Shuairu Zhu

80 Nandan Road, Shanghai 200030, China • +86-166-2166-9142 • shuairuz@shao.ac.cn

Education

- **Shanghai Astronomical Observatory** — Shanghai, China
  Ph.D. candidate in Astrophysics — 2020-Present
  Advisor: Dr. Zhenya Zheng
  Thesis: Studies of High-z Lyman Continuum Galaxies with JWST and HST
- **Central China Normal University** — Wuhan, China
  B.S. Physics — 2015-2019

Skills

- **Data Analysis:**
  - ◊ **Image reduction/processing:** Drizzlepac, Swarp, PSF construction
  - ◊ **Photometry:** SExtractor**,** Photutils, Catalog construction
  - ◊ **SED fitting:** CIGALE, BAGPIPES
  - ◊ **Image decomposition:** Galfit
- **Coding:** Python, Bash, Latex
- **Language Skills:** Chinese (native), English (working level)

Awards & Scholarships

- Outstanding students of the Academy of Sciences, Chinese Academy of Sciences Shanghai Branch — 2025
- The First Prize Scholarship, University of Chinese Academy of Sciences — 2022, 2023, 2024
- Merit Student, University of Chinese Academy of Sciences — 2022, 2024, 2025

Approved proposals

- CNTAC proposal Semester 2024B, Co-I
  Title: Spectroscopic Confirmation of HST Selected Lyman-Continuum (LyC) Leaking Galaxy Candidates at z~3-4 in CDFS
- Telescope Access Program 2024A, Co-I
  Title: Tracing the CGM and the LSS at z=3.2 around the double-core Lyman-a quasar
- Telescope Access Program 2021B, Co-I
  Title: On the origin of the emission-line variability of emission-line galaxies

Observational Experience

- DECam on the 4.0m Blanco telescope, CTIO, Chile — 1–3 April 2025
- 2.4m telescope at Yunnan Observatory, China — 2 March 2022

Reviewer/Referee

- The Astrophysical Journal

Publications

My full publication could be found at this NASA/ADS library. 11 in total, 4 as first or second author.

First author

1. Zhu, Shuairu, Zheng, Zhen-Ya, Yuan, Fang-Ting, et al. 2025, "Lyman Continuum Leakers at z > 3 in the GOODS-S Field: Mergers Dominated," *The Astrophysical Journal Letters*, 982, L58. doi:10.3847/2041-8213/adc125
2. Zhu, Shuairu, Yuan, Fang-Ting, Jiang, Chunyan, et al. 2024, "Lyman Continuum Leakers at z > 3 in the GOODS-S Field: Starburst or Not?," *The Astrophysical Journal Letters*, 974, L20. doi:10.3847/2041-8213/ad7b18
3. Zhu, Shuairu, Zheng, Zhen-Ya, Rhoads, James, et al. 2024, "The Hubble Deep Hydrogen Alpha (HDHα) Project. I. Catalog of Emission-line Galaxies," *The Astrophysical Journal Supplement Series*, 271, 5. doi:10.3847/1538-4365/ad148b

Co-author

1. Lin, Ruqiu, Zheng, Zhen-Ya, Jiang, Chunyan, et al. 2025, "Discovery of Local Analogs to JWST's Little Red Dots," *The Astrophysical Journal Letters*, 980, L34. doi:10.3847/2041-8213/adaaf1
2. Chen, Kaiyuan, Zhu, Shuairu, Jiang, Linhua, et al. 2025, "Detection of Emission Line Galaxies in the Slitless Spectra of HST and CSST," *Research in Astronomy and Astrophysics*, 25, 025015. doi:10.1088/1674-4527/adab4b
3. Yuan, Fang-Ting, Zheng, Zhen-Ya, Jiang, Chunyan, et al. 2024, "Merging Signatures in an Offset Lyman Continuum Emitter at Redshift 3.8," *The Astrophysical Journal*, 975, 53. doi:10.3847/1538-4357/ad75ff
4. Lin, Ruqiu, Zheng, Zhen-Ya, Yuan, Fang-Ting, et al. 2024, "Intermediate-mass black holes in Green pea galaxies (IMBH-GP) I: A candidate sample from LAMOST and SDSS," *Science China Physics, Mechanics & Astronomy*, 67, 109811. doi:10.1007/s11433-024-2412-3
5. Lin, Ruqiu, Zheng, Zhen-Ya, Wang, Jun-Xian, et al. 2023, "Discovery of Five Green Pea Galaxies with Double-peaked Narrow [O III] Lines," *Monthly Notices of the Royal Astronomical Society*, 524, 2224–2236. doi:10.1093/mnras/stad1857
6. Ji, Xiang, Zheng, Zhen-Ya, Wu, Qiqi, et al. 2023, "Strange Quasar Candidates with Abnormal Astrometric Characteristics from Gaia EDR3 and SDSS (SQUAB-II): Optical Identifications," *Monthly Notices of the Royal Astronomical Society*, 524, 1909–1926. doi:10.1093/mnras/stad1804
7. Lin, Ruqiu, Zheng, Zhen-Ya, Hu, Weida, et al. 2022, "On the Origin of the Strong Optical Variability of Emission-line Galaxies," *The Astrophysical Journal*, 940, 35. doi:10.3847/1538-4357/ac9232
8. Yuan, Fang-Ting, Zheng, Zhen-Ya, Lin, Ruqiu, et al. 2021, "CDFS-6664: A Candidate of Lyman-continuum Emission at z ≈ 3.8 Detected by the Hubble Deep UV Legacy Survey," *The Astrophysical Journal Letters*, 923, L28. doi:10.3847/2041-8213/ac4170

