

Dr. Yongda Zhu
Steward Observatory, University of Arizona,
933 N Cherry Ave, Tucson, AZ 85721, USA
yongdaz@arizona.edu | ydzhuastro.github.io

RESEARCH INTERESTS

Revealing how feedback propagates across scales to shape the cosmic baryon cycle.

Keywords: Galaxy formation & evolution; Reionization; Intergalactic medium (IGM); Quasars; AI×JWST

EDUCATION

- Mar. 2024 **Ph.D. in Physics**; University of California, Riverside
Constraining the IGM during the Later Stages of Reionization using QSO Spectra
Advisor: Prof. George Becker
- Dec. 2019 M.Sc. in Physics; University of California, Riverside
- Jun. 2018 B.Sc. in Astronomy; University of Science and Technology of China
Testing Gravity Theories on Galactic Scales. Advisor: Prof. Xiao-Bo Dong

RESEARCH POSITIONS

- **JASPER Scholar**, University of Arizona 2025–
Mentors: Prof. Eiichi Egami & Prof. Xiaohui Fan
Leading NIRCam/WFSS analysis in JWST SAPPHIRES quasar fields; investigating gas–galaxy interactions across scales using JWST and machine learning.
- **Postdoctoral Research Associate**, University of Arizona 2024–
Mentors: Prof. Marcia Rieke & Prof. George Rieke
Member of JWST NIRCam Science Team and MIRI U.S. Team.
Led the first systematic search for galaxies with extended line emission and outflow candidates using deep NIRCam medium-band imaging and machine learning.
Leading SMILES (JWST-GTO-1207) NIRSpec public data release and multi-band NIRCam photometry analysis of galaxies.
Leading reduction and analysis of a large JWST/NIRSpec MSA dataset targeting cosmic-noon galaxies and obscured AGN.
- **Graduate Student Researcher**, UC Riverside 2019–2024
Mentor: Prof. George Becker
Led Keck and ALMA observations of the IGM via high- z quasars; modeled the Ly α and Ly β forest using cosmological simulations.
Provided robust evidence that reionization ended significantly later than previously assumed.

- **Peer Reviewer:** *The Astrophysical Journal, ApJ Letters, JCAP, Open Research Europe*; ALMA and Gemini telescope proposals
- **Major Collaborations:** JWST (JADES, SAPPHIRES, COSMOS-3D, EREBUS), Roman Science Collaboration, XQR-30

OBSERVING EXPERIENCE & PROPOSAL INVOLVEMENT

*PI/lead[†]

Selected recent projects (PI or lead):

- *MMT-6.5m/Binospec IFU – 2025B: *Spatially Resolved Ly α Spectroscopy of a $z = 5.5$ Quasar with Strong Cold Outflows*
- *ALMA – Cycle 11: *Galaxy Over/Underdensities Around IGM Transmission at $z = 5.7$: A Robust Constraint on Reionization*
- *MMT-6.5m/Binospec IFU – 2024B: *Ionization and Enrichment in the Reionization Epoch: A Pilot Study with Binospec IFU*
- *ALMA – Cycle 9: *The Mean Free Path of Ionizing Photons at $z = 5.6$: A Robust Constraint on Reionization*
- JWST/NIRCam WFSS – Cycle 2: *How Does Reionization End? A Search for [O III] Emitters in the Most Transparent Regions of the IGM Near Redshift Six* (PI: Becker) **Zhu**, et al. 2025, arXiv:2510.09568
- [†]Keck/ESI [2021B_U036, 2022A_U035, 2022B_U042, 2023B_U049, 2024A_U281]: *The Mean Free Path at $z = 5.6$: Insights into Ultra-Late Reionization*

Selected earlier allocations:

- Keck/ESI [2019A_U014, 2020A_U121, 2021A_U039]: *Giant Ly α Troughs at $z < 6$: A Signature of Very Late Reionization?* **Zhu**, et al. 2021, ApJ, 923, 223; **Zhu**, et al. 2022, ApJ, 932, 76
- Keck/LRIS [2019A_U147, 2019B_U147]: *The Mean Free Path at $z = 5$: A Key Constraint on Reionization Models* Becker et al. 2021; **Zhu**, et al. 2023, ApJ, 955, 115

Other allocations include:

Keck/ESI [2021A, 2021B], Keck/DEIMOS [2020A], Keck/LRIS [2023B], Subaru/HSC [2020B, 2021A, 2021B, 2023B]

[†] UC students cannot serve as Keck PIs; proposals were written and led by the author.

Additional JWST Programs as Co-I:

- **8544** – Rest-Frame Optical Nebular Emission Lines at Cosmic Dawn (MIRI/LRS Follow-Up for JADES-GS-z14-0)

- **8060** – JWST Multi-Cycle Deep Transient Survey in GOODS-S
- **8018** – DIVER: Deep Insights into UV Spectroscopy at the Epoch of Reionization
- **7935** – Measuring the Emergence Rate of AGN in Legacy Deep Fields
- **7436** – The Last Neutral Islands at the End of Reionization? (Dark Gaps in IGM Transmission at $z \sim 5.3$)
- **7390** – Pair-Instability Supernovae and the Triply-Lensed MACS0647-JD at $z = 10.17$
- **7345** – Dragon Survey: Early Stellar Luminosity Function via Microlensing at $z = 0.73$
- **7336** – NIRCam/WFSS R \sim 2500 IFU Commissioning (Hubble Ultra Deep Field)
- **7335** – Ionized Bubble Around a Normal Galaxy at $z = 6$: “Forever Blowing Bubbles”

SELECTED GRANTS & AWARDS

- NSF Astronomy and Astrophysics Postdoctoral Fellowship, under review 2025
- NSF / NRAO Student Observing Support Award (\$40,000) 2023
- UCR Dissertation Year Award (HEERF Program; \$7,200) 2022
- Benjamin C. Shen Memorial Award for Outstanding First-Year Graduate Researcher, UCR 2019
- Dean’s Distinguished Fellowship, UC Riverside 2018
- Xingquan Fund Scholarship, University of Science and Technology of China (USTC) 2017
- Outstanding Student Scholarship, USTC 2015, 2017
- **Student PI**, CAS Undergraduate Research Award:
“Properties of Barred Galaxies in Numerical Simulations” (1 yr, CNY 10,000) 2017
- First Prize, China Undergraduate Physics Tournament (USTC Region) 2016
- **Student PI**, National Undergraduate Research Awards: 2015–2017
 - NSFC Talented Students in Basic Sciences Program (2 yr, CNY 20,000)
 - CAS Innovation Training Program (1 yr, CNY 10,000)
“Testing Gravity Theories on Galactic Scales”

SELECTED INVITED TALKS & CONFERENCE PRESENTATIONS * invited

- * Star-Forming Galaxies in the Reionization Epoch, Japan upcoming
- Galaxy Origins in the JWST Era, Toledo May 2025
- JWST NIRCam Science Meeting, Biosphere 2 March 2025

• * NOIRLab Joint Colloquium, University of Arizona	February 2025
• * Cosmology Seminar, Arizona State University	February 2025
• Lyman-alpha Forest Workshop, Ohio State University	October 2024
• JWST MIRI Science Meeting, Biosphere 2	October 2024
• The First Gigayear(s), Hilo, Hawai‘i	September 2024
• JADES Collaboration Meeting, University of Copenhagen	April 2024
• * Galaxy Group Talk, University of Arizona	March 2024
• * Galaxy Seminar, University of Michigan	November 2023
• Galaxy Formation and Evolution in Southern California	September 2023
• * Kashiwa-Mitaka Meeting (KMM) Seminar, University of Tokyo	August 2023
• * Lightning Talk, First Light Conference, MIT	June 2023
• Reionisation in the Summer Conference, MPIA , Heidelberg	June 2023
• * Galaxy Formation Group, Northwestern University (CIERA)	December 2022
• * FLASH Seminar, UC Santa Cruz	November 2022
• * Astronomy Lunch Talk, UC Los Angeles	October 2022
• * Astro Lunch Talk, UC Santa Barbara	September 2022
• Reionization on a Blackboard Workshop, CCA	September 2022
• * Special arXiv Coffee, UC Davis	May 2022
• * Physics & Astronomy Seminar, UC Riverside	April 2022
• * High-z Group Talk, Tsinghua University	April 2022
• Reionization and Cosmic Dawn, UC Berkeley	March 2022
• European Astronomical Society Annual Meeting (EAS 2021)	July 2021
• Summer All Zoom Epoch of Reionization Conference	June 2021
• * EURECA Seminar, University of Arizona	February 2021

MENTORING & TEACHING

- **Teaching Assistant**, UC Riverside 2018–2019, 2023
Taught intensive PhD summer review course (Comprehensive Exam prep).
Topics: Classical Mechanics, E&M, Thermo & Stat Mech
Led undergraduate general physics labs.
- **Teaching Assistant**, USTC 2016
Taught introductory programming in C/C++, including data structures and algorithms.

