

Sunil Golwala — Curriculum Vitae

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Research Interests

Observations of the Sunyaev-Zeldovich effect to study dark energy and cluster astrophysics
Direct searches for dark matter
Measurements of the cosmic microwave background
Development of cryogenic detectors for particle physics, cosmology, and astrophysics

Education

Ph. D., Physics, University of California, Berkeley, 2000
Dissertation title: *Exclusion Limits on the WIMP-Nucleon Elastic-Scattering Cross Section from the Cryogenic Dark Matter Search*
Advisor: Bernard Sadoulet
M. A., Physics, University of California, Berkeley, 1995
B. A., Physics, with general and subject honors, University of Chicago, 1993

Employment

Assistant Professor of Physics, California Institute of Technology, 2003–
Millikan Postdoctoral Scholar, Physics, California Institute of Technology, 2000–2003
Graduate Student Research Assistant, Center for Particle Astrophysics and Department of
Physics, University of California, Berkeley, 1994–2000
Graduate Student Instructor, Department of Physics, University of California, Berkeley, 1993

Fellowships and Awards

Department of Energy High Energy Physics Outstanding Junior Investigator, 2006 – 2009
Alfred P. Sloan Foundation Research Fellow, September, 2004 – September, 2006
Millikan Postdoctoral Fellowship, Physics, California Institute of Technology, 2000–2003
Mitsuyoshi Tanaka Dissertation Award in Experimental Particle Physics, American Physical
Society, 2001
Department of Education Graduate Fellowship, University of California, Berkeley, 1993–1994
Richter Grant for Undergraduate Research, University of Chicago, 1992–1993

Professional Memberships

American Physical Society
American Astronomical Society
Society of Photo-Industrial Engineers

Teaching

Physics 1a, Fall 2009, freshman mechanics (teaching assistant).
Physics 1c, Spring 2005, freshman electricity and magnetism (teaching assistant).
Physics 106ab, Fall 2004-Winter 2005, Fall 2005-Winter 2006, Fall 2006-Winter 2007, analytical mechanics
Physics 125ab, Fall 2007-Winter 2008, Fall 2008-Winter 2009, quantum mechanics
Physics 135c, Spring 2007, seminar course on non-accelerator particle physics

Advisees

Postdoctoral:

Dr. Philippe Rossinot, June 2004–April 2006, antenna-coupled bolometer arrays.
Current position: chargé de mission, Centre d'Analyse Stratégique –
département recherche technologie et développement durable
Dr. Gensheng Wang, September 2004–August 2007, antenna-coupled bolometer
arrays, MKID noise physics, and CDMS data analysis. Current po-
sition: Postdoctoral researcher, Materials Science Division, Argonne
National Laboratory.
Dr. Jack Sayers, January 2008–June 2008, currently NASA Postdoctoral Pro-
gram Fellow, JPL (Adviser: Dr. H. Nguyen, June 2009–). Bolocam
massive cluster Sunyaev-Zeldovich effect observations and analysis, at-
mospheric noise studies, MUSIC mm/submm camera, CCAT Sunyaev-
Zeldovich effect science planning
Dr. R. Walter Ogburn, January 2008–, Moore postdoctoral scholar, BICEP2/Keck
Array CMB polarization experiments
Dr. Matt Hollister, February 2009–, MUSIC mm/submm camera
Dr. Thomas Downes, September 2009–, MUSIC mm/submm camera, Bolocam
massive cluster Sunyaev-Zeldovich effect observations and analysis

Graduate:

