

JAKOB M. HELTON

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Department of Astronomy and Astrophysics, The Pennsylvania State University

SCHOLARLY IDENTITY

Research Interests – galaxy formation and evolution; high-redshift galaxies and galaxy clusters; the large-scale structure of the Universe; observational extragalactic astronomy.

Professional Expertise – infrared imaging and spectroscopy with the James Webb Space Telescope (JWST), which includes designing and optimizing observing strategies, developing data reduction pipelines, and implementing analysis techniques.

Collaborations – one of the key members of two of JWST’s Instrument Science Teams (the Mid-Infrared Instrument [MIRI] and the Near Infrared Camera [NIRCam]); key member of the JWST Advanced Deep Extragalactic Survey (JADES) as the working group lead for grism science, including the large-scale environment.

EMPLOYMENT

The Pennsylvania State University

August 2025 - Present

Position – Evolving Universe Postdoctoral Fellow

[Mentor – Joel Leja]

EDUCATION

The University of Arizona

August 2021 - July 2025

Degree – M.S. and Ph.D. in Astronomy and Astrophysics

Thesis – [*At the Break of Cosmic Dawn: Identifying and Understanding the Most Distant Galaxies and Galaxy Clusters with JWST*](#) [Advisors – Marcia Rieke and Kevin Hainline]

Princeton University

September 2017 - May 2021

Degree – A.B. in Astrophysical Sciences with High Honors

Thesis – [*The Nebular Properties of Star-Forming Galaxies at Intermediate Redshifts from the Large Early Galaxy Census \(LEGA-C\)*](#) [Advisors – Allison Strom and Jenny Greene]

PUBLICATIONS

[Link to SciX Public Library](#)

Last Updated: 12 May 2026

Summary of All Publications

number: 88; citations: 8538; h-index: 43

Summary of Refereed Publications

number: 53; citations: 5950; h-index: 37

First-Author

- [7] **J. M. Helton**, S. Alberts, G. H. Rieke, et al., *Ionizing Photon Production Efficiencies and Chemical Abundances at Cosmic Dawn Revealed by Ultra-Deep Rest-Frame Optical Spectroscopy of JADES-GS-z14-0*, 2025, [arXiv:2512.19695](#)

- [6] **J. M. Helton**, S. Alberts, G. H. Rieke, et al., *The Stellar Populations and Rest-Frame Colors of Star-Forming Galaxies at $z \approx 8$: Exploring the Impact of Filter Choice and Star Formation History Assumption with JADES*, 2025, [arXiv:2506.02099](https://arxiv.org/abs/2506.02099)
- [5] **J. M. Helton**, G. H. Rieke, S. Alberts, et al., *Photometric detection at $7.7 \mu\text{m}$ of a galaxy beyond redshift 14 with JWST/MIRI*, 2025, [Nature Astronomy, 9, 729](https://doi.org/10.1093/natastro/naf079)
- [4] **J. M. Helton**, F. Sun, C. Woodrum, et al., *Identification of High-Redshift Galaxy Overdensities in GOODS-N and GOODS-S*, 2024, [ApJ, 974, 41](https://doi.org/10.1093/apj/apj974.011)
- [3] **J. M. Helton**, F. Sun, C. Woodrum, et al., *The JWST Advanced Deep Extragalactic Survey: Discovery of an Extreme Galaxy Overdensity at $z = 5.4$ with JWST/NIRCam in GOODS-S*, 2024, [ApJ, 962, 124](https://doi.org/10.1093/apj/apj962.124)
- [2] **J. M. Helton**, A. L. Strom, J. E. Greene, et al., *The nebular properties of star-forming galaxies at intermediate redshift from the Large Early Galaxy Astrophysics Census*, 2022, [ApJ, 934, 81](https://doi.org/10.1093/apj/apj934.081)
- [1] **J. M. Helton**, S. D. Johnson, J. E. Greene, et al., *Discovery and origins of giant optical nebulae surrounding quasar PKS0454–22*, 2021, [MNRAS, 505, 5497](https://doi.org/10.1093/mnras/stab287)