- **Graduate Students (Research Mentor)** 2025–
Ms. Zheng Ma, Mr. Junyu Zhang (University of Arizona)
- **Undergraduate Students (Research Mentor)**
 - Mr. Suprabhas Narisetty (University of Arizona) 2025–
Project: NIRSpec observations of cosmic-noon galaxies
 - Ms. G. Hernandez (UC Riverside) 2021
Project: Evolution of IGM effective optical depth
- **Graduate Peer Mentoring**
 - Mr. Seyedazim Hashemi (PhD student, UC Riverside)
Project: Lyman-alpha visibility during reionization
- **UCR International Students & Scholars Office** 2021–2023
Mentored 14 international graduate students (career and academic guidance)
- **UCR Graduate Student Mentorship Program (GSMP)** 2020
Mentored two junior PhD students across STEM fields:
Dr. N. Ahvazi (Dark matter & galaxies); Dr. Q. Wu (2D materials)

SERVICE & OUTREACH

- Session Chair, AAS 247 January, 2026
- Chambliss Judge for student poster competition, AAS 247 January, 2026
- Instructor, *Galactic Adventures*, Flandrau Science Center & Planetarium June 2025
- Stargazing outreach event, Home Gardens Library (Corona, CA) October 2023
- Co-organizer, UCR Physics & Astronomy Student Seminar 2022–2023
- Instructor, UCR Camp Highlander Summer 2022
- Designed and taught outreach courses for K–12 students 2022
 - *Multiwavelength Universe, Gravity Simulator*
- Virtual Stargazing (UCR & Riverside Astronomical Society): monthly live public outreach on YouTube 2020–2021
- Science fair judge, Riverside County Science and Engineering Fair 2021–2023
- UCR Astronomy Public Outreach: Mercury Transit November 2019

OPEN SCIENCE & COMMUNITY RESOURCES

- **SMILES NIRSpec HLSP (JWST-GTO-1207)**: Lead developer of the public high-level data release including 1D/2D spectra and derived galaxy catalogs.
GitHub: github.com/ydzhuaastro/smiles_dr2 & MAST HLSP doi:10.17909/et3f-zd57

- **Tutorial: Galaxy Morphology × Machine Learning** February 2025
Introducing morphology classification and neural network tools for students.
[EURECA Tutorial PDF](#)

SELECTED MEDIA COVERAGE

- “Astronomers Discover a Unique Quasi-Stellar Object-Dusty Star-Forming Galaxy System,” [Phys.org](#)
- “The End of the Cosmic Dawn: Settling a Two-Decade Debate,” [SciTechDaily](#)
- “Can You Explain These Long, Dark Gaps in Your Cosmological Resume?” [AAS Nova](#)
- “Intergalactic Impacts of Quasars During the Epoch of Reionization” [AAS Nova](#)

YONGDA ZHU - PUBLICATION LIST

ORCID: [0000-0003-3307-7525](#)

ADS link: <https://ui.adsabs.harvard.edu/search/q=orcid%3A0000-0003-3307-7525>

Google Scholar: <https://scholar.google.com/citations?user=wDrSZWYAAAAJ>

Citation Metrics (as of Jan 2026):

Total citations: 2800+ | First-author citations: 360+ | h-index: 31 | First-author papers: 13

First-author:

13. **Zhu, Y.**, Rieke, M. J., Ji, Z., Bunker, A. J., Carreira, C., Danhaive, A. L., Duan, Q., Egami, E., Eisenstein, D. J., Hainline, K., Johnson, B. D., Ma, Z., Puskás, D., Rieke, G. H., Rinaldi, P., Robertson, B., Tacchella, S., Übler, H., Villanueva, N. C., Williams, C. C., Willmer, C. N. A., Wu, Z., and Zhang, J., **2026**. *Clump-like Structures in High-Redshift Galaxies: Mass Scaling and Radial Trends from JADES*, arXiv e-prints, arXiv:2601.15965.
12. **Zhu, Y.**, Becker, G. D., D'Aloisio, A., Endsley, R., Gangolli, N., Cain, C., Mason, C. A., Hashemi, S., and Hong, H., **2025**. *Galaxy Underdensities Host the Clearest IGM Ly α Transmission and Indicate Anisotropic Reionization*, arXiv e-prints, arXiv:2510.09568.
11. **Zhu, Y.**, Egami, E., Fan, X., Sun, F., Becker, G. D., Cain, C., Chen, H., Eilers, A.-C., Fudamoto, Y., Helton, J. M., Jin, X., Pudoka, M., Bunker, A. J., Cai, Z., Champagne, J. B., Ji, Z., Lin, X., Liu, W., Ma, H.-X., Ma, Z., Maiolino, R., Rieke, G. H., Rieke, M. J., Rinaldi, P., Sun, Y., Tee, W. L., Wang, F., Yang, J., Yue, M., and Zhang, J., **2025**. *Quasar Radiative Feedback May Suppress Galaxy Growth on Intergalactic Scales at z = 6.3*, arXiv:2509.00153, The Astrophysical Journal Letters, in press
10. **Zhu, Y.**, Bonaventura, N., Sun, Y., Rieke, G. H., Alberts, S., Lyu, J., Morrison, J. E., Ji, Z., Egami, E., Helton, J. M., Rieke, M. J., Rinaldi, P., Sun, F., and Willmer, C. N. A., **2025**. *SMILES Data Release II: Probing Galaxy Evolution during*

Cosmic Noon and Beyond with NIRSpec Medium-Resolution Spectra, arXiv e-prints, arXiv:2508.12599. ApJ, in press

9. **Zhu, Y.**, Rieke, M. J., Ji, Z., Simmonds, C., Sun, F., Sun, Y., Alberts, S., Bhatawdekar, R., Bunker, A. J., Cargile, P. A., Carniani, S., de Graaff, A., Hainline, K., Helton, J. M., Jones, G. C., Lyu, J., Rieke, G. H., Rinaldi, P., Robertson, B., Scholtz, J., Übler, H., Williams, C. C., and Willmer, C. N. A., **2025**. *A Systematic Search for Galaxies with Extended Emission Lines and Potential Outflows in JADES Medium-band Images*, The Astrophysical Journal, 986, 162.
8. **Zhu, Y.**, Alberts, S., Lyu, J., Morrison, J., Rieke, G. H., Sun, Y., Helton, J. M., Ji, Z., Bhatawdekar, R., Bonaventura, N., Bunker, A. J., Lin, X., Rieke, M. J., Rinaldi, P., Shvarei, I., Willmer, C. N. A., and Zhang, J., **2025**. *SMILES: Potentially Higher Ionizing Photon Production Efficiency in Overdense Regions*, The Astrophysical Journal, 986, 18.
7. **Zhu, Y.**, Rieke, M. J., Ho, L. C., Sun, Y., Rieke, G. H., Yuan, F., Bakx, T. J. L. C., Becker, G. D., Yang, J., Bañados, E., Bischetti, M., Cain, C., Fan, X., Fudamoto, Y., Hashemi, S., Ikeda, R., Ji, Z., Jin, X., Liu, W., Liu, Y., Lyu, J., Ma, H.-X., Takeuchi, T. T., Umehata, H., Wang, F., and Tee, W. L., **2025**. *Nuclear Winds Drive Cold Gas Outflows on Kiloparsec Scales in Reionization-Era Quasars*, arXiv e-prints, arXiv:2504.02305.
6. **Zhu, Y.**, Bakx, T. J. L. C., Ikeda, R., Umehata, H., Becker, G. D., Cain, C., Champagne, J. B., Fan, X., Fudamoto, Y., Jin, X., Ma, H.-X., Sun, Y., Takeuchi, T. T., and Tee, W. L., **2024**. *Discovery of a Unique Close Quasar-DSFG Pair Linked by a [C II] Bridge at $z = 5.63$* , Research Notes of the American Astronomical Society, 8, 284.
5. **Zhu, Y.**, Becker, G. D., Bosman, S. E. I., Cain, C., Keating, L. C., Nasir, F., D’Odorico, V., Bañados, E., Bian, F., Bischetti, M., Bolton, J. S., Chen, H., D’Aloisio, A., Davies, F. B., Davies, R. L., Eilers, A.-C., Fan, X., Gaikwad, P., Greig, B., Haehnelt, M. G., Kulkarni, G., Lai, S., Puchwein, E., Qin, Y., Ryan-Weber, E. V., Satyavolu, S., Spina, B., Walter, F., Wang, F., Wolfson, M., and Yang, J., **2024**. *Damping wing-like features in the stacked Ly α forest: Potential neutral hydrogen islands at $z < 6$* , Monthly Notices of the Royal Astronomical Society, 533, L49.
4. **Zhu, Y.**, Becker, G. D., Christenson, H. M., D’Aloisio, A., Bosman, S. E. I., Bakx, T., D’Odorico, V., Bischetti, M., Cain, C., Davies, F. B., Davies, R. L., Eilers, A.-C., Fan, X., Gaikwad, P., Haehnelt, M. G., Keating, L. C., Kulkarni, G., Lai, S., Ma, H.-X., Mesinger, A., Qin, Y., Satyavolu, S., Takeuchi, T. T., Umehata, H., and Yang, J., **2023**. *Probing Ultralate Reionization: Direct Measurements of the Mean Free Path over $5 < z < 6$* , The Astrophysical Journal, 955, 115.
3. **Zhu, Y.**, Ma, H.-X., Dong, X.-B., Huang, Y., Mistele, T., Peng, B., Long, Q., Wang, T., Chang, L., and Jin, X., **2023**. *How close dark matter haloes and MOND are to each other: three-dimensional tests based on Gaia DR2*, Monthly Notices of the Royal Astronomical Society, 519, 4479.
2. **Zhu, Y.**, Becker, G. D., Bosman, S. E. I., Keating, L. C., D’Odorico, V., Davies, R.

