Jessica (Jessie) Muir

Curriculum vitae
January 7, 2025

Work address:
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EMPLOYMENT

Jan. 2025 - present	**Assistant Professor**, University of Cincinnati Department of Physics
Jan 2025 - present	Visiting Researcher, Perimeter Institute for Theoretical physics
Sept. 2021 - Dec 2025,	**Postdoctoral Fellow**, Perimeter Institute for Theoretical Physics.
Sept. 2018 - Aug. 2021,	**Porat Fellow** - Institutional fellowship at KIPAC, Stanford University & SLAC.

EDUCATION

Ph.D. in Physics
Sept. 2013 - Aug. 2018. The University of Michigan, Ann Arbor, MI.
Advisor: Dragan Huterer. Thesis: "Towards precision cosmology on the largest observable scales."

MPhil in Astronomy
Sept. 2012- Aug. 2013, Gonville and Caius College, the University of Cambridge. Cambridge, UK.
Advisor: Anne-Christine Davis, Thesis: "Screened modified gravity around a Schwarzschild black hole."

MASt in Applied Mathematics (Part III), awarded with distinction.
Sept. 2011 - Jul. 2012, Gonville and Caius College, the University of Cambridge. Cambridge, UK.

Graduate coursework, Aug. 2010- Aug. 2011, enrolled in physics Ph.D. program, Michigan State University.

B.S. in Physics and B.S. in Astrophysics, awarded with High Honors.
Aug. 2006- May 2010, Michigan State University.
Advisor: Mark Voit. Thesis: "Predicting neutrino mass constraints from galaxy cluster surveys."

HONORS AND AWARDS

2023 BMO Inclusive Excellence Postdoctoral Fellowship, funding 2023-2024 at Perimeter Institute
2020 DES Builder, recognition of 2 yrs FTE work on collaboration infrastructure, permanent data rights
2020 Finalist for APS Cecilia Payne-Gaposchkin Doctoral Dissertation Award in Astrophysics
2019 Rising Stars in Physics, nationally competitive workshop held at Stanford

2019 Kent M. Terwilliger Memorial Thesis Prize, University of Michigan Department of Physics
2018 Wirt & Mary Cornwell Prize, University of Michigan
2018 Community Engagement Award, University of Michigan Department of Physics
2017 Rackham Predoctoral Fellowship, University of Michigan, funding 2017-2018
2015 Peter Franken Award, University of Michigan Department of Physics.
2013 Colegrove Fellowship, University of Michigan, funding 2013-2014
2011 Rasmussen Graduate Fellowship, Michigan State University, funding 2010-2011
2010 Marshall Scholarship, deferred until 2011, funded 2011-2013 at University of Cambridge

2010 Thomas Osgood Award for Outstanding Senior in Physics or Astrophysics, MSU
2009 Barry Goldwater Scholarship

2009 Bruce VerWest Award for Outstanding Junior in Physics or Astrophysics, MSU
2009 Phi Beta Kappa
2009 Sigma Pi Sigma (Physics honors society)
2009 Hantel Endowed Fellowship for Undergraduate Research, MSU
2008 Hantel Endowed Fellowship for Undergraduate Research, MSU
2008 College of Natural Science Competitive Scholarship for Study Abroad, MSU
2006 Distinguished Freshman Scholarship (4 years full tuition), MSU

