

Amanda Stricklan, M.S.




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Education



- (Expected) 2025  **Ph.D., New Mexico State University**, Astronomy
Dissertation (working title): *Mass and energy transfer in the solar atmosphere*
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**, Physics 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 the LANL FLAG code.
- 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 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.
- 2 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.
- 3 **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 phytolith study of site fxjj 20 ab*, Special Research Programs, Koobi Fora Field School, student paper, 2021.

Conferences

- 1 **A. Stricklan** and T. Waters, "On the analysis of optically thin cooling functions," 11th Coronal Loops Workshop, 2024.
- 2 **A. Stricklan**, "Coronal hole jets: A look at these beasts and what feeds them," American Astronomical Society Meeting, poster session, 2023.
- 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
- 2021-2022 📖 Website Manager, Astronomy Graduate Student Organization, New Mexico State University