MINGHAO YUE

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WORK EXPERIENCE

Steward Observatory, University of Arizona 2025-Present
Bart J. Bok Fellow

MIT Kavli Institute for Astrophysics and Space Research 2022-2025
Postdoctoral Associate (Advisor: Prof. Anna-Christina Eilers)

EDUCATION

Department of Astronomy, University of Arizona 2016-2022
Ph.D. in Astronnomy and Astrophysics (Advisor: Prof. Xiaohui Fan)
Thesis Title: A Survey for High-Redshift Gravitationally Lensed Quasars

School of Physics, Peking University 2012-2016
Bachelor of Science, Major: Astronomy

RESEARCH INTERESTS

- Supermassive black holes and their host galaxies
- Strong gravitational lensing and cosmology
- High-redshift universe and reionization
- Big data and machine learning in astronomy

EXPEIRENCE & SKILLS

Observational Experiences:

- Ground-based Telescopes: Magellan/Clay, Magellan/Baade, MMT, LBT, VATT, Bok, Gemini-N, JCMT, Shane
- Space Telescopes: HST (ACS, WFC3), JWST (NIRCam, NIRSpec), *Chandra*
- Sub-mm interferometer: ALMA

Data Analysis Skills:

- Imaging, long-slit spectra, IFU, interferometric analyses
- Lens modeling for imaging and interferometer data
- Analysis of large data datasets, data mining, machine learning

SELECTED SUCCESSFUL PROPOSALS AS PI

JWST-GO-3017: *High-resolution imaging of a compact lensed quasar at* $z = 5.07$ *and a compound lensing system*

HST-GO-16460: *Confirming a Gravitationally Lensed Quasar Candidate at* $z = 5.07$

HST-GO-16507: *Identifying a Gravitationally Lensed Quasar or A Close Quasar Pair at* $z = 5.66$

HST-SNAP-18137: *Compact Lensed Quasars: are They Hidden in the Known Quasar Catalogs?*

ALMA-2022.1.00673.S & ALMA-2022.1.00673.S: *Characterizing the Merging Host Galaxies of a Close Quasar Pair at* $z = 5.66$

ALMA-2025.1.00567.S: *Mapping the 20-pc-scale Dust Emission for a* $z = 6.52$ *Lensed Quasar: Understanding AGN heating in High-z Quasars*

Other successful PI proposals: Gemini-N telescope, Magellan Telescopes, MMT, LBT

SELECTED TALKS

Invited Talks

New Era of AGN Science with LSST	07/25/2023
UMBRELA Dialogues at CfA	10/30/2024
Galaxy Journal Club at STScI	12/03/2024
Strong Lensing Workshop	03/31/2025

Contributed Conference Talks

SAZERAC2 Conference	06/17/2021
LSST AGN Science Collaboration Meeting	07/14/2021
First Light Conference at MIT	06/12/2023
Roman Science Inspired by Emerging JWST Results	06/21/2023
The First Year of JWST Science Conference	09/13/2023
EREBUS Workshop	10/04/2023
Boston Area Black hole and Accretion Meeting	10/20/2023
EREBUS Workshop	09/25/2024
First Gigayear(s) Conference	10/03/2025
CFC2025 Conference	05/30/2025

TEACHING EXPERIENCE

Teaching Assistant, ASTR201 (Cosmology)	Fall 2018
Teaching Assistant, ASTR170B1 (The Physical Universe)	Spring 2021

EXPERIENCE OF REFEREE / PROPOSAL VIEWER / CONFERENCE ORGANIZER

Referee of MNRAS, ApJ, RAA, Nature Astronomy	
Proposal Reviewer for Gemini, ALMA, ESO	
Proposal Reviewing Panel for NOIRLab, *HST*, *JWST*	
Magellan Telescope TAC at MIT	2023
Local Organization Committee, First Light Conference at MIT	2023
Science Organization Committee, New Era of AGN Science with LSST	2023

