

XIAOSHENG ZHAO

zhaoxs18@mails.tsinghua.edu.cn \diamond [Xiaosheng-Zhao.github.io](https://github.com/Xiaosheng-Zhao)

+86 18800139808 \diamond Beijing, China

EDUCATION

Tsinghua University
PhD in Astronomy

Sep 2018 -

Wuhan University
BS in Physics

Sep 2014 - Jun 2018

RESEARCH INTERESTS

I study the 21cm cosmology with the help of artificial intelligence (AI). Currently I apply different statistical methods to maximally extract the information from future 21 cm signal. I also like explore the archive data, especially the galaxy data, to maximize the information contained in them and target at the scientific goal like galaxy formation and evolution. Another interest is to find the exoplanet signal in the noisy light curve automatically. I am continuing making use of the AI to accelerate scientific discovery and better understand our universe.

AWARDS

AMD scholarship

2020 - 2021

National scholarship

2015 - 2016

MENTORING & TEACHING EXPERIENCE

Teaching Assistant in undergraduate *Physics* course.

Feb - Jun 2019

REFERENCES

Prof. Yi Mao, Tsinghua University

ymao@mail.tsinghua.edu.cn

TALKS & PRESENTATIONS

SAZERAC 21cm 2022

Mar 2022

Recorded talk: *Implicit Likelihood Inference of Reionization Parameters from the 21 cm Power Spectrum*

Virtual

SAZERAC SIP, learning the high-redshift universe

Feb 2022

Contributed talk: *Simulation Based Inference of Reionization Parameters From 3D Tomographic 21 cm Lightcone Images*

Virtual

SKA CD/EoR Science Telecon

July 2021

Contributed talk: *Simulation Based Inference of Reionization Parameters From 3D Tomographic 21 cm Images*

Virtual

HERA telecon

Jun 2021

Contributed talk: *Simulation Based Inference of Reionization Parameters From 3D Tomographic 21 cm Images*

UC, Berkeley

‘Barefoot Reionization’: Exploring the First Billion Years of the Universe July 2019
Poster sparkler talk: *The 21-cm cosmology with 3D CNN* U of Melbourne

SERVICE

I organized the machine learning session in astronomy department. Mar 2021 - Mar 2022

I co-organized the joint machine learning session among DoA (Tsinghua), JBCA (Manchester) and SKAO. Oct 2021 - Mar 2022

SKILLS

Coding languages: Python, C, html

General: Data science and Machine learning application with Pandas, Scikit-learn, Tensorflow and Pytorch.

PUBLICATIONS

[Implicit Likelihood Inference of Reionization Parameters from the 21 cm Power Spectrum](#)
Xiaosheng Zhao; Yi Mao; Benjamin D. Wandelt
2022, ApJ, 933, 236

[Simulation-Based Inference of Reionization Parameters From 3D Tomographic 21 cm Lightcone Images.](#)
Xiaosheng Zhao; Yi Mao; Cheng Cheng ; Benjamin D. Wandelt
2022, ApJ, 926, 151

EXTRA

Project of *Big Data Ability Enhancement* Sep 2021 - July 2022
Courses: *e.g. big data system, big data analysis, big data application* Tsinghua University
(*WeChat big data challenge: multi-modal short-video classification*)

CSST summer school July 2022
Got certification of data processing practice Peking University