Jack Sayers, July, 2003–December, 2007, Bolocam Sunyaev-Zeldovich survey
analysis/atmospheric noise studies. Ph. D., physics, Fall, 2007. Cur-
rent position: NASA Postdoctoral Program Fellow, JPL (Adviser: Dr.
Hien Nguyen)
Zeeshan Ahmed, September, 2005–, CDMS data analysis, development of a multi-
wire proportional chamber for radioactivity screening. 5th year physics
graduate student, candidacy completed.
Nicole Czakon, July, 2008–, MUSIC submm/mm camera, Bolocam massive
cluster Sunyaev-Zeldovich effect observations and analysis. 5th year
physics graduate student, NASA Graduate Student Research Fellow.
Justus Brevik, April, 2006–, (official adviser: A. Lange). Development and com-
missioning of detector arrays, focal plane hardware, and readout sys-
tem for BICEP2 CMB polarization receiver. 5th year physics graduate
student, candidacy completed.
David Moore, April, 2007–, Development of MKID-based dark matter and op-
tical/UV photon detectors, CDMS data analysis. 4th year physics

graduate student, candidacy completed.
 Randol Aikin, September, 2007–, Receiver design and commissioning for BICEP2 CMB polarization receiver, 3rd year physics graduate student.
 Ran Duan, September, 2008–, Design of photolithographic bandpass filters for MUSIC, software-defined radio readout of MKIDs. 2nd year electrical engineering graduate student, candidacy completed.
 Rebecca Tucker, October, 2009–, SPIDER CMB polarization receiver. 2nd year physics graduate student.
 Seth Siegel, September, 2009–, MUSIC construction and commissioning, MUSIC massive cluster Sunyaev-Zeldovich effect observations and analysis. 1st year physics graduate student.

Undergraduate, etc.:

Jonathan Bird, Caltech B.S. Physics (2003), research assistant shared with CSO and CCAT, 2005-2006, atmospheric noise simulations.
 Callum Lamb, Caltech B.S. Physics (2006), research assistant, development of focal plane hardware for SPIDER and BICEP2/Keck Array. Began graduate school in astronomy at University of Chicago, Fall, 2007.
 Randol Aikin, University of Colorado B.A. Astronomy (2006), research assistant, worked on receiver design for SPIDER and BICEP2/Keck Array. Began graduate school in physics at Caltech, Fall, 2007.
 Edward Perepelitsky, Caltech B.S. Physics (2008). Bolocam and MKID camera physical optics modeling for SURF and senior thesis projects. Began graduate school in physics at University of California, Santa Cruz, Fall, 2008.
 Aamir Ali, Caltech physics undergraduate, senior thesis on modeling of Sunyaev-Zeldovich massive clusters and submillimeter galaxy observations with CCAT (2009-2010).
 Four Caltech Summer Undergraduate Research Fellowship students
 A local high school teacher (Tobias Jacoby, Blair High School, PUSD) and five high school students

Committee Memberships, Scientific Service, etc.

Member of the Bolocam and MUSIC instrument teams. Bolocam has been available as the 1 mm and 2 mm facility camera at the Caltech Submillimeter Observatory from Spring, 2004, onward. 50% of the Observatory's time is available to the international astronomical community. Ten refereed publications have been produced from Bolocam data to date and at least three more are in preparation. The Multiwavelength Sub/millimeter Inductance Camera (MUSIC) will replace Bolocam in 2011 and provide simultaneous imaging at 850 μm , 1.1 mm, 1.3 mm, and 2 mm.
 Bolocam representative to Caltech Submillimeter Observatory Time Allotment Committee, Fall, 2003–.
 Physics Graduate Admissions Committee, Caltech, 2003–2007.
 Cahill Astrophysics Building Committee, Caltech, 2004–2008.
 Keck Institute for Space Studies, Caltech
 Member of development committee, 2004–2007.

Associated scientist, 2008–.

Chair, CMB/Sunyaev-Zel'dovich science working group and member, instrumentation working group, Cerro Chajnantor Atacama Telescope (25-m submillimeter/millimeter telescope in Chile under study), 2004–

Proposal Review Panels:

NSF Physics Division Particle and Nuclear Astrophysics

NSF Office of Polar Programs Antarctic Aeronomy and Astrophysics

NSF Astronomical Sciences Division Extragalactic Astronomy

NSF Astronomical Sciences Division Astronomical Technologies and Instrumentation

DOE EPSCoR

NASA Postdoctoral Program

JPL Director's Research and Development Fund

Governing Board, Moore Astrophysics Sensor Initiative, 2006-2012, Caltech.

