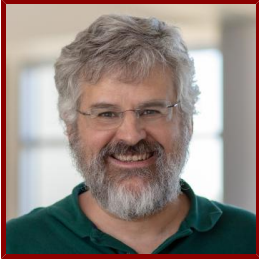


# Stanford

---



## Kent Irwin

Professor of Physics, of Particle Physics and Astrophysics and of Photon Science

### Bio

---

#### BIO

Irwin Group web page:

<https://sites.stanford.edu/irwinlab/>

#### ACADEMIC APPOINTMENTS

- Professor, Physics
- Professor, Particle Physics and Astrophysics
- Professor, Photon Science Directorate

#### ADMINISTRATIVE APPOINTMENTS

- Professor of Physics and of Particle Physics and Astrophysics and Photon Science, Stanford and SLAC, (2013- present)
- Fellow, National Institute of Standards and Technology (NIST), (2007-2013)
- Professor Adjoint, Astrophysics and Planetary Sciences, University of Colorado, (2006-2013)
- Supervisory Physicist, National Institute of Standards and Technology (NIST), (2002-2007)
- Physicist, National Institute of Standards and Technology (NIST), (1996-2002)
- Postdoctoral Researcher, National Institute of Standards and Technology (NIST), (1995-1996)

#### HONORS AND AWARDS

- Department of Commerce Gold Medal, United States Department of Commerce (DOC) (2012)
- Fellow, American Physical Society (2007)
- Joseph F. Keithley Award, American Physical Society (2007)
- Arthur S. Flemming Award, George Washington University (2006)

#### PROFESSIONAL EDUCATION

- Ph.D., Stanford University (1995)
- M.S., Stanford University (1995)
- B.S., California Institute of Technology (1988)

#### LINKS

- Irwin Group: <https://sites.stanford.edu/irwinlab/>

## Teaching

---

### COURSES

#### 2018-19

- Modern Physics: PHYSICS 25 (Spr)
- Modern Physics Laboratory: PHYSICS 26 (Spr)

#### 2017-18

- Modern Physics: PHYSICS 25 (Spr)
- Modern Physics Laboratory: PHYSICS 26 (Spr)

#### 2016-17

- Modern Physics: PHYSICS 25 (Spr)
- Modern Physics Laboratory: PHYSICS 26 (Spr)

#### 2015-16

- Modern Physics: PHYSICS 25 (Spr)
- Modern Physics Laboratory: PHYSICS 26 (Spr)

### STANFORD ADVISEES

#### Postdoctoral Faculty Sponsor

Arran Phipps

## Publications

---

### PUBLICATIONS

- **Optimization of Time- and Code-Division-Multiplexed Readout for Athena X-IFU** *IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY*  
Doriese, W., Bandler, S. R., Chaudhuri, S., Dawson, C. S., Denison, E., Duff, S. M., Durkin, M., FitzGerald, C. T., Fowler, J. W., Gard, J. D., Hilton, G. C., Irwin, K. D., Joe, et al  
2019; 29 (5)
- **Two-Level Switches for Advanced Time-Division Multiplexing** *IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY*  
Dawson, C. S., Chaudhuri, S., Titus, C. J., Cho, H., Denison, E., Doriese, W., Durkin, M., FitzGerald, C. T., Hilton, G. C., Irwin, K. D., Li, D., O'Neil, G. C., Reintsema, et al  
2019; 29 (5)
- **Demonstration of Athena X-IFU Compatible 40-Row Time-Division-Multiplexed Readout** *IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY*  
Durkin, M., Adams, J. S., Bandler, S. R., Chervenak, J. A., Chaudhuri, S., Dawson, C. S., Denison, E., Doriese, W. B., Duff, S. M., Finkbeiner, F. M., FitzGerald, C. T., Fowler, J. W., Gard, et al  
2019; 29 (5)
- **Use of Transition Models to Design High Performance TESs for the LCLS-II Soft X-Ray Spectrometer** *IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY*  
Morgan, K. M., Becker, D. T., Bennett, D., Doriese, W. B., Gard, J. D., Irwin, K. D., Lee, S., Li, D., Mates, J. B., Pappas, C. G., Schmidt, D. R., Titus, C. J., Van Winkle, et al  
2019; 29 (5)
- **High-Throughput, DC-Parametric Evaluation of Flux-Activated-Switch-Based TDM and CDM SQUID Multiplexers** *IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY*  
Reintsema, C. D., Bennett, D. A., Denison, E., Durkin, M., Doriese, W. B., Fowler, J. W., Gard, J. D., Grigorian, A., Hilton, G. C., Hubmayr, J., O'Neil, G. C., Mates, J. B., Morgan, et al  
2019; 29 (5)

- **Hybrid X-ray Spectroscopy-Based Approach To Acquire Chemical and Structural Information of Single-Walled Carbon Nanotubes with Superior Sensitivity** *JOURNAL OF PHYSICAL CHEMISTRY C*  
Sainio, S., Wester, N., Titus, C. J., Liao, Y., Zhang, Q., Nordlund, D., Sokaras, D., Lee, S., Irwin, K. D., Doriese, W. B., O'Neil, G. C., Swetz, D. S., Ullom, et al  
2019; 123 (10): 6114–20
- **LiteBIRD: A Satellite for the Studies of B-Mode Polarization and Inflation from Cosmic Background Radiation Detection**  
Hazumi, M., Ade, P. R., Akiba, Y., Alonso, D., Arnold, K., Aumont, J., Baccigalupi, C., Barron, D., Basak, S., Beckman, S., Borrill, J., Boulanger, F., Bucher, et al  
SPRINGER/PLENUM PUBLISHERS.2019: 443–52
- **Mass Calibration of Optically Selected DES Clusters Using a Measurement of CMB-cluster Lensing with SPTpol Data** *ASTROPHYSICAL JOURNAL*  
Raghunathan, S., Patil, S., Baxter, E., Benson, B. A., Bleem, L. E., Chou, T. L., Crawford, T. M., Holder, G. P., McClintock, T., Reichardt, C. L., Rozo, E., Varga, T. N., Abbott, et al  
2019; 872 (2)
- **The Simons Observatory: science goals and forecasts** *JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS*  
Ade, P., Aguirre, J., Ahmed, Z., Aiola, S., Ali, A., Alonso, D., Alvarez, M. A., Arnold, K., Ashton, P., Austermann, J., Awan, H., Baccigalupi, C., Baildon, et al  
2019
- **Surface-to-Bulk Redox Coupling through Thermally Driven Li Redistribution in Li- and Mn-Rich Layered Cathode Materials.** *Journal of the American Chemical Society*  
Li, S., Lee, S. J., Wang, X., Yang, W., Huang, H., Swetz, D. S., Doriese, W. B., O'Neil, G. C., Ullom, J. N., Titus, C. J., Irwin, K. D., Lee, H. K., Nordlund, et al  
2019
- **Demonstration of Athena X-IFU Compatible 40-Row Time-Division-Multiplexed Readout.** *IEEE transactions on applied superconductivity : a publication of the IEEE Superconductivity Committee*  
Durkin, M., Adams, J. S., Bandler, S. R., Chervenak, J. A., Chaudhuri, S., Dawson, C. S., Denison, E. V., Doriese, W. B., Duff, S. M., Finkbeiner, F. M., FitzGerald, C. T., Fowler, J. W., Gard, et al  
2019; 29 (5)
- **TES X-ray Spectrometer at SLAC LCLS-II** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Li, D., Alpert, B. K., Becker, D. T., Bennett, D. A., Carini, G. A., Cho, H., Doriese, W. B., Dusatko, J. E., Fowler, J. W., Frisch, J. C., Gard, J. D., Guillet, S., Hilton, et al  
2018; 193 (5-6): 1287–97
- **HAWC+, the Far-Infrared Camera and Polarimeter for SOFIA** *JOURNAL OF ASTRONOMICAL INSTRUMENTATION*  
Harper, D. A., Runyan, M. C., Dowell, C., Wirth, C., Amato, M., Ames, T., Amiri, M., Banks, S., Bartels, A., Benford, D. J., Berthoud, M., Buchanan, E., Casey, et al  
2018; 7 (4)
- **The LiteBIRD Satellite Mission: Sub-Kelvin Instrument** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Suzuki, A., Ade, P. R., Akiba, Y., Alonso, D., Arnold, K., Aumont, J., Baccigalupi, C., Barron, D., Basak, S., Beckman, S., Borrill, J., Boulanger, F., Bucher, et al  
2018; 193 (5-6): 1048–56
- **Fabrication of Detector Arrays for the SPT-3G Receiver** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Posada, C. M., Ade, P. R., Ahmed, Z., Anderson, A. J., Austermann, J. E., Avva, J. S., Thakur, R., Bender, A. N., Benson, B. A., Carlstrom, J. E., Carter, F. W., Cecil, T., Chang, et al  
2018; 193 (5-6): 703–11
- **SPT-3G: A Multichroic Receiver for the South Pole Telescope** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Anderson, A. J., Ade, P. R., Ahmed, Z., Austermann, J. E., Avva, J. S., Barry, P. S., Thakur, R., Bender, A. N., Benson, B. A., Bleem, L. E., Byrum, K., Carlstrom, J. E., Carter, et al  
2018; 193 (5-6): 1057–65
- **Thermal Links and Microstrip Transmission Lines in SPT-3G Bolometers** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Ding, J., Ade, P. R., Ahmed, Z., Anderson, A. J., Austermann, J. E., Avva, J. S., Thakur, R., Bender, A. N., Benson, B. A., Carlstrom, J. E., Carter, F. W., Cecil, T., Chang, et al  
2018; 193 (5-6): 712–19
- **Design and Bolometer Characterization of the SPT-3G First-Year Focal Plane** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Everett, W., Ade, P. R., Ahmed, Z., Anderson, A. J., Austermann, J. E., Avva, J. S., Thakur, R., Bender, A. N., Benson, B. A., Carlstrom, J. E., Carter, F. W., Cecil, T., Chang, et al

2018; 193 (5-6): 1085–93

- **Tuning SPT-3G Transition-Edge-Sensor Electrical Properties with a Four-Layer Ti-Au-Ti-Au Thin-Film-Stack** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Carter, F. W., Ade, P. R., Ahmed, Z., Anderson, A. J., Austermann, J. E., Avva, J. S., Thakur, R., Bender, A. N., Benson, B. A., Carlstrom, J. E., Cecil, T., Chang, C. L., Cliche, et al  
2018; 193 (5-6): 695–702
- **280 GHz Focal Plane Unit Design and Characterization for the SPIDER-2 Suborbital Polarimeter** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Bergman, A. S., Ade, P. R., Akers, S., Amiri, M., Austermann, J. A., Beall, J. A., Becker, D. T., Benton, S. J., Bock, J. J., Bond, J. R., Bryan, S. A., Chiang, H. C., Contaldi, et al  
2018; 193 (5-6): 1075–84
- **Concept Study of Optical Configurations for High-Frequency Telescope for LiteBIRD** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Hasebe, T., Kashima, S., Ade, P. R., Akiba, Y., Alonso, D., Arnold, K., Aumont, J., Baccigalupi, C., Barron, D., Basak, S., Beckman, S., Borrill, J., Boulanger, et al  
2018; 193 (5-6): 841–50
- **SPIDER: CMB Polarimetry from the Edge of Space** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Gualtieri, R., Filippini, J. P., Ade, P. R., Amiri, M., Benton, S. J., Bergman, A. S., Bihary, R., Bock, J. J., Bond, J. R., Bryan, S. A., Chiang, H. C., Contaldi, C. R., Dore, et al  
2018; 193 (5-6): 1112–21
- **Impact of Electrical Contacts Design and Materials on the Stability of Ti Superconducting Transition Shape** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Yefremenko, V., Ade, P. R., Ahmed, Z., Anderson, A. J., Austermann, J. E., Avva, J. S., Thakur, R., Bender, A. N., Benson, B. A., Carlstrom, J. E., Carter, F. W., Cecil, T., Chang, et al  
2018; 193 (5-6): 732–38
- **Constraints on Primordial Gravitational Waves Using Planck, WMAP, and New BICEP2/Keck Observations through the 2015 Season** *PHYSICAL REVIEW LETTERS*  
Ade, P. R., Ahmed, Z., Aikin, R. W., Alexander, K. D., Barkats, D., Benton, S. J., Bischoff, C. A., Bock, J. J., Bowens-Rubin, R., Brevik, J. A., Buder, I., Bullock, E., Buza, et al  
2018; 121 (22)
- **The EBEX Balloon-borne Experiment-Detectors and Readout** *ASTROPHYSICAL JOURNAL SUPPLEMENT SERIES*  
Abitbol, M., Aboobaker, A. M., Ade, P., Araujo, D., Aubin, F., Baccigalupi, C., Bao, C., Chapman, D., Didier, J., Dobbs, M., Feeney, S. M., Geach, C., Grainger, et al  
2018; 239 (1)
- **Design and Assembly of SPT-3G Cold Readout Hardware**  
Avva, J. S., Ade, P. R., Ahmed, Z., Anderson, A. J., Austermann, J. E., Thakur, R., Barron, D., Bender, A. N., Benson, B. A., Carlstrom, J. E., Carter, F. W., Cecil, T., Chang, et al  
SPRINGER/PLENUM PUBLISHERS.2018: 547–55
- **Optical Characterization of the SPT-3G Camera**  
Pan, Z., Ade, P. R., Ahmed, Z., Anderson, A. J., Austermann, J. E., Avva, J. S., Thakur, R., Bender, A. N., Benson, B. A., Carlstrom, J. E., Carter, F. W., Cecil, T., Chang, et al  
SPRINGER/PLENUM PUBLISHERS.2018: 305–13
- **A Spread-Spectrum SQUID Multiplexer**  
Irwin, K. D., Chaudhuri, S., Cho, H., Dawson, C., Kuenstner, S., Li, D., Titus, C. J., Young, B. A.  
SPRINGER/PLENUM PUBLISHERS.2018: 476–84
- **Error-Correcting Codes for Code-Division Multiplexed TES Detectors**  
Titus, C. J., Chaudhuri, S., Cho, H., Dawson, C., Doriese, W. B., Fowler, J. W., Hilton, G. C., Irwin, K. D., Kuenstner, S., Li, D., Morgan, K., Reintsema, C. D., Swetz, et al  
SPRINGER/PLENUM PUBLISHERS.2018: 556–61
- **SLAC Microresonator Radio Frequency (SMuRF) Electronics for Read Out of Frequency-Division-Multiplexed Cryogenic Sensors**  
Kernasovskiy, S. A., Kuenstner, S. E., Karpel, E., Ahmed, Z., Van Winkle, D. D., Smith, S., Dusatko, J., Frisch, J. C., Chaudhuri, S., Cho, H. M., Dober, B. J., Henderson, S. W., Hilton, et al  
SPRINGER/PLENUM PUBLISHERS.2018: 570–77

- **Development of Multi-chroic MKIDs for Next-Generation CMB Polarization Studies**  
Johnson, B. R., Flanigan, D., Abitbol, M. H., Ade, P. R., Bryan, S., Cho, H., Datta, R., Day, P., Doyle, S., Irwin, K., Jones, G., Li, D., Mouskops, et al  
SPRINGER/PLENUM PUBLISHERS.2018: 103–12
- **Magnetic Sensitivity of AlMn TESes and Shielding Considerations for Next-Generation CMB Surveys**  
Vavagiakis, E. M., Henderson, S. W., Zheng, K., Cho, H., Cothard, N. F., Dober, B., Duff, S. M., Gallardo, P. A., Hilton, G., Hubmayr, J., Irwin, K. D., Koopman, B. J., Li, et al  
SPRINGER/PLENUM PUBLISHERS.2018: 288–97
- **Results from the Atacama B-mode Search (ABS) experiment** *JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS*  
Kusaka, A., Appel, J., Essinger-Hileman, T., Beall, J. A., Campusano, L. E., Cho, H., Choi, S. K., Crowley, K., Fowler, J. W., Gallardo, P., Hasselfield, M., Hilton, G., Ho, et al  
2018
- **REVIEW OF PARTICLE PHYSICS Particle Data Group** *PHYSICAL REVIEW D*  
Tanabashi, M., Grp, P., Hagiwara, K., Hikasa, K., Nakamura, K., Sumino, Y., Takahashi, F., Tanaka, J., Agashe, K., Aielli, G., Amsler, C., Antonelli, M., Asner, et al  
2018; 98 (3)
- **Measurements of the Temperature and E-mode Polarization of the CMB from 500 Square Degrees of SPTpol Data** *ASTROPHYSICAL JOURNAL*  
Henning, J. W., Sayre, J. T., Reichardt, C. L., Ade, P. R., Anderson, A. J., Austermann, J. E., Beall, J. A., Bender, A. N., Benson, B. A., Bleem, L. E., Carlstrom, J. E., Chang, C. L., Chiang, et al  
2018; 852 (2)
- **Highly-multiplexed microwave SQUID readout using the SLAC Microresonator Radio Frequency (SMuRF) Electronics for Future CMB and Sub-millimeter Surveys**  
Henderson, S. W., Ahmed, Z., Austermann, J., Becker, D., Bennett, D. A., Brown, D., Chaudhuri, S., Cho, H., D'Ewart, J. M., Dober, B., Duff, S. M., Dusatko, J. E., Fatigoni, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2018
- **Ultra-Thin Large-Aperture Vacuum Windows for Millimeter Wavelengths Receivers**  
Barkats, D., Dierickx, M. I., Kovac, J. M., Pentacoff, C., Ade, P. R., Ahmed, Z., Aikin, R. W., Alexander, K. D., Benton, S. J., Bischoff, C. A., Bock, J. J., Bowens-Rubin, R., Brevik, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2018
- **Characterization and performance of the second-year SPT-3G focal plane**  
Dutcher, D., Ade, P. R., Ahmed, Z., Anderson, A. J., Avva, J. S., Thakur, R., Bender, A. N., Benson, B. A., Carlstrom, J. E., Carter, F. W., Cecil, T. W., Chang, C. L., Cliche, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2018
- **Year two instrument status of the SPT-3G cosmic microwave background receiver**  
Bender, A. N., Ade, P. R., Ahmed, Z., Anderson, A. J., Avva, J. S., Aylor, K., Barry, P. S., Thakur, R., Benson, B. A., Bleem, L. S., Bocquet, S., Byrum, K., Carlstrom, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2018
- **Development of a robust, efficient process to produce scalable, superconducting kilopixel Far-IR Detector Arrays**  
Staguhn, J., Moseley, S. H., Brown, A., Hilton, G., Irwin, K., Maher, S., Rostem, K., Sharp, E., Wollack, E., Zmuidzinas, J., Gao  
SPIE-INT SOC OPTICAL ENGINEERING.2018
- **BICEP Array cryostat and mount design**  
Crumrine, M., Ade, P. R., Ahmed, Z., Aikin, R. W., Alexander, K. D., Barkats, D., Benton, S. J., Bischoff, C. A., Bock, J. J., Bowens-Rubin, R., Brevik, J. A., Buder, I., Bullock, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2018
- **BICEP Array: a multi-frequency degree-scale CMB polarimeter**  
Hui, H., Ade, P. R., Ahmed, Z., Aikin, R. W., Alexander, K. D., Barkats, D., Benton, S. J., Bischoff, C. A., Bock, J. J., Bowens-Rubin, R., Brevik, J. A., Buder, I., Bullock, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2018
- **Prime-Cam: A first-light instrument for the CCAT-prime telescope**

- Vavagiakis, E. M., Ahmed, Z., Ali, A., Basu, K., Battaglia, N., Bertoldi, F., Bond, R., Bustos, R., Chapman, S. C., Chung, D., Coppi, G., Cothard, N. F., Dicker, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2018
- **Design and performance of wide-band corrugated walls for the BICEP Array detector modules at 30/40 GHz**  
Soliman, A., Ade, P. R., Ahmed, Z., Aikin, R. W., Alexander, K. D., Barkats, D., Benton, S. J., Bischoff, C. A., Bock, J. J., Bowens-Rubin, R., Brevik, J. A., Buder, I., Bullock, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2018
  - **Broadband anti-reflective coatings for cosmic microwave background experiments**  
Nadolski, A., Kofman, A. M., Vieira, J. D., Ade, P. R., Ahmed, Z., Anderson, A. J., Avva, J. S., Thakur, R., Bender, A. N., Benson, B. A., Carlstrom, J. E., Carter, F. W., Cecil, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2018
  - **The Primordial Inflation Polarization Explorer (PIPER): Current Status and Performance of the First Flight**  
Pawlyk, S., Ade, P. R., Benford, D., Bennett, C. L., Chuss, D. T., Datta, R., Dotson, J. L., Eimer, J. R., Fixsen, D. J., Gandilo, N. N., Essinger-Hileman, T., Halpern, M., Hilton, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2018
  - **Constraints on Primordial Gravitational Waves Using Planck, WMAP, and New BICEP2/Keck Observations through the 2015 Season. *Physical review letters***  
Ade, P. A., Ahmed, Z., Aikin, R. W., Alexander, K. D., Barkats, D., Benton, S. J., Bischoff, C. A., Bock, J. J., Bowens-Rubin, R., Brevik, J. A., Buder, I., Bullock, E., Buza, et al  
2018; 121 (22): 221301
  - **2017 upgrade and performance of BICEP3: a 95GHz refracting telescope for degree-scale CMB polarization**  
Kang, J., Ade, P. R., Ahmed, Z., Aikin, R. W., Alexander, K. D., Barkats, D., Benton, S. J., Bischoff, C. A., Bock, J. J., Boenish, H., Bowens-Rubin, R., Brevik, J. A., Buder, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2018
  - **L-edge spectroscopy of dilute, radiation-sensitive systems using a transition-edge-sensor array *JOURNAL OF CHEMICAL PHYSICS***  
Titus, C. J., Baker, M. L., Lee, S., Cho, H., Doriese, W. B., Fowler, J. W., Gaffney, K., Gard, J. D., Hilton, G. C., Kenney, C., Knight, J., Li, D., Marks, et al  
2017; 147 (21): 214201
  - **BICEP2 / Keck Array IX: New bounds on anisotropies of CMB polarization rotation and implications for axionlike particles and primordial magnetic fields *PHYSICAL REVIEW D***  
Ade, P. R., Ahmed, Z., Aikin, R. W., Alexander, K. D., Barkats, D., Benton, S. J., Bischoff, C. A., Bock, J. J., Bowens-Rubin, R., Brevik, J. A., Buder, I., Bullock, E., Buza, et al  
2017; 96 (10)
  - **CMB Polarization B-mode Delensing with SPTpol and Herschel *ASTROPHYSICAL JOURNAL***  
Manzotti, A., Story, K. T., Wu, W. K., Austermann, J. E., Beall, J. A., Bender, A. N., Benson, B. A., Bleem, L. E., Bock, J. J., Carlstrom, J. E., Chang, C. L., Chiang, H. C., Cho, et al  
2017; 846 (1)
  - **A New Limit on CMB Circular Polarization from SPIDER *ASTROPHYSICAL JOURNAL***  
Nagy, J. M., Ade, P. R., Amiri, M., Benton, S. J., Bergman, A. S., Bihary, R., Bock, J. J., Bond, J. R., Bryan, S. A., Chiang, H. C., Contaldi, C. R., Dore, O., Duivenvoorden, et al  
2017; 844 (2)
  - **The Atacama Cosmology Telescope: two-season ACTPol spectra and parameters *JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS***  
Louis, T., Grace, E., Hasselfield, M., Lungu, M., Maurin, L., Addison, G. E., Ade, P. R., Aiola, S., Allison, R., Amiri, M., Angile, E., Calabrese, E., Battaglia, et al  
2017
  - **Optimization of Transition Edge Sensor Arrays for Cosmic Microwave Background Observations With the South Pole Telescope *IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY***  
Ding, J., Ade, P. A., Anderson, A. J., Avva, J., Ahmed, Z., Arnold, K., Austermann, J. E., Bender, A. N., Benson, B. A., Bleem, L. E., Byrum, K., Carlstrom, J. E., CARTER, et al  
2017; 27 (4)
  - **High quality factor manganese-doped aluminum lumped-element kinetic inductance detectors sensitive to frequencies below 100 GHz *APPLIED PHYSICS LETTERS***

