

# SUNAO SUGIYAMA

List of publications, Compiled on May 30, 2024

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For up-to-date list of my papers, please see [ADS](#).

\* = Author list alphabetized

**Major author**

1. **Sugiyama, Sunao**, H. Miyatake, S. More, et al. Hyper Suprime-Cam Year 3 results: Cosmology from galaxy clustering and weak lensing with HSC and SDSS using the minimal bias model. *Phys. Rev. D*, 108(12):123521, [December 2023:123521](#). doi: 10.1103/PhysRevD.108.123521
2. S. More, **Sugiyama, Sunao**, H. Miyatake, et al. Hyper Suprime-Cam Year 3 results: Measurements of clustering of SDSS-BOSS galaxies, galaxy-galaxy lensing, and cosmic shear. *Phys. Rev. D*, 108(12):123520, [December 2023:123520](#). doi: 10.1103/PhysRevD.108.123520
3. R. Dalal, X. Li, A. Nicola, et al. Hyper Suprime-Cam Year 3 results: Cosmology from cosmic shear power spectra. *Phys. Rev. D*, 108(12):123519, [December 2023:123519](#). doi: 10.1103/PhysRevD.108.123519
4. X. Li, T. Zhang, **Sugiyama, Sunao**, et al. Hyper Suprime-Cam Year 3 results: Cosmology from cosmic shear two-point correlation functions. *Phys. Rev. D*, 108(12):123518, [December 2023:123518](#). doi: 10.1103/PhysRevD.108.123518
5. H. Miyatake, **Sugiyama, Sunao**, M. Takada, et al. Hyper Suprime-Cam Year 3 results: Cosmology from galaxy clustering and weak lensing with HSC and SDSS using the emulator based halo model. *Phys. Rev. D*, 108(12):123517, [December 2023:123517](#). doi: 10.1103/PhysRevD.108.123517
6. **Sugiyama, Sunao**, M. Takada, and A. Kusenko. Possible evidence of axion stars in HSC and OGLE microlensing events. *Physics Letters B*, 840:137891, [May 2023:137891](#). doi: 10.1016/j.physletb.2023.137891
7. H. Miyatake, **Sugiyama, Sunao**, M. Takada, et al. Cosmological inference from an emulator based halo model. II. Joint analysis of galaxy-galaxy weak lensing and galaxy clustering from HSC-Y1 and SDSS. *Phys. Rev. D*, 106(8):083520, [October 2022:083520](#). doi: 10.1103/PhysRevD.106.083520
8. H. Miyatake, Y. Kobayashi, M. Takada, et al. Cosmological inference from an emulator based halo model. I. Validation tests with HSC and SDSS mock catalogs. *Phys. Rev. D*, 106(8):083519, [October 2022:083519](#). doi: 10.1103/PhysRevD.106.083519
9. **Sugiyama, Sunao**. Fast Fourier Transformation Based Evaluation of Microlensing Magnification with Extended Source. *ApJ*, 937(2):63, [October 2022:63](#). doi: 10.3847/1538-4357/ac8df1
10. **Sugiyama, Sunao**, M. Takada, H. Miyatake, et al. HSC Year 1 cosmology results with the minimal bias method: HSC  $\times$  BOSS galaxy-galaxy weak lensing and BOSS galaxy clustering. *Phys. Rev. D*, 105(12):123537, [June 2022:123537](#). doi: 10.1103/PhysRevD.105.123537
11. **Sugiyama, Sunao**, V. Takhistov, E. Vitagliano, et al. Testing stochastic gravitational wave signals from primordial black holes with optical telescopes. *Physics Letters B*, 814:136097, [March 2021:136097](#). doi: 10.1016/j.physletb.2021.136097

12. \*A. Kusenko, M. Sasaki, **Sugiyama, Sunao**, et al. Exploring Primordial Black Holes from the Multiverse with Optical Telescopes. *Phys. Rev. Lett.*, 125(18):181304, **October 2020:181304**. doi: 10.1103/PhysRevLett.125.181304
13. **Sugiyama, Sunao**, M. Takada, Y. Kobayashi, et al. Validating a minimal galaxy bias method for cosmological parameter inference using HSC-SDSS mock catalogs. *Phys. Rev. D*, 102(8):083520, **October 2020:083520**. doi: 10.1103/PhysRevD.102.083520
14. **Sugiyama, Sunao**, T. Kurita, and M. Takada. On the wave optics effect on primordial black hole constraints from optical microlensing search. *MNRAS*, 493(3):3632–3641, **April 2020:3632–3641**. doi: 10.1093/mnras/staa407
15. H. Niikura, M. Takada, N. Yasuda, et al. Microlensing constraints on primordial black holes with Subaru/HSC Andromeda observations. *Nature Astronomy*, 3:524–534, **April 2019:524–534**. doi: 10.1038/s41550-019-0723-1

***Contributing author***

16. R. Terasawa, X. Li, M. Takada, et al. Exploring the baryonic effect signature in the Hyper Suprime-Cam Year 3 cosmic shear two-point correlations on small scales: the  $S_8$  tension remains present. *arXiv e-prints*, arXiv:2403.20323, **March 2024:arXiv:2403.20323**. doi: 10.48550/arXiv.2403.20323
17. J. Shi, T. Sunayama, T. Kurita, et al. The intrinsic alignment of galaxy clusters and impact of projection effects. *MNRAS*, 528(2):1487–1499, **February 2024:1487–1499**. doi: 10.1093/mnras/stae064
18. T. Zhang, X. Li, R. Dalal, et al. A general framework for removing point-spread function additive systematics in cosmological weak lensing analysis. *MNRAS*, 525(2):2441–2471, **October 2023:2441–2471**. doi: 10.1093/mnras/stad1801
19. T. Sunayama, H. Miyatake, **Sugiyama, Sunao**, et al. Optical Cluster Cosmology with SDSS redMaPPer clusters and HSC-Y3 lensing measurements. *arXiv e-prints*, arXiv:2309.13025, **September 2023:arXiv:2309.13025**. doi: 10.48550/arXiv.2309.13025
20. Y. Park, T. Sunayama, M. Takada, et al. Cluster cosmology with anisotropic boosts: validation of a novel forward modelling analysis and application on SDSS redMaPPer clusters. *MNRAS*, 518(4):5171–5189, **February 2023:5171–5189**. doi: 10.1093/mnras/stac3410