Author of two companion white papers for the Astro2010 Decadal Survey, *Understanding the State of the Intracluster Medium in Galaxy Clusters* and *Calibrating Clusters as a Tool for Cosmology via Studies of the Intracluster Medium*

Author of *Sub-Kelvin Detectors for Non-Accelerator Particle Physics* section for the Particle Data Group's *Review of Particle Physics*, to appear in 2009.

Outreach Activities

Participant in Caltech Classroom Connection, Fall 2004–. CCC is a program that couples Caltech researchers (faculty, postdocs, and graduate students) with high school science teachers in the Pasadena Unified School District. The Caltech participants aid in development and execution of (math- and physics-related) classroom activities and act as role models for students thinking about career plans. A portion of my research group (1 postdoc, 2 graduate students, and myself) engages in biweekly in-class activities with 3 physics classes at Gabrielino High School (San Gabriel) led by Kevin McClure and, in the past, with 2 physics classes at Pasadena High School led by Ben Taylor. We are exploring a new partnership with J. Thuku.

Participant in Siemens Summer Research Connection, 2008. Jack Sayers and I mentored a local high school teacher and three high school students in a research project on Bolocam sky noise measurements.

Assorted public lectures.

Sunil Golwala — Publications

Asterisks indicate accepted, refereed publications. *Harzing's Publish or Perish*¹ reports a *h*-index of 13 for 14 years since first publication, based only on published papers.

1. J. Sayers, S. R. Golwala, *et al.*, “Scientific Optimization of the Multicolor Submillimeter Inductance Camera (MUSIC),” in preparation for *Astrophysical Journal*.
2. S. R. Golwala, S. Ameglio, *et al.*, “A Joint Thermal Sunyaev-Zeldovich Effect and X-ray De-projection Analysis of 17 Massive Galaxy Clusters,” in preparation for *Astrophysical Journal*.
3. D. C. Moore, B. A. Mazin, *et al.*, “Titanium superconducting coplanar waveguide microwave resonators,” in preparation for *Journal of Applied Physics*.
4. S. R. Golwala, R. Mahapatra, *et al.*, “Identification of Surface Electron Background in the Cryogenic Dark Matter Search Experiment,” in preparation for *Physical Review D*.
5. Z. Ahmed, D. S. Akerib, *et al.*, “Results from the Final Exposure of the CDMS II Experiment,” **astro-ph/0912.3592**.
6. *S. R. Golwala, “Sub-Kelvin Detectors for Non-Accelerator Particle Physics,” accepted for publication in *The Review of Particle Physics*.
7. *Z. Ahmed, D. S. Akerib, *et al.*, “Analysis of the low-energy electron-recoil spectrum of the CDMS experiment,” **astro-ph/0907.1438**, submitted to *Physical Review D*.
8. *J. Sayers, S. R. Golwala, *et al.*, “Studies of Millimeter-Wave Atmospheric Noise Above Mauna Kea,” **astro-ph/0904.3943**, accepted for publication in *Astrophysical Journal*.
9. S. R. Golwala, “Future Developments in Low-Temperature Detectors for CMB and Submillimeter Astronomy,” to appear in *Proceedings of the Thirteenth International Workshop on Low Temperature Detectors*, AIP Conference Proceedings (2010).
10. D. N. Seitz, Z. Ahmed, *et al.*, “SuperCDMS Detector Readout Cryogenic Hardware,” to appear in *Proceedings of the Thirteenth International Workshop on Low Temperature Detectors*, AIP Conference Proceedings (2010).
11. Z. Ahmed, D. S. Akerib, *et al.*, “The Cryogenic Dark Matter Search (CDMS) experiment: New results, status and perspective,” to appear in *Proceedings of the Thirteenth International Workshop on Low Temperature Detectors*, AIP Conference Proceedings (2010).
12. P. L. Brink, Z. Ahmed, *et al.*, “SuperCDMS Detector Fabrication Advances,” to appear in *Proceedings of the Thirteenth International Workshop on Low Temperature Detectors*, AIP Conference Proceedings (2010).
13. C. N. Bailey, Z. Ahmed, *et al.*, “Bulk and Surface Charge Collection: CDMS Detector Performance and Design Implications,” to appear in *Proceedings of the Thirteenth International Workshop on Low Temperature Detectors*, AIP Conference Proceedings (2010).
14. Z. Ahmed, D. S. Akerib, *et al.*, “Characterization of SuperCDMS 1-inch Ge Detectors,” to appear in *Proceedings of the Thirteenth International Workshop on Low Temperature Detectors*, AIP Conference Proceedings (2010).

