

JEFFREY P. FILIPPINI – CURRICULUM VITAE  
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**RESEARCH INTERESTS**

- Particle astrophysics and cosmology, especially astrophysical probes of fundamental physics
- Observations of the cosmic microwave background (CMB)
- Searches for particle dark matter
- Detection of particles and radiation with sub-Kelvin detectors.
- Statistical techniques for signal detection and data analysis.

**CAREER AND EDUCATION**

2014 - **University of Illinois, Urbana-Champaign:** Assistant Professor of Physics  
**University of Illinois, Urbana-Champaign:** Faculty Affiliate in Astronomy

2014 - 2015 **California Institute of Technology:** Visitor in Astrophysics

2011 - 2014 **California Institute of Technology:** Robinson Postdoctoral Scholar in Experimental Astrophysics (with Prof. Jamie Bock)

2008 - 2011 **California Institute of Technology:** Moore Prize Postdoctoral Fellow in Experimental Physics – (with Prof. Andrew Lange (*deceased*); Prof. Sunil Golwala)

2002 - 2008 **University of California, Berkeley:** Ph.D., M.A. Physics  
Dissertation: “A Search for WIMP Dark Matter Using the First Five-Tower Run of the Cryogenic Dark Matter Search” (Advisor: Prof. Bernard Sadoulet)

1998 - 2002 **Harvard University:** A.B. Chemistry and Physics, *summa cum laude*

**RESEARCH ACTIVITIES**

**SPIDER** (2009-; NASA – PI: W.C. Jones)

Balloon-borne CMB polarimeter to search for the “B-mode” signature of primordial gravitational waves. Led receiver team: built, characterized, and optimized bolometers and receiver systems for low-noise operation from a suborbital platform. Deployed payload on an Antarctic long-duration balloon in 2014-15 season.

**BICEP1, BICEP2, the Keck Array, BICEP3, BICEP Array** (2009-; NSF – PI: J.M. Kovac)

Series of ground-based CMB polarimeters at the South Pole. Developed and characterized large-scale arrays of antenna-coupled bolometers. Member of data analysis team.

**The Cryogenic Dark Matter Search (CDMS II)** (2003-2011; NSF/DOE – B. Sadoulet, B. Cabrera)

Subterranean array of low-temperature detectors for dark matter scattering. Detector characterization, experimental operations, and data analysis. Led analyses for first data with full detector payload and first CDMS limits on spin-dependent WIMP interactions.

**Super-Kamiokande** (2001-2002, w/ G. Feldman, M. Messier)

Conducted a blind analysis to search for proton decay into  $K^*(892) \nu$ .

**MINOS** (2001, w/ G. Feldman, R. Lee, M. Messier)

Developed cosmic muon generation software for a subterranean neutrino detector.

**AWARDS AND RECOGNITION**

- Collins Scholar, UIUC Academy for Excellence in Engineering Education 2015-2016
- Robinson Fellowship in Experimental Astrophysics, Caltech 2011-2014
- Moore Prize Fellowship in Experimental Physics, Caltech 2008-2011
- National Defense Science and Engineering Graduate (NDSEG) Fellowship 2002-2005
- Certificate of Distinction in Teaching, Harvard Committee on Undergraduate Education 2002
- Phi Beta Kappa 2002
- John Harvard Scholarship 2000-2002
- U.S. National Chemistry Olympiad - National Finalist (20 in nation) for IChO team 1997

