Fan Zou (邹凡)

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Professional positions

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

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

Publications

7 first-author articles, 2 second-author articles, and 3 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**, 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
3. 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
4. **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
5. **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

6. **F. Zou**, W. N. Brandt, M. Lacy et al.; 2021, RNAAS, 5, 31
   A Multi-band Forced-photometry Catalog in the ELAIS-S1 Field
7. **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
8. **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
9. **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*

10. 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
11. 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
12. 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
13. W. Yan, W. N. Brandt, **F. Zou** et al.; 2023, ApJ, 951, 27
    The Most Obscured AGNs in the XMM-SERVS Fields
14. 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
15. 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
16. 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
17. F. Vito, W. N. Brandt, B. D. Lehmer et al.; 2020, A&A, 642, A149
    Chandra reveals a luminous Compton-thick QSO powering a Lyα blob in a $z = 4$ starbursting protocluster

● *Submitted manuscripts*

18. 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 $z \sim 0.8$
19. 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
20. B. Zhang, **F. Zou**, W. N. Brandt et al.; submitted to ApJ
    Investigating the Star-Formation Characteristics of Radio Active Galactic Nuclei

21. **F. Zou**, W. N. Brandt, E. Gallo et al.; submitted to ApJ
The Cosmic Evolution of the Supermassive Black Hole Population: A Hybrid Observed Accretion and Simulated Mergers Approach

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

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

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

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