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 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   Mar 2022
Recorded talk: *Implicit Likelihood Inference of Reionization Parameters from*   *Virtual*
the 21 cm Power Spectrum

SAZERAC SIP, learning the high-redshift universe   Feb 2022
Contributed talk: *Simulation Based Inference of Reionization Parameters From*   *Virtual*
3D Tomographic 21 cm Lightcone Images

SKA CD/EoR Science Telecon   July 2021
Contributed talk: *Simulation Based Inference of Reionization Parameters From*   *Virtual*
3D Tomographic 21 cm Images

HERA telecon   Jun 2021
Contributed talk: *Simulation Based Inference of Reionization Parameters From*   *UC, Berkeley*
3D Tomographic 21 cm Images

'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*

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   Oct 2021 - Mar 2022
DoA (Tsinghua), JBCA (Manchester) and SKAO.

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*