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**Wayne S. Holland
Jonas Zmuidzinas**
Editors

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- 9153 11 **The performance of the bolometer array and readout system during the 2012/2013 flight of the E and B experiment (EBEX)** [9153-37]
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BICEP2 and Keck array: upgrades and improved beam characterization [9153-38]

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- 9153 13 **Pre-flight integration and characterization of the SPIDER balloon-borne telescope** [9153-39]
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SESSION 8 OPTICS AND COMPONENTS

- 9153 14 **Refractive telescope systems for future cosmic microwave background polarimetry experiments** [9153-40]
P. Hargrave, Cardiff Univ. (United Kingdom); G. Savini, Univ. College London (United Kingdom); M. Gradziel, N. Trappe, N. Tynan, M. Candotti, National Univ. of Ireland, Maynooth (Ireland); A. Challinor, Univ. of Cambridge (United Kingdom); S. Sørensen, TICRA (Denmark); P. Ade, R. Sudiwala, Cardiff Univ. (United Kingdom); M. van der Vorst, European Space Agency (Netherlands)
- 9153 16 **Efficient algorithms for optimising the optical performance of profiled smooth walled horns for future CMB and Far-IR missions** [9153-42]
D. McCarthy, N. Trappe, J. A. Murphy, C. O'Sullivan, M. Gradziel, S. Doherty, C. Bracken, N. Tynan, National Univ. of Ireland, Maynooth (Ireland); A. Polegre, European Space Agency (Netherlands); P. Huggard, Rutherford Appleton Lab. (United Kingdom)
- 9153 17 **Development of large radii half-wave plates for CMB satellite missions** [9153-43]
G. Pisano, Cardiff Univ. (United Kingdom) and The Univ. of Manchester (United Kingdom); B. Maffei, M. W. Ng, V. Haynes, M. Brown, F. Novello, The Univ. of Manchester (United Kingdom); P. de Bernardis, S. Masi, F. Piacentini, L. Pagano, M. Salatino, Univ. degli Studi di Roma La Sapienza (Italy); B. Ellison, M. Henry, Rutherford Appleton Lab. (United Kingdom); P. de Maagt, B. Shortt, European Space Agency (Netherlands)
- 9153 18 **Polarization properties of a multi-moded feed horn for the Primordial Inflation Explorer mission** [9153-44]
A. Kogut, D. J. Fixsen, R. S. Hill, P. Mirel, NASA Goddard Space Flight Ctr. (United States)
- 9153 19 **Optical design for the 450, 350, and 200 μm ArTeMiS camera** [9153-45]
D. Dubreuil, J. Martignac, J. C. Toussaint, F. Visticot, C. Delisle, P. Gallais, J. Le-Pennec, T. Lerch, P. André, M. Lortholary, IRFU-CEA (France); B. Maffei, V. Haynes, The Univ. of Manchester (United Kingdom); N. Hurtado, Univ. zu Köln (Germany); G. Pisano, The Univ. of Manchester (United Kingdom); V. Revéret, L. Rodriguez, M. Talvard, IRFU-CEA (France)

SESSION 9 MULTIPLEXING AND READOUT SYSTEMS

- 9153 1A **Digital frequency domain multiplexing readout electronics for the next generation of millimeter telescopes** [9153-46]
A. N. Bender, J.-F. Cliche, T. de Haan, McGill Univ. (Canada); M. A. Dobbs, McGill Univ. (Canada) and Canadian Institute for Advanced Research (Canada); A. J. Gilbert, J. Montgomery, McGill Univ. (Canada); N. Rowlands, COM DEV Canada (Canada); G. M. Smecher, Three-Speed Logic, Inc. (Canada); K. Smith, A. Wilson, COM DEV Canada (Canada)

- 9153 1B **Optimization of cold resonant filters for frequency domain multiplexed readout of POLARBEAR-2** [9153-47]
 K. Hattori, High Energy Accelerator Research Organization, KEK (Japan); Y. Akiba, The Graduate Univ. for Advanced Studies (Japan); K. Arnold, D. Barron, Univ. of California, San Diego (United States); A. Bender, M. Dobbs, T. de Haan, McGill Univ. (Canada); N. Harrington, Univ. of California, Berkeley (United States); M. Hasegawa, M. Hazumi, High Energy Accelerator Research Organization, KEK (Japan); W. L. Holzapfel, Univ. of California, Berkeley (United States); Y. Hori, High Energy Accelerator Research Organization, KEK (Japan); B. G. Keating, Univ. of California, San Diego (United States); A. T. Lee, Univ. of California, Berkeley (United States); J. Montgomery, McGill Univ. (Canada); H. Morii, High Energy Accelerator Research Organization, KEK (Japan); M. Myers, Univ. of California, Berkeley (United States); K. Rotermund, Dalhousie Univ. (Canada); I. Shirley, Univ. of California, Berkeley (United States); G. Smecher, Three-Speed Logic, Inc. (Canada); N. Stebor, Univ. of California, San Diego (United States); A. Suzuki, Univ. of California, Berkeley (United States); T. Tomaru, The Graduate Univ. for Advanced Studies (Japan)
- 9153 1E **The 160 TES bolometer read-out using FDM for SAFARI** [9153-50]
 R. A. Hijmering, R. den Hartog, A. J. van der Linden, M. Ridder, M. P. Bruijn, J. van der Kuur, B. J. van Leeuwen, P. van Winden, B. Jackson, Netherlands Institute for Space Research (Netherlands)

