

Zihao Wu

Education	Harvard University Ph.D. Candidate. Advisor: Daniel J. Eisenstein	Cambridge, MA 2023 – Expected 2028
	Peking University B.S. in Astronomy	Beijing, CN 2019 – 2023
Research Interests	1. Galaxy Formation and Evolution in the Early Universe 2. Galaxy Clustering and Dark Matter Halos 3. Supermassive and Intermediate-Mass Black Holes	
Honor	Outstanding Graduate, Beijing City & Peking University First prize, Lin-bridge Scholarship for Astronomy Research First prize, Xingcheng Academic Forum in Physics, Peking University First prize, Mathematics Competition for College Students, Beijing Excellent Undergraduate Research, Peking University	Dec 2022 Sep 2022 May 2022 Dec 2020 May 2023
Observatory Allocations	JWST NIRSpec Multi-Object Spectroscopy JWST MIRI Low Resolution Spectroscopy JWST NIRCam Wide Field Slitless Spectroscopy	71.7 hours (PID 8018; Co-I) 62.8 hours (PID 8544; Co-I) 12.2 hours (PID 7336; Co-I)
Talks & Posters	JADES Collaboration Meeting, Boston <i>Talk: Weak Metal Emission Lines of JADES-GS-z14-1 from Extremely Deep JWST MIRI, NIRCam, NIRSpec Observations.</i> First Galaxies, Oxford <i>Flash talk: Stellar Continuum and Nebular Emission of JADES-GS-z14-1 from JWST MIRI/F770W Observations.</i> JADES Collaboration Meeting, Santa Cruz <i>Talk: Stellar Continuum and Nebular Emission from JADES-GS-z14-1.</i> <i>Talk: Wisp Subtraction in JWST NIRCam with the Non-negative Matrix Factorization Algorithm.</i> JADES Collaboration Meeting, Copenhagen <i>Talk: MIRI Flux of JADES-GS-z14-0 From Individual Exposures Fitting</i> PKU-KIAA Seminar, Peking University <i>Talk: Constraining the Abundance of Intermediate-mass Black Holes from Quasar Microlensing.</i> Yellow Mountain Guoshoujing Annual Conference <i>Talk: The Elusive Population of Disk Galaxies with Double Radio Lobes</i> East Asia AGN Workshop <i>Poster: AGN Identification from Galaxy 2D Light Profile Decomposition</i>	Jun 2025 Apr 2025 Jan 2025 Jun 2024 Jul 2024 May 2023 Oct 2021
Professional Service	Member, The JWST Advanced Deep Extragalactic Survey (JADES) Organizer, Harvard Astronomy Student-Faculty Forum Student representative on Harvard Griffin GSAS Student Council Student representative on Harvard Astronomy Student Faculty Council Academic chair, Student Council of School of Physics, Peking University	2023 – present 2024 – present 2024 – present 2024 – 2025 2020 – 2021
Community Service	Volunteer in Cambridge Explore the Universe Students tutor in advanced physics courses Bicycle mechanic and cyclist in a 900 km 20-day long-distance team cycling	2024 2022 2020

Selected Press Coverage	<i>CfA Press Release</i> (2024) “CfA Astronomers Help Find Most Distant Galaxy Using James Webb Space Telescope”
	<i>Sky & Telescope Magazine</i> (2023) “Unearthing Galactic Gems”
Publication	<p>Zihao Wu, Daniel J. Eisenstein, Benjamin D. Johnson, Kevin Hainline, <i>et al.</i> “JADES: A Prominent Galaxy Overdensity Candidate within the First 500 Myr” arXiv e-prints, arXiv:2601.15960 (2026)</p> <p>Zihao Wu, Benjamin D. Johnson, Daniel J. Eisenstein, Phillip Cargile, <i>et al.</i> “JWST Advanced Deep Extragalactic Survey (JADES) Data Release 5: Wisp Subtraction with the Non-negative Matrix Factorization Algorithm” arXiv e-prints, arXiv:2601.15958 (2026)</p> <p>Zihao Wu, Daniel J. Eisenstein, Benjamin D. Johnson, Peter Jakobsen, <i>et al.</i> “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 (2025)</p> <p>Zihao Wu, Luis C. Ho “Detecting Intermediate-mass Black Holes Using Quasar Microlensing” <i>The Astrophysical Journal</i>, 985, 2 (2025)</p> <p>Zihao Wu, Luis C. Ho, Ming-Yang Zhuang “An Elusive Population of Massive Disk Galaxies Hosting Double-lobed Radio-loud AGNs” <i>The Astrophysical Journal</i> 941, 95 (2022)</p> <p>P. Rinaldi, G. Rieke, Z. Wu, <i>et al.</i> “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 (2025)</p> <p>J. Helton, G. Rieke, S. Alberts, Z. Wu, D. Eisenstein, <i>et al.</i> “JWST/MIRI photometric detection at $7.7 \mu\text{m}$ of the stellar continuum and nebular emission in a galaxy at $z > 14$” <i>Nature Astronomy</i>, 1-12 (2025)</p> <p>F. Sun, D. J. Eisenstein, F. DEugenio, K. Hainline, <i>et al.</i> “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” arXiv e-prints, arXiv:2601.15961 (2026)</p> <p>K. N. Hainline, D. J. Eisenstein, L. Whitler, B. Robertson, <i>et al.</i> “JWST Advanced Deep Extragalactic Survey (JADES) Data Release 5: Photometrically Selected Galaxy Candidates at $z > 8$” arXiv e-prints, arXiv:2601.15959 (2026)</p> <p>C. Carreira, B. E. Robertson, A. L. Danhaive, Z. Ji, <i>et al.</i> “JWST Advanced Deep Extragalactic Survey (JADES) Data Release 5: Catalogs of inferred morphological properties of galaxies from JWST/NIRCam imaging in GOODS-N and GOODS-S” arXiv e-prints, arXiv:2601.15957 (2026)</p> <p>B. E. Robertson, B. D. Johnson, S. Tacchella, D. J. Eisenstein, <i>et al.</i> “JWST Advanced Deep Extragalactic Survey (JADES) Data Release 5: Photometric Catalog”</p>