¹<http://www.harzing.com/resources.htm#/pop.htm>

15. A. Orlando, J. A. Bonetti, *et al.*, “Antenna-Coupled TES Arrays for BICEP-2/Keck and SPIDER Polarimeters,” to appear in *Proceedings of the Thirteenth International Workshop on Low Temperature Detectors*, AIP Conference Proceedings (2010).
16. J. A. Bonetti, A. D. Turner, *et al.*, “Microfabrication and Device Parameter Testing of the Focal Plane Arrays for the Spider and BICEP2/Keck CMB Polarimeters,” to appear in *Proceedings of the Thirteenth International Workshop on Low Temperature Detectors*, AIP Conference Proceedings (2010).
17. N. G. Czakon, J.-S. Gao, *et al.*, “Microwave Kinetic Inductance Detector (MKID) Camera Testing for Submillimeter Astronomy,” to appear in *Proceedings of the Thirteenth International Workshop on Low Temperature Detectors*, AIP Conference Proceedings (2010).
18. J. Schlaerth, P. Day, *et al.*, “Sensitivity Optimization of Millimeter/Submillimeter MKID Camera Pixel Device Design,” to appear in *Proceedings of the Thirteenth International Workshop on Low Temperature Detectors*, AIP Conference Proceedings (2010).
19. P. R. Maloney, N. G. Czakon, *et al.*, “The MKID Camera,” to appear in *Proceedings of the Thirteenth International Workshop on Low Temperature Detectors*, AIP Conference Proceedings (2010).
20. D. C. Moore, B. A. Mazin, *et al.*, “Quasiparticle Trapping in Microwave Kinetic Inductance Strip Detectors,” to appear in *Proceedings of the Thirteenth International Workshop on Low Temperature Detectors*, AIP Conference Proceedings (2010).
21. S. R. Golwala, S. Ameglio, *et al.*, “Sunyaev-Zeldovich Effect Studies of Galaxy Clusters with Bolocam (and Future Instrumentation),” to appear in *Submillimeter Astrophysics and Technology: A Symposium Honoring Thomas G. Phillips*, ASP Conference Series (2010).
22. *Z. Ahmed, D. S. Akerib, *et al.*, “Search for Axions with the CDMS Experiment,” *Physical Review Letters* **103**, 141802/1–5 (2009).
23. *S. Kumar, A. Vayonakis, *et al.*, “Millimeter-Wave Lumped Element Bandpass Filters for Multi-Color Imaging,” *IEEE Transactions on Applied Superconductivity* **19**, 924–929 (2009).
24. P. L. Brink, Z. Ahmed, *et al.*, “The Cryogenic Dark Matter Search (CDMS) experiment: Results and prospects,” *Journal of Physics Conference Series* **150**, 012006/1–4 (2009).
25. S. R. Golwala, J. E. Aguirre, *et al.*, “Understanding the State of the Intracluster Medium in Galaxy Clusters,” Astro2010 Decadal Survey Science White Paper, (2009), <http://adsabs.harvard.edu/abs/2009astro2010S..97G>.
26. S. R. Golwala, J. E. Aguirre, *et al.*, “Calibrating Galaxy Clusters as a Tool for Cosmology via Studies of the Intracluster Medium,” Astro2010 Decadal Survey Science White Paper, (2009), <http://adsabs.harvard.edu/abs/2009astro2010S..96G>.
27. *J. Sayers, S. R. Golwala, *et al.*, “A Search for Cosmic Microwave Background Anisotropies on Arcminute Scales with Bolocam,” *Astrophysical Journal* **690**, 1597–1620 (2009).
28. *Z. Ahmed, D. S. Akerib, *et al.*, “Search for Weakly Interacting Massive Particles with the First Five-Tower Data from the Cryogenic Dark Matter Search at the Soudan Underground Laboratory,” *Physical Review Letters* **102**, 011301/1–5 (2009).

