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| CURRENT POSITION | Assistant Professor, University of Chicago, 2014-present. Department of Astronomy & Astrophysics and the Kavli Institute for Cosmological Physics | |
| PREVIOUS POSITIONS | Postdoctoral Fellow, California Institute of Technology, 2011-2014. South Pole Station science leader and South Pole Telescope winterover, 2009. | |
| RESEARCH INTERESTS | Cryogenic detectors and instrumentation. Cosmic Microwave Background. Epoch of Reionization. Dusty star forming galaxies. | |
| EDUCATION | Ph.D. (Physics), University of California, Berkeley, December 2011 <i>Dissertation:</i> The South Pole Telescope bolometer array and the measurement of secondary cosmic microwave background anisotropy at small angular scales. B.A. (Physics and Astrophysics), University of California, Berkeley, May 2002 | |
| AWARDS | NSF CAREER award, 2016. W. M. Keck Institute for Space Studies prize postdoctoral fellowship, California Institute of Technology, 2011. Lars Commins Memorial Award in experimental physics, UC Berkeley, 2011. Department Citation in astrophysics, UC Berkeley, 2002. | |
| EXTERNAL GRANTS | CAREER: Developing Antenna-Coupled Kinetic Inductance Detectors to Enable Next Generation CMB Experiments, NSF award #1554565, 2016-2020 Collaborative Research: Demonstration of Superspec: a Superconducting On-Chip Spectrometer for mm and submm Wavelength Astrophysics, NSF award #1407287, 2014-2017 | |
| TEACHING | Instructor, Black Holes, U. Chicago, Winter 2017. Instructor, The Big Bang, U. Chicago, Spring 2016. Instructor, undergraduate astronomy labs, U. Chicago, Fall 2015. TA, undergraduate advanced physics lab, U.C. Berkeley, Spring 2002. TA, radio astronomy lab, U.C. Berkeley, Summer 2000. | |
| SERVICE | Department committees: KICP Colloquium 2014, A&A admissions 2014-2016, A&A undergraduate 2014, A&A graduate 2015, A&A colloquium 2016. Co-lead, KICP Fellows program, responsible for coordinating and evaluating postdoc mentoring and career-preparation, 2014-present. | |

Referee for J. Low Temp. Phys; Astron. & Astro; IEEE Trans. Terahertz Sci. Tech.; IEEE Trans. Appl. Supercond.; SPIE Proc.; 2011-present
Reviewer for NSF, NASA, NWO (Netherlands), 2013-2015
Instructor for Space Explorers Yerkes Winter Institute, providing immersive science activities for Chicago public high school students, 2014.
Chair of the local organizing committee for the 15th annual Low Temperature Detectors workshop (LTD15), an international conference with 340 attendees, 2013.
Guest editor for J. Low Temp. Phys., Vols 176 and 177 (LTD15 proceedings special issue), 2014.

INVITED TALKS CNM-APS Users Meeting, Argonne National Laboratory, 2016.
Coordinating Panel for Advanced Detectors workshop, Arlington, TX, 2015.
Astrophysics seminar, Fermi National Accelerator Laboratory, 2015.

REFERENCES William L. Holzapfel, University of California, Berkeley. Graduate advisor.
Jonas Zmuidzinas, California Institute of Technology, Postdoctoral advisor.
John E. Carlstrom, University Chicago
Adrian T. Lee, University of California, Berkeley.