Second-Author

- [5] K. N. Hainline, **J. M. Helton**, B. E. Miles, et al., *JADES: An Abundance of Ultra-Distant T- and Y-Dwarfs in Deep Extragalactic Data*, 2025, [arXiv:2510.00111](https://arxiv.org/abs/2510.00111)
- [4] F. D'Eugenio, **J. M. Helton**, K. Hainline, et al., *JADES and SAPPHIRES: galaxy metamorphosis amid a huge, luminous emission-line region*, 2025, [MNRAS, 542, 960](https://doi.org/10.1093/mnras/mtaf542.960)
- [3] Y. Fudamoto, **J. M. Helton**, X. Lin, et al., *SAPPHIRES: A Galaxy Over-Density in the Heart of Cosmic Reionization at $z = 8.47$* , 2025, [arXiv:2503.15597](https://arxiv.org/abs/2503.15597)
- [2] K. N. Hainline, **J. M. Helton**, B. D. Johnson, et al., *Brown Dwarf Candidates in the JADES and CEERS Extragalactic Surveys*, 2024, [ApJ, 964, 66](https://doi.org/10.1093/apj/apj964.066)
- [1] F. Sun, **J. M. Helton**, E. Egami, et al., *JADES: Resolving the Stellar Component and Filamentary Overdense Environment of Hubble Space Telescope (HST)-dark Submillimeter Galaxy HDF850.1 at $z = 5.18$* , 2024, [ApJ, 961, 69](https://doi.org/10.1093/apj/apj961.069)

Co-Author

Continues Later, Starting on Page 6

TELESCOPE ALLOCATIONS AS PRINCIPAL INVESTIGATOR

<i>Total Funding Received as Principal Investigator (PI)</i>	<i>\$499,627</i>
JWST/MIRI	84.0 hours [PI ; PID – 08544]
JWST/MIRI	13.0 hours [Co-PI ; PID – 11376]
JWST/NIRCam & JWST/MIRI in parallel	19.6 hours [Co-PI ; PID – 04549]
MMT/Binospec	2.0 nights [PI]

TELESCOPE ALLOCATIONS AS CO-INVESTIGATOR

JWST/NIRSpec+NIRCam+MIRI	67.7 hours	[Co-I; PID - 12396]
JWST/NIRSpec	36.1 hours	[Co-I; PID - 12340]
JWST/NIRCam	1000.0 hours	[Co-I; PID - 10790]
JWST/NIRSpec	29.4 hours	[Co-I; PID - 10518]
JWST/MIRI	49.8 hours	[Co-I; PID - 10445]
JWST/NIRSpec	26.8 hours	[Co-I; PID - 10311]
JWST/NIRSpec	73.1 hours	[Co-I; PID - 08018]
JWST/NIRSpec	37.1 hours	[Co-I; PID - 07935]
JWST/NIRSpec	14.2 hours	[Co-I; PID - 07335]
JWST/NIRCam & JWST/MIRI in parallel	37.2 hours	[Co-I; PID - 04540]
JWST/NIRSpec	24.5 hours	(Co-I; PID - 03659)
JWST/NIRCam	27.6 hours	[Co-I; PID - 03577]
JWST/NIRCam & JWST/NIRSpec in parallel	135.6 hours	[Co-I; PID - 03215]
JWST/NIRSpec	24.3 hours	[Co-I; PID - 02959]
JWST/NIRCam & JWST/NIRISS in parallel	42.5 hours	[Co-I; PID - 02883]
Keck/MOSFIRE	0.5 nights	[Co-I]
Magellan/IMACS	5.0 nights	[Co-I]
Magellan/FIRE	6.5 nights	[Co-I]
MMT/Binospec	3.0 nights	[Co-I]

TEACHING, MENTORING, & ADVISING

The Pennsylvania State University *August 2025 - Present*
Primary advisor of a first-year graduate student who will be investigating the impact of α -enhanced abundance patterns when interpreting observations of distant galaxies.

The University of Arizona *June 2023 - June 2025*
Co-organizer for the Early Universe/REionization Conversations at Arizona (EURECA) at the Department of Astronomy and Steward Observatory.

