

# 杉山 素直

論文, 講演, プレスリリースリスト, 最終更新日: July 19, 2024

## 出版/発表論文

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最新の論文リストは [ADS](#) を参照ください。

\* = 著者リストアルファベット順

### 主著者

1. **Sugiyama, Sunao**, R. C. H. Gomes, and M. Jarvis. Fast modeling of the shear three-point correlation function. *arXiv e-prints*, arXiv:2407.01798, [July 2024:arXiv:2407.01798](#)
2. **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](#)
3. 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](#)
4. 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](#)
5. 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](#)
6. 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](#)
7. **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](#)
8. 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](#)
9. 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](#)
10. **Sugiyama, Sunao**. Fast Fourier Transformation Based Evaluation of Microlensing Magnification with Extended Source. *ApJ*, 937(2):63, [October 2022:63](#)
11. **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](#)

12. **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](#)
13. \*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](#)
14. **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](#)
15. **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](#)
16. 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](#)

## 共著者

17. I.-N. Chiu, K.-F. Chen, M. Oguri, et al. Weak-lensing Shear-selected Galaxy Clusters from the Hyper Suprime-Cam Subaru Strategic Program: II. Cosmological Constraints from the Cluster Abundance. *arXiv e-prints*, arXiv:2406.11970, [June 2024:arXiv:2406.11970](#)
18. K.-F. Chen, I.-N. Chiu, M. Oguri, et al. Weak-Lensing Shear-Selected Galaxy Clusters from the Hyper Suprime-Cam Subaru Strategic Program: I. Cluster Catalog, Selection Function and Mass–Observable Relation. *arXiv e-prints*, arXiv:2406.11966, [June 2024:arXiv:2406.11966](#)
19. 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](#)
20. 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](#)
21. 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](#)
22. 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](#)
23. 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](#)

## 他の記事

1. H. M. Sunao Sugiyama, Masahiro Takada. Weak lensing cosmology with subaru hsc data. *ASJ EUREKA*, 117(1):304–314, [May 2024:304–314](#)

## 講演

### 2024

37. **Cosmology from Subaru HSC weak lensing Year 3 data**, [MIFA colloquium](#), 2024, May., *Oral (Invited Talk)*
36. **Cosmology from weak lensing three-point correlation function**, astro/cosmo seminar at CMU, 2024, Feb., *Oral*
35. **Cosmology from Subaru HSC weak lensing Year 3 data**, [Subaru Users Meeting FY2023](#), 2024, Jan., *Oral*

## 2023

34. HSC Y3 weak lensing cosmology results, [CosmoPalooza](#), 2023, Oct., *Oral*
33. Hyper Suprime-Cam Year 3 Results: Cosmology from Weak Lensing with HSC, [Windows on the Universe](#), 2023, Aug., *Oral* (Invited Talk)
32. HSC Year 3 Weak Lensing Cosmology Results, DESI seminar telecon, 2023, Jun., *Oral*
31. HSC Year 3 Weak Lensing Cosmology Results, DESC WL telecon, 2023, May., *Oral*
30. HSC Year 3 Weak Lensing Cosmology Results, DESC overall telecon, 2023, May., *Oral*
29. HSC Year 3 Weak Lensing Cosmology Results, [HSC webinar](#), 2023, Apr., *Oral*
28. HSC Y3 cosmology results, [CMB x LSS](#), 2023, Apr., *Oral* (Invited Talk)
27. HSC Year 3 Weak Lensing Cosmology Results, Euclid WLSWG Telecon, 2023, Apr., *Oral*
26. Collaborative coding: git and github, [CD3 Opening Symposium](#), 2023, Apr., *Oral*
25. すばる HSC の 3 年度データと SDSS データを用いた宇宙論解析:  $\Lambda$  CDM モデルにおける宇宙論パラメタ推定, [天文学会 2023 年春季年会](#), 2023, Mar., *Oral*
24. すばる HSC の弱い重力レンズによる宇宙論, [2023 年光赤天連学位論文発表会](#), 2023, Mar., *Oral*