Refereed (and submitted) journal articles

1. E. Shirokoff, C. L. Reichardt, L. Shaw, M. Millea, and 42 co-authors.
“Improved constraints on cosmic microwave background secondary anisotropies from the complete 2008 South Pole Telescope data”
2011, *ApJ*, 736, 61
2. T. M. Crawford and 42 co-authors.
“Maps of the Magellanic Clouds from Combined South Pole Telescope and Planck Data”
2016, Submitted to *ApJ*, *arXiv:1605.00966*
3. T. de Haan and 77 co-authors.
“Cosmological Constraints from Galaxy Clusters in the 2500 square-degree SPT-SZ Survey”
2016, Submitted to *ApJ*, *arXiv:1603.06522*
4. C. M. Posada & 67 co-authors.
“Fabrication of large dual-polarized multichroic TES bolometer arrays for CMB measurements with the SPT-3G camera”
2015, *Supercond. Sci. Tech.*, 28, 094002
5. R. Keisler & 65 co-authors.
“Measurements of Sub-degree B-mode Polarization in the Cosmic Microwave Background from 100 Square Degrees of SPTpol Data”
2015, *ApJ*, 807, 151
6. E. J. Baxter & 73 co-authors.
“A Measurement of Gravitational Lensing of the Cosmic Microwave Background by Galaxy Clusters Using Data from the South Pole Telescope”
2015, *ApJ*, 806, 247
7. L. E. Bleem & 72 co-authors.
“Galaxy Clusters Discovered via the Sunyaev-Zel’dovich Effect in the 2500-Square-Degree SPT-SZ Survey”
2015, *ApJ Suppl.*, 216, 27
8. J. Liu and 64 co-authors.
“Analysis of Sunyaev-Zel’dovich Effect Mass-Observable Relations using South Pole Telescope Observations of an X-ray Selected Sample of Low Mass Galaxy Clusters and Groups”
2015, *MNRAS*, 448, 2085
9. S. Bocquet and 69 co-authors.
“Mass Calibration and Cosmological Analysis of the SPT-SZ Galaxy Cluster Sample Using Velocity Dispersion σ_v and X-ray Y_X Measurements”
2015, *ApJ*, 799, 214
10. B. R. Saliwanchik and 69 co-authors.
“Measurement of Galaxy Cluster Integrated Comptonization and Mass Scaling Relations with the South Pole Telescope”
2015, *ApJ*, 799, 137

11. A. Saro and 70 co-authors.
“Constraints on the CMB temperature evolution using multiband measurements of the Sunyaev-Zel’dovich effect with the South Pole Telescope”
2014, *MNRAS*, 440, 2610
12. M. McDonald and 64 co-authors.
“The Redshift Evolution of the Mean Temperature, Pressure, and Entropy Profiles in 80 SPT-Selected Galaxy Clusters”
2014, *ApJ*, 794, 67
13. T. Crawford and 48 co-authors.
“A Measurement of the Secondary-CMB and Millimeter-wave-foreground Bispectrum using 800 deg² of South Pole Telescope Data”
2014, *ApJ*, 784, 143
14. Z. Hou and 51 co-authors.
“Constraints on Cosmology from the Cosmic Microwave Background Power Spectrum of the 2500-square degree SPT-SZ Survey”,
2014, *ApJ*, 782, 74
15. D. R. Semler and 78 co-authors.
“High-redshift Cool-core Galaxy Clusters Detected via the Sunyaev-Zel’dovich Effect in the South Pole Telescope Survey”
2012, *ApJ*, 761, 183
16. J. Song and 76 co-authors.
“Redshifts, Sample Purity, and BCG Positions for the Galaxy Cluster Catalog from the First 720 Square Degrees of the South Pole Telescope Survey”
2012, *ApJ*, 761, 22
17. K. T. Story and 49 co-authors.
“A Measurement of the Cosmic Microwave Background Damping Tail from the 2500-square-degree SPT-SZ survey”
2013, *ApJ*, 779, 86s
18. F. W. High and 86 co-authors.
“Weak-lensing Mass Measurements of Five Galaxy Clusters in the South Pole Telescope Survey Using Magellan/Megacam”
2012, *ApJ*, 758, 68
19. A. van Engelen and 50 co-authors.
“A Measurement of Gravitational Lensing of the Microwave Background Using South Pole Telescope Data”
2012, *ApJ*, 756, 142
20. T. R. Greve and 57 co-authors.
“Submillimeter Observations of Millimeter Bright Galaxies Discovered by the South Pole Telescope”
2012, *ApJ*, 756, 4550