SESSION 10 CMB INSTRUMENTS: NEW DEVELOPMENTS I

- 9153 1F **The Simons Array: expanding POLARBEAR to three multi-chroic telescopes** [9153-51]
 K. Arnold, N. Stebor, Univ. of California, San Diego (United States); P. A. R. Ade, Cardiff Univ. (United Kingdom); Y. Akiba, The Graduate Univ. for Advanced Studies (Japan); A. E. Anthony, Univ. of Colorado at Boulder (United States); M. Atlas, D. Barron, Univ. of California, San Diego (United States); A. Bender, McGill Univ. (Canada); D. Boettger, Univ. of California, San Diego (United States); J. Borrill, Lawrence Berkeley National Lab. (United States) and Univ. of California, Berkeley (United States); S. Chapman, Dalhousie Univ. (Canada); Y. Chinone, High Energy Accelerator Research Organization, KEK (Japan) and Univ. of California, Berkeley (United States); A. Cukierman, Univ. of California, Berkeley (United States); M. Dobbs, McGill Univ. (Canada); T. Elleflot, Univ. of California, San Diego (United States); J. Errard, Univ. of California, Berkeley (United States) and Lawrence Berkeley National Lab. (United States); G. Fabbian, AstroParticle et Cosmologie, CNRS, Univ. Paris Diderot (France), Observatoire de Paris, IRFU-CEA (France), and Scuola Internazionale Superiore di Studi Avanzati (Italy); C. Feng, Univ. of California, San Diego (United States); A. Gilbert, McGill Univ. (Canada); N. Goeckner-Wald, Univ. of California, Berkeley (United States); N. W. Halverson, Univ. of Colorado at Boulder (United States); M. Hasegawa, High Energy Accelerator Research Organization, KEK (Japan) and The Graduate Univ. for Advanced Studies (Japan); K. Hattori, High Energy Accelerator Research Organization, KEK (Japan); M. Hazumi, High Energy Accelerator Research Organization, KEK (Japan), The Graduate Univ. for Advanced Studies (Japan), and Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); W. L. Holzapfel, Univ. of California, Berkeley (United States); Y. Hori, High Energy Accelerator Research Organization, KEK (Japan); Y. Inoue, The Graduate Univ. for Advanced Studies (Japan); G. C. Jaehnig, Univ. of Colorado at Boulder (United States); A. H. Jaffe, Imperial College London (United Kingdom); N. Katayama, Kavli Institute for the Physics and Mathematics, The Univ. of Tokyo (Japan); B. Keating, Univ. of California, San Diego (United States); Z. Kermish, Princeton Univ. (United States); R. Keskitalo, Lawrence Berkeley National