Carnegie Observatories *June 2020 - June 2025*
Mentor for the Carnegie Astrophysics Summer Student Internship (CASSI) Program.

Princeton University *January 2018 - May 2021*
Head Tutor for Single-Variable Calculus, Multi-Variable Calculus, and Linear Algebra at the McGraw Center for Teaching and Learning.

Princeton University *January 2020 - August 2020*
Co-organizer for the Galactic/Extragalactic Reading Group (Galread) at the Department of Astrophysical Sciences.

Princeton University *January 2019 - January 2020*
Undergraduate Teaching Assistant for Introductory Mechanics and Electromagnetism at the Department of Physics.

SELECTED MEDIA COVERAGE

The University of Arizona | 13 March 2025

[James Webb Space Telescope reveals unexpected complex chemistry in primordial galaxy](#)

The University of Arizona | 3 October 2024

[Eyes on the Universe | How University of Arizona Researchers Confirmed Farthest Galaxy with JWST](#)

Space.com | 15 July 2024

[Can the James Webb Space Telescope see galaxies over the universe's horizon?](#)

Astronomy Magazine | 6 June 2024

[Webb discovers the earliest known galaxy – for now](#)

Big Think | 3 June 2024

[5 big lessons from JWST's new record-setting galaxy](#)

Space.com | 30 May 2024

[James Webb Space Telescope spots the most distant galaxy ever seen](#)

NASA Webb Mission Team | 30 May 2024

[NASA's James Webb Space Telescope Finds Most Distant Known Galaxy](#)

The University of Arizona | 30 May 2024

[Webb Telescope spots the two most distant galaxies ever seen at cosmic dawn](#)

University of Cambridge | 30 May 2024

[Earliest, most distant galaxy discovered with James Webb Space Telescope](#)

JADES | 30 May 2024

[Earliest, most distant galaxy discovered with James Webb Space Telescope Galaxy dates back to 300 million years after the Big Bang](#)

SELECTED PRESENTATIONS

- [11] **Contributed science talk** at the “Towards the Full Bloom of First Star, Galaxy, and Black Hole Formation Exploration” Conference in Tokyo, Japan (March 2026). *At the Break of Cosmic Dawn: JWST/MIRI Reveals the Detailed Physical Properties of JADES-GS-z14-0.*
- [10] **Invited colloquium talk** at the University of Pittsburgh's AstroLunch Seminar in Pittsburgh, PA (March 2026). *At the Break of Cosmic Dawn: Identifying and Understanding the Most Distant Galaxies with JWST.*
- [9] **Invited colloquium talk** at the Five College Astronomy Department (FCAD) Colloquium in Amherst, MA (February 2026). *At the Break of Cosmic Dawn: Identifying and Understanding the Most Distant Galaxies with JWST.*
- [8] **Invited outreach talk** at the North Houston Astronomy Club in Humble, TX (August 2025). *Understanding the Most Distant Galaxies and Galaxy Clusters with the James Webb Space Telescope (JWST).*

- [7] **Invited science talk** at the NIRCam Instrument Science Team Meeting in Tucson, AZ (March 2025). *JWST/NIRCam and JWST/MIRI at the Highest Redshifts*.
- [6] **Invited science talk** at the MIRI Instrument Science Team Meeting in Tucson, AZ (October 2024). *JWST/MIRI at the Highest Redshifts*.
- [5] **Invited science talk** at the “Cosmic Dawn Revealed by JWST: Physics of the First Stars, Galaxies, and Black Holes” Conference in Santa Barbara, CA (August 2024). *Identification of High-Redshift Galaxy Overdensities in GOODS-N and GOODS-S*.
- [4] **Invited outreach talk** at the Sun City Oro Valley Astronomy Club in Oro Valley, AZ (March 2024). *Understanding the Most Distant Galaxies and Galaxy Clusters with the James Webb Space Telescope (JWST)*.
- [3] **Contributed science talk** at the “100 Years of Astronomy at the University of Arizona” Celebration in Tucson, AZ (April 2023). *JADES: Discovery of an Extreme Galaxy Overdensity at $z = 5.4$ with JWST/NIRCam in GOODS-S*.
- [2] **Contributed science talk** at the “Early Results from the James Webb Space Telescope” Conference in Cambridge, England (March 2023). *JADES: Discovery of an Extreme Galaxy Overdensity at $z = 5.4$ with JWST/NIRCam in GOODS-S*.
- [1] **Invited outreach talk** at the Canyon del Oro High School in Oro Valley, AZ (December 2022). *An Overview of the James Webb Space Telescope (JWST)*.