PRESENTATIONS

Invited Talks

Sept 2024 Astronomy Seminar, Michigan State University, East Lansing, Michigan
July 2024 Conference panel on dark energy from LSS observations, 50 years of Horndeski Gravity, Waterloo
June 2024 MAGIS-100 collaboration-wide meeting (virtual, on DES blinding strategy)
April 2024 Researcher talk at Perimeter Institute Scicomm Collider
April 2024 CCAPP Seminar, Ohio State University
Feb 2024 Physics Colloquium, University of Cincinnati, Ohio
Sept 2023 Santa Cruz Institute for Particle Physics Seminar, UC Santa Cruz
Sept 2023 BCCP/Cosmology Seminar, UC Berkeley
April 2023 Researcher talk at Perimeter Institute Scicomm Collider
April 2023 "Cosmology Talks" online mini-workshop on growth of cosmological structure, invited expert
Feb 2023 Astronomy Colloquium, Boston University
Feb 2023 Physics Colloquium, Northeastern University (virtual)
Oct 2022 Seminar, Canadian Institute for Theoretical Astrophysics, Toronto
Sept 2022 HEP/Astro Seminar, University of Michigan Physics
Sept 2022 Astrophysics seminar, Waterloo Center for Astrophysics (virtual)
Aug 2022 Workshop on Classical Gravity & Applications, ICTP-SAIFR, São Paulo, Brazil
Aug 2022 COSMO 2022 conference plenary, Rio de Janeiro, Brazil
July 2022 Cosmology from Home conference plenary, with Agnès Ferté (virtual)
Jan 2022 Dutch Theoretical Cosmology meeting (virtual)
Dec 2021 Physics Colloquium, Boston University (virtual)

Feb 2021 Cosmology seminar, ETH Zurich (virtual)
Jan 2021 CCAPP Seminar, Ohio State University (virtual)
Dec 2020 Cosmology seminar, Perimeter Institute (virtual)
Aug 2020 HSC Weak Lensing group meeting, talk on DES blinding strategy (virtual)
July 2020 German Center for Cosmological Lensing (GCCL) seminar (virtual)
May 2020 SLACmass Neutrino group meeting, talk on neutrino cosmology, joint with Yuuki Omori (virtual)
April 2020 APS April meeting Cecilia Payne-Gaposchkin dissertation award session (virtual)
Jan 2020 LSST-DESC Theory & Joint Probe telecon, talk on DES blinding strategy
Sept 2019 Intl. Symposium on Multi-particle Dynamics, Santa Fe (DES overview)
May 2019 Cahill Cosmology Journal Club, Caltech
May 2019 Astrophysics luncheon seminar, NASA JPL
March 2019 Cosmology seminar, Max Planck Institute for Astrophysics, Munich, Germany
March 2019 LSST-DESC Theory & Joint Probe telecon, contributor to discussion on blinding
Feb 2019 Friday Lunch Time Astrophysics Seminar, UC Santa Cruz

Feb 2018 Cosmology seminar, Perimeter Institute
Dec 2017 Cosmology seminar, Fermilab Center for Particle Astrophysics

Oct 2017	Astro lunch student seminar series, Case Western Reserve University
May 2017	Cosmology group meeting, NYU CCP
May 2017	Cosmology journal club, University of Pennsylvania
March 2017	INPA Seminar, Lawrence Berkeley National Laboratory
March 2017	Blind Analysis for High Stakes Survey Science workshop, SLAC

Contributed talks

July 2024	50 Years of Horndeski Gravity: Exploring Modified Gravity, Perimeter Institute
April 2024	Cosmology and Astrophysics group meeting seminar, University of Michigan
May 2023	Surveys 2 Discovery Conference, Mila Quebec AI Institute, Montreal
Aug 2022	LSST DESC Collaboration meeting, Blinding topical team parallel session
May 2022	Plenary on beyond-LCDM results, DES Collaboration meeting, Duke University
May 2021	Plenary on testing beyond-LCDM theory, DES Collaboration meeting (virtual)
Oct 2019	Cosmic Controversies Conference, University of Chicago
Jan 2019	Testing Gravity 2019, Simon Fraser University, Vancouver, BC
Aug 2017	Physics Graduate Student Symposium, University of Michigan
Aug 2016	COSMO 2016, University of Michigan, Ann Arbor, Michigan
Jul 2016	Diving into the Dark, CAASTRO, Cairns, Australia

TEACHING & MENTORING

Teaching

March 2024 Guest lectures, AST 201 (intro astro. for non-majors) & 222 (majors) at U. of Toronto Mississauga

Aug 2023 Guest lecture for AST 201 at U. of Toronto Mississauga

March 2023 Guest lecture for AST 201 at U. of Toronto Mississauga

April 2022 Guest lectures for AST 201 & 222 at U. of Toronto Mississauga

Summer 2021 Coordinator, Scientific computing bootcamp for KIPAC summer undergrad researchers

July 2020 Guest lecturer, "The Origin and Development of the Cosmos," (Physics 16), Stanford
- Intro class for non-majors, taught one session of active-learning style online lectures

Fall 2017 Teaching Assistant, Intermediate Classical Mechanics (Physics 401), U. of Michigan
- Developed Jupyter notebooks for computational assignments
- Ran and developed activities for weekly discussion sessions
- Guest lectured for two class sessions

Fall 2015 Instructor for Physics GRE prep courses at University of Michigan.