29. *C. J. MacTavish, P. A. R. Ade, *et al.*, “Spider Optimization: Probing the Systematics of a Large-Scale B-Mode Experiment,” *Astrophysical Journal* **689**, 655–665 (2008).
30. J. Glenn, P. K. Day, *et al.*, “A microwave kinetic inductance camera for sub/millimeter astrophysics,” in *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series* (SPIE, Bellingham, Washington, 2008), Vol. 7020.
31. J. Sayers, S. R. Golwala, *et al.*, “Studies of atmospheric noise on Mauna Kea at 143 GHz with Bolocam,” in *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series* (SPIE, Bellingham, Washington, 2008), Vol. 7020.
32. B. P. Crill, P. A. R. Ade, *et al.*, “SPIDER: a balloon-borne large-scale CMB polarimeter,” in *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series* (SPIE, Bellingham, Washington, 2008), Vol. 7010.
33. *D. S. Akerib, P. D. Barnes, Jr., *et al.*, “Design and performance of a modular low-radioactivity readout system for cryogenic detectors in the CDMS experiment,” *Nuclear Instruments and Methods in Physics Research A* **591**, 476–489 (2008).
34. *G. W. Wilson, J. E. Austermann, *et al.*, “The AzTEC mm-wavelength camera,” *Monthly Notices of the Royal Astronomical Society* **386**, 807–818 (2008).
35. D. S. Akerib, C. N. Bailey, *et al.*, “Present Status of the SuperCDMS program,” *Journal of Low Temperature Physics* **151**, 818–823 (2008).
36. Z. Ahmed, D. S. Akerib, *et al.*, “Status of the Cryogenic Dark Matter Search Experiment,” *Journal of Low Temperature Physics* **151**, 800–805 (2008).
37. J. Schlaerth, A. Vayonakis, *et al.*, “A Millimeter and Submillimeter Kinetic Inductance Detector Camera,” *Journal of Low Temperature Physics* **151**, 684–689 (2008).
38. S. Golwala, J. Gao, *et al.*, “A WIMP Dark Matter Detector Using MKIDs,” *Journal of Low Temperature Physics* **151**, 550–556 (2008).
39. B. A. Mazin, M. E. Eckart, *et al.*, “Optical/UV and X-Ray Microwave Kinetic Inductance Strip Detectors,” *Journal of Low Temperature Physics* **151**, 537–543 (2008).
40. D. S. Akerib, M. J. Attisha, *et al.*, “Surface Event Rejection Using Phonon Information in CDMS,” *Nuclear Physics B Proceedings Supplements* **173**, 137–140 (2007).
41. D. S. Akerib, M. J. Attisha, *et al.*, “CDMS, Supersymmetry and Extra Dimensions,” *Nuclear Physics B Proceedings Supplements* **173**, 95–98 (2007).
42. *B. A. Mazin, B. Bumble, *et al.*, “Position sensitive x-ray spectrophotometer using microwave kinetic inductance detectors,” *Applied Physics Letters* **89**, 222507/1–4 (2006).
43. C. L. Kuo, J. J. Bock, *et al.*, “Antenna-coupled TES bolometers for CMB polarimetry,” in *Proceedings of the SPIE, Vol. 6275: Millimeter and Submillimeter Detectors and Instrumentation for Astronomy III*, edited by Jonas Zmuidzinas, Wayne S. Holland, Stafford Withington, and William D. Duncan (SPIE, Bellingham, Washington, 2006).

