

Huangfei Xiao

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[Personal page](#)

Education

Florida State University (FSU)	Tallahassee, FL, USA	Physics	Ph.D., 2023 - present
State University of New York (SUNY) at Stony Brook	Stony Brook, NY, USA	Physics	M.A., 2021-2023
Jilin University (985-, 211-, “Double First-rate”- Project)	Changchun, Jilin, China	Physics	B.S., 2015-2019

Awards

Dean’s Doctoral Scholar Award, FSU	2023, 2024
The First Prize of College Students’ Innovative Research Training Plan Program, Jilin University	2019
The Scholarship for Academic Excellence, Jilin University	2016, 2017, 2018
The Best Performance in the Physics Experimental Exploration Competition, Sun Yat-sen University	2017

Experience

Graduate Research Assistant	FSU, Tallahassee, FL, USA	2024 - present
Graduate Teaching Assistant	FSU, Tallahassee, FL, USA	2023 - present
Graduate Research Assistant	C.N. Yang Institute for Theoretical Physics, SUNY at Stony Brook, Stony Brook, NY, USA	2022-2023
Undergraduate Research Assistant	Shanghai Astronomical Observatory, Shanghai, China	2019
Undergraduate Research Assistant	Centre for Astrophysics and Supercomputing, Swinburne University of Technology, Melbourne, Australia	2018

Collaborations

- The Carnegie Supernova Project ([CSP](#))
- CSP-II: Precision Observations of Infant Supernova Explosions ([POISE](#))
 - Telescope resources: a 2-month campaign using the 1-meter [Swope Telescope](#) for photometry and 6 nights on the 6.5-meter [Magellan Baade Telescope](#) for optical and near-infrared spectroscopy at [Las Campanas Observatory](#) per semester
 - Additional ultraviolet, optical, and infrared telescopes shared with global collaborators
 - Observation, simulation and modeling teams work closely
- James Webb Space Telescope ([JWST](#))

Prior:

- Rubin Observatory Legacy Survey of Space and Time ([LSST](#)):
Dark Energy Science Collaboration ([DESC](#)) & Informatics and Statistics Science Collaboration ([ISSC](#))
- Square Kilometre Array ([SKA](#))

Current Projects

Ph.D. Thesis Research: *Advisor: Dr. Eric Y. Hsiao*

- The Search for Companion Interaction Signatures by Pa- β Line Detections in Near-infrared Spectra of Type Ia Supernovae (paper in progress)
 - Implement Gaussian Process (Machine Learning) method to model observed nebula phase NIR spectra where the Pa- β signal was masked
 - Validate the Pa- β line signal by comparing the observed data to the model from GP
 - Constrain the interaction model between the supernova ejecta and the companion star in the progenitor system
- First Overtone of Carbon monoxide (CO) in Stripped-envelope supernovae (SESNe)
 - Focus on detecting the first overtone of CO in the NIR spectra of Core-collapse SNe, which can provide valuable insights into dust formation and its emission in these explosive events

Previous Projects

Master Thesis: *Advisor: Dr. Vivian Miranda*

- Investigation of Dark Energy Anisotropic Stress in Cosmology

Bachelor Thesis: *Advisors: Dr. Wei Zhao and Dr. Tao An*

- Study the jet and outflow of Seyfert 2 galaxy NGC 3079 by Very Long Baseline Array (VLBA) observation with Very Long Baseline Interferometry (VLBI) technology

Undergraduate Summer Research: *Advisor: Dr. Virginia Kilborn*

- Find Neutral Hydrogen depletion (HI hole) in the center of spiral galaxies in Westerbork observations of neutral Hydrogen in Irregular and SPiral galaxies (WHISP)

Presentations/Posters

2025 The Search for Companion Interaction Signatures in the NIR spectra of SN2018aoz, Cook's Branch workshop, TX, USA

2022 Dark Energy in Cosmology, Physics Grad Seminar, Stony Brook University, NY, USA

2019 Jet and outflow of Seyfert 2 galaxy NGC 3079, College of Physics, Jilin University, Changchun, JL, China

Posters

2019 Investigation of Seyfert 2 galaxy NGC 3079 with VLBI technology, East Asia SKA Science Workshop 2019, Shanghai, SH, China

2019 Is there an HI hole in the center of spiral galaxies, East Asia SKA Science Workshop 2019, Shanghai, SH, China

Technical Skills

- **Programming:** Python, C, C++, Fortran, HTML
- **Operating Systems:** Linux, Bash, IRAF, High-Performance Computing Cluster

Synergistic Activities

Observation

- Conducted 10 nights observation by using Magellan Baase Telescope, and obtained over 100 Optical and Near-Infrared Spectra for over 30 objects
- Performed daily POISE queue management for Swope Telescope pre-screening to confirm candidate transients from [ALeRCE SN Hunter - ZTF](#), [ATLAS](#), and/or other reports in [TNS](#) during the 2-month campaign
- Proactively classified 9 transients and reported them to the [TNS](#) during 2024B-2025A Campaign

Teaching & Metoring

Mentees:

- Adam Howell, Chase Robbins, Connor Brown in Hsiao's Group, with Calcium-strong Ia SN2014ba project, POISE queue management, and Baade telescope observation
- Sophia Amidi, FSU Future Physicists Society Mentoring Program

Teaching Assistant:

- Fall 2023 - PHY2053C College Physics A, as a Lab TA (teaching and grading) for 2 sections per week
- Spring 2024 - PHY2054C College Physics B, as a Lab TA (teaching and grading) for 2 sections per week
- Summer 2024 - PHY2053C & 2054C College Physics A&B, as an Exam Grader
- Fall 2024 - PHY4222 Mechanics II, as a grader with one hour office hour per week
- Spring 2025 - PHY2054C College Physics B, as a Lab TA (teaching and grading) for 2 sections per week

Service and Leadership

- As one of grad panelists for FSU APS Chapters & Society of Physics Student at FSU - Graduate Student Panel Feb. 2025
- LOC for Carnegie 2024 Collaboration Meeting Nov. 2024
- APS-Advance Conference for Graduate Women and Gender Minorities in Physics Aug. 2024
- Vice Chair of the Student Association of Science and Technology of Jilin University 2017 - 2018
- Director of Observation Sector of Jilin University Astronomy Society 2016 - 2017

Outreach

- Department of Physics Open House - Circus of Physics 2025
- FSU Observatory, FSU Astronomy Club, FSU planetarium shows, 2025
- Excellent Volunteer in National Universities Camp for Science 2017
- Organizer and Volunteer in Outreach activity for field astronomical observation 2016, 2017