SERVICE / COMMUNITY CONNECTION

Member of Steward Observatory DEI Committee	2020-2022
Host of Steward Observatory Science Coffee	2019-2022
Host of MKI Monday Afternoon Talk	2023-Present
Member, LSST AGN Science Collaboration	2021-Present
Member, LSST Strong Lensing Science Collaboration	2021-Present
Member, the EREBUS Collaboration	2022-Present

Member, the EIGER Collaboration 2022-Present
Member, the AXIS AGN Science Working Group 2025-Present

MENTORING EXPERIENCE

Kristin He (through UROP program at MIT) 2023
Project Title: Searching for gravitationally lensed quasars in large sky surveys

Katherine Panebianco (through UROP program at MIT) 2025-Present
Project Title: Characterizing a Lensed Quasar at $z = 5.07$

SELECTED HONORS & AWARDS

Neil Gehrels Prize Postdoctoral Fellowship (Declined) 2025
ELT Fellowship (Declined) 2025
Galileo Circle Scholarship 2022
Award for Excellence in Scholarship, College of Science, Univ. of Arizona 2022
NRAO Student Observing Support Award 2018
Outstanding Graduates of Beijing 2016
National Scholarship 2014

PUBLICATIONS

ADS publication library: https://ui.adsabs.harvard.edu/public-libraries/MOppWpX7TPWez7ICqsPE7g

Publications as the First Author (11 in total):

11. Escape fractions from unattenuated Lyα emitters around luminous $z > 6$ quasars.
Yue, M., Eilers, A.-C., Matthee, J., et al. 2025, , arXiv:2507.05381. doi:10.48550/arXiv.2507.05381

10. Stacking X-ray Observations of "Little Red Dots": Implications for their AGN Properties.
Yue, M., Eilers, A.-C., Ananna, T. T., et al. 2024, ApJ, 974, L26. doi:10.3847/2041-8213/ad7eba

9. EIGER V. Characterizing the Host Galaxies of Luminous Quasars at $z \gtrsim 6$.
Yue, M., Eilers, A.-C., Simcoe, R. A., et al. 2024, ApJ, 966, 176. doi:10.3847/1538-4357/ad3914

8. Detecting and Characterizing Young Quasars. III. The Impact of Gravitational Lensing Magnification.
Yue, M., Eilers, A.-C., Simcoe, R. et al. 2023, ApJ, 950, 105. doi:10.3847/1538-4357/accf20

7. A Survey for High-redshift Gravitationally Lensed Quasars and Close Quasars Pairs. I. the Discoveries of an Intermediately-lensed Quasar and a Kpc-scale Quasar Pair at $z \sim 5$
Yue, M., Fan, X., Yang, J. et al. 2023, AJ, 165, 191. doi:10.3847/1538-3881/acc2be

6. A Mock Catalog of Gravitationally Lensed Quasars for the LSST Survey.
Yue, M., Fan, X., Yang, J. et al. 2022, AJ, 163, 139. doi: 10.3847/1538-3881/ac4cb0

5. Revisiting the Lensed Fraction of High-Redshift Quasars.

Yue, M., Fan, X., Yang, J., et al. 2022, ApJ, 925, 169. doi:10.3847/1538-4357/ac409b

4. A Candidate Kiloparsec-scale Quasar Pair at z=5.66.
Yue, M., Fan, X., Yang, J., et al. 2021, ApJ, 921, L27. doi:10.3847/2041-8213/ac31a9

3. ALMA Observations of the Sub-kpc Structure of the Host Galaxy of a $z = 6.5$ Lensed Quasar: A Rotationally-Supported Hyper-Starburst System at the Epoch of Reionization.
Yue, M., Yang, J., Fan, X. et al. 2021, ApJ, 917, 99. doi:10.3847/1538-4357/ac0af4

2. Quasars Have Fewer Close Companions than Normal Galaxies.
Yue, M., Fan, X., Schindler, J.-T. et al. 2019, ApJ, 883, 141. doi:10.3847/1538-4357/ab3db2