**SELECTED PUBLICATIONS**

1. P.A.R. Ade et al., “A joint analysis of BICEP2/Keck Array and Planck data,” *Phys. Rev. Lett.* **114**, 101301

- (2015), [arXiv:1502.00612](https://arxiv.org/abs/1502.00612).
2. P.A.R. Ade et al., "Detection of B-mode Polarization at Degree Angular Scales by BICEP2," *Phys. Rev. Lett.* **112**, 241101 (2014), [arXiv:1403.3985](https://arxiv.org/abs/1403.3985).
  3. R. Agnese et al. "Silicon detector results from the first five-tower run of CDMS II," *Phys. Rev. D* **88**, 031104(R) (2013), [arXiv:1304.3706](https://arxiv.org/abs/1304.3706) (*Primary author*).
  4. J.P. Filippini et al. "SPIDER: a balloon-borne CMB polarimeter for large angular scales," Proc. SPIE **7741**, 77411N (2010), [arXiv:1106.2158](https://arxiv.org/abs/1106.2158) (*Primary author*).
  5. Z. Ahmed et al. "Dark matter search results from the CDMS II experiment," *Science* **327**, p. 1619, [arXiv:0912.3592](https://arxiv.org/abs/0912.3592).
  6. Z. Ahmed 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," *Phys. Rev. Lett.* **102**, 011301 (2009), [arXiv:0802.3530](https://arxiv.org/abs/0802.3530) (*Led data analysis*).
  7. D.S. Akerib et al., "Limits on spin-dependent WIMP-nucleon interactions from the Cryogenic Dark Matter Search," *Physical Review D* **73**, 011102 (2006), [astro-ph/0509269](https://arxiv.org/abs/astro-ph/0509269) (*Primary author*).

**TEACHING** (\* = Ranked as excellent by student evaluations)

<b>Physics 150:</b> "Physics of Societal Issues" ( <i>current</i> )	<i>Fall 2016</i>
* <b>Physics 213/214:</b> "University Physics: Thermal Physics / Quantum Physics" Discussion Coordinator and guest lecturer	<i>Spring 2016</i>
* <b>Physics 211:</b> "University Physics: Mechanics" Discussion Coordinator and guest lecturer	<i>Spring 2015</i>
<b>Physics 10</b> (UC Berkeley): "Physics for Future Presidents" Graduate Student Instructor (Prof. Richard Muller)	<i>Fall 2002</i>
* <b>Physics 15b</b> (Harvard): "Electricity & Magnetism" Laboratory Teaching Fellow (Prof. Howard Georgi, Tom Hayes)	<i>Spring 2002</i>

**STUDENTS AND SCHOLARS SUPERVISED**

**Postdoctoral:** Riccardo Gualtieri (2015-)

**Graduate:** Benjamin Osherson (2016-), Albert Lam (2016-); co-supervised Amy Trangsrud (Caltech Ph.D. 2012, now JPL), Rebecca Tucker (Caltech Ph.D. 2014, now Netflix),

**Undergraduate:** Derek Glennon, Alex Navarre, Aaron Smothers, Robert Gramillano (B.S. 2016), Harshil Kamdar (B.S. 2016, now Harvard); co-supervised Maxwell De Jong (B.S. 2015 Caltech, now Michigan)

**High School:** Alex Marshall, Eric Casavant (UC Berkeley summer 2008)

**NOTABLE PUBLIC OUTREACH**

**Astronomy on Tap – Champaign-Urbana**

Founding member of advisory board (Physics representative)

Interviewed for CIA3 TV (with J. Vieira)

*aired Apr. 18, 2016*

Presenter: "[Dark Matter](#)"

*Jun. 16, 2016*

**SPIDER Press**

Interviewed for "[A High-Flying Web May Catch the Beginning of Time](#)"

*Nov. 12, 2014*

D. Falk, *Scientific American*

Interviewed for "[Big Questions Somewhat Answered](#)"

*Jan. 19, 2015*

S. Shostak, *Big Picture Science* radio show and podcast

Interviewed for "[SPIDER Experiment Touches Down in Antarctica](#)"

*Jan. 21, 2015*

K. Fesenmaier, *Caltech News* and *JPL News*

**California Science Center**

*Nov. 2012*

Hands-on presentations about dark matter and infrared astronomy to general public and school groups as part of 6-day NASA outreach open house at opening of space shuttle Endeavour exhibit.

**CDMS Press**

Interviewed for "[Cosmology: The Hunting of the Dark](#)"

*Mar. 23, 2011*

A. Mann, *Nature* **471**, 433-435 (2011)

**CDMS Education and Outreach**

*2003-2008*

Led lab tours at UC Berkeley and Soudan Underground Laboratory.  
 Redesigned and maintained CDMS's education and outreach web site, including new essays on the science of dark matter and answers to questions from the public.  
 Several outreach activities at the [Level Playing Field Institute's](#) Summer Math and Science Honors (SMASH) Academy and at Emeryville High School.