June 2015 Teaching assistant, Michigan Math and Science Scholars summer program
- "Mapping the Mysteries of the Universe" 2 week program for high school students
- Prepared and presented interactive worksheets, labs, and demonstrations
- Guest-lectured for one main class session.

Winter 2015 Grader, Quantum Field Theory II (Physics 523), University of Michigan

Fall 2014 Grader, Quantum Field Theory I (Physics 513), University of Michigan

June 2014 Teaching assistant, "Mapping the Mysteries of the Universe." (same as June 2015)

Research Mentoring

Summer 2024 Gautier Duchesne, PSI START Internship summer undergraduate research project

Fall 2022 - present Paul Rogozenski, PhD student at U. of Arizona, advising DES Y3 follow-up project

Fall 2022 - Spring 2024 Jordan Krywonos, PhD student at Perimeter Inst., co-supervising with Matthew Johnson

Fall 2022 Oleksandra Hrytseniak, co-advised masters research with Niayesh Afshordi

May 2022 - May 2023 Yi Wang, PSI START Internship summer undergraduate research project (sole supervisor), Dalhousie University bachelor's thesis (remote co-supervisor)

Feb 2022	Jordan Krywonos and Javiera Hernández Morales, Perimeter Scholars International Winter School, short masters-level project co-supervised with Matthew Johnson
Summer 2020	Parth Garg, Stanford Physics Undergraduate Summer Research Program

Other mentoring

Feb 2024	Women+ @KIPAC Alumni panel
Nov 2022	Panel on applying for postdoc jobs for graduate students at Perimeter Inst.
Summer 2022 - present	Supernova Foundation mentoring program for women in physics, 2 mentees
Fall 2021 - present	Perimeter Institute postdoc-graduate student mentoring program, 4 mentees

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SERVICE

Professional service

Journal referee for: MNRAS, ApJ, A&A, JCAP

Grant reviewer for: NASA Astrophysics Theory Program (ATP), NASA FINESST, DOE Cosmic Frontier

Service for collaborations

June 2022 - present	LSST DESC blinding topical team
Oct 2018 - Sept 2022	Co-lead of DES Year 3 beyond-ΛCDM analysis team
Nov 2018	Observing shift for the Dark Energy Survey
Aug 2017	Observing shift for the Dark Energy Survey

Departmental Service

Dec 2024	Scicomm Training committee at Perimeter Institute, postdoc representative
Oct 2023 - Aug 2024	Creator & coordinator of monthly EDI journal club at Perimeter Institute
Sept 2023 - Dec 2024	Perimeter Institute cosmology group meeting organizer
June 2022 - Aug 2024	Perimeter Institute Inclusive Platform Women in Physics working group chair
June 2022 - Aug 2023	Created, coordinated cosmology student & postdoc journal club at Perimeter Institute
June - July 2021	Coordinated KIPAC summer student computing bootcamp and lightning talk sessions
June 2020 - Aug 2021	Postdoc representative to KIPAC management committee
Sept 2018 - Aug 2021	Stanford inclusive physics reading group, led 3 discussions
Jan 2019 - May 2020	KIPAC cosmology seminar organizer
Dec - Jan 2019	Stanford astrophysics graduate admissions committee
May 2019	KIPAC hack day organizer

2013-2018 Michigan Society for Women in Physics (SWIP)

