

Steve K. Choi

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Academic Appointments

University of California, Riverside	Assistant Professor of Physics and Astronomy (2024–present)
Cornell University	NSF Astronomy and Astrophysics Postdoctoral Fellow (2020–2023)
Cornell University	Cornell Presidential Postdoctoral Fellow (2018–2020)
Princeton University	Postdoctoral Research Associate (2018, 3 months)

Education

Princeton University	2012–2018
Ph.D. in Physics	
University of California, San Diego	2008–2012
B.S. in Physics, Magna Cum Laude	

Service and Leadership

Simons Observatory: Leader for Data Reduction / Calibration (Level 4)	2024–present
CMB-S4: Publication Board Member	2024–2026
CCAT: Leader for Prime-Cam Calibration and Commissioning (Level 3)	2023–present
Simons Observatory: Publication Panel Member (Elected)	2022–present
CCAT: Deputy Leader of the CMB Foregrounds Science Working Group	2019–present
<i>Referee for publications in:</i>	
Physical Review Letters, Astrophysical Journal, Monthly Notices of the Royal Astronomical Society, Journal of Low Temperature Physics, Journal of Astronomical Telescopes, Instruments, and Systems.	
<i>Grant review panel member for:</i>	
National Aeronautics and Space Administration (NASA)	
National Science Foundation (NSF)	
<i>Grant reviewer for:</i>	
Department of Energy (DOE)	

Awards and Grants

Moore Foundation	2026–present
Regents' Faculty Fellowship	2025
NASA Astrophysics Data Analysis Program	2025–present
IOP Publishing Top Cited Paper Award	2023
NSF Astronomy and Astrophysics Postdoctoral Fellowship	2020
Cornell Presidential Postdoctoral Fellowship	2018
Princeton Physics Department Teaching Award	2014
UCSD Division of Physical Sciences Dean's Undergraduate Award for Excellence	2011

Publications

Selected from 136 publications with a total of 12,354 citations (h-index of 48 on Google Scholar).

1. **Gazda, E., Meyers, Q., Choi, S. K., et al.**, CCAT: Optical Responsivity, Noise, and Readout Optimization of KIDs for Prime-Cam. 2026, IEEE Transactions on Applied Superconductivity, 36, 2402506

2. Middleton, A., **Choi**, S. K., Walker, S., et al., CCAT: LED Mapping and Characterization of the 280 GHz TiN KID Array. 2025, IEEE Transactions on Applied Superconductivity, 35, 3517564
3. Murphy, C. C., **Choi**, S. K., Datta, R., et al., Optical modeling of systematic uncertainties in detector polarization angles for the Atacama Cosmology Telescope. 2024, Appl. Opt., 63, 5079
4. CCAT-Prime Collaboration, Aravena, M., Austermann, J. E., et al., CCAT-prime Collaboration: Science Goals and Forecasts with Prime-Cam on the Fred Young Submillimeter Telescope. 2023, ApJS, 264, 7
5. **Choi**, S. K., Duell, C. J., Austermann, J., et al., CCAT-Prime: Characterization of the First 280 GHz MKID Array for Prime-Cam. 2022, Journal of Low Temperature Physics, 209, 849
6. Zhu, Y., Beringue, B., **Choi**, S. K., et al., Estimating the impact of foregrounds on the future detection of Rayleigh scattering. 2022, JCAP, 2022, 048
7. Nikola, T., **Choi**, S. K., Duell, C. J., et al. 2022, CCAT-prime: the epoch reionization spectrometer for primce-cam on FYST, in Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, Vol. 12190, Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy XI, ed. J. Zmuidzinas & J.-R. Gao, 121900G
8. Huber, Z. B., **Choi**, S. K., Duell, C. J., et al. 2022, CCAT-prime: the optical design for the Epoch of reionization spectrometer, in Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, Vol. 12190, Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy XI, ed. J. Zmuidzinas & J.-R. Gao, 121902H
9. Zou, B., **Choi**, S. K., Cothard, N. F., et al. 2022, CCAT-prime: the design and characterization of the silicon mirrors for the Fabry-Perot interferometer in the Epoch of reionization spectrometer, in Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, Vol. 12190, Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy XI, ed. J. Zmuidzinas & J.-R. Gao, 121902B
10. Aiola, S., Calabrese, E., Maurin, L., et al., The Atacama Cosmology Telescope: DR4 maps and cosmological parameters. 2020, JCAP, 2020, 047
11. **Choi**, S. K., Hasselfield, M., Ho, S.-P. P., et al., The Atacama Cosmology Telescope: a measurement of the Cosmic Microwave Background power spectra at 98 and 150 GHz. 2020b, JCAP, 2020, 045
12. **Choi**, S. K., Austermann, J., Basu, K., et al., Sensitivity of the Prime-Cam Instrument on the CCAT-Prime Telescope. 2020a, Journal of Low Temperature Physics, 199, 1089
13. Cothard, N. F., **Choi**, S. K., Duell, C. J., et al., The Design of the CCAT-prime Epoch of Reionization Spectrometer Instrument. 2020, Journal of Low Temperature Physics, 199, 898
14. Kim, C.-G., **Choi**, S. K., & Flauger, R., Dust Polarization Maps from TIGRESS: E/B Power Asymmetry and TE Correlation. 2019, ApJ, 880, 106
15. **Choi**, S. K., Austermann, J., Beall, J. A., et al., Characterization of the Mid-Frequency Arrays for Advanced ACTPol. 2018, Journal of Low Temperature Physics, 193, 267
16. Munson, C. D., **Choi**, S. K., Coughlin, K. P., et al., Composite reflective/absorptive IR-blocking filters embedded in metamaterial antireflection-coated silicon. 2017, Appl. Opt., 56, 5349
17. Li, Y., **Choi**, S., Ho, S.-P., et al. 2016, Assembly and integration process of the first high density detector array for the Atacama Cosmology Telescope, in Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, Vol. 9914, Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy VIII, ed. W. S. Holland & J. Zmuidzinas, 991435
18. **Choi**, S. K., & Page, L. A., Polarized galactic synchrotron and dust emission and their correlation. 2015, JCAP, 2015, 020