Heyang Long

She/Her/Hers

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📉 Publication Github 🌐 Website: https://cosmosheep.github.io

Research Interest

Cosmology	• Epoch of Reionization, Intergalactic Medium • 21 cm Intensity Mapping, Line Intensity Mapping, Lyman-alpha Forest, Weak Gravitational Lensing
Astrophysics	• Primordial Black Hole • Gravitational Waves, Compact Objects, White Dwarf Binaries

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 – 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

2022	**1.** *"Probing Large Scale Ionizing Background Fluctuation with Lyman α Forest and Galaxy Cross-correlation at z=2.4"* **Long, Heyang**, and Christopher M. Hirata. (arXiv)
2021	**2.** *"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	**3.** *"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	**4.** "*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) **5.** "*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 & Summer Schools

Aug 2022	**4. N3AS School on Multi-Messenger Astrophysics**, Santa Cruz, CA
Aug 2021	**3. CMB-S4 Summer Collaboration Meeting**, online
Jun 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
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**: Proficient in Python, experienced in C and Fortran
- **Cosmology & Astrophysics Simulations**: GalSim, GADGET-2, 21cmFAST, CLASS, Starburst99, Tlusty
- **Script**: Perl, Bash

Outreach

Jul 2022 - | Treasurer, Society of Women in Physics, OSU

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