- Executive board 2015-2017, president 2017-2018, managed budget 2015-2018
- Oversaw, edited project documenting the history of early alumnae of Michigan Physics, publishing findings on posters for department hallways (2017-2019)
- With Society for Physics Students, established a grad-undergrad mentoring program, 2016
- Coordinated LGBTQ+ Allyship workshops for members of the physics department via the UM Spectrum center, in Feb 2015 and Dec 2016 with >50 attendees each
- With other graduate students, met with department chair about initiatives related to diversity, equity, and inclusion (DEI), prompting creation of DEI committee, 2016

Fall 2015	Michigan Cosmology journal club organizer
March 2015	Michigan Physics departmental poster session organizer.
2014 -2015	Physics graduate council. Established a peer mentoring program for incoming graduate students.
Summer 2014	Physics Graduate Student Symposium, organizer, webmaster.
March 2014	Michigan Physics departmental poster session organizer.

OUTREACH

Non-technical (outreach) talks

June 2023	Astronomy on Tap, Kitchener-Waterloo
March 2023	Speaker Night, Royal Astronomical Society of Canada, Mississauga Centre
July 2020	KIPAC public lecture series (online: https://youtu.be/FDKzkWo0ucQ)
Dec 2018	Astronomy on Tap, San Francisco
May 2018	Astronomy on Tap, Bryan, Texas
Oct 2017	Cleveland Astronomical Society Meeting, Independence, Ohio
Sept 2016	Science Saturdays, Cultivate Coffee and Taphouse, Ypsilanti, Michigan
April 2015	Saturday Morning Physics, U. of Michigan (recording: https://youtu.be/X5dwaToe1Q0)
May 2013	Departing Scholars Colloquium, Marshall Aid Commemoration Commission, London
Dec 2012	Cafe Julienne Science Night, Cambridge, UK

Illustration

Proficient with Procreate, experience with Adobe Photoshop, Inkscape, GIMP.

May 2024	Commissioned illustrator for U. Mich. LSA Alumni magazine article on recent cosmology results.
Feb 2023	2 illustrations featured in "A Course in Cosmology" textbook by Dragan Huterer.
July 2022	Created overview illustration for the Cosmic Frontier Snowmass report (arXiv:2211.09978)
Spring 2021	Contributed 13 illustrations to #Darkbites social media campaign highlighting DES Y3 papers
Sept 2020	Illustration of Mayall telescope for DESI high school outreach project
Aug-Sept 2016	Contributed 2 illustrations to Darkbites social media campaign and calendar for DES
Jan 2015	Designed buttons featuring pioneering women in physics for Conference for Undergraduate Women in Physics conference, with Veronica Policht

Other outreach while at Perimeter Institute

Sept 2024	Tour guide, Doors Open Waterloo Region event at Perimeter
July 2024	Interview on dark energy for Scientific American article by Rebecca Boyle, pub. Aug. 2024
April 2024	Researcher perspective for "Cosmology 101 with Katie Mack" Youtube series, pub. Aug. 2024
March 2024	Interview for TV Ontario spring telethon, answering viewer question on the size of the Universe
May 2023	Ontario Association of Physics Teachers "Meet a Researcher Event"
Nov 2022	Conversations at Perimeter podcast, >60K views of video version on youtube
March 2022	KIPAC research blog guest entry on DES Y3 galaxy clustering and weak lensing analysis
March 2022	GoPhysics! Speed mentoring, talking about career with high school students
Nov 2021	GoPhysics! Speed mentoring

Other outreach while at Stanford

Aug 2021	Interview on the multiverse for Scholastic's Science World article by Jess Romeo, pub. Dec 2021
April 2021	Interview on Muon G-2 experiment result for Vox science podcast, Unexplainable
Oct 2019	SLAC Community day volunteer

Other outreach while at the University of Michigan

Jul 2017	Portal to the Public mini-fellowship at the Detroit Zoo, Spring and Summer 2017
Oct 2016	Physics consultant for Michigan student production of play, "Constellations"
June 2016	Summers Knoll Demo day. Coordinated physics activities for ~30 students in grades 1-5
March 2016	4-H Demo day on electricity and magnetism. Ann Arbor, Michigan
Nov 2015	FEMMES outreach capstone event at the University of Michigan, for middle school girls from Detroit and surrounding communities. Via SWIP, coordinated two physics activity stations
May 2015	Michigan Physics Olympiad, judge for pasta bridge event, via SWIP
Jan 2015	APS Conference for Undergraduate Women in Physics at U. of Michigan, LOC

