杉山　素直

論文, 講演, プレスリリースリスト, 最終更新日: October 13, 2025

出版/発表論文

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

筆頭著者または主要な貢献をした査読付論文

1. **Sugiyama, Sunao** and M. Park. Data Compression with Noise Suppression for Inference under Noisy Covariance. *arXiv e-prints*, arXiv:2508.14021, August 2025:arXiv:2508.14021
2. **Sugiyama, Sunao**, R. C. H. Gomes, and B. Jain. Cosmology from a joint analysis of second and third order shear statistics with Subaru Hyper Suprime-Cam Year 3 data. *arXiv e-prints*, arXiv:2508.14019, August 2025:arXiv:2508.14019
3. R. C. H. Gomes, **Sugiyama, S.**, B. Jain, et al. Dark Energy Survey Year 3 Results: Cosmological constraints from second and third-order shear statistics. *arXiv e-prints*, arXiv:2508.14018, August 2025:arXiv:2508.14018
4. R. C. H. Gomes, **Sugiyama, S.**, B. Jain, et al. Cosmology with second and third-order shear statistics for the Dark Energy Survey: Methods and simulated analysis. *arXiv e-prints*, arXiv:2503.03964, March 2025:arXiv:2503.03964
5. **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
6. 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
7. 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
8. 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
9. 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
10. **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
11. **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
12. 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

13. 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

14. **Sugiyama, Sunao**. Fast Fourier Transformation Based Evaluation of Microlensing Magnification with Extended Source. ApJ, 937(2):63, October 2022:63

15. **Sugiyama, Sunao**, M. Takada, H. Miyatake, et al. HSC Year 1 cosmology results with the minimal bias method: HSC ×BOSS galaxy-galaxy weak lensing and BOSS galaxy clustering. Phys. Rev. D, 105(12):123537, June 2022:123537

16. **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

17. *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

18. **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

19. **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

20. 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

その他の共著論文

21. T. Zhang, X. Li, **Sugiyama, Sunao**, et al. Cosmology and Source Redshift Constraints from Galaxy Clustering and Tomographic Weak Lensing with HSC Y3 and SDSS using the Point-Mass Correction Model. *arXiv e-prints*, arXiv:2507.01386, July 2025:arXiv:2507.01386

22. T. Zhang, **Sugiyama, Sunao**, S. More, et al. Modelling Galaxy Clustering and Tomographic Galaxy-Galaxy Lensing with HSC Y3 and SDSS using the Point-Mass Correction Model and Redshift Self-Calibration. *arXiv e-prints*, arXiv:2507.01377, July 2025:arXiv:2507.01377

23. R. Terasawa, M. Takada, T. Kurita, and **Sugiyama, Sunao**. Late-time suppression of structure growth as a solution for the S_8 tension. *arXiv e-prints*, arXiv:2505.09176, May 2025:arXiv:2505.09176

24. 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 S8 tension remains present. Phys. Rev. D, 111(6):063509, March 2025:063509

25. R. Terasawa, M. Takada, **Sugiyama, Sunao**, and T. Kurita. Testing small-scale modifications in the primordial power spectrum with Subaru HSC cosmic shear, primary CMB and CMB lensing. *arXiv e-prints*, arXiv:2503.20396, March 2025:arXiv:2503.20396

26. 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. *The Open Journal of Astrophysics*, 8:2, January 2025:2

27. T. Sunayama, H. Miyatake, **Sugiyama, Sunao**, et al. Optical cluster cosmology with SDSS redMaPPer clusters and HSC-Y3 lensing measurements. Phys. Rev. D, 110(8):083511, October 2024:083511

28. 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. *The Open Journal of Astrophysics*, 7:90, October 2024:90

29. 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

30. 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

31. 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. S. Sugiyama, M. Takada, and H. Miyatake. Weak lensing cosmology with subaru hsc data. *ASJ EUREKA*, 117(1):304–314, May 2024:304–314

講演

2025

44. **Cosmology from a joint analysis of second and third order shear statistics**, KICP seminar, 2025, Oct., *Oral*

43. **Cosmology with third-order shear statistics Applications to HSC and DES**, Beyond-two-point Statistics Meet Survey Systematics, 2025, Sep., *Oral* (**Invited Talk**)

42. **Probing Physics Beyond Λ CDM: Precision Cosmology with Gaussian and Non-Gaussian Information from Subaru Data**, Earth and Space Science Seminar, 2025, Jul., *Oral*

2024

41. **Exploring Primordial Black Hole with Microlensing Data: Updates on Analysis Pipeline**, UPenn CfPC workshop, 2024, Nov., *Oral*

40. **Exploring Primordial Black Hole with Microlensing Data: Updates on Analysis Pipeline**, Focus week on primordial black holes 2024, 2024, Nov., *Oral* (**Invited Talk**)

39. **Cosmology with third-order shear statistics**, Roman F2F meeting, 2024, Oct., *Oral*

38. **Exploring Primordial Black Hole with Microlensing Data**, Pacific conference, 2024, Aug., *Oral* (**Invited Talk**)

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: Λ 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**, Colloqium 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ジ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

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, IPMU, 2020 Dec

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, IPMU, 2024 Apr