#### PROFESSIONAL SERVICE

- Organizer of UIUC Astrophysics, Gravitation, and Cosmology seminar series, 2015-2016
- HAWC+ (SOFIA camera) technical review panelist (2013-14; Pasadena, CA)
- Organizer of Caltech Observational Cosmology seminar series, 2009-2012
- Maintainer of community Dark Matter Limit Plotter (<http://dmtools.berkeley.edu/>), 2003-2009
- Graduate Student / Faculty Mentor Liaison Committee, Berkeley Physics Dept., 2003-2004

#### CONFERENCE ORGANIZATION AND SERVICE

- Local organizing committee, [Low Temperature Detectors 15](#) (June 24-28, 2013; Pasadena, CA)
- Conference session chair: APS April 2016, Rencontres de Blois 2016
- Scientific secretary / webmaster, 2007 Univ. of California INPAC meeting (May 4-6, 2007: Berkeley, CA)
- Organizing committee / webmaster, Pre-SUSY06 Dark Matter Complementarity Workshop – June 10, 2006
- Scientific secretary, DUSEL Science Workshop (Aug. 11-14, 2004: Berkeley, CA)

#### UNIVERSITY COLLOQUIA

- “Listening for the Echoes of Inflation from Antarctica”  
*University of Toronto astronomy colloquium* April 17, 2015
- “Listening for the Echoes of Inflation with BICEP2 and Beyond”  
*Harvey Mudd College physics colloquium* October 7, 2014
- “Listening for the Echoes of Inflation with BICEP2 and Beyond”  
*Princeton astronomy colloquium* April 1, 2014

#### INVITED SEMINARS

- “SPIDER: Exploring the Dawn of Time from Above the Clouds”  
*Fermilab Astrophysics seminar* June 8, 2015
- “Detection of B-mode Polarization with BICEP2”  
*Southern Methodist University Astrophysics/Cosmology seminar* September 8, 2014
- “Antenna-Coupled Bolometers for Future Space Missions”  
*APC-Paris Cosmology and Gravitation seminar* May 19, 2014
- “Casting a Cold Eye on the Dark Universe”  
*U. of Illinois Urbana-Champaign High- and Medium-Energy Physics seminar* March 3, 2014
- “Casting a Cold Eye on the Dark Universe”  
*Lawrence Berkeley National Laboratory Research Progress Meeting* January 22, 2014  
*UC Berkeley Cosmology seminar* January 21, 2014
- “Casting a Cold Eye on the Dark Universe”  
*Rensselaer Polytechnic Institute seminar* November 20, 2013
- “SPIDER: A New Eye on the Dawn of Time”  
*Stanford/SLAC cosmology seminar* October 7, 2013
- “Casting a Cold Eye on the Dark Universe”  
*Lawrence Berkeley National Laboratory Research Progress Meeting* March 19, 2013  
*UC Berkeley cosmology seminar* March 18, 2013
- “Probing the Echoes of Inflation: SPIDER, BICEP2, and Beyond”  
*UC Berkeley cosmology seminar* February 23, 2011
- “New Results from the Cryogenic Dark Matter Search”  
*Princeton Experimental Physics Seminar* February 25, 2008
- "Searching for Dark Matter Underground: The Cryogenic Dark Matter Search"  
*Princeton Particle and Nuclear Astrophysics Seminar* December 18, 2007

## LOCAL SEMINARS

- "A (HEP) Hitchhiker's Guide to CMB-S4 and Friends"  
*U of Illinois Urbana-Champaign Particle Phenomenology seminar* October 16, 2015
- "Listening for the Echoes of Inflation: An Update"  
*U of Illinois Urbana-Champaign Astrophysics seminar* March 4, 2015
- "SPIDER: A New Eye on the Dawn of Time"  
*Caltech Observational Cosmology seminar* October 30, 2014
- "Detection of B-mode Polarization at Degree Scales using BICEP2"  
*Caltech Astronomy tea talk (multiple presenters)* March 17, 2014
- "Silicon Results from the Cryogenic Dark Matter Search"  
*Caltech Observational Cosmology seminar* April 25, 2013
- "Introduction to Noise in Transition-Edge Sensors"  
*Caltech Observational Cosmology seminar* September 16, 2010
- "Introduction to the MCE, or, The Care and Feeding of SQUIDS"  
*Caltech Observational Cosmology seminar* March 2, 2010
- "New Results from the Cryogenic Dark Matter Search"  
*Caltech Astronomy special seminar* December 18, 2009
- "Hunting Dark Matter on Earth"  
*Caltech Observational Cosmology seminar* June 25, 2009
- "New Results from the Cryogenic Dark Matter Search at the Soudan Underground Lab"  
*Lawrence Berkeley National Laboratory INPA seminar* September 23, 2005

