

# Eve M. Vavagiakis

Google Scholar Profile, h-index 26, 3412 citations

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*Publications with fifteen or more authors have the alphabetized author list shortened to et al.*

## PUBLICATIONS, MAIN AUTHOR

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- 12) **E. M. Vavagiakis**, C. J. Duell et al. 2022. *CCAT-prime: Design of the Mod-Cam receiver and 280 GHz MKID instrument module*, Proc. SPIE 12190:1219004, Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy XI, arXiv:2208.05468.
- 11) Z. Huber, Y. Li, **E. M. Vavagiakis** et al. 2022, *The Simons Observatory: Magnetic Shielding Measurements for the Universal Multiplexing Module*, J. Low Temp. Phys. 2022, arXiv:2111.11495.
- 10) **E. M. Vavagiakis**, P. A. Gallardo, V. Calafut, S. Amodeo et al. 2021, *The Atacama Cosmology Telescope: Probing the Baryon Content of SDSS DR15 Galaxies with the Thermal and Kinematic Sunyaev-Zel'dovich Effects*, Phys. Rev. D 104, 043503, arXiv:2101.08373.
- 9) V. Calafut, P. A. Gallardo, **E. M. Vavagiakis** et al. 2021, *The Atacama Cosmology Telescope: Detection of the Pairwise Kinematic Sunyaev-Zel'dovich Effect with SDSS DR15 Galaxies*, Phys. Rev. D 104, 043502, arXiv:2101.08374.
- 8) C. J. Duell, **E. M. Vavagiakis** et al. 2020, *CCAT-prime: Designs and Status of the First Light 280 GHz MKID Array and Mod-Cam Receiver*, Proc. SPIE 11453:114531F, Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy X, arXiv:2012.10411.
- 7) **E. M. Vavagiakis** et al. 2020, *The Simons Observatory: Magnetic Sensitivity Measurements of Microwave SQUID Multiplexers*, IEEE Trans. Appl. Supercond., 31, 5, arXiv:2012.04532.
- 6) **E. M. Vavagiakis**, N. F. Cothard, J. R. Stevens, C. L. Chang, M. D. Niemack, G. Wang, V.G. Yefremenko, J. Zhang 2019, *Developing AlMn films for Argonne TES fabrication*, J. Low Temp. Phys. 199, 408–415, arXiv:1910.10199.
- 5) J. R. Stevens, N. F. Cothard, **E. M. Vavagiakis** et al. 2019, *Characterization of Transition Edge Sensors for the Simons Observatory*, J. Low Temp. Phys. 199, 672–680, arXiv:1912.00860.
- 4) **E. M. Vavagiakis** et al. 2018, *Prime-Cam: A first-light instrument for the CCAT-prime telescope*, Proc. SPIE 10708:107081U, Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy IX, arXiv:1807.00058.
- 3) **E. M. Vavagiakis**, S. W. Henderson, K. Zheng et al. 2018, *Magnetic Sensitivity of AlMn TESes and Shielding Considerations for Next Generation CMB Surveys*, J. Low Temp. Phys. 193, 288–297, arXiv:1710.08456.
- 2) F. De Bernardis, S. Aiola, **E. M. Vavagiakis**, M. D. Niemack, N. Battaglia et al. 2017, *Detection of the pairwise kinematic Sunyaev-Zel'dovich effect with BOSS DR11 and the Atacama Cosmology Telescope*, JCAP 03, 008, arXiv:1607.02139.
- 1) S. C. Parshley, **E. M. Vavagiakis**, T. Nikola, G. J. Stacey 2014, *A Miniature Cryogenic Scanning Fabry-Perot Interferometer for Mid-IR to Submm Astronomical Observations*, Proc. SPIE 9147:914745, Ground-based and Airborne Instrumentation for Astronomy V.

