

# Qiaoya Wu

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<https://qiaoyawu.github.io/>

## EDUCATION

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- **University of Illinois Urbana-Champaign** Champaign, IL  
*Graduate student in Astronomy* Aug 2021 - present
- **Xiamen University** Xiamen, China  
*Bachelor of Astronomy* Sep 2017 - Jun 2021

## SELECTED HONORS AND AWARDS

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- CAPS Graduate Fellowship**, Center for AstroPhysical Surveys (CAPS) at UIUC 2022-2023  
**Outstanding Undergraduate Student Awards**, Xiamen University Jun 2021  
**Caiwenzhong Fellowship**, College of Physics Science and Technology, Xiamen University Apr 2020  
**Academic Excellence Scholarship**, Department of Astronomy, Xiamen University Oct 2019  
**Guangqi Fellowship**, Shanghai Astronomical Observatory, CAS May 2019  
**National Scholarship**, Ministry of Education of PRC Nov 2018

## RESEARCH EXPERIENCE

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- **Quasars and Supermassive Black Holes** University of Illinois Urbana-Champaign  
Prof. Yue Shen Aug 2021 - Present
  - Broad/coronal-line region photoionization modeling
  - Quasar demographics with spectral surveys
- **Multiwavelength Observations of Stellar-mass Black Holes** Xiamen University  
Prof. Jianfeng Wu Oct 2018 - Jul 2021
  - Dynamical analysis of black hole binary system MAXIJ1820+070 and A0620-00
  - Gamma-Ray Integrated Detectors Project
- **Cosmological N-body Simulation** Xiamen University  
Prof. Hao-ran Yu Nov 2019 - Jul 2021
  - CUBE cosmological N-body simulation code development
  - Angular momentum of dark matter halos
- **Black Hole Accretion Simulation** Shanghai Astronomical Observatory  
Prof. Feng Yuan May 2019 - Sep 2019
  - ZEUS MHD simulation of black hole accretion inflow

## APPROVED PROPOSALS

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- **Wu, Q. (PI)**, Shen, Y. *HST UV Spectroscopy of High-accretion-rate AGNs and the Origin of Offset in the Broad-Line Region Size-Luminosity Relation*. 19 orbits with **HST**. HST-GO-17433.
- **Wu, Q. (PI)**, Wu, J., Sai, H. *Long-Term Optical Monitoring on the Black Hole Binary MAXI J1820+070*. 120 hours with **LCOGT**. CTAP2021-A0019.

## OUTREACH

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- Mentor at the UIUC Society for Equity in Astronomy mentoring program 2022-2023  
Volunteer at the UIUC girls astronomy summer camp 2022  
President of Xiamen University astronomy Club 2018-2019  
Video editor and translator of Mufu astronomy team 2018-2020

## LISTS OF PUBLICATIONS

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### Major contribution papers

- **Wu, Q.**, Shen, Y., Guo, H., et al. (2025). **Understanding the Broad-line Region of Active Galactic Nuclei with Photoionization. I. the Moderate-Accretion Regime.** The Astrophysical Journal 980 (1), 134.
- **Wu, Q.**, & Shen, Y. (2023). **Improved Redshifts for DESI EDR Quasars.** Research Notes of the AAS, 7(9), 190.
- **Wu, Q.**, & Shen, Y (2022). **A Catalog of Quasar Properties from Sloan Digital Sky Survey Data Release 16.** The Astrophysical Journal Supplement Series, 263(2), 42.
- Zheng, W. M., **Wu, Q.**, Wu, J., et al. (2022). **The Disk Veiling Effect of the Black Hole Low-mass X-Ray Binary A0620-00\*.** The Astrophysical Journal, 925(1), 83.
- **Wu, Q.**, Yu, H. R., Liao, S., Du, M. (2021). **Spin mode reconstruction in Lagrangian space.** Physical Review D, 103(6), 063522.

### Other contributing-author papers

- Nandra, K., et al. “The eROSITA Final Equatorial Depth Survey (eFEDS)-The hard X-ray selected sample.” Astronomy & Astrophysics, 693, A212.
- Musiimenta, B., et al. “A new discovery space opened by eROSITA-Ionised AGN outflows from X-ray selected samples.” Astronomy & Astrophysics 679 (2023): A84.
- Waddell, S. GH, et al. “The eROSITA Final Equatorial Depth Survey (eFEDS): Complex absorption and soft excesses in hard X-ray–selected active galactic nuclei.” Astronomy & Astrophysics 690, A132.
- Cheng, S., et al. (2020). “CUBE–Towards an Optimal Scaling of Cosmological N-body Simulations.” In 2020 20th IEEE/ACM International Symposium on Cluster, Cloud and Internet Computing (CCGRID) (pp. 685-690). IEEE.
- Wen, J., et al. “GRID: a student project to monitor the transient gamma-ray sky in the multi-messenger astronomy era.” Experimental Astronomy 48 (2019): 77-95.

## LISTS OF PRESENTATIONS

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- **PyQSOFit: Exploring AGN Demographics** Simons foundation, NY  
SDSS-V collaboration meeting *Aug, 2023*
- **Correlations between halo spins and primordial perturbations** Zhejiang University, China  
The 23rd Guoshoujing Galaxy and Cosmology Academic Conference *May, 2021*