1. The Sloan Digital Sky Survey Reverberation Mapping Project: Quasar Host Galaxies at z < 0.8 from Image Decomposition.
Yue, M., Jiang, L., Shen, Y., et al. 2018, ApJ, 863, 21. doi:10.3847/1538-4357/aacf04

Publications as a Co-author (42 in total):

42. An Extremely Metal-poor Lyα Emitter Candidate at z = 6 Revealed through Absorption Spectroscopy
Ďurovčíková, D., Eilers, A.-C., Simcoe, R. A., et al. 2025, ApJ, 987, 2, L33. doi:10.3847/2041-8213/ade71c

41. Biases in stellar masses of JWST high-z quasar host galaxies caused by quasar subtraction
Berger, S., Marshall, M. A., Wyithe, J. S. B., et al. 2025, arXiv:2506.12130. doi:10.48550/arXiv.2506.12130

40. EIGER VII. The evolving relationship between galaxies and the intergalactic medium in the final stages of reionization
Kashino, D., Lilly, S. J., Matthee, J., et al. 2025, , arXiv:2506.03121. doi:10.48550/arXiv.2506.03121

39. Oxyster: A Circumgalactic Low-ionization Oxygen Nebula next to a Starburst Galaxy at $z \sim 1$
Lu, P., Li, M., Baron, D., et al. 2025, , arXiv:2504.11531. doi:10.48550/arXiv.2504.11531

38. Direct Evidence for Active Galactic Nuclei Feedback from Fast Molecular Outflows in Reionization-era Quasars
Spilker, J. S., Champagne, J. B., Fan, X., et al. 2025, ApJ, 982, 2, 72. doi:10.3847/1538-4357/adb750

37. Time evolution of Mg II in SDSS J2320+0024: Implications for a subparsec binary supermassive black hole system
Fatović, M., Ilić, D., Kovačević, A. B., et al. 2025, A&A, 695, A208. doi:10.1051/0004-6361/202453600

36. GA-NIFS & EIGER: A merging quasar host at z=7 with an overmassive black hole
Marshall, M. A., Yue, M., Eilers, A.-C., et al. 2024, arXiv:2410.11035. doi:10.48550/arXiv.2410.11035

35. A SPectroscopic survey of biased halos In the Reionization Era (ASPIRE): JWST Supports Earlier Reionization around [OIII] Emitters

Jin, X., Yang, J., Fan, X., et al. 2024, ApJ, 976, 1, 93. doi:10.3847/1538-4357/ad82de

34. The Sloan Digital Sky Survey Reverberation Mapping Project: Key Results.
Shen, Y., Grier, C. J., Horne, K., et al. 2024, ApJS, 272, 26. doi:10.3847/1538-4365/ad3936

33. A Spatially Resolved [C II] Survey of 31 $z \sim 7$ Massive Galaxies Hosting Luminous Quasars.
Wang, F., Yang, J., Fan, X., et al. 2024, ApJ, 968, 9. doi:10.3847/1538-4357/ad3fb4

32. MAMMOTH-Subaru. II. Diverse Populations of Circumgalactic Lyα Nebulae at Cosmic Noon.
Li, M., Zhang, H., Cai, Z., et al. 2024, ApJS, 275, 2, 27. doi:10.3847/1538-4365/ad812c

31. A unified model for the clustering of quasars and galaxies at $z \approx 6$
Pizzati, E., Hennawi, J. F., Schaye, J., et al. 2024, MNRAS, 534, 4, 3155. doi:10.1093/mnras/stae2307

30. EIGER VI. The Correlation Function, Host Halo Mass and Duty Cycle of Luminous Quasars at $z \gtrsim 6$
Eilers, A.-C., Mackenzie, R., Pizzati, E., et al. 2024, ApJ, 974, 2, 275. doi:10.3847/1538-4357/ad778b

