

# Zihao Wu

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

<b>Selected Press Coverage</b>	<i>CfA Press Release</i> (2024) “CfA Astronomers Help Find Most Distant Galaxy Using James Webb Space Telescope”
	<i>Sky &amp; Telescope Magazine</i> (2023) “Unearthing Galactic Gems”
<b>Publication</b>	<b>Zihao Wu</b> , 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)
	<b>Zihao Wu</b> , 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)
	<b>Zihao Wu</b> , 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, NIRCам, and NIRSspec Observations” arXiv e-prints, arXiv:2507.22858 (2025)
	<b>Zihao Wu</b> , Luis C. Ho “Detecting Intermediate-mass Black Holes Using Quasar Microlensing” <i>The Astrophysical Journal</i> , 985, 2 (2025)
	<b>Zihao Wu</b> , 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. Rinaldi, G. Rieke, <b>Z. Wu</b> , <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)
	J. Helton, G. Rieke, S. Alberts, <b>Z. Wu</b> , 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 $z > 14$ ” Nature Astronomy, 1-12 (2025)
	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/NIRCам Imaging and Grism Spectroscopy” arXiv e-prints, arXiv:2601.15961 (2026)
	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)
	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/NIRCам imaging in GOODS-N and GOODS-S” arXiv e-prints, arXiv:2601.15957 (2026)
	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”

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: NIRCIm 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  $z \sim 4\text{--}6$ ”

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  $H\alpha$  sizes, kinematics, and star formation in galaxies at  $z \sim 4\text{--}6$  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-Gonzalez, 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)