- 
- Jones, G., Johnson, B. R., Abitbol, M. H., Ade, P. R., Bryan, S., Cho, H., Day, P., Flanigan, D., Irwin, K. D., Li, D., Maudkopf, P., McCarrick, H., Miller, et al  
2017; 110 (22)
- **Broadband parametric amplifiers based on nonlinear kinetic inductance artificial transmission lines** *APPLIED PHYSICS LETTERS*  
Chaudhuri, S., Li, D., Irwin, K. D., Bockstiegel, C., Hubmayr, J., Ullom, J. N., Vissers, M. R., Gao, J.  
2017; 110 (15)
  - **Determination of differential orbital covalency of heme active sites by L-edge spectroscopy**  
Baker, M., Alpert, B., Cho, H., Denison, E., Doriese, W., Fowler, J., Gaffney, K., Gard, J., Gao, B., Hilton, G., Irwin, K., Joe, Y., Kenney, et al  
AMER CHEMICAL SOC.2017
  - **Ultrasensitive probing of the local electronic structure of nitrogen doped carbon and its applications to 2D electronics, catalysis and bio-physics**  
Lee, S., Mori, R., Alpert, B., Baker, M., Berry, J., Cho, H., Denison, E., Doriese, W., Fowler, J., Gaffney, K., Gao, B., Gard, J., Hilton, et al  
AMER CHEMICAL SOC.2017
  - **Probing the local electronic structure of dilute bioinorganic active sites using ultra-sensitive soft X-ray detectors**  
Titus, C., Alpert, B., Baker, M., Cho, H., Denison, E., Doriese, W., Fowler, J., Gaffney, K., Gao, B., Gard, J., Hilton, G., Irwin, K., Joe, et al  
AMER CHEMICAL SOC.2017
  - **Ultra sensitive probing of the local electronic structure based on state-of-the-art Transition-Edge Sensor (TES) technology and soft x-ray spectroscopy**  
Nordlund, D., Alpert, B., Baker, M., Cho, H., Denison, E., Doriese, W., Fowler, J., Gaffney, K., Gao, B., Gard, J., Hilton, G., Irwin, K., Joe, et al  
AMER CHEMICAL SOC.2017
  - **Cosmological parameters from pre-Planck CMB measurements: A 2017 update** *PHYSICAL REVIEW D*  
Calabrese, E., Hlozek, R. A., Bond, J. R., Devlin, M. J., Dunkley, J., Halpern, M., Hincks, A. D., Irwin, K. D., Kosowsky, A., Moodley, K., Newburgh, L. B.,  
Niemack, M. D., Page, et al  
2017; 95 (6)
  - **Detection of the pairwise kinematic Sunyaev-Zel'dovich effect with BOSS DR11 and the Atacama Cosmology Telescope** *JOURNAL OF COSMOLOGY AND  
ASTROPARTICLE PHYSICS*  
De Bernardis, F., Aiola, S., Vavagiakis, E. M., Battaglia, N., Niemack, M. D., Beall, J., Becker, D. T., Bond, J. R., Calabrese, E., Cho, H., Coughlin, K., Datta, R.,  
Devlin, et al  
2017
  - **BICEP2/KECK ARRAY VIII: MEASUREMENT OF GRAVITATIONAL LENSING FROM LARGE-SCALE B-MODE  
POLARIZATION** *ASTROPHYSICAL JOURNAL*  
Ade, P. A., Ahmed, Z., Aikin, R. W., Alexander, K. D., Barkats, D., Benton, S. J., BISCHOFF, C. A., Bock, J. J., Bowens-Rubin, R., Brevik, J. A., Buder, I.,  
Bullock, E., Buza, et al  
2016; 833 (2)
  - **THE ATACAMA COSMOLOGY TELESCOPE: THE POLARIZATION-SENSITIVE ACTPol INSTRUMENT** *ASTROPHYSICAL JOURNAL  
SUPPLEMENT SERIES*  
Thornton, R. J., Ade, P. A., Aiola, S., Angile, F. E., Amiri, M., Beall, J. A., Becker, D. T., Cho, H., Choi, S. K., Corlies, P., Coughlin, K. P., DATTA, R., Devlin, et  
al  
2016; 227 (2)
  - **MILLIMETER TRANSIENT POINT SOURCES IN THE SPTpol 100 SQUARE DEGREE SURVEY** *ASTROPHYSICAL JOURNAL*  
Whitehorn, N., Natoli, T., Ade, P. A., Austermann, J. E., Beall, J. A., Bender, A. N., Benson, B. A., Bleem, L. E., Carlstrom, J. E., Chang, C. L., Chiang, H. C.,  
Cho, H., Citron, et al  
2016; 830 (2)
  - **REVIEW OF PARTICLE PHYSICS Particle Data Group** *CHINESE PHYSICS C*  
Patrignani, C., Agashe, K., Aielli, G., Amsler, C., Antonelli, M., Asner, D. M., Baer, H., Banerjee, S., Barnett, R. M., Basaglia, T., Bauer, C. W., Beatty, J. J.,  
Belousov, et al  
2016; 40 (10)
  - **Code-division-multiplexed readout of large arrays of TES microcalorimeters** *APPLIED PHYSICS LETTERS*  
Morgan, K. M., Alpert, B. K., Bennett, D. A., Denison, E. V., Doriese, W. B., Fowler, J. W., Gard, J. D., Hilton, G. C., Irwin, K. D., Joe, Y. I., O'Neil, G. C.,  
Reintsema, C. D., Schmidt, et al  
2016; 109 (11)

- **Initial Performance of Bicep3: A Degree Angular Scale 95 GHz Band Polarimeter** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Wu, W. L., Ade, P. A., Ahmed, Z., Alexander, K. D., Amiri, M., Barkats, D., Benton, S. J., BISCHOFF, C. A., Bock, J. J., Bowens-Rubin, R., Buder, I., Bullock, E., Buza, et al  
2016; 184 (3-4): 765-771
- **LiteBIRD: Mission Overview and Focal Plane Layout** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Matsumura, T., Akiba, Y., Arnold, K., Borrill, J., Chendra, R., Chinone, Y., CUKIERMAN, A., De Haan, T., Dobbs, M., Dominjon, A., Elleflot, T., Errard, J., Fujino, et al  
2016; 184 (3-4): 824-831
- **Performance of Backshort-Under-Grid Kilopixel TES Arrays for HAWC** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Staguhn, J. G., Benford, D. J., Dowell, C. D., FIXSEN, D. J., Hilton, G. C., Irwin, K. D., Jhabvala, C. A., Maher, S. F., Miller, T. M., MOSELEY, S. H., Sharp, E. H., Runyan, M. C., Wollack, et al  
2016; 184 (3-4): 811-815
- **Superconducting Pathways Through Kilopixel Backshort-Under-Grid Arrays** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Jhabvala, C. A., Benford, D. J., Brekosky, R. P., Costen, N. P., Datesman, A. M., Hilton, G. C., Irwin, K. D., Maher, S. F., Manos, G., Miller, T. M., MOSELEY, S. H., Sharp, E. H., Staguhn, et al  
2016; 184 (3-4): 615-620
- **Advanced ACTPol Cryogenic Detector Arrays and Readout** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Henderson, S. W., Allison, R., Ausermann, J., Baidon, T., Battaglia, N., Beall, J. A., Becker, D., De Bernardis, F., Bond, J. R., Calabrese, E., Choi, S. K., Coughlin, K. P., Crowley, et al  
2016; 184 (3-4): 772-779
- **Development of a Microwave SQUID-Multiplexed TES Array for MUSTANG-2** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Stanchfield, S. M., Ade, P. A., Aguirre, J., Brevik, J. A., Cho, H. M., DATTA, R., Devlin, M. J., Dicker, S. R., DOBER, B., Egan, D., Ford, P., Hilton, G., Hubmayr, et al  
2016; 184 (1-2): 460-465
- **Developments in Time-Division Multiplexing of X-ray Transition-Edge Sensors (vol 184, pg 389, 2016)** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Dorise, W. B., Morgan, K. M., Bennett, D. A., Denison, E. V., Fitzgerald, C. P., Fowler, J. W., Gard, J. D., Hays-Wehle, J. P., Hilton, G. C., Irwin, K. D., Joe, Y. I., Mates, J. B., O'Neil, et al  
2016; 184 (1-2): 396
- **BICEP2/KECK ARRAY. VII. MATRIX BASED E/B SEPARATION APPLIED TO BICEP2 AND THE KECK ARRAY** *ASTROPHYSICAL JOURNAL*  
Ade, P. A., Ahmed, Z., Aikin, R. W., Alexander, K. D., Barkats, D., Benton, S. J., BISCHOFF, C. A., Bock, J. J., Bowens-Rubin, R., Brevik, J. A., Buder, I., Bullock, E., Buza, et al  
2016; 825 (1)
- **Optical Demonstration of THz, Dual-Polarization Sensitive Microwave Kinetic Inductance Detectors** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Dober, B., Ausermann, J. A., Beall, J. A., Becker, D., Che, G., Cho, H. M., Devlin, M., Duff, S. M., Galitzki, N., Gao, J., Groppi, C., Hilton, G. C., Hubmayr, et al  
2016; 184 (1-2): 173-179
- **Developments in Time-Division Multiplexing of X-ray Transition-Edge Sensors** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Dorise, W. B., Morgan, K. M., Bennett, D. A., Denison, E. V., Fitzgerald, C. P., Fowler, J. W., Gard, J. D., Hays-Wehle, J. P., Hilton, G. C., Irwin, K. D., Joe, Y. I., Mates, J. A., O'Neil, et al  
2016; 184 (1-2): 389-395
- **Evidence for the kinematic Sunyaev-Zel'dovich effect with the Atacama Cosmology Telescope and velocity reconstruction from the Baryon Oscillation Spectroscopic Survey** *PHYSICAL REVIEW D*  
Schaan, E., Ferraro, S., Vargas-Magana, M., Smith, K. M., Ho, S., Aiola, S., Battaglia, N., Bond, J. R., De Bernardis, F., Calabrese, E., Cho, H., Devlin, M. J., Dunkley, et al  
2016; 93 (8)
- **In Situ Time Constant and Optical Efficiency Measurements of TRUCE Pixels in the Atacama B-Mode Search (vol 176, pg 712, 2014)** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Simon, S. M., Appel, J. W., Cho, H. M., Essinger-Hileman, T., Irwin, K. D., Kusaka, A., Niemack, M. D., Nolte, M. R., Page, L. A., Parker, L. P., Raghunathan, S., Sievers, J. L., Staggs, et al  
2016; 182 (3-4): 139



- **Improved Constraints on Cosmology and Foregrounds from BICEP2 and Keck Array Cosmic Microwave Background Data with Inclusion of 95 GHz Band** *PHYSICAL REVIEW LETTERS*  
Ade, P. A., Ahmed, Z., Aikin, R. W., Alexander, K. D., Barkats, D., Benton, S. J., BISCHOFF, C. A., Bock, J. J., Bowens-Rubin, R., Brevik, J. A., Buder, I., Bullock, E., Buza, et al  
2016; 116 (3)
- **A cryogenic rotation stage with a large clear aperture for the half-wave plates in the Spider instrument.** *Review of scientific instruments*  
Bryan, S., Ade, P., Amiri, M., Benton, S., Bihary, R., Bock, J., Bond, J. R., Chiang, H. C., Contaldi, C., Crill, B., Dore, O., Elder, B., Filippini, et al  
2016; 87 (1): 014501-?
- **Integrated Performance of a Frequency Domain Multiplexing Readout in the SPT-3G Receiver**  
Bender, A. N., Ade, P. R., Anderson, A. J., Avva, J., Ahmed, Z., Arnold, K., Austermann, J. E., Thakur, R., Benson, B. A., Bleem, L. E., Byrum, K., Carlstrom, J. E., Carter, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2016
- **LiteBIRD, Lite satellite for the study of B-mode polarization and Inflation from cosmic microwave background Radiation Detection**  
Ishino, H., Akiba, Y., Arnold, K., Barron, D., Borrill, J., Chandra, R., Chinone, Y., Cho, S., Cukierman, A., de Haan, T., Dobbs, M., Dominjon, A., Dotani, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2016
- **Developments in Time-Division Multiplexing of X-ray Transition-Edge Sensors.** *Journal of low temperature physics*  
Dorise, W. B., Morgan, K. M., Bennett, D. A., Denison, E. V., Fitzgerald, C. P., Fowler, J. W., Gard, J. D., Hays-Wehle, J. P., Hilton, G. C., Irwin, K. D., Joe, Y. I., Mates, J. A., O'Neil, et al  
2016; 184 (1): 389-95
- **Improved Constraints on Cosmology and Foregrounds from BICEP2 and Keck Array Cosmic Microwave Background Data with Inclusion of 95 GHz Band.** *Physical review letters*  
Ade, P. A., Ahmed, Z., Aikin, R. W., Alexander, K. D., Barkats, D., Benton, S. J., Bischoff, C. A., Bock, J. J., Bowens-Rubin, R., Brevik, J. A., Buder, I., Bullock, E., Buza, et al  
2016; 116 (3): 031302
- **BICEP3 performance overview and planned Keck Array upgrade**  
Grayson, J. A., Ade, P. R., Ahmed, Z., Alexander, K. D., Amiri, M., Barkats, D., Benton, S. J., Bischoff, C. A., Bock, J. J., Boenish, H., Bowens-Rubin, R., Buder, I., Bullock, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2016
- **Optical characterization of the BICEP3 CMB polarimeter at the South Pole**  
Karkare, K. S., Ade, P. R., Ahmed, Z., Alexander, K. D., Amiri, M., Barkats, D., Benton, S. J., Bischoff, C. A., Bock, J. J., Boenish, H., Bowens-Rubin, R., Buder, I., Bullock, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2016
- **Systematics of an ambient-temperature, rapidly-rotating half-wave plate**  
Essinger-Hileman, T., Kusaka, A., Appel, J. W., Gallardo, P., Irwin, K. D., Jarosik, N., Nolte, M. R., Page, L. A., Parker, L. P., Raghunathan, S., Sievers, J. L., Simon, S. M., Staggs, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2016
- **Transition-edge sensor pixel parameter design of the microcalorimeter array for the X-ray Integral Field Unit on Athena**  
Smith, S. J., Adams, J. S., Bandler, S. R., Betancourt-Martinez, G. L., Chervenak, J. A., Chiao, M. P., Eckart, M. E., Finkbeiner, F. M., Kelley, R. L., Kilbourne, C. A., Miniussi, A. R., Porter, F. S., Sadleir, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2016
- **Instrumental performance and results from testing of the BLAST-TNG receiver, submillimeter optics, and MKID detector arrays**  
Galitzki, N., Ade, P., Angile, F. E., Ashton, P., Austermann, J., Billings, T., Che, G., Cho, H., Davis, K., Devlin, M., Dicker, S., Dober, B. J., Fissel, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2016
- **Readout of two-kilopixel transition-edge sensor arrays for Advanced ACTPol**  
Henderson, S. W., Stevens, J. R., Amiri, M., Austermann, J., Beall, J. A., Chaudhuri, S., Cho, H., Choi, S. K., Cothard, N. F., Crowley, K. T., Duff, S. M., Fitzgerald, C. P., Gallardo, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2016
- **The Primordial Inflation Polarization Explorer (PIPER)**

- Gandilo, N. N., Ade, P. R., Benford, D., Bennett, C. L., Chuss, D. T., Dotson, J. L., Eimer, J. R., Fixsen, D. J., Halpern, M., Hilton, G., Hinshaw, G. F., Irwin, K., Jhabvala, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2016
- **Optical modeling and polarization calibration for CMB measurements with ACTPol and Advanced ACTPol**  
Koopman, B., Austermann, J., Cho, H., Coughlin, K. P., Duff, S. M., Gallardo, P. A., Hasselfield, M., Henderson, S. W., Ho, S., Hubmayr, J., Irwin, K. D., Li, D., McMahon, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2016
  - **Polarization Sensitive Multi-Chroic MKIDs**  
Johnson, B. R., Flanigan, D., Abitbol, M. H., Ade, P. R., Bryan, S., Cho, H., Datta, R., Day, P., Doyle, S., Irwin, K., Jones, G., Kernasovskiy, S., Li, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2016
  - **Development of x-ray microcalorimeter imaging spectrometers for the X-ray Surveyor mission concept**  
Bandler, S. R., Adams, J. S., Chervenak, J. A., Datesman, A. M., Eckart, M. E., Finkbeiner, F. M., Kelley, R. L., Kilbourne, C. A., Betancourt-Martinez, G., Miniussi, A. R., Porter, F. S., Sadleir, J. E., Sakai, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2016
  - **Large arrays of dual-polarized multichroic TES detectors for CMB measurements with the SPT-3G receiver**  
Posada, C. M., Ade, P. R., Anderson, A. J., Avva, J., Ahmed, Z., Arnold, K. S., Austermann, J., Bender, A. N., Benson, B. A., Bleem, L., Byrum, K., Carlstrom, J. E., Carter, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2016
  - **BICEP2. III. INSTRUMENTAL SYSTEMATICS *ASTROPHYSICAL JOURNAL***  
Ade, P. A., Aikin, R. W., Barkats, D., Benton, S. J., BISCHOFF, C. A., Bock, J. J., Brevik, J. A., Buder, I., Bullock, E., Dowell, C. D., Duband, L., Filippini, J. P., Fliescher, et al  
2015; 814 (2)
  - **The thermal design, characterization, and performance of the SPIDER long-duration balloon cryostat *CRYOGENICS***  
Gudmundsson, J. E., Ade, P. A., Amiri, M., Benton, S. J., Bock, J. J., Bond, J. R., Bryan, S. A., Chiang, H. C., Contaldi, C. R., Crill, B. P., Dore, O., Filippini, J. P., Fraise, et al  
2015; 72: 65-76
  - **ANTENNA-COUPLED TES BOLOMETERS USED IN BICEP2, Keck Array, AND SPIDER *ASTROPHYSICAL JOURNAL***  
Ade, P. A., Aikin, R. W., Amiri, M., Barkats, D., Benton, S. J., BISCHOFF, C. A., Bock, J. J., Bonetti, J. A., Brevik, J. A., Buder, I., Bullock, E., Chattopadhyay, G., Davis, et al  
2015; 812 (2)
  - **Radio for hidden-photon dark matter detection *PHYSICAL REVIEW D***  
Chaudhuri, S., Graham, P. W., Irwin, K., Mardon, J., Rajendran, S., Zhao, Y.  
2015; 92 (7)
  - **BICEP2/KECK ARRAY V: MEASUREMENTS OF B-MODE POLARIZATION AT DEGREE ANGULAR SCALES AND 150 GHz BY THE KECK ARRAY *ASTROPHYSICAL JOURNAL***  
Ade, P. A., Ahmed, Z., Aikin, R. W., Alexander, K. D., Barkats, D., Benton, S. J., BISCHOFF, C. A., Bock, J. J., Brevik, J. A., Buder, I., Bullock, E., Buza, V., Connors, et al  
2015; 811 (2)
  - **Fabrication of large dual-polarized multichroic TES bolometer arrays for CMB measurements with the SPT-3G camera *SUPERCONDUCTOR SCIENCE & TECHNOLOGY***  
Posada, C. M., Ade, P. A., Ahmed, Z., Arnold, K., Austermann, J. E., Bender, A. N., Bleem, L. E., Benson, B. A., Byrum, K., Carlstrom, J. E., Chang, C. L., Cho, H. M., Ciocys, et al  
2015; 28 (9)
  - **A MEASUREMENT OF THE COSMIC MICROWAVE BACKGROUND GRAVITATIONAL LENSING POTENTIAL FROM 100 SQUARE DEGREES OF SPTPOL DATA *ASTROPHYSICAL JOURNAL***  
Story, K. T., Hanson, D., Ade, P. A., Aird, K. A., Austermann, J. E., Beall, J. A., Bender, A. N., Benson, B. A., Bleem, L. E., Carlstrom, J. E., Chang, C. L., Chiang, H. C., Cho, et al  
2015; 810 (1)
  - **MEASUREMENTS OF SUB-DEGREE B-MODE POLARIZATION IN THE COSMIC MICROWAVE BACKGROUND FROM 100 SQUARE DEGREES OF SPTPOL DATA *ASTROPHYSICAL JOURNAL***