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- 9153 1H **PILOT: a balloon-borne experiment to measure the polarized FIR emission of dust grains in the interstellar medium** [9153-53]
 R. Misawa, J.-Ph. Bernard, Institut de Recherche en Astrophysique et Planétologie (France); P. Ade, Cardiff Univ. (United Kingdom); Y. André, Ctr. National des Etudes Spatiales (France); P. de Bernardis, Univ. degli Studi di Roma La Sapienza (Italy); M. Bouzit, M. Charra, B. Crane, J. P. Dubois, Institut d'Astrophysique Spatiale, CNES, Univ. Paris Sud (France); C. Engel, Institut de Recherche en Astrophysique et Planétologie (France); M. Griffin, P. Hargrave, Cardiff Univ. (United Kingdom); B. Leriche, Y. Longval, Institut d'Astrophysique Spatiale, CNES, Univ. Paris Sud (France); S. Maes, C. Marty, W. Marty, Institut de Recherche en Astrophysique et Planétologie (France); S. Masi, Univ. degli Studi di Roma La Sapienza (Italy); B. Mot, J. Narbonne, Institut de Recherche en Astrophysique et Planétologie (France); F. Pajot, Institut d'Astrophysique Spatiale, CNRS, Univ. Paris Sud (France); G. Pisano, Cardiff Univ. (United Kingdom); N. Ponthieu, Grenoble Univ. (France); I. Ristorcelli, Institut de Recherche en Astrophysique et Planétologie (France); L. Rodriguez, CEA, Saclay (France); G. Roudil, Institut de Recherche en Astrophysique et Planétologie (France); M. Salatino, Univ. degli Studi di Roma La Sapienza (Italy); G. Savini, C. Tucker, Cardiff Univ. (United Kingdom)
- 9153 1I **CLASS: the cosmology large angular scale surveyor** [9153-54]
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Univ. (United States); C. L. Bennett, F. Boone, M. Chan, Johns Hopkins Univ. (United States); H.-M. Cho, National Institute of Standards and Technology (United States); D. T. Chuss, F. Colazo, E. Crowe, K. Denis, NASA Goddard Space Flight Ctr. (United States); R. Dünner, Instituto de Astrofísica, Pontificia Univ. Católica de Chile (Chile); J. Eimer, D. Gothe, Johns Hopkins Univ. (United States); M. Halpern, The Univ. of British Columbia (Canada); K. Harrington, Johns Hopkins Univ. (United States); G. Hilton, National Institute of Standards and Technology (United States); G. F. Hinshaw, The Univ. of British Columbia (Canada); C. Huang, Johns Hopkins Univ. (United States); K. Irwin, Stanford Univ. (United States); G. Jones, Columbia Univ. (United States); J. Karakla, Johns Hopkins Univ. (United States); A. J. Kogut, NASA Goddard Space Flight Ctr. (United States); D. Larson, Johns Hopkins Univ. (United States); M. Limon, Columbia Univ. (United States); L. Lowry, T. Marriage, N. Mehrle, Johns Hopkins Univ. (United States); A. D. Miller, Columbia Univ. (United States); N. Miller, S. H. Moseley, NASA Goddard Space Flight Ctr. (United States); G. Novak, Northwestern Univ. (United States); C. Reintsema, National Institute of Standards and Technology (United States); K. Rostem, T. Stevenson, D. Towner, K. U-Yen, NASA Goddard Space Flight Ctr. (United States); E. Wagner, D. Watts, Johns Hopkins Univ. (United States); E. Wollack, NASA Goddard Space Flight Ctr. (United States); Z. Xu, Johns Hopkins Univ. (United States); L. Zeng, Harvard-Smithsonian Ctr. for Astrophysics (United States)

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The cosmology large angular scale surveyor (CLASS): 38-GHz detector array of bolometric polarimeters [9153-55]

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Part Two

SESSION 11 CMB INSTRUMENTS: NEW DEVELOPMENTS II

- 9153 1L **The Primordial Inflation Polarization Explorer (PIPER)** [9153-57]
J. Lazear, Johns Hopkins Univ. (United States); P. A. R. Ade, Cardiff Univ. (United Kingdom); D. Benford, NASA Goddard Space Flight Ctr. (United States); C. L. Bennett, Johns Hopkins Univ. (United States); D. T. Chuss, NASA Goddard Space Flight Ctr. (United States); J. L. Dotson, NASA Ames Research Ctr. (United States); J. R. Eimer, Johns Hopkins Univ. (United States); D. J. Fixsen, NASA Goddard Space Flight Ctr. (United States); M. Halpern, The Univ. of British Columbia (Canada); G. Hilton, National Institute of Standards and Technology (United States); J. Hinderks, NASA Goddard Space Flight Ctr. (United States) and Univ. of Michigan (United States); G. F. Hinshaw, The Univ. of British Columbia (Canada); K. Irwin, Stanford Univ. (United States); C. Jhabvala, NASA Goddard Space Flight Ctr. (United States); B. Johnson, Columbia Univ. (United States); A. Kogut, NASA Goddard Space Flight Ctr. (United States); L. Lowe, NASA Goddard Space Flight Ctr. (United States) and Wyle STE (United States); J. J. McMahon, Univ. of Michigan (United States); T. M. Miller, NASA Goddard Space Flight Ctr. (United States); P. Mirel, NASA Goddard Space Flight Ctr. (United States) and Wyle STE (United States); S. H. Moseley, NASA Goddard Space Flight Ctr. (United States); S. Rodriguez, NASA Goddard Space Flight Ctr. (United States) and ADNET Systems, Inc. (United States); E. Sharp, NASA Goddard Space Flight Ctr. (United States); J. G. Staguhn, Johns Hopkins Univ. (United States) and NASA Goddard Space Flight Ctr. (United States); E. R. Switzer, NASA Goddard Space Flight Ctr. (United States); C. E. Tucker, Cardiff Univ. (United Kingdom); A. Weston, NASA Goddard Space Flight Ctr. (United States) and ADNET Systems, Inc. (United States); E. J. Wollack, NASA Goddard Space Flight Ctr. (United States)
- 9153 1N **BICEP3: a 95GHz refracting telescope for degree-scale CMB polarization** [9153-59]
Z. Ahmed, Stanford Univ. (United States) and Kavli Institute for Particle Astrophysics and Cosmology, SLAC National Accelerator Lab. (United States); M. Amiri, The Univ. of British Columbia (Canada); S. J. Benton, Univ. of Toronto (Canada); J. J. Bock, California Institute of Technology (United States) and Jet Propulsion Lab. (United States); R. Bowens-Rubin, I. Buder, Harvard-Smithsonian Ctr. for Astrophysics (United States); E. Bullock, Univ. of Minnesota (United States); J. Connors, Harvard-Smithsonian Ctr. for Astrophysics (United States); J. P. Filippini, California Institute of Technology (United States); J. A. Grayson, Stanford Univ. (United States) and Kavli Institute for Particle Astrophysics and Cosmology, SLAC National Accelerator Lab. (United States); M. Halpern, The Univ. of British Columbia (Canada); G. C. Hilton, National Institute of Standards and Technology (United States); V. V. Hristov, H. Hui, California Institute of Technology (United States); K. D. Irwin, J. Kang, Stanford Univ. (United States) and Kavli Institute for Particle Astrophysics and Cosmology, SLAC National Accelerator Lab. (United States); K. S. Karkare, Harvard-Smithsonian Ctr. for Astrophysics (United States); E. Karpel, Stanford Univ. (United States); J. M. Kovac, Harvard-Smithsonian Ctr. for Astrophysics (United States); C. L. Kuo, Stanford Univ. (United States) and Kavli Institute for Particle Astrophysics and Cosmology, SLAC National Accelerator Lab. (United States); C. B. Netterfield, Univ. of Toronto (Canada); H. T. Nguyen, Jet Propulsion Lab. (United States); R. O'Brient, California Institute of Technology (United States); R. W. Ogburn IV, Stanford Univ. (United States) and Kavli Institute for Particle Astrophysics and Cosmology, SLAC National Accelerator Lab. (United States); C. Pryke, Univ. of Minnesota (United States); C. D. Reintsema, National Institute of Standards and Technology (United States); S. Richter, Harvard-Smithsonian Ctr. for Astrophysics (United States); K. L. Thompson, Stanford Univ. (United States) and Kavli Institute for Particle

