Ayla Weitz

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Research Interests

My underlying passion lies in working with data and developing software to tackle interesting problems. Currently, I am using these skills to better understand the structure of the magnetic canopy in the chromosphere of the Sun.

Education

University of Colorado, Boulder 2023 –
Astrophysical and Planetary Sciences Ph.D. program
M.Sc. awarded 2025

University of California, Berkeley 2018 – 2022
B.A. in Astrophysics

Research Experience

Research Associate 2022 – 2023
Lockheed Martin Solar and Astrophysics Laboratory / Bay Area Environmental Research Institute *Palo Alto, CA*

Publications

"The Structure of Chromospheric Canopy Fields." **Weitz, A.** and Reardon, K. P. *(In prep)*

"Extreme Ultraviolet Microflashes in the Solar Magnetic Network." Panesar, N. P., Tiwari, S. K., Jin, M., **Weitz, A.**, Moore, R. L., V. Aparna, & Sterling, A. C. *(Submitted to ApJ)*

"Bright Dots and Plume Formation in Sunspot Penumbra." **Weitz, A.**, Tiwari, S. K., Cauzzi, G., Reardon, K. P., & De Pontieu, B. 2025, *ApJ* 988 133

Honors

NSF GRFP Honorable Mention (2025)
George Ellery Hale Graduate Fellowship (2023)
First place in the UAH/NASA MSFC REU Poster Competition (2021)
URAP Summer Award (2020)

Accepted Proposals

DKIST Observing Cycle 3 (2024) – *Revisiting the force-free height of the photospheric magnetic field*

Selected Talks

SDO 2025 Science Workshop (Boulder, CO): *Combining Data over Satellites Mini-Workshop* (alignment tutorial)
AGU 2025 (Washington D.C.): *Plume Formation in Sunspot Penumbra*

Selected Posters

SHINE Workshop 2025 (Charelston, SC): *How are Chromospheric Canopy Fields Structured?*
11th Coronal Loops Workshop (Tenerife, Spain): *Penumbral Fine-Scale Bright Dots as a Precursor to Coronal Plumes?*
Hinode-16/IRIS-13 Meeting (Niigata, Japan): *Penumbral Fine-Scale Bright Dots as a Precursor to Coronal Plumes?*
COSPAR 2022 (Athens, Greece): *Charcterizing the Time Evolution of Free-Energy Proxies to Forecast West Limb Flares*
BLUR Summer 2022 Poster Session (online): *Measuring the Hubble Constant with Twin Supernovae*

Workshops attended

Daniel K. Inouye Solar Telescope Inversion Workshop 2025 (Boulder, CO)
Big Bear Solar Observatory Summer School 2024 (Big Bear Lake, CA)
Daniel K. Inouye Solar Telescope Primer School 2024 (Boulder, CO)

Teaching Experience

Instructor:

- UC Berkeley – *ASTR 98: Introduction to Computational Methods for Astronomers*; developed curriculum geared towards giving physics/astrophysics undergraduates an introduction to Python and helping them develop skills necessary for research; see pythondecal.github.io for more details (S21, F21, S22)

Teaching Assistant:

- UC Berkeley – *ASTR C10: Introduction to Astronomy*; leading sections and tutoring; Prof. Alex Filippenko (S22)
- UC Berkeley – *ASTR C12: Introduction to the Planets*; graded problem sets and exams; Prof. Courtney Dressing and Prof. Raymond Jeanloz (S21)

Outreach and Service

Mentor for the UAH/NASA MSFC Solar and Heliospheric Physics REU Program

- Ellis Ernsberger: *Solar Orbiter/EUI and IRIS Observations of Fine-Scale Brightenings* (2025)

Coordinated bilingual (Spanish–English) public astronomy outreach at Festival del Sol (2025)
Telescope operator for the NSF eclipse livestream (2024)
Member of CU Boulder Astrophysical and Planetary Sciences colloquium committee (2023)
Contributor to SunPy (sunkit-image's co-alignment technique)