44. G. J. Stacey, S. R. Golwala, *et al.*, “Instrumentation for the CCAT Telescope,” in *Proceedings of the SPIE, Vol. 6275: Millimeter and Submillimeter Detectors and Instrumentation for Astronomy III*, edited by Jonas Zmuidzinas, Wayne S. Holland, Stafford Withington, and William D. Duncan (SPIE, Bellingham, Washington, 2006).
45. T. E. Montroy, P. A. R. Ade, *et al.*, “SPIDER: a new balloon-borne experiment to measure CMB polarization on large angular scales,” in *Proceedings of the SPIE, Vol. 6267: Ground-based and Airborne Telescopes*, edited by Larry M. Stepp (SPIE, Bellingham, Washington, 2006).
46. *K. E. Young, M. L. Enoch, *et al.*, “Bolocam Survey for 1.1 mm Dust Continuum Emission in the c2d Legacy Clouds. II. Ophiuchus,” *Astrophysical Journal* **644**, 326–343 (2006).
47. C. L. Kuo, P. Ade, *et al.*, “Antenna-coupled TES bolometers for the SPIDER experiment,” *Nuclear Instruments and Methods in Research A* **559**, 608–610 (2006).
48. D. S. Akerib, M. J. Attisha, *et al.*, “The SuperCDMS proposal for dark matter detection,” *Nuclear Instruments and Methods in Research A* **559**, 411–413 (2006).
49. D. S. Akerib, M. J. Attisha, *et al.*, “Limits on WIMP nucleon interactions from the Cryogenic Dark Matter Search at the Soudan Underground Laboratory,” *Nuclear Instruments and Methods in Research A* **559**, 390–392 (2006).
50. D. S. Akerib, M. J. Attisha, *et al.*, “Characterization, performance, and future advanced analysis of detectors in the cryogenic dark matter search (CDMS-II),” *Nuclear Instruments and Methods in Research A* **559**, 387–389 (2006).
51. *M. L. Enoch, K. E. Young, *et al.*, “Bolocam Survey for 1.1 mm Dust Continuum Emission in the c2d Legacy Clouds. I. Perseus,” *Astrophysical Journal* **638**, 293–313 (2006).
52. *D. S. Akerib, M. J. Attisha, *et al.*, “Limits on Spin-Independent Interactions of Weakly Interacting Massive Particles with Nucleons from the Two-Tower Run of the Cryogenic Dark Matter Search,” *Physical Review Letters* **96**, 011302/1–5 (2006).
53. *D. S. Akerib, M. S. Armel-Funkhouser, *et al.*, “Limits on spin-dependent WIMP-nucleon interactions from the Cryogenic Dark Matter Search,” *Physical Review D* **73**, 011102/1–5 (2006).
54. *P. R. Maloney, J. Glenn, *et al.*, “A Fluctuation Analysis of the Bolocam 1.1 mm Lockman Hole Survey,” *Astrophysical Journal* **635**, 1044–1052 (2005).
55. P. L. Brink, B. Cabrera, *et al.*, “Beyond the CDMS-II Dark Matter Search: SuperCDMS,” *Proceedings of the 22nd Texas Symposium on Relativistic Astrophysics*, <http://www.slac.stanford.edu/econf/C041213/> (Stanford Linear Accelerator Center Conference Proceedings Archive, Palo Alto, CA, 2005), p. 2529.
56. *G. T. Laurent, J. E. Aguirre, *et al.*, “The Bolocam Lockman Hole Millimeter-Wave Galaxy Survey: Galaxy Candidates and Number Counts,” *Astrophysical Journal* **623**, 742–762 (2005).
57. T. Herter, R. Brown, *et al.*, “The large Atacama submillimeter telescope,” in *Proceedings of the SPIE, Vol. 5498: Millimeter and Submillimeter Detectors for Astronomy II*, edited by J. Zmuidzinas and W. S. Holland (SPIE, Bellingham, Washington, 2004), pp. 55–62.