## CONFERENCE PRESENTATIONS

- "SPIDER: Exploring the Dawn of Time from Above the Clouds"  
*Invited talk at 28<sup>th</sup> Rencontres de Blois* June 1, 2016
- "SPIDER: Exploring the Dawn of Time from Above the Clouds"  
*Talk at 2016 April Meeting of the American Physical Society* April 19, 2016
- *Invited speaker, Physics of the Universe Summit (NYU/CUSP)* September 20, 2014
- "Listening for the Echoes of Inflation with BICEP2 and Beyond"  
*Invited plenary talk at 26<sup>th</sup> Rencontres de Blois* May 22, 2014
- "Listening for the Echoes of Inflation with BICEP2"  
*Invited talk at Primordial Gravitational Waves and Cosmology, Caltech* May 16, 2014
- *Invited* discussion panelist: Direct dark matter detection  
*Dark Matter in Southern California (DaMaSC) III, Caltech* April 17, 2014
- *Invited* discussion panel convener: "Making connections among dark matter searches"  
*Dark Matter in Southern California (DaMaSC) Inaugural Symposium, Caltech* January 25, 2013
- "CMB Polarization Technology Development at Caltech/JPL"  
*NASA Long-Wavelength Supporting Research and Technology PI Workshop* December 13, 2011
- "SPIDER: a balloon-borne CMB polarimeter for large angular scales"  
*Talk at SPIE Astronomical Telescopes and Instrumentation 2010* July 2, 2010
- "Recent Results from the Cryogenic Dark Matter Search"  
*Invited talk at Les Rencontres de Physique De La Vallee D'Aoste* March 2, 2009
- "WIMP Hunting with the Cryogenic Dark Matter Search"  
*Seminar for Aspera [Virtual Institute of Astroparticle Physics](#)* April 18, 2008
- "Background Rejection for the Cryogenic Dark Matter Search"  
*Talk at 2008 April Meeting of the American Physical Society* April 12, 2008
- "The Cryogenic Dark Matter Search: Status and Prospects"  
*Talk at TeV Particle Astrophysics* August 30, 2007
- "Background Rejection for the Cryogenic Dark Matter Search"  
*Talk at 2007 April Meeting of the American Physical Society* April 16, 2007
- "Complementarity at a Zeptobarn"  
*Talk at pre-SUSY06 Dark Matter Complementarity Workshop* June 10, 2006

- "Dark Matter at the Zeptobarn Scale"  
*Poster at KICP Inaugural Symposium* *December 11, 2005*
- "Limits on WIMP-nucleon interactions from CDMS at the Soudan Underground Laboratory"  
*Talk at Low Temperature Detectors II* *August 1, 2005*
- "Spin-dependent WIMP interactions with the Cryogenic Dark Matter Search"  
*Poster at 22<sup>nd</sup> Texas Symposium on Relativistic Astrophysics* *December 13 2004*

#### **OTHER CONFERENCES AND WORKSHOPS**

- The Cosmic Microwave Background at 50 (Jun. 10-12, 2015: Princeton, NJ)
- 6<sup>th</sup> - 11<sup>th</sup> UCLA Dark Matter Symposia (Feb. 2004 – 2014: Los Angeles, CA)
- Topics in Astroparticle and Underground Physics (TAUP) (Sep. 8-13, 2013: Asilomar, CA)
- CMB Polarization Cosmology in the Coming Decade (Jun. 26-29, 2012: Pasadena, CA)
- The Path to CMBPol: Upcoming Measurements of CMB Polarization (Jul. 1-3, 2009: Chicago, IL)
- Deep Underground Science and Engineering Lab Town Meeting (Nov. 2-4, 2007: Washington, DC)
- University of California INPAC meeting (May 4-6, 2007: Berkeley, CA)
- SUSY06 (June 12-17, 2006: Irvine, CA)
- DUSEL Science Workshop (Aug. 11-14, 2004: Berkeley, CA)
- 2003 SLAC Summer Institute: Cosmic Connections (Jul. 28 – Aug. 8, 2003: SLAC)