L., Christenson, H. M., Bañados, E., Bian, F., Bischetti, M., Chen, H., Davies, F. B., Eilers, A.-C., Fan, X., Gaikwad, P., Greig, B., Haehnelt, M. G., Kulkarni, G., Lai, S., Pallottini, A., Qin, Y., Ryan-Weber, E. V., Walter, F., Wang, F., and Yang, J., **2022**. *Long Dark Gaps in the Ly β Forest at $z < 6$: Evidence of Ultra-late Reionization from XQR-30 Spectra*, The Astrophysical Journal, 932, 76.

1. **Zhu, Y.**, Becker, G. D., Bosman, S. E. I., Keating, L. C., Christenson, H. M., Bañados, E., Bian, F., Davies, F. B., D’Odorico, V., Eilers, A.-C., Fan, X., Haehnelt, M. G., Kulkarni, G., Pallottini, A., Qin, Y., Wang, F., and Yang, J., **2021**. *Chasing the Tail of Cosmic Reionization with Dark Gap Statistics in the Ly α Forest over $5 < z < 6$* , The Astrophysical Journal, 923, 223.

Student-led papers:

2. Ma, Z. (UofA grad student), Egami, E., **Zhu, Y.**, Sun, F., Lyu, J., Zhang, J., Willmer, C. N. A., Bunker, A. J., Carniani, S., Curtis-Lake, E., Hausen, R., Ji, X., Ji, Z., Juodžbalis, I., Maiolino, R., Rieke, G. H., Rinaldi, P., Sun, Y., Tacchella, S., Übler, H., and Williams, C. C., **2026**. *Undermassive Hosts of $z = 4 - 6$ AGN from JWST/NIRCam Image Decomposition with CONGRESS, FRESCO, and JADES*, arXiv e-prints, arXiv:2601.15962.
1. Narisetty, S. (UofA undergraduate), **Zhu, Y.**, & Egami, E, **2025**. *Strong Balmer Breaks Mark Gradually Quenching Galaxies Below the Star Forming Main Sequence at $1 < z < 4$ with JWST/NIRSpec*, for ApJ submission. DOI: 10.5281/zenodo.17772416

Co-author:

80. Rowlands, S., Davies, R. L., Ryan-Weber, E., Keating, L. C., Sebastian, A. M., Becker, G. D., Bischetti, M., Bosman, S. E. I., Chen, H., Davies, F. B., D’Odorico, V., Gaikwad, P., Gallerani, S., Haehnelt, M. G., Kulkarni, G., Meyer, R. A., Welsh, L., and **Zhu, Y.**, **2026**. *E-XQR-30: Evidence for an Increase in the Ionization State of Metal Absorbers from $z = 6$ to $z = 2$* , Monthly Notices of the Royal Astronomical Society,.
79. Davies, F. B., Bosman, S. E. I., D’Odorico, V., Campo, S., Mesinger, A., Qin, Y., Becker, G. D., Bañados, E., Chen, H., Cristiani, S., Fan, X., Gallerani, S., Haehnelt, M. G., Keating, L. C., Lai, S., Ryan-Weber, E., Wang, F., Yang, J., and **Zhu, Y.**, **2026**. *Updated dark pixel fraction constraints on reionization’s end from the Lyman-series forests of XQR-30*, Monthly Notices of the Royal Astronomical Society, 545, staf1862.
78. Jin, X., Wang, F., Yang, J., Fan, X., Bian, F., Li, J.-T., Liu, W., Liu, Y., Lyu, J., Pudoka, M., Tee, W. L., Wu, Y., Zhang, H., and **Zhu, Y.**, **2026**. *A Deep Chandra X-Ray Survey of a Luminous Quasar Sample at $z \sim 7$* , The Astrophysical Journal, 997, 83.
77. Lin, X., Fan, X., Sun, F., Zhang, J., Egami, E., Helton, J. M., Wang, F., Zhang, H., Bunker, A. J., Cai, Z., Ji, Z., Jin, X., Maiolino, R., Pudoka, M. A., Rinaldi, P., Robertson, B., Tacchella, S., Tee, W. L., Sun, Y., Willmer, C. N. A., Willott, C., and

- Zhu, Y., 2026.** *The Large-scale Environments of Low-luminosity AGNs at 3.9 z < 6 and Implications for Their Host Dark Matter Halos from a Complete NIRCam Grism Redshift Survey*, The Astrophysical Journal, 997, 61.
76. Liu, W., Fan, X., Li, H., Green, R., Champagne, J. B., Jin, X., Lyu, J., Pudoka, M., Tee, W. L., Wang, F., Yang, J., **Zhu, Y.**, and Abdessalam, N., **2025.** *A JWST/NIRSpec Integral Field Unit Survey of Luminous Quasars at z = 5-6 (Q-IFU): Rest-frame Optical Nuclear Properties and Extended Nebulae*, arXiv e-prints, arXiv:2511.06085.
75. Rinaldi, P., Pérez-González, P. G., Rieke, G. H., Lyu, J., D'Eugenio, F., Wu, Z., Carniani, S., Looser, T. J., Shvaei, I., Boogaard, L. A., Diaz-Santos, T., Colina, L., Östlin, G., Alberts, S., Álvarez-Márquez, J., Annuziattella, M., Aravena, M., Bhatawdekar, R., Bunker, A. J., Caputi, K. I., Charlot, S., Crespo Gómez, A., Curti, M., Eckart, A., Gillman, S., Hainline, K., Kumari, N., Hjorth, J., Iani, E., Inami, H., Ji, Z., Johnson, B. D., Jones, G. C., Labiano, Á., Maiolino, R., Melinder, J., Moutard, T., Peissker, F., Rieke, M., Robertson, B., Scholtz, J., Tacchella, S., van der Werf, P. P., Walter, F., Williams, C. C., Willott, C., Witstok, J., Übler, H., and **Zhu, Y., 2025.** *Deciphering the Nature of Virgil: An Obscured Active Galactic Nucleus Lurking within an Apparently Normal Ly α Emitter during Cosmic Reionization*, The Astrophysical Journal, 994, 86.
74. Rieke, G. H., Sun, Y., Lyu, J., Willmer, C. N. A., **Zhu, Y.**, Rinaldi, P., Stone, M. A., Hainline, K. N., and Pérez-González, P. G., **2025.** *Confirming Near- to Mid-infrared Photometrically Identified Obscured AGNs in the JWST Era*, The Astrophysical Journal, 994, 35.
73. Stone, M. A., Rieke, G. H., Lyu, J., Florian, M. K., Hainline, K. N., Sun, Y., and **Zhu, Y., 2025.** *The z = 7.08 Quasar ULAS J1120+0641 May Never Reach a "Normal" Black Hole to Stellar Mass Ratio*, The Astrophysical Journal, 993, 168.
72. Welsh, L., D'Odorico, V., Fontanot, F., Davies, R., Bosman, S. E. I., Cupani, G., Becker, G., Keating, L., Ryan-Weber, E., Bischiotti, M., Haehnelt, M., Chen, H., **Zhu, Y.**, Lai, S., Hirschmann, M., Xie, L., and Qin, Y., **2025.** *The clustering of C IV and Si IV at the end of reionization: A perspective from the E-XQR-30 survey*, Astronomy and Astrophysics, 703, A274.
71. Danhaive, A. L., Tacchella, S., Bunker, A. J., Curtis-Lake, E., de Graaff, A., D'Eugenio, F., Duan, Q., Egami, E., Eisenstein, D. J., Johnson, B. D., Maiolino, R., McClymont, W., Rieke, M., Robertson, B., Sun, F., Willmer, C. N. A., Wu, Z., and **Zhu, Y., 2025.** *The dark side of early galaxies: geko uncovers dark-matter fractions at z ~ 4–6*, arXiv e-prints, arXiv:2510.14779.
70. Fudamoto, Y., Nakazato, Y., Ceverino, D., Colina, L., Hashimoto, T., Inoue, A. K., Tamura, Y., Yoshida, N., **Zhu, Y.**, Sugahara, Y., Arribas, S., 'Arvarez-M'arquez, J., Bakx, T., Blanco Prieto, C., Costantin, L., Crespo G'omez, A., Hagimoto, M., Hashigaya, T., Matsuo, H., Marques-Chaves, R., Mawatari, K., Mitsuhashi, I., Osone, W., Pereira-Santaella, M., Umehata, H., Witten, C., and Ren, Y. W., **2025.** *Early massive galaxy formation in the core of a galaxy protocluster 650 million years after*

the Big Bang, arXiv e-prints, arXiv:2510.11770.