MISCELLANEOUS

Programming Languages – Python; IDL; Java; Javascript; HTML/CSS

Packages, Software, & Tools – Unix; L^AT_EX; Prospector; BAGPIPES; Cloudy; JWST’s Pipeline, Exposure Time Calculator (ETC), and Astronomer’s Proposal Tool (APT)

Observational Experience – JWST/MIRI (using the Low Resolution Spectroscopy, or LRS, observing mode); JWST/NIRCam (using the wide field slitless spectroscopy, or WFSS, observing mode); Keck/MOSFIRE; Magellan/IMACS; Magellan/LDSS3

Invited Peer Reviewer – The Astrophysical Journal (ApJ); Monthly Notices of the Royal Astronomical Society (MNRAS); Astronomy & Astrophysics (A&A); Astronomy and Computing

Soft Skills – academic research; problem solving; public speaking; technical writing

REFERENCES

Prof. Joel Leja	The Pennsylvania State University	joel.leja@psu.edu
Prof. Kevin Hainline	The University of Arizona	kevinhainline@arizona.edu
Prof. Daniel Eisenstein	Harvard University	deisenstein@cfa.harvard.edu
Prof. Marcia Rieke	The University of Arizona	mrieke@gmail.com

PUBLICATIONS (CONTINUED)

[Link to SciX Public Library](#)

Last Updated: 12 May 2026

Summary of All Publications

number: 88; citations: 8538; h-index: 43

Summary of Refereed Publications

number: 53; citations: 5950; h-index: 37

Co-Author with Major Contributions

- [33] S. Alberts, G.H. Rieke, et al., including **J. M. Helton**, *Calibrating Photometric Mid-Infrared Star Formation Rates for JWST*, 2026, [arXiv:2604.01326](#)
- [32] J. Witstok, S. Carniani, et al., including **J. M. Helton**, *An OASIS of Lyman- α within a Neutral Intergalactic Desert: Reaffirmed Line and Blue Continuum Reveal Efficient Ionising Agents at $z = 13$* , 2026, [arXiv:2603.18775](#)
- [31] F. Sun, D. J. Eisenstein, et al., including **J. M. Helton**, *JADES: Discovery of Large Reservoirs of Small Dust Grains in the Circumgalactic Medium of Massive Galaxies at $z \sim 3.5$ through Deep JWST/NIRCam Imaging and Grism Spectroscopy*, 2026, [arXiv:2601.15961](#)
- [30] Z. Wu, D. J. Eisenstein, et al., including **J. M. Helton**, *JADES: A Prominent Galaxy Overdensity Candidate within the First 500 Myr*, 2026, [arXiv:2601.15960](#)
- [29] K.N. Hainline, D. J. Eisenstein, et al., including **J. M. Helton**, *JWST Advanced Deep Extragalactic Survey (JADES) Data Release 5: Photometrically Selected Galaxy Candidates at $z > 8$* , 2026, [arXiv:2601.15959](#)
- [28] S. Alberts, D. J. Eisenstein, et al., including **J. M. Helton**, *JWST Advanced Deep Extragalactic Survey (JADES) Data Release 5: MIRI Coordinated Parallels in GOODS-S and GOODS-N*, 2026, [arXiv:2601.15955](#)
- [27] T. Shields, M. J. Rieke, et al., including **J. M. Helton**, *JADES: Low Surface Brightness Galaxies at $0.4 < z < 0.8$ in GOODS-S*, 2026, [MNRAS, 546, stag202](#)
- [26] F. D'Eugenio, E. J. Nelson, et al., including **J. M. Helton**, *JADES Dark Horse: demonstrating high-multiplex observations with JWST/NIRSpec dense-shutter spectroscopy in the JADES Origins Field*, 2026, [MNRAS, in press](#)
- [25] Y. Zhu, E. Egami, et al., including **J. M. Helton**, *Quasar Radiative Feedback May Suppress Galaxy Growth on Intergalactic Scales at $z = 6.3$* , 2025, [ApJ, 995, L5](#)
- [24] Y. Zhu, S. Alberts, et al., including **J. M. Helton**, *SMILES: Potentially Higher Ionizing Photon Production Efficiency in Overdense Regions*, 2025, [ApJ, 986, 18](#)
- [23] X. Lin, X. Fan, et al., including **J. M. Helton**, *The Large-scale Environments of Low-luminosity AGNs at $3.9 < z < 6.0$ and Implications for Their Host Dark Matter Halos from a Complete NIRCam Grism Redshift Survey*, 2026, [ApJ, 997, 61](#)
- [22] X. Lin, E. Egami, et al., including **J. M. Helton**, *The Luminosity Function and Clustering of $H\alpha$ Emitting Galaxies at $z \approx 4 - 6$ from a Complete NIRCam Grism Redshift Survey*, 2026, [ApJ, 997, 207](#)