Astrophysics and Cosmology, SLAC National Lab. (United States); A. D. Turner, Jet Propulsion Lab. (United States); A. G. Vieregg, The Univ. of Chicago (United States); W. L. K. Wu, K. W. Yoon, Stanford Univ. (United States) and Kavli Institute for Particle Astrophysics and Cosmology, SLAC National Lab. (United States)

9153 1P **SPT-3G: a next-generation cosmic microwave background polarization experiment on the South Pole telescope** [9153-61]

B. A. Benson, Fermi National Accelerator Lab. (United States), Kavli Institute for Cosmological Physics, The Univ. of Chicago (United States), and The Univ. of Chicago (United States); P. A. R. Ade, Cardiff Univ. (United Kingdom); Z. Ahmed, S. W. Allen, Kavli Institute for Particle Astrophysics and Cosmology, Stanford Univ. (United States), Stanford Univ. (United States), and SLAC National Accelerator Lab. (United States); K. Arnold, Univ. of California, San Diego (United States); J. E. Austermann, Univ. of Colorado at Boulder (United States); A. N. Bender, McGill Univ. (Canada); L. E. Bleem, Kavli Institute for Cosmological Physics, The Univ. of Chicago (United States) and Argonne National Lab. (United States); J. E. Carlstrom, Kavli Institute for Cosmological Physics, The Univ. of Chicago (United States), The Univ. of Chicago (United States), and Argonne National Lab. (United States); C. L. Chang, Argonne National Lab. (United States), Kavli Institute for Cosmological Physics, The Univ. of Chicago (United States), and The Univ. of Chicago (United States); H. M. Cho, SLAC National Accelerator Lab. (United States); J. F. Cliche, McGill Univ. (Canada); T. M. Crawford, Kavli Institute for Cosmological Physics, The Univ. of Chicago (United States) and The Univ. of Chicago (United States); A. Cukierman, Univ. of California, Berkeley (United States); T. de Haan, McGill Univ. (Canada); M. A. Dobbs, McGill Univ. (Canada) and Canadian Institute for Advanced Research (Canada); D. Dutcher, Kavli Institute for Cosmological Physics, The Univ. of Chicago (United States) and The Univ. of Chicago (United States); W. Everett, Univ. of Colorado at Boulder (United States); A. Gilbert, McGill Univ. (Canada); N. W. Halverson, Univ. of Colorado at Boulder (United States); D. Hanson, McGill Univ. (Canada); N. L. Harrington, Univ. of California, Berkeley (United States); K. Hattori, High Energy Accelerator Research Organization, KEK (Japan); J. W. Henning, Univ. of Colorado at Boulder (United States); G. C. Hilton, National Institute of Standards and Technology (United States); G. P. Holder, McGill Univ. (Canada) and Canadian Institute for Advanced Research (Canada); W. L. Holzapfel, Univ. of California, Berkeley (United States); K. D. Irwin, Kavli Institute for Particle Astrophysics and Cosmology, Stanford Univ. (United States), Stanford Univ. (United States), and SLAC National Accelerator Lab. (United States); R. Keisler, Kavli Institute for Cosmological Physics, Stanford Univ. (United States) and Stanford Univ. (United States); L. Knox, Univ. of California, Davis (United States); D. Kubik, Fermi National Accelerator Lab. (United States); C. L. Kuo, Kavli Institute for Particle Astrophysics and Cosmology, Stanford Univ. (United States), Stanford Univ. (United States), and SLAC National Accelerator Lab. (United States); A. T. Lee, Univ. of California, Berkeley (United States) and Lawrence Berkeley National Lab. (United States); E. M. Leitch, Kavli Institute for Cosmological Physics, The Univ. of Chicago (United States) and The Univ. of Chicago (United States); D. Li, National Institute of Standards and Technology (United States); M. McDonald, Kavli Institute for Astrophysics and Space Research, Massachusetts Institute of Technology (United States); S. S. Meyer, Kavli Institute for Cosmological Physics, The Univ. of Chicago (United States) and The Univ. of Chicago (United States); J. Montgomery, McGill Univ. (Canada); M. Myers, Univ. of California, Berkeley (United States); T. Natoli, Kavli Institute for Cosmological Physics, The Univ. of Chicago (United States) and The Univ. of Chicago (United States); H. Nguyen, Fermi National Accelerator Lab. (United States); V. Novosad, Argonne National Lab. (United States); S. Padin, California Institute of Technology (United States); Z. Pan, Kavli Institute for Cosmological Physics, The Univ. of Chicago (United States) and The Univ. of Chicago