21. O. Zahn and 50 co-authors.
 “Cosmic microwave background constraints on the duration and timing of reionization from the South Pole Telescope”
 2012, *ApJ*, 756, 65
22. M. McDonald and 75 co-authors.
 “A massive, cooling-flow-induced starburst in the core of a luminous cluster of galaxies”
 2012, *Nature*, 488, 349
23. C. L. Reichardt and 48 co-authors.
 “A Measurement of Secondary Cosmic Microwave Background Anisotropies with Two Years of South Pole Telescope Observations”
 2012, *ApJ*, 755, 70
24. M. A. Dobbs and 47 co-authors.
 “Frequency Multiplexed SQUID Readout of Large Bolometer Arrays for Cosmic Microwave Background Measurements”
 2012, *Rev. Sci. Inst.*, 83, 73113
25. L. E. Bleem and 70 co-authors.
 “A Measurement of the Correlation of Galaxy Surveys with CMB Lensing Convergence Maps from the South Pole Telescope”
 2012, *ApJ*, 753, 9
26. B. Stalder and 72 co-authors.
 “SPT-CL J0205-5829: A $z = 1.32$ Evolved Massive Galaxy Cluster in the South Pole Telescope Sunyaev-Zel’dovich Effect Survey”
 2013, *ApJ*, 763, 93
27. C. L. Reichardt and 80 co-authors.
 “Galaxy clusters discovered via the Sunyaev-Zel’dovich effect in the first 720 square degrees of the South Pole Telescope survey”
 2012, *ApJ*, 756, 65
28. B. A. Benson, and 75 co-authors.
 “Cosmological Constraints from Sunyaev-Zel’dovich-Selected Clusters with X-ray Observations in the First 178 Square Degrees of the South Pole Telescope Survey”
 2013, *ApJ*, 73, 147
29. K. K. Schaffer, and 42 co-authors.
 “The First Public Release of South Pole Telescope Data: Maps of a 95 deg² Field from 2008 Observations”
 2011, *ApJ*, 743, 90.
30. R. Keisler and 49 co-authors
 “A Measurement of the Damping Tail of the Cosmic Microwave Background Power Spectrum with the South Pole Telescope”
 2011, *ApJ*, 743, 28

31. K. Story, and 63 co-authors.
“South Pole Telescope Detections of the Previously Unconfirmed Planck Early SZ Clusters in the Southern Hemisphere.”
2011, *ApJ*, 735, 36
32. R. J. Foley and 72 co-authors.
“Discovery and Cosmological Implications of SPT-CLJ2106-5844, the Most Massive Known Cluster at $z > 1$ ”,
2011, *ApJ*, 731, 86.
33. R. Williamson and 73 co-authors.
“An SZ-selected sample of the most massive galaxy clusters in the 2500-square-degree South Pole Telescope survey”
2011, *ApJ*, 738, 139.
34. K. Andersson and 61 co-authors.
“X-ray Properties of the First SZE-selected Galaxy Cluster Sample from the South Pole Telescope”
2011, *ApJ*, 738, 48.
35. F. W. High and 70 co-authors.
“Optical Redshift and Richness Estimates for Galaxy Clusters Selected with the Sunyaev-Zel’dovich Effect from 2008 South Pole Telescope Observations”
2010, *ApJ*, 723, 1736
36. K. Vanderlinde and 58 co-authors.
“Galaxy Clusters Selected with the Sunyaev-Zel’dovich Effect from 2008 South Pole Telescope Observations”
2010, *ApJ*, 72, 1180
37. M. Brodwin and 67 co-authors.
“SPT-CL J0546-5345: A Massive $z>1$ Galaxy Cluster Selected Via the Sunyaev-Zel’dovich Effect with the South Pole Telescope”
2010, *ApJ*, 721, 90
38. M. Lueker and 43 co-authors.
“Measurements of Secondary Cosmic Microwave Background Anisotropies with the South Pole Telescope”
2010, *ApJ*, 719, 1045.
39. J. D. Vieira and 54 co-authors.
“Extragalactic Millimeter-wave Sources in South Pole Telescope Survey Data: Source Counts, Catalog, and Statistics for an 87 Square-degree Field”
2010, *ApJ*, 719, 763.
40. N. R. Hall and 44 co-authors.
“Angular Power Spectra of the Millimeter-wavelength Background Light from Dusty Star-forming Galaxies with the South Pole Telescope”
2010, *ApJ*, 718, 632.