- [21] J. Witstok, P. Jakobsen, et al., including **J. M. Helton**, *Witnessing the onset of reionization through Lyman- α emission at redshift 13*, 2025, [Nature, 639, 897](#)
- [20] F. Sun, Y. Fudamoto, et al., including **J. M. Helton**, *Slitless Areal Pure-Parallel High-Redshift Emission Survey (SAPPHIRES): Early Data Release of Deep JWST/NIRCam Images and Spectra in MACS J0416 Parallel Field*, 2025, [arXiv:2503.15587](#)
- [19] K. N. Hainline, R. Maiolino, et al., including **J. M. Helton**, *An Investigation into the Selection and Colors of Little Red Dots and Active Galactic Nuclei*, 2025, [ApJ, 979, 138](#)
- [18] J. Witstok, R. Maiolino, et al., including **J. M. Helton**, *JADES: Primaeval Lyman- α emitting galaxies reveal early sites of reionization out to redshift $z \sim 9$* , 2025, [MNRAS, 536, 27](#)
- [17] S. Alberts, J. Lyu, et al., including **J. M. Helton**, *SMILES Initial Data Release: Unveiling the Obscured Universe with MIRI Multiband Imaging*, 2024, [ApJ, 976, 224](#)
- [16] K. N. Hainline, F. D'Eugenio, et al., including **J. M. Helton**, *Searching for Emission Lines at $z > 11$: The Role of Damped Ly α and Hints About the Escape of Ionizing Photons*, 2024, [ApJ, 976, 160](#)
- [15] K. N. Hainline, F. D'Eugenio, et al., including **J. M. Helton**, *JADES: Spectroscopic Confirmation and Proper Motion for a T-Dwarf at 2 kpc*, 2024, [ApJ, 975, 31](#)
- [14] S. Alberts, C. C. Williams, **J. M. Helton**, et al., *To high redshift and low mass: exploring the emergence of quenched galaxies and their environments at $3 < z < 6$ in the ultra-deep JADES MIRI F770W parallel*, 2024, [ApJ, 975, 85](#)
- [13] S. Carniani, K. Hainline, et al., including **J. M. Helton**, *Spectroscopic confirmation of two luminous galaxies at a redshift of 14*, 2024, [Nature, 633, 318](#)
- [12] Z. Ji, C. C. Williams, et al., including **J. M. Helton**, *Extended hot dust emission around the earliest massive quiescent galaxy*, 2024, [arXiv:2409.17233](#)
- [11] S. Lim, S. Tacchella, et al., including **J. M. Helton**, *The FLAMINGO simulation view of cluster progenitors observed in the epoch of reionization with JWST*, 2024, [MNRAS, 532, 4551](#)
- [10] B. Robertson, B. D. Johnson, et al., including **J. M. Helton**, *Earliest Galaxies in the JADES Origins Field: Luminosity Function and Cosmic Star-Formation Rate Density 300 Myr after the Big Bang*, 2024, [ApJ, 970, 31](#)
- [9] K. N. Hainline, B. D. Johnson, et al., including **J. M. Helton**, *The Cosmos in its Infancy: JADES Galaxy Candidates at $z > 8$ in GOODS-S and GOODS-N*, 2024, [ApJ, 964, 71](#)
- [8] Y. Sun, G.-H. Lee, et al., including **J. M. Helton**, *Evolution of gas flows along the starburst to post-starburst to quiescent galaxy sequence*, 2024, [MNRAS, 682, 5783](#)