29. Little Red Dots: An Abundant Population of Faint Active Galactic Nuclei at $z \sim 5$ Revealed by the EIGER and FRESCO JWST Surveys
Matthee, J., Naidu, R. P., Brammer, G., et al. 2024, ApJ, 963, 129. doi:10.3847/1538-4357/ad2345

28. EIGER IV. The Cool 10^4 K Circumgalactic Environment of High-redshift Galaxies Reveals Remarkably Efficient Intergalactic Medium Enrichment
Bordoloi, R., Simcoe, R. A., Matthee, J., et al. 2024, ApJ, 963, 28. doi:10.3847/1538-4357/ad1b63

27. XMM-Newton-discovered Fast X-ray Transients: host galaxies and limits on contemporaneous detections of optical counterparts
Eappachen, D., Jonker, P. G., Quirola-Vásquez, J., et al. 2024, MNRAS, 527, 11823. doi:10.1093/mnras/stad3924

26. A Massive Protocluster Anchored by a Luminous Quasar at $z = 6.63$
Wang, F., Yang, J., Hennawi, J. F., et al. 2024, ApJL, 962, L11. doi:10.3847/2041-8213/ad20ef

25. Streamlined lensed quasar identification in multiband images via ensemble networks
Andika, I. T., Suyu, S. H., Cañameras, R., et al. 2023, A&A, 678, A103. doi:10.1051/0004-6361/202347332

24. A SPectroscopic Survey of Biased Halos in the Reionization Era (ASPIRE): A First Look at the Rest-frame Optical Spectra of $z > 6.5$ Quasars Using JWST
Yang, J., Wang, F., Fan, X., et al. 2023, ApJL, 951, L5. doi:10.3847/2041-8213/acc9c8

23. A SPectroscopic Survey of Biased Halos in the Reionization Era (ASPIRE): JWST Reveals a Filamentary Structure around a $z = 6.61$ Quasar
Wang, F., Yang, J., Hennawi, J. F., et al. 2023, ApJL, 951, L4. doi:10.3847/2041-8213/accd6f

22. EIGER. III. JWST/NIRCam Observations of the Ultraluminous High-redshift Quasar J0100+2802

Eilers, A.-C., Simcoe, R. A., **Yue, M.**, et al. 2023, ApJ, 950, 68. doi:10.3847/1538-4357/acd776

21. Deep XMM-Newton Observations of an X-ray Weak Broad Absorption Line Quasar at $z = 6.5$
Yang, J., Fan, X., Wang, F., et al. 2022, ApJ, 924, L25. doi:10.3847/2041-8213/ac45f2

20. Probing Early Supermassive Black Hole Growth and Quasar Evolution with Near-infrared Spectroscopy of 37 Reionization-era Quasars at $6.3 < z \leq 7.64$
Yang, J., Wang, F., Fan, X., et al. 2021, ApJ, 923, 262. doi:10.3847/1538-4357/ac2b32

19. A Luminous Quasar at Redshift 7.642
Wang, F., Yang, J., Fan, X., et al. 2021, ApJL, 907, L1. doi:10.3847/2041-8213/abd8c6

18. A Closer Look at Two of the Most Luminous Quasars in the Universe
Schindler, J.-T., Fan, X., Novak, M., et al. 2021, ApJ, 906, 12. doi:10.3847/1538-4357/abc554

17. Measurements of the $z \sim 6$ *Intergalactic Medium Optical Depth and Transmission Spikes Using a New* $z > 6.3$ *Quasar Sample*
Yang, J., Wang, F., Fan, X., et al. 2020, ApJ, 904, 26. doi:10.3847/1538-4357/abbc1b

16. Pōniuā'ena: A Luminous z = 7.5 Quasar Hosting a 1.5 Billion Solar Mass Black Hole
Yang, J., Wang, F., Fan, X., et al. 2020, ApJ, 897, L14. doi:10.3847/2041-8213/ab9c26

15. A Significantly Neutral Intergalactic Medium Around the Luminous $z = 7$ *Quasar J0252-0503*
Wang, F., Davies, F. B., Yang, J., et al. 2020, ApJ, 896, 23. doi:10.3847/1538-4357/ab8c45

