricklan**, T. Waters, and J. Klimchuk, "On the stability analysis of cooling functions," *arXiv e-prints*, arXiv:2505.13178, arXiv:2505.13178, May 2025. DOI: 10.48550/arXiv.2505.13178. arXiv: 2505.13178 [astro-ph.SR].

2. T. Waters and **A. Stricklan**, "Catastrophic Cooling Instability in Optically Thin Plasmas," *Solar Physics*, vol. 300, no. 1, 5, p. 5, Jan. 2025. DOI: 10.1007/s11207-024-02417-5.

3. M. Carver, S. K. Morley, and **A. Stricklan**, "Gps constellation energetic particle measurements," in *2020 IEEE Aerospace Conference*, 2020, pp. 1–10. DOI: 10.1109/AERO47225.2020.9172652.

4. **A. Stricklan**, "Isolated molecular clumps at the co-boundary of a diffuse molecular cloud," M.S. thesis, University of Georgia, 2019.

Non-Peer Reviewed

1. **A. Stricklan**, *Investigating dynamics of coronal hole jets*, Special Research Programs, New Mexico State University, student paper, 2021.
2. **A. Stricklan**, S. Hlubik, R. Kinyanjui, D. Braun, G. Oppenheim, and O. Ben Brahim, *The search for early fire: A phytolithic study of site fxjj 20 ab*, Special Research Programs, Koobi Fora Field School, student paper, 2021.

Conferences

1. **A. Stricklan**, T. Waters, and J. Klimchuk, "A new explanation for coronal rain formation," 246th Meeting of the American Astronomical Society, 2025.
2. **A. Stricklan** and T. Waters, "On the analysis of optically thin cooling functions," 11th Coronal Loops Workshop, 2024.
3. **A. Stricklan**, S. Morley, and M. Carver, "Using gps particle measurements to model geomagnetic cutoff," American Meteorological Society Conference, poster/oral presentation, 2021.

Technical Skills

Programming Languages	Python, Fortran, C/C++, IDL, Latex, HTML
Developer Tools	git, VS Code, Bootstrap
Visualization Software	matplotlib, Paraview, Bokeh
Scientific Codes	astropy, sunpy, spacepy, plasmapy, SolarSoft, Athena++, HAZEL, MESA
Hardware/Software	HPC clusters, Windows, iOS, macOS, and Linux, MS Office Suite

Miscellaneous Experience

Awards and Achievements

2023-2024	New Mexico Space Grant Consortium Graduate Fellowship
2023	Los Alamos Vela Graduate Fellowship
2020-2022	New Mexico State University Webber Scholarship

Workshops

2024	11th Coronal Loops Workshop, Tenerife, Canary Islands, Spain
2023	Los Alamos National Laboratory Space Weather Summer School, competitive admission
2022	Inaugural Python in Heliophysics Summer School (PyHC), participant
	Heliophysics Summer School, participant, competitive admission

Outreach

2022-2023	Letters to a pre-Scientist correspondent
	Mission2Mars at the Las Cruces Museum of Nature and Science
2022	Sun Space Art at the Alamogordo Public Library
	Las Cruces Museum of Nature and Science Space Festival