Shun-Sheng Li

PhD candidate

https://lshuns.github.io/

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Research Interests

Gravitational lensing measurements and applications; Dark matter properties and connection to galaxy formation; Cosmological models and dark energy constraints; Gravitational waves for cosmological study

Research Experience

Research Assistant — 2019 – present
Leiden Observatory, Leiden, the Netherlands

Research Assistant — 2017 – 2019
National Astronomical Observatory of China, Beijing, China

Education

PhD in Astrophysics — 2019 – 2023
Leiden University, Leiden, the Netherlands

- Thesis: Cosmic tomography with weak gravitational lensing

MSc in Astrophysics — 2016 – 2019
University of Chinese Academy of Sciences, Beijing, China

BSc in Astronomy — 2012 – 2016
Nanjing University, Nanjing, China

Professional Experience

Collaboration

- Kilo-Degree Survey — 2019–present
  KiDS-Legacy calibration team, galaxies and halos working group
- Euclid Consortium — 2020–present
  Flagship 2.0 validation team, weak lensing science working group

Public Code Development

- MultiBand_ImSim
  A multi-band image simulation pipeline for generating multi-band images and creating joint redshift-shear mock catalogues.

Teaching Experience

Teaching Assistant

- Large-Scale Structure and Galaxy Formation 2022
  Master's course, Leiden University
- Gravitational Lensing 2020
  Master's course, Leiden University

(Co-)supervision

- Margherita Grespan (2020), Shiyang Zhang (2022)
  MSc students, Leiden University

Scholarships and Awards

- China National Scholarship 2018
- China People's Scholarship 2014, 2015

Publication Statistics

10 total (5 first author and 2 second author).
Total citations: 344, h-index: 8, according to adsabs recorded on Feb 23, 2024.

Invited Talks

A complete list of presentations is available at *https://lshuns.github.io/talks/*

6. LMU Munich seminar Munich, 2023
   KiDS-1000: Cosmology with improved cosmic shear measurements
5. Innsbruck seminar Innsbruck, 2023
   Unifying shear and redshift calibration with the SKiLLS multi-band image simulations
4. KIPAC tea talk Stanford (virtual), 2023
   Lessons for LSST Weak Lensing from the Kilo Degree Survey
3. Intriguing inconsistencies in the growth of structure over cosmic time Sesto, 2022
   Multi-band image simulations to unite the shear and redshift calibrations
2. Leiden-GRAPPA GW cosmology meeting Leiden, 2019
   Gravitational Lensing of Gravitational Waves
1. NAOC galaxy formation lunch talk Beijing, 2018
   Gravitational Lensing of Gravitational Waves

Publication List

Summary: 10 total, 5 first author and 2 second author.
Total citations: 344, h-index: 8, according to adsabs recorded on Feb 23, 2024.

First-author Publications

5. KiDS-1000: Cosmology with improved cosmic shear measurements
   S.-S. Li, H. Hoekstra, K. Kuijken, et al., 2023, A&A, 679, A133 (adsabs).

4. KiDS-Legacy calibration: Unifying shear and redshift calibration with the SKiLLS multi-band image simulations
   S.-S. Li, K. Kuijken, H. Hoekstra, et al., 2022, A&A, 670, A100 (adsabs).

3. KiDS+VIKING-450: An internal-consistency test for cosmic shear tomography with a colour-based split of source galaxies
   S.-S. Li, K. Kuijken, H. Hoekstra, et al., 2021, A&A, 646, A175 (adsabs).

2. OGLE-2017-BLG-1186: First Application of Asteroseismology and Gaussian Processes to Microlensing
   S.-S. Li, W. Zang, A. Udalski, et al., 2019, MNRAS, 488, 3308 (adsabs).

1. Gravitational Lensing of Gravitational Waves: A Statistical Perspective
   S.-S. Li, S. Mao, Y. Zhao, et al., 2018, MNRAS, 476, 2220 (adsabs).

Second-author Publications

2. Strong lensing selection effects
   A. Sonnenfeld, **S.-S. Li**, G. Despali, et al., 2023, A&A, 678, A4 (adsabs).

1. Detecting Lensing-Induced Diffraction in Astrophysical Gravitational Waves
   L. Dai, **S.-S. Li**, B. Zackay, et al., 2018, Phys. Rev. D, 98, 104029 (adsabs).

Other Co-authored Publications

3. DES Y3 + KiDS-1000: Consistent cosmology combining cosmic shear surveys
   DES and KiDS Collaboration, et al. (incl. **S.-S. Li**), 2023, OJAp, 6, 36 (adsabs).

2. Spitzer + VLTI-GRAVITY Measure the Lens Mass of a Nearby Microlensing Event
   W. Zang, et al. (incl. **S.-S. Li**), 2020, ApJ, 897, 180 (adsabs).

1. Spitzer Microlensing Parallax Reveals Two Isolated Stars in the Galactic Bulge
   W. Zang, et al. (incl. **S.-S. Li**), 2020, ApJ, 891, 3 (adsabs).

Referees

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