

Ziwen Zhang
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RESEARCH INTERESTS

During my PhD training, I devoted most of my time investigating Active Galactic Nuclei (AGN) triggering scenarios and galaxy evolution, as well as applying weak lensing technique to estimate the mass of dark matter halos and establish connections to various galaxy properties. As a result, I have developed strong interests in the following two broad areas:

- the co-evolution of AGN and galaxy - dark matter halo
- weak gravitational lensing

EDUCATION

Visiting Doctoral Scholar in cosmology 2023/04 - 2024/04
CEA-Paris Saclay, Gif-Sur-Yvette, France
Advisor: Martin Kilbinger

Combined master and PhD in astrophysics 2018/09 - 2024/06
University of Science and Technology of China (USTC), Hefei, China
Dissertation title: Large-scale structure of galaxies and galaxy evolution
Advisor: Huiyuan Wang

BA in applied physics 2014/09 - 2018/06
Anhui University of Science and Technology, Huainan, China

RESEARCH EXPERIENCES

- Quantify the PSF-related systematics in weak lensing measurements with Prof. Martin Kilbinger from CEA 2023
- Observational constraints of cluster masses in collaboration with Prof. Stefano Andreon from INAF 2023
- Generate weak lensing shear catalogs using shapepipe 2023
- Construct the image coaddition pipeline for Wide Field Survey Telescope (WFST) 2020 - 2021
- Extragalactic large scale research:
Observational constraints and Cosmological numerical simulations 2018-Present

AWARDS AND HONORS

- Best oral presentation award of the 23rd Guo Shoujing Symposium 2021
- Second Prize of Oral Presentation in Academic Forum of Shanghai Jiaotong University 2021

- Second Prize of oral presentation in the 10th Graduate Student Academic Forum, School of Physics, USTC 2021
- Interdisciplinary Contest in Modeling, Honorable mention 2017
- Anhui Province University Students Mechanics Competition
Second prize in the undergraduate group 2017
- Challenge Cup Academic Science and Technology Works Competition for College Students
First prize at school level 2016 - 2017
- China National Mathematical Modeling Competition for College Students
Second prize in the undergraduate group of Anhui Division 2016

Two utility model patents

- New anti-electromagnetic field interference transmitter system
<https://patents.google.com/patent/CN206164631U/en> 2017
- A form of anti-noise glass plate
<https://patents.google.com/patent/CN206581418U/zh> 2017

GRANTS AND SCHOLARSHIPS

- China Scholarship Council (CSC) scholarship 2023
- CETC 14 Guo Rui scholarship 2022
- Cyrus Chun Ying Tang Foundations-WFST Project Grant 2022
- First Class Scholarship for Doctoral Students 2023, 2022, 2021
- Second Class Scholarship for Doctoral Students 2020

RESEARCH PUBLICATIONS

Published

- [1] **Ziwen Zhang**, Huiyuan Wang, Wentao Luo, Jun Zhang, Houjun J. Mo, YiPeng Jing, Xiaohu Yang, and Hao Li. *Massive star-forming galaxies have converted most of their halo gas into stars.*, 663:A85, July 2022. arXiv:2112.04777.
- [2] **Ziwen Zhang**, Huiyuan Wang, Wentao Luo, H. J. Mo, Zhixiong Liang, Ran Li, Xiaohu Yang, Tinggui Wang, Hongxin Zhang, Hui Hong, Xiaoyu Wang, Enci Wang, Pengfei Li, and JingJing Shi. *Hosts and triggers of AGNs in the Local Universe.*, 650:A155, June 2021. arXiv:2012.10640.
- [3] Hui Hong, Huiyuan Wang, H. J. Mo, **Ziwen Zhang**, Guangwen Chen, Wentao Luo, Tinggui Wang, Pengfei Li, Renjie Li, Yao Yao, and Aoxiang Jiang. *Dynamical Hotness, Star Formation Quenching, and Growth of Supermassive Black Holes.*, 954(2):183, September 2023. arXiv:2305.02910.

Accepted

- [1] **Ziwen Zhang**, Huiyuan Wang, Wentao Luo, Houjun Mo, Jun Zhang, Xiaohu Yang, Hao Li, and Qinxun Li. *Halo mass-observable proxy scaling relations*

and their dependencies on galaxy and group properties. arXiv e-prints, page
arXiv:2305.06803, May 2023. Accepted for publication in ApJ.

CONFERENCES ATTENDED

Invited talks

- East-Asia AGN Workshop, Kagoshima, Japan 2023
- KIAA-DoA seminar, Online 2023
- Xiamen University Haiyun Doctoral Student Academic Forum,
Xiamen, China 2022
- The 23rd Guo Shoujing Academic Symposium of the Chinese
Astronomical Society and the 2021 Galactic Cosmology
Frontier Symposium, Hangzhou, China 2021
- The 1st Shanghai Jiao Tong University Academic Forum for
Doctors of Physics and Astronomy, Online 2021
- The 10th Academic Forum for Graduate Students, School of
Physics, University of Science and Technology of China, Hefei, China 2021

Conference participation

- WFST Data Processing Seminar, Nanjin, China 2020
- International Symposium on Bias in Dark Matter halos and
Galaxy Clustering at the Tsung-Dao Lee Institute, Shanghai, China 2019
- Seminar on galaxies and quasars, Huangshan, China 2019
- Explore Gas in and around Galaxies, Hefei, China 2018
- Seminar on Galaxies, Gravitational Waves and Cosmology, Hefei, China 2018

SKILLS

Computing skills

- Proficient in Python, parallel computing and the use of computer clusters
- Proficient in weak gravitational lensing calculations
- Proficient in two-point correlation function calculations

Technical and Analysis skills

- Specialized in satellite kinematics analysis
- Familiar with image coaddition
- Familiar with weak lensing systematics
- Familiar with shear processing pipeline

LANGUAGES

Chinese (native), English (proficient)

References

- **Huiyuan Wang**
Professor, College of Physics, Department of Astronomy
University of Science and Technology of China
No.96 Jinzhai Road, Hefei City, Anhui Province, 230026, China

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Prof. Wang was my supervisor during my master's and doctoral studies.

- **Houjun Mo**

Professor, College of Natural Sciences, Department of Astronomy

University of Massachusetts Amherst

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I began working with Prof. Mo during my master's and doctoral studies.

- **Martin Kilbinger**

Astrophysicist at CEA Paris-Saclay

CEA Paris-Saclay, Institut de Recherche sur les lois Fondamentales de l'Univers (Irfu)

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I am currently at CEA as a joint PhD student and Martin is my supervisor.