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- 34) E. Healy, D. Dutcher et al. 2022, *The Simons Observatory 220 and 280 GHz Focal-Plane Module: Design and Initial Characterization*, J. Low Temp Phys 2022, arXiv:2201.04507.
- 33) J. Connors et al. 2022, *Magnetic Field Sensitivity of Microwave SQUID Multiplexers*, J. Low Temp Phys 2022.
- 32) S. K. Choi, C. J. Duell et al. 2022, *CCAT-prime: Characterization of the First 280 GHz MKID Array for Prime-Cam*, J. Low Temp. Phys. 2022, arXiv:2111.01055.
- 31) J. C. Hill, E. Calabrese et al. 2021, *The Atacama Cosmology Telescope: Constraints on Pre-Recombination Early Dark Energy*, Phys. Rev. D 105, 123536, arXiv:2109.04451.
- 30) H. McCarrick, E. Healy et al. 2021, *The Simons Observatory microwave SQUID multiplexing detector module design*, ApJ 922 38, arXiv:2106.14797.
- 29) T. Shin, B. Jain et al. 2021, *The mass and galaxy distribution around SZ-selected clusters*, MNRAS, 507, 4, arXiv:2105.05914.
- 28) J. Orłowski-Scherer, L. Di Mascolo, T. Bhandarkar, A. Manduca, T. Mroczkowski et al. 2021, *Atacama Cosmology Telescope: Measurements of a large sample of candidates from the Massive and Distant Clusters of WISE Survey: Sunyaev-Zeldovich effect confirmation of MaDCoWS candidates using ACT*, A&A 653, A135, arXiv:2105.00068.
- 27) Y. Guan, S. E. Clark, B. S. Hensley, P. A. Gallardo, S. Naess, C. J. Duell et al. 2021, *The Atacama Cosmology Telescope: Microwave Intensity and Polarization Maps of the Galactic Center*, ApJ, 920, 6, arXiv:2105.05267.
- 26) N. Zhu et al. 2021, *The Simons Observatory Large Aperture Telescope Receiver*, ApJS 256, 23, arXiv:2103.02747.
- 25) S. Amodeo, N. Battaglia, E. Schaan, S. Ferraro, E. Moser et al. 2021, *The Atacama Cosmology Telescope: Modelling the Gas Thermodynamics in BOSS CMASS galaxies from Kinematic and Thermal Sunyaev-Zel'dovich Measurements*, Phys. Rev. D 103, 063514, arXiv:2009.05558.
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- 23) Y. Li et al. 2021, *In situ Performance of the Low Frequency Array for Advanced ACTPol*, IEEE Trans. Appl. Supercond., 31 (5), arXiv:2101.02658.
- 22) M. Hilton, C. Sifón, S. Naess, M. Madhavacheril, M. Oguri, E. Rozo, E. Rykoff et al. 2021, *The Atacama Cosmology Telescope: A Catalog of >4000 Sunyaev-Zel'dovich Galaxy Clusters*, ApJS 253 (1), arXiv:2009.11043.
- 21) M. S. Madhavacheril, C. Sifón, N Battaglia et al. 2020, *The Atacama Cosmology Telescope: Weighing distant clusters with the most ancient light*, ApJL 903, L13, arXiv:2009.07772.

- 20) S. K. Choi, M. Hasselfield, S. P. Ho, B. Koopman, M. Lunguet et al. 2020, *The Atacama Cosmology Telescope: A Measurement of the Cosmic Microwave Background Power Spectra at 98 and 150 GHz*. JCAP 2020, 045, arXiv:2007.07289.
- 19) S. Aiola, E. Calabrese, L. Maurin, S. Naess, B. L. Schmitt et al. 2020, *The Atacama Cosmology Telescope: DR4 Maps and Cosmological Parameters*, JCAP 2020, 047, arXiv:2007.07288.
- 18) A. Suzuki, N. Cothard, A. T. Lee, M. D. Niemack, C. Raum, M. Renzullo, T. Sasse, J. Stevens, P. Truitt, **E. M. Vavagiakis**, J. Vivalda, B. Westrook, D. Yohannes 2020, *Commercially Fabricated Antenna-Coupled Transition Edge Sensor Bolometer Detectors for Next-Generation Cosmic Microwave Background Polarimetry Experiment*, J. Low Temp. Phys. 199, 1158–1166, arXiv:1912.12782.
- 17) M. S. Madhavacheril, J. C. Hill, S. Naess et al. 2019, *The Atacama Cosmology Telescope: Component-separated maps of CMB temperature and the thermal Sunyaev-Zel’dovich effect*, Phys. Rev. D 102 2, 023534, arXiv:1911.05717.
- 16) S. Choi et al. 2019, *Sensitivity of the Prime-Cam Instrument on the CCAT-prime Telescope*, J. Low Temp. Phys. 199, 1089–1097, arXiv:1908.10451.
- 15) N. F. Cothard, S. K. Choi, C. J. Duell, T. Herter, J. Hubmayr, J. McMahon, M. D Niemack, T. Nikola, C. Sierra, G. J. Stacey, **E. M. Vavagiakis**, E. J Wollack, B. Zou 2019, *The Design of The CCAT-Prime Epoch of Reionization Spectrometer Instrument*, J. Low Temp. Phys. 199, 898–907, arXiv:1911.11687.
- 14) M. S. Rao, M. Silva-Feaver et al. 2019, *Simons Observatory Microwave SQUID Multiplexing Readout - Cryogenic RF Amplifier and Coax Chain Design*, J. Low Temp. Phys. 199, 807-816, arXiv:2003.08949.
- 13) Y. Li et al. 2019, *Assembly and Integration Process for the High-Density Detector Array Readout Modules for the Simons Observatory*, J. Low Temp. Phys. 199, 985-993.
- 12) The Simons Observatory Collaboration 2018, *The Simons Observatory: Science goals and forecasts*, JCAP 1902, 056, arXiv:1808.07445.
- 11) S. Naess et al. 2020, *The Atacama Cosmology Telescope: arcminute-resolution maps of 18,000 square degrees of the microwave sky from ACT 2008-2018 data combined with Planck*, JCAP 2020, 046, arXiv:2007.07290.
- 10) K. T. Crowley et al. 2018, *Advanced ACTPol TES Device Parameters and Noise Performance in Fielded Arrays*, J. Low Temp. Phys. 193, 328-336, arXiv:1807.07496.
- 9) B. Koopman et al. 2018, *Advanced ACTPol Low Frequency Array: Readout and Characterization of Prototype 27 and 39 GHz Transition Edge Sensors*, J. Low Temp. Phys. 193, 1103–1111, arXiv:1711.02594.
- 8) S. M. Simon et al. 2018, *The Advanced ACTPol 27/39 GHz Array*, J. Low Temp. Phys. 193, 1041–1047.