14. The Third Data Release of the Beijing-Arizona Sky Survey
Zou, H., Zhou, X., Fan, X., et al. 2019, ApJS, 245, 4. doi:10.3847/1538-4365/ab48e8

13. Exploring Reionization-era Quasars. III. Discovery of 16 Quasars at $6.4 \lesssim z \lesssim 6.9$ *with DESI Legacy Imaging Surveys and the UKIRT Hemisphere Survey and Quasar Luminosity Function at* $z \sim 6.7$
Wang, F., Yang, J., Fan, X., et al. 2019, ApJ, 884, 30. doi:10.3847/1538-4357/ab2be5

12. Far-infrared Properties of the Bright, Gravitationally Lensed Quasar J0439+1634 at $z = 6.5$
Yang, J., Venemans, B., Wang, F., et al. 2019, ApJ, 880, 153. doi:10.3847/1538-4357/ab2a02

11. The Extremely Luminous Quasar Survey in the Pan-STARRS 1 Footprint (PS-ELQS)
Schindler, J.-T., Fan, X., Huang, Y.-H., et al. 2019, ApJS, 243, 5. doi:10.3847/1538-4365/ab20d0

10. Spatially Resolved Interstellar Medium and Highly Excited Dense Molecular Gas in the Most Luminous Quasar at $z = 6.327$
Wang, F., Wang, R., Fan, X., et al. 2019, ApJ, 880, 2. doi:10.3847/1538-4357/ab2717

9. Exploring Reionization-era Quasars. IV. Discovery of Six New $z \gtrsim 6.5$ *Quasars with DES, VHS, and unWISE Photometry*
Yang, J., Wang, F., Fan, X., et al. 2019, AJ, 157, 236. doi:10.3847/1538-3881/ab1be1

8. The Extremely Luminous Quasar Survey in the Sloan Digital Sky Survey Footprint. III. The South Galactic Cap Sample and the Quasar Luminosity Function at Cosmic Noon
Schindler, J.-T., Fan, X., McGreer, I. D., et al. 2019, ApJ, 871, 258. doi:10.3847/1538-4357/aaf86c

7. Filling in the Quasar Redshift Gap at $z \sim 5.5$. II. A Complete Survey of Luminous Quasars in the Post-reionization Universe
Yang, J., Wang, F., Fan, X., et al. 2019, ApJ, 871, 199. doi:10.3847/1538-4357/aaf858

6. The Discovery of a Gravitationally Lensed Quasar at $z = 6.51$
Yang, J., Wang, F., Fan, X., et al. 2019, ApJ, 871, 199. doi:10.3847/1538-4357/aaf858

5. The Discovery of a Luminous Broad Absorption Line Quasar at a Redshift of 7.02
Wang, F., Yang, J., Fan, X., et al. 2018, ApJ, 869, L9. doi:10.3847/2041-8213/aaf1d2

4. The First Data Release of the Beijing-Arizona Sky Survey
Zou, H., Zhang, T., Zhou, Z., et al. 2017, AJ, 153, 276. doi:10.3847/1538-3881/aa72d9

3. Discovery of 16 New $z \sim 5.5$ Quasars: Filling in the Redshift Gap of Quasar Color Selection
Yang, J., Fan, X., Wu, X.-B., et al. 2017, AJ, 153, 184. doi:10.3847/1538-3881/aa6577

2. A Survey of Luminous High-redshift Quasars with SDSS and WISE. II. the Bright End of the Quasar Luminosity Function at $z \approx 5$
Yang, J., Wang, F., Wu, X.-B., et al. 2016, ApJ, 829, 33. doi:10.3847/0004-637X/829/1/33

1. A Survey of Luminous High-redshift Quasars with SDSS and WISE. I. Target Selection and Optical Spectroscopy
Wang, F., Wu, X.-B., Fan, X., et al. 2016, ApJ, 819, 24. doi:10.3847/0004-637X/819/1/24