Nov 2014 FEMMES outreach capstone event (same as Nov 2015)
May 2014 Michigan Physics Olympiad, judge for pasta bridge event, via SWIP
Nov 2013 Girl Scout Physics day organizer, via SWIP

Other outreach while at the University of Cambridge
Nov 2012 Cambridge Maths Circle open house volunteer
Dec 2011 Cambridge Hands-On Science volunteer for event in Peterborough, UK

Other outreach while at the Michigan State University
2006-2011 Michigan State University Science Theatre

- Coordinated and performed science demonstrations at schools throughout Michigan
- Directed >10 performances of a 45 minute show on quantum mechanics and nanotechnology Led adaptation or existing script to make it accessible for younger audiences

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LANGUAGES

English (native speaker), French (conversational)

PUBLICATIONS

Summary from NASA ADS bibliography as of Jan 7, 2025:

Refereed:	66 papers,	11744 total citations,	h-index 37
All:	69 papers,	11850 total citations,	h-index 38

Note that there are three separate numbered sections below: Leading contributions (8 papers), Supporting contributions (34), and Credited as a DES builder or observer (27).

Leading contributions

8. J. Krywonos, **J. Muir**, M. C. Johnson. "Improving Photometric Galaxy Clustering Constraints With Cross-Bin Correlations." PRD 110 (2024) 8, 083533, doi:10.1103/PhysRevD.110.083533, arXiv:2404.08039.
   Mentored student-led analysis, contributed to writing and analysis, initial project conception.
7. DES Collaboration. "Dark Energy Survey Y3 results: Constraints on extensions ΛCDM with weak lensing and galaxy clustering." PRD 107 (2023) 8, 083504, doi:10.1103/PhysRevD.107.083504. arXiv:2207.05766.
   Led analysis and writing, with Agnès Ferté.
6. **J. Muir**, E. Baxter, V. Miranda, C. Doux, A. Ferté, C. D. Leonard, D. Huterer, B. Jain, et al. [DES Collaboration], "DES Y1 results: Splitting growth and geometry to test ΛCDM." PRD 103, (2021) 2, 023528, doi:10.1103/PhysRevD.103.023528, arXiv:2010.05924.
   Led analysis and writing.
5. **J. Muir**, G. M. Bernstein, D. Huterer, et al. [DES Collaboration], "Blinding multi-probe cosmological experiments." MNRAS 494 (2020) 3, 4454-4470. doi:10.1093/mnras/staa965, arXiv:1911.05929.
   Led analysis and writing.
4. **J. Muir**, S. Adhikari, and D. Huterer, "Covariance of CMB anomalies." PRD 98 (2018) no. 2, 023521, doi:10.1103/PhysRevD.98.023521, arXiv:1806.02354.
   Led analysis and writing.
3. N. Weaverdyck, **J. Muir**, and D. Huterer. "Integrated Sachs-Wolfe map reconstruction in the presence of systematic errors." PRD. 97, no. 4, 043515 (2018), doi:10.1103/PhysRevD.97.043515, arXiv:1709.08661.
   Created software for simulation and analysis, contributed writing and mentoring for analysis.
2. **J. Muir** and D. Huterer. "Reconstructing the Integrated Sachs-Wolfe map with galaxy surveys." PRD. 94, no. 4, 045305 (2016) , doi:10.1103/PhysRevD.94.043503. arXiv:1603.06586.
   Created software for simulation and analysis, led writing and analysis.
1. A. C. Davis, R. Gregory, R. Jha, and **J. Muir**. "Astrophysical black holes in screened modified gravity." JCAP 1408, 033 (2014). doi:10.1088/1475-7516/2014/08/033. arXiv:1402.4737.
   Alphabetical author list. Led analytic calculations, observable test study, writing.