- 7) M. Hilton, M. Hasselfield, C. Sifon, N. Battaglia, et al. 2018, *The Atacama Cosmology Telescope: The Two-Season ACTPol Sunyaev-Zel'Dovich Effect Selected Cluster Catalog*, ApJS, 235, 1. arXiv:1709.05600.
- 6) B. D. Sherwin, A. van Engelen, N. Sehgal, M. Madhavacheril et al. 2017, *The Atacama Cosmology Telescope: Two-Season ACTPol Lensing Power Spectrum*, Phys. Rev. D 95, 123529, arXiv:1611.09753.
- 5) S. P. Ho, C. G. Pappas et al. 2016, *The First Multichroic Polarimeter Array on the Atacama Cosmology Telescope: Characterization and Performance*, J. Low Temp. Phys. 184:3, 559-567.
- 4) S. W. Henderson et al. 2016, *Advanced ACTPol Cryogenic Detector Arrays and Readout*, J. Low Temp. Phys. 10909:1575-z, arXiv:1510.02809.
- 3) S. M. Duff et al. 2016, *Advanced ACTPol Multichroic Polarimeter Array Fabrication Process for 150 mm Wafers*, J. Low Temp. Phys. 10909:1576-y.
- 2) R. Datta et al. 2016, *Design and Deployment of a Multichroic Polarimeter Array on the Atacama Cosmology Telescope*, J. Low Temp. Phys. 10909:1553-5, arXiv:1510.07797.
- 1) C. G. Pappas et al. 2016, *High-Density Superconducting Cables for Advanced ACTPol*, J. Low Temp. Phys. 10909:1454-z.

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- 3) H. McCarrick et al. 2021, *The 90 and 150 GHz universal focal-plane modules for the Simons Observatory*, Submitted to J. Low Temp. Phys., arXiv:2112.01458.
- 2) Y. Wang, K. Zheng et al. 2021, *Simons Observatory Focal-Plane Modules: In-lab Testing and Characterization Program*, Submitted to J. Low Temp. Phys., arXiv:2111.11301.
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- 34) Z. B. Huber, S. K. Choi, C. J. Duell, R. G. Freundt, P. A. Gallardo, B. Keller, Y. Li, L. T. Lin, M. D. Niemack, T. Nikola, D. A. Reichers, G. Stacey, **E. M. Vavagiakis**, B. Zou 2022, *CCAT-prime: the optical design for the Epoch of reionization spectrometer*, Proc. SPIE 12190:121902H, Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy XI, arXiv:2208.09521.
- 33) S. C. Chapman, Anthony I. Huber, Adrian K. Sinclair, Jordan D. Wheeler et al. 2022, *CCAT-prime: the 850 GHz camera for Prime-Cam on FYST*, Proc. SPIE 12190:1219005, Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy XI, arXiv:2208.10634.
- 32) A. I. Huber, S. C. Chapman, A. K. Sinclair, L. D. Spencer et al. 2022, *CCAT-prime: optical and cryogenic design of the 850 GHz module for Prime-Cam*, Proc. SPIE 12190:121901D, Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy XI, arXiv:2208.09560.