#### **REFERENCES**

- Prof. Bernard Sadoulet, University of California, Berkeley, [sadoulet@berkeley.edu](mailto:sadoulet@berkeley.edu)
- Prof. James Bock, California Institute of Technology, [jjb@astro.caltech.edu](mailto:jjb@astro.caltech.edu)
- Prof. William Jones, Princeton University, [wjones@princeton.edu](mailto:wjones@princeton.edu)
- Prof. Sunil Golwala, California Institute of Technology, [golwala@caltech.edu](mailto:golwala@caltech.edu)
- Prof. Blas Cabrera, Stanford University, [cabrera@stanford.edu](mailto:cabrera@stanford.edu)



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**PREPRINTS IN REVIEW**

1. P.A.R. Ade et al., “BICEP2 / Keck Array VIII: Measurement of gravitational lensing from large-scale B-mode polarization”, submitted to *Astrophys. J.*, [arXiv:1606.01968](https://arxiv.org/abs/1606.01968).

**PEER-REVIEWED PUBLICATIONS**

2. P.A.R. Ade et al., “BICEP2 / Keck Array VII: Matrix based E/B Separation applied to BICEP2 and the Keck Array”, *Astrophys. J.* **825**, 66 (2016), [arXiv:1603.05976](https://arxiv.org/abs/1603.05976).
3. P.A.R. Ade et al., “Improved Constraints on Cosmology and Foregrounds from BICEP2 and Keck Array Cosmic Microwave Background Data with Inclusion of 95 GHz Band”, *Phys. Rev. Lett.* **116**, 031302 (2016), [arXiv:1510.09217](https://arxiv.org/abs/1510.09217).
4. S. Bryan et al., “A cryogenic rotation stage with a large clear aperture for a half-wave plate”, *Rev. Sci. Instr.* **87**, 014501 (2016), [arXiv:1510.01771](https://arxiv.org/abs/1510.01771).
5. W.L.K. Wu et al., “Initial performance of BICEP3: A degree angular scale 95 GHz band polarimeter,” *J. Low Temp. Phys.* (2015), [arXiv:1601.00125](https://arxiv.org/abs/1601.00125).
6. P.A.R. Ade et al., “BICEP2 III: Instrumental systematics,” *Astrophys. J.* **814**, 110 (2015), [arXiv:1502.00608](https://arxiv.org/abs/1502.00608).
7. P.A.R. Ade et al., “Antenna-coupled TES bolometers used in BICEP2, Keck Array, and SPIDER,” *Astrophys. J.* **812**, 176 (2015), [arXiv:1502.00619](https://arxiv.org/abs/1502.00619).
8. J.E. Gudmundsson et al., “The thermal design, characterization, and performance of the SPIDER long-duration balloon cryostat,” *Cryogenics* **72**, 65 (2015), [arXiv:1506.06953](https://arxiv.org/abs/1506.06953).
9. P.A.R. Ade et al., “BICEP2 / Keck Array V: Measurements of B-mode polarization at degree angular scales and 150 GHz by the Keck Array,” *Astrophys. J.* **811**, 126 (2015), [arXiv:1502.00643](https://arxiv.org/abs/1502.00643).
10. P.A.R. Ade et al., “BICEP2 / Keck Array IV: Optical characterization and performance of the BICEP2 and Keck Array Experiments,” *Astrophys. J.* **806**, 206 (2015), [arXiv:1502.00596](https://arxiv.org/abs/1502.00596).
11. P.A.R. Ade et al., “A joint analysis of BICEP2/Keck Array and Planck data,” *Phys. Rev. Lett.* **114**, 101301 (2015), [arXiv:1502.00612](https://arxiv.org/abs/1502.00612).
12. P.A.R. Ade et al., “BICEP2 2014 II: The BICEP2 experiment and three-year data set,” *Astrophys. J.* **792**, 62 (2014), [arXiv:1403.4302](https://arxiv.org/abs/1403.4302).
13. P.A.R. Ade et al., “Detection of B-mode polarization at degree angular scales by BICEP2,” *Phys. Rev. Lett.* **112**, 241101 (2014), [arXiv:1403.3985](https://arxiv.org/abs/1403.3985).
14. J.P. Kaufman et al., “Self-calibration of BICEP1 three-year data and constraints on astrophysical polarization rotation,” *Phys. Rev. D* **89**, 062006 (2013), [arXiv:1312.7877](https://arxiv.org/abs/1312.7877).
15. D. Barkats et al., “Degree-scale CMB polarization measurements from three years of BICEP1 data,” *Astrophys. J.* **783**, 67 (2014), [arXiv:1310.1422](https://arxiv.org/abs/1310.1422).
16. R. Agnese et al., “Silicon dark matter results from the final exposure of CDMS II,” *Phys. Rev. Lett.* **111**, 251301 (2013), [arXiv:1304.4279](https://arxiv.org/abs/1304.4279).
17. R. Agnese et al., “Silicon detector results from the first five-tower run of CDMS II,” *Phys. Rev. D* **88**, 031104(R) (2013), [arXiv:1304.3706](https://arxiv.org/abs/1304.3706).
18. A.A. Fraisse et al. “SPIDER: probing the early universe with a suborbital polarimeter,” *JCAP* **04** (2013) 047, [arXiv:1106.3087](https://arxiv.org/abs/1106.3087).
19. Z. Ahmed et al. “Combined Limits on WIMPs from the CDMS and EDELWEISS Experiments,” *Phys. Rev. D* **84**, 011102(R) (2011), [arXiv:1105.3377](https://arxiv.org/abs/1105.3377).
20. D.T. O’Dea et al. “SPIDER optimization II: Optical, Magnetic and Foreground Effects,” *Astrophys. J.* **738**, 63 (2011), [arXiv:1102.0559](https://arxiv.org/abs/1102.0559).
21. Z. Ahmed et al. “Search for inelastic dark matter with the CDMS II experiment,” *Phys. Rev. D.* **83**, 112002 (2011), [arXiv:1012.5078](https://arxiv.org/abs/1012.5078).
22. Z. Ahmed et al. “Results from a Low-Energy Analysis of CDMS II Germanium Data,” *Phys. Rev. Lett.* **106**, 131302 (2011), [arXiv:1011.2482](https://arxiv.org/abs/1011.2482).

