

Heyang Long

She/Her/Hers

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📄 Publication

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🐙 Github

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🌐 Website: <https://cosmosheep.github.io>

Research Interest

Cosmology

- Epoch of Reionization, Intergalactic Medium
- 21 cm Intensity Mapping, Lyman-alpha Forest, Weak Gravitational Lensing
- Cosmic Microwave Background, B-modes

Astrophysics

- Primordial Black Hole
- Gravitational Waves, Compact Objects

Education

Aug 2018 –

The Ohio State University, Columbus, OH

Ph.D in Physics

Advisor: Christopher M. Hirata

Sep 2014 – June 2018

Nanjing University, Nanjing, China

B.S in Physics

Advisor: Zuowei Liu

Position

Jul – Oct 2017

University of Pittsburgh, PITT PACC, Pittsburgh, PA

Visiting Student

Advisor: Tao Han

Awards

2022 | APS DAP Student Travel Grant, \$600

2018 | Nanjing University Outstanding Graduates

Publications

Major Author

2021 | 1. "Streaming Velocity Effects on the Post-reionization 21 cm Baryon Acoustic Oscillation Signal."
Long, Heyang, Jahmour J. Givans, and Christopher M. Hirata.
[MNRAS](#), 513, 1, 117 -128 (2022) ([arXiv](#))

2019 | 2. "A synthetic Roman Space Telescope High-Latitude Imaging Survey: simulation suite and the impact of wavefront errors on weak gravitational lensing."
Troxel, M. A., **H. Long**, C. M. Hirata, A. Choi, M. Jarvis, R. Mandelbaum, K. Wang, M. Yamamoto, S. Hemmati, and P. Capak.
[MNRAS](#), 501, 2, 2044-2070 (2021) ([arXiv](#))

Contributing Author

- 2022 | 3. "A Synthetic Roman Space Telescope High-Latitude Time-Domain Survey: Supernovae in the Deep Field" Wang, Kevin X., *et al.* (inc. **Long, Heyang**)
Submitted to MNRAS, arXiv: 2204.13553 ([arXiv](#))
4. "Weak Gravitational Lensing Shear Estimation with Metacalibration for the Roman High-Latitude Imaging Survey."
Yamamoto, Masaya, *et al.* (inc. **Long, Heyang**)
Submitted to MNRAS, arXiv: 2203.08845 (2022). ([arXiv](#))

Presentations

- Apr 2022 | 4. **Contributed Talk**, APS April Meeting, New York, NY
- Nov 2021 | 3. **Invited Talk**, Roman Science Investigation Team Workshop, online
- Aug 2021 | 2. **Contributed Talk**, COSMO'21, online, UIUC, IL
- Aug 2019 | 1. **Poster**, The 12th Great Lakes Cosmology Workshop, Rochester, NY

Conferences

- Aug 2021 | 3. **CMB-S4 Summer Collaboration Meeting**, online
- June 2020 | 2. **Michigan Cosmology Summer School**, online, Ann Arbor, MI
- Mar 2019 | 1. **WFIRST Synthetic Data Hackathon**, Baltimore, MD

Research Advising Experience

- 2021 - | Catalina Morales-Gutiérrez, Undergraduate Student at Universidad de Costa Rica (UCR)
- 2021 - | Yuanyuan Yang, Undergraduate Student at OSU
- 2021 - | Emily Koivu, Graduate Student at OSU

Service & Teaching Experience

- 2021 Fall - | **Co-organizer**, Cosmology Lunch Journal Club, CCAPP, OSU
- 2018-2020 | **Graduate Teaching Assistant**
- Physics 1250, *Mechanics, Work and Energy, Thermal Physics*, OSU, Fall 2018 & Fall 2019
 - Physics 1251, *E&M, Waves, Optics, Modern Physics*, OSU, Spring 2019 & Spring 2020

Programming Skills

- **Language:** Python, C, Fortran, LaTeX
- **Cosmology & Astrophysics Simulations:** GalSim, GADGET-2, 21cmFAST, CLASS, Starburst99, Tlusty
- **Script:** Perl, Bash

Outreach

- 2022 | Volunteer Judge, Ohio Academy of Science State Science Day, Columbus, OH