- Keisler, R., Hoover, S., Harrington, N., Henning, J. W., Ade, P. A., Aird, K. A., Austermann, J. E., Beall, J. A., Bender, A. N., Benson, B. A., Bleem, L. E., Carlstrom, J. E., Chang, et al  
2015; 807 (2)
- **BICEP2/KECK ARRAY. IV. OPTICAL CHARACTERIZATION AND PERFORMANCE OF THE BICEP2 AND KECK ARRAY EXPERIMENTS** *ASTROPHYSICAL JOURNAL*  
Ade, P. A., Aikin, R. W., Barkats, D., Benton, S. J., BISCHOFF, C. A., Bock, J. J., Bradford, K. J., Brevik, J. A., Buder, I., Bullock, E., Dowell, C. D., Duband, L., Filippini, et al  
2015; 806 (2)
  - **Simulation and Analysis of Superconducting Traveling-Wave Parametric Amplifiers** *IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY*  
Chaudhuri, S., Gao, J., Irwin, K.  
2015; 25 (3)
  - **Low Loss Superconducting Microstrip Development at Argonne National Lab** *IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY*  
Chang, C. L., Ade, P. A., Ahmed, Z., Allen, S. W., Arnold, K., Austermann, J. E., Bender, A. N., Bleem, I. E., Benson, B. A., Carlstrom, J. E., Cho, H. M., Ciocys, S. T., Cliche, et al  
2015; 25 (3)
  - **MEASUREMENTS OF E-MODE POLARIZATION AND TEMPERATURE-E-MODE CORRELATION IN THE COSMIC MICROWAVE BACKGROUND FROM 100 SQUARE DEGREES OF SPTPOL DATA** *ASTROPHYSICAL JOURNAL*  
Crites, A. T., Henning, J. W., Ade, P. A., Aird, K. A., Austermann, J. E., Beall, J. A., Bender, A. N., Benson, B. A., Bleem, L. E., Carlstrom, J. E., Chang, C. L., Chiang, H. C., Cho, et al  
2015; 805 (1)
  - **Generating and verifying entangled itinerant microwave fields with efficient and independent measurements** *PHYSICAL REVIEW A*  
Ku, H. S., Kindel, W. F., Mallet, F., Glancy, S., Irwin, K. D., Hilton, G. C., Vale, L. R., Lehnert, K. W.  
2015; 91 (4)
  - **Neutrino physics from the cosmic microwave background and large scale structure** *ASTROPARTICLE PHYSICS*  
Abazajian, K. N., Arnold, K., Austermann, J., Benson, B. A., Bischoff, C., Bock, J., Bond, J. R., Borrill, J., Calabrese, E., Carlstrom, J. E., Carvalho, C. S., Chang, C. L., Chiang, et al  
2015; 63: 66-80
  - **Joint analysis of BICEP2/keck array and Planck Data.** *Physical review letters*  
Ade, P. A., Aghanim, N., Ahmed, Z., Aikin, R. W., Alexander, K. D., Arnaud, M., Aumont, J., Baccigalupi, C., Banday, A. J., Barkats, D., Barreiro, R. B., Bartlett, J. G., Bartolo, et al  
2015; 114 (10): 101301-?
  - **Photon-noise limited sensitivity in titanium nitride kinetic inductance detectors** *APPLIED PHYSICS LETTERS*  
Hubmayr, J., Beall, J., Becker, D., Cho, H., Devlin, M., DOBER, B., Groppi, C., Hilton, G. C., Irwin, K. D., Li, D., Mauskopf, P., Pappas, D. P., Van Lanen, et al  
2015; 106 (7)
  - **Prototype Phantoms for Characterization of Ultralow Field Magnetic Resonance Imaging** *MAGNETIC RESONANCE IN MEDICINE*  
Boss, M. A., Mates, J. B., Busch, S. E., SanGiorgio, P., Russek, S. E., Buckenmaier, K., Irwin, K. D., Cho, H., Hilton, G. C., Clarke, J.  
2014; 72 (6): 1793–1800
  - **The Next Generation BLAST Experiment** *JOURNAL OF ASTRONOMICAL INSTRUMENTATION*  
Galitzki, N., Ade, P. R., Angile, F. E., Ashton, P., Beall, J. A., Becker, D., Bradford, K. J., Che, G., Cho, H., Devlin, M. J., Dober, B. J., Fissel, L. M., Fukui, et al  
2014; 3 (2)
  - **The Atacama Cosmology Telescope: CMB polarization at  $200 < l < 9000$**  *JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS*  
Naess, S., Hasselfield, M., McMahon, J., Niemack, M. D., Addison, G. E., Ade, P. A., Allison, R., Amiri, M., Battaglia, N., Beall, J. A., De Bernardis, F., Bond, J. R., Britton, et al  
2014
  - **Design and Expected Performance of GISMO-2, a Two Color Millimeter Camera for the IRAM 30 m Telescope** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Staguhn, J., Benford, D., Dwek, E., Hilton, G., Fixsen, D., Irwin, K., Jhabvala, C., Kovacs, A., Leclercq, S., Maher, S., Miller, T., Moseley, S., Sharp, et al  
2014; 176 (5-6): 829–34

- **Horn Coupled Multichroic Polarimeters for the Atacama Cosmology Telescope Polarization Experiment** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Datta, R., Hubmayr, J., Munson, C., Austermann, J., Beall, J., Becker, D., Cho, H. M., Halverson, N., Hilton, G., Irwin, K., Li, D., McMahon, J., Newburgh, et al  
2014; 176 (5-6): 670–76
- **Characterization and Performance of a Kilo-TES Sub-Array for ACTPol** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Grace, E. A., Beall, J., Cho, H. M., Devlin, M. J., Fox, A., Hilton, G., Hubmayr, J., Irwin, K., Klein, J., Li, D., Lungu, M., Newburgh, L. B., Nibarger, et al  
2014; 176 (5-6): 705–11
- **Optical Efficiency and R(T,I) Measurements of ACTPol TESes Using Time Domain Multiplexing Electronics** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Pappas, C. G., Beall, J., Brevick, J., Cho, H. M., Devlin, M. J., Fox, A., Grace, E. A., Hilton, G. C., Hubmayr, J., Irwin, K. D., Klein, J., Li, D., Lungu, et al  
2014; 176 (5-6): 749–54
- **MUSTANG 2: A Large Focal Plane Array for the 100 m Green Bank Telescope** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Dicker, S. R., Ade, P. R., Aguirre, J., Brevik, J. A., Cho, H. M., Datta, R., Devlin, M. J., Dober, B., Egan, D., Ford, J., Ford, P., Hilton, G., Irwin, et al  
2014; 176 (5-6): 808–14
- **High-Resolution Kaonic-Atom X-ray Spectroscopy with Transition-Edge-Sensor Microcalorimeters** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Okada, S., Bennett, D. A., Doriese, W. B., Fowler, J. W., Irwin, K. D., Ishimoto, S., Sato, M., Schmidt, D. R., Swetz, D. S., Tatsuno, H., Ullom, J. N., Yamada, S.  
2014; 176 (5-6): 1015–21
- **BICEP2. II. EXPERIMENT AND THREE-YEAR DATA SET** *ASTROPHYSICAL JOURNAL*  
Ade, P. A., Aikin, R. W., Amiri, M., Barkats, D., Benton, S. J., BISCHOFF, C. A., Bock, J. J., Brevik, J. A., Buder, I., Bullock, E., Davis, G., Day, P. K., Dowell, et al  
2014; 792 (1)
- **In Situ Time Constant and Optical Efficiency Measurements of TRUCE Pixels in the Atacama B-Mode Search** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Simon, S. M., Appel, J. W., Cho, H. M., Essinger-Hileman, T., Irwin, K. D., Kusaka, A., Niemack, M. D., Nolta, M. R., Page, L. A., Parker, L. P., Raghunathan, S., Sievers, J. L., Staggs, et al  
2014; 176 (5-6): 712–718
- **Development of a Broadband NbTiN Traveling Wave Parametric Amplifier for MKID Readout** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Bockstiegel, C., Gao, J., Vissers, M. R., Sandberg, M., Chaudhuri, S., Sanders, A., Vale, L. R., Irwin, K. D., Pappas, D. P.  
2014; 176 (3-4): 476–82
- **Properties of TiN for Detector and Amplifier Applications** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Gao, J., Vissers, M. R., Sandberg, M., Li, D., Cho, H. M., Bockstiegel, C., Mazin, B. A., Leduc, H. G., Chaudhuri, S., Pappas, D. P., Irwin, K. D.  
2014; 176 (3-4): 136–41
- **A Study of Al-Mn Transition Edge Sensor Engineering for Stability** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
George, E. M., Austermann, J. E., Beall, J. A., Becker, D., Benson, B. A., Bleem, L. E., Carlstrom, J. E., Chang, C. L., Cho, H., Crites, A. T., Dobbs, M. A., Everett, W., Halverson, et al  
2014; 176 (3-4): 383–91
- **Dual-Polarization-Sensitive Kinetic Inductance Detectors for Balloon-borne Sub-millimeter Polarimetry** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Hubmayr, J., Beall, J. A., Becker, D., Brevik, J. A., Cho, H. M., Che, G., Devlin, M., Dober, B., Gao, J., Galitzki, N., Hilton, G. C., Irwin, K. D., Li, et al  
2014; 176 (3-4): 490–96
- **An Efficient Superconducting Transformer Design for SQUID Magnetometry** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Mates, J. B., Irwin, K. D., Vale, L. R., Hilton, G. C., Cho, H. M.  
2014; 176 (3-4): 483–89
- **THE GISMO TWO-MILLIMETER DEEP FIELD IN GOODS-N** *ASTROPHYSICAL JOURNAL*  
Staguhn, J. G., Kovacs, A., Arendt, R. G., Benford, D. J., Decarli, R., Dwek, E., Fixsen, D. J., Hilton, G. C., Irwin, K. D., Jhabvala, C. A., Karim, A., Leclercq, S., Maher, et al  
2014; 790 (1)
- **Detection of B-Mode Polarization at Degree Angular Scales by BICEP2.** *Physical review letters*  
Ade, P. A., Aikin, R. W., Barkats, D., Benton, S. J., BISCHOFF, C. A., Bock, J. J., Brevik, J. A., Buder, I., Bullock, E., Dowell, C. D., Duband, L., Filippini, J. P., Fliescher, et al

2014; 112 (24): 241101-?

- **The Atacama Cosmology Telescope: temperature and gravitational lensing power spectrum measurements from three seasons of data** *JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS*  
Das, S., Louis, T., Nolta, M. R., Addison, G. E., Battistelli, E. S., Bond, J., Calabrese, E., Crichton, D., Devlin, M. J., Dicker, S., Dunkley, J., Duenner, R., Fowler, et al  
2014
- **The Atacama Cosmology Telescope: dusty star-forming galaxies and active galactic nuclei in the Southern survey** *MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY*  
Marsden, D., Gralla, M., Marriage, T. A., Switzer, E. R., Partridge, B., Massardi, M., Morales, G., Addison, G., Bond, J., Crichton, D., Das, S., Devlin, M., Duenner, et al  
2014; 439 (2): 1556–74
- **Modulation of cosmic microwave background polarization with a warm rapidly rotating half-wave plate on the Atacama B-Mode Search instrument (vol 85, 024501, 2014)** *REVIEW OF SCIENTIFIC INSTRUMENTS*  
Kusaka, A., Essinger-Hileman, T., Appel, J. W., Gallardo, P., Irwin, K. D., Jarosik, N., Nolta, M. R., Page, L. A., Parker, L. P., Raghunathan, S., Sievers, J. L., Simon, S. M., Staggs, et al  
2014; 85 (3)
- **Modulation of cosmic microwave background polarization with a warm rapidly rotating half-wave plate on the Atacama B-Mode Search instrument** *REVIEW OF SCIENTIFIC INSTRUMENTS*  
Kusaka, A., Essinger-Hileman, T., Appel, J. W., Gallardo, P., Irwin, K. D., Jarosik, N., Nolta, M. R., Page, L. A., Parker, L. P., Raghunathan, S., Sievers, J. L., Simon, S. M., Staggs, et al  
2014; 85 (2)
- **THE SECOND-GENERATION z (REDSHIFT) AND EARLY UNIVERSE SPECTROMETER. I. FIRST-LIGHT OBSERVATION OF A HIGHLY LENSED LOCAL-ULIRG ANALOG AT HIGH-z** *ASTROPHYSICAL JOURNAL*  
Ferkinhoff, C., Brisbin, D., Parshley, S., Nikola, T., Stacey, G. J., Schoenwald, J., Higdon, J. L., Higdon, S. U., Verma, A., Riechers, D., Hailey-Dunsheath, S., Menten, K. M., Guesten, et al  
2014; 780 (2)
- **The transition-edge EBIT microcalorimeter spectrometer**  
Betancourt-Martinez, G. L., Adams, J., Bandler, S., Beiersdorfer, P., Brown, G., Chervenak, J., Doriese, R., Eckart, M., Irwin, K., Kelley, R., Kilbourne, C., Leutenegger, M., Porter, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2014
- **SPT-3G: A Next-Generation Cosmic Microwave Background Polarization Experiment on the South Pole Telescope**  
Benson, B. A., Ade, P. R., Ahmed, Z., Allen, S. W., Arnold, K., Austermann, J. E., Bender, A. N., Bleem, L. E., Carlstrom, J. E., Chang, C. L., Cho, H. M., Cliche, J. F., Crawford, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2014
- **ACTPol: on-sky performance and characterization**  
Grace, E., Beall, J., Bond, J. R., Cho, H. M., Datta, R., Devlin, M. J., Duenner, R., Fox, A. E., Gallardo, P., Hasselfield, M., Henderson, S., Hilton, G. C., Hincks, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2014
- **OLIMPO: A 4-bands imaging spectro-photometer for balloon-borne observations of the Sunyaev-Zel'dovich effect**  
Coppolecchia, A., Amico, G., Battistelli, E. S., de Bernardis, P., Cruciani, A., D'Addabbo, A., D'Alessandro, G., De Gregori, S., De Petris, M., Gualtieri, R., Lamagna, L., Masi, S., Nati, et al  
IOS PRESS.2014: 257–64
- **Pre-flight integration and characterization of the SPIDER balloon-borne telescope**  
Rahlin, A. S., Ade, P. R., Amiri, M., Benton, S. J., Bock, J. J., Bond, J. R., Bryan, S. A., Chiang, H. C., Contaldi, C. R., Crill, B. P., Dore, O., Farhang, M., Filippini, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2014
- **BICEP3: a 95 GHz refracting telescope for degree-scale CMB polarization**  
Ahmed, Z., Amiri, M., Benton, S. J., Bock, J. J., Bowens-Rubin, R., Buder, I., Bullock, E., Connors, J., Filippini, J. P., Grayson, J. A., Halpern, M., Hilton, G. C., Hristov, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2014

- **MUSTANG 2-a large focal plane array for the 100 meter Green Bank Telescope**  
Dicker, S. R., Ade, P. R., Aguirre, J., Brevik, J. A., Cho, H. M., Datta, R., Devlin, M. J., Dober, B., Egan, D., Ford, J., Ford, P., Hilton, G., Hubmayr, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2014
  
- **Characterization of the Atacama B-Mode Search**  
Simon, S. M., Raghunathan, S., Appel, J. W., Becker, D. T., Campusano, L. E., Cho, H. M., Essinger-Hileman, T., Ho, S. P., Irwin, K. D., Jarosik, N., Kusaka, A., Niemack, M. D., Nixon, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2014
  
- **Pointing control for the SPIDER balloon-borne telescope** *Conference on Ground-Based and Airborne Telescopes V*  
Shariff, J. A., Ade, P. A., Amiri, M., Benton, S. J., Bock, J. J., Bond, J. R., Bryan, S. A., Chiang, H. C., Contaldi, C. R., Crill, B. P., Dore, O. P., Farhang, M., Filippini, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2014
  
- **Design and construction of a carbon fiber gondola for the SPIDER balloon-borne telescope** *Conference on Ground-Based and Airborne Telescopes V*  
Soler, J. D., Ade, P. A., Amiri, M., Benton, S. J., Bock, J. J., Bond, J. R., Bryan, S. A., Chiang, C., Contaldi, C. C., Crill, B. P., Dore, O. P., Farhang, M., Filippini, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2014
  
- **Attitude determination for balloon-borne experiments** *Conference on Ground-Based and Airborne Telescopes V*  
Gandilo, N. N., Ade, P. A., Amiri, M., Angile, F. E., Benton, S. J., Bock, J. J., Bond, J. R., Bryan, S. A., Chiang, H. C., Contald, C. R., Crill, B. P., Devlin, M. J., DOBER, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2014
  
- **BLASTbus electronics: general-purpose readout and control for balloon-borne experiments** *Conference on Ground-Based and Airborne Telescopes V*  
Benton, S. J., ADE, P. A., Amiri, M., Angile, F. E., Bock, J. J., Bond, J. R., Bryan, S. A., Chiang, H. C., Contaldi, C. R., Crill, B. P., Devlin, M. J., DOBER, B., Dore, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2014
  
- **BICEP2 and Keck Array: upgrades and improved beam characterization** *Conference on Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy VII*  
Buder, I., Ade, P. A., Ahmed, Z., Aikin, R. W., Alexander, K. D., Amiri, M., Barkats, D., Benton, S. J., BISCHOFF, C. A., Bock, J. J., Bonetti, J. A., Brevik, J. A., Bullock, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2014
  
- **Keck Array and BICEP3: Spectral Characterization of 5000+Detectors** *Conference on Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy VII*  
Karkare, K. S., Ade, P. A., Ahmed, Z., Aikin, R. W., Alexander, K. D., Amiri, M., Barkats, D., Benton, S. J., BISCHOFF, C. A., Bock, J. J., Bonetti, J. A., Brevik, J. A., Buder, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2014
  
- **Standoff passive video imaging at 350 GHz with 251 superconducting detectors**  
Becker, D., Gentry, C., Smirnov, I., Ade, P., Beall, J., Cho, H., Dicker, S., Duncan, W., Halpern, M., Hilton, G., Irwin, K., Li, D., Paulter, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2014
  
- **The Cosmology Large Angular Scale Surveyor (CLASS) Telescope Architecture**  
Chuss, D. T., Ali, A., Amiri, M., Appel, J. W., Araujo, D., Bennett, C. L., Boone, F., Chan, M., Cho, H., Colazo, F., Crowe, E., Denis, K. L., Duenner, et al  
IEEE.2014: 2583–87
  
- **The performance of the bolometer array and readout system during the 2012/2013 flight of the E and B experiment (EBEX)**  
MacDermid, K., Aboobaker, A. M., Ade, P., Aubin, F., Baccigalupi, C., Bandura, K., Bao, C., Borill, J., Chapman, D., Didier, J., Dobbs, M., Grain, J., Grainger, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2014
  
- **The Primordial Inflation Polarization Explorer (PIPER)**  
Lazear, J., Ade, P. R., Benford, D., Bennett, C. L., Chuss, D. T., Dotson, J. L., Eimer, J. R., Fixsen, D. J., Halpern, M., Hilton, G., Hinderks, J., Hinshaw, G. F., Irwin, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2014
  
- **CLASS: The cosmology Large Angular Scale Surveyor**  
Essinger-Hileman, T., Ali, A., Amiri, M., Appel, J. W., Araujo, D., Bennett, C. L., Boone, F., Chan, M., Cho, H., Chuss, D. T., Colazo, F., Crowe, E., Denis, et al

