

Zhiwei Pan

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Education

Peking University, Beijing, China
Ph.D. candidate, Department of Astronomy
Advisor: Professor Linhua Jiang

September 2019 - Present

Peking University, Beijing, China
B.S., School of Physics
Advisor: Professor Linhua Jiang

September 2015 - June 2019

Research Interests

- High-Redshift Quasar and Galaxy
- Supermassive Black Hole
- AGN and Host Galaxy
- Large Surveys, Data Mining, and Machine Learning

Collaborations

- The Dark Energy Spectroscopic Instrument (DESI, [\[Link\]](#)): Member
- JWST+ALMA ASPIRE collaboration ([\[Link\]](#)): Member
- JWST EREBUS collaboration for studying black holes in the early universe: Member
- China Space Station Telescope (CSST) PKU Science Center: Member

Awards and Honors

- 2022-2023: the First Price Scholarship and Merit Student
- 2021-2022: **Chinese National Scholarship** (top 1% Ph. D student) and Merit Student
- 2020-2021: The President's PhD Scholarship (top 5% Ph. D student), The First Price Scholarship, and Merit Student
- 2019-2020: The President's PhD Scholarship and Merit Student

Service

- 2021-2022: Visual identification of spectra for DESI Survey Validation
- April 2021: Data Quality Scientist for DESI Survey Validation in two shifts (eight nights)

Teaching and Outreach

- August 2023: Advisor of the 2023 Outstanding High School Students Summer School (Astronomy), Peking University
- September 2021 - June 2023: Co-organizer of CSST AGN & Galaxy Discussion (weekly), Peking University
- July 2022 - August 2022: Teaching Assistant in the CSST Summer School, Peking University
- September 2020 - January 2021: Supervising an undergraduate student, Peking University
- September 2020 - January 2021: Teaching Assistant in the Fundamental Astronomy, Peking University

- September 2019 - January 2020: Co-organizer of Astro-Night (weekly), Peking University
- September 2015 - Present: Have given 5+ talks to the general public, including high-school students and school children.

Talks

- September 2023: “Quasar Census: Luminosity Function & Black Hole Mass Estimation”, talk at the Chinese Astronomical Society 2023 Annual Meeting (Weihai, China)
- July 2023: “Black Hole Mass Estimation for DESI Quasars at $0.25 < z < 0.8$ ”, talk at the Academic Seminar on Multi-wavelength Studies of Quasars and Active Galactic Nuclei (Lijiang, China)
- May 2023: “Quasar Luminosity Function & Single-Epoch Black Hole Mass Estimation”, **invited talk** at the DoA special seminar of Tsinghua University (Beijing, China)
- December 2022: “Quasar UV Luminosity Function at $3.5 < z < 5.0$ from SDSS Deep Imaging Data”, talk (**First Prize**) at the ninth forum of Physics Five Universities, the National Top (Beijing, China)
- November 2022: “Overview of the Dark Energy Spectroscopic Instrument (DESI): from Survey to Science”, talk at the CSST AGN & Galaxy Discussion of Peking University (Beijing, China)
- June 2022: “The slitless spectroscopy science with emission (absorptions) lines”, talk at the CSST AGN & Galaxy Discussion of Peking University (Beijing, China)
- May 2021: “Overview of Quasar Luminosity Function”, talk at the CSST AGN & Galaxy Discussion of Peking University (Beijing, China)

Publications

ADS Bibliography

- My ADS Library: [\[Link\]](#)
- Total refereed/under-review papers: 18
- Total citations: >700
- h-index: 8

First and Second Authored Publications

- **Pan, Z.**, Jiang, L., Guo, W., et al., Iron-corrected Single-epoch Black Hole Masses of DESI Quasars at low redshift. Submitted to ApJ
- Jiang L., **Pan, Z.**, Aguilar J. N., et al., 2024, ApJ, 968, 120, Constraints on the Spacetime Variation of the Fine-structure Constant Using DESI Emission-line Galaxies [ADS]
- **Pan, Z.**, Jiang, L., Fan, X., Wu, J., & Yang, J. 2022, ApJ, 928, 172, Quasar UV Luminosity Function at $3.5 < z < 5.0$ from SDSS Deep Imaging Data [ADS]