Supporting contributions

34. S. Bocquet et al. [DES Collaboration], "DMultiprobe Cosmology from the Abundance of SPT Clusters and DES Galaxy Clustering and Weak Lensing." (2024) arXiv:2412.07765
    Credited for contributions to the broader DES Y1 and Y3 analyses.
33. M. X. Lin, B. Jain, M. Raveri, E. Baxter, C. Chang, M. Gatti, S. Lee, and **J. Muir**. "Late Time Modification of Structure Growth and the S_8 Tension." PRD 109 (2024) 6, 063523. https://link.aps.org/doi/10.1103/PhysRevD.109.063523. arXiv:2308.16183.
    Assisted with modeling software implementation, adapting DES Y3 beyond-ΛCDM code, edited paper draft.
32. DES and KiDS Collaborations, "DES Y3 + KiDS-1000: Consistent cosmology combining cosmic shear surveys." Open J. Astrophys. 6 (2023) doi:10.21105/astro.2305.17173. arXiv:2305.17173
    Conducted Monte Carlo sampler validation study presented in Appendix D.
31. G. Giannini et al. [DES Collaboration], "Dark Energy Survey Year 3 Results: Redshift Calibration of the MagLim Lens Sample from the combination of SOMPZ and clustering and its impact on Cosmology." MNRAS 527 (2023) 2, 2010-2036. doi:10.1093/mnras/stad2945. arXiv:2209.05853

Credited for contributions to broader DES Y3 analysis.

30. A. Chen et al. [DES Collaboration], "Constraining the Baryonic Feedback with Cosmic Shear Using the DES Year-3 Small-Scale Measurements." MNRAS 518 (2023) 4, 5340-5355. doi:10.1093/mnras/stac3213. arXiv:2206.08591
    Credited for contributions to broader DES Y3 analysis.
29. DES & SPT Collaborations. "Joint analysis of DES Year 3 data and CMB lensing from SPT and Planck III: Combined cosmological constraints." PRD 107 (2023) 2, 023531. doi:10.1103/PhysRevD.107.023531. arXiv:2206.10824.
    Credited for contributions to broader DES Y3 analysis, blinding setup.
28. Y. Omori et al. [DES & SPT Collaborations], "Joint analysis of DES Year 3 data and CMB lensing from SPT and Planck I: Construction of CMB Lensing Maps and Modeling Choices." PRD 107 (2023) 2, 023529. doi:10.1103/PhysRevD.107.023529. arXiv:2203.12439.
    Credited for contributions to broader DES Y3 analysis, blinding setup.
27. C. Chang et al. [DES & SPT Collaborations], "Joint analysis of DES Year 3 data and CMB lensing from SPT and Planck II: Cross-correlation measurements and cosmological constraints." PRD 107 (2023) 2, 023530. doi:10.1103/PhysRevD.107.023530. arXiv:2203.12440.
    Credited for contributions to broader DES Y3 analysis, blinding setup.
26. C. Doux et al [DES Collaboration], "Dark Energy Survey Year 3 results: cosmological constraints from the analysis of cosmic shear in harmonic space." MNRAS 515 (2022) 2, 1942-1972. doi:10.1093/mnras/stac1826. arXiv:2203.07128.