23. D.S. Akerib et al. "A low-threshold analysis of CDMS shallow-site data," *Phys. Rev. D* **82**, 122004 (2010), [arXiv:1010.4290](#).
24. Z. Ahmed et al. "Dark matter search results from the CDMS II experiment," *Science* **327**, p. 1619 (2010), [arXiv:0912.3592](#).
25. Z. Ahmed et al. "Analysis of the low-energy electron-recoil spectrum of the CDMS Experiment," *Phys. Rev. D* **81**, 042002 (2010), [arXiv:0907.1438](#).
26. Z. Ahmed et al. "Search for Axions with the CDMS Experiment," *Phys. Rev. Lett.* **103**, 141802 (2009), [arXiv:0902.4693](#).
27. Z. Ahmed 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," *Phys. Rev. Lett.* **102**, 011301 (2009), [arXiv:0802.3530](#).
28. C. N. Bailey et al. "Detector Development for the Next Phases of the Cryogenic Dark Matter Search: Results from 1 inch Ge and Si Detectors," *J. Low Temp. Phys.* **151** (2008), p. 211.
29. D. S. Akerib et al., "Present status of the SuperCDMS program," *J. Low Temp. Phys.* **151** (2008), p. 818.
30. Z. Ahmed et al., "Present status of the Cryogenic Dark Matter Search experiment," *J. Low Temp. Phys.* **151** (2008), p. 800.
31. D.S. Akerib et al., "Limits on spin-dependent WIMP-nucleon interactions from the Cryogenic Dark Matter Search," *Physical Review D* **73**, 011102 (2006), [astro-ph/0509269](#).
32. **J. Filippini** et al., "Limits on WIMP-nucleon interactions from the Cryogenic Dark Matter Search at the Soudan Underground Laboratory," *Nucl. Instr. Meth. A* **559** (2006), p. 390.
33. R. W. Ogburn et al., "Characterization, performance, and future advanced analysis of detectors in the Cryogenic Dark Matter Search (CDMS-II)," *Nucl. Instr. Meth. A* **559** (2006), p. 387.
34. N. Mirabolfathi et al., "Detector commissioning for the CDMS-II final run at the Soudan Underground Laboratory," *Nucl. Instr. Meth. A* **559** (2006), p. 417.
35. P. L. Brink et al., "First test runs of a dark-matter detector with interleaved ionization electrodes and phonon sensors for surface-event rejection," *Nucl. Instr. Meth. A* **559** (2006), p. 414.
36. P. L. Brink et al., "The SuperCDMS proposal for dark matter detection," *Nucl. Instr. Meth. A* **559** (2006), p. 411.
37. D.S. Akerib et al., "Limits on spin-independent WIMP-nucleon interactions from the two-tower run of the Cryogenic Dark Matter Search," *Physical Review Letters* **96**, 011302 (2006), [astro-ph/0509259](#).
38. D.S. Akerib et al., "Exclusion Limits on the WIMP-Nucleon Cross-Section from the First Run of the Cryogenic Dark Matter Search in the Soudan Underground Lab," *Physical Review D* **72**, 052009 (2005), [astro-ph/0507190](#).
39. D.S. Akerib et al., "First Results from the Cryogenic Dark Matter Search in the Soudan Underground Lab," *Phys. Rev. Lett.* **93**, 211301 (2004), [astro-ph/0405033](#).
40. V. Mandic et al., "Study of the dead layer in germanium for the CDMS detectors," *Nucl. Instr. Meth. A* **520** (2003), p. 171.

