Lauren N. **Aldoroty**

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Research Interests

Type Ia Supernovae • Cosmology • Dust effects vs. SN intrinsic color • SN Ia diversity • SN Ia progenitor systems

Skills

Programming	Bash, Git, HTML, LaTeX, Object Oriented Programming, Python, R, Wolfram Mathematica
Specialized Skills	IRAF, Slurm, SNAIL, sncosmo, SNooPy
Software	Adobe Photoshop, Autodesk Fusion 360, Krita, Microsoft Office, Pro/ENGINEER, PTC Creo Parametric, Zoom
Laboratory	3D printing, acid bench, machine shop, optical bench, soldering

Professional Experience

Postdoctoral Research Associate — *Durham, NC*

Duke University — *Sept. 2023 - Present*

Education

2023	**Doctor of Philosophy in Astronomy,** Texas A&M University	*College Station, TX*
2021	**Master of Science in Astronomy,** Texas A&M University	*College Station, TX*
2017	**Bachelor of Science in Physics,** Johns Hopkins University	*Baltimore, MD*

Publications

Antonella Palmese, et al. including **Lauren Aldoroty**, et al., "DESIRT: DECam Survey of Intermediate Redshift Transients", *in prep*.

Lauren N. Aldoroty, Lifan Wang, Jiawen Yang, and the SNfactory collaboration, "The 4000Å blended Si/Ni spectral feature and Type Ia Supernova light curve width", *in prep*, 2023.

Lauren N. Aldoroty, Lifan Wang, Peter Hoeflich, Jiawen Yang, and the SNfactory collaboration, "Bump Morphology of the CMAGIC Diagram", The Astrophysical Journal 948 10, 2023.

Melissa L. Graham, et al. including **Lauren N. Aldoroty**, "Deep Drilling in the Time Domain with DECam: Survey Characterization", Monthly Notices of the Royal Astronomical Society 519 3 2023.

Jiawen Yang, Lifan Wang, Nicholas Suntzeff, Lei Hu, **Lauren Aldoroty**, Peter Brown, Kevin Krisciunas, et al., "Using 1991T/1999aa-like Type Ia Supernovae as Standardizable Candles," The Astrophysical Journal 938 83, 2022.

Luke M. Schmidt, **Lauren N. Aldoroty**, Yasin Alam, Leonardo Bush, D. L. DePoy, Matthew Holden, Doyeon Kim, J. L. Marshall, and Mason Perkey "Characterization of the reflectivity of various black and white materials," Proc. SPIE 11451, Advances in Optical and Mechanical Technologies for Telescopes and Instrumentation IV, 114512S (13 December 2020)

Mary Elizabeth Kaiser, Matthew J. Morris, **Lauren N. Aldoroty**, Russell Pelton, Robert Kurucz, et al., "ACCESS: integration and pre-flight performance," Proc. SPIE 10398, UV/Optical/IR Space Telescopes and Instruments: Innovative Technologies and Concepts VIII, 1039815 (5 September 2017)

Selected Presentations

243rd Meeting of the American Astronomical Society — *New Orleans, LA*

Talk, Characterizing photometry from simulated High Latitude Time-Doman Survey *Roman* images — *January 2024*

241st Meeting of the American Astronomical Society — *Seattle, WA*

Talk, CMAGIC Diagram Morphology — *January 2023*

Rubin Project and Community Workshop 2022 — *Tuscon, AZ*

Poster, Using Synthetic Photometry to Predict the SN Ia CMAGIC Diagrams and Cosmological Results of LSST — *August 2022*

Proposals

LSSTC Enabling Science Call for Proposals — *Tuscon, AZ*

Using Synthetic Photometry to Predict the CMAGIC Diagrams and Cosmological Results of LSST — *June 2022*

Teaching

Primary Instructor, ASTR102: Observational Astronomy — *College Station, TX*

Texas A&M University — *Jan. 2022 - May 2022*

Teaching Assistant, 6 undergraduate Physics & Astronomy courses — *College Station, TX*

Texas A&M University — *Aug. 2018 - Dec. 2021*

Freelance STEM Tutor & Homeschool Teacher — *New York, NY*

Self-Employed — *Jan. 2018 - July 2018*

Interpreter — *New York, NY*

National Museum of Mathematics — *July 2017 - March 2018*

Software

SNlcPy — *Python*

Lauren Aldoroty, Jiawen Yang, Shiyuan He — *2021*

- Package enables use of the fPCA results from He et al. 2018 in order to fit light curves to Type Ia Supernovae.

LaurensTools — *Python*

Lauren Aldoroty — *2021 - Present*

- Ongoing project to incorporate frequently-used tools into one package in order to streamline my own research

Observing Experience

DECam Surveys of Intermediate Redshift Transients (DESIRT) — *DECam, CTIO (Remote)*

June 2021 - Present

Honors & Awards

2022	**NASA/Texas Space Grant Consortium Graduate Fellowship,** Texas Space Grant Consortium	*College Station, TX*
2021	**NASA/Texas Space Grant Consortium Graduate Fellowship,** Texas Space Grant Consortium	*College Station, TX*
2018	**Graduate Diversity Excellence Fellowship,** Texas A&M University	*College Station, TX*
2017	**Bachelor's Degree with General Academic Honors & Honors in Physics,** Johns Hopkins University	*Baltimore, MD*

Outreach

Letters to a Pre-Scientist — *Remote*

Letter Writer — *Nov. 2021 - Present*

TAMU Physics & Astronomy *Mentoring & Advising Graduates in an Inclusive Community* — *College Station, TX*

Mentor — *Aug. 2022 - May 2023*

TAMU Physics & Astronomy *Gateway to Grad School Program* — *College Station, TX*

Founding member — *Jan. 2022 - May 2023*

Texas A&M University *Society for the Underrepresented in Physics and Astronomy* — *College Station, TX*

Local Organizer for the APS Conference for Undergraduate Women in Physics 2020 — *Sept 2018 - Jan 2020*