69. D'Eugenio, F., Nelson, E. J., Eisenstein, D. J., Maiolino, R., Carniani, S., Scholtz, J., Curti, M., Willmer, C. N. A., Bunker, A. J., Helton, J. M., Juodžbalis, I., Sun, F., Tacchella, S., Arribas, S., Cameron, A. J., Charlot, S., Curtis-Lake, E., Hainline, K., Johnson, B. D., Robertson, B., Williams, C. C., Willott, C., Baker, W. M., Chevallard, J., Danhaive, A. L., Isobe, Y., Ji, X., Ji, Z., Jones, G. C., Kumari, N., Looser, T. J., Lyu, J., Parlanti, E., Perna, M., Puskás, D., Rinaldi, P., Simmonds, C., Sun, Y., Venturi, G., Witstok, J., Wu, Z., and **Zhu, Y.**, **2025**. *JADES Dark Horse: demonstrating high-multiplex observations with JWST/NIRSpec dense-shutter spectroscopy in the JADES Origins Field*, arXiv e-prints, arXiv:2510.11626.
68. Meyer, R. A., Wang, F., Kakiichi, K., Brammer, G., Champagne, J., Jurk, K., Li, Z., Li, Z., Musin, M., Satyavolu, S., Schindler, J.-T., Shuntov, M., Xu, Y., Zou, S., Bian, F., Casey, C., Egami, E., Fan, X., Jiang, D., Laporte, N., Liu, W., Oesch, P., Tasca, L., Yang, J., Zhang, Z., Akins, H., Cai, Z., Coulter, D. A., Huang, J., Li, M., Liu, W., Liang, Y., Jin, X., Kartaltepe, J., Matharu, J., Pudoka, M., Tee, W.-L., Witten, C., Zhang, H., and **Zhu, Y.**, **2025**. *JWST COSMOS-3D: Spectroscopic Census and Luminosity Function of [O III] Emitters at $6.75 \leq z \leq 9.05$ in COSMOS*, arXiv e-prints, arXiv:2510.11373.
67. Danhaive, A. L., Tacchella, S., McClymont, W., Robertson, B., Carniani, S., Carreira, C., Egami, E., Bunker, A. J., Curtis-Lake, E., Eisenstein, D. J., Ji, Z., Johnson, B. D., Rieke, M., Villanueva, N. C., Willmer, C. N. A., Willott, C., Wu, Z., and **Zhu, Y.**, **2025**. *Beyond the stars: Linking H^α sizes, kinematics, and star formation in galaxies at $z \approx 4 - 6$ with JWST grism surveys and geko*, arXiv e-prints, arXiv:2510.06315.
66. Wu, Z., Eisenstein, D. J., Johnson, B. D., Jakobsen, P., Alberts, S., Arribas, S., Baker, W. M., Bunker, A. J., Carniani, S., Charlot, S., Chevallard, J., Curti, M., Curtis-Lake, E., D'Eugenio, F., Hainline, K., Helton, J. M., Hsiao, T. Y.-Y., Ji, X., Ji, Z., Looser, T. J., Rieke, G., Rinaldi, P., Robertson, B., Scholtz, J., Sun, F., Tacchella, S., Trussler, J. A. A., Williams, C. C., Willmer, C. N. A., Willott, C., Witstok, J., and **Zhu, Y.**, **2025**. *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*, The Astrophysical Journal, 992, 212.
65. Rinaldi, P., Bonaventura, N., Rieke, G. H., Alberts, S., Caputi, K. I., Baker, W. M., Baum, S., Bhatawdekar, R., Bunker, A. J., Carniani, S., Curtis-Lake, E., D'Eugenio, F., Egami, E., Ji, Z., Johnson, B. D., Hainline, K., Helton, J. M., Lin, X., Lyu, J., Ma, Z., Maiolino, R., Pérez-González, P. G., Rieke, M., Robertson, B. E., Shivaei, I., Stone, M., Sun, Y., Tacchella, S., Übler, H., Williams, C. C., Willmer, C. N. A., Willott, C., Zhang, J., and **Zhu, Y.**, **2025**. *Not Just a Dot: The Complex UV Morphology and Underlying Properties of Little Red Dots*, The Astrophysical Journal, 992, 71.
64. Woodrum, C., Shivaei, I., Witstok, J., Saxena, A., Simmonds, C., Scholtz, J., Bhatawdekar,

- R., Bunker, A. J., Carniani, S., Charlot, S., Curti, M., Curtis-Lake, E., Chevallard, J., D'Eugenio, F., Hainline, K., Helton, J. M., Maiolino, R., Perna, M., Rinaldi, P., Robertson, B., Straughn, A., Sun, Y., Tacchella, S., Williams, C. C., Willott, C., and **Zhu, Y.**, 2025. *JADES: The Star Formation and Dust Attenuation Properties of Galaxies at 3 $z \geq 7$* , arXiv e-prints, arXiv:2510.00235.
63. Liu, W., Fan, X., Li, H., Green, R., Yang, J., Jin, X., Lyu, J., Pudoka, M., **Zhu, Y.**, Banados, E., Belladitta, S., Connor, T., Costa, T., Decarli, R., Eilers, A.-C., Jun, H., Marshall, M. A., Mazzucchelli, C., Schindler, J.-T., Shen, Y., Veilleux, S., Wolf, J., Zhang, H., Zhuang, M., Zou, S., and Li, M., 2025. *Frequent Extreme Galaxy-scale Outflows among Luminous Early Quasars*, arXiv e-prints, arXiv:2509.08793.
62. D'Eugenio, F., Helton, J. M., Hainline, K., Sun, F., Maiolino, R., Pérez-González, P. G., Juodžbalis, I., Arribas, S., Bunker, A. J., Carniani, S., Curtis-Lake, E., Egami, E., Eisenstein, D. J., Johnson, B. D., Robertson, B., Tacchella, S., Willmer, C. N. A., Willott, C., Baker, W. M., Danhaive, A. L., Duan, Q., Fudamoto, Y., Jones, G. C., Lin, X., Liu, W., Perna, M., Puskás, D., Rinaldi, P., Scholtz, J., Sun, Y., Trussler, J. A. A., Übler, H., Venturi, G., Williams, C. C., and **Zhu, Y.**, 2025. *JADES and SAPPHIRES: galaxy metamorphosis amidst a huge, luminous emission-line region*, Monthly Notices of the Royal Astronomical Society, 542, 960.
61. Hashemi, S., Becker, G. D., **Zhu, Y.**, and Hong, H., 2025. *$\text{Ly}\alpha$ emission from [O III] emitters near reionization: the role of environment in galaxy $\text{Ly}\alpha$ detection*, Monthly Notices of the Royal Astronomical Society, 542, 104.
60. Dong, X., **Zhu, Y.**, Rieke, M., Rieke, G., Li, X., Behroozi, P., Ma, H., Meng, R., Mao, Z., and Sun, Z., 2025. *A Promise for the JWST era: Massive black holes directly collapsed from wave dark matter haloes, and Star formation in and around their accretion flows*, arXiv e-prints, arXiv:2508.09258.
59. Cohon, J., Cain, C., Windhorst, R., D'Aloisio, A., Carleton, T., and **Zhu, Y.**, 2025. *A long time ago in an LAE far, far away: a signpost of early reionization or a nascent AGN at $z = 13?$* , arXiv e-prints, arXiv:2508.05739.
58. Ji, Z., Alberts, S., **Zhu, Y.**, Vanzella, E., Giavalisco, M., Hainline, K., Baker, W. M., Bunker, A. J., Helton, J. M., Lyu, J., Rinaldi, P., Robertson, B., Simmonds, C., Tacchella, S., Williams, C. C., Willmer, C. N. A., and Witstok, J., 2025. *The Importance of Dust Distribution in Ionizing-photon Escape: NIRCam and MIRI Imaging of a Lyman Continuum-emitting Galaxy at $z \sim 3.8$* , The Astrophysical Journal, 988, L69.
57. Wu, Z., Eisenstein, D. J., Johnson, B. D., Jakobsen, P., Alberts, S., Arribas, S., Baker, W. M., Bunker, A. J., Carniani, S., Charlot, S., Chevallard, J., Curti, M., Curtis-Lake, E., D'Eugenio, F., Hainline, K., Helton, J. M., Hsiao, T. Y.-Y., Ji, X., Ji, Z., Looser, T. J., Rieke, G., Rinaldi, P., Robertson, B., Scholtz, J., Sun, F., Tacchella, S., Trussler, J. A. A., Williams, C. C., Willmer, C. N. A., Willott, C., Witstok, J., and **Zhu, Y.**, 2025. *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*, arXiv e-prints, arXiv:2507.22858.