SPIE-INT SOC OPTICAL ENGINEERING.2014

- **The Cosmology Large Angular Scale Surveyor (CLASS): 38-GHz detector array of bolometric polarimeters**  
Appel, J. W., Ali, A., Amiri, M., Araujo, D., Bennett, C. L., Boone, F., Chan, M., Cho, H., Chuss, D. T., Colazo, F., Crowe, E., Denis, K., Duenner, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2014
- **Kilopixel Backshort-Under-Grid arrays for the Primordial Inflation Polarization Explorer**  
Jhabvala, C. A., Benford, D. J., Brekosky, R. P., Chang, M., Costen, N. P., Datesman, A. M., Hilton, G. C., Irwin, K. D., Kogut, A. J., Lazear, J., Leong, E. S., Maher, S. F., Miller, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2014
- **Large-aperture wide-bandwidth antireflection-coated silicon lenses for millimeter wavelengths** *APPLIED OPTICS*  
Datta, R., Munson, C. D., Niemack, M. D., McMahon, J. J., Britton, J., Wollack, E. J., Beall, J., Devlin, M. J., Fowler, J., Gallardo, P., Hubmayr, J., Irwin, K., Newburgh, et al  
2013; 52 (36): 8747–58
- **High-resolution gamma-ray spectroscopy with a microwave-multiplexed transition-edge sensor array** *APPLIED PHYSICS LETTERS*  
Noroozian, O., Mates, J. B., Bennett, D. A., Brevik, J. A., Fowler, J. W., Gao, J., Hilton, G. C., Horansky, R. D., Irwin, K. D., Kang, Z., Schmidt, D. R., Vale, L. R., Ullom, et al  
2013; 103 (20)
- **The Atacama Cosmology Telescope: the stellar content of galaxy clusters selected using the Sunyaev-Zel'dovich effect** *MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY*  
Hilton, M., Hasselfield, M., Sifon, C., Baker, A. J., Felipe Barrientos, L., Battaglia, N., Bond, J., Crichton, D., Das, S., Devlin, M. J., Gralla, M., Hajian, A., Hincks, et al  
2013; 435 (4): 3469–80
- **The Atacama Cosmology Telescope: cosmological parameters from three seasons of data** *JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS*  
Sievers, J. L., Hlozek, R. A., Nolta, M. R., Acquaviva, V., Addison, G. E., Ade, P. R., Aguirre, P., Amiri, M., Appel, J., Barrientos, L., Battistelli, E. S., Battaglia, N., Bond, et al  
2013
- **Detection of B-Mode Polarization in the Cosmic Microwave Background with Data from the South Pole Telescope** *PHYSICAL REVIEW LETTERS*  
Hanson, D., Hoover, S., Crites, A., Ade, P. A., Aird, K. A., Austermann, J. E., Beall, J. A., Bender, A. N., Benson, B. A., Bleem, L. E., Bock, J. J., Carlstrom, J. E., Chang, et al  
2013; 111 (14)
- **The Atacama Cosmology Telescope: Sunyaev-Zel'dovich selected galaxy clusters at 148 GHz from three seasons of data** *JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS*  
Hasselfield, M., Hilton, M., Marriage, T. A., Addison, G. E., Barrientos, L., Battaglia, N., Battistelli, E. S., Bond, J., Crichton, D., Das, S., Devlin, M. J., Dicker, S. R., Dunkley, et al  
2013
- **The Atacama Cosmology Telescope: likelihood for small-scale CMB data** *JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS*  
Dunkley, J., Calabrese, E., Sievers, J., Addison, G. E., Battaglia, N., Battistelli, E. S., Bond, J. R., Das, S., Devlin, M. J., Duenner, R., Fowler, J. W., Gralla, M., Hajian, et al  
2013
- **Proximity-coupled Ti/TiN multilayers for use in kinetic inductance detectors** *APPLIED PHYSICS LETTERS*  
Vissers, M. R., Gao, J., Sandberg, M., Duff, S. M., Wisbey, D. S., Irwin, K. D., Pappas, D. P.  
2013; 102 (23)
- **Design and Performance of Kilo-Pixel TES Arrays for ACTPol** *IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY*  
Grace, E. A., Beall, J. A., Britton, J., Cho, H. M., Devlin, M. J., Fox, A. E., Hilton, G. C., Hubmayr, J., Irwin, K. D., Klein, J., Lungu, M., Newburgh, L. B., Nibarger, et al  
2013; 23 (3)
- **Design and Fabrication of 90 GHz TES Polarimeter Detectors for the South Pole Telescope** *IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY*  
Yefremenko, V., Ade, P., Aird, K., Austermann, J., Beall, J., Becker, D., Benson, B., Bleem, L., Britton, J., Chang, C. L., Carlstrom, J., Cho, H., De Haan, et al  
2013; 23 (3)

- **Dual-Polarization Sensitive MKIDs for Far Infrared Astrophysics** *IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY*  
Hubmayr, J., Beall, J., Becker, D., Cho, H., Dober, B., Devlin, M., Fox, A. M., Gao, J., Hilton, G. C., Irwin, K. D., Li, D., Niemack, M. D., Pappas, et al  
2013; 23 (3)
- **Improvements in Silicon Oxide Dielectric Loss for Superconducting Microwave Detector Circuits** *IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY*  
Li, D., Gao, J., Austermann, J. E., Beall, J. A., Becker, D., Cho, H., Fox, A. E., Halverson, N., Henning, J., Hilton, G. C., Hubmayr, J., Irwin, K. D., Van Lanen, et al  
2013; 23 (3)
- **Cosmological parameters from pre-planck cosmic microwave background measurements** *PHYSICAL REVIEW D*  
Calabrese, E., Hlozek, R. A., Battaglia, N., Battistelli, E. S., Bond, J., Chluba, J., Crichton, D., Das, S., Devlin, M. J., Dunkley, J., Duenner, R., Farhang, M., Gralla, et al  
2013; 87 (10)
- **Magnetic Flux Noise in dc SQUIDS: Temperature and Geometry Dependence** *PHYSICAL REVIEW LETTERS*  
Anton, S. M., Birenbaum, J. S., O'Kelley, S. R., Bolkhovskiy, V., Braje, D. A., Fitch, G., Neeley, M., Hilton, G. C., Cho, H., Irwin, K. D., Wellstood, F. C., Oliver, W. D., Shnirman, et al  
2013; 110 (14): 147002
- **SCUBA-2: the 10 000 pixel bolometer camera on the James Clerk Maxwell Telescope** *MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY*  
Holland, W. S., Bintley, D., Chapin, E. L., Chrysostomou, A., Davis, G. R., Dempsey, J. T., Duncan, W. D., Fich, M., Friberg, P., Halpern, M., Irwin, K. D., Jenness, T., Kelly, et al  
2013; 430 (4): 2513–33
- **SPIDER: probing the early Universe with a suborbital polarimeter** *JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS*  
Frasse, A. A., Ade, P. A., Amiri, M., Benton, S. J., Bock, J. J., Bond, J. R., Bonetti, J. A., Bryan, S., Burger, B., Chiang, H. C., Clark, C. N., Contaldi, C. R., Crill, et al  
2013
- **Table-Top Ultrafast X-Ray Microcalorimeter Spectrometry for Molecular Structure** *PHYSICAL REVIEW LETTERS*  
Uhlig, J., Fullagar, W., Ullom, J. N., Doriese, W. B., Fowler, J. W., Swetz, D. S., Gador, N., Canton, S. E., Kinnunen, K., Maasilta, I. J., Reintsema, C. D., Bennett, D. A., Vale, et al  
2013; 110 (13): 138302
- **THE ATACAMA COSMOLOGY TELESCOPE: DATA CHARACTERIZATION AND MAPMAKING** *ASTROPHYSICAL JOURNAL*  
Duenner, R., Hasselfield, M., Marriage, T. A., Sievers, J., Acquaviva, V., Addison, G. E., Ade, P. R., Aguirre, P., Amiri, M., Appel, J., Felipe Barrientos, L., Battistelli, E. S., Bond, et al  
2013; 762 (1)
- **Current distribution and transition width in superconducting transition-edge sensors** *APPLIED PHYSICS LETTERS*  
Swetz, D. S., Bennett, D. A., Irwin, K. D., Schmidt, D. R., Ullom, J. N.  
2012; 101 (24)
- **The MARE project: a new Re-187 neutrino mass experiment with sub eV sensitivity**  
Schaeffer, D., Gatti, F., Gallinaro, G., Pergolesi, D., Repetto, P., Ribeiro-Gomes, M., Kelley, R., Kilbourne, C. A., Porter, F. S., Enss, C., Fleischmann, A., Gastaldo, L., Andreotti, et al  
ELSEVIER SCIENCE BV.2012: 394
- **A titanium-nitride near-infrared kinetic inductance photon-counting detector and its anomalous electrodynamic** *APPLIED PHYSICS LETTERS*  
Gao, J., Vissers, M. R., Sandberg, M. O., da Silva, F. S., Nam, S. W., Pappas, D. P., Wisbey, D. S., Langman, E. C., Meeker, S. R., Mazin, B. A., Leduc, H. G., Zmuidzinas, J., Irwin, et al  
2012; 101 (14)
- **ORIGIN: metal creation and evolution from the cosmic dawn** *EXPERIMENTAL ASTRONOMY*  
den Herder, J., Piro, L., Ohashi, T., Kouveliotou, C., Hartmann, D. H., Kaastra, J. S., Amati, L., Andersen, M. I., Arnaud, M., Atteia, J., Bandler, S., Barbera, M., Barcons, et al  
2012; 34 (2): 519-549
- **A high resolution gamma-ray spectrometer based on superconducting microcalorimeters** *REVIEW OF SCIENTIFIC INSTRUMENTS*



- Bennett, D. A., Horansky, R. D., Schmidt, D. R., Hoover, A. S., Winkler, R., Alpert, B. K., Beall, J. A., Doriese, W. B., Fowler, J. W., Fitzgerald, C. P., Hilton, G. C., Irwin, K. D., Kotsubo, et al  
2012; 83 (9): 093113
- **Evidence of Galaxy Cluster Motions with the Kinematic Sunyaev-Zel'dovich Effect** *PHYSICAL REVIEW LETTERS*  
Hand, N., Addison, G. E., Aubourg, E., Battaglia, N., Battistelli, E. S., Bizyaev, D., Bond, J. R., Brewington, H., Brinkmann, J., Brown, B. R., Das, S., Dawson, K. S., Devlin, et al  
2012; 109 (4)
  - **Pure dephasing in flux qubits due to flux noise with spectral density scaling as  $1/f(\alpha)$**  *PHYSICAL REVIEW B*  
Anton, S. M., Mueller, C., Birenbaum, J. S., O'Kelley, S. R., Fefferman, A. D., Golubev, D. S., Hilton, G. C., Cho, H., Irwin, K. D., Wellstood, F. C., Schoen, G., Shnirman, A., Clarke, et al  
2012; 85 (22)
  - **An All Silicon Feedhorn-Coupled Focal Plane for Cosmic Microwave Background Polarimetry** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Hubmayr, J., Appel, J. W., Austermann, J. E., Beall, J. A., Becker, D., Benson, B. A., Bleem, L. E., Carlstrom, J. E., Chang, C. L., Cho, H. M., Crites, A. T., Essinger-Hileman, T., Fox, et al  
2012; 167 (5-6): 904-910
  - **An Overview of the SPTpol Experiment** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Bleem, L., Ade, P., Aird, K., Austermann, J., Beall, J., Becker, D., Benson, B., Britton, J., Carlstrom, J., Chang, C. L., Cho, H., De Haan, T., Crawford, et al  
2012; 167 (5-6): 859-864
  - **Optical and Thermal Properties of ANL/KICP Polarization Sensitive Bolometers for SPTpol** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Chang, C. L., Ade, P., Aird, K., Austermann, J., Beall, J., Becker, D., Benson, B., Bleem, L., Britton, J., Carlstrom, J., Cho, H., De Haan, T., Crawford, et al  
2012; 167 (5-6): 865-871
  - **Multi-chroic Feed-Horn Coupled TES Polarimeters** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
McMahon, J., Beall, J., Becker, D., Cho, H. M., Datta, R., Fox, A., Halverson, N., Hubmayr, J., Irwin, K., Nibarger, J., Niemack, M., Smith, H.  
2012; 167 (5-6): 879-84
  - **Optimization and Analysis of Code-Division Multiplexed TES Microcalorimeters** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Fowler, J. W., Doriese, W. B., Hilton, G., Irwin, K., Schmidt, D., Stiehl, G., Swetz, D., Ullom, J. N., Vale, L.  
2012; 167 (5-6): 713-20
  - **Optimizing Feedhorn-Coupled TES Polarimeters for Balloon and Space-Based CMB Observations** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Niemack, M. D., Beall, J., Becker, D., Cho, H., Fox, A., Hilton, G., Hubmayr, J., Irwin, K., Li, D., McMahon, J., Nibarger, J., Van Lanen, J.  
2012; 167 (5-6): 917-22
  - **The Keck Array: A Multi Camera CMB Polarimeter at the South Pole** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Staniszewski, Z., Aikin, R. W., Amiri, M., Benton, S. J., Bischoff, C., Bock, J. J., Bonetti, J. A., Brevik, J. A., Burger, B., Dowell, C. D., Duband, L., Filippini, J. P., Golwala, et al  
2012; 167 (5-6): 827-833
  - **Advanced Code-Division Multiplexers for Superconducting Detector Arrays** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Irwin, K. D., Cho, H. M., Doriese, W. B., Fowler, J. W., Hilton, G. C., Niemack, M. D., Reintsema, C. D., Schmidt, D. R., Ullom, J. N., Vale, L. R.  
2012; 167 (5-6): 588-94
  - **Optimization of the TES-Bias Circuit for a Multiplexed Microcalorimeter Array** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Doriese, W. B., Alpert, B. K., Fowler, J. W., Hilton, G. C., Hojem, A. S., Irwin, K. D., Reintsema, C. D., Schmidt, D. R., Stiehl, G. M., Swetz, D. S., Ullom, J. N., Vale, L. R.  
2012; 167 (5-6): 595-601
  - **Flux-Ramp Modulation for SQUID Multiplexing** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Mates, J. B., Irwin, K. D., Vale, L. R., Hilton, G. C., Gao, J., Lehnert, K. W.  
2012; 167 (5-6): 707-12
  - **SuperCDMS Cold Hardware Design** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Al Kenany, S., Rolla, J. A., Godfrey, G., Brink, P. L., Seitz, D. N., Figueroa-Feliciano, E., Huber, M. E., Hines, B. A., Irwin, K. D.  
2012; 167 (5-6): 1167-1172

- **THE ATACAMA COSMOLOGY TELESCOPE: HIGH-RESOLUTION SUNYAEV-ZEL'DOVICH ARRAY OBSERVATIONS OF ACT SIZE-SELECTED CLUSTERS FROM THE EQUATORIAL STRIP** *ASTROPHYSICAL JOURNAL*  
Reese, E. D., Mroczkowski, T., Menanteau, F., Hilton, M., Sievers, J., Aguirre, P., Appel, J. W., Baker, A. J., Bond, J. R., Das, S., Devlin, M. J., Dicker, S. R., Duenner, et al  
2012; 751 (1)
- **An 84 Pixel All-Silicon Corrugated Feedhorn for CMB Measurements** *14th International Workshop on Low Temperature Particle Detection (LTD)*  
Nibarger, J. P., Beall, J. A., Becker, D., Britton, J., Cho, H., Fox, A., Hilton, G. C., Hubmayr, J., Li, D., McMahon, J., Niemack, M. D., Irwin, K. D., Van Lanen, et al  
SPRINGER/PLENUM PUBLISHERS.2012: 522–27
- **Commissioning SCUBA-2 at JCMT and Optimising the Performance of the Superconducting TES Arrays**  
Bintley, D., MacIntosh, M., Holland, W., Dempsey, J., Friberg, P., Thomas, H., Ade, P., Sudiwala, R., Irwin, K., Hilton, G., Niemack, M., Amiri, M., Chapin, et al  
SPRINGER/PLENUM PUBLISHERS.2012: 152–60
- **Magnetically Coupled Microcalorimeters**  
Bandler, S. R., Irwin, K. D., Kelly, D., Nagler, P. N., Porst, J., Rotzinger, H., Sadleir, J. E., Seidel, G. M., Smith, S. J., Stevenson, T. R.  
SPRINGER/PLENUM PUBLISHERS.2012: 254–68
- **THE ATACAMA COSMOLOGY TELESCOPE: A MEASUREMENT OF THE PRIMORDIAL POWER SPECTRUM** *ASTROPHYSICAL JOURNAL*  
Hlozek, R., Dunkley, J., Addison, G., Appel, J. W., Bond, J. R., Sofia Carvalho, C., Das, S., Devlin, M. J., Duenner, R., Essinger-Hileman, T., Fowler, J. W., Gallardo, P., Hajian, et al  
2012; 749 (1)
- **Code-division multiplexing for x-ray microcalorimeters** *APPLIED PHYSICS LETTERS*  
Stiehl, G. M., Doriese, W. B., Fowler, J. W., Hilton, G. C., Irwin, K. D., Reintsema, C. D., Schmidt, D. R., Swetz, D. S., Ullom, J. N., Vale, L. R.  
2012; 100 (7)
- **CORRELATIONS IN THE (SUB) MILLIMETER BACKGROUND FROM ACT x BLAST** *ASTROPHYSICAL JOURNAL*  
Hajian, A., Viero, M. P., Addison, G., Aguirre, P., Appel, J. W., Battaglia, N., Bock, J. J., Bond, J. R., Das, S., Devlin, M. J., Dicker, S. R., Dunkley, J., Duenner, et al  
2012; 744 (1)
- **Optimization and sensitivity of the Keck Array** *Conference on Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy VI*  
Kernasovskiy, S., Ade, P. A., Aikin, R. W., Amiri, M., Benton, S., Bischoff, C., Bock, J. J., Bonetti, J. A., Brevik, J. A., Burger, B., Davis, G., Dowell, C. D., Duband, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2012
- **BICEP2 and Keck Array operational overview and status of observations** *Conference on Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy VI*  
Ogburn, R. W., Ade, P. A., Aikin, R. W., Amiri, M., Benton, S. J., BISCHOFF, C. A., Bock, J. J., Bonetti, J. A., Brevik, J. A., Bullock, E., Burger, B., Davis, G., Dowell, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2012
- **Update on the Micro-X Sounding Rocket Payload**  
Figueroa-Feliciano, E., Adams, J. S., Baker, R., Bandler, S. R., Dewey, D., Doriese, W. B., Eckart, M. E., Hamersma, R., Hilton, G. C., Hwang, U., Irwin, K. D., Kelley, R. L., Kilbourne, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2012
- **Scaling the summit of the submillimetre: instrument performance of SCUBA-2**  
Bintley, D., MacIntosh, M. J., Holland, W. S., Dempsey, J. T., Friberg, P., Kuroda, J. T., Starman, E. G., Thomas, H. S., Walther, C., Gao, X., Ade, P. R., Sudiwala, R. V., Dunare, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2012
- **Performance and on-sky optical characterization of the SPTpol instrument**  
George, E. M., Ade, P., Aird, K. A., Austermann, J. E., Beall, J. A., Becker, D., Bender, A., Benson, B. A., Bleem, L. E., Britton, J., Carlstrom, J. E., Chang, C. L., Chiang, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2012
- **SPTpol: an instrument for CMB polarization measurements with the South Pole Telescope**

- 
- Austermann, J. E., Aird, K. A., Beall, J. A., Becker, D., Bender, A., Benson, B. A., Bleem, L. E., Britton, J., Carlstrom, J. E., Chang, C. L., Chiang, H. C., Cho, H., Crawford, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2012
- **Design and characterization of 90 GHz feedhorn-coupled TES polarimeter pixels in the SPTpol camera**  
Sayre, J. T., Ade, P., Aird, K. A., Austermann, J. E., Beall, J. A., Becker, D., Benson, B. A., Bleem, L. E., Britton, J., Carlstrom, J. E., Chang, C. L., Cho, H., Crawford, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2012
  - **Feedhorn-Coupled TES Polarimeter Camera Modules at 150 GHz for CMB Polarization Measurements with SPTpol**  
Henning, J. W., Ade, P., Aird, K. A., Austermann, J. E., Beall, J. A., Becker, D., Benson, B. A., Bleem, L. E., Britton, J., Carlstrom, J. E., Chang, C. L., Cho, H., Crawford, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2012
  - **South Pole Telescope Software Systems: Control, Monitoring, and Data Acquisition** *Conference On Software and Cyberinfrastructure for Astronomy II*  
Story, K., Leitch, E., Ade, P., Aird, K. A., Austermann, J. E., Beall, J. A., Becker, D., Bender, A. N., Benson, B. A., Bleem, L. E., Britton, J., Carlstrom, J. E., Chang, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2012
  - **Design and first-light performance of TES bolometer arrays for submillimeter spectroscopy with ZEUS-2**  
Ferkinhoff, C., Nikola, T., Parshley, S. C., Stacey, G. J., Irwin, K. D., Cho, H., Niemack, M., Halpern, M., Hasselfield, M., Amiri, M., Holland, W. S., Zmuidzinas, J.  
SPIE-INT SOC OPTICAL ENGINEERING.2012
  - **The GISMO-2\*Bolometer Camera**  
Staguhn, J. G., Benford, D. J., Fixsen, D. J., Hilton, G., Irwin, K. D., Jhabvala, C. A., Kovacs, A., Leclercq, S., Maher, S. F., Miller, T. M., Moseley, S. H., Sharp, E. H., Wollack, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2012
  - **THE ATACAMA COSMOLOGY TELESCOPE: CALIBRATION WITH THE WILKINSON MICROWAVE ANISOTROPY PROBE USING CROSS-CORRELATIONS** *ASTROPHYSICAL JOURNAL*  
Hajian, A., Acquaviva, V., Ade, P. A., Aguirre, P., Amiri, M., Appel, J. W., Felipe Barrientos, L., Battistelli, E. S., Bond, J. R., Brown, B., Burger, B., Chervenak, J., Das, et al  
2011; 740 (2)
  - **Large microcalorimeter arrays for high-resolution X- and gamma-ray spectroscopy** *NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT*  
Hoover, A. S., Hotelling, N., Rabin, M. W., Ullom, J. N., Bennett, D. A., Karpus, P. J., Vo, D. T., Doriese, W. B., Hilton, G. C., Horansky, R. D., Irwin, K. D., Kotsubo, V., Lee, et al  
2011; 652 (1): 302–5
  - **THE ATACAMA COSMOLOGY TELESCOPE: COSMOLOGICAL PARAMETERS FROM THE 2008 POWER SPECTRUM** *ASTROPHYSICAL JOURNAL*  
Dunkley, J., Hlozek, R., Sievers, J., Acquaviva, V., Ade, P. A., Aguirre, P., Amiri, M., Appel, J. W., Barrientos, L. F., Battistelli, E. S., Bond, J. R., Brown, B., Burger, et al  
2011; 739 (1)
  - **SPIDER OPTIMIZATION. II. OPTICAL, MAGNETIC, AND FOREGROUND EFFECTS** *ASTROPHYSICAL JOURNAL*  
O'Dea, D. T., Ade, P. A., Amiri, M., Benton, S. J., Bock, J. J., Bond, J. R., Bonetti, J. A., Bryan, S., Burger, B., Chiang, H. C., Clark, C. N., Contaldi, C. R., Crill, et al  
2011; 738 (1)
  - **THE ATACAMA COSMOLOGY TELESCOPE: SUNYAEV-ZEL'DOVICH-SELECTED GALAXY CLUSTERS AT 148 GHz IN THE 2008 SURVEY** *ASTROPHYSICAL JOURNAL*  
Marriage, T. A., Acquaviva, V., Ade, P. A., Aguirre, P., Amiri, M., Appel, J. W., Felipe Barrientos, L., Battistelli, E. S., Bond, J. R., Brown, B., Burger, B., Chervenak, J., Das, et al  
2011; 737 (2)
  - **THE ATACAMA COSMOLOGY TELESCOPE: DETECTION OF SUNYAEV-ZEL'DOVICH DECREMENT IN GROUPS AND CLUSTERS ASSOCIATED WITH LUMINOUS RED GALAXIES** *ASTROPHYSICAL JOURNAL*  
Hand, N., Appel, J. W., Battaglia, N., Bond, J. R., Das, S., Devlin, M. J., Dunkley, J., Duenner, R., Essinger-Hileman, T., Fowler, J. W., Hajian, A., Halpern, M., Hasselfield, et al
-

