

Heyang Long

She/Her/Hers

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🏠 INSPIRE 🐑 CosmoSheep 🌐 <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, Binary Black Hole System

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 2017 – Oct 2017

University of Pittsburgh, PITT PACC, Pittsburgh, PA

Visiting Student

Advisor: Tao Han

Publications

2021

2. Long, Heyang, Jahmour J. Givans, and Christopher M. Hirata. "Streaming Velocity Effects on the Post-reionization 21 cm Baryon Acoustic Oscillation Signal." arXiv preprint arXiv:2107.07615 (2021).

2019

1. Troxel, M. A., H. Long, C. M. Hirata, A. Choi, M. Jarvis, R. Mandelbaum, K. Wang, M. Yamamoto, S. Hemmati, and P. Capak. "A synthetic Roman Space Telescope High-Latitude Imaging Survey: simulation suite and the impact of wavefront errors on weak gravitational lensing." Monthly Notices of the Royal Astronomical Society 501, no. 2 (2021): 2044-2070.

Presentations

Nov 2021

3. Roman Science Investigation Team Workshop, online

Invited Talk: *General Roman Sims and Application to Impact of Wavefront Errors*

Aug 2021

2. COSMO'21, online, UIUC, IL

Talk: *Streaming Velocity Effects on the Post-reionization 21 cm Baryon Acoustic Oscillation Signal*

Aug 2019

1. The 12th Great Lakes Cosmology Workshop, Rochester, NY

Poster: *A synthetic Roman Space Telescope High-Latitude Imaging Survey: simulationsuite and the impact of wavefront errors on weak gravitational lensing*

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

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, LaTeX
- **Cosmological Simulations:** GalSim, GADGET-2, 21cmFAST, CLASS
- **Script:** Perl, Bash

Reference

- **Prof. Christopher M. Hirata**
Department of Physics and Astronomy, The Ohio State University
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- **Prof. Michael Troxel**
Department of Physics, Duke University
michael.troxel@duke.edu