    Credited for contributions to broader DES Y3 analysis.
25. P. Lemos, N. Weaverdyck, R. P. Rollins, **J. Muir**, et al. [DES Collaboration], "Robust sampling for weak lensing and clustering analyses with the Dark Energy Survey." MNRAS 521 (2023) 1, 1184-1199. doi:10.1093/mnras/stac2786. arXiv:2202.08233.
    Contributed to initial conception & planning of project. Assisted with MCMC chains, writing.
24. D. Brout et al., "The Pantheon+ Analysis: Cosmological Constraints." ApJ 938, no. 2, 100 (2022) doi:10.3847/1538-4357/ac8e04. arXiv:2202.04077.
    Assisted with set-up of Planck and eBOSS BAO likelihoods for combined analyses.
23. D. Zürcher et al. [DES Collaboration], "Dark Energy Survey Year 3 results: Cosmology with peaks using an emulator approach." MNRAS 511 (2022) 3, 2075-2104. doi:10.1093/mnras/stac078. arXiv:2110.10135.
    Credited for contributions to broader DES Y3 analysis.
22. M. Gatti et al. [DES Collaboration], "Dark Energy Survey Year 3 results: cosmology with moments of weak lensing mass maps." PRD 106 (2022) 8, 083509. doi:10.1103/PhysRevD.106.083509. arXiv:2110.10141.
    Credited for contributions to broader DES Y3 analysis.
21. DES Collaboration, "Dark Energy Survey Year 3 Results: A 2.7% measurement of Baryon Acoustic Oscillation distance scale at redshift 0.835." PRD 105 (2022) no. 4, 043512. doi:10.1103/PhysRevD.105.043512. arXiv:2107.04646.
    Contributed to modeling pipeline validation, gave early input on blinding strategy.
20. A. Carnero Rosell et al. [DES Collaboration], "Dark Energy Survey Year 3 Results: Galaxy Sample for BAO Measurement." MNRAS 509 (2022) 1, 778-799. doi:10.1093/mnras/stab2995. arXiv:2107.05477
    Credited for assistance with BAO modeling pipeline, input on blinding strategy.
19. DES Collaboration, "Dark Energy Survey Year 3 Results: Cosmological Constraints from Galaxy Clustering and Weak Lensing." PRD 105 (2022) 2, 023520. doi:10.1103/PhysRevD.105.023520. arXiv:2105.13549.
    Created blinding infrastructure blinding, validated neutrino modeling, ran chains, contributed to writing.
18. E. Krause et al. [DES Collaboration], "Dark Energy Survey Year 3 Results: Multi-Probe Modeling Strategy and Validation" (2021) arXiv:2105.13548.
    Credited for neutrino modeling validation, contributions to broader DES Y3 analysis.
17. M. Rodríguez-Monroy et al. [DES Collaboration], "Dark Energy Survey Year 3 Results: Galaxy clustering and systematics treatment for lens galaxy samples." MNRAS 511 (2022) no. 2, 2665-2687 doi:10.1093/mnras/stac104. arXiv:2105.13540.

