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RESEARCH AREA

◆ Galaxy-Halo Connection

○ Galaxy groups ○ Secondary galaxy-halo connections ○ Observational evidence

◆ Connecting Galaxies/Structures across Cosmic Time

○ Protoclusters ○ Stellar mass assembly histories

◆ Galaxy Quenching

○ Internal quenching ○ Environmental quenching

EDUCATION

Tsinghua University

Ph.D. in Astronomy

Sep. 2017 - Jul. 2022

University of Massachusetts, Amherst

Visiting Scholar

Nov. 2019 - Oct. 2021

University of Science and Technology of China (USTC)

B.S. in Astronomy

Sep. 2013 - Jul. 2017

EXPERIENCE

Kavli Institute of Astronomy and Astrophysics, Peking University

KIAA Fellow

Jul. 2022 - Now

University of Massachusetts, Amherst

Visiting Scholar

Nov. 2019 - Oct. 2021

TEACHING

• Observational cosmology

Teaching assistant, Autumn 2017, Tsinghua University

• Particle cosmology

Teaching assistant, Spring 2017, USTC

• General relativity

Teaching assistant, Autumn 2016, USTC

ADVISES

• Zhijun Zhang, former undergraduate at Peking University

Co-advised with Prof. Yingjie Peng, Bachelor Thesis

• Zeyu Gao, Ph.D. candidate at Peking University

Co-advised with Prof. Yingjie Peng

PROFESSIONAL SERVICE

- Astronomy & Astrophysics - Referee

REFERENCES

- Prof. Houjun Mo University of Massachusetts, Amherst
✉ hjmo@umass.edu
- Prof. Cheng Li Tsinghua University
✉ cli2015@tsinghua.edu.cn
- Prof. Yingjie Peng Peking University
✉ yjpeng@pku.edu.cn
- Prof. Zheng Cai Tsinghua University
✉ zcaai@tsinghua.edu.cn

GRANTS

- KIAA fellow start-up research funding Jul. 2022 - Jul. 2024
50,000CNY
- China Scholarship for the visiting scholar Nov. 2019 - Oct. 2021
China Scholarship Council (CSC), \$45,600
- National Astronomy Training Base Jun. 2016 - Jun. 2017
Measure the conditional luminosity functions of galaxies at $z \sim 0.6$ using CLAUDS and BOSS, 20,000CNY
- National Astronomy Training Base May 2015 - May 2016
Thermal gravitational-wave background in the general pre-inflationary scenario, 20,000CNY

HONORS AND AWARDS

- KIAA Fellowship 2022
- MUST Fellowship (declined) 2022
- Comprehensive scholarship (2nd class) 2020
- Comprehensive scholarship (1st class) 2019
- Outstanding Graduate of USTC 2017
- National Inspirational Award 2016
- Encouraging Scholars of USTC 2016
- Excellent Student Scholarship (Silver Award) 2014
- Excellent Student Scholarship (Bronze Award) 2013

TALKS

- Collaboration Workshop on Cosmology and Galaxy Formation
Speaker Shanghai, Jun. 2023
- 25th Chinese Astronomical Society Guoshoujing Symposium on Galaxies and Cosmology
Speaker (Best oral presentation) Huangshan, May 2023
- Conference of Star Formation and Nuclei Activity in Galaxies
Speaker Nanjing, Mar. 2023
- KIAA-DoA Seminar, Peking University
Invited speaker Beijing, Mar. 2023

- Lunch Talk at the Department of Astronomy, Tsinghua University
Invited speaker Beijing, Nov. 2022
- Lunch Talk at Kavli-IPMU, University of Tokyo
Invited speaker Remote, Jun. 2021
- Journal Club at University of Massachusetts, Amherst
Speaker Amherst MA, Mar. 2021
- The 11-th Prime Focus Spectrograph collaboration meeting
Speaker Pasadena CA, Dec. 2019
- The 10-th Prime Focus Spectrograph collaboration meeting
Speaker Shanghai, Dec. 2018