## 2022

23. すばる HSC の 3 年度データと SDSS データを用いた宇宙論解析: 弱重力レンズ+銀河-弱重力レンズ+銀河クラスターリングの統合解析, [天文学会 2022 年秋季年会](#), 2022, Sep., *Oral*
22. Revealing the nature of dark matter with gravitational lensing: weak and microlensing, [Colloquium at Osaka theoretical astrophysics group](#), 2022, Jul., *Oral* (Invited Talk)
21. HSC 宇宙論: すばる HSC と SDSS データの銀河弱重力レンズとクラスターリングの信号を用いた宇宙論統合解析, [日本物理学会第 77 回年次大会](#), 2022, Mar., *Oral*
20. Exploring Primordial black hole with microlensing observation of Andromeda galaxy, [Subaru Users Meeting 2021](#), 2022, Jan., *Oral*

## 2021

19. すばる HSC と SDSS データの銀河弱重力レンズとクラスターリングの大スケール信号を用いた宇宙論統合解析, [第 34 回理論懇シンポジウム](#), 2021, Dec., *Oral*
18. すばる HSC と SDSS データの銀河弱重力レンズとクラスターリングの大スケール信号を用いた宇宙論統合解析, [第 10 回観測的宇宙論ワークショップ](#), 2021, Nov., *Oral*
17. すばる HSC と SDSS データの銀河弱重力レンズとクラスターリングの大スケール信号を用いた宇宙論統合解析, [天文学会 2021 年秋季年会](#), 2021, Sep., *Oral*
16. Exploring Dark Matter Candidates with Microlensing, [KEK theory seminar](#), 2021, Apr., *Oral*

## 2020

15. Constraining PBH with HSC microlensing, IPMU phenomenology lunch journal club, 2020, Dec., *Oral*
14. Testing stochastic gravitational wave signals by PBH microlensing, [4th KEK-PH + KEK-Cosmo Joint Lectures and Workshop on "Gravitational Wave"](#), 2020, Nov., *Oral* (Invited Talk)
13. HSC マイクロレンズによる PBH シナリオの観測的制限, [第 9 回観測的宇宙論ワークショップ](#), 2020, Nov., *Oral*

12. すばる HSC の銀河サーベイデータを使った宇宙論パラメータ推定手法の開発, 2019 天文・天体物理若手夏の学校, 2020, Aug., *Oral*
11. Validating a minimal galaxy bias method for cosmological parameter inference using HSC-SDSS mock catalog, Seminar at Daniel Eisenstein group@CfA, 2020, Aug., *Oral*
10. 摂動論的手法の検証と HSC 初年度データからの宇宙論パラメータの制限, 天文学会 2020 年春季年会, 2020, Mar.
9. Constraints on Primordial Black Holes with Microlensing, Informal seminar at Takahashi and Asada Labs, 2020, Feb., *Oral*
8. 広天域銀河サーベイデータの宇宙論解析における摂動論的手法の有効性の検証, Seminar at astro group of Hirosaki University, 2020, Feb., *Oral*
7. Constraints on Primordial Black Holes with Microlensing: Wave & Finite Source Effects / PBH from Multiverse, Berkeley Week at Kavli IPMU, 2020, Jan., *Oral*

#### 2019

6. 広天域銀河サーベイデータの宇宙論解析 における摂動論的手法の有効性の検証, 天文学会 2019 年秋季年会, 2019, Sep., *Oral*
5. Test and validation of PT-based cosmology : g-g lensing and clustering, PT chat, 2019, Apr., *Poster*
4. M31 星に対する原始ブラックホールのマイクロレンズングへの波動効果の影響, 天文学会 2019 年春季年会, 2019, Mar., *Oral*
3. Wave Effect on PBH Microlensing, Accelerating universe in the dark, 2019, Mar., *Poster*

#### 2018

2. Wave effect on PBH micro-lensing and constraintWave effect on PBH micro-lensing and constraint, 第 7 回観測的宇宙論ワークショップ, 2018, Dec., *Oral*
1. BAO 復元アルゴリズムの提案と評価 BAO 復元アルゴリズムの提案と評価, 2018 天文・天体物理若手夏の学校, 2018, Aug., *Oral*

#### プレスリリース

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原始ブラックホールと多元宇宙が予言するダークマターの探索

ダークマターを見る！ - HSC 国際チームが宇宙の標準理論を検証