# Publication List
# **Paul M. Chichura**

Last updated: October 2025

**Metrics.** I have authored 23 refereed publications, including two first-author publications. These publications have received 545 citations (H-Index: 13), according to NASA ADS.

**Journal abbreviations.** ApJ: The Astrophysical Journal; JCAP: Journal of Cosmology and Astroparticle Physics; MNRAS: Monthly Notices of the Royal Astronomical Society; PhRvD: Physical Review D; PhRvL: Physical Review Letters.

## (1) First-Author Publications

[1] **Chichura, P. M.**, A. Rahlin, A. J. Anderson, et al. 2025. "Pointing Accuracy Improvements for the South Pole Telescope with Machine Learning." *Journal of Astronomical Instrumentation* 14 (January): 2550001. DOI: 10.1142/S2251171725500011. arXiv:2412.15167.

[2] **Chichura, P. M.**, A. Foster, C. Patel, et al. 2022. "Asteroid Measurements at Millimeter Wavelengths with the South Pole Telescope." *ApJ* 936, no. 2 (September): 173. DOI: 10.3847/1538-4357/ac89ec. arXiv:2202.01406.

## (2) All Publications

[3] Archipley, M., A. Hryciuk, L. E. Bleem, et al. 2025. "Millimeter-wave observations of Euclid Deep Field South using the South Pole Telescope: A data release of temperature maps and catalogs." *arXiv e-prints* (May): arXiv:2506.00298. DOI: 10.48550/arXiv.2506.00298. arXiv:2506.00298.

[4] Camphuis, E., W. Quan, L. Balkenhol, et al. 2025. "SPT-3G D1: CMB temperature and polarization power spectra and cosmology from 2019 and 2020 observations of the SPT-3G Main field." *arXiv e-prints* (June): arXiv:2506.20707. DOI: 10.48550/arXiv.2506.20707. arXiv:2506.20707.

[1] **Chichura, P. M.**, A. Rahlin, A. J. Anderson, et al. 2025. "Pointing Accuracy Improvements for the South Pole Telescope with Machine Learning." *Journal of Astronomical Instrumentation* 14 (January): 2550001. DOI: 10.1142/S2251171725500011. arXiv:2412.15167.

[5] Coerver, A., J. A. Zebrowski, S. Takakura, et al. 2025. "Measurement and Modeling of Polarized Atmosphere at the South Pole with SPT-3G." *ApJ* 982, no. 1 (March): 15. DOI: 10.3847/1538-4357/ada35d. arXiv:2407.20579.

[6] Foster, Allen, A. Chokshi, A. J. Anderson, et al. 2025. "Detection of Thermal Emission at Millimeter Wavelengths from Low-Earth Orbit Satellites." *The Open Journal of Astrophysics* 8 (May): 51. DOI: 10.33232/001c.137526. arXiv:2411.03374.

[7] Ge, F., M. Millea, E. Camphuis, et al. 2025. "Cosmology from CMB lensing and delensed EE power spectra using 2019–2020 SPT-3G polarization data." *PhRvD* 111, no. 8 (April): 083534. DOI: 10.1103/PhysRevD.111.083534. arXiv:2411.06000.

[8] Khalife, A. R., L. Balkenhol, E. Camphuis, et al. 2025. "SPT-3G D1: Axion Early Dark Energy with CMB experiments and DESI." *arXiv e-prints* (July): arXiv:2507.23355. DOI: 10.48550/arXiv.2507.23355. arXiv:2507.23355.

[9] Kornoelje, K., L. E. Bleem, E. S. Rykoff, et al. 2025. "The SPT-Deep Cluster Catalog: Sunyaev-Zel'dovich Selected Clusters from Combined SPT-3G and SPTpol Measurements over 100 Square Degrees." *arXiv e-prints* (March): arXiv:2503.17271. DOI: 10.48550/arXiv.2503.17271. arXiv:2503.17271.

[10] Qu, F. J., F. Ge, W. L. K. Wu, et al. 2025. "Unified and consistent structure growth measurements from joint ACT, SPT and *Planck* CMB lensing." *arXiv e-prints* (April): arXiv:2504.20038. DOI: 10.48550/arXiv.2504.20038. arXiv:2504.20038.

[11] The Event Horizon Telescope Collaboration. 2025. "Horizon-scale variability of M87* from 2017–2021 EHT observations." *arXiv e-prints* (September): arXiv:2509.24593. DOI: 10.48550/arXiv.2509.24593. arXiv:2509.24593.