56. Rinaldi, P., Rieke, G. H., Wu, Z., Gilbert, C. J. E., Pacucci, F., Barchiesi, L., Alberts, S., Carniani, S., Bunker, A. J., Bhatawdekar, R., D'Eugenio, F., Ji, Z., Johnson, B. D., Hainline, K., Kokorev, V., Kumari, N., Iani, E., Lyu, J., Maiolino, R., Parlanti, E., Robertson, B. E., Sun, Y., Vignali, C., Williams, C. C., Willmer, C. N. A., and **Zhu, Y.**, **2025**. *Beyond the Dot: an LRD-like nucleus at the Heart of an IR-Bright Galaxy and its implications for high-redshift LRDs*, arXiv e-prints, arXiv:2507.17738.
55. Stone, M. A., Rieke, G. H., Lyu, J., Florian, M. K., Hainline, K. N., Sun, Y., and **Zhu, Y.**, **2025**. *The $z = 7.08$ quasar ULAS J1120+0641 May Never Reach a "Normal" Black Hole to Stellar Mass Ratio*, arXiv e-prints, arXiv:2507.13489.
54. Lin, X., Fan, X., Cai, Z., Bian, F., Liu, H., Sun, F., Ma, Y., Greene, J. E., Strauss, M. A., Green, R., Lyu, J., Champagne, J. B., Goulding, A. D., Inayoshi, K., Jin, X., Leung, G. C. K., Li, M., Liu, Y., Mao, J., Pudoka, M. A., Tee, W. L., Wang, B., Wang, F., Wu, Y., Yang, J., Zhang, H., and **Zhu, Y.**, **2025**. *The Discovery of Little Red Dots in the Local Universe: Signatures of Cool Gas Envelopes*, arXiv e-prints, arXiv:2507.10659.
53. Laseter, I. H., Maseda, M. V., Simmonds, C., Endsley, R., Stark, D., Bunker, A. J., Bhatawdekar, R., Boyett, K., Cameron, A. J., Carniani, S., Curti, M., Ji, Z., Rinaldi, P., Saxena, A., Tacchella, S., Willott, C., Witstok, J., and **Zhu, Y.**, **2025**. *Efficient Ionizers with Low $H\beta + [O III]$ Equivalent Widths: JADES Spectroscopy of a Peculiar High-redshift Population*, The Astrophysical Journal, 988, 73.
52. Rieke, G. H., Buitjen, V. A., Goldberg, C. E., Morrison, J., van der Werf, P., Alonso-Herrero, A., Alberts, S., Bonaventura, N., Ji, Z., Lyu, J., Rinaldi, P., Stone, M. A., Sun, Y., and **Zhu, Y.**, **2025**. *Low Accretion Rates in Black Holes in Late-stage Merger Ultraluminous Infrared Galaxies*, The Astrophysical Journal, 988, 17.
51. Fu, S., Sun, F., Jiang, L., Lin, X., Diego, J. M., Furtak, L. J., Jauzac, M., Koekemoer, A. M., Li, M., Oguri, M., Patel, N. R., Willmer, C. N. A., Windhorst, R. A., Zitrin, A., Bauer, F. E., Chen, C.-C., Chen, W., Cheng, C., Conselice, C. J., Eisenstein, D. J., Egami, E., Espada, D., Fan, X., Fujimoto, S., Hsiao, T. Y.-Y., Jin, X., Kohno, K., Lagattuta, D. J., Li, Z., Liu, W., Miralda-Escudé, J., Ning, Y., Tacchella, S., Tee, W. L., Umehata, H., Wang, F., Yan, H., and **Zhu, Y.**, **2025**. *Medium-band Astrophysics with the Grism of NIRCam In Frontier Fields (MAGNIF): Spectroscopic Census of $H\alpha$ Luminosity Functions and Cosmic Star Formation at $z \sim 4.5$ and 6.3*, The Astrophysical Journal, 987, 186.
50. Marcellin, L. C., Champagne, J. B., Wang, F., Fan, X., Pudoka, M., Tee, W. L., and **Zhu, Y.**, **2025**. *Enhanced Merger Fractions in a Reionization-era Protocluster*, Research Notes of the American Astronomical Society, 9, 133.
49. Hsiao, T. Y.-Y., Sun, F., Lin, X., Coe, D., Egami, E., Eisenstein, D. J., Fudamoto, Y., Bunker, A. J., Fan, X., Harikane, Y., Helton, J. M., Kakiichi, K., Liu, Y., Liu, W., Maiolino, R., Ouchi, M., Tee, W. L., Wang, F., Wu, Y., Xu, Y., Yang, J., and **Zhu, Y.**, **2025**. *SAPPHIRES: Extremely Metal-Poor Galaxy Candidates with $12 + \log(O/H) < 7.0$ at $z \sim 5 - 7$ from Deep JWST/NIRCam Grism Observations*, arXiv e-prints,

arXiv:2505.03873.

48. Lin, X., Fan, X., Sun, F., Zhang, J., Egami, E., Helton, J. M., Wang, F., Zhang, H., Bunker, A. J., Cai, Z., Ji, Z., Jin, X., Maiolino, R., Pudoka, M. A., Rinaldi, P., Robertson, B., Tacchella, S., Tee, W. L., Sun, Y., Willmer, C. N. A., Willott, C., and **Zhu, Y.**, **2025**. *The Large-scale Environments of Low-luminosity AGNs at $3.9 < z < 6$ and Implications for Their Host Dark Matter Halos from a Complete NIRCam Grism Redshift Survey*, arXiv e-prints, arXiv:2505.02896.
47. Zhang, J., Egami, E., Sun, F., Lin, X., Lyu, J., **Zhu, Y.**, Rinaldi, P., Sun, Y., Bunker, A. J., Bhatawdekar, R., Helton, J. M., Maiolino, R., Ma, Z., Robertson, B., Tacchella, S., Venturi, G., Williams, C. C., and Willott, C., **2025**. *Abundant Population of Broad H α Emitters in the GOODS-N Field Revealed by CONGRESS, FRESCO, and JADES*, arXiv e-prints, arXiv:2505.02895.
46. Helton, J. M., Rieke, G. H., Alberts, S., Wu, Z., Eisenstein, D. J., Hainline, K. N., Carniani, S., Ji, Z., Baker, W. M., Bhatawdekar, R., Bunker, A. J., Cargile, P. A., Charlot, S., Chevallard, J., D'Eugenio, F., Egami, E., Johnson, B. D., Jones, G. C., Lyu, J., Maiolino, R., Pérez-González, P. G., Rieke, M. J., Robertson, B., Saxena, A., Scholtz, J., Shvaei, I., Sun, F., Tacchella, S., Whitler, L., Williams, C. C., Willmer, C. N. A., Willott, C., Witstok, J., and **Zhu, Y.**, **2025**. *Photometric detection at 7.7 μm of a galaxy beyond redshift 14 with JWST/MIRI*, Nature Astronomy, 9, 729.
45. Baker, W. M., Lim, S., D'Eugenio, F., Maiolino, R., Ji, Z., Arribas, S., Bunker, A. J., Carniani, S., Charlot, S., de Graaff, A., Hainline, K., Looser, T. J., Lyu, J., Rinaldi, P., Robertson, B., Schaller, M., Schaye, J., Scholtz, J., Übler, H., Williams, C. C., Willmer, C. N. A., Willott, C., and **Zhu, Y.**, **2025**. *The abundance and nature of high-redshift quiescent galaxies from JADES spectroscopy and the FLAMINGO simulations*, Monthly Notices of the Royal Astronomical Society, 539, 557.
44. Baker, W. M., D'Eugenio, F., Maiolino, R., Bunker, A. J., Simmonds, C., Tacchella, S., Witstok, J., Arribas, S., Carniani, S., Charlot, S., Chevallard, J., Curti, M., Curtis-Lake, E., Jones, G. C., Kumari, N., Rinaldi, P., Robertson, B., Williams, C. C., Willott, C., and **Zhu, Y.**, **2025**. *Zapped then napped? A rapidly quenched remnant leaker candidate with a steep spectroscopic $\beta_{jSUB{\delta}UVj/SUB{\delta}}$ slope at $z = 8.5$* , Astronomy and Astrophysics, 697, A90.
43. Sun, Y., Ji, Z., Rieke, G. H., D'Eugenio, F., **Zhu, Y.**, Sun, F., Lin, X., Bunker, A. J., Lyu, J., Rinaldi, P., and Willmer, C. N. A., **2025**. *Extreme Neutral Outflow in an Inactive Quenching Galaxy at $z \sim 1.3$* , arXiv e-prints, arXiv:2504.14682.
42. Lin, X., Egami, E., Sun, F., Zhang, H., Fan, X., Helton, J. M., Wang, F., Bunker, A. J., Cai, Z., Eisenstein, D. J., Jaffe, D. T., Ji, Z., Jin, X., Pudoka, M. A., Tacchella, S., Tee, W. L., Rinaldi, P., Robertson, B., Sun, Y., Willmer, C. N. A., Willott, C., Zhang, J., and **Zhu, Y.**, **2025**. *The Luminosity Function and Clustering of H α Emitting Galaxies at $z \approx 4 - 6$ from a Complete NIRCam Grism Redshift Survey*, arXiv e-prints, arXiv:2504.08028.
41. Rinaldi, P., Pérez-González, P. G., Rieke, G. H., Lyu, J., D'Eugenio, F., Wu, Z., Carni-

