Xiaojing Lin

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Personal Information

PhD student
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Research Interests: Black holes, Active galactic nuclei, Reionization, Stellar population, Galaxy ecosystem

Education

Visiting student at Steward Observatory, Tucson, Arizona Advisor: Prof. Xiaohui Fan & Dr. Eiichi Egami	2023.10 – 2025.06
PhD student in Astronomy, Tsinghua University, Beijing, China Advisor: Prof. Zheng Cai	2021.09 – Present
BS in Astronomy, Peking University, Beijing, China Thesis Title: Probing Diffuse Lyman Alpha Emission on Cosmological Scales Advisor: Prof. Zheng Cai & Zheng Zheng	2017.09 – 2021.06

Collaborations

As core member: CONGRESS, MAGNIF, SAPPHIRES;
Others: ASPIRE, COSMOS-3D, DESI, JADES, Merian, et al.

Telescope Allocation

JWST Cycle 4 GO-8018 (PI)	72.7 h	DIVER: Deep Insights into UV Spectroscopy at the Epoch of Reionization
JWST Cycle 4 GO-7935 (co-PI)	36.2 h	EMERALD: Efficient Measurement of the Emergence Rate of AGN in Legacy Deep Field
HST Cycle 33 GO-18038 (PI)	25 orbits	Unravel the Puzzles of Little Red Dots: HST View on Local Analogs

Ground-based as PI: MMT/Binospec (3 nights), Magellan/FIRE (2 nights), Magellan/LLAMAS (1 night)

Publication

All papers on ADS Link

First Author

1. **Lin, X.**, Fan, X., Cai, Z., et al. 2025, *The Discovery of Little Red Dots in the Local Universe: Signatures of Cool Gas Envelopes,* submitted
2. **Lin, X.**, Fan, X., Wang, F., et al. 2025, *Bridging Quasars and Little Red Dots: Insights into Broad-Line AGNs at* $z = 5 - 8$ *from the First JWST COSMOS-3D Dataset,* submitted
3. **Lin, X.**, Fan, X., Sun, F., et al. 2024, *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,* submitted
4. **Lin, X.**, Egami, E., Sun, F., et al. 2025, *The Luminosity Function and Clustering of H* α *Emitting Galaxies at* $z \approx 4 - 6$ *from a Complete NIRCam Grism Redshift Survey,* submitted

5. **Lin, X.**, Wang, F., Fan, X., et al. 2024, *A Spectroscopic survey of biased halos In the Reionization Era (ASPIRE): Broad-line AGN at $z = 4 - 5$ revealed by JWST/NIRCam WFSS,* ApJS, 914, 147
6. **Lin, X.**, Cai, Z., Wu, Y., et al. 2024, *Quantifying the escape of Lyα at $z \approx 5 - 6$: a census of Lyα escape fraction with Hα emitting galaxies spectroscopically confirmed by JWST and VLT/MUSE,* ApJS, 272, 33
7. **Lin, X.**, Cai, Z., Zou, S., et al. 2023, *Metal-Enriched Neutral Gas Reservoir around a Strongly-lensed, Low-mass Galaxy at z=4 Identified by JWST/NIRISS and VLT/MUSE,* ApJL, 944, 59
8. **Lin, X.**, Zheng, Z. & Cai, Z. 2022, *Probing the Diffuse Lyα Emission on Cosmological Scales: Lyα Emission Intensity Mapping Using the Complete SDSS-IV eBOSS,* ApJS, 262, 38.
9. **Lin, X.**, Cai, Z., Li, Y., et al. 2020, *Constraining the Halo Mass of Damped Lyman alpha Absorption Systems (DLAs) at z = 2-3.5 Using the Quasar-CMB Lensing Cross-correlation,* ApJ, 905, 176.

Contributing Author (Selected)

- Hsiao, T., Sun, F., **Lin, X.**, et al. 2025, *SAPPHIRES: Extremely Metal-Poor Galaxy Candidates with* $12 + \log(\mathrm{O/H}) < 7.0$ *at* $z \sim 5 - 7$ *from Deep JWST/NIRCam Grism Observations* submitted
- Fudamoto, Y., Helton, J., **Lin, X.**, et al. 2025, *SAPPHIRES: A Galaxy Over-Density in the Heart of Cosmic Reionization at* $z = 8.47$ submitted
- Sun, F., Fudamoto, Y., **Lin, X.**, et al. 2025, *Slitless Areal Pure-Parallel HIgh-Redshift Emission Survey (SAPPHIRES): Early Data Release of Deep JWST/NIRCam Images and Spectra in MACS J0416 Parallel Field,* submitted

Presentations

2024.04	Talk	Harvard ITC Luncheon Talk
2024.04	Talk	MIT Kavli Institute Monday Afternoon Talks
2024.05	Talk (online)	UCSC CGI (Cosmology/Galaxies/IGM) seminar
2024.05	Poster	First Stars VII in NYC
2024.10	Talk	EREBUS collaboration meeting, Hilo
2024.10	Talk	The First Gigayear(s), Hilo
2025.05	Talk	CFC 2025, UT Austin
2025.06	Talk	EREBUS collaboration meeting, Bologna
2025.09	Poster & Flash Talk	MBH2025, Cambridge

Observing Experience

Blanco 4m/DECam	> 5 nights	Magellen/LLAMAS	2 nights
Magellen/FIRE	> 5 nights	Magellen/MagE	1 night
Magellen/IMACS	4 nights	Keck/KCWI	1 night

Supervisors/Supervisor Analogs

Prof. Zheng Cai	Tsinghua University	zcai@mail.tsinghua.edu.cn
Prof. Xiaohui Fan	Steward Observatory	xfan@arizona.edu
Dr. Eiichi Egami	Steward Observatory	egami@arizona.edu
Dr. Fengwu Sun	Harvard University	fengwu.sun@cfa.harvard.edu
Dr. Fuyan Bian	ESO (Chile)	Fuyan.Bian@eso.org