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SESSION 12 TERAHERTZ TECHNOLOGY

- 9153 1Q **Development of hot-electron THz bolometric mixers using MgB₂ thin films** [9153-62]
D. Cunnane, J. Kawamura, B. S. Karasik, Jet Propulsion Lab. (United States); M. A. Wolak, X. X. Xi, Temple Univ. (United States)
- 9153 1R **A 4.7THz heterodyne receiver for a balloon borne telescope** [9153-63]
D. J. Hayton, SRON Netherlands Institute for Space Research (Netherlands); J. L. Kloosterman, The Univ. of Arizona (United States); Y. Ren, Technische Univ. Delft (Netherlands); T. Y. Kao, Massachusetts Institute of Technology (United States); J. R. Gao, SRON Netherlands Institute for Space Research (Netherlands) and Technical Univ. Delft (Netherlands); T. M. Klapwijk, Technische Univ. Delft (Netherlands); Q. Hu, Massachusetts Institute of Technology (United States); C. K. Walker, Steward Observatory, Univ. of Arizona (United States); J. L. Reno, Sandia National Labs. (United States)
- 9153 1U **CNES detector developments from far-infrared to mm: status and roadmap** [9153-66]
H. Geoffray, Ctr. National d'Études Spatiales (France); A. Monfardini, Institut NÉEL (France); S. Marnieros, CSNSM (France); M. Piat, Lab. AstroParticule et Cosmologie (France); L. Rodriguez, Commissariat à l'Énergie Atomique (France); A. Bardoux, Ctr. National d'Études Spatiales (France)

SESSION 13 EMERGING CONCEPTS AND NEW INSTRUMENTS

- 9153 1V **Instrumentation for single-dish observations with The Greenland Telescope** [9153-67]
P. K. Grimes, Smithsonian Astrophysical Observatory (United States); K. Asada, Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); R. Blundell, R. Burgos, Smithsonian Astrophysical Observatory (United States); H.-H. Chang, M. T. Chen, Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); D. Goldie, Cavendish Lab., Univ. of Cambridge (United Kingdom); C. Groppi, Arizona State Univ. (United States); C. C. Han, P. T. P. Ho, Y. D. Huang, M. Inoue, D. Kubo, P. Koch, Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); J. Leech, Univ. of Oxford (United Kingdom); E. de Lera Acedo, Cavendish Lab., Univ. of Cambridge (United Kingdom); P. Martin-Cocher, H. Nishioka,

M. Nakamura, S. Matsushita, Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); S. N. Paine, N. Patel, Smithsonian Astrophysical Observatory (United States); P. Raffin, W. Snow, Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); T. K. Sridharan, Smithsonian Astrophysical Observatory (United States); R. Srinivasan, Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); C. N. Thomas, Cavendish Lab., Univ. of Cambridge (United Kingdom); E. Tong, Smithsonian Astrophysical Observatory (United States); M.-J. Wang, Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); C. Wheeler, Arizona State Univ. (United States); S. Withington, Cavendish Lab., Univ. of Cambridge (United Kingdom); G. Yassin, Univ. of Oxford (United Kingdom); L.-Z. Zeng, Smithsonian Astrophysical Observatory (United States)

