

Qiaoya Wu

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

EDUCATION

- **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

- 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 October 2019
- Guangqi Fellowship**, Shanghai Astronomical Observatory, CAS May 2019
- National Scholarship**, Ministry of Education of PRC Nov 2018

RESEARCH EXPERIENCE

- **Quasar Spectral Analysis** University of Illinois Urbana-Champaign
Associate Prof. Yue Shen Aug 2021 - Present
 - **Broad-line Region Study with UV spectroscopy**: Analyze UV spectra from the Space Telescope Imaging Spectrograph mounted on the Hubble Space Telescope; collect UV spectra of local AGNs as comparison; model the broad-line region clouds.
 - **SDSS spectral analysis**: Use PyQSOFit to measure the spectroscopic properties from public surveys, such as SDSS-IV, SDSS-V, eFEDs quasars.
- **Multiwavelength observations of black holes** Xiamen University
Prof. Jianfeng Wu Oct 2018 - Jul 2021
 - **Data Reduction**: Processed raw observational data from the Very Large Telescope, Hale telescope of Palomar Observatory, Nanshan wide-field telescope and the Las Cumbres Observatory Global Telescope.
 - **Black Hole Binary**: Developed code to find the parameter space of the secondary star in the black hole binary system; measured the radial velocity and calculated the dynamical properties of black hole binary system MAXIJ1820+070 and A0620-00.
 - **Gamma-Ray Integrated Detectors Project**: Worked in the Gamma-Ray Integrated Detectors Project, dedicated to monitoring the transient gamma-ray sky.
- **Cosmological N-body Simulation** Xiamen University
Associate Prof. Haoran Yu Nov 2019 - Jul 2021
 - **CUBE Simulation Code**: Participated in the development of the high-functional cosmological N-body simulation code CUBE; improved the dark matter halo properties computation.
 - **Angular Momentum of Halos**: Construct equations to describe the angular momentum of dark matter halos; analyzed the behaviors of rotating-supported halos using CUBE.
- **Black Hole Accretion Simulation** Shanghai Astronomical Observatory
Prof. Feng Yuan May 2019 - Sep 2019
 - **ZEUS MHD Simulation**: Modified programs to simulate 2-D hydrodynamical non-radiative accretion flows in black hole via magnetohydrodynamics code ZEUS-2D.

TECHNICAL SKILLS

- **Data Experience**: Hubble Space Telescope, Sloan Digital Sky Survey telescope, Very Large Telescope, Hale telescope, the Las Cumbres Observatory Global Telescope and Nanshan wide-field telescope.
- **Languages/Packages**: Python, Fortran, Matlab, Iraf/Pyraf, Xspec, CLOUDY, CUBE, ATHENA++, ZEUS, SAOImage DS9, IDL, CIAO, C++.

LISTS OF PUBLICATIONS

- **Wu, Qiaoya, & Shen, Yue (2022). A Catalog of Quasar Properties from Sloan Digital Sky Survey Data Release 16.** The Astrophysical Journal Supplement Series, 263(2), 42.
- Wan-Min Zheng, **Qiaoya Wu**, Jianfeng Wu, Song Wang, Mouyuan Sun, Jing Guo, Junhui Liu, Tuan Yi, Zhi-Xiang Zhang, Wei-Min Gu, Junfeng Wang, Lijun Gou, Jifeng Liu, Paul J. Callanan, Luis C. Ho, Penélope Longa-Peña, Jerome A. Orosz, and Mark T. Reynolds (2022). **The Disk Veiling Effect of the Black Hole Low-mass X-Ray Binary A0620-00***. The Astrophysical Journal, 925(1), 83.
- **Qiaoya Wu**, Hao-Ran Yu, Shihong Liao, Min Du (2021). **Spin mode reconstruction in Lagrangian space.** Physical Review D, 103(6), 063522.
- Shenggan Cheng, Hao-Ran Yu, Derek Inman, Qiucheng Liao, **Qiaoya Wu** and James Lin (2020, May). **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.

LISTS OF PRESENTATIONS

The 23rd Guoshoujing Galaxy and Cosmology Academic Conference

Zhejiang University

Contributed talks

May, 2021

- **Talk:** Correlations between halo spins and primordial perturbations.
- **Paper:** Spin mode reconstruction in Lagrangian space