

CURRICULUM VITAE

LAUREL H. WEISS

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EDUCATION

Ph.D. in Astronomy August 2021 – present
University of Texas at Austin, Austin, TX

M.A. in Astronomy August 2021 – May 2024
University of Texas at Austin, Austin, TX

B.S. in Astronomy & Astrophysics August 2017 – May 2021
Pennsylvania State University, University Park, PA

B.S. in Physics August 2017 – May 2021
– **Minor in Mathematics**
Pennsylvania State University, University Park, PA

RESEARCH EXPERIENCE

University of Texas at Austin – Austin, TX July 2021 – present
Research Assistant with Dr. Karl Gebhardt

- Perform stacking analysis of hundreds of thousands of LAE spectra in HETDEX.
- Develop a unique physical model explaining observed Ly α absorption. Test this model for instrumental/algorithmic errors and compare to theory.
- Assist new students with accessing and using HETDEX data and software.

Cosmic Dawn Center – Copenhagen, Denmark June 2019 – January 2020
Research Assistant with Dr. Thomas Greve

- Responsible for 850 micron SCUBA-2 data reduction and analysis of HzRG fields
- Built framework for source extracting, completeness correcting, flux deboosting, and over-density analysis of HzRG environments
- Part of the JCMT proposal RAGERS (approved as of 2020)

Pennsylvania State University – University Park, PA January 2018 – June 2021
Research Assistant with Dr. Robin Ciardullo

- Built framework for stacking spectra and isolating/measuring Ly α from HETDEX data
- Investigation of Ly α escape as a function of galactic properties
- Testing and determination of fundamental/confounding variables governing Ly α escape.

PUBLICATIONS

First Author Papers

“The HETDEX Survey: The Ly α Escape Fraction from 3D-HST Galaxies at $z \sim 2$ ”; **Laurel H. Weiss**, William P. Bowman, Robin Ciardullo, Gregory R. Zeimann, Caryl Gronwall, Erin Mentuch Cooper, Karl Gebhardt, Gary J. Hill, Guillermo A. Blanc, Daniel J. Farrow, Steven L. Finkelstein, Eric Gawiser, Steven Janowiecki, Shardha Jogee, Donald P. Schneider, Lutz Wisotzki; Accepted by ApJ.

“Absorption Troughs of Ly α Emitters in HETDEX”; **Laurel H. Weiss**, Dustin Davis, Karl Gebhardt, Simon Gazagnes, Mahan Mirza Khanlari, Erin Mentuch Cooper, John Chisholm, Danielle Berg, William P. Bowman, Chris Byrohl, Robin Ciardullo, Maximilian Fabricius, Daniel Farrow, Caryl Gronwall, Gary J. Hill, Lindsay R. House, Donghui Jeong, Hasti Khoraminezhad, Wolfram Kollatschny, Eiichiro Komatsu, Maja Lujan Niemeyer, Shun Saito, Donald P. Schneider, Gregory R. Zeimann; Accepted by ApJ.

“Using Lyman Alpha Absorption to Measure the Intensity and Variability of $z \sim 2.5$ Ultraviolet Background Light”; **Laurel H. Weiss**, Karl Gebhardt, Dustin Davis, Erin Mentuch Cooper, Maja Lujan Niemeyer, Mahdi Qezlou, Mahan Mirza Khanlari, Robin Ciardullo, Simon Gazagnes, Caryl Gronwall, Daniel Farrow, and Donald P. Schneider; Accepted by ApJ.

Co-authored Papers

Galaxies of the $z \sim 2$ Universe. I. Grism-selected Rest-frame Optical Emission-line Galaxies; William P. Bowman, Gregory R. Zeimann, Robin Ciardullo, Caryl Gronwall, Donald P. Schneider, Adam P. McCarron, **Laurel H. Weiss**, Guang Yang, Alex Hagen; Accepted by ApJ.

MCSED: A Flexible Spectral Energy Distribution Fitting Code and Its Application to $z \sim 2$ Emission-line Galaxies; William P. Bowman, Gregory R. Zeimann, Gautam Nagaraj, Robin Ciardullo, Caryl Gronwall, Adam P. McCarron, **Laurel H. Weiss**, Mallory Molina, Alexander Belles, Donald P. Schneider; Accepted by ApJ.

The $z \sim 2$ [OIII] Luminosity Function of Grism-selected Emission-line Galaxies; William P. Bowman, Robin Ciardullo, Gregory R. Zeimann, Caryl Gronwall, Donghui Jeong, Gautam Nagaraj, Cullen Abelson, **Laurel H. Weiss**, Mallory Molina, Donald P. Schneider; Accepted by ApJ.