58. D. J. Haig, P. A. R. Ade, *et al.*, “Bolocam: status and observations,” in *Proceedings of the SPIE, Vol. 5498: Millimeter and Submillimeter Detectors for Astronomy II*, edited by J. Zmuidzinas and W. S. Holland (SPIE, Bellingham, Washington, 2004), pp. 78–94.
59. D. S. Akerib, J. Alvaro-Dean, *et al.*, “Installation and commissioning of the CDMSII experiment at Soudan,” *Nuclear Instruments and Methods in Research A* **520**, 116–119 (2004).
60. R. W. Schnee, D. Abrams, *et al.*, “Results from the 1998-1999 runs of the Cryogenic Dark Matter Search,” *Nuclear Physics B (Proceedings Supplements)* **124**, 185–188 (2003).
61. *D. S. Akerib, J. Alvaro-Dean, *et al.*, “New results from the Cryogenic Dark Matter Search experiment,” *Physical Review D* **68**, 82002/1–4 (2003).
62. J. Glenn, P. A. R. Ade, *et al.*, “Current status of Bolocam: a large-format millimeter-wave bolometer camera,” in *Proceedings of the SPIE, Vol. 4855: Millimeter and Submillimeter Detectors for Astronomy*, edited by T. G. Phillips and J. Zmuidzinas (SPIE, Bellingham, Washington, 2003), pp. 30–40.
63. *D. Abrams, D. S. Akerib, *et al.*, “Exclusion Limits on the WIMP-Nucleon Cross Section from the Cryogenic Dark Matter Search,” *Physical Review D* **66**, 122003/1–35 (2002).
64. P. Mauskopf, P. Ade, *et al.*, “Results from the first engineering run of BOLOCAM and plans for the future,” in *AIP Conference Proceedings 616: Experimental Cosmology at Millimetre Wavelengths* (American Institute of Physics, Melville, New York, 2002), pp. 107–115.
65. J. Glenn, B. Knowles, *et al.*, “Millimeter-Wave Cosmology with Bolocam: Discovering Galaxies and Clusters with Deep, Unbiased Surveys,” in *ASP Conference Series 283: A New Era in Cosmology* (Astronomical Society of the Pacific, San Francisco, 2002), pp. 398–+.
66. T. Shutt, M. Kesden, *et al.*, “Charge collection and electrode structures in ionization and phonon based dark matter detectors,” in *AIP Conference Proceedings 605: Low Temperature Detectors, Ninth International Workshop on Low Temperature Detectors* (American Institute of Physics, Melville, New York, 2002), pp. 513–516.
67. T. A. Perera, D. Abrams, *et al.*, “Present results and future goals of the Cryogenic Dark Matter Search,” in *AIP Conference Proceedings 605: Low Temperature Detectors, Ninth International Workshop on Low Temperature Detectors* (American Institute of Physics, Melville, New York, 2002), pp. 485–488.
68. B. Cabrera, R. Abusaidi, *et al.*, “Status of the CDMS Search for Dark Matter WIMPs (Plenary Talk),” in *AIP Conference Proceedings 586: 20th Texas Symposium on Relativistic Astrophysics* (American Institute of Physics, Melville, New York, 2001), pp. 107–+.
69. S. R. Golwala, “Exclusion Limits on the WIMP-nucleon Elastic-Scattering Cross-Section from the Cryogenic Dark Matter Search,” Ph.D. thesis, University of California, Berkeley, 2000.
70. *R. Abusaidi, D. S. Akerib, *et al.*, “Exclusion Limits on the WIMP-Nucleon Cross Section from the Cryogenic Dark Matter Search,” *Physical Review Letters* **84**, 5699–5703 (2000).
71. S. R. Golwala, R. Abusaidi, *et al.*, “Exclusion Limits on the WIMP-Nucleon Scattering Cross-Section from the Cryogenic Dark Matter Search,” *Nuclear Instruments and Methods in Research A* **444**, 345–349 (2000).