arXiv e-prints, arXiv:2601.15956 (2026)

S. Alberts, D. J. Eisenstein, A. J. Bunker, E. Curtis-Lake, *et al.*

“JWST Advanced Deep Extragalactic Survey (JADES) Data Release 5: MIRI Coordinated Parallels in GOODS-S and GOODS-N”

arXiv e-prints, arXiv:2601.15955 (2026)

B. D. Johnson, B. E. Robertson, D. J. Eisenstein, S. Tacchella, *et al.*

“JWST Advanced Deep Extragalactic Survey (JADES) Data Release 5: NIRCam Imaging in GOODS-S and GOODS-N”

arXiv e-prints, arXiv:2601.15954 (2026)

J. M. Helton, J. E. Morrison, K. N. Hainline, F. DEugenio, *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”

arXiv e-prints, arXiv:2512.19695 (2025)

Z. Zhang, M. Li, M. Oguri, X. Lin, *et al.*

“Little red dot variability over a century reveals black hole envelope via a giant Einstein cross”

arXiv e-prints, arXiv:2512.05180 (2025)

A. L. Danhaive, S. Tacchella, A. J. Bunker, E. Curtis-Lake, *et al.*

“The dark side of early galaxies: geko uncovers dark-matter fractions at $z \sim 4-6$ ”

arXiv e-prints, arXiv:2510.14779 (2025)

J. A. A. Trussler, A. J. Cameron, D. J. Eisenstein, H. Katz, *et al.*

“Cloudy with a chance of starshine: Possible photometric signatures of nebular-dominated emission in $1.5 < z < 8.5$ JADES galaxies”

arXiv e-prints, arXiv:2510.12622 (2025)

F. D'Eugenio, E. J. Nelson, D. J. Eisenstein, R. Maiolino, *et al.*

“JADES Dark Horse: demonstrating high-multiplex observations with JWST/NIRSpec dense-shutter spectroscopy in the JADES Origins Field”

arXiv e-prints, arXiv:2510.11626 (2025)

A. L. Danhaive, S. Tacchella, W. McClymont, B. Robertson, *et al.*

“Beyond the stars: Linking H α sizes, kinematics, and star formation in galaxies at $z \sim 4-6$ with JWST grism surveys and geko”

arXiv e-prints, arXiv:2510.06315 (2025)

Y. Zhu, M. J. Rieke, Z. Ji, A. J. Bunker, *et al.*

“Clump-like Structures in High-Redshift Galaxies: Mass Scaling and Radial Trends from JADES”

arXiv e-prints, arXiv:2601.15965 (2026)

P. Rinaldi, P. Prez-Gonzlez, G. Rieke, *et al.*

“Deciphering the Nature of Virgil: An Obscured AGN Lurking Within an Apparently Normal Lyman- Emitter During Cosmic Reionization”

arXiv e-prints, arXiv:2504.01852 (2025)

J. Witstok, R. Smit, W. Baker, P. Rinaldi, *et al.*

“On the origins of oxygen: ALMA and JWST characterize the multi-phase, metal-enriched, star-bursting medium within a ‘normal’ $z > 11$ galaxy”

arXiv e-prints, arXiv:2507.22888 (2025)