

# Qiaoya Wu

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## Education

<b>University of Illinois Urbana-Champaign (UIUC)</b> , PhD candidate	Aug 2021 - present
Advisor: Yue Shen	
Research: Quasar spectral surveys; AGN photoionization	
<b>Xiamen University (XMU)</b> , Bachelor of Astronomy	Sep 2017 - Jun 2021
Thesis: Spin mode reconstruction in Lagrangian space	
Advisor: Hao-Ran Yu, Jianfeng Wu	
Research: Cosmological N-body simulations; Black hole binaries	

## Followships and Awards

<b>Chu Excellence in Research Graduate Student Award</b> , UIUC	Apr 2025
<b>Lewis E. Snyder Graduate Student Travel Award</b> , UIUC	Mar 2025
<b>CAPS Graduate Fellowship</b> , Center for AstroPhysical Surveys, UIUC	2022-2023
<b>Outstanding Undergraduate Student Awards</b> , XMU	Jun 2021
<b>Caiwenzhong Fellowship</b> , College of Physics Science and Technology, XMU	Apr 2020
<b>Academic Excellence Scholarship</b> , Department of Astronomy, XMU	Oct 2019
<b>Guangqi Fellowship</b> , Shanghai Astronomical Observatory, CAS	May 2019
<b>National Scholarship</b> , PRC Ministry of Education	Nov 2018

## Approved Proposals

- 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.

## Publications

### 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. (2025). The eROSITA Final Equatorial Depth Survey (eFEDS)-The hard X-ray selected sample. Astronomy & Astrophysics, 693, A212.
- Waddell, S. GH, et al. (2024). The eROSITA Final Equatorial Depth Survey (eFEDS): Complex absorption and soft excesses in hard X-ray-selected active galactic nuclei. Astronomy & Astrophysics, 690, A132.
- Musiimenta, B., et al. (2023). A new discovery space opened by eROSITA-Ionised AGN outflows from X-ray selected samples. Astronomy & Astrophysics, 679, A84." Astronomy & Astrophysics 679 (2023): A84.
- Cheng, S., Yu, H. R., Inman, D., Liao, Q., Wu, Q., & Lin, J. (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. (2019). GRID: a student project to monitor the transient gamma-ray sky in the multi-messenger astronomy era. *Experimental Astronomy*, 48, 77-95.

## Talks

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- **SDSS-V 2025 Collaboration Meeting**, "From Quasar Spectra to Structure: SDSS-V Quasar Spectral Analysis and AGN Photoionization Studies" (remote), MPIA Mar 2025
  - **UIUC Journal Club**, "Understanding the broad-line region of AGN with photoionization", UIUC Apr, 2025
  - **AGN surveys workshop**, "Understanding the broad-line region of AGN with photoionization", Munich Institute for Astro-, Particle and BioPhysics Mar 2025
  - **SDSS-V 2024 Collaboration Meeting**, "Quasar value-added catalog and visual inspection", New Mexico State University Jun, 2024
  - **Center for AstroPhysical Surveys seminars**, "Photoionization in quasar Broad Line Region", UIUC Aug, 2023
  - **SDSS-V 2023 Collaboration Meeting**, "AGN demographics", Simons foundation, NY Aug, 2023
  - **UIUC Journal Club**, "Quasar spectral decompositions from public surveys", UIUC May, 2023
  - **AGN demographics working group**, "Tutorials on PyQSOFit" (remote) Nov, 2022
  - **The 23rd Guoshoujing Conference**, "Correlations between halo spins and primordial perturbations", Zhejiang University May, 2021
  - **Binary system seminar**, "Dynamical measurements on black hole binary system MAXI J1820+070", Nanjing University Nov, 2020

## Outreach

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| Mentor at the UIUC Society for Equity in Astronomy mentoring program | 2022 Fall - 2024 Spring |
| Volunteer at the UIUC girls astronomy summer camp                    | 2022 Summer             |
| President of Xiamen University Astronomical Club                     | 2018-2019               |
| Video editor and translator of Mufu Astronomy Team                   | 2018-2020               |