

# Fan Zou (邹凡)

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## Professional positions

- 08/2024-present: Postdoctoral Research Fellow, University of Michigan (UMich)  
PI: Prof. E. Gallo

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## Education

- 08/2019-06/2024: Ph.D. Astronomy, Pennsylvania State University (PSU)  
Thesis title: *Charting the Coevolution between Massive Black Holes and Galaxies with Deep Cosmic Surveys*  
Advisor: Prof. W. N. Brandt
- 09/2015-07/2019: B.S. Astronomy, University of Science and Technology of China (USTC)  
Ranked 1st in the astronomy department  
Thesis advisor: Prof. Y. Xue

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## Publications

8 first-author articles, 2 second-author articles, and 2 additional first-/second-author articles under review

### ● **First- and second-author articles**

1. N. Cristello, **F. Zou**, W. N. Brandt et al.; 2024, ApJ, 962, 156  
*Investigating the Star Formation Rates of Active Galactic Nucleus Hosts Relative to the Star-forming Main Sequence*
2. **F. Zou**, W. N. Brandt, E. Gallo et al.; 2024, ApJ, in press  
*The Cosmic Evolution of the Supermassive Black Hole Population: A Hybrid Observed Accretion and Simulated Mergers Approach*
3. **F. Zou**, Z. Yu, W. N. Brandt et al.; 2024, ApJ, 964, 183  
*Mapping the Growth of Supermassive Black Boles as a Function of Galaxy Stellar Mass and Redshift*
4. Z. Yu, **F. Zou**, & W. N. Brandt; 2023, RNAAS, 7, 248  
*Stellar Masses and Star Formation Rates of Galaxies and AGNs in the eFEDS GAMA09 Field*
5. **F. Zou**, W. N. Brandt, Q. Ni et al.; 2023, ApJ, 950, 136  
*Identification and Characterization of a Large Sample of Distant Active Dwarf Galaxies in XMM-SERVS*
6. **F. Zou**, W. N. Brandt, C.-T. Chen et al.; 2022, ApJS, 262, 15  
*Spectral Energy Distributions in Three Deep-Drilling Fields of the Vera C. Rubin*

*Observatory Legacy Survey of Space and Time: Source Classification and Galaxy Properties*

7. **F. Zou**, W. N. Brandt, M. Lacy et al.; 2021, RNAAS, 5, 31  
*A Multi-band Forced-photometry Catalog in the ELAIS-S1 Field*
8. **F. Zou**, G. Yang, W. N. Brandt et al.; 2021, RNAAS, 5, 56  
*Photometric Redshifts in the W-CDF-S and ELAIS-S1 Fields Based on Forced Photometry from 0.36 to 4.5 Microns*
9. **F. Zou**, W. N. Brandt, F. Vito et al.; 2020, MNRAS, 499, 1823  
*X-ray properties of dust-obscured galaxies with broad optical/UV emission lines*
10. **F. Zou**, G. Yang, W. N. Brandt et al.; 2019, ApJ, 878, 11  
*The Host-Galaxy Properties of Type 1 versus Type 2 Active Galactic Nuclei*

● **Other contributing-author articles**

11. S. Wang, W. N. Brandt, B. Luo et al.; ApJ, in press  
*The Remarkable X-ray Spectra and Variability of the Ultraluminous Weak-Line Quasar SDSS J1521+5202*
12. A. Ayubinia, Y. Xue, H. A. N. Le et al.; 2023, ApJ, 951, 7  
*Investigation of Stellar Kinematics and Ionized gas Outflows in Local [U]LIRGs*
13. K. Nyland, M. Lacy, W. N. Brandt et al.; 2023, RNAAS, 7, 33  
*Multi-band Tractor Forced Photometry and Redshifts in the CDFS and XMM-LSS Fields*
14. W. Yan, W. N. Brandt, **F. Zou** et al.; 2023, ApJ, 951, 27  
*The Most Obscured AGNs in the XMM-SERVS Fields*
15. S. Zhu, W. N. Brandt, **F. Zou** et al.; 2023, MNRAS, 522, 3506  
*Radio AGN Selection and Characterization in Three Deep-Drilling Fields of the Vera C. Rubin Observatory Legacy Survey of Space and Time*
16. S. Fu, W. N. Brandt, **F. Zou** et al.; 2022, ApJ, 934, 97  
*The Nature of Luminous Quasars with Very Large C IV Equivalent Widths*
17. Q. Ni, W. N. Brandt, C.-T. Chen et al.; 2021, ApJS, 256, 21  
*The XMM-SERVS survey: XMM-Newton point-source catalogs for the W-CDF-S and ELAIS-S1 fields*
18. F. Vito, W. N. Brandt, B. D. Lehmer et al.; 2020, A&A, 642, A149  
*Chandra reveals a luminous Compton-thick QSO powering a Ly $\alpha$  blob in a  $z = 4$  starbursting protocluster*