- [7] J. Witstok, R. Smit, et al., including **J. M. Helton**, *Inside the bubble: exploring the environments of reionization-era Lyman- α emitting galaxies with JADES and FRESCO*, 2024, [A&A, 682, A40](#)
- [6] Z. Li, Z. Cai, et al., including **J. M. Helton**, *MAGNIF: A Tentative Lensed Rotating Disk at $z = 8.34$ detected by JWST NIRC*am* WFSS with Dynamical Forward Modeling*, 2023, [arXiv:2310.09327](#)
- [5] L. Sandles, F. D'Eugenio, **J. M. Helton**, et al., *JADES: deep spectroscopy of a low-mass galaxy at redshift 2.3 quenched by environment*, 2023, [arXiv:2307.08633](#)
- [4] S. Tacchella, D. J. Eisenstein, et al., including **J. M. Helton**, *JADES Imaging of GN-z11: Revealing the Morphology and Environment of a Luminous Galaxy 430 Myr After the Big Bang*, 2023, [ApJ, 952, 74](#)
- [3] E. Curtis-Lake, S. Carniani, et al., including **J. M. Helton**, *Spectroscopic confirmation of four metal-poor galaxies at $z = 10.3 - 13.2$* , 2023, [Nature Astronomy, 7, 622](#)
- [2] B. E. Robertson, S. Tacchella, et al., including **J. M. Helton**, *Identification and properties of intense star-forming galaxies at redshifts $z > 10$* , 2023, [Nature Astronomy, 7, 611](#)
- [1] S. Aiola, E. Calabrese, et al., including **J. M. Helton**, *The Atacama Cosmology Telescope: DR4 Maps and Cosmological Parameters*, 2020, [JCAP, 12, 047](#)

Co-Author with Minor Contributions

- [43] S. Carniani, P. Jakobsen, et al., including **J. M. Helton**, *Intense and Extended CIII] Emission Suggests a Strong Outflow in JADES-GS-z14-0*, 2026, [arXiv:2604.11899](#)
- [42] P. Rinaldi, K. N. Hainline, et al., including **J. M. Helton**, *The Way We Tally Becomes the Tale: The Impact of Selection Strategies on the Inferred Evolution of Little Red Dots Across Cosmic Time*, 2026, [arXiv:2604.07138](#)
- [41] R. Maiolino, H. Übler, et al., including **J. M. Helton**, *The Search for Population III: Confirmation of a HeII Emitter with No Metal Lines at $z = 10.6$* , 2026, [arXiv:2603.20362](#)
- [40] J. A. A. Trussler, D. J. Eisenstein, et al., including **J. M. Helton**, *Out of Oxygen: Extremely Metal-Poor Galaxy Candidates Identified at $2.5 < z < 6.5$ with Deep JADES Medium-Band Imaging*, 2026, [arXiv:2603.15761](#)
- [39] B. Wang, J. Leja, et al., including **J. M. Helton**, *Water Absorption Confirms Cool Atmospheres in Two Little Red Dots*, 2026, [arXiv:2602.06024](#)
- [38] B. E. Robertson, B. D. Johnson, et al., including **J. M. Helton**, *JWST Advanced Deep Extragalactic Survey (JADES) Data Release 5: Photometric Catalog*, 2026, [arXiv:2601.15956](#)
- [37] B. D. Johnson, B. E. Robertson, et al., including **J. M. Helton**, *JWST Advanced*

Deep Extragalactic Survey (JADES) Data Release 5: NIRCam Imaging in GOODS-S and GOODS-N, 2026, [arXiv:2601.15954](https://arxiv.org/abs/2601.15954)