2011; 736 (1)

- **Evidence for Dark Energy from the Cosmic Microwave Background Alone Using the Atacama Cosmology Telescope Lensing Measurements** *PHYSICAL REVIEW LETTERS*  
Sherwin, B. D., Dunkley, J., Das, S., Appel, J. W., Bond, J. R., Sofia Carvalho, C., Devlin, M. J., Duenner, R., Essinger-Hileman, T., Fowler, J. W., Hajian, A., Halpern, M., Hasselfield, et al  
2011; 107 (1)
- **Detection of the Power Spectrum of Cosmic Microwave Background Lensing by the Atacama Cosmology Telescope** *PHYSICAL REVIEW LETTERS*  
Das, S., Sherwin, B. D., Aguirre, P., Appel, J. W., Bond, J. R., Sofia Carvalho, C., Devlin, M. J., Dunkley, J., Duenner, R., Essinger-Hileman, T., Fowler, J. W., Hajian, A., Halpern, et al  
2011; 107 (1)
- **THE RADIO-2 mm SPECTRAL INDEX OF THE CRAB NEBULA MEASURED WITH GISMO** *ASTROPHYSICAL JOURNAL*  
Arendt, R. G., George, J. V., Staguhn, J. G., Benford, D. J., Devlin, M. J., Dicker, S. R., Fixsen, D. J., Irwin, K. D., Jhabvala, C. A., Korngut, P. M., Kovacs, A., Maher, S. F., Mason, et al  
2011; 734 (1)
- **Strongly quadrature-dependent noise in superconducting microresonators measured at the vacuum-noise limit** *APPLIED PHYSICS LETTERS*  
Gao, J., Vale, L. R., Mates, J. B., Schmidt, D. R., Hilton, G. C., Irwin, K. D., Mallet, F., Castellanos-Beltran, M. A., Lehnert, K. W., Zmuidzinas, J., Leduc, H. G.  
2011; 98 (23)
- **OVERVIEW OF THE ATACAMA COSMOLOGY TELESCOPE: RECEIVER, INSTRUMENTATION, AND TELESCOPE SYSTEMS** *ASTROPHYSICAL JOURNAL SUPPLEMENT SERIES*  
Swetz, D. S., Ade, P. A., Amiri, M., Appel, J. W., Battistelli, E. S., Burger, B., Chervenak, J., Devlin, M. J., Dicker, S. R., Doriese, W. B., Duenner, R., Essinger-Hileman, T., Fisher, et al  
2011; 194 (2)
- **Al-Mn Transition Edge Sensors for Cosmic Microwave Background Polarimeters** *IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY*  
Schmidt, D. R., Cho, H., Hubmayr, J., Lowell, P., Niemack, M. D., O'Neil, G. C., Ullom, J. N., Yoon, K. W., Irwin, K. D., Holzapfel, W. L., Lueker, M., George, E. M., Shirokoff, et al  
2011; 21 (3): 196–98
- **Design and Testing of Superconducting Microwave Passive Components for Quantum Information Processing** *IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY*  
Ku, H. S., Mallet, F., Vale, L. R., Irwin, K. D., Russek, S. E., Hilton, G. C., Lehnert, K. W.  
2011; 21 (3): 452–55
- **Stability of Al-Mn Transition Edge Sensors for Frequency Domain Multiplexing** *IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY*  
Hubmayr, J., Austermann, J. E., Beall, J. A., Becker, D., Bennett, D. A., Benson, B. A., Bleem, L. E., Chang, C. L., Carlstrom, J. E., Cho, H., Crites, A. T., Dobbs, M., Everett, et al  
2011; 21 (3): 203–6
- **Time-Division SQUID Multiplexers With Reduced Sensitivity to External Magnetic Fields** *IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY*  
Stiehl, G. M., Cho, H. M., Hilton, G. C., Irwin, K. D., Mates, J. B., Reintsema, C. D., Zink, B. L.  
2011; 21 (3): 298–301
- **Quantum State Tomography of an Itinerant Squeezed Microwave Field** *PHYSICAL REVIEW LETTERS*  
Mallet, F., Castellanos-Beltran, M. A., Ku, H. S., Glancy, S., Knill, E., Irwin, K. D., Hilton, G. C., Vale, L. R., Lehnert, K. W.  
2011; 106 (22): 220502
- **THE ATACAMA COSMOLOGY TELESCOPE: COSMOLOGY FROM GALAXY CLUSTERS DETECTED VIA THE SUNYAEV-ZEL'DOVICH EFFECT** *ASTROPHYSICAL JOURNAL*  
Sehgal, N., Trac, H., Acquaviva, V., Ade, P. A., Aguirre, P., Amiri, M., Appel, J. W., Felipe Barrientos, L., Battistelli, E. S., Bond, J. R., Brown, B., Burger, B., Chervenak, et al  
2011; 732 (1)
- **THE ATACAMA COSMOLOGY TELESCOPE: EXTRAGALACTIC SOURCES AT 148 GHz IN THE 2008 SURVEY** *ASTROPHYSICAL JOURNAL*  
Marriage, T. A., Baptiste Juin, J., Lin, Y., Marsden, D., Nolta, M. R., Partridge, B., Ade, P. A., Aguirre, P., Amiri, M., Appel, J. W., Felipe Barrientos, L., Battistelli, E. S., Bond, et al  
2011; 731 (2)

- **THE ATACAMA COSMOLOGY TELESCOPE: A MEASUREMENT OF THE COSMIC MICROWAVE BACKGROUND POWER SPECTRUM AT 148 AND 218 GHz FROM THE 2008 SOUTHERN SURVEY** *ASTROPHYSICAL JOURNAL*  
Das, S., Marriage, T. A., Ade, P. A., Aguirre, P., Amiri, M., Appel, J. W., Barrientos, L. F., Battistelli, E. S., Bond, J. R., Brown, B., Burger, B., Chervenak, J., Devlin, et al  
2011; 729 (1)
- **High-Resolution Passive Video-Rate Imaging at 350 GHz**  
Becker, D., Gentry, C., Ade, P., Beall, J., Cho, H., Dicker, S., Duncan, W., Halpern, M., Hilton, G., Irwin, K., Lowell, P., Niemack, M., Paulter, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2011
- **THE ATACAMA COSMOLOGY TELESCOPE (ACT): BEAM PROFILES AND FIRST SZ CLUSTER MAPS** *ASTROPHYSICAL JOURNAL SUPPLEMENT SERIES*  
Hincks, A. D., Acquaviva, V., Ade, P. A., Aguirre, P., Amiri, M., Appel, J. W., Barrientos, L. F., Battistelli, E. S., Bond, J. R., Brown, B., Burger, B., Chervenak, J., Das, et al  
2010; 191 (2): 423-438
- **THE ATACAMA COSMOLOGY TELESCOPE: PHYSICAL PROPERTIES AND PURITY OF A GALAXY CLUSTER SAMPLE SELECTED VIA THE SUNYAEV-ZEL'DOVICH EFFECT** *ASTROPHYSICAL JOURNAL*  
Menanteau, F., Gonzalez, J., Juin, J., Marriage, T. A., Reese, E. D., Acquaviva, V., Aguirre, P., Appel, J. W., Baker, A. J., Felipe Barrientos, L., Battistelli, E. S., Bond, J. R., Das, et al  
2010; 723 (2): 1523-1541
- **THE ATACAMA COSMOLOGY TELESCOPE: A MEASUREMENT OF THE 600 <math>< 1 < /math>< 8000< /math> COSMIC MICROWAVE BACKGROUND POWER SPECTRUM AT 148 GHz** *ASTROPHYSICAL JOURNAL*  
Fowler, J. W., Acquaviva, V., Ade, P. A., Aguirre, P., Amiri, M., Appel, J. W., Barrientos, L. F., Battistelli, E. S., Bond, J. R., Brown, B., Burger, B., Chervenak, J., Das, et al  
2010; 722 (2): 1148-1161
- **Noise performance of lumped element direct current superconducting quantum interference device amplifiers in the 4-8 GHz range** *APPLIED PHYSICS LETTERS*  
Spietz, L., Irwin, K., Lee, M., Aumentado, J.  
2010; 97 (14)
- **IMPLICATIONS OF A HIGH ANGULAR RESOLUTION IMAGE OF THE SUNYAEV-ZEL'DOVICH EFFECT IN RXJ1347-1145** *ASTROPHYSICAL JOURNAL*  
Mason, B. S., Dicker, S. R., Korngut, P. M., Devlin, M. J., Cotton, W. D., Koch, P. M., Molnar, S. M., Sievers, J., Aguirre, J. E., Benford, D., Staguhn, J. G., Moseley, H., Irwin, et al  
2010; 716 (1): 739-45
- **Code-division SQUID multiplexing** *APPLIED PHYSICS LETTERS*  
Niemack, M. D., Beyer, J., Cho, H. M., Doriese, W. B., Hilton, G. C., Irwin, K. D., Reintsema, C. D., Schmidt, D. R., Ullom, J. N., Vale, L. R.  
2010; 96 (16)
- **Code-division multiplexing of superconducting transition-edge sensor arrays**  
Irwin, K. D., Niemack, M. D., Beyer, J., Cho, H. M., Doriese, W. B., Hilton, G. C., Reintsema, C. D., Schmidt, D. R., Ullom, J. N., Vale, L. R.  
IOP PUBLISHING LTD.2010
- **Measurement of ion cascade energies through resolution degradation of alpha particle microcalorimeters** *JOURNAL OF APPLIED PHYSICS*  
Horansky, R. D., Stiehl, G. M., Beall, J. A., Irwin, K. D., Plionis, A. A., Rabin, M. W., Ullom, J. N.  
2010; 107 (4)
- **Optical Design of the EPIC-IM Crossed Dragone Telescope**  
Tran, H., Johnson, B., Dragovan, M., Bock, J., Aljabri, A., Amblard, A., Bauman, D., Betoule, M., Chui, T., Colombo, L., Cooray, A., Crumb, D., Day, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2010
- **Optical Performance of the BICEP2 Telescope at the South Pole**  
Aikin, R. W., Ade, P. A., Benton, S., Bock, J. J., Bonetti, J. A., Brevik, J. A., Dowell, C. D., Duband, L., Filippini, J. P., Golwala, S. R., Halpern, M., Hristov, V., Irwin, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2010
- **Initial performance of the BICEP2 antenna-coupled superconducting bolometers at the South Pole**

- Brevik, J. A., Aikin, R. W., Amiri, M., Benton, S. J., Bock, J. J., Bonetti, J. A., Burger, B., Dowell, C. D., Duband, L., Filippini, J. P., Golwala, S. R., Halpern, M., Hasselfield, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2010
- **The Keck Array: a pulse tube cooled CMB polarimeter**  
Sheehy, C. D., Ade, P. R., Aikin, R. W., Amiri, M., Benton, S., Bischoff, C., Bock, J. J., Bonetti, J. A., Brevik, J. A., Burger, B., Dowell, C. D., Duband, L., Filippini, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2010
  - **The BICEP2 CMB polarization experiment** *Conference on Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy V*  
Ogburn, R. W., Ade, P. A., Aikin, R. W., Amiri, M., Benton, S. J., Bock, J. J., Bonetti, J. A., Brevik, J. A., Burger, B., Dowell, C. D., Duband, L., Filippini, J. P., Golwala, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2010
  - **Antenna-coupled TES Bolometer Arrays for BICEP2/Keck and SPIDER**  
Orlando, A., Aikin, R. W., Amiri, M., Bock, J. J., Bonetti, J. A., Brevik, J. A., Burger, B., Chattopadhyay, G., Day, P. K., Filippini, J. P., Golwala, S. R., Halpern, M., Hasselfield, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2010
  - **Optical Efficiency of Feedhorn-Coupled TES Polarimeters for Next-Generation CMB Instruments**  
Henning, J. W., Appel, J. W., Austermann, J. E., Beall, J. A., Becker, D., Bennett, D. A., Bleem, L. E., Benson, B. A., Britton, J., Carlstrom, J. E., Chang, C. L., Cho, H. M., Crites, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2010
  - **Design and performance of the Spider instrument**  
Runyan, M. C., Ade, P. R., Amiri, M., Benton, S., Bihary, R., Bock, J. J., Bond, J. R., Bonetti, J. A., Bryan, S. A., Chiang, H. C., Contaldi, C. R., Crill, B. P., Dore, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2010
  - **ACTPol: A polarization-sensitive receiver for the Atacama Cosmology Telescope**  
Niemack, M. D., Ade, P. R., Aguirre, J., Barrientos, F., Beall, J. A., Bond, J. R., Britton, J., Cho, H. M., Das, S., Devlin, M. J., Dicker, S., Dunkley, J., Duenner, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2010
  - **SPIDER: a balloon-borne CMB polarimeter for large angular scales**  
Filippini, J. P., Ade, P. R., Amiri, M., Benton, S. J., Bihary, R., Bock, J. J., Bond, J. R., Bonetti, J. A., Bryan, S. A., Burger, B., Chiang, H. C., Contaldi, C. R., Crill, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2010
  - **Thermal Architecture for the SPIDER flight cryostat**  
Gudmundsson, J. E., Ade, P. R., Amiri, M., Benton, S. J., Bihary, R., Bock, J. J., Bond, J. R., Bonetti, J. A., Bryan, S. A., Burger, B., Chiang, H. C., Contaldi, C. R., Crill, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2010
  - **Characterising the SCUBA-2 superconducting bolometer arrays**  
Bintley, D., MacIntosh, M. J., Holland, W. S., Friberg, P., Walther, C., Atkinson, D., Kelly, D., Gao, X., Ade, P. R., Grainger, W., House, J., Moncelsi, L., Hollister, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2010
  - **Progress on the Micro-X sounding rocket X-ray telescope: completion of flight hardware**  
Wikus, P., Adams, J. S., Baker, R., Bandler, S. R., Brys, W., Dewey, D., Doriese, W. B., Eckart, M. E., Figueroa-Feliciano, E., Goeke, R., Hamersma, R., Hilton, G. C., Hwang, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2010
  - **The X-ray Microcalorimeter Spectrometer onboard of IXO**  
den Herder, J. W., Kelley, L., Mitsuda, K., Piro, L., Bandler, S. R., Bastia, P., Boyce, K. R., Bruin, M., Chervenak, J. A., Colasanti, L., Doriese, W. B., DiPirro, M., Eckart, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2010
  - **Characterising and calibrating the SCUBA-2 superconducting bolometer arrays for science observing**  
Bintley, D., Friberg, P., MacIntosh, M. J., Holland, W. S., Berry, D., Dempsey, J. T., Thomas, H. S., Jenness, T., Kelly, D., Gao, X., Ade, P. R., Grainger, W., Moncelsi, et al

IEEE.2010

- **Corrugated Silicon Platelet Feed Horn Array for CMB Polarimetry at 150 GHz**  
Britton, J. W., Nibarger, J. P., Yoon, K., Beall, J. A., Becker, D., Cho, H., Hilton, G. C., Hubmayr, J., Niemack, M. D., Irwin, K. D., Holland, W. S., Zmuidzinas, J.  
SPIE-INT SOC OPTICAL ENGINEERING.2010
- **5,120 Superconducting Bolometers for the PIPER Balloon-Borne CMB Polarization Experiment**  
Benford, D. J., Chuss, D. T., Hilton, G. C., Irwin, K. D., Jethava, N. S., Jhabvala, C. A., Kogut, A. J., Miller, T. M., Mirel, P., Moseley, S., Rostem, K., Sharp, E. H., Staguhn, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2010
- **Modeling and characterization of the SPIDER half-wave plate**  
Bryan, S. A., Ade, P. R., Amiri, M., Benton, S., Bihary, R., Bock, J. J., Bond, J., Bonetti, J. A., Chiang, H., Contaldi, C. R., Crill, B. P., O'Dea, D., Dore, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2010
- **The Primordial Inflation Polarization Explorer (PIPER)**  
Chuss, D. T., Ade, P. R., Benford, D. J., Bennett, C. L., Dotson, J. L., Eimer, J. R., Fixsen, D. J., Halpern, M., Hilton, G., Hinderks, J., Hinshaw, G., Irwin, K., Jackson, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2010
- **ZEUS-2: a second generation submillimeter grating spectrometer for exploring distant galaxies**  
Ferkinhoff, C., Nikola, T., Parshley, S. C., Stacey, G. J., Irwin, K. D., Cho, H., Halpern, M., Holland, W. S., Zmuidzinas, J.  
SPIE-INT SOC OPTICAL ENGINEERING.2010
- **A 350 GHz high-resolution high-sensitivity passive video imaging system**  
Becker, D., Beall, J., Cho, H., Duncan, W., Hilton, G., Horansky, R., Irwin, K., Lowell, P., Niemack, M., Paulter, N., Reintsema, C., Schima, F., Schwall, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2010
- **90 GHz AND 150 GHz OBSERVATIONS OF THE ORION M42 REGION. A SUBMILLIMETER TO RADIO ANALYSIS** *ASTROPHYSICAL JOURNAL*  
Dicker, S. R., Mason, B. S., Korngut, P. M., Cotton, W. D., Compiegne, M., Devlin, M. J., Martin, P. G., Ade, P. R., Benford, D. J., Irwin, K. D., Maddalena, R. J., McMullin, J. P., Shepherd, et al  
2009; 705 (1): 226–36
- **Microcalorimeter arrays for ultra-high energy resolution X- and gamma-ray detection** *JOURNAL OF RADIOANALYTICAL AND NUCLEAR CHEMISTRY*  
Hoover, A. S., Bacrania, M. K., Hoteling, N. J., Karpus, P. J., Rabin, M. W., Rudy, C. R., Vo, D. T., Beall, J. A., Bennett, D. A., Doriese, W. B., Hilton, G. C., Horansky, R. D., Irwin, et al  
2009; 282 (1): 227–32
- **Superconducting quantum interference device amplifiers with over 27 GHz of gain-bandwidth product operated in the 4-8 GHz frequency range** *APPLIED PHYSICS LETTERS*  
Spietz, L., Irwin, K., Aumentado, J.  
2009; 95 (9)
- **90 GHz OBSERVATIONS OF M87 AND HYDRA A** *ASTROPHYSICAL JOURNAL*  
Cotton, W. D., Mason, B. S., Dicker, S. R., Korngut, P. M., Devlin, M. J., Aquirre, J., Benford, D. J., Moseley, S. H., Staguhn, J. G., Irwin, K. D., Ade, P.  
2009; 701 (2): 1872–79
- **Large-Area Microcalorimeter Detectors for Ultra-High-Resolution X-Ray and Gamma-Ray Spectroscopy** *IEEE TRANSACTIONS ON NUCLEAR SCIENCE*  
Bacrania, M. K., Hoover, A. S., Karpus, P. J., Rabin, M. W., Rudy, C. R., Vo, D. T., Beall, J. A., Bennett, D. A., Doriese, W. B., Hilton, G. C., Horansky, R. D., Irwin, K. D., Jethava, et al  
2009; 56 (4): 2299–2302
- **A First Application of the FRAM Isotopic Analysis Code to High-Resolution Microcalorimetry Gamma-Ray Spectra** *IEEE TRANSACTIONS ON NUCLEAR SCIENCE*  
Karpus, P. J., Vo, D., Bacrania, M., Beall, J., Bennett, D., Doriese, R. W., Hilton, G., Hoover, A., Horansky, R., Irwin, K., Rabin, M., Reintsema, C., Rudy, et al  
2009; 56 (4): 2284–89
- **Application of GEANT4 to the Simulation of High Energy-Resolution Microcalorimeter Detectors** *IEEE TRANSACTIONS ON NUCLEAR SCIENCE*  
Hoover, A. S., Bacrania, M. K., Karpus, P. J., Rabin, M. W., Rudy, C. R., Vo, D. T., Beall, J. A., Doriese, W. B., Hilton, G. C., Horansky, R. D., Irwin, K. D., Ullom, J. N., Vale, et al  
2009; 56 (4): 2294–98

