

Hui Peng

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Research interests

- 📖 Galaxy Clustering, Weak Lensing, Large-scale Structure of Universe
- 📖 Redshift calibration, Data analysis, Systematic error mitigation
- 📖 Photometric galaxies, Slitless spectroscopic galaxies, Fast Radio Bursts

Education

2020 – present 📖 **Shanghai Jiao Tong University**
Ph.D. Candidate in Astronomy
Advisor: Prof. Yu Yu

2016 – 2020 📖 **Nanjing University of Aeronautics and Astronautics**
B.E. Space Science and Technology

Publications




I have three first-author publications and one additional contribution. Please see more details on [Astrophysics Data System \(ADS\)](#)

- 1 **H. Peng** and Y. Yu, “Reconstructing redshift distributions with photometric galaxy clustering,” *Journal of Cosmology and Astroparticle Physics*, vol. 2024, no. 10, 025, p. 025, Oct. 2024. 🔗 DOI: 10.1088/1475-7516/2024/10/025. arXiv: 2406.04407 [astro-ph.CO].
- 2 **H. Peng** and Y. Yu, “Precise self-calibration of interloper bias in spectroscopic surveys,” *Monthly Notices of the Royal Astronomical Society*, vol. 526, no. 1, pp. 820–829, Nov. 2023. 🔗 DOI: 10.1093/mnras/stad2808. arXiv: 2305.10487 [astro-ph.CO].
- 3 **H. Peng**, H. Xu, L. Zhang, Z. Chen, and Y. Yu, “Self-calibration of photometric redshift scatter from DECaLS DR8 power spectrum and validation with simulated catalogues,” *Monthly Notices of the Royal Astronomical Society*, vol. 516, no. 4, pp. 6210–6224, Nov. 2022. 🔗 DOI: 10.1093/mnras/stac2713. arXiv: 2203.14609 [astro-ph.CO].
- 4 H. Xu, P. Zhang, **H. Peng**, *et al.*, “Using angular two-point correlations to self-calibrate the photometric redshift distributions of DECaLS DR9,” *Monthly Notices of the Royal Astronomical Society*, vol. 520, no. 1, pp. 161–179, Mar. 2023. 🔗 DOI: 10.1093/mnras/stad136. arXiv: 2209.03967 [astro-ph.CO].

Skills

- | | |
|-----------|---|
| Languages | 📖 English, Chinese |
| Coding | 📖 Python, Fortran, \LaTeX , ... |
| Misc. | 📖 Academic research, teaching, training, consultation, \LaTeX typesetting and publishing. |




Selected Awards

- 2024  **Yangyang Astronomy Award**, 40000 CNY.
- 2023  **Youruipu Award**, 5000 CNY.
- 2022  **First-class scholarship**, 12000 CNY per annum.

Seminar Talks and Presentations

- 2024  **DESI Summer Collaboration Meeting**
Title: "Self-calibrating photometric redshift in DESI" (Online talk)
-  **Annual Conference of the Chinese Astronomical Society**
Title: "Reconstructing redshift distributions with photometric galaxy clustering" (Poster)
-  **China Space Station Telescope Science Annual Conference**
Title: "Self-calibration of interloper bias in slitless spectroscopic surveys" (Talk)
- 2023  **Gravitational Lensing Working Conference**
Title: "Calibrating redshift scatter in photometric surveys and interloper bias in spectroscopic surveys" (Talk)
-  **The 25th Guo Shoujing Symposium of the Chinese Astronomical Society and 2023 Seminar on the Frontiers of Galactic Cosmology**
Title: "Self-calibrating redshift bias in surveys" (Poster)
-  **Gravitational Lensing Spring Conference**
Title: "Implementation of self-calibration method in surveys" (Talk)
- 2022  **Cosmology with Weak Lensing: Beyond the Two-point Statistics**
Title: "Self-calibration of photometric redshift scatter from DECaLS DR8 power spectrum and validation with simulated catalogues" (Online talk)

References

 Name	 Institution	 Contact
Prof. Yu Yu	Shanghai Jiao Tong University	yuyu22@sjtu.edu.cn
Prof. Pengjie Zhang	Shanghai Jiao Tong University	zhangpj@sjtu.edu.cn
Prof. Huanyuan Shan	Shanghai Astronomical Observatory	hyshan@shao.ac.cn