- 9153 1W **The TIME-Pilot intensity mapping experiment** [9153-68]
A. T. Crites, J. J. Bock, California Institute of Technology (United States); C. M. Bradford, Jet Propulsion Lab. (United States); T. C. Chang, Institute of Astronomy and Astrophysics (Taiwan); A. R. Cooray, Univ. of California, Irvine (United States); L. Duband, Commissariat à l'Énergie Atomique (France); Y. Gong, Univ. of California, Irvine (United States); S. Hailey-Dunsheath, J. Hunacek, California Institute of Technology (United States); P. M. Koch, C. T. Li, Institute of Astronomy and Astrophysics (Taiwan); R. C. O'Brien, California Institute of Technology (United States); T. Prouve, Commissariat à l'Énergie Atomique (France); E. Shirokoff, The Univ. of Chicago (United States); M. B. Silva, CENTRA (Portugal); Z. Staniszewski, California Institute of Technology (United States); B. Uzgil, Univ. of Pennsylvania (United States); M. Zemcov, California Institute of Technology (United States)
- 9153 1Y **X-Spec: a multi-object trans-millimeter-wave spectrometer for CCAT** [9153-70]
C. M. Bradford, Jet Propulsion Lab. (United States); S. Hailey-Dunsheath, California Institute of Technology (United States); E. Shirokoff, California Institute of Technology (United States) and Kavli Institute for Cosmological Physics, The Univ. of Chicago (United States); M. Hollister, C. M. McKenney, California Institute of Technology (United States); H. G. LeDuc, T. Reck, Jet Propulsion Lab. (United States); S. C. Chapman, A. Tikhomirov, Dalhousie Univ. (Canada); T. Nikola, Cornell Univ. (United States); J. Zmuidzinas, California Institute of Technology (United States)
- 9153 1Z **KPAF (K-band phased array feed) instrument concept** [9153-71]
L. Locke, NRC - Herzberg Institute of Astrophysics (Canada) and Univ. of Victoria (Canada); S. Claude, NRC - Herzberg Institute of Astrophysics (Canada); J. Bornemann, Univ. of Victoria (Canada); D. Henke, J. Di Francesco, F. Jiang, D. Garcia, I. Wevers, P. Niranjan, NRC - Herzberg Institute of Astrophysics (Canada)
- 9153 20 **A quasioptical steering system for the CCAT/XSPEC submillimeter multi-object spectrometer** [9153-135]
S. C. Chapman, A. Tikhomirov, Dalhousie Univ. (Canada); C. M. Bradford, S. Hailey-Dunsheath, California Institute of Technology (United States)

POSTER SESSION

- 9153 21 **Design of antenna-coupled lumped-element titanium nitride KIDs for long-wavelength multi-band continuum imaging** [9153-31]
C. Ji, California Institute of Technology (United States); A. Beyer, Jet Propulsion Lab. (United States); S. Golwala, J. Sayers, California Institute of Technology (United States)

- 9153 22 **SCUBA-2 Fourier transform spectrometer (FTS-2) commissioning results** [9153-72]
B. G. Gom, D. A. Naylor, Univ. of Lethbridge (Canada); P. Friberg, G. S. Bell, D. Bintley, Joint Astronomy Ctr. (United States); S. Abdelazim, M. Sherwood, Univ. of Lethbridge (Canada)
- 9153 23 **The spectral response of the SCUBA-2 850- and 450-micron photometric bands** [9153-73]
D. A. Naylor, B. G. Gom, S. Abdelazim, Univ. of Lethbridge (Canada); P. Friberg, D. Bintley, Joint Astronomy Ctr. (United States); W. S. Holland, M. J. MacIntosh, UK Astronomy Technology Ctr. (United Kingdom); P. A. R. Ade, C. E. Tucker, Cardiff Univ. (United Kingdom)
- 9153 24 **Cryogenic system for the ArTeMiS large sub millimeter camera** [9153-75]
E. Ercolani, Univ. Grenoble (France); J. Relland, IRFU-CEA (France); L. Clerc, L. Duband, T. Jourdan, Univ. Grenoble (France); M. Talvard, J. Le Pennec, J. Martignac, F. Visticot, Lab. AIM, CNRS, Univ. Paris Diderot (France) and IRFU-CEA (France)
- 9153 25 **Spectral definition of the ArTeMiS instrument** [9153-76]
V. Haynes, B. Maffei, G. Pisano, The Univ. of Manchester (United Kingdom); D. Dubreuil, C. Delisle, J. Le Pennec, CEA-Saclay (France); N. Hurtado, Univ. zu Köln (Germany)
- 9153 26 **Preliminary design of the wavefront front sensor for CCAT** [9153-77]
D. Naylor, Univ. of Lethbridge (Canada); B. Gom, Blue Sky Spectroscopy Inc. (Canada); M. Leclerc, M. Legros, INO (Canada); S. Padin, California Institute of Technology (United States); E. Serabyn, Jet Propulsion Lab. (United States)
- 9153 27 **Optics and cryogenics for the 1.1 THz multi-pixel heterodyne receiver for APEX** [9153-78]
N. Hurtado, U. U. Graf, H. Adams, C. E. Honingh, K. Jacobs, P. Pütz, Kölner Observatorium für Submm Astronomie, Univ. zu Köln (Germany); R. Güsten, Max-Planck-Institut für Radioastronomie (Germany); J. Stutzki, Kölner Observatorium für Submm Astronomie, Univ. zu Köln (Germany)
- 9153 28 **Conceptual design of a cryogenic test bench system for millimeter wavelength detectors** [9153-79]
S. Ventura, D. Ferrusca, E. Ibarra-Medel, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico)
- 9153 29 **Hacking for astronomy: can 3D printers and open-hardware enable low-cost sub-millimeter instrumentation?** [9153-82]
C. Ferkinhoff, Max-Planck-Institut für Astronomie (Germany)
- 9153 2A **The opto-cryo-mechanical design of the short wavelength camera for the CCAT Observatory** [9153-83]
S. C. Parshley, Cornell Univ. (United States); J. Adams, Cornell Univ. (United States) and SOFIA-USRA (United States); T. Nikola, G. J. Stacey, Cornell Univ. (United States)
- 9153 2C **An automated test system for terahertz receiver characterization** [9153-85]
L. C. Kuenzi, C. E. Groppi, C. H. Wheeler, H. Mani, Arizona State Univ. (United States)
- 9153 2D **The software-based polarization spectrometer PolariS** [9153-86]
S. Kameno, Joint ALMA Observatory (Chile); I. Mizuno, Kagoshima Univ. (Japan) and Nobeyama Radio Observatory (Japan); F. Nakamura, National Astronomical Observatory of Japan (Japan); M. Kuroo, Shoyo High School (Japan); A. Kano, Kagoshima Univ. (Japan); N. Kawaguchi, K. M. Shibata, National Astronomical Observatory of Japan