41. T. Plagge and 44 co-authors.
“Sunyaev-Zeldovich Cluster Profiles Measured with the South Pole Telescope”,
2010, *ApJ*, 716, 1118.
42. J. E. Carlstrom, and 37 co-authors.
“The South Pole Telescope”
2011, *Proc. Astron. Soc. of the Pacific*, 123, 568.
43. Z. Staniszewski, and 43 co-authors.
“Galaxy Clusters Discovered with a Sunyaev-Zel’dovich Effect Survey”
2009, *ApJ*, 701, 32
44. S. Padin and 34 co-authors.
“South Pole Telescope optics”
2008, *Appl. Opt.*, 47, 4418.

Selected conference proceedings

1. J. Wheeler and 22 co-authors.
“SuperSpec: Development Towards a Full-Scale Filter Bank”
2016, Proc. SPIE, 99143K
2. J. Hunacek and 19 co-authors.
“Design and Fabrication of TES Detector Modules for the TIME-Pilot [CII] Intensity Mapping Experiment”
2016, J. Low Temp. Phys, 184, 180
3. S. Hailey-Dunsheath and 20 co-authors.
“Low Noise Titanium Nitride KIDs for SuperSpec: A Millimeter-Wave On-Chip Spectrometer”
2016, J. Low Temp. Phys, 184, 733
4. E. Shirokoff and 21 co-authors.
“Design and performance of SuperSpec: an on-chip, KID-based mm-wavelength spectrometer”
2014, J. Low Temp. Phys, 176, 841
5. S. Hailey-Dunsheath and 21 co-authors.
“Optical Measurements of SuperSpec: A Millimeter-Wave On-Chip Spectrometer”
2014, J. Low Temp. Phys, 176, 567
6. Z. Staniszewski and 11 co-authors.
“The Tomographic Ionized-Carbon Mapping Experiment (TIME) CII Imaging Spectrometer”
2014, J. Low Temp. Phys, 176, 767
7. B. A. Benson and 62 co-authors.
“SPT-3G: A Next-Generation Cosmic Microwave Background Polarization Experiment on the South Pole Telescope”
2014, Proc. SPIE, 9153

8. E. Shirokoff and 18 co-authors.
“MKID development for SuperSpec: an on-chip, mm-wave, filter-bank spectrometer”
2012, Proc. SPIE, 8452, 84520
9. L. George and 65 co-authors.
“Performance and on-sky optical characterization of the SPTpol instrument” 2012, Proc. SPIE, 8452, 84520
10. D. R. Schmidt, and 13 co-authors.
“Al-Mn Transition Edge Sensors for Cosmic Microwave Background Polarimeters”
2012, *IEEE Trans. Applied Supercond.*, 21, 196
11. Hubmayr, J. and 31 co-authors.
“Stability of Al-Mn Transition Edge Sensors for Frequency Domain Multiplexing”
2012, *IEEE Trans. Applied Supercond.*, 21, 203
12. E. Shirokoff and 14 co-authors.
“The South Pole Telescope SZ-Receiver Detectors”
2009, *IEEE Trans. Applied Supercond.*, 19, 517
13. M. Lueker, and 12 co-authors.
“Thermal Design and Characterization of Transition-Edge Sensor (TES) Bolometers for Frequency-Domain Multiplexing”
2009, *IEEE Trans. Applied Supercond.*, 19, 496