

# Xiangyu Zhang

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## RESEARCH INTERESTS

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Interstellar medium (847) | Interstellar dust extinction (837)

Polycyclic aromatic hydrocarbons (1280)

## EDUCATION

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### Graduate student

October 2021-July 2025 (expected)

Max Planck Institute for Astronomy (MPIA), Heidelberg

Supervisor: Dr. Gregory M. Green

### Bachelor's degree for natural science

August 2017-June 2021

Department of physics, Tsinghua University (THU), Beijing

Selected awards: Lin-bridge scholarship (highest distinction for astronomy undergrads)

## OUTREACH AND SERVICE

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### Referee for MNRAS (Since 2023)

Member of the **Local Organizing Committee** for the conference:

New Computational Methods in Milky Way Dynamics and Structure

Ringberg Castle, Bavaria, July, 2024

## TEACHING EXPERIENCE

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Teaching Assistant, Introduction to astronomy @ Universität Heidelberg, 2023 Spring.

Teaching Assistant, Introduction to astronomy @ Universität Heidelberg, 2023 Fall.

## LIST OF PUBLICATIONS

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(See [NASA ADS](#) for more contributed work)

**Zhang, X.**, Hensley, B., & Green, G., (2024) Dust extinction-curve variation in the translucent interstellar medium is driven by PAHs. submitted. [arXiv:2410.23171](#)

Green, G., **Zhang, X.**, & Zhang, R., (2024) The Dust Extinction Curve: Beyond R(V). submitted. [arXiv:2410.22537](#)

**Zhang, X.** & Green, G., (2024) Unveiling the Milky Way dust extinction curve in 3D. under review at **Science**, recommended for publication by referees. [Zenodo](#) | [arXiv: 2407.14594](#)

**Zhang, X.**, Green, G., & Rix, H.-W. (2023) Parameters of 220 million stars from Gaia BP/RP spectra. Monthly Notices of the Royal Astronomical Society **524**, no. 2 (2023): 1855-1884.

**Zhang, X.**, et al. (2020). OGLE-2015-BLG-1771Lb: A Microlens Planet Orbiting an Ultracool Dwarf?" The Astronomical Journal, **159**(3), 116.

Yang, H., **Zhang, X.**, et al. (2020). KMT-2016-BLG-1836Lb: A Super-Jovian Planet from a High-cadence Microlensing Field. *The Astronomical Journal*, **159(3)**, 98.

#### **DATASETS PUBLISHED**

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**"XPPARAMS"** – Parameters of 220 million stars from Gaia BP/RP spectra, available on [zenodo](#) and [GAVO](#)

**"R(V) in 3D"** – Precise determination of extinction R(V) for over 130 million stars, available on [zenodo](#).

#### **CONFERENCE PRESENTATIONS & SEMINAR**

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Variation of extinction curves from PS1, 2MASS, WISE & Gaia | Interstellar Institute, July 2022  
@ Institut Pascal, Saclay, Paris, France

Stellar parameters from Gaia XP spectra using a forward model | Gaia XPloration, May 2023  
@ IoA, Cambridge

A 3D R<sub>v</sub> map based on Gaia XP spectra | August 2023  
@ DoA, Tsinghua University, Beijing

Inferred stellar parameters from 220 million XP spectra using an empirical forward model | [Seminar, August 2023](#)

@ NAOC, Beijing

@ KIAA, PKU, Beijing

R(V) variation in 3D and implication of dust evolution | Seminar, June 2024  
@ Caltech, Pasadena  
@ CfA, Cambridge, MA

Measuring extinction curve and its variation with a forward model, July 2024  
@ Ringberg Castle, Bavaria.

#### **LEADERSHIP**

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Vice president of Students' Union (2019-2021)  
Department of physics, Tsinghua University