- ani, S., Looser, T. J., Shvaei, I., Boogaard, L. A., Diaz-Santos, T., Colina, L., Östlin, G., Alberts, S., Álvarez-Márquez, J., Annuziatella, M., Aravena, M., Bhatawdekar, R., Bunker, A. J., Caputi, K. I., Charlot, S., Crespo Gómez, A., Curti, M., Eckart, A., Gillman, S., Hainline, K., Kumari, N., Hjorth, J., Iani, E., Inami, H., Ji, Z., Johnson, B. D., Jones, G. C., Labiano, Á., Maiolino, R., Melinder, J., Moutard, T., Peißker, F., Rieke, M., Robertson, B., Scholtz, J., Tacchella, S., van der Werf, P. P., Walter, F., Williams, C. C., Willott, C., Witstok, J., Übler, H., and **Zhu, Y.**, **2025**. *Deciphering the Nature of Virgil: An Obscured AGN Lurking Within an Apparently Normal Lyman- α Emitter During Cosmic Reionization*, arXiv e-prints, arXiv:2504.01852.
40. Qin, Y., Mesinger, A., Prelogović, D., Becker, G., Bischetti, M., Bosman, S., Davies, F., D’Odorico, V., Gaikwad, P., Haehnelt, M., Keating, L., Lai, S., Ryan-Weber, E., Satyavolu, S., Walter, F., and **Zhu, Y.**, **2025**. *Percent-level timing of reionisation: Self-consistent, implicit-likelihood inference from XQR-30+ Ly α forest data*, Publications of the Astronomical Society of Australia, 42, e049.
39. Sun, Y., Rieke, G. H., Lyu, J., Stone, M. A., Ji, Z., Rinaldi, P., Willmer, C. N. A., and **Zhu, Y.**, **2025**. *Evolution of the MBH/M* Relation from z ~ 6 to the Present Epoch*, The Astrophysical Journal, 983, 165.
38. Fudamoto, Y., Helton, J. M., Lin, X., Sun, F., Behroozi, P., Hsiao, T. Y.-Y., Egami, E., Bunker, A. J., Harikane, Y., Ouchi, M., Liu, Y., Liu, W., Maiolino, R., Ji, Z., Jin, X., Tee, W. L., Wang, F., Willmer, C. N. A., Xu, Y., and **Zhu, Y.**, **2025**. *SAPPHIRES: A Galaxy Over-Density in the Heart of Cosmic Reionization at z = 8.47*, arXiv e-prints, arXiv:2503.15597.
37. Sun, F., Fudamoto, Y., Lin, X., Helton, J. M., Hsiao, T. Y.-Y., Egami, E., Akhtarkavan, A., Bunker, A. J., Cai, Z., DeCoursey, C., Eisenstein, D. J., Fan, X., Harikane, Y., Ji, Z., Jin, X., Liu, W., Liu, Y., Ma, Z., Maiolino, R., Ouchi, M., Tee, W. L., Wang, F., Willmer, C. N. A., Wu, Y., Xu, Y., Yang, J., Zhang, J., and **Zhu, Y.**, **2025**. *Slit-less Areal Pure-Parallel HIgh-Redshift Emission Survey (SAPPHIRES): Early Data Release of Deep JWST/NIRCam Images and Spectra in MACS J0416 Parallel Field*, arXiv e-prints, arXiv:2503.15587.
36. Witstok, J., Jakobsen, P., Maiolino, R., Helton, J. M., Johnson, B. D., Robertson, B. E., Tacchella, S., Cameron, A. J., Smit, R., Bunker, A. J., Saxena, A., Sun, F., Alberts, S., Arribas, S., Baker, W. M., Bhatawdekar, R., Boyett, K., Cargile, P. A., Carniani, S., Charlot, S., Chevallard, J., Curti, M., Curtis-Lake, E., D’Eugenio, F., Eisenstein, D. J., Hainline, K. N., Jones, G. C., Kumari, N., Maseda, M. V., Pérez-González, P. G., Rinaldi, P., Scholtz, J., Übler, H., Williams, C. C., Willmer, C. N. A., Willott, C., and **Zhu, Y.**, **2025**. *Witnessing the onset of reionization through Lyman- α emission at redshift 13*, Nature, 639, 897.
35. Fudamoto, Y., Sun, F., Diego, J. M., Dai, L., Oguri, M., Zitrin, A., Zackrisson, E., Jauzac, M., Lagattuta, D. J., Egami, E., Iani, E., Windhorst, R. A., Abe, K. T., Bauer, F. E., Bian, F., Bhatawdekar, R., Broadhurst, T. J., Cai, Z., Chen, C.-C., Chen, W., Cohen, S. H., Conselice, C. J., Espada, D., Foo, N., Frye, B. L., Fujimoto, S., Furtak, L. J., Golubchik, M., Hsiao, T. Y.-Y., Jolly, J.-B., Kawai, H., Kelly, P. L., Koekemoer,

- A. M., Kohno, K., Kokorev, V., Li, M., Li, Z., Lin, X., Magdis, G. E., Meena, A. K., Niemiec, A., Nabizadeh, A., Richard, J., Steinhardt, C. L., Wu, Y., **Zhu, Y.**, and Zou, S., **2025**. *Identification of more than 40 gravitationally magnified stars in a galaxy at redshift 0.725*, Nature Astronomy, 9, 428.
34. D'Eugenio, F., Cameron, A. J., Scholtz, J., Carniani, S., Willott, C. J., Curtis-Lake, E., Bunker, A. J., Parlanti, E., Maiolino, R., Willmer, C. N. A., Jakobsen, P., Robertson, B. E., Johnson, B. D., Tacchella, S., Cargile, P. A., Rawle, T., Arribas, S., Chevallard, J., Curti, M., Egami, E., Eisenstein, D. J., Kumari, N., Looser, T. J., Rieke, M. J., Rodríguez Del Pino, B., Saxena, A., Übler, H., Venturi, G., Witstok, J., Baker, W. M., Bhatawdekar, R., Bonaventura, N., Boyett, K., Charlot, S., Danhaive, A. L., Hainline, K. N., Hausen, R., Helton, J. M., Ji, X., Ji, Z., Jones, G. C., Juodžbalis, I., Maseda, M. V., Pérez-González, P. G., Perna, M., Puskás, D., Shvaei, I., Silcock, M. S., Simmonds, C., Smit, R., Sun, F., Villanueva, N. C., Williams, C. C., and **Zhu, Y.**, **2025**. *JADES Data Release 3: NIRSpec/Microshutter Assembly Spectroscopy for 4000 Galaxies in the GOODS Fields*, The Astrophysical Journal Supplement Series, 277, 4.
33. Kaur, B., Kanekar, N., Neeleman, M., **Zhu, Y.**, Prochaska, J. X., Rafelski, M., and Becker, G., **2025**. *A Massive H I-absorption-selected Galaxy at $z \approx 2.356$* , The Astrophysical Journal, 982, L26.
32. Lyu, J., Rieke, G. H., Stone, M., Morrison, J., Alberts, S., Jin, X., **Zhu, Y.**, Liu, W., and Yang, J., **2025**. *Fading Light, Fierce Winds: JWST Snapshot of a Sub-Eddington Quasar at Cosmic Dawn*, The Astrophysical Journal, 981, L20.
31. Ma, H.-X., Takeuchi, T. T., Cooray, S., and **Zhu, Y.**, **2025**. *sOPTICS: a modified density-based algorithm for identifying galaxy groups/clusters and brightest cluster galaxies*, Monthly Notices of the Royal Astronomical Society, 537, 1504.
30. Hainline, K. N., Maiolino, R., Juodžbalis, I., Scholtz, J., Übler, H., D'Eugenio, F., Helton, J. M., Sun, Y., Sun, F., Robertson, B., Tacchella, S., Bunker, A. J., Carniani, S., Charlot, S., Curtis-Lake, E., Egami, E., Johnson, B. D., Lin, X., Lyu, J., Pérez-González, P. G., Rinaldi, P., Silcock, M. S., Venturi, G., Williams, C. C., Willmer, C. N. A., Willott, C., Zhang, J., and **Zhu, Y.**, **2025**. *An Investigation into the Selection and Colors of Little Red Dots and Active Galactic Nuclei*, The Astrophysical Journal, 979, 138.
29. Jones, G. C., Bunker, A. J., Saxena, A., Arribas, S., Bhatawdekar, R., Boyett, K., Cameron, A. J., Carniani, S., Charlot, S., Curtis-Lake, E., Hainline, K., Johnson, B. D., Kumari, N., Maseda, M. V., Rix, H.-W., Robertson, B. E., Tacchella, S., Übler, H., Williams, C. C., Willott, C., Witstok, J., and **Zhu, Y.**, **2025**. *JADES: measuring reionization properties using Lyman-alpha emission*, Monthly Notices of the Royal Astronomical Society, 536, 2355.
28. Sun, Y., Lyu, J., Rieke, G. H., Ji, Z., Sun, F., **Zhu, Y.**, Bunker, A. J., Cargile, P. A., Circosta, C., D'Eugenio, F., Egami, E., Hainline, K., Helton, J. M., Rinaldi, P., Robertson, B. E., Scholtz, J., Shvaei, I., Stone, M. A., Tacchella, S., Williams, C. C., Willmer, C. N. A., and Willott, C., **2025**. *No Evidence for a Significant Evolution of*

