

Daniel Henningsen

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Education

Arizona State University Tempe, AZ B.S. Astrophysics 2023 magna cum laude

Arizona State University Tempe, AZ B.S. Physics 2023 magna cum laude

Arizona State University Tempe, AZ Minor Sustainability 2023 magna cum laude

Professional Experience

SKYSURF Research Assistant, 2021-2023

- Created a model for calculating earthshine in HST's Wide-Field Camera 3 IR filter
- Assisted in ensuring images used in sky brightness calculations did not have anomalies that would affect the calculated value
- Created algorithm that generates plots of earth-shine models for individual HST exposures
- Ensured pilot lists for AWS runs did not have missing or duplicated exposure entries

NASA Space Grant Intern, 2021-2022

- Ran mass Astrodrizzle on SKYSURF database, using algorithm created by collaborator on AWS cloud
- Leveraged AWS instances for testing different AWS configurations to minimize cost per image to process

In-Room Dining Server, The Phoenician Resort 2014-present

Technical Skills

Python | Pandas | Matplotlib | Data Modeling | LaTeX | Google Workplace Suite | Microsoft Office Suite | Java | Amazon Web Services | R | Linux | Windows OS | macOS | Shell Scripting | Command Line

Publications

- Daniel Henningsen, 2023, "Modeling Earth-shine Bias in SKYSURF Database". Senior Thesis, Arizona State University.
- O'Brien et al. (including Daniel Henningsen), 2022, "SKYSURF-4: Panchromatic Hubble Space Telescope All-Sky Surface-brightness Measurement Methods and Results". In: AJ 165.6, 237 (June 2023), p. 237. doi: 10.3847/1538-3881/accee.
- Carleton et al. (including Daniel Henningsen), 2022, "SKYSURF: Constraints on Zodiacial Light and Extragalactic Background Light through Panchromatic HST All-Sky SurfaceBrightness Measurements: II. First Limits on Diffuse Light at 1.25, 1.4, and 1.6 microns" In: The Astronomical Journal 164.5 (Oct. 2022), p. 170. doi: 10.3847/1538-3881/ac8d02.
- Windhorst et al. (including Daniel Henningsen), 2022, "SKYSURF: Constraints on Zodiacial Light and Extragalactic Background Light through Panchromatic HST All-Sky SurfaceBrightness Measurements: I. Survey Overview and Methods" In: The Astronomical Journal 164.4 (Sept. 2022), p. 141. doi: 10.3847/1538-3881/ac82af.
- Carter, Henningsen et al., under preparation (TBA), "SKYSURF: Object Counts".

Volunteering & Outreach

- Windhorst Research Group Outreach, 2022
- NASA Space Grant Outreach, 2021-2022
- Private Tutor for Math and Sciences, 2019-2020
- NASA Community College Aerospace Scholar (NCAS), 2020
- Mesa Community College Astronomy Outreach Volunteer, 2020