#### PROCEEDINGS AND OTHER PUBLICATIONS

41. K.S. Karkare et al., "Optical characterization of the BICEP3 CMB polarimeter at the South Pole", to appear in *Proc. SPIE* **9914** (2016), [arXiv:1607.04567](#).
42. J. Hubmayr et al., "BLASTbus electronics: general-purpose readout and control for balloon-borne experiments," to appear in *Proc. SPIE* **9914** (2016), [arXiv:1606.09396](#).
43. S.J. Benton et al., "BLASTbus electronics: general-purpose readout and control for balloon-borne experiments," *Proc. SPIE* **9145** (2014), [arXiv:1407.1882](#).
44. N.N. Gandilo et al., "Attitude determination for balloon-borne experiments," *Proc. SPIE* **9145** (2014), [arXiv:1407.1883](#).
45. J.A. Shariff et al., "Pointing control for the SPIDER balloon-borne telescope," *Proc. SPIE* **9145** (2014), [arXiv:1407.1880](#).
46. J.D. Soler et al., "Design and construction of a carbon fiber gondola for the SPIDER balloon-borne telescope," *Proc. SPIE* **9145** (2014), [arXiv:1407.1881](#).
47. Z. Ahmed et al, "BICEP3: a 95 GHz refracting telescope for degree-scale CMB polarization," *Proc. SPIE*

- 9153 (2014), [arXiv:1407.5928](https://arxiv.org/abs/1407.5928).
48. I. Buder et al., “BICEP2 and Keck Array: upgrades and improved beam characterization,” *Proc. SPIE* **9153** (2014).
  49. K.S. Karkare et al., “Keck Array and BICEP3: spectral characterization of 5000+ detectors,” *Proc. SPIE* **9153** (2014).
  50. A.S. Rahlin et al., “Pre-flight integration and characterization of the SPIDER balloon-borne telescope,” *Proc. SPIE* **9153** (2014), [arXiv:1407.2906](https://arxiv.org/abs/1407.2906).
  51. R. O’Brien et al. “Antenna-coupled TES bolometers for the Keck Array, SPIDER, and Polar-1,” *Proc. SPIE* **8452** (2012), [arXiv:1208.1247](https://arxiv.org/abs/1208.1247).
  52. R.W. Ogburn et al. “BICEP2 and Keck Array operational overview and status of observations,” *Proc. SPIE* **8452** (2012), [arXiv:1208.0638](https://arxiv.org/abs/1208.0638).
  53. S. Kernasovskiy et al. “Optimization and sensitivity of the Keck Array,” *Proc. SPIE* **8452** (2012), [arXiv:1208.0857](https://arxiv.org/abs/1208.0857).
  54. A.G. Vieregge et al. “Optical characterization of the Keck Array polarimeter at the South Pole,” *Proc. SPIE* **8452** (2012), [arXiv:1208.0844](https://arxiv.org/abs/1208.0844).
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