MBH/M Relation in Massive Galaxies up to $z \sim 4$* , The Astrophysical Journal, 978, 98.

27. Simmonds, C., Tacchella, S., Hainline, K., Johnson, B. D., Puskás, D., Robertson, B., Baker, W. M., Bhatawdekar, R., Boyett, K., Bunker, A. J., Cargile, P. A., Carniani, S., Chevallard, J., Curti, M., Curtis-Lake, E., Ji, Z., Jones, G. C., Kumari, N., Laseter, I., Maiolino, R., Maseda, M. V., Rinaldi, P., Stoffers, A., Übler, H., Villanueva, N. C., Williams, C. C., Willott, C., Witstok, J., and **Zhu, Y.**, **2024**. *Ionizing properties of galaxies in JADES for a stellar mass complete sample: resolving the cosmic ionizing photon budget crisis at the Epoch of Reionization*, Monthly Notices of the Royal Astronomical Society, 535, 2998.
26. Alberts, S., Lyu, J., Shvaei, I., Rieke, G. H., Pérez-González, P. G., Bonaventura, N., **Zhu, Y.**, Helton, J. M., Ji, Z., Morrison, J., Robertson, B. E., Stone, M. A., Sun, Y., Williams, C. C., and Willmer, C. N. A., **2024**. *SMILES Initial Data Release: Unveiling the Obscured Universe with MIRI Multiband Imaging*, The Astrophysical Journal, 976, 224.
25. Saxena, A., Cameron, A. J., Katz, H., Bunker, A. J., Chevallard, J., D'Eugenio, F., Arribas, S., Bhatawdekar, R., Boyett, K., Cargile, P. A., Carniani, S., Charlot, S., Curti, M., Curtis-Lake, E., Hainline, K., Ji, Z., Johnson, B. D., Jones, G. C., Kumari, N., Laseter, I., Maseda, M. V., Robertson, B., Simmonds, C., Tacchella, S., Ubler, H., Williams, C. C., Willott, C., Witstok, J., and **Zhu, Y.**, **2024**. *Hitting the slopes: A spectroscopic view of UV continuum slopes of galaxies reveals a reddening at $z > 9.5$* , arXiv e-prints, arXiv:2411.14532.
24. Rinaldi, P., Bonaventura, N., Rieke, G. H., Alberts, S., Caputi, K. I., Baker, W. M., Baum, S., Bhatawdekar, R., Bunker, A. J., Carniani, S., Curtis-Lake, E., D'Eugenio, F., Egami, E., Ji, Z., Hainline, K., Helton, J. M., Lin, X., Lyu, J., Johnson, B. D., Ma, Z., Maiolino, R., Pérez-González, P. G., Rieke, M., Robertson, B. E., Shvaei, I., Stone, M., Sun, Y., Tacchella, S., Übler, H., Williams, C. C., Willmer, C. N. A., Willott, C., Zhang, J., and **Zhu, Y.**, **2024**. *Not Just a Dot: the complex UV morphology and underlying properties of Little Red Dots*, arXiv e-prints, arXiv:2411.14383.
23. Jiang, D., Onoue, M., Jiang, L., Lai, S., Bañados, E., Becker, G. D., Biselliotti, M., Bosman, S. E. I., Davies, R. L., D'Odorico, V., Farina, E. P., Haehnelt, M. G., Mazzucchelli, C., Schindler, J.-T., Walter, F., and **Zhu, Y.**, **2024**. *No Redshift Evolution in the Fe II/Mg II Flux Ratios of Quasars across Cosmic Time*, The Astrophysical Journal, 975, 214.
22. Shvaei, I., Alberts, S., Florian, M., Rieke, G., Wuyts, S., Bodansky, S., Bunker, A. J., Cameron, A. J., Curti, M., D'Eugenio, F., Dudzevičiūtė, U., Ji, Z., Johnson, B. D., Kramarenko, I., Lyu, J., Matthee, J., Morrison, J., Naidu, R., Pérez-González, P. G., Reddy, N., Robertson, B., Sun, Y., Tacchella, S., Whitaker, K., Williams, C. C., Willmer, C. N. A., Witstok, J., Xiao, M., and **Zhu, Y.**, **2024**. *A new census of dust and polycyclic aromatic hydrocarbons at $z = 0.7\text{--}2$ with JWST MIRI*, Astronomy and Astrophysics, 690, A89.

21. Ji, Z., Williams, C. C., Rieke, G. H., Lyu, J., Alberts, S., Sun, F., Helton, J. M., Rieke, M., Shvarei, I., D'Eugenio, F., Tacchella, S., Robertson, B., **Zhu, Y.**, Maiolino, R., Bunker, A. J., Sun, Y., and Willmer, C. N. A., **2024**. *Extended hot dust emission around the earliest massive quiescent galaxy*, arXiv e-prints, arXiv:2409.17233.
20. Becker, G. D., Bolton, J. S., **Zhu, Y.**, and Hashemi, S., **2024**. *Damping wing absorption associated with a giant Ly α trough at $z < 6$: direct evidence for late-ending reionization*, Monthly Notices of the Royal Astronomical Society, 533, 1525.
19. Stone, M. A., Alberts, S., Rieke, G. H., Bunker, A. J., Lyu, J., Pérez-González, P. G., Shvarei, I., and **Zhu, Y.**, **2024**. *5–25 μm Galaxy Number Counts from Deep JWST Data*, The Astrophysical Journal, 972, 62.
18. Spina, B., Bosman, S. E. I., Davies, F. B., Gaikwad, P., and **Zhu, Y.**, **2024**. *Damping wings in the Lyman- α forest: A model-independent measurement of the neutral fraction at $5.4 < z < 6.1$* , Astronomy and Astrophysics, 688, L26.
17. Wolfson, M., Hennawi, J. F., Bosman, S. E. I., Davies, F. B., Lukić, Z., Becker, G. D., Chen, H., Cupani, G., D'Odorico, V., Eilers, A.-C., Haehnelt, M. G., Keating, L. C., Kulkarni, G., Lai, S., Mesinger, A., Walter, F., and **Zhu, Y.**, **2024**. *Measurements of the $z > 5$ Lyman- α forest flux autocorrelation functions from the extended XQR-30 data set*, Monthly Notices of the Royal Astronomical Society, 531, 3069.
16. Bischetti, M., Choi, H., Fiore, F., Feruglio, C., Carniani, S., D'Odorico, V., Bañados, E., Chen, H., Decarli, R., Gallerani, S., Hlavacek-Larrondo, J., Lai, S., Leighly, K. M., Mazzucchelli, C., Perreault-Levasseur, L., Tripodi, R., Walter, F., Wang, F., Yang, J., Zanchettin, M. V., and **Zhu, Y.**, **2024**. *Multiphase Black Hole Feedback and a Bright [C II] Halo in a LoBAL Quasar at $z \sim 6.6$* , The Astrophysical Journal, 970, 9.
15. Roth, J. T., D'Aloisio, A., Cain, C., Wilson, B., **Zhu, Y.**, and Becker, G. D., **2024**. *The effect of reionization on direct measurements of the mean free path*, Monthly Notices of the Royal Astronomical Society, 530, 5209.
14. Greig, B., Mesinger, A., Bañados, E., Becker, G. D., Bosman, S. E. I., Chen, H., Davies, F. B., D'Odorico, V., Eilers, A.-C., Gallerani, S., Haehnelt, M. G., Keating, L., Lai, S., Qin, Y., Ryan-Weber, E., Satyavolu, S., Wang, F., Yang, J., and **Zhu, Y.**, **2024**. *IGM damping wing constraints on the tail end of reionization from the enlarged XQR-30 sample*, Monthly Notices of the Royal Astronomical Society, 530, 3208.
13. Davies, F. B., Bosman, S. E. I., Gaikwad, P., Nasir, F., Hennawi, J. F., Becker, G. D., Haehnelt, M. G., D'Odorico, V., Bischetti, M., Eilers, A.-C., Keating, L. C., Kulkarni, G., Lai, S., Mazzucchelli, C., Qin, Y., Satyavolu, S., Wang, F., Yang, J., and **Zhu, Y.**, **2024**. *Constraints on the Evolution of the Ionizing Background and Ionizing Photon Mean Free Path at the End of Reionization*, The Astrophysical Journal, 965, 134.
12. Gaikwad, P., Haehnelt, M. G., Davies, F. B., Bosman, S. E. I., Molaro, M., Kulkarni, G., D'Odorico, V., Becker, G. D., Davies, R. L., Nasir, F., Bolton, J. S., Keating, L. C., Iršić, V., Puchwein, E., **Zhu, Y.**, Asthana, S., Yang, J., Lai, S., and Eilers, A.-C., **2023**. *Measuring the photoionization rate, neutral fraction, and mean free path of H*