HETDEX Public Source Catalog 1: 220K Sources Including Over 50K Lyman Alpha Emitters from an Untargeted Wide-area Spectroscopic Survey; Erin Mentuch Cooper, Karl Gebhardt, Dustin Davis, Daniel J. Farrow, Chenxu Liu, Gregory Zeimann, Robin Ciardullo, John J. Feldmeier, Niv Drory, Donghui Jeong, Barbara Benda, William P. Bowman, Michael Boylan-Kolchin, Oscar A. Chavez Ortiz, Maya H. Debski, Mona Dentler, Maximilian Fabricius, Rameen Farooq, Steven L. Finkelstein, Eric Gawiser, Caryl Gronwall, Gary J. Hill, Ulrich Hopp, Lindsay R. House, Steven Janowiecki, Hasti Khoraminezhad, Wolfram Kollatschny, Eiichiro Komatsu, Martin Landriau, Maja

Lujan Niemeyer, Hanshin Lee, Phillip MacQueen, Ken Mawatari, Brianna McKay, Masami Ouchi, Jennifer Poppe, Shun Saito, Donald P. Schneider, Jan Snigula, Benjamin P. Thomas, Sarah Tuttle, Tanya Urrutia, **Laurel H. Weiss**, Lutz Wisotzki, Yechi Zhang, The HETDEX collaboration; Accepted by ApJ.

HETDEX Public Source Catalog 1—Stacking 50,000 Lyman Alpha Emitters; Dustin Davis, Karl Gebhardt, Erin Mentuch Cooper, William P. Bowman, Barbara Garcia Castanheira, John Chisholm, Robin Ciardullo, Maximilian Fabricius, Daniel J. Farrow, Steven L. Finkelstein, Caryl Gronwall, Eric Gawiser, Gary J. Hill, Ulrich Hopp, Lindsay R. House, Donghui Jeong, Wolfram Kollatschny, Eiichiro Komatsu, Chenxu Liu, Maja Lujan Niemeyer, Alberto Saldana-Lopez, Shun Saito, Donald P. Schneider, Jan Snigula, Sarah Tuttle, **Laurel H. Weiss**, Lutz Wisotzki, Gregory Zeimann; Accepted by ApJ.

Probing Neutral Hydrogen in the Circumgalactic Medium of Lyman Alpha Emitters in HETDEX; Mahan Mirza Khanlari, Karl Gebhardt, **Laurel H. Weiss**, Dustin Davis, Erin Mentuch Cooper, Maja Lujan Niemeyer, Robin Ciardullo, Donald P. Schneider, Mahdi Qezlou, Chenxu Liu, Daniel Farrow, Gary J. Hill, Gregory R. Zeimann, and Wolfram Kollatschn; Accepted by ApJ.

HONORS AND AWARDS

Sheryl O'Briant Fellowship in Astronomy	2025
Beatrice M. Tinsley Endowed Graduate Fellowship	2024
Board of Visitors Second Year Defense Award	2023
John and Elizabeth Holmes Teas Scholarship	2020
Phi Beta Kappa	2020
Sigma Pi Sigma	2020
Bert Elsback Fellowship	2019
Schreyer Honors College	2018
Braddock Scholarship	2017
Millennium Scholars Program	2017

SCIENTIFIC TALKS

Research Presentations

<i>"Serendipity in Science: Lyα Absorbers in HETDEX"</i> , McDonald Observatory Board of Visitors Meeting	July 2025
<i>"Using Lyα Absorption to Measure the UVB"</i> , HET Board Meeting	December 2024
<i>Absorption Troughs of Lyα Emitters in HETDEX</i> , HETDEX Meeting	May 2024
<i>The SCUBA-2/HzRG Project</i> , Cosmic Dawn Center	August 2019
<i>Emission Line Galaxies at $z \sim 2$ from 3D-HST</i> , Penn State Board of Visitors	May 2019

Contributed Conference Posters

<i>Lyα Absorption in HETDEX LAEs</i> . Presented at CLAW, Kochel, Germany	October 2024
<i>The SCUBA-2/HzRG Project</i> . Presented at Winter AAS, Honolulu, Hawaii	January 2020

OBSERVING PROGRAMS (PI)

Hobby Eberly Telescope, UT25-3-012

Properties of Lya around Galaxies and their Underlying Environments (PLAGUE) 51 hours

TEACHING EXPERIENCE

Assistant Instructor , ASTRO 301 Intro to Astronomy	Spring 2025
Head Teaching Assistant , ASTRO 301 Intro to Astronomy	Spring 2024
Teaching Assistant , ASTRO 319R Research Methods	Spring 2023
Teaching Assistant , ASTRO 309N Lives and Deaths of Stars	Spring 2022
Learning Assistant , PHYS 211M Mechanics (for Majors)	Fall 2020
Learning Assistant , PHYS 419 Theoretical Mechanics	Fall 2019

OUTREACH

Astro on Tap Volunteer, Austin TX	2023 – present
AstroNight Volunteer, Penn State	October 2018, 2019
Astrofest Volunteer, Penn State	July 2018
Discovery Space Volunteer	Fall 2017, Spring 2018
Science LionPride Member	Fall 2017 - May 2021
– <i>THON Fundraising Chair</i>	

LEADERSHIP

Secretary, Astronomy Equity and Inclusion Group	2024
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