Heyang Long

She/Her/Hers

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INSPIRE | NewTanc | https://newtanc.github.io

Research Interest

Cosmology

- Epoch of Reionization, 21 cm Intensity Mapping, Lyman-alpha Forest
- Weak Gravitational Lensing
- Cosmic Microwave Background, B-modes
- Gravitational Wave, Binary Black Hole System

Particle Physics

- Dark Matter
- Neutrino Physics

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 **3. 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 **2.** 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.

2018 **1. Long, Heyang**, Luyan Yu, Ruyan Sun, Sihui Wang, and Huijun Zhou. "2015 Problem 5: Two Balloons." International Young Physicists' Tournament: Problems And Solutions 2015 (2018): 31.

Presentations

Aug 2021 | **3. COSMO'21**, online, UIUC, IL
Talk: *Streaming Velocity Effects on the Post-reionization 21 cm Baryon Acoustic Oscillation Signal*

Jul 2021 | **2. Astro Coffee**, online, Department of Astronomy, OSU, OH
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*

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