

XIAOSHENG ZHAO

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+33 0779117664 ♦ Paris, France

EDUCATION & EXPERIENCE

Institut d'Astrophysique de Paris (IAP), France.

Nov 2022 -

Visitor

Tsinghua University, China

Sep 2018 -

PhD in Astronomy

Wuhan University, China

Sep 2014 - Jun 2018

BS in Physics

RESEARCH INTERESTS

My research interests include implicit likelihood inference, machine learning for 3D astrophysical fields, generative modeling as an alternative to astrophysical simulations, AI-aid knowledge discovery from multi-modal information of the universe, and large language models for astrophysical research.

AWARDS

AMD scholarship

2020 - 2021

National scholarship

2015 - 2016

REFERENCES

Prof. Yi Mao, Tsinghua University

ymao@mail.tsinghua.edu.cn

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

SKILLS

Coding languages: Python (Middle), {C, Jax, Shell, html&CSS}(Junior)

General: Data science and Machine learning applications with PyTorch, Tensorflow, Pandas, and Scikit-learn, etc.

TALKS & PRESENTATIONS

SAZERAC 21cm 2022

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

Mar 2022
Virtual

SAZERAC SIP, learning the high-redshift universe

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

Feb 2022
Virtual

SKA CD/EoR Science Telecon

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

July 2021
Virtual

HERA telecon

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

Jun 2021
UC, Berkeley

‘Barefoot Reionization’: Exploring the First Billion Years of the Universe

Poster sparkler talk: *The 21-cm cosmology with 3D CNN*

July 2019
U of Melbourne

MENTORING & TEACHING EXPERIENCE

Teaching Assistant in undergraduate *Physics* course.

Feb - Jun 2019

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

EXTRA**Project of *Big Data Ability Enhancement***

Courses: *e.g. big data system, big data analysis, big data application (WeChat big data challenge: multi-modal short-video classification)*

Sep 2021 - July 2022
Tsinghua University

CSST summer school

Got certification of data processing practice

July 2022
Peking University