Ran MCMC chains, credited for blinding infrastructure, contributions to broader DES Y3 analysis.

16. A. Porredon et al. [DES Collaboration], "Dark Energy Survey Year 3 results: Cosmological constraints from galaxy clustering and galaxy-galaxy lensing using the MagLim lens sample." PRD 106 (2022) 10, 103530. doi:10.1103/PhysRevD.106.103530. arXiv:2105.13546.
    Ran MCMC chains, credited for blinding infrastructure, contributions to broader DES Y3 analysis.
15. A. Amon et al. [DES Collaboration], "Dark Energy Survey Year 3 Results: Cosmology from Cosmic Shear and Robustness to Data Calibration" PRD 105 (2022) no. 2, 023514. doi:10.1103/PhysRevD.105.023514. arXiv:2105.13543.
    Credited for blinding infrastructure, contributions to broader DES Y3 analysis.
14. L. Secco, S. Samuroff, et al. [DES Collaboration], "Dark Energy Survey Year 3 Results: Cosmology from Cosmic Shear and Robustness to Modeling Uncertainty" PRD 105 (2022) no. 2, 023515. doi:10.1103/PhysRevD.105.023515. arXiv:2105.13544.
    Credited for blinding infrastructure, contributions to broader DES Y3 analysis.
13. J. Prat et al. [DES Collaboration], "Dark Energy Survey Year 3 Results: High-precision measurement and modeling of galaxy-galaxy lensing." PRD 105 (2022) 8, 083528. doi:10.1103/PhysRevD.105.083528. arXiv:2105.13541.
    Credited for blinding infrastructure, contributions to the broader DES Y3 analysis.
12. C. Sánchez, J. Prat, et al. [DES Collaboration], "Dark Energy Survey Year 3 Results: Exploiting small-scale information with lensing shear ratios." PRD 105 (2022) 8, 083529. doi:10.1103/PhysRevD.105.083529. arXiv:2105.13542.
    Credited for contributions to the broader DES Y3 analysis.
11. S. Pandey et al. [DES Collaboration], "Dark Energy Survey Year 3 Results: Constraints on cosmological parameters and galaxy bias models from galaxy clustering and galaxy-galaxy lensing using the redMaGiC sample." PRD 106 (2022) 4, 043520. doi:PhysRevD.106.043520 arXiv:2105.13545.
    Credited for contributions to the broader DES Y3 analysis.
10. N. Jeffrey, M. Gatti, et al. [DES Collaboration], "Dark Energy Survey Year 3 results: curved-sky weak lensing mass map reconstruction." MNRAS 505 (2021) 3, 4626-4645. doi:10.1093/mnras/stab1495. arXiv:2105.13539.
    Credited for contributions to the broader DES Y3 analysis.
9. S. Lee et al. [DES Collaboration], "Probing gravity with the DES-CMASS sample and BOSS spectroscopy." MRNAS 509 (2021) no. 4, 4982-4996. doi:10.1093/mnras/stab3129. arXiv:2104.14515.
    Credited for infrastructure contributions for DES Y1 extended model analysis.
8. P. Lemos, M. Raveri, et al. [DES Collaboration], "Assessing tension metrics with Dark Energy Survey and Planck data." MNRAS 505 (2021) 4, 6179-6194. doi:10.1093/mnras/stab1670, arXiv:2012.09554.
    DES internal reviewer.
7. A. Chen et al. [DES Collaboration], "Constraints on dark matter to dark radiation conversion in the late universe with DES-Y1 and external data." PRD 103, no.12, 123528 (2021). doi:10.1103/PhysRevD.103.123528. arXiv:2011.04606.
    Contributed mentoring for analysis through role as DES extended model Analysis Team leader.
6. DES Collaboration, "Cosmological Constraints from Multiple Probes in the Dark Energy Survey." PRL 122, 171301 (2019). doi:10.1103/PhysRevLett.122.171301. arXiv:1811.02375.
    Credited for contributions to DES Y1 "[...]Galaxy Clustering and Weak Lensing" paper.
5. DES Collaboration, "Dark Energy Survey Year 1 Results: Constraints on Extended Cosmological Models from Galaxy Clustering and Weak Lensing." PRD 99, no. 12, 123505 (2019). doi:10.1103/PhysRevD.99.123505. arXiv:1810.02499.
    Generated some figures, contributed to pipeline validation and re-analysis for referee response.
4. Y. Omori et al. [DES and SPT Collaborations], "Dark Energy Survey Year 1 Results: Tomographic cross-correlations between Dark Energy Survey galaxies and CMB lensing from South Pole Telescope+Planck." PRD 100, no. 4, 043501 (2019). doi:10.1103/PhysRevD.100.043501. arXiv:1810.02342.
    DES internal reviewer.

3. DES and SPT Collaborations,"Dark Energy Survey Year 1 Results: Joint Analysis of Galaxy Clustering, Galaxy Lensing, and CMB Lensing Two-point Functions." PRD 100, no. 2, 023541 (2019). doi:10.1103/PhysRevD.100.023541. arXiv:1810.02322.
   Credited for contributions to DES Y1 analysis, and as internal reviewer for Omori et al 2019.
2. X. Li, N. Weaverdyck, S. Adhikari, D. Huterer, **J. Muir,** H. Y. Wu. "The Quest for the Inflationary Spectral Runnings in the Presence of Systematic Errors." Astrophys. J. 862 (2018) no. 2, 137. doi:10.3847/1538-4357/aacaf7, arXiv:1806.02515.
   Edited manuscript, wrote results summaries, contributed mentoring for analysis.
1. DES Collaboration, "Dark Energy Survey Year 1 Results: Cosmological Constraints from Galaxy Clustering and Weak Lensing." PRD 98 (2018) no. 4, 043526, doi:10.1103/PhysRevD.98.043526, arXiv:1708.01530.
   Ran MCMC chains for final analysis, generated summary plots and tables for paper.

Credited as a DES builder or observer

Builder: recognizes 2 yrs FTE collaboration infrastructure work, allows sign-on to DES science papers.
Observer: credited for data taken during DES observing shifts.

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