- **Bandwidth and Dynamic Range of a Widely Tunable Josephson Parametric Amplifier**  
Castellanos-Beltran, M. A., Irwin, K. D., Vale, L. R., Hilton, G. C., Lehnert, K. W.  
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2009: 944–47
- **Time-of-Flight Mass Spectrometry With Latching Nb Meander Detectors**  
Estey, B. V., Beall, J. A., Hilton, G. C., Irwin, K. D., Schmidt, D. R., Ullom, J. N., Schwall, R. E.  
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2009: 382–85
- **Improved Isotopic Analysis With a Large Array of Gamma-Ray Microcalorimeters**  
Jethava, N., Ullom, J. N., Bennett, D. A., Doriese, W. B., Beall, J. A., Hilton, G. C., Horansky, R. D., Irwin, K. D., Sassi, E., Vale, L. R., Bacrania, M. K., Hoover, A. S., Karpus, et al  
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2009: 536–39
- **Micro-X, the TES X-ray Imaging Rocket: First Year Progress**  
Wikus, P., Rutherford, J. M., Adams, J. S., Bagdasarova, Y., Bandler, S. R., Bautz, M., Boyce, K., Brown, G., Deiker, S., Doriese, W. B., Figueroa-Feliciano, E., Flanagan, K., Galeazzi, et al  
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2009: 553–56
- **Anomalous Thermal Behavior in Microcalorimeter Gamma-Ray Detectors**  
Horansky, R. D., Beall, J. A., Irwin, K. D., Ullom, J. N., Cabrera, B., Miller, A., Young, B.  
AMER INST PHYSICS.2009: 733–36
- **The X-Ray Microcalorimeter Spectrometer for the International X-Ray Observatory**  
Kelley, R. L., Bandler, S. R., Doriese, W. B., Ezoe, Y., Fujimoto, R., Gottardi, L., den Hartog, R., den Herder, J., Hoevers, H., Irwin, K., Ishisaki, Y., Kilbourne, C. A., de Korte, et al  
AMER INST PHYSICS.2009: 757–+
- **Antenna-coupled TES Arrays For The BICEP2/Keck and SPIDER polarimeters**  
Orlando, A., Aikin, R. W., Amiri, M., Bock, J. J., Bonetti, J. A., Brevik, J. A., Burger, B., Day, P. K., Filippini, J. P., Golwala, S. R., Halpern, M., Hasselfield, M., Hilton, et al  
AMER INST PHYSICS.2009: 471–+
- **Shannon Limits for Low-Temperature Detector Readout**  
Irwin, K. D., Cabrera, B., Miller, A., Young, B.  
AMER INST PHYSICS.2009: 229–36
- **Progress Toward Corrugated Feed Horn Arrays in Silicon**  
Britton, J., Yoon, K. W., Beall, J. A., Becker, D., Cho, H. M., Hilton, G. C., Niemack, M. D., Irwin, K. D., Cabrera, B., Miller, A., Young, B.  
AMER INST PHYSICS.2009: 375–78
- **Characterization of Thermal Cross-talk in a gamma-ray Microcalorimeter Array**  
Jethava, N., Ullom, J. N., Bennett, D. A., Irwin, K. D., Horansky, R. D., Beall, J. A., Hilton, G. C., Vale, L. R., Hoover, A., Bacrania, M. K., Rabin, M. W., Cabrera, B., Miller, et al  
AMER INST PHYSICS.2009: 34–+
- **New Science Case for the Micro-X High Energy Resolution Microcalorimeter X-ray Imaging Rocket**  
Figueroa-Feliciano, E., Adams, J. S., Baker, R., Bandler, S. R., DeLaney, T. A., Dewey, D., Doriese, W. B., Eckart, M. E., Galeazzi, M., Goeke, R., Hamersma, R., Hilton, G. C., Hwang, et al  
AMER INST PHYSICS.2009: 426–+
- **Optimal filtering, record length, and count rate in transition-edge-sensor microcalorimeters**  
Doriese, W. B., Adams, J. S., Hilton, G. C., Irwin, K. D., Kilbourne, C. A., Schima, F. J., Ullom, J. N., Cabrera, B., Miller, A., Young, B.  
AMER INST PHYSICS.2009: 450–+
- **Characterizing and Modeling the Noise and Complex Impedance of Feedhorn-Coupled TES Polarimeters**  
Appel, J. W., Austermann, J. E., Beall, J. A., Becker, D., Benson, B. A., Bleem, L. E., Britton, J., Chang, C. L., Carlstrom, J. E., Cho, H. M., Crites, A. T., Essinger-Hileman, T., Everett, et al  
AMER INST PHYSICS.2009: 211–+
- **Electronics for a Next-Generation SQUID-Based Time-Domain Multiplexing System**



- Reintsema, C. D., Adams, J. S., Baker, R., Bandler, S. R., Doriese, W. R., Figueroa-Feliciano, E., Hilton, G. C., Irwin, K. D., Kelly, R. L., Kilbourne, C. A., Krinsky, J. W., Porter, F. S., Wikus, et al  
AMER INST PHYSICS.2009: 237-+
- **The Detector and Readout Systems of the Micro-X High Resolution Microcalorimeter X-Ray Imaging Rocket**  
Wikus, P., Doriese, W. B., Eckart, M. E., Adams, J. S., Bandler, S. R., Brekosky, R. P., Chervenak, J. A., Ewin, A. J., Figueroa-Feliciano, E., Finkbeiner, F. M., Galeazzi, M., Hilton, G., Irwin, et al  
AMER INST PHYSICS.2009: 434-+
  - **Optical properties of Feedhorn-coupled TES polarimeters for CMB polarimetry**  
Bleem, L. E., Appel, J. W., Austermann, J. E., Beall, J. A., Becker, D. T., Benson, B. A., Britton, J., Carlstrom, J. E., Chang, C. L., Cho, H. M., Crites, A. T., Essinger-Hileman, T., Everett, et al  
AMER INST PHYSICS.2009: 479-+
  - **Planar Orthomode Transducers for Feedhorn-coupled TES Polarimeters**  
McMahon, J., Appel, J. W., Austermann, J. E., Beall, J. A., Becker, D., Benson, B. A., Bleem, L. E., Britton, J., Chang, C. L., Carlstrom, J. E., Cho, H. M., Crites, A. T., Essinger-Hileman, et al  
AMER INST PHYSICS.2009: 490-+
  - **The Atacama B-Mode Search: CMB Polarimetry with Transition-Edge-Sensor Bolometers**  
Essinger-Hileman, T., Appel, J. W., Beall, J. A., Cho, H. M., Fowler, J., Halpern, M., Hasselfield, M., Irwin, K. D., Marriage, T. A., Niemack, M. D., Page, L., Parker, L. P., Pufu, et al  
AMER INST PHYSICS.2009: 494-+
  - **Measurements of Bolometer Uniformity for Feedhorn Coupled TES Polarimeters**  
Austermann, J. E., Niemack, M. D., Appel, J. W., Beall, J. A., Becker, D., Bennett, D. A., Benson, B. A., Bleem, L. E., Britton, J., Carlstrom, J. E., Chang, C. L., Cho, H. M., Crites, et al  
AMER INST PHYSICS.2009: 498-+
  - **Feedhorn-Coupled TES Polarimeters for Next-Generation CMB Instruments**  
Yoon, K. W., Appel, J. W., Austermann, J. E., Beall, J. A., Becker, D., Benson, B. A., Bleem, L. E., Britton, J., Chang, C. L., Carlstrom, J. E., Cho, H., Crites, A. T., Essinger-Hileman, et al  
AMER INST PHYSICS.2009: 515-+
  - **SPTpol: an instrument for CMB polarization**  
McMahon, J. J., Aird, K. A., Benson, B. A., Bleem, L. E., Britton, J., Carlstrom, J. E., Chang, C. L., Cho, H. S., de Haan, T., Crawford, T. M., Crites, A. T., Datesman, A., Dobbs, et al  
AMER INST PHYSICS.2009: 511-+
  - **MICRO-X, THE HIGH RESOLUTION SOUNDING ROCKET X-RAY IMAGING SPECTROMETER**  
Wikus, P., Adams, J. S., Baker, R., Bandler, S. R., DeLaney, T. A., Dewey, D., Doriese, W. B., Eckart, M. E., Figueroa-Feliciano, E., Galeazzi, M., Goeke, R., Hamersma, R., Hilton, et al  
EUROPEAN SPACE AGENCY.2009: 573-77
  - **a Dependence of Excess Noise on the Partial Derivatives of Resistance in Superconducting Transition Edge Sensors**  
Jethava, N., Ullom, J. N., Irwin, K. D., Doriese, W. B., Beall, J. A., Hilton, G. C., Vale, L. R., Zink, B., Cabrera, B., Miller, A., Young, B.  
AMER INST PHYSICS.2009: 31-+
  - **SPIDER OPTIMIZATION: PROBING THE SYSTEMATICS OF A LARGE-SCALE B-MODE EXPERIMENT** *ASTROPHYSICAL JOURNAL*  
MacTavish, C. J., Ade, P. R., Battistelli, E. S., Benton, S., Bihary, R., Bock, J. J., Bond, J. R., Brevik, J., Bryan, S., Contaldi, C. R., Crill, B. P., Dore, O., Fissel, et al  
2008; 689 (2): 655-65
  - **Amplification and squeezing of quantum noise with a tunable Josephson metamaterial** *NATURE PHYSICS*  
Castellanos-Beltran, M. A., Irwin, K. D., Hilton, G. C., Vale, L. R., Lehnert, K. W.  
2008; 4 (12): 929-31
  - **Superconducting calorimetric alpha particle sensors for nuclear nonproliferation applications** *APPLIED PHYSICS LETTERS*  
Horansky, R. D., Ullom, J. N., Beall, J. A., Hilton, G. C., Irwin, K. D., Dry, D. E., Hastings, E. P., Lamont, S. P., Rudy, C. R., Rabin, M. W.  
2008; 93 (12)

- **Input impedance and gain of a gigahertz amplifier using a dc superconducting quantum interference device in a quarter wave resonator** *APPLIED PHYSICS LETTERS*  
Spietz, L., Irwin, K., Aumentado, J.  
2008; 93 (8)
- **Analysis of nuclear material by alpha spectroscopy with a transition-edge microcalorimeter** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Horansky, R. D., Ullom, J. N., Beall, J. A., Hilton, G. C., Irwin, K. D., Vale, L., Dry, D., Lamont, S. P., Rudy, C. R., Rabin, M. W.  
2008; 151 (3-4): 1067–73
- **Functional description of read-out electronics for time-domain multiplexed bolometers for millimeter and sub-millimeter astronomy** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Battistelli, E. S., Amiri, M., Burger, B., Halpern, M., Knotek, S., Ellis, M., Gao, X., Kelly, D., MacIntosh, M., Irwin, K., Reintsema, C.  
2008; 151 (3-4): 908–14
- **The EBIT calorimeter spectrometer: A new, permanent user facility at the LLNL EBIT** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Porter, F. S., Beiersdorfer, P., Brown, G. V., Doriese, W., Gygax, J., Kelley, R. L., Kilbourne, C. A., King, J., Irwin, K., Reintsema, C., Ullom, J.  
2008; 151 (3-4): 1061–66
- **Operation of an X-ray transition-edge sensor cooled by tunnel junction refrigerators** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Miller, N. A., Beall, J. A., Hilton, G. C., Irwin, K. D., O'Neil, G. C., Schmidt, D. R., Vale, L. R., Ullom, J. N.  
2008; 151 (3-4): 635–39
- **Micro-X: Mission overview and science goals** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Figueroa-Feliciano, E., Bandler, S. R., Bautz, M., Brown, G., Deiker, S., Doriese, W. B., Flanagan, K., Galeazzi, M., Hilton, G. C., Hwang, U., Irwin, K. D., Kallman, T., Kelley, et al  
2008; 151 (3-4): 740–45
- **A kilopixel array of TES bolometers for ACT: Development, testing, and first light** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Niemack, M. D., Zhao, Y., Wollack, E., Thornton, R., Switzer, E. R., Swetz, D. S., Staggs, S. T., Page, L., Stryzak, O., Moseley, H., Marriage, T. A., Limon, M., Lau, et al  
2008; 151 (3-4): 690–96
- **X-ray microcalorimeter research for solar physics at LMSAL and NIST: An update** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Stern, R. A., Rausch, A., Deiker, S., Martinez-Galarce, D., Shing, L., Irwin, K. D., Ullom, J. N., O'Neil, G., Hilton, G., Vale, L.  
2008; 151 (3-4): 721–26
- **An optical system for body imaging from a distance using near-TeraHertz frequencies** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Duncan, W. D., Schwall, R. E., Irwin, K. D., Beall, J. A., Reintsema, C. D., Doriese, W., Cho, H., Estey, B., Chattopadhyay, G., Ade, P., Tucker, C.  
2008; 151 (3-4): 777–83
- **Toward a 256-pixel array of gamma-ray microcalorimeters for nuclear-materials analysis** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Doriese, W. B., Ullom, J. N., Beall, J. A., Duncan, W. D., Ferreira, L., Hilton, G. C., Horansky, R. D., Irwin, K. D., Mates, J. B., Reintsema, C. D., Schmidt, D. R., Vale, L. R., Xu, et al  
2008; 151 (3-4): 754–59
- **A TDMA hybrid SQUID multiplexer** *JOURNAL OF LOW TEMPERATURE PHYSICS*  
Reintsema, C. D., Beall, J., Doriese, W., Duncan, W., Ferreira, L., Hilton, G. C., Irwin, K. D., Schmidt, D., Ullom, J., Vale, L., Xu, Y.  
2008; 151 (3-4): 927–33
- **High resolution x-ray transition-edge sensor cooled by tunnel junction refrigerators** *APPLIED PHYSICS LETTERS*  
Miller, N. A., O'Neil, G. C., Beall, J. A., Hilton, G. C., Irwin, K. D., Schmidt, D. R., Vale, L. R., Ullom, J. N.  
2008; 92 (16)
- **Design, fabrication, and multiplexing of magnetic calorimeter X-ray detectors with high-efficiency SQUID readout**  
Sultan, R., Zink, B. L., Irwin, K. D., Hilton, G. C., Ullom, J. N., Vale, L. R.  
SPRINGER/PLENUM PUBLISHERS.2008: 363–68
- **Demonstration of a multiplexer of dissipationless superconducting quantum interference devices** *APPLIED PHYSICS LETTERS*  
Mates, J. B., Hilton, G. C., Irwin, K. D., Vale, L. R., Lehnert, K. W.  
2008; 92 (2)

- **Multiplexed readout of uniform arrays of TES x-ray micro calorimeters suitable for Constellation-X**  
Kilbourne, C. A., Doriese, W., Bandler, S. R., Brekosky, R. P., Brown, A., Chervenak, J. A., Eckart, M. E., Finkbeiner, F. M., Hilton, G. C., Irwin, K. D., Iyomoto, N., Kelley, R. L., Porter, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2008
- **SPIDER: a balloon-borne large-scale CMB polarimeter**  
Crill, B. P., Ade, P. R., Battistelli, E. S., Benton, S., Bihary, R., Bock, J. J., Bond, J. R., Brevik, J., Bryan, S., Contaldi, C. R., Dore, O., Farhang, M., Fissel, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2008
- **MUSTANG: 90 GHz Science with the Green Bank Telescope**  
Dicker, S. R., Korngut, P. M., Mason, B. S., Ade, P. R., Aguirre, J., Ames, T. J., Benford, D. J., Chen, T. C., Chervenak, J. A., Cotton, W. D., Devlin, M. J., Figueroa-Feliciano, E., Irwin, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2008
- **Characterization of Transition Edge Sensors for the Millimeter Bolometer Array Camera on the Atacama Cosmology Telescope**  
Zhao, Y., Allen, C., Amiri, M., Appel, J. W., Battistelli, E. S., Burger, B., Chervenak, J. A., Dahlen, A. J., Denny, S., Devlin, M. J., Dicker, S. R., Doriese, W. B., Dunner, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2008
- **The CLOVER Experiment**  
Piccirillo, L., Ade, P., Audley, M. D., Baines, C., Battye, R., Brown, M., Calisse, P., Challinor, A., Duncan, W. D., Ferreira, P., Gear, W., Glowacka, D. M., Goldie, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2008
- **The effects of the mechanical performance and alignment of the Atacama Cosmology Telescope on the sensitivity of microwave observations**  
Hincks, A. D., Ade, P. R., Allen, C., Amiri, M., Appel, J. W., Battistelli, E. S., Burger, B., Chervenak, J. A., Dahlen, A. J., Denny, S., Devlin, M. J., Dicker, S. R., Doriese, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2008
- **Opto-mechanical design and performance of a compact three-frequency camera for the Millimeter Bolometer Array Camera on the Atacama Cosmology Telescope**  
Thornton, R. J., Ade, P. R., Allen, C., Amiri, M., Appel, J. W., Battistelli, E. S., Burger, B., Chervenak, J. A., Devlin, M. J., Dicker, S. R., Doriese, W. B., Essinger-Hileman, T., Fisher, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2008
- **Automatic setup of SCUBA-2 Detector Arrays**  
Gao, X., Kelly, D., Holland, W. S., MacIntosh, M. J., Lunney, D., Bintley, D., Hilton, G. C., Irwin, K. D., Reintsema, C. D., Amiri, M., Burger, B., Halpern, M., Duncan, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2008
- **Automated SQUID tuning procedure for kilo-pixel arrays of TES bolometers on the Atacama Cosmology Telescope**  
Battistelli, E. S., Amiri, M., Burger, B., Devlin, M. J., Dicker, S. R., Doriese, W. B., Dunner, R., Fisher, R. P., Fowler, J. W., Halpern, M., Hasselfield, M., Hilton, G. C., Hincks, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2008
- **Systems and control software for the Atacama Cosmology Telescope**  
Switzer, E. R., Allen, C., Amiri, M., Appel, J. W., Battistelli, E. S., Burger, B., Chervenak, J. A., Dahlen, A. J., Das, S., Devlin, M. J., Dicker, S. R., Doriese, W. B., Duenner, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2008
- **Progress on the Micro-X rocket payload** *Conference on Space Telescopes and Instrumentation 2008 - Ultraviolet to Gamma Ray*  
Figueroa-Feliciano, E., Wikus, P., Adams, J. S., Bandler, S. R., Bautz, M., Boyce, K., Brown, G., Deiker, S., Doriese, W. B., Flanagan, K., Galeazzi, M., Hilton, G. C., Hwang, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2008
- **BICEP2/SPUD: Searching for inflation with degree scale polarimetry from the South Pole**  
Nguyen, H., Kovac, J., Ade, P., Aikin, R., Benton, S., Bock, J., Brevik, J., Carlstrom, J., Dowell, D., Duband, L., Golwala, S., Halpern, M., Hasselfield, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2008
- **Recent developments in transition-edge strip detectors for solar x-rays**  
Rausch, A. J., Deiker, S. W., Hilton, G., Irwin, K. D., Martinez-Galarce, D. S., Shing, L., Stern, R. A., Ullom, J. N., Vale, L. R., Turner, M. J., Flanagan, K. A.

SPIE-INT SOC OPTICAL ENGINEERING.2008

- **Superconducting absorbers for use in ultra-high resolution gamma-ray spectrometers based on low temperature microcalorimeter arrays**  
Horansky, R. D., Ullom, J. N., Beall, J. A., Doriese, W. B., Durican, W. D., Ferreira, L., Hilton, G. C., Irwin, K. D., Reintsema, C. D., Vale, L. R., Zink, B. L., Hoover, A., Rudy, et al  
ELSEVIER SCIENCE BV.2007: 169–72
- **Multiplexed microcalorimeter arrays for precision measurements from microwave to gamma-ray wavelengths**  
Ullom, J. N., Doriese, W. B., Beall, J. A., Duncan, W. D., Ferreira, L., Hilton, G. C., Horansky, R. D., Irwin, K. D., Jach, T., Mates, B., Miller, N. A., O'Neil, G. C., Reintsema, et al  
ELSEVIER SCIENCE BV.2007: 161–64
- **Evaluation of a microwave SQUID multiplexer prototype**  
Lehnert, K. W., Irwin, K. D., Castellanos-Beltran, M. A., Mates, J. B., Vale, L. R.  
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2007: 705–9
- **14-pixel, multiplexed array of gamma-ray microcalorimeters with 47 eV energy resolution at 103 keV** *APPLIED PHYSICS LETTERS*  
Doriese, W. B., Ullom, J. N., Beall, J. A., Duncan, W. D., Ferreira, L., Hilton, G. C., Horansky, R. D., Irwin, K. D., Mates, J. B., Reintsema, C. D., Vale, L. R., Xu, Y., Zink, et al  
2007; 90 (19)
- **MARE, Microcalorimeter Arrays for a Rhenium Experiment: A detector overview**  
Andreotti, E., Arnaboldi, C., de Bernardis, P., Beyer, J., Brofferio, C., Calvo, M., Capelli, S., Cremonesi, O., Enss, C., Fiorini, E., Fleischmann, A., Foggetta, L., Galeazzi, et al  
ELSEVIER SCIENCE BV.2007: 208–10
- **Electrical and optical measurements on the first SCUBA-2 prototype 1280 pixel submillimeter superconducting bolometer array** *REVIEW OF SCIENTIFIC INSTRUMENTS*  
Woodcraft, A. L., Ade, P. R., Bintley, D., House, J. S., Hunt, C. L., Sudiwala, R. V., Doriese, W. B., Duncan, W. D., Hilton, G. C., Irwin, K. D., Reintsema, C. D., Ullom, J. N., Audley, et al  
2007; 78 (2): 024502
- **MUSTANG. First light and current status**  
Dicker, S. R., Mason, B. S., Korgut, P. M., Abrahams, J. H., Ade, P. R., Aguirre, J., Ames, T. J., Benford, D. J., Chen, T. C., Chervenak, J. A., Cotton, W. D., Devlin, M. J., Figueroa-Feliciano, et al  
IEEE.2007: 325–+
- **SCUBA-2: A large-format CCD-style imager for submillimeter astronomy**  
Audley, M. D., Holland, W., Atkinson, D., Cliffe, M., Ellis, M., Gao, X., Gostick, D., Hodson, T., Kelly, D., MacIntosh, M., McGregor, H., Montgomery, D., Smith, et al  
SPRINGER-VERLAG BERLIN.2007: 45–+
- **Superconducting bolometers for submillimeter spectroscopy from ground-based, airborne, and space platforms**  
Benford, D. J., Staguhn, J. G., Moseley, S., Allen, C. A., Chervenak, J. A., Irwin, K. D., Dicker, S. R., Devlin, M. J., Nikola, T., Oberst, T. E., Stacey, G. J., Baker, A. J., Glenn, et al  
ASTRONOMICAL SOC PACIFIC.2007: 217–+
- **Simulating the response of ultra-high energy resolution X- and gamma-ray microcalorimeter detectors**  
Hoover, A. S., Bacrania, M. K., Dry, D., Hastings, E. P., Lamont, S. P., Rim, J. H., Rabin, M. W., Rudy, C. R., Vo, D. T., Beall, J. A., Doriese, W. B., Hilton, G. C., Horansky, et al  
IEEE.2007: 847–49
- **Tests of finline-coupled TES bolometers for CLOVER**  
Audley, M. D., Glowacka, D. M., Goldie, D. J., Lasenby, A. N., Tsaneva, V. N., Withington, S., Grimes, P. K., North, C. E., Yassin, G., Piccirillo, L., Pisano, G., Ade, P. R., Teleberg, et al  
IEEE.2007: 175–+
- **PAPPA: Primordial anisotropy polarization pathfinder array**  
Kogut, A., Chuss, D. T., Fixsen, D., Hinshaw, G. F., Limon, M., Moseley, S. H., Phillips, N., Sharp, E., Wollack, E. J., U-Yen, K., Cao, N., Stevenson, T., Hsieh, et al  
ELSEVIER SCI LTD.2006: 1009–14