- [36] A. L. Danhaive, S. Tacchella, et al., including **J. M. Helton**, *The dawn of disks: unveiling the turbulent ionized gas kinematics of the galaxy population at $z \sim 4 - 6$ with JWST/NIRCam grism spectroscopy*, 2025, [MNRAS, 543, 3249](https://arxiv.org/abs/2508.12345)
- [35] Z. Wu, D. J. Eisenstein, et al., including **J. M. Helton**, *JADES-GS-z14-1: A Compact, Faint Galaxy at $z \approx 14$ with Weak Metal Lines from Extremely Deep JWST MIRI, NIRCam, and NIRSpec Observations*, 2025, [ApJ, 992, 212](https://arxiv.org/abs/2508.12345)
- [34] P. Rinaldi, N. Bonaventura, et al., including **J. M. Helton**, *Not Just a Dot: The Complex UV Morphology and Underlying Properties of Little Red Dots*, 2025, [ApJ, 992, 71](https://arxiv.org/abs/2508.12345)
- [33] L. Whitler, D. P. Stark, et al., including **J. M. Helton**, *The $z \geq 9$ Galaxy UV Luminosity Function from the JWST Advanced Deep Extragalactic Survey: Insights Into Early Galaxy Evolution and Reionization*, 2025, [ApJ, 992, 63](https://arxiv.org/abs/2508.12345)
- [32] K. Ormerod, J. Witstok, et al., including **J. M. Helton**, *Detection of the 2175 Å UV Bump at $z > 7$: evidence for rapid dust evolution in a merging reionization-era galaxy*, 2025, [MNRAS, 542, 11360](https://arxiv.org/abs/2508.12345)
- [31] C. Woodrum, I. Shivaei, et al., including **J. M. Helton**, *JADES: The Star Formation and Dust Attenuation Properties of Galaxies at $3 < z < 7$* , 2025, [arXiv:2510.00235](https://arxiv.org/abs/2510.00235)
- [30] Y. Zhu, N. Bonaventura, et al., including **J. M. Helton**, *SMILES Data Release II: Probing Galaxy Evolution during Cosmic Noon and Beyond with NIRSpec Medium-Resolution Spectra*, 2026, [ApJ, 997, 301](https://arxiv.org/abs/2508.12345)
- [29] C. Simmonds, S. Tacchella, et al., including **J. M. Helton**, *Bursting at the seams: the star-forming main sequence and its scatter at $z = 3 - 9$ using NIRCam photometry from JADES*, 2025, [MNRAS, 544, 4551](https://arxiv.org/abs/2508.12345)
- [28] Z. Ji, S. Alberts, et al., including **J. M. Helton**, *The Importance of Dust Distribution in Ionizing-photon Escape: NIRCam and MIRI Imaging of a Lyman Continuum-emitting Galaxy at $z \sim 3.8$* , 2025, [ApJ, 988, 69](https://arxiv.org/abs/2508.12345)
- [27] J. Witstok, R. Smit, et al., including **J. M. Helton**, *On the origins of oxygen: ALMA and JWST characterize the multi-phase, metal-enriched, star-bursting medium within a ‘normal’ $z > 11$ galaxy*, 2026, [OJAp, 9, 55261](https://arxiv.org/abs/2508.12345)
- [26] S. Tacchella, W. McClymont, et al., including **J. M. Helton**, *Resolving the nature and putative nebular emission of GS9422: an obscured AGN without exotic stars*, 2025, [MNRAS, 540, 851](https://arxiv.org/abs/2508.12345)
- [25] Y. Zhu, M. J. Rieke, et al., including **J. M. Helton**, *A Systematic Search for Galaxies with Extended Emission Lines and Potential Outflows in JADES Medium-band Images*, 2025, [ApJ, 986, 162](https://arxiv.org/abs/2508.12345)

- [24] T. Y.-Y. Hsiao, F. Sun, et al., including **J. M. Helton**, *SAPPHIRES: Extremely Metal-Poor Galaxy Candidates with $12 + \log(O/H) < 7.0$ at $z \sim 5 - 7$ from Deep JWST/NIRCam Grism Observations*, 2025, [arXiv:2505.03873](#)
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