







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

Awards

2018 | Nanjing University Outstanding Graduates

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

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, 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