I ionizing photons at $4.9 \leq z \leq 6.0$ from a large sample of XShooter and ESI spectra, Monthly Notices of the Royal Astronomical Society, 525, 4093.

11. Christenson, H. M., Becker, G. D., D'Aloisio, A., Davies, F. B., **Zhu, Y.**, Boera, E., Nasir, F., Furlanetto, S. R., and Malkan, M. A., **2023**. *The Relationship between IGM Ly α Opacity and Galaxy Density near the End of Reionization*, The Astrophysical Journal, 955, 138.
10. Mazzucchelli, C., Bischetti, M., D'Odorico, V., Feruglio, C., Schindler, J.-T., Onoue, M., Bañados, E., Becker, G. D., Bian, F., Carniani, S., Decarli, R., Eilers, A.-C., Farina, E. P., Gallerani, S., Lai, S., Meyer, R. A., Rojas-Ruiz, S., Satyavolu, S., Venemans, B. P., Wang, F., Yang, J., and **Zhu, Y.**, **2023**. *XQR-30: Black hole masses and accretion rates of 42 $z \gtrsim 6$ quasars*, Astronomy and Astrophysics, 676, A71.
9. D'Odorico, V., Bañados, E., Becker, G. D., Bischetti, M., Bosman, S. E. I., Cupani, G., Davies, R., Farina, E. P., Ferrara, A., Feruglio, C., Mazzucchelli, C., Ryan-Weber, E., Schindler, J.-T., Sodini, A., Venemans, B. P., Walter, F., Chen, H., Lai, S., **Zhu, Y.**, Bian, F., Campo, S., Carniani, S., Cristiani, S., Davies, F., Decarli, R., Drake, A., Eilers, A.-C., Fan, X., Gaikwad, P., Gallerani, S., Greig, B., Haehnelt, M. G., Hennawi, J., Keating, L., Kulkarni, G., Mesinger, A., Meyer, R. A., Neeleman, M., Onoue, M., Pallottini, A., Qin, Y., Rojas-Ruiz, S., Satyavolu, S., Sebastian, A., Tripodi, R., Wang, F., Wolfson, M., Yang, J., and Zanchettin, M. V., **2023**. *XQR-30: The ultimate XSHOOTER quasar sample at the reionization epoch*, Monthly Notices of the Royal Astronomical Society, 523, 1399.
8. Bischetti, M., Fiore, F., Feruglio, C., D'Odorico, V., Arav, N., Costa, T., Zubovas, K., Becker, G., Bosman, S. E. I., Cupani, G., Davies, R., Eilers, A.-C., Farina, E. P., Ferrara, A., Gaspari, M., Mazzucchelli, C., Onoue, M., Piconcelli, E., Zanchettin, M. V., and **Zhu, Y.**, **2023**. *The Fraction and Kinematics of Broad Absorption Line Quasars across Cosmic Time*, The Astrophysical Journal, 952, 44.
7. Davies, R. L., Ryan-Weber, E., D'Odorico, V., Bosman, S. E. I., Meyer, R. A., Becker, G. D., Cupani, G., Keating, L. C., Bischetti, M., Davies, F. B., Eilers, A.-C., Farina, E. P., Haehnelt, M. G., Pallottini, A., and **Zhu, Y.**, **2023**. *Examining the decline in the C IV content of the Universe over $4.3 \lesssim z \lesssim 6.3$ using the E-XQR-30 sample*, Monthly Notices of the Royal Astronomical Society, 521, 314.
6. Davies, R. L., Ryan-Weber, E., D'Odorico, V., Bosman, S. E. I., Meyer, R. A., Becker, G. D., Cupani, G., Bischetti, M., Sebastian, A. M., Eilers, A.-C., Farina, E. P., Wang, F., Yang, J., and **Zhu, Y.**, **2023**. *The XQR-30 metal absorber catalogue: 778 absorption systems spanning $2 \lesssim z \lesssim 6.5$* , Monthly Notices of the Royal Astronomical Society, 521, 289.
5. Bosman, S. E. I., Davies, F. B., Becker, G. D., Keating, L. C., Davies, R. L., **Zhu, Y.**, Eilers, A.-C., D'Odorico, V., Bian, F., Bischetti, M., Cristiani, S. V., Fan, X., Farina, E. P., Haehnelt, M. G., Hennawi, J. F., Kulkarni, G., Mesinger, A., Meyer, R. A., Onoue, M., Pallottini, A., Qin, Y., Ryan-Weber, E., Schindler, J.-T., Walter, F., Wang, F., and Yang, J., **2022**. *Hydrogen reionization ends by $z = 5.3$: Lyman- α optical depth*

measured by the XQR-30 sample, Monthly Notices of the Royal Astronomical Society, 514, 55.

4. Lai, S., Bian, F., Onken, C. A., Wolf, C., Mazzucchelli, C., Bañados, E., Bischetti, M., Bosman, S. E. I., Becker, G., Cupani, G., D’Odorico, V., Eilers, A.-C., Fan, X., Farina, E. P., Onoue, M., Schindler, J.-T., Walter, F., Wang, F., Yang, J., and **Zhu, Y.**, **2022**. *Chemical abundance of $z \sim 6$ quasar broad-line regions in the XQR-30 sample*, Monthly Notices of the Royal Astronomical Society, 513, 1801.
3. Bischetti, M., Feruglio, C., D’Odorico, V., Arav, N., Bañados, E., Becker, G., Bosman, S. E. I., Carniani, S., Cristiani, S., Cupani, G., Davies, R., Eilers, A. C., Farina, E. P., Ferrara, A., Maiolino, R., Mazzucchelli, C., Mesinger, A., Meyer, R. A., Onoue, M., Piconcelli, E., Ryan-Weber, E., Schindler, J.-T., Wang, F., Yang, J., **Zhu, Y.**, and Fiore, F., **2022**. *Suppression of black-hole growth by strong outflows at redshifts 5.8-6.6*, Nature, 605, 244.
2. Becker, G. D., D’Aloisio, A., Christenson, H. M., **Zhu, Y.**, Worseck, G., and Bolton, J. S., **2021**. *The mean free path of ionizing photons at $5 < z < 6$: evidence for rapid evolution near reionization*, Monthly Notices of the Royal Astronomical Society, 508, 1853.
1. Christenson, H. M., Becker, G. D., Furlanetto, S. R., Davies, F. B., Malkan, M. A., **Zhu, Y.**, Boera, E., and Trapp, A., **2021**. *Constraints on the End of Reionization from the Density Fields Surrounding Two Highly Opaque Quasar Sightlines*, The Astrophysical Journal, 923, 87.

Prepared by Yongda Zhu with L^AT_EX. Updated on January 23, 2026.