- 31) A. Sinclair, R. C. Stephenson, C. A. Roberson, E. L. Weeks, J. Burgoynea, A. I. Huber, P. M. Mausekopf, S. C. Chapman et al. 2022, *CCAT-prime: RFSOC Based Readout for Frequency Multiplexed Kinetic Inductance Detectors*, Proc. SPIE 12190:121900W, Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy XI, arXiv:2208.07465.
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- 28) The CMB-S4 Collaboration 2021, *Snowmass 2021 CMB-S4 White Paper*, arXiv:2112.01458.
- 27) Z. Xu et al. 2020, *The Simons Observatory: the Large Aperture Telescope Receiver (LATR) integration and validation results*, Proc. SPIE. 11453:1145315, Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy X, arXiv:2012.07862.
- 26) E. Healy et al. 2022, *Assembly development for the Simons Observatory focal plane readout module*, Proc. SPIE 11453:1145317, Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy X, arXiv:2204.05869.
- 25) J. Seibert et al. 2020, *Development of an optical detector testbed for the Simons Observatory*, Proc. SPIE 11453:114532C, Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy X.
- 24) K. Harrington, C. Sierra, G. Chesmore, S. Sutariya et al. 2020, *The integration and testing program for the Simons Observatory Large Aperture Telescope optics tubes*, Proc. SPIE 11453:1145318, Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy X, arXiv:2102.02129.
- 23) D. Henke, D. Johnstone, L. B. G. Knee, S. Chapman, C. Ross, M. Fich, T. Nikola, S. K. Choi, M. D. Niemack, S. C. Parshley, G. J. Stacey, **E. M. Vavagiakis** 2020, *Optical design study for the 860 GHz first-light camera module of CCAT-p*, Proc. SPIE 11453:114532K, Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy X.
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- 20) The Simons Observatory Collaboration 2019, *The Simons Observatory: Astro2020 Decadal Project Whitepaper*, Astro2020 Decadal Project White Paper, Bull. Am. Astron. Soc. 51 147, arXiv:1907.08284.

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- 18) The CCAT-prime Collaboration 2019, *The CCAT-Prime Submillimeter Observatory*, Astro2020 APC White Paper, arXiv:1909.02587.
- 17) G. Coppi, Z. Xu, et al. 2018, *Cooldown strategies and transient thermal simulations for the Simons Observatory*, Proc. SPIE 10708:1070827, Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy IX, arXiv:1808.07896.
- 16) N. F. Cothard, M. Abe, T. Nikola, G. J. Stacey, G. Cortes-Medellin, P. A. Gallardo, B. J. Koopman, M. D. Niemack, S. C. Parshley, **E. M. Vavagiakis**, K. J. Vetter 2018, *Optimizing the efficiency of Fabry-Perot interferometers with silicon-substrate mirrors*, Proc. SPIE 10706:107065B, Advances in Optical and Mechanical Technologies for Telescopes and Instrumentation III, arXiv:1807.06019.
- 15) S. R. Dicker, P. A. Gallardo, P. D. Mauskopf, J. E. Gudmundsson, et al. 2018, *Cold optical design for the large aperture Simons’ Observatory telescope*, Proc. SPIE 10700:107003E, Ground-based and Airborne Telescopes VII, arXiv:1808.05058.
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- 11) S. C. Parshley, J. Kronshage, et al. 2018, *CCAT-prime: a novel telescope for sub-millimeter astronomy*, Proc. SPIE 10700:107005X, Ground-based and Airborne Telescopes VII, arXiv:1807.06675.
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- 9) J. R. Stevens, N. Goeckner-Wald, R. Keskitalo, N. McCallum, et al. 2018, *Designs for next generation CMB survey strategies from Chile*, Proc. SPIE 10708:1070841, Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy IX, arXiv:1808.05131.
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- 6) Y. Li, S. Choi, S. P. Ho, et al. 2016, *Assembly and integration process of the first high density detector array for the Atacama Cosmology Telescope*, Proc. SPIE 9914:991435, Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy VIII.
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- 4) F. De Bernardis, J. R. Stevens, M. Hasselfield, et al. 2016, *Survey strategy optimization for the Atacama Cosmology Telescope*, Proc. SPIE 9910:991014, Observatory Operations: Strategies, Processes, and Systems VI, arXiv:1607.02120.
- 3) J. Ward et al. 2016, *Mechanical design and development of TES bolometer detector arrays for the Advanced ACTPol experiment*, Proc. SPIE 9914:991437, Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy VIII, arXiv:1607.05754.
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## OTHER WORKS IN PRINT

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**E. M. Vavagiakis**, *I'm a Neutrino* (I. Lemesis, Illus.), MIT Kids Press, March 2022.

**E. M. Vavagiakis**, T. C. Bachlechner, M. Kleban 2021, *Is the electric potential physical?*, Physics Today 74 (8), 62.

Forthcoming series of illustrated children's books highlighting modern experiments:

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