72. D. S. Akerib, P. D. Barnes, *et al.*, “Limits on the WIMP-Nucleon Cross Section from the Cryogenic Dark Matter Search,” *Nuclear Physics B (Proceedings Supplements)* **80**, 235 (2000).
73. A. Sonnenschein, D. A. Bauer, *et al.*, “Results of the Cryogenic Dark Matter Search (CDMS) Obtained with Thermistor-Instrumented Germanium Calorimeters,” in *The Identification of Dark Matter* (World Scientific, Singapore, 1999), pp. 347–+.
74. D. S. Akerib, P. D. Barnes, *et al.*, “Preliminary Limits on the WIMP-Nucleon Cross Section from the Cryogenic Dark Matter Search,” *Nuclear Physics B (Proceedings Supplements)* **70**, 64–68 (1999).
75. *J. Jochum, C. Mears, *et al.*, “Modeling the power flow in normal conductor-insulator-superconductor junctions,” *Journal of Applied Physics* **83**, 3217–3224 (1998).
76. T. Shutt, M. Cunningham, *et al.*, “Studies of the Dead Layer in BLIP Dark Matter Detectors,” in *Proceedings of the Seventh International Workshop on Low Temperature Detectors*, edited by S. Cooper (Max Planck Institute of Physics, Munich, 1997), pp. 224–226.
77. J. Jochum, S. Golwala, *et al.*, “Modeling the Power Flow in NIS Junctions,” in *Proceedings of the Seventh International Workshop on Low Temperature Detectors*, edited by S. Cooper (Max Planck Institute of Physics, Munich, 1997), pp. 60–63.
78. S. R. Golwala, J. Jochum, *et al.*, “Noise Considerations in Low Resistance NIS Junctions,” in *Proceedings of the Seventh International Workshop on Low Temperature Detectors*, edited by S. Cooper (Max Planck Institute of Physics, Munich, 1997), pp. 56–59.
79. R. J. Gaitskell, R. Therrien, *et al.*, “Performance of 165 g Ge BLIP Detectors in CDMS Experiment,” in *Proceedings of the Seventh International Workshop on Low Temperature Detectors*, edited by S. Cooper (Max Planck Institute of Physics, Munich, 1997), pp. 221–223.
80. O. B. Drury, J. P. Castle, *et al.*, “Effect of Geometry and Film Thickness on Self-Cooling of SIN Junctions Intended for Particle Detector Applications,” in *Proceedings of the Seventh International Workshop on Low Temperature Detectors*, edited by S. Cooper (Max Planck Institute of Physics, Munich, 1997), pp. 224–226.
81. J. Jochum, P. D. Barnes, *et al.*, “Looking for WIMPs: The Cryogenic Dark Matter Search,” in *Dark Matter in Astro- and Particle Physics (DARK 96)*, edited by H. V. Klapdor-Kleingrothaus and Y. Ramachers (World Scientific, Singapore, 1997), pp. 445–+.
82. T. Shutt, D. S. Akerib, *et al.*, “Progress of the Cryogenic Dark Matter Search (CDMS) experiment,” *Nuclear Physics B (Proceedings Supplements)* **51**, 318–322 (1996).
83. P. D. Barnes, A. da Silva, *et al.*, “Installation of the Cryogenic Dark Matter Search (CDMS),” *Nuclear Instruments and Methods in Research A* **370**, 233–236 (1996).
84. F. Azgui, C. A. Mears, *et al.*, “Non-equilibrium normal metal superconducting tunnel junction detectors,” *Nuclear Instruments and Methods in Research A* **370**, 121–123 (1996).
85. T. Shutt, D. S. Akerib, *et al.*, “Recent results with a 62 g Ge cryogenic dark matter detector,” *Nuclear Instruments and Methods in Research A* **370**, 165–167 (1996).
86. B. Sadoulet, D. Akerib, *et al.*, “Particle detection and non-equilibrium phonons: Experience with large germanium crystals and NTD Ge thermistors,” *Physica B Condensed Matter* **219**, 741–743 (1996).