(Japan); N. Kuno, S. Takano, Nobeyama Radio Observatory (Japan); S. Kuji, National Astronomical Observatory of Japan (Japan)

- 9153 2E **A digital sideband-separating receiver for the millimeter band** [9153-87]
R. Rodríguez, R. Finger, F. P. Mena, L. Bronfman, E. A. Michael, Univ. de Chile (Chile)
- 9153 2F **A 16-channel flex circuit for cryogenic microwave signal transmission** [9153-88]
P. McGarey, Univ. of Toronto (Canada); H. Mani, C. Wheeler, C. Groppi, Arizona State Univ. (United States)
- 9153 2G **Proof of concept of a photonic sideband-separating receiver for submm-wave applications** [9153-89]
J. A. Castillo, ALMA Observatory (Chile); R. Roman, F. P. Mena, E. A. Michael, Univ. de Chile (Chile)
- 9153 2H **Development of band-1 receiver cartridge for Atacama Large Millimeter/submillimeter Array (ALMA)** [9153-90]
Y.-J. Hwang, C.-C. Chiong, T. Huang, Y.-F. Kuo, C.-C. Lin, C.-T. Ho, H. Chuang, Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); M. Pospieszalski, National Radio Astronomy Observatory (United States); D. Henke, S. Claude, NRC - Herzberg Institute of Astrophysics (Canada); N. Reyes, R. Finger, Univ. de Chile (Chile)
- 9153 2I **Detecting loss of coherence based on telescope calibration results in ALMA** [9153-91]
A. Saez, Joint ALMA Observatory (Chile); A. Tejada, National Radio Astronomy Observatory (United States); D. Herrera, J. Sepulveda, Joint ALMA Observatory (Chile)
- 9153 2J **A 3mm band SIS receiver for the Sardinia Radio Telescope** [9153-92]
A. Ladu, T. Pisanu, INAF - Osservatorio Astronomico di Cagliari (Italy); A. Navarini, IRAM - Institut de Radio Astronomie Millimétrique (France); P. Marongiu, G. Valente, INAF - Osservatorio Astronomico di Cagliari (Italy)
- 9153 2K **Measuring the first two statistics moments using the Correlator resources** [9153-93]
A. Saez, D. Herrera, J. Sepulveda, Joint ALMA Observatory (Chile)
- 9153 2L **Efficient spurious signal detection and mitigation in single-dish radio spectroscopy** [9153-94]
S. Kameno, Joint ALMA Observatory (Chile); M. Miccolis, Joint ALMA Observatory (Chile) and National Ecological Observatory Network (United States); M. Sugimoto, T. Nakos, Joint ALMA Observatory (Chile)
- 9153 2M **An infrastructure for multi back-end observations with the Sardinia Radio Telescope** [9153-95]
A. Melis, G. Valente, A. Tarchi, INAF - Osservatorio Astronomico di Cagliari (Italy); M. Barbaro, Univ. degli Studi di Cagliari (Italy); R. Concu, A. Corongiu, F. Gaudiomonte, C. Migoni, INAF - Osservatorio Astronomico di Cagliari (Italy); G. Montisci, Univ. degli Studi di Cagliari (Italy); S. Poppi, A. Trois, INAF - Osservatorio Astronomico di Cagliari (Italy)
- 9153 2N **Comparison of cryogenic W band low noise amplifier based on different III-V HEMT foundry process and technologies** [9153-98]
L. Valenziano, INAF - Istituto di Astrofisica Spaziale e Fisica Cosmica (Italy); M. Zannoni, Univ. degli Studi di Milano-Bicocca (Italy); S. Mariotti, INAF - Istituto di Radioastronomia (Italy); A. Cremonini, SKA Organisation (Italy); A. De Rosa, INAF - Istituto di Astrofisica