Presentations & Summer schools

International:

Escape of Lyman radiation from galactic labyrinths — 2025, Greece
Contributed talk (accepted): The high-z LyC leakers in the GOODS-S (Could not attend due to personal issues)

The Inaugural Cosmic Frontier Center Conference — 2025, USA
Poster presentation: The high-z LyC leakers in the GOODS-S

Kochel Cosmic Lyman Alpha Workshop — 2024, Germany
Poster presentation: The Hubble Deep Hydrogen Alpha Project and Two Lyman Continuum Leaker Candidates at z ≈ 4.4

18th Heidelberg Astronomy Summer School "Unraveling Galaxy Evolution with JWST" 2023, Germany

Domestic:

Scientific Workshop on In-Orbit Calibration of CSST MCI & IFS 2025
Contributed talk: Ground Tests of the Survey Optical Facility – Multi-Channel Imager: Image Quality Results

High-redshift Galaxy Morphology Workshop 2024
Contributed talk: The Spectral Energy Distributions and Morphology of Lyman Continuum Emitters at 3 < z < 4

2024 Symposium on Critical Questions in CSST Galaxy Studies 2024
Contributed talk: The HST narrowband deep field survey and related sciences

The 26th Guoshoujing Academic Symposium of the Chinese Astronomical Society and the 2024 Symposium on Frontiers in Galaxy Cosmology 2024
Contributed talk: The Spectral Energy Distributions and Morphology of Lyman Continuum Leakers at High-z in the GOODS-S

Symposium on Galaxy Evolution and Cosmology in the Era of the Survey Space Telescope 2024
Contributed talk: The high-z LyC leakers in the GOODS-S

2024 Shanghai Astronomical Observatory – Xiamen University Astrophysics Academic Symposium 2024
Contributed talk: Lyman Continuum Leakers at z > 3 in the GOODS-S Field: Starburst Activity or Merger-Dominated Systems?

2024 PKU International PhD Student Forum 2024
Contributed talk: The high-z LyC leakers in the GOODS-S

The 3rd CSST Science Data Processing System – Science Team Workshop, 2023
Contributed talk: Data Processing and Scientific Studies of Narrowband Deep-Field Observations from Space Telescope

2023 Shanghai Astronomical Observatory – Xiamen University Astrophysics Academic Symposium 2023
Contributed talk: Studying High-z LAEs Using Space-Based Narrowband Deep-Field Observations

Chinese Astronomical Society Annual Meeting 2023
Contributed talk: The Lyman Continuum Galaxies at z~3 in the GOODS-S

"AGN Variability and Related Issues" – Guangzhou University 2023
Contributed talk: High-z Galaxies in the GOODS-S field

Symposium on Galaxy Observations and Theoretical Studies in the Space Telescope Era 2023
Contributed talk: The Hubble Deep Hydrogen Alpha Project And 2 Lyman Continuum Leaker Candidates At z~4.4

CSST Galaxy Evolution and Cosmology Meeting 2023
Contributed *talk*: *The Hubble Deep Hydrogen Alpha Project*

CSST Flux Calibration Workshop 2023
Contributed talk: Statistical Analysis of the Hubble Space Telescope Calibration Project

Annual Workshop on the Science Data Processing System of China Space Station Telescope (CSST) 2022
Contributed talk: Image Stacking and Data Processing of HST Narrowband Deep Fields

CSST Galaxy Science Summer School for Graduate Students 2022, 2023,2024