● **Submitted manuscripts**

19. N. Cristello, **F. Zou**, W. N. Brandt et al.; submitted to ApJ  
*An Eddington-Limited Active Galactic Nucleus Hidden in a Dust-Obscured Galaxy at  $z \sim 0.8$*
20. Z. Yu, W. N. Brandt, **F. Zou** et al.; submitted to ApJ  
*Dust-Obscured Galaxies in the XMM-SERVS Fields: Selection, Multiwavelength Characterization, and Physical Nature*

21. B. Zhang, **F. Zou**, W. N. Brandt et al.; submitted to ApJ  
*Investigating the Star-Formation Characteristics of Radio Active Galactic Nuclei*
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## Observations

1. NuSTAR Cycle 10 proposal (100 ks; \$68k); PI: **F. Zou**, Co-I: W. N. Brandt  
*X-raying a low-mass galaxy with a powerful, candidate Compton-thick AGN*
  2. Chandra Cycle 25 GTO proposal (61 ks); PI: G. Garmire, Co-Is: W. N. Brandt and **F. Zou**  
*A Chandra View of Heavily X-ray-absorbed Dust-obscured Galaxies with High Eddington Ratios*
  3. Chandra Cycle 25 Archive proposal; PI: Z. Yu, Co-Is: **F. Zou** and W. N. Brandt  
*Understanding the Black-Hole Accretion - Stellar Mass Relation Over All of Cosmic Time*
  4. XMM-Newton AO22 proposal (55 ks; \$15k); PI: **F. Zou**, Co-Is: W. N. Brandt, F. Vito, and S. Zhu  
*Deciphering an X-ray-loud, Eddington-limited, and Dust-obscured Galaxy*
  5. NuSTAR Cycle 8 proposal (200 ks); PI: S. Zhu, Co-Is: W. N. Brandt and **F. Zou**  
*The corona-jet connection of RLQs in light of NuSTAR*
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## Selected Talks/Posters

**33 talks (2 invited; 1 press release) and 3 poster presentations.** Examples below.

- UMich colloquium (09/2024); talk  
*How do supermassive black holes grow from  $z = 4$  to  $z = 0$ ?*
  - AAS 244 (06/2024); press conference talk  
*Cosmic Black-Hole Growth Tracked by Combining X-ray Surveys and Supercomputer Simulations*
  - LSST AGN SC 2023 summer meeting (07/2023); talk  
*Searching for Active Dwarf Galaxies in Three LSST Deep-Drilling Fields with X-rays*
  - The Statistical Challenges in Modern Astronomy VIII conference (06/2023); poster  
*A Bayesian Method to Map the Cosmic Growth of Supermassive Black Holes*
  - LSST AGN SC 2022 summer meeting (07/2022); invited talk  
*Multi-wavelength data and spectral energy distributions in the LSST Deep-Drilling Fields*
  - LSST AGN SC 2021 summer meeting (07/2021); invited talk  
*Forced photometry, photometric redshifts, and SEDs of sources in the LSST Deep Drilling Fields*
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## Awards

- 2024, 2023, PSU: Edward M. Frymoyer Honors Scholarship in the Eberly College of Science (*to recognize the academic achievements of students*)
- 2022, PSU: Downsborough Graduate Fellowship in Astrophysics (*for students with superior academic records or manifesting promise of outstanding academic success*)

- 2022, 2020, PSU: Zaccheus Daniel Fellowship
  - 2019, PSU: Homer F. Braddock Scholarship
  - 2019, USTC: Guo Moruo Scholarship (*the highest honor for students at USTC*)
  - 2019, USTC: Outstanding Undergraduate Thesis Award
  - 2018, USTC: National Astronomical Observatories Scholarship
  - 2018, 2017, 2016, USTC: Scholarship for the Yan Jici Talent Program in Physics
  - 2017, USTC: National Encouragement Scholarship
  - 2016, USTC: Seagate Scholarship
  - 2015, USTC: Outstanding Freshman Scholarship
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## Services and Professional Membership

- Referee (three times) for AN and MNRAS
- Mentor, *Student Together for Astronomy Research* at PSU
- Guest lecturer, *Introduction to High-Energy Astronomy* at PSU
- Press release, *How do supermassive black holes get super massive?* (PSU 2024)
- Organizer, Extreme Astrophysics Group meetings at UMich
- Full Member of the LSST AGN Science Collaboration