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- 9153 2O **A single-chip dual-band switched SIS mixer** [9153-99]
B. K. Tan, Univ. of Oxford (United Kingdom) and Wawasan Open Univ. (Malaysia);
G. Yassin, Univ. of Oxford (United Kingdom); S. Withington, Cavendish Lab., Univ. of Cambridge (United Kingdom)
- 9153 2P **Developments of wide field submillimeter optics and lens antenna-coupled MKID cameras** [9153-100]
Y. Sekimoto, National Astronomical Observatory of Japan (Japan) and The Univ. of Tokyo (Japan); T. Nitta, National Astronomical Observatory of Japan (Japan), Univ. of Tsukuba (Japan), and Japan Society for the Promotion of Science (Japan); K. Karatsu, National Astronomical Observatory of Japan (Japan); M. Sekine, S. Sekiguchi, T. Okada, S. Shu, National Astronomical Observatory of Japan (Japan) and The Univ. of Tokyo (Japan); T. Noguchi, National Astronomical Observatory of Japan (Japan); M. Naruse, National Astronomical Observatory of Japan (Japan) and Saitama Univ. (Japan); K. Mitsui, N. Okada, T. Suzuki, A. Dominjon, H. Matsuo, National Astronomical Observatory of Japan (Japan)
- 9153 2Q **High-energy interactions in kinetic inductance detectors arrays** [9153-101]
A. D'Addabbo, Institut NÉEL (France), CNRS, Univ. Joseph Fourier (France), and Univ. degli Studi di Roma La Sapienza (Italy); M. Calvo, J. Goupy, Institut NÉEL (France) and CNRS, Univ. Joseph Fourier (France); A. Benoit, Univ. degli Studi di Roma La Sapienza (Italy); O. Bourrion, A. Catalano, J. F. Macias-Perez, Lab. de Physique Subatomique et de Cosmologie, CNRS, Univ. de Grenoble (France); A. Monfardini, Institut NÉEL (France) and CNRS, Univ. Joseph Fourier (France)
- 9153 2R **Design, fabrication, and testing of lumped element kinetic inductance detectors for 3 mm CMB Observations** [9153-102]
A. E. Lowitz, Univ. of Wisconsin-Madison (United States); A.-D. Brown, T. R. Stevenson, NASA Goddard Space Flight Ctr. (United States); P. T. Timbie, Univ. of Wisconsin-Madison (United States); E. J. Wollack, NASA Goddard Space Flight Ctr. (United States)
- 9153 2T **Fabrication of 721-pixel silicon lens array of an MKID camera** [9153-104]
K. Mitsui, National Astronomical Observatory of Japan (Japan); T. Nitta, National Astronomical Observatory of Japan (Japan) and Univ. of Tsukuba (Japan); N. Okada, National Astronomical Observatory of Japan (Japan); Y. Sekimoto, National Astronomical Observatory of Japan (Japan) and The Univ. of Tokyo (Japan); K. Karatsu, National Astronomical Observatory of Japan (Japan); S. Sekiguchi, M. Sekine, National Astronomical Observatory of Japan (Japan) and The Univ. of Tokyo (Japan); T. Noguchi, National Astronomical Observatory of Japan (Japan)
- 9153 2U **Design of wide-field Nasmyth optics for a submillimeter camera** [9153-105]
T. Suzuki, National Astronomical Observatory of Japan (Japan); T. Nitta, National Astronomical Observatory of Japan (Japan) and Univ. of Tsukuba (Japan); H. Imada, M. Seta, N. Nakai, Univ. of Tsukuba (Japan); S. Sekiguchi, National Astronomical Observatory of Japan (Japan) and The Univ. of Tokyo (Japan); Y. Sekimoto, National Astronomical Observatory of Japan (Japan)

- 9153 2V **Optical modelling of far-infrared astronomical instrumentation exploiting multimode horn antennas** [9153-106]
C. O'Sullivan, J. A. Murphy, I. Mc Auley, D. Wilson, M. L. Gradziel, N. Trappe, F. Cahill, T. Peacocke, National Univ. of Ireland, Maynooth (Ireland); G. Savini, Univ. College London (United Kingdom); K. Ganga, Lab. AstroParticule et Cosmologie (France)
- 9153 2W **High performance WR-1.5 corrugated horn based on stacked rings** [9153-107]
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