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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

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

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 Scholar 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)
- **Environmental dependence of the mass-metallicity relation in cosmological hydrodynamical simulations**
Kai Wang, Xin Wang, Yangyao Chen
[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

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

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

[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 \(arXiv:1510.07779\)](#)