Other Publications

- Lin, X., Wang, F., Fan, X., ..., **Pan, Z.**, et al., 2024, ApJ, 974, 147, Constraints on the Spacetime Variation of the Fine-structure Constant Using DESI Emission-line Galaxies [ADS]
- Liu, W., Fan, X., Yang, J., ..., **Pan, Z.**, et al., 2024, arXiv, Fast Outflow in the Host Galaxy of the Luminous $z = 7.5$ Quasar J1007+2115 [ADS]
- Siudek, M., Pucha, R., Mezcua, M., ..., **Pan, Z.**, et al., 2024, arXiv, Value Added Catalog of physical properties of more than 1.3 million galaxies from the DESI Survey [ADS]
- DESI Collaboration, Adame, A. G., Aguilar, J., ..., **Pan, Z.**, et al., 2024, AJ, 168, 58, The Early Data Release of the Dark Energy Spectroscopic Instrument [ADS]

- Guo, W.-J., Zou, H., Greenwell, C. L., Alexander, D. M., Fawcett, V. A., **Pan, Z.**, Siudek, M., et al., 2024, arXiv, Changing-look Active Galactic Nuclei from the Dark Energy Spectroscopic Instrument. II. Statistical Properties from the First Data Release [ADS]
- Li, W., Inayoshi, K., Onoue, M., He, W., Matsuoka, Y., **Pan, Z.**, Akiyama, M., et al., 2024, ApJ, 969, 69, Reconstruction of Cosmic Black Hole Growth and Mass Distribution from Quasar Luminosity Functions at $z > 4$: Implications for Faint and Low-mass Populations in JWST [ADS]
- Jiang, L., Fu, S., Wang, F., Bosman, S. E. I., Cai, Z., Jun, H. D., **Pan, Z.**, et al., 2024, arXiv, Constraints on the variation of the fine-structure constant at $3 < z < 10$ with JWST emission-line galaxies [ADS]
- Juneau, S., Canning, R., Alexander, D. M., ..., **Pan, Z.**, et al., 2024, arXiv, Identifying Quasars from the DESI Bright Galaxy Survey [ADS]
- DESI Collaboration, Adame, A. G., Aguilar, J., ..., **Pan, Z.**, et al., 2024, AJ, 167, 62, Validation of the Scientific Program for the Dark Energy Spectroscopic Instrument [ADS]
- Guo, W.-J., Zou, H., Fawcett, V. A., ..., **Pan, Z.**, et al., 2024, ApJS, 270, 26, Changing-look Active Galactic Nuclei from the Dark Energy Spectroscopic Instrument. I. Sample from the Early Data [ADS]
- Fu, S., Jiang, L., Ning, Y., Liu, W., **Pan, Z.**, 2024, arXiv, The Magellan M2FS spectroscopic survey of high-redshift galaxies: the brightest Lyman-break galaxies at $z \sim 6$ [ADS]
- Zou, S., Jiang, L., Cai, Z., Moustakas, J., Sun, Z., **Pan, Z.**, Ding, J., et al., 2024, ApJ, 960, 34, DESI Survey Validation Data in the COSMOS/Hyper Suprime-Cam Field: Cool Gas Trace Main-sequence Star-forming Galaxies at the Cosmic Noon [ADS]
- Yang, J., Wang, F., Fan, X., ..., **Pan, Z.**, et al., 2023, ApJL, 951, L5, A SPectroscopic Survey of Biased Halos in the Reionization Era (ASPIRE): A First Look at the Rest-frame Optical Spectra of $z > 6.5$ Quasars Using JWST [ADS]
- Alexander, D. M., Davis, T. M., Chaussidon, E., ..., **Pan, Z.**, et al., 2023, AJ, 165, 124., The DESI Survey Validation: Results from Visual Inspection of the Quasar Survey Spectra [ADS]
- DESI Collaboration, Abareshi, B., Aguilar, J., ..., **Pan, Z.**, et al., 2022, AJ, 164, 207, Overview of the Instrumentation for the Dark Energy Spectroscopic Instrument [ADS]