PUBLICATION

- ♦ 18 publications (15 refereed + 3 under review)
- ♦ 8 as the first/corresponding author (8 refereed)
- ♦ 131 citations
- ♦ [Open in NASA/ADS Library](#)
- Environmental dependence of the mass-metallicity relation in cosmological hydrodynamical simulations
Kai Wang, Xin Wang, Yangyao Chen
2023, *Accepted by ApJ* (arXiv:2305.08161)
- Late-formed halos prefer to host quiescent central galaxies. I. Observational results
Kai Wang, Yangyao Chen, Qingyang Li, Xiaohu Yang
2023, *MNRAS*, Volume 522, Issue 2 (arXiv:2304.07189)
- Dissect two-halo galactic conformity effect: The dependence of star formation activities on the large-scale environment for central galaxies
Kai Wang, Yingjie Peng, Yangyao Chen
2023, *MNRAS*, Volume 523, Issue 1 (arXiv:2304.06886)
- Relating galaxies across different redshift to study galaxy evolution
Kai Wang, H.J. Mo, Cheng Li, Yangyao Chen
2023, *MNRAS*, Volume 520, Issue 2 (arXiv:2211.00485)
- Finding proto-clusters to trace galaxy evolution: I. The finder and its performance
Kai Wang, H.J. Mo, Cheng Li, Yangyao Chen
2021, *MNRAS* Volume 505, 3892 (arXiv:2104.12223)
- Identifying galaxy groups at high redshift from incomplete spectroscopic data: I. The group finder and application to zCOSMOS
Kai Wang, H.J. Mo, Cheng Li, Jiacheng Meng, Yangyao Chen
2020, *MNRAS* Volume 499, 89 (arXiv:2006.05426)
- Thermal gravitational-wave background in the general pre-inflationary scenario
Kai Wang, Larissa Santo, Jun-Qing Xia, Wen Zhao
2017, *JCAP* 01, 053 (arXiv:1608.04189)
- Smoothing methods comparison for CMB E- and B-mode separation
Yi-Fan Wang, **Kai Wang**, Wen Zhao
2016, *Research in Astronomy and Astrophysics* 16, 4 (arXiv:1511.01220)
- Massive Dark Matter Halos at High Redshift: Implications for Observations in the JWST Era
Yangyao Chen, H.J. Mo, **Kai Wang**
2023, *Submitted to MNRAS* (arXiv:2304.13890)
- Measuring galaxy abundance and clustering at high redshift from incomplete spectroscopic data: Tests on mock catalogs
Jiacheng Meng, Cheng Li, Houjun Mo, Yangyao Chen, **Kai Wang**
2023, *Submitted to ApJ* (arXiv:2008.13733)

- A Conditional Abundance Matching Method of Extending Simulated Halo Merger Trees to Resolve Low-Mass Progenitors and Sub-halos
Yangyao Chen, H.J. Mo, Cheng Li, **Kai Wang**, Huiyuan Wang, Xiaohu Yang
2023, *Submitted to MNRAS* (arXiv:2301.08972)
- MAHGIC: A Model Adapter for the Halo-Galaxy Inter-Connection
Yangyao Chen, H.J. Mo, Cheng Li, **Kai Wang**, Huiyuan Wang, Xiaohu Yang, Youcai Zhang, Neal Katz
2021, *MNRAS Volume 507*, 2510 (arXiv:2106.03984)
- The clustering of galaxies in the DESI imaging legacy surveys DR8:I. the luminosity and color dependent intrinsic clustering
Zhaoyu Wang, Haojie Xu, Xiaohu Yang, Y. P. Jing, **Kai Wang**, Hong Guo, Fuyu Dong, Min He
2021, *Sci. China Phys. Mech. Astron.* 64, 289811 (arXiv:2106.14159)
- How to empirically model star formation in dark matter halos: I. Inferences about central galaxies from numerical simulations
Yangyao Chen, H. J. Mo, Cheng Li, **Kai Wang**
2021, *MNRAS, Volume 504*, 4865 (arXiv:2009.12467)
- Relating the structure of dark matter halos to their assembly and environment
Yangyao Chen, H.J. Mo, Cheng Li, Huiyuan Wang, Xiaohu Yang, Youcai Zhang, **Kai Wang**
2021, *ApJ*, 899 81 (arXiv:2003.05137)
- Superconducting cosmic strings as sources of cosmological fast radio bursts
Jia-Ni Ye, **Kai Wang**, Yi-Fu Cai
2017, *Eur. Phys. J. C* 77:720 (arXiv:1705.10956)
- Statistical imprints of CMB B-type polarization leakage in an incomplete sky survey analysis
Larissa Santo, **Kai Wang**, Yangrui Hu, Wenjuan Fang, Wen Zhao
2017, *JCAP* 01, 043 (arXiv:1612.03564)
- Probing the statistical properties of CMB B -mode polarization through Minkowski Functionals
Larissa Santo, **Kai Wang**, Wen Zhao
2016, *JCAP* 07, 029 (arXiv:1510.07779)