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 Wave, 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 Phyiscs
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
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

Teaching Experience

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
  hirata.10@osu.edu

- **Prof. Michael Troxel**
  Department of Physics, Duke University
  michael.troxel@dule.edu