[12] Wan, Y., J. D. Vieira, **Chichura, P. M.**, et al. 2025. "Detection of Millimeter-Wavelength Flares from Two Accreting White Dwarf Systems in the SPT-3G Galactic Plane Survey." *arXiv e-prints* (September): arXiv:2509.08962. DOI: 10.48550/arXiv.2509.08962. arXiv:2509.08962.

[13] Zebrowski, J. A., C. L. Reichardt, A. J. Anderson, et al. 2025. "Constraints on Inflationary Gravitational Waves with Two Years of SPT-3G Data." *arXiv e-prints* (May): arXiv:2505.02827. DOI: 10.48550/arXiv.2505.02827. arXiv:2505.02827.

[14] Ansarinejad, B., S. Raghunathan, T. M. C. Abbott, et al. 2024. "Mass calibration of DES Year-3 clusters via SPT-3G CMB cluster lensing." *JCAP* 2024, no. 7 (July): 024. DOI: 10.1088/1475-7516/2024/07/024. arXiv:2404.02153.

[15] Prabhu, K., S. Raghunathan, M. Millea, et al. 2024. "Testing the ΛCDM Cosmological Model with Forthcoming Measurements of the Cosmic Microwave Background with SPT-3G." *ApJ* 973, no. 1 (September): 4. DOI: 10.3847/1538-4357/ad5ff1. arXiv:2403.17925.

[16] Raghunathan, S., P. A. R. Ade, A. J. Anderson, et al. 2024. "First Constraints on the Epoch of Reionization Using the Non-Gaussianity of the Kinematic Sunyaev-Zel'dovich Effect from the South Pole Telescope and Herschel-SPIRE Observations." *PhRvL* 133, no. 12 (September): 121004. DOI: 10.1103/PhysRevLett.133.121004. arXiv:2403.02337.

[17] Tandoi, C., S. Guns, A. Foster, et al. 2024. "Flaring Stars in a Nontargeted Millimeter-wave Survey with SPT-3G." *ApJ* 972, no. 1 (September): 6. DOI: 10.3847/1538-4357/ad58db. arXiv:2401.13525.

[18] Balkenhol, L., D. Dutcher, A. Spurio Mancini, et al. 2023. "Measurement of the CMB temperature power spectrum and constraints on cosmology from the SPT-3G 2018 TT, TE, and EE dataset." *PhRvD* 108, no. 2 (July): 023510. DOI: 10.1103/PhysRevD.108.023510. arXiv:2212.05642.

[19] Pan, Z., F. Bianchini, W. L. K. Wu, et al. 2023. "Measurement of gravitational lensing of the cosmic microwave background using SPT-3G 2018 data." *PhRvD* 108, no. 12 (December): 122005. DOI: 10.1103/PhysRevD.108.122005. arXiv:2308.11608.

[20] Schiappucci, E., F. Bianchini, M. Aguena, et al. 2023. "Measurement of the mean central optical depth of galaxy clusters via the pairwise kinematic Sunyaev-Zel'dovich effect with SPT-3G and DES." *PhRvD* 107, no. 4 (February): 042004. DOI: 10.1103/PhysRevD.107.042004. arXiv:2207.11937.

[2] **Chichura, P. M.**, A. Foster, C. Patel, et al. 2022. "Asteroid Measurements at Millimeter Wavelengths with the South Pole Telescope." *ApJ* 936, no. 2 (September): 173. DOI: 10.3847/1538-4357/ac89ec. arXiv:2202.01406.

[21] Ferguson, K. R., A. J. Anderson, N. Whitehorn, et al. 2022. "Searching for axionlike time-dependent cosmic birefringence with data from SPT-3G." *PhRvD* 106, no. 4 (August): 042011. DOI: 10.1103/PhysRevD.106.042011. arXiv:2203.16567.

[22] Ghosh, A., F. Mertens, G. Bernardi, et al. 2020. "Foreground modelling via Gaussian process regression: an application to HERA data." *MNRAS* 495, no. 3 (January): 2813–2826. DOI: 10.1093/mnras/staa1331. arXiv:2004.06041.

[23] Kohn, S. A., J. E. Aguirre, P. La Plante, et al. 2019. "The HERA-19 Commissioning Array: Direction-dependent Effects." *ApJ* 882, no. 1 (September): 58. DOI: 10.3847/1538-4357/ab2f72. arXiv:1802.04151.