- **Seeing with superconductors** *SCIENTIFIC AMERICAN*  
Irwin, K. D.  
2006; 295 (5): 86-+
- **Array-compatible transition-edge sensor microcalorimeter gamma-ray detector with 42 eV energy resolution at 103 keV** *APPLIED PHYSICS LETTERS*  
Zink, B. L., Ullom, J. N., Beall, J. A., Irwin, K. D., Doriese, W. B., Duncan, W. D., Ferreira, L., Hilton, G. C., Horansky, R. D., Reintsema, C. D., Vale, L. R.  
2006; 89 (12)
- **The SuperCDMS proposal for dark matter detection** *11th International Workshop on Low-Temperature Detectors*  
Akerib, D. S., Attisha, M. J., Bailey, C. N., Baudis, L., Bauer, D. A., Brink, P. L., Brusov, P. P., Bunker, R., Cabrera, B., Caldwell, D. O., Chang, C. L., Cooley, J., Crisler, et al  
ELSEVIER SCIENCE BV.2006: 411-13
- **Antenna-coupled TES bolometers for the SPIDER experiment**  
Kuo, C. L., Ade, P., Bock, J. J., Day, P., Goldin, A., Golwala, S., Halpern, M., Hilton, G., Holmes, W., Hristov, Irwin, K., Jones, W. C., Kenyon, M., et al  
ELSEVIER SCIENCE BV.2006: 608-10
- **Erbium-doped gold sensor films for magnetic microcalorimeter x-ray detectors** *JOURNAL OF APPLIED PHYSICS*  
Zink, B. L., Irwin, K. D., Hilton, G. C., Ullom, J. N., Pappas, D. P.  
2006; 99 (8)
- **Microwave SQUID multiplexers for low-temperature detectors**  
Irwin, K. D., Beall, J. A., Doriese, W. B., Duncan, W. D., Hilton, G. C., Mates, J. A., Reintsema, C. D., Schmidt, D. R., Ullom, J. N., Vale, L. R., Zink, B. L., Lehnert, K. W.  
ELSEVIER SCIENCE BV.2006: 802-4
- **Optimization of transition-edge calorimeter performance**  
Ullom, J. N., Beall, J. A., Doriese, W. B., Duncan, W. D., Ferreira, L., Hilton, G. C., Irwin, K. D., O'Neil, G. C., Reintsema, C. D., Vale, L. R., Zink, B. L.  
ELSEVIER SCIENCE BV.2006: 422-25
- **Fabrication of prototype imaging arrays for SCUBA-2**  
Hilton, G. C., Beall, J. A., Doriese, W. B., Duncan, W. D., Ferreira, L. S., Irwin, K. D., Reintsema, C. D., Ullom, J. N., Vale, L. R., Xu, Y., Zink, B. L., Parkes, W., Bunting, et al  
ELSEVIER SCIENCE BV.2006: 513-15
- **Normal metal-insulator-superconductor junction technology for bolometers**  
Schmidt, D. R., Duncan, W. D., Irwin, K. D., Lehnert, K. W., Miller, N. A., Ullom, J. N.  
ELSEVIER SCIENCE BV.2006: 516-18
- **Development of a solid-state 100 mK refrigerator for user-supplied microelectronics**  
Miller, N. A., Duncan, W. D., Beall, J. A., Hilton, G. C., Irwin, K. D., Schmidt, D. R., Ullom, J. N.  
ELSEVIER SCIENCE BV.2006: 633-35
- **Thermodynamics of nonlinear bolometers near equilibrium**  
Irwin, K. D.  
ELSEVIER SCIENCE BV.2006: 718-20
- **Digital readouts for large microwave low-temperature detector arrays**  
Mazin, B. A., Day, P. K., Irwin, K. D., Reintsema, C. D., Zmuidzinas, J.  
ELSEVIER SCIENCE BV.2006: 799-801
- **Progress toward kilopixel arrays: 3.8 eV microcalorimeter resolution in 8-channel SQUID multiplexer**  
Doriese, W. B., Beall, J. A., Duncan, W. D., Ferreira, L., Hilton, G. C., Irwin, K. D., Reintsema, C. D., Ullom, J. N., Vale, L. R., Xu, Y.  
ELSEVIER SCIENCE BV.2006: 808-10
- **TES imaging array technology for CLOVER**  
Audley, M. D., Barker, R. W., Crane, M., Dace, R., Glowacka, D., Goldie, D. J., Lasenby, A. N., Stevenson, H. M., Tsaneva, V., Withington, S., Grimes, P., Johnson, B., Yassin, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2006

- **The Primordial Anisotropy Polarization Pathfinder Array (PAPPA): Instrument overview and status**  
Chuss, D. T., Kogut, A., Fixsen, D., Hinshaw, G. F., Limon, M., Moseley, S. H., Phillips, N., Sharp, E., Wollack, E. J., U-Yen, K., Cao, N., Stevenson, T., Hsieh, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2006
- **SCUBA-2: a 10,000 pixel submillimeter camera for the James Clerk Maxwell Telescope**  
Holland, W., MacIntosh, M., Fairley, A., Kelly, D., Montgomery, D., Gostick, D., Atad-Ettedgui, E., Ellis, M., Robson, I., Hollister, M., Woodcraft, A., Ade, P., Walker, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2006
- **Characterization of a prototype SCUBA-2 1280 pixel submillimetre superconducting bolometer array**  
Woodcraft, A. L., Hollister, M. I., Bintley, D., Ellis, M. A., Gao, X., Holland, W. S., MacIntosh, M. J., Ade, P. R., House, J. S., Hunt, C. L., Sudiwala, R. V., Duncan, W. D., Hilton, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2006
- **Monte Carlo Studies of High Resolution Microcalorimeter Detectors**  
Hoover, A. S., Rabin, M. W., Rudy, C. R., Tournear, D. M., Vo, D. T., Beall, J. A., Doriese, W. B., Horansky, R. D., Irwin, K. D., Ullom, J. N., Zink, B. L., Chesson, K. E., IEEE  
IEEE.2006: 1268–72
- **Microcalorimeter Nuclear Spectrometers**  
Rabin, M. W., Hoover, A. S., Rudy, C. R., Lamont, S. P., Tournear, D. M., Vo, D. T., Beall, J. A., Doriese, W. B., Duncan, W. D., Ferreira, L., Hilton, G. C., Horansky, R. D., Irwin, et al  
IEEE.2006: 544–47
- **High Resolution Alpha Particle Spectroscopy with Cryogenic Microcalorimeters**  
Ullom, J. N., Horansky, R. D., Beall, J. A., Doriese, W. B., Duncan, W. D., Ferreira, L., Hilton, G. C., Irwin, K. D., Reintsema, C. D., Vale, L., Rabin, M. W., Hoover, A. S., Lamont, et al  
IEEE.2006: 1630–32
- **First tests of prototype SCUBA-2 superconducting bolometer array**  
Woodcraft, A. L., Ade, P. R., Bintley, D., Hunt, C. L., Sudiwala, R. V., Hilton, G. C., Irwin, K. D., Reintsema, C. D., Audley, M. D., Holland, W. S., MacIntosh, M., Takano, Y., Hershfield, et al  
AMER INST PHYSICS.2006: 1611–+
- **A 90 GHz bolometer array for the Green Bank Telescope.**  
Dicker, S. R., Abrahams, J. A., Ade, P. R., Ames, T. J., Benford, D. J., Chen, T. C., Chervenak, J. A., Devlin, M. J., Irwin, K. D., Korngut, P. M., Maher, S., Mason, B. S., Mello, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2006
- **Science with Micro-X: the TES microcalorimeter X-ray imaging rocket - art. no. 62660A**  
Figueroa-Feliciano, E., Bandler, S. R., Bautz, M., Boyce, K., Browne, G., Deiker, S., Doriese, W. B., Flanagan, K., Galeazzi, M., Hilton, G. C., Hwang, U., Irwin, K. D., Kallman, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2006: A2660
- **Optimized transition-edge x-ray microcalorimeter with 2.4 eV energy resolution at 5.9 keV APPLIED PHYSICS LETTERS**  
Ullom, J. N., Beall, J. A., Doriese, W. B., Duncan, W. D., Ferreira, L., Hilton, G. C., Irwin, K. D., Reintsema, C. D., Vale, L. R.  
2005; 87 (19)
- **Measurements and modeling of phonon cooling by electron-tunneling refrigerators**  
Miller, N. A., Clark, A. M., Williams, A., Ruggiero, S. T., Hilton, G. C., Beall, J. A., Irwin, K. D., Vale, L. R., Ullom, J. N.  
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2005: 556–59
- **Cooling of bulk material by electron-tunneling refrigerators APPLIED PHYSICS LETTERS**  
Clark, A. M., Miller, N. A., Williams, A., Ruggiero, S. T., Hilton, G. C., Vale, L. R., Beall, J. A., Irwin, K. D., Ullom, J. N.  
2005; 86 (17)
- **Prototype detector technology for the SCUBA-2 submillimetre bolometer array PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART N-JOURNAL OF NANOMATERIALS NANOENGINEERING AND NANOSYSTEMS**  
Walton, A. J., Parkes, W., Terry, J. G., Dunare, C., Stevenson, J. M., Gundlach, A. M., Bunting, A., Smith, S., Hilton, G. C., Irwin, K. D., Ullom, J. N., Duncan, W. D., Holland, et al

2005; 219 (1): 11–21

- **A superconductor-insulator-normal metal bolometer with microwave readout suitable for large-format arrays** *APPLIED PHYSICS LETTERS*  
Schmidt, D. R., Lehnert, K. W., Clark, A. M., Duncan, W. D., Irwin, K. D., Miller, N., Ullom, J. N.  
2005; 86 (5)
- **Development of large arrays of microcalorimeters for precision gamma-ray Spectroscopy**  
Ullom, J. N., Zink, B. L., Beall, J. A., Doriese, W. B., Duncan, W. D., Ferreira, L., Hilton, G. C., Irwin, K. D., Reintsema, C. D., Vale, L. R., Rabin, M. W., Hoover, A., Rudy, et al  
IEEE.2005: 1154–58
- **Transition-edge sensors** *CRYOGENIC PARTICLE DETECTION*  
Irwin, K. D., Hilton, G. C., Enss, C.  
2005; 99: 63–149
- **Electron probe microanalysis with cryogenic detectors** *CRYOGENIC PARTICLE DETECTION*  
Newbury, D. E., Irwin, K. D., Hilton, G. C., Wollman, D. A., Small, J. A., Martinis, J. M., Enss, C.  
2005; 99: 267–312
- **Time-division multiplexing of high-resolution x-ray microcalorimeters: Four pixels and beyond** *APPLIED PHYSICS LETTERS*  
Doriese, W. B., Beall, J. A., Deiker, S., Duncan, W. D., Ferreira, L., Hilton, G. C., Irwin, K. D., Reintsema, C. D., Ullom, J. N., Vale, L. R., Xu, Y.  
2004; 85 (20): 4762–64
- **Superconducting transition edge sensor using dilute AlMn alloys** *APPLIED PHYSICS LETTERS*  
Deiker, S. W., Doriese, W., Hilton, G. C., Irwin, K. D., Rippard, W. H., Ullom, J. N., Vale, L. R., Ruggiero, S. T., Williams, A., Young, B. A.  
2004; 85 (11): 2137–39
- **Microwave SQUID multiplexer** *APPLIED PHYSICS LETTERS*  
Irwin, K. D., Lehnert, K. W.  
2004; 85 (11): 2107–9
- **Characterization and reduction of unexplained noise in superconducting transition-edge sensors** *APPLIED PHYSICS LETTERS*  
Ullom, J. N., Doriese, W. B., Hilton, G. C., Beall, J. A., Deiker, S., Duncan, W. D., Ferreira, L., Irwin, K. D., Reintsema, C. D., Vale, L. R.  
2004; 84 (21): 4206–8
- **The Advanced Technology Solar Spectroscopic Imager - a novel experiment employing a transition-edge sensor to probe the soft X-ray solar corona** *10th International Workshop on Low Temperature Detectors*  
Boerner, P., Martinez-Galarce, D. S., Wamba, K., Cabrera, B., Deiker, S., Irwin, K., Barbee, T. W., Baker, P. C.  
ELSEVIER SCIENCE BV.2004: 372–75
- **SCUBA-2 arrays to system interfaces**  
Duncan, W., Audley, D., Holland, W., Atkinson, D., Baillie, T., Cliffe, M., Ellis, M., Gao, Gostick, D., Hodson, T., Kelly, D., MacIntosh, M., McGregor, H., et al  
ELSEVIER SCIENCE BV.2004: 427–30
- **In-focal-plane SQUID multiplexer**  
Irwin, K. D., Audley, M. D., Beall, J. A., Beyer, J., Deiker, S., Doriese, W., Duncan, W., Hilton, G. C., Holland, W., Reintsema, C. D., Ullom, J. N., Vale, L. R., Xu, et al  
ELSEVIER SCIENCE BV.2004: 544–47
- **Lithographically patterned magnetic calorimeter X-ray detectors with integrated SQUID readout**  
Zink, B. L., Irwin, K. D., Hilton, G. C., Pappas, D. P., Ullom, J. N., Huber, M. E.  
ELSEVIER SCIENCE BV.2004: 52–55
- **Suppression of excess noise in Transition-Edge Sensors using magnetic field and geometry**  
Ullom, J. N., Doriese, W. B., Hilton, G. C., Beall, J. A., Deiker, S., Irwin, K. D., Reintsema, C. D., Vale, L. R., Xu, Y.  
ELSEVIER SCIENCE BV.2004: 333–35
- **A 90 GHz array for the green bank telescope**  
Benford, D. J., Devlin, M. J., Dicker, Irwin, K. D., Jewell, P. R., Klein, J., Mason, B. S., Moseley, H. S., Norrod, R. D., Supanich, M. P.  
ELSEVIER SCIENCE BV.2004: 387–89

- **X-ray microcalorimeter arrays fabricated by surface micromachining**  
Hilton, G. C., Beall, J. A., Deiker, S., Vale, L. R., Doriese, W. B., Beyer, J., Ullom, J. N., Reintsema, C. D., Xu, Y., Irwin, K. D.  
ELSEVIER SCIENCE BV.2004: 435–38
- **Fabrication of the SCUBA-2 detector arrays**  
Audley, M. D., Duncan, W. D., Holland, W. S., Walton, A., Parkes, W., Dunare, C., Gundlach, A., Stevenson, T., Irwin, K. D., Hilton, G. C., Schulte, E., Ade, P. A., Tucker, et al  
ELSEVIER SCIENCE BV.2004: 483–86
- **Time-division SQUID multiplexer for the readout of X-ray microcalorimeter arrays**  
Doriese, W. B., Beall, J. A., Beyer, J., Deiker, S., Ferreira, L., Hilton, G. C., Irwin, K. D., Martinis, J. M., Nam, S. W., Reintsema, C. D., Ullom, J. N., Vale, L. R., Xu, et al  
ELSEVIER SCIENCE BV.2004: 559–61
- **Robust infrared filters for X-ray spectroscopy**  
Miller, N. A., Ullom, J. N., Beall, J. A., Hilton, G. C., Deiker, S., Doriese, W. B., Irwin, K. D., Reintsema, C. D., Xu, Y.  
ELSEVIER SCIENCE BV.2004: 638–40
- **SCUBA-2: A large-format TES array for submillimetre astronomy** *10th International Workshop on Low Temperature Detectors*  
Audley, M. D., Holland, W. S., Duncan, W. D., Atkinson, D., Cliffe, M., Ellis, M., Gao, X., Gostick, D. C., Hodson, T., Kelly, D., MacIntosh, M. J., McGregor, H., Peacocke, et al  
ELSEVIER SCIENCE BV.2004: 479–82
- **Distributed transition-edge sensors for linearized position response in a phonon-mediated X-ray imaging spectrometer** *10th International Workshop on Low Temperature Detectors*  
Cabrera, B., Brink, P. L., Leman, S. W., Castle, J. P., Tomada, A., Young, B. A., Martinez-Galarce, D. S., Stern, R. A., Deiker, S., Irwin, K. D.  
ELSEVIER SCIENCE BV.2004: 502–4
- **Design and fabrication of the detector technology for SCUBA-2** *IEE PROCEEDINGS-SCIENCE MEASUREMENT AND TECHNOLOGY*  
Walton, A. J., Parkes, W., Terry, J. G., Dunare, C., Stevenson, J. T., Gundlach, A. M., Hilton, G. C., Irwin, K. D., Ullom, J. N., Holland, W. S., Duncan, W. D., Audley, M. D., Ade, et al  
2004; 151 (2): 110–20
- **Bias conditions of dc-SQUID for a time-domain SQUID multiplexer** *REVIEW OF SCIENTIFIC INSTRUMENTS*  
Beyer, J., Drung, D., Irwin, K. D.  
2004; 75 (2): 502–6
- **Design and fabrication of two-dimensional superconducting bolometer arrays**  
Benford, D. J., Staguhn, J. G., Stacey, G. J., Page, L. A., Moseley, S. H., Irwin, K. D., Chervenak, J. A., Allen, C. A., Zmuidzinas, J., Holland, W. S., Withington, S.  
SPIE-INT SOC OPTICAL ENGINEERING.2004: 647–58
- **A 90 GHz array for use on the Green Bank Telescope**  
Dicker, Ade, P. A., Benford, D. J., Devlin, M. J., Irwin, K. D., Jewell, P. R., Mason, B. S., Moseley, S. H., Supanich, M. P., Tucker, C., Oschmann, J. M.  
SPIE-INT SOC OPTICAL ENGINEERING.2004: 1221–29
- **A planar two-dimensional superconducting bolometer array for the Green Bank Telescope**  
Benford, D. J., Dicker, Wollack, E. J., Supanich, M. P., Staguhn, J. G., Moseley, S. H., Irwin, K. D., Devlin, M. J., Chervenak, J. A., Chen, T. C., Zmuidzinas, J., Holland, W. S., Withington, S.  
SPIE-INT SOC OPTICAL ENGINEERING.2004: 208–19
- **Prototype system for superconducting quantum interference device multiplexing of large-format transition-edge sensor arrays** *REVIEW OF SCIENTIFIC INSTRUMENTS*  
Reintsema, C. D., Beyer, J., Nam, S. W., Deiker, S., Hilton, G. C., Irwin, K., Martinis, J., Ullom, J., Vale, L. R., Macintosh, M.  
2003; 74 (10): 4500–4508
- **Time-division superconducting quantum interference device multiplexer for transition-edge sensors** *REVIEW OF SCIENTIFIC INSTRUMENTS*  
de Korte, P. A., Beyer, J., Deiker, S., Hilton, G. C., Irwin, K. D., MacIntosh, M., Nam, S. W., Reintsema, C. D., Vale, L. R., Huber, M. E.  
2003; 74 (8): 3807–15
- **Surface micromachining for transition-edge detectors**  
Hilton, G. C., Beall, J. A., Deiker, S., Beyer, J., Vale, L. R., Reintsema, C. D., Ullom, J. N., Irwin, K. D.



IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2003: 664–67

- **Electronics for arrays of transition edge sensors using digital signal processing**  
Nam, S., Beyer, J., Hilton, G., Irwin, K., Reintsema, C., Martinis, J. M.  
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2003: 618–21
- **Performance of 32-channel time-division SQUID multiplexer for cryogenic detector arrays**  
Beyer, J., de Korte, P. A., Reintsema, C. D., Nam, S. W., MacIntosh, M., Hilton, G. C., Vale, L. R., Irwin, K. D.  
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2003: 649–52
- **T-C suppression in superconducting films for use in transition edge sensors**  
Deiker, S. W., Hilton, G. C., Irwin, K. D., Rippard, W. H., Ruggiero, S. T., Vale, L. R., Young, B. A.  
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2003: 661–63
- **SCUBA-2: A large format submillimetre camera on the James Clerk maxwell telescope**  
Holland, W. S., Duncan, W. D., Kelly, B. D., Irwin, K. D., Walton, A. J., Ade, P. A., Robson, E. I., Phillips, T. G., Zmuidzinas, J.  
SPIE-INT SOC OPTICAL ENGINEERING.2003: 1–18
- **Ultralow-background large-format bolometer arrays**  
Benford, D. J., Chervenak, J. A., Irwin, K. D., Moseley, S. H., Mather, J. C.  
SPIE-INT SOC OPTICAL ENGINEERING.2003: 944–53
- **SCUBA-2: Developing the detectors**  
Duncan, W. D., Holland, W. S., Audley, M. D., Cliffe, M., Hodson, T., Kelly, B. D., Gao, X. F., Gostick, D., MacIntosh, M., McGregor, H., Peacocke, T., Irwin, K. D., Hilton, et al  
SPIE-INT SOC OPTICAL ENGINEERING.2003: 19–29
- **Superconducting Bolometer array architectures**  
Benford, D. J., Chervenak, J. A., Irwin, K. D., Moseley, S. H., Shafer, R. A., Staguhn, J. G., Wollack, E. J., Phillips, T. G., Zmuidzinas, J.  
SPIE-INT SOC OPTICAL ENGINEERING.2003: 148–62
- **SQUID multiplexers for transition-edge sensors**  
Irwin, K. D.  
ELSEVIER SCIENCE BV.2002: 203–10
- **Design and fabrication of a two-dimensional superconducting bolometer array for SAFIRE**  
Benford, D. J., Voellmer, G. M., Chervenak, J. A., Irwin, K. D., Moseley, S. H., Shafer, R. A., Staguhn, J. G., Melugin, R. K., Roser, H. P.  
SPIE-INT SOC OPTICAL ENGINEERING.2002: 125–35
- **Energy dispersive X-ray spectrometry by microcalorimetry for the SEM**  
Newbury, D., Wollman, D., Nam, S. W., Hilton, G., Irwin, K., Small, J., Martinis, J.  
SPRINGER-VERLAG WIEN.2002: 265–74
- **First astronomical use of multiplexed transition edge bolometers**  
Benford, D. J., Ames, T. A., Chervenak, J. A., Grossman, E. N., Irwin, K. D., Khan, S. A., Maffei, B., Moseley, S. H., Pajot, F., Phillips, T. G., Renault, J. C., Reintsema, C. D., Rioux, et al  
AMER INST PHYSICS.2002: 589–92
- **Time-division SQUID multiplexers**  
Irwin, K. D., Vale, L. R., Bergren, N. E., Deiker, S., Grossman, E. N., Hilton, G. C., Nam, S. W., Reintsema, C. D., Rudman, D. A., Huber, M. E., Porter, F. S., McCammon, D., Galeazzi, et al  
AMER INST PHYSICS.2002: 301–4
- **TES detector noise limited readout using SQUID multiplexers**  
Staguhn, J. G., Allen, C. A., Benford, D. J., Chervenak, J. A., Freund, M. M., Khan, S. A., Kutryev, A. S., Moseley, S. H., Shafer, R. A., Deiker, S., Grossman, E. N., Hilton, G. C., Irwin, et al  
AMER INST PHYSICS.2002: 321–24
- **Microfabricated transition-edge x-ray detectors**  
Hilton, G. C., Martinis, J. M., Irwin, K. D., Bergren, N. F., Wollman, D. A., Huber, M. E., Deiker, S., Nam, S. W.  
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2001: 739–42

- **Transition edge sensor array development**  
Deiker, S., Chervenak, J., Hilton, G. C., Irwin, K. D., Martinis, J. M., Nam, S., Wollman, D. A.  
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2001: 469–72
- **Sub-picowatt precision radiometry using superconducting transition edge sensor bolometers**  
Chervenak, J. A., Grossman, E. N., Reintsema, C. D., Irwin, K. D., Moseley, S. H., Allen, C. A.  
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2001: 593–96
- **SQUID operational amplifier**  
Irwin, K. D., Huber, M. E.  
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2001: 1265–70
- **Status of CDMS search for dark matter WIMPs** *20th Texas Symposium on Relativistic Astrophysics*  
Cabrera, B., Abusaidi, R., Akerib, D. S., Barnes, P. D., Bauer, D. A., Bolozdynya, A., Brink, P. L., Bunker, R., Caldwell, D. O., Castle, J. P., Chang, C., Clarke, R. M., Colling, et al  
AMER INST PHYSICS.2001: 107–118
- **Energy dispersive x-ray spectrometry with the transition edge sensor microcalorimeter: A revolutionary advance in materials microanalysis**  
Newbury, D., Wollman, D., Irwin, K., Hilton, G., Martinis, J., Bentley, J., Allen, C., Dahmen, U., Petrov  
MATERIALS RESEARCH SOCIETY.2001: 75–80
- **Low voltage microanalysis using microcalorimeter EDS**  
Wollman, D. A., Nam, S. W., Hilton, G. C., Irwin, K. D., Rudman, D. A., Bergren, N. F., Deiker, S., Martinis, J. M., Huber, M. E., Newbury, D. E., Seller, D. G., Diebold, A. C., Shaffner, et al  
AMER INST PHYSICS.2001: 506–10
- **Results of the Cryogenic Dark Matter Search** *3rd International Conference on Dark Matter in Astro- and Particle Physics (DARK 2000)*  
Schnee, R. W., Abusaidi, R., Akerib, D. S., Barnes, P. D., Bauer, D. A., Bolozdynya, A., Brink, P. L., Bunker, R., Cabrera, B., Caldwell, D. O., Castle, J. P., Clarke, R. M., Colling, et al  
SPRINGER-VERLAG BERLIN.2001: 569–574
- **Recent results from the Cryogenic Dark Matter Search for weakly interacting massive particles** *4th International Symposium on Sources and Detection of Dark Matter and Dark Energy in the Universe*  
Gaitskell, R. J., Abusaidi, R., Akerib, D. S., Barnes, P. D., Bauer, D. A., Bolozdynya, A., Brink, P. L., Bunker, R., Cabrera, B., Caldwell, D. O., Castle, J. P., Clarke, R. M., Colling, et al  
SPRINGER-VERLAG BERLIN.2001: 322–332
- **Multiplexed readout of superconducting bolometers** *INTERNATIONAL JOURNAL OF INFRARED AND MILLIMETER WAVES*  
Benford, D. J., Allen, C. A., Chervenak, J. A., Freund, M. M., Kutyrav, A. S., Moseley, S. H., Shafer, R. A., Staguhn, J. G., Grossman, E. N., Hilton, G. C., Irwin, K. D., Martinis, J. M., Nam, et al  
2000; 21 (12): 1909–16
- **Microcalorimeter energy-dispersive spectrometry using a low voltage scanning electron microscope** *JOURNAL OF MICROSCOPY-OXFORD*  
Wollman, D. A., Nam, S. W., Hilton, G. C., Irwin, K. D., Bergren, N. F., Rudman, D. A., Martinis, J. M., Newbury, D. E.  
2000; 199: 37–44
- **Exclusion limits on the WIMP-nucleon cross section from the Cryogenic Dark Matter Search** *PHYSICAL REVIEW LETTERS*  
Abusaidi, R., Akerib, D. S., Barnes, P. D., Bauer, D. A., Bolozdynya, A., Brink, P. L., Bunker, R., Cabrera, B., Caldwell, D. O., Castle, J. P., Clarke, R. M., Colling, P., Crisler, et al  
2000; 84 (25): 5699-5703
- **The approaching revolution in X-ray microanalysis: The microcalorimeter energy dispersive spectrometer**  
Newbury, D. E., Wollman, D. A., Hilton, G. C., Irwin, K. D., Bergren, N. F., Rudman, D. A., Martinis, J. M.  
KLUWER ACADEMIC PUBL.2000: 627–35
- **Exclusion limits on the WIMP-nucleon scattering cross-section from the Cryogenic Dark Matter Search** *8th International Workshop on Low-Temperature Detectors (LTD-8)*  
Golwala, S. R., Abusaidi, R., Akerib, D. S., Barnes, P. D., Bauer, D. A., Bolozdynya, A., Brink, P., Cabrera, B., Caldwell, D. O., Castle, J. P., Clarke, R. M., Colling, P., Crisler, et al  
ELSEVIER SCIENCE BV.2000: 345–49

- **Superconducting transition-edge-microcalorimeter X-ray spectrometer with 2 eV energy resolution at 1.5 keV**  
Wollman, D. A., Nam, S. W., Newbury, D. E., Hilton, G. C., Irwin, K. D., Bergren, N. F., Deiker, S., Rudman, D. A., Martinis, J. M.  
ELSEVIER SCIENCE BV.2000: 145–50
- **Performance of multiplexed SQUID readout for Cryogenic Sensor Arrays**  
Chervenak, J. A., Grossman, E. N., Irwin, K. D., Martinis, J. M., Reintsema, C. D., Allen, C. A., Bergman, D. I., Moseley, S. H., Shafer, R.  
ELSEVIER SCIENCE BV.2000: 107–10
- **Calculation of T-c in a normal-superconductor bilayer using the microscopic-based Usadel theory**  
Martinis, J. M., Hilton, G. C., Irwin, K. D., Wollman, D. A.  
ELSEVIER SCIENCE BV.2000: 23–27
- **A Mo-Cu superconducting transition-edge microcalorimeter with 4.5 eV energy resolution at 6 keV**  
Irwin, K. D., Hilton, G. C., Martinis, J. M., Deiker, S., Bergren, N., Nam, S. W., Rudman, D. A., Wollman, D. A.  
ELSEVIER SCIENCE BV.2000: 184–87
- **Superconducting bolometer arrays for submillimeter astronomy**  
Benford, D. J., Allen, C. A., Chervenak, J. A., Grossman, E. N., Irwin, K. D., Kutyrav, A. S., Martinis, J. M., Moseley, S. H., Shafer, R. A., Reintsema, C. D., Mangum, J. G., Radford, S. J.  
ASTRONOMICAL SOC PACIFIC.2000: 134–39
- **A sounding rocket mission to study the solar soft X-ray and EUV emission using transition-edge sensor technology** *Conference on X-Ray and Gamma-Ray Instrumentation for Astronomy IX*  
Wamba, K., Walker, A. B., Martinez-Galarce, D. S., Nam, S. W., Irwin, K., Deiker, S., Cabrera, B., LESYNA, L., Powell, S. F., Miller, A. J., Robertson, D. W., Boerner, P. F., Baker, et al  
SPIE-INT SOCIETY OPTICAL ENGINEERING.2000: 384–396
- **Microcalorimeter energy-dispersive spectrometry using a low voltage scanning electron microscope** *Journal of microscopy*  
Wollman, D. A., Nam, S. W., Hilton, G. C., Irwin, K. D., Bergren, N. F., Rudman, D. A., Martinis, J. M., Newbury, D. E.  
2000; 199 (Pt 1): 37–44
- **Superconducting transition-edge bolometer arrays for ultra-low power radiometry**  
Grossman, E. N., Chervenak, J. A., Irwin, K. D., Reintsema, C. D., Allen, C., Moseley, S. H., Hunter, J., Johnson, L.  
IEEE.2000: 349–50
- **Microcalorimeter EDS for low voltage microanalysis**  
Wollman, D. A., Newbury, D. E., Nam, S. W., Hilton, G. C., Irwin, K. D., Rudman, D. A., Deiker, S., Bergren, N. F., Martinis, J. M., Williams, D. B., Shimizu, R.  
IOP PUBLISHING LTD.2000: 125–26
- **Development of arrays of TES X-ray detectors**  
Deiker, S., Chevenak, J., Hilton, G. C., Huber, M. E., Irwin, K. D., Martinis, J. M., Nam, S., Wollman, D. A., Flanagan, K. A., Siegmund, O. H.  
SPIE-INT SOC OPTICAL ENGINEERING.2000: 360–66
- **Quantum calorimetry** *PHYSICS TODAY*  
Stahle, C. K., McCammon, D., Irwin, K. D.  
1999; 52 (8): 32–37
- **Superconducting multiplexer for arrays of transition edge sensors** *APPLIED PHYSICS LETTERS*  
Chervenak, J. A., Irwin, K. D., Grossman, E. N., Martinis, J. M., Reintsema, C. D., Huber, M. E.  
1999; 74 (26): 4043–45
- **Superconducting transition-edge microcalorimeters for X-ray microanalysis**  
Hilton, G. C., Wollman, D. A., Irwin, K. D., Dulcie, L. L., Bergren, N. F., Martinis, J. M.  
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.1999: 3177–81
- **Preliminary limits on the WIMP-nucleon cross section from the Cryogenic Dark Matter Search (CDMS)** *5th International Workshop on Topics in Astroparticle and Underground Physics (TAUP 97)*  
Akerib, D. S., Barnes, P. D., Bauer, D. A., Brink, P. L., Cabrera, B., Caldwell, D. O., Clarke, R. M., Da Silva, A., Davies, A. K., Dougherty, B. L., Irwin, K. D., Gaitskell, R. J., Golwala, et al  
ELSEVIER SCIENCE BV.1999: 64–68

- **Toward a 2-eV microcalorimeter x-ray spectrometer for Constellation-X**  
Stahle, C. K., Bandler, Barbee, T., Beeman, J., Brekosky, R. P., Cabrera, B., Cunningham, M., Deiker, S., Figueroa-Feliciano, E., Finkbeiner, F. M., Frank, M., Gendreau, K. C., Haller, E., et al  
SPIE-INT SOC OPTICAL ENGINEERING.1999: 82–93
- **Cryogenic microcalorimeters for x-ray microanalysis**  
Wollman, D. A., Hilton, G. C., Irwin, K. D., Bergren, N. F., Rudman, D. A., Newbury, D. E., Martinis, J. M., NCSL/NIST, NCSL/NIST, NCSL/NIST  
NATL CONFERENCE STANDARDS LAB.1999: 811–19
- **Application of microcalorimeter EDS x-ray detectors to particle analysis** *SOLID STATE PHENOMENA*  
Diebold, A. C., Wollman, D. A., Hilton, G. C., Irwin, K. D., Martinis, J. M., Liu, B. Y.  
1999; 65-6: 199–202
- **Results and status of the Cryogenic Dark Matter Search (CDMS) Workshop on Primordial Black Holes and Hawking Radiation/3rd International Symposium on Sources and Detection of Dark Matter in the Universe**  
Schnee, R. W., Akerib, D. S., Barnes, P. D., Bauer, D. A., Brink, P. L., Cabrera, B., Caldwell, D. O., Clarke, R. M., Colling, P., Crisler, M. B., Dasilva, A., Davies, A. K., Dougherty, et al  
ELSEVIER SCIENCE BV.1998: 283–90
- **Thermal-response time of superconducting transition-edge microcalorimeters** *JOURNAL OF APPLIED PHYSICS*  
Irwin, K. D., Hilton, G. C., Wollman, D. A., Martinis, J. M.  
1998; 83 (8): 3978–85
- **Impact energy measurement in time-of-flight mass spectrometry with cryogenic microcalorimeters** *NATURE*  
Hilton, G. C., Martinis, J. M., Wollman, D. A., Irwin, K. D., Dulcie, L. L., Gerber, D., Gillevet, P. M., Twerenbold, D.  
1998; 391 (6668): 672–75
- **Status and results from the cryogenic dark matter search (CDMS) 1st International Conference on Particle Physics Beyond the Standard Model**  
Gaitskell, R. J., Akerib, D. S., Barnes, P. D., Bauer, D., Brink, P., Cabrera, B., Caldwell, D. O., Clarke, R. M., Dasilva, A., Davies, A. K., Dougherty, B. L., Emes, J., Golwala, et al  
IOP PUBLISHING LTD.1998: 781–785
- **High-resolution microcalorimeter energy-dispersive spectrometer for x-ray microanalysis and particle analysis**  
Wollman, D. A., Hilton, G. C., Irwin, K. D., Dulcie, L. L., Bergren, N. F., Newbury, D. E., Woo, K. S., Liu, B. Y., Diebold, A. C., Martinis, J. M., Seiler, D. G., Diebold, A. C., Bullis, et al  
AMER INST PHYSICS.1998: 799–804
- **Microcalorimeter EDS with 3 eV energy resolution**  
Wollman, D. A., Irwin, K. D., Nilton, G. C., Dulcie, L. L., Bergren, N. F., Newbury, D. E., Martinis, J. M., Benavides, H. A., Yacaman, M. J.  
IOP PUBLISHING LTD.1998: 573–74
- **Silicon nitride micromesh bolometer arrays for SPIRE**  
Bock, J. J., Glenn, J., Grannan, S. M., Irwin, K. D., Lange, A. E., LeDuc, H. G., Turner, A. D., Phillips, T. G.  
SPIE-INT SOC OPTICAL ENGINEERING.1998: 297–304
- **High-resolution, energy-dispersive microcalorimeter spectrometer for X-ray microanalysis** *JOURNAL OF MICROSCOPY-OXFORD*  
Wollman, D. A., Irwin, K. D., Hilton, G. C., Dulcie, L. L., Newbury, D. E., Martinis, J. M.  
1997; 188: 196–223
- **Technique for fabricating tungsten thin film sensors with T-c <=100 mK on germanium and silicon substrates** *1996 Applied Superconductivity Conference*  
Young, B. A., Nam, S. W., Brink, P. L., Cabrera, B., CHUGG, B., Clarke, R. M., Davies, A. K., Irwin, K. D.  
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.1997: 3367–70
- **Progress of the cryogenic dark matter search (CDMS) experiment. 2nd Symposium on Dark Matter in the Universe**  
Shutt, T., Akerib, D. S., Barnes, P. D., Bauer, D., Brink, P., Cabrera, B., Caldwell, D. O., CHUGG, B., Clarke, R. M., Dasilva, A., DAVIES, A., Dougherty, B. L., Emes, et al  
ELSEVIER SCIENCE BV.1996: 318–322
- **X-ray detection using a superconducting transition-edge sensor microcalorimeter with electrothermal feedback** *APPLIED PHYSICS LETTERS*  
Irwin, K. D., Hilton, G. C., Wollman, D. A., Martinis, J. M.

1996; 69 (13): 1945–47

- **A superconducting bolometer with strong electrothermal feedback** *APPLIED PHYSICS LETTERS*  
Lee, A. T., Richards, P. L., Nam, S. W., Cabrera, B., Irwin, K. D.  
1996; 69 (12): 1801-1803
- **Advances in Stanford phonon-mediated elementary particle detectors** *4th International Conference on Phonon Physics/8th International Conference on Phonon Scattering in Condensed Matter (PHONONS 95)*  
Cabrera, B., Brink, P. L., CHUGG, B., Dougherty, B. L., Irwin, K. D., Nam, S. W., Lee, A. T., Pronko, J. G., Tamura, S., Young, B. A.  
ELSEVIER SCIENCE BV.1996: 744–747
- **A hot-electron microcalorimeter for X-ray detection using a superconducting transition edge sensor with electrothermal feedback** *6th International Workshop on Low Temperature Detectors (LTD6)*  
Irwin, K. D., Hilton, G. C., Martinis, J. M., Cabrera, B.  
ELSEVIER SCIENCE BV.1996: 177–79
- **SQUID based W-Al quasiparticle trapping assisted transition edge sensor** *6th International Workshop on Low Temperature Detectors (LTD6)*  
Nam, S. W., Cabrera, B., CHUGG, B., Clarke, R. M., Fertig, C., Irwin, K. D., Young, B. A.  
ELSEVIER SCIENCE BV.1996: 187–89
- **Installation of the Cryogenic Dark Matter Search (CDMS)** *6th International Workshop on Low Temperature Detectors (LTD6)*  
Barnes, P. D., Dasilva, A., Akerib, D. S., Bauer, D., Brink, P., Cabrera, B., Caldwell, D. O., CHUGG, B., Clarke, R. M., Cummings, A., DAVIES, A., Diaz, R. C., Dougherty, et al  
ELSEVIER SCIENCE BV.1996: 233–36
- **A QUASI-PARTICLE-TRAP-ASSISTED TRANSITION-EDGE SENSOR FOR PHONON-MEDIATED PARTICLE-DETECTION** *REVIEW OF SCIENTIFIC INSTRUMENTS*  
Irwin, K. D., Nam, S. W., Cabrera, B., CHUGG, B., Young, B. A.  
1995; 66 (11): 5322-5326
- **A SELF-BIASING CRYOGENIC PARTICLE DETECTOR UTILIZING ELECTROTHERMAL FEEDBACK AND A SQUID READOUT** *1994 Applied Superconductivity Conference*  
Irwin, K. D., Nam, S. W., Cabrera, B., CHUGG, B., Park, G. S., WELTY, R. P., Martinis, J. M.  
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.1995: 2690–93
- **AN APPLICATION OF ELECTROTHERMAL FEEDBACK FOR HIGH-RESOLUTION CRYOGENIC PARTICLE-DETECTION** *APPLIED PHYSICS LETTERS*  
Irwin, K. D.  
1995; 66 (15): 1998-2000
- **DESIGN OF KILOGRAM MASS SCALE TES FOR THE CRYOGENIC DARK-MATTER SEARCH** *5TH INTERNATIONAL WORKSHOP ON LOW TEMPERATURE DETECTORS ( LTD-5 )*  
CHUGG, B., Irwin, K. D., Cabrera, B.  
SPRINGER/PLENUM PUBLISHERS.1993: 429–32
- **THE 1ST CRYOGENIC DARK-MATTER EXPERIMENT** *5TH INTERNATIONAL WORKSHOP ON LOW TEMPERATURE DETECTORS ( LTD-5 )*  
Barnes, P. D., Dasilva, A., Aubourg, E., Akerib, D. S., Bauer, D., Borden, D., Cabrera, B., Caldwell, D. O., CHUGG, B., Cummings, A., Dougherty, B. L., Emes, J., Gray, et al  
SPRINGER/PLENUM PUBLISHERS.1993: 791–96
- **QUANTUM EFFICIENT DETECTION OF PHONONS WITH TUNGSTEN THIN-FILMS** *7th International Conference on Phonon Scattering in Condensed Matter*  
Irwin, K. D., Cabrera, B., King, R., Tigner, B.  
SPRINGER-VERLAG BERLIN.1993: 486–487
- **A PILOT DARK-MATTER PARTICLE SEARCH EXPERIMENT** *26TH INTERNATIONAL CONF ON HIGH ENERGY PHYSICS*  
Young, B. A., Dougherty, B. L., CHUGG, B., Barnes, P. D., Bauer, D., Borden, D., Cabrera, B., Caldwell, D. O., Dasilva, A., Ellman, B., Emes, J., Gray, M., Hale, et al  
AIP PRESS.1993: 1260–1265
- **TUNGSTEN THIN-FILMS FOR USE IN CRYOGENIC PARTICLE DETECTORS** *IVth International Workshop on Low Temperature Detectors for Neutrinos and Dark Matter (LTD-4)*

Irwin, K. D., Cabrera, B., Tigner, B., Sethuraman, S.  
EDITIONS FRONTIERES.1992: 209–215

- **PHONON-MEDIATED DETECTORS FOR DARK MATTER SEARCHES AND NEUTRINO EXPERIMENTS** *2ND INTERNATIONAL WORKSHOP ON THEORETICAL AND PHENOMENOLOGICAL ASPECTS OF UNDERGROUND PHYSICS ( TAUP 91 )*

Cabrera, B., Dougherty, B. L., Irwin, K. D., Lee, A. T., Pronko, J. G., Young, B. A.  
ELSEVIER SCIENCE BV.1992: 449–461