

KAI WANG 王凯

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ORCID: 0000-0002-3775-0484

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

Comprehensive scholarship (Second class)	2020
Comprehensive scholarship (First 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

SKILLS

- Skilled in **Python** for data analysis
- Familiar with **C/C++** for data analysis

- Familiar with **HTML, CSS, and JavaScript** for web development
- Experience with simulation data analysis, e.g. ELUCID, IllustrisTNG, EAGLE, SIMBA

TALKS

- **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

- ◆ 17 publications (12 refereed + 5 under review)
- ◆ 8 as the first/corresponding author (5 refereed + 3 under review)
- **Environmental dependence of the mass-metallicity relation in cosmological hydrodynamical simulations**
Kai Wang, Xin Wang, Yangyao Chen
Submitted to ApJ

- **Late-formed halos prefer to host quiescent central galaxies. I. Observational results**

Kai Wang, Yangyao Chen, Qingyang Li, Xiaohu Yang

Submitted to MNRAS

- **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

Submitted to MNRAS

- **Relating galaxies across different redshift to study galaxy evolution**

Kai Wang, H.J. Mo, Cheng Li, Yangyao Chen

2023, MNRAS, Volume 520, Issue 2

- **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

- **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

- **Thermal gravitational-wave background in the general pre-inflationary scenario**

Kai Wang, Larissa Santo, Jun-Qing Xia, Wen Zhao

2017, JCAP 01, 053

- **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

- **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

- **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

- **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

- **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

- **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

- **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

- **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

- **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

- **Probing the statistical properties of CMB B -mode polarization through Minkowski Functionals**

Larissa Santo